

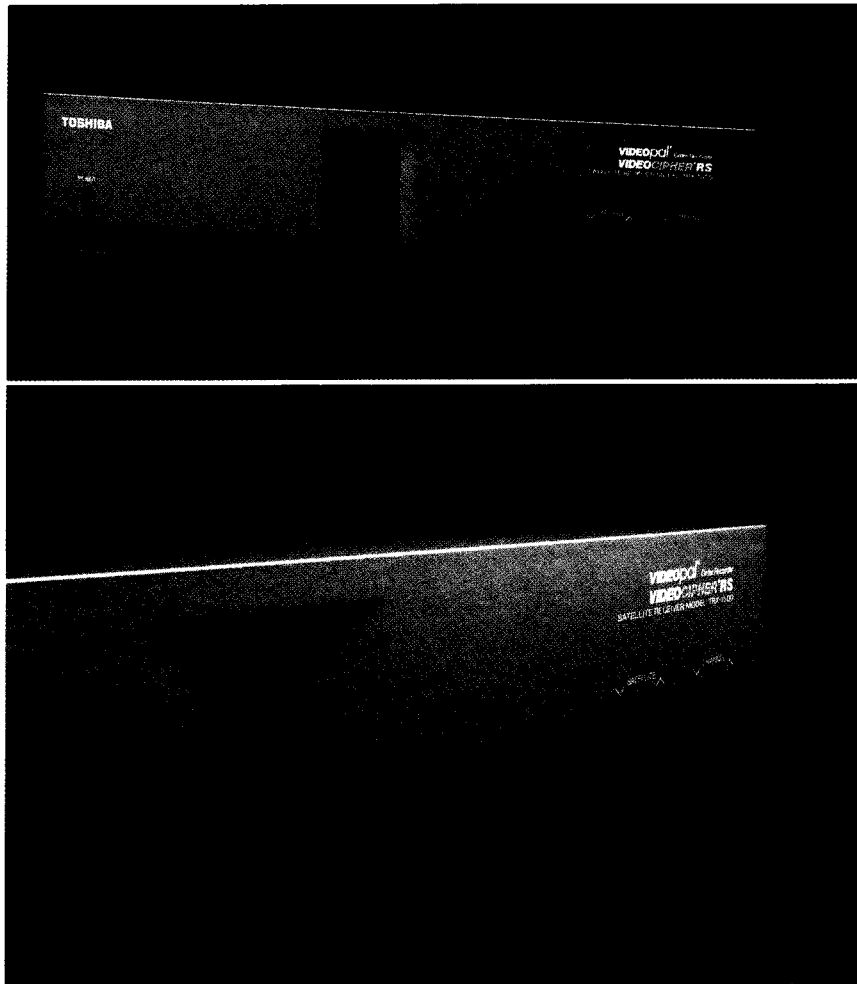
# Owner's Manual

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*Compatible with C/Ku Band  
Built-in TI Filter  
Full Function UHF Remote Control*

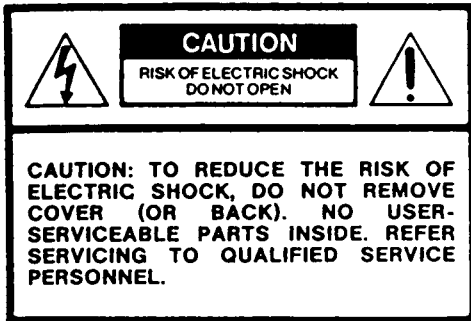
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## TRX-1500 Satellite Receiver



# TOSHIBA

## PLEASE READ



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

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

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

**CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED.**

**ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.**

In the spaces provided below, record the Model and Serial No. located at the rear of your satellite receiver.

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Authorized No. \_\_\_\_\_

Retain this information for future reference.

### NOTE TO SATELLITE SYSTEM INSTALLER

Please pay close attention to Article 810-20 of the National Electrical Code that provides guidelines for proper installation of antenna discharge units. In particular, this article specifies that each conductor of a "lead in" from an outdoor antenna shall be provided with a listed antenna discharge unit except where the lead in conductors are enclosed in a continuous metallic shield that is effectively grounded.

# FEATURES

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Thank you for purchasing the TOSHIBA TRX-1500. This system has superior performance and many advanced functions. We are confident that you will be fully satisfied with your new TRX-1500. This system has the following features.

## **Built-in VIDEOCIPHER® RS with Integrated VideoPal® Order Recorder (Mom)**

Allows enjoyment of VIDEOCIPHER® RS programming.

## **Built-in Programmable Antenna Positioner With Power Supply**

24 C-band satellites and 24 Ku-band satellites can be programmed.

## **Compatible with C/Ku band**

## **On Screen Display**

Displays various functions such as satellite name, channel, audio, etc.

## **Built-in TI Filter**

Reduces the video noise which is caused by the terrestrial interference. This filter is programmable by channel, by satellite.

## **20 Favorite Channel Memory**

Stores satellite position, channel number and Audio.

## **Category Menu Selection**

Initially, 89 satellite programs are factory programmed in 10 different categories.

Allows easy selection of the satellite program.

## **Full Function UHF Remote Control**

## **Additional Features**

Frequency Synthesized Tuning System

Parental Control (Antenna lock, Channel lockout)

Auto Tuning

Channel Scan

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FEATURES & CONTROLS

SET UP

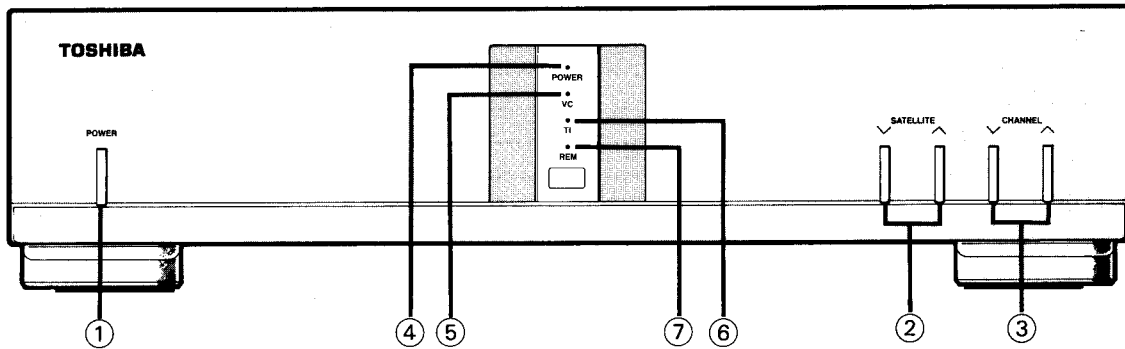
BASIC OPERATION

ADVANCED OPERATION

OTHER

# INDICATION OF CONTROLS

## FRONT PANEL



### ① POWER BUTTON

Turns the receiver on or off.

### ② SATELLITE BUTTON

This button selects the next programmed satellite to the east or west. When the button is released, the dish will automatically begin moving to the requested satellite.

### ③ CHANNEL BUTTON

Selects channels up or down.

### ④ POWER INDICATOR

Indicates the receiver power is on.

### ⑤ VC INDICATOR

Indicates the system is receiving a VIDEOCIPHER® signal.

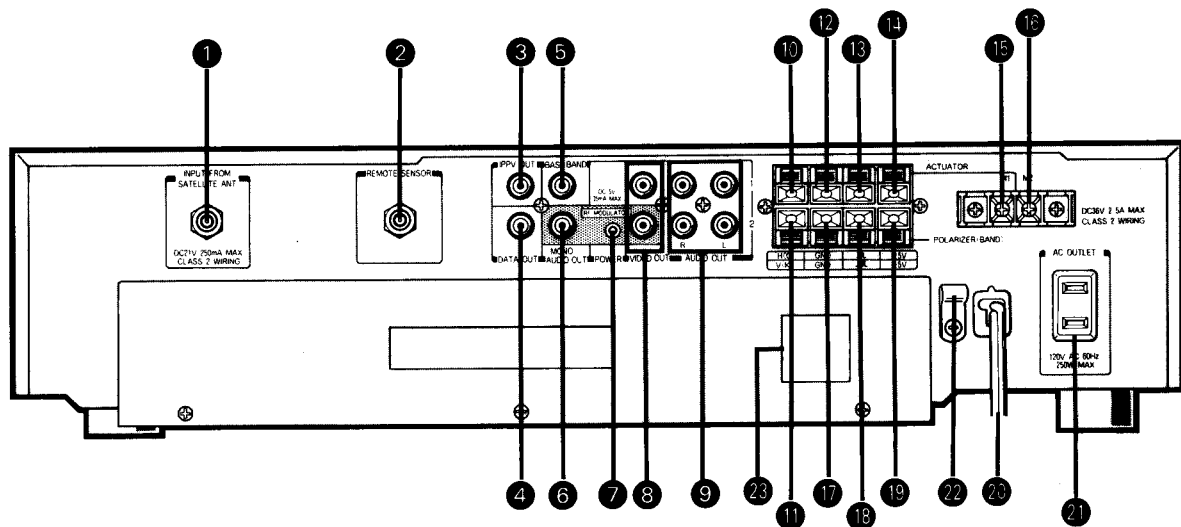
### ⑥ TI INDICATOR

Indicates the TI filter is on.

### ⑦ REM (REMOTE CONTROL) INDICATOR

Indicates the receiver is accepting signals from the remote control.

## REAR PANEL



### ① INPUT

This connector accepts the input signal from the satellite antenna.

### ② UHF REMOTE IN

This connector is the input terminal for the UHF remote control. Plug the antenna in here.

### ③ IPPV OUT

This phono connector provides output data from the VideoCipher® RS module.

### ④ DATA OUT

This phono connector provides output data from the VideoCipher® RS module.

## INDICATION OF CONTROLS

### 5 BASE BAND

This phono connector provides unfiltered, unclamped composite baseband video output to an external descrambler.

### 6 AUDIO OUT (MONO)

This connector is audio output for the optional RF modulator.

### 7 POWER

This connector is the power supply for the optional RF modulator.

### 8 VIDEO OUT

This phono connector provides the video output to a VCR or a monitor. This is used for the optional RF modulator.

### 9 AUDIO OUT

These phono connectors provide the audio outputs, left and right, from the receiver. The output level can be adjusted from the remote control.

### 10 H (C)

This output provides +12V to an external A/B switch when:

- The INPUT MODE is in the H/V mode and H polarity is selected.
- The INPUT MODE is in the C/Ku mode and C-band satellite is selected.

### 11 V (Ku)

This output provides +12V to an external A/B switch when:

- The INPUT MODE is in the H/V mode and V polarity is selected.
- The INPUT MODE is in the C/Ku mode and Ku-band satellite is selected.

### 12 GND

An actuator position feedback line used in conjunction with 13 alone or 13 and 14.

### 13

This is the actuator return pulse.

### 14 +5V

The actuator signal line that provides +5V to a hall effect device.

### 15 M1

Combined with 16, this output controls the motor direction and dynamic braking. When the EAST  is pressed, +36V (MAX) appears at the M1 relative to M2.

### 16 M2

Combined with 15, this output controls the motor direction and dynamic braking. When the WEST  is pressed, +36V (MAX) appears at the M2 relative to M1.

### 17 GND

This is the return line for 10, 11, 18, 19.

### 18

This terminal is the output control for the polarizer.

### 19 +5V

This terminal is the 5V supply for the polarizer.

### 20 LINE CORD

120V AC, 60Hz (nominal) input.

### 21 AC OUTLET

Provides 120V AC (250W MAX) as long as the line cord is plugged into an active wall outlet.

### 22 CABLE HOLDER

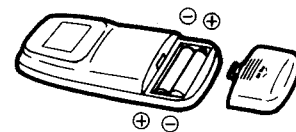
This is used to secure the cable from satellite antenna.

### 23 TELEPHONE JACK

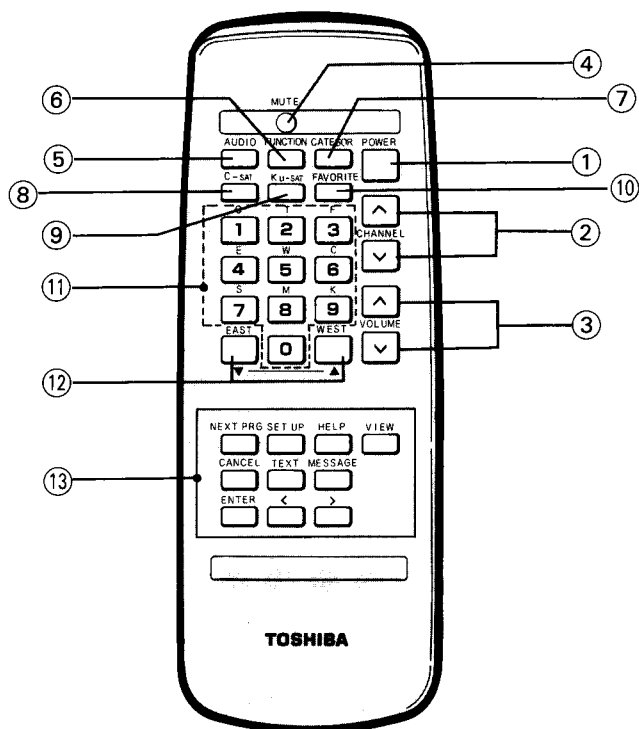
This connects your VideoCipher® RS module to your telephone line when utilizing pay-per-view services.

#### ■ INSTALLING THE BATTERIES:

- 1 Press down and pull off.
- 2 Insert two AAA batteries, observing the polarity shown by the diagram inside the battery compartment.



## REMOTE CONTROL



### ① POWER BUTTON

This button turns the receiver on or off.

### ② CHANNEL BUTTONS

These buttons allow channel scanning up or down.

### ③ VOLUME BUTTONS

These buttons adjust the audio up or down.

### ④ MUTE BUTTON

This button mutes the sound.

### ⑤ AUDIO BUTTON

Pressing this button, followed by the ALPHANUMERIC buttons or EAST or WEST , selects preprogrammed audio subcarriers.

### ⑥ FUNCTION BUTTON

Pressing this button, selects the MAIN menu.

### ⑦ CATEGORY BUTTON

Pressing this button, followed by an ALPHANUMERIC button, selects a desired satellite program by category.

### ⑧ C-SAT BUTTON

Pressing this button, followed by the ALPHANUMERIC buttons or EAST or WEST , selects C-band satellites.

### ⑨ KU-SAT BUTTON

Pressing this button, followed by the ALPHANUMERIC buttons or EAST or WEST , selects Ku-band satellites.

### ⑩ FAVORITE BUTTON

Pressing this button, followed by the ALPHANUMERIC buttons, selects a favorite program channel which can be stored in the receiver's memory.

### ⑪ ALPHANUMERIC BUTTONS

These 10 buttons are used to do the following.

- (1) To select a satellite and a channel directly.
- (2) To select a favorite program.
- (3) To select a satellite program by category.
- (4) To select an audio program.
- (5) To select MAIN FUNCTIONS.

### ⑫ ANTENNA EAST/WEST BUTTONS

This button is used to move the antenna. When pressed with , , this button cycles through programmed satellite positions.

### ⑬ VIDEOCIPHER® RS CONTROLS

These buttons perform those functions associated with the operation of the VideoCipher® RS: Descrambler, and are operative only when receiving VideoCipher® signal. See page 27.

Note: , and are also used for other functions.

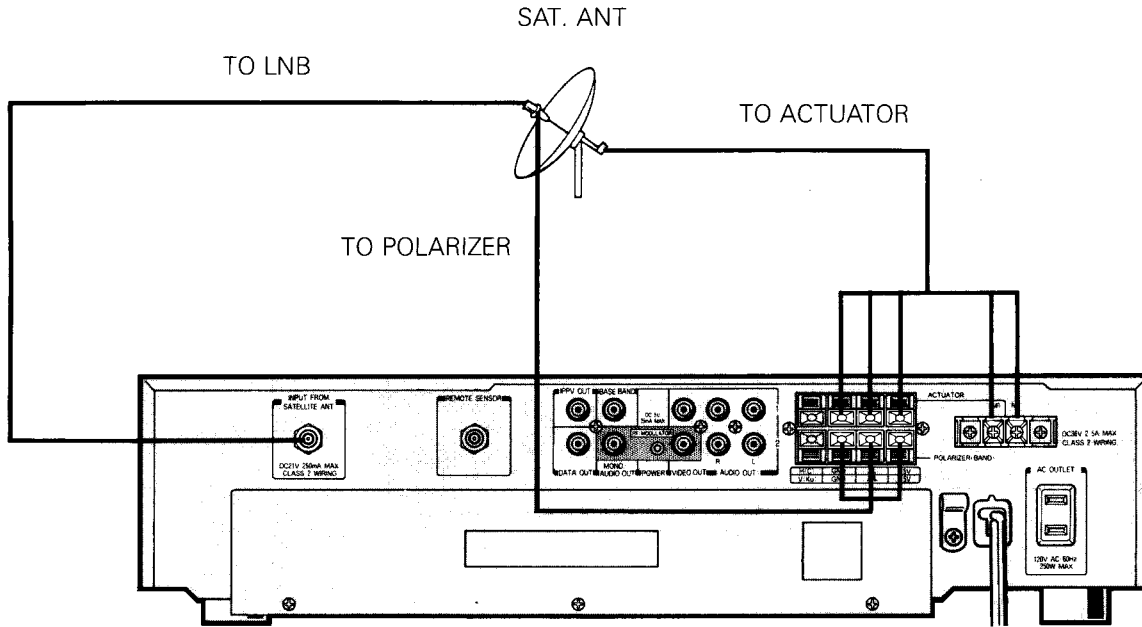
If the wrong key was pressed or the operation of the TRX-1500 was unknown, press . will clear any on screen display.

■ **INSTALLING THE BATTERIES:** See page 5.

# INSTALLATION

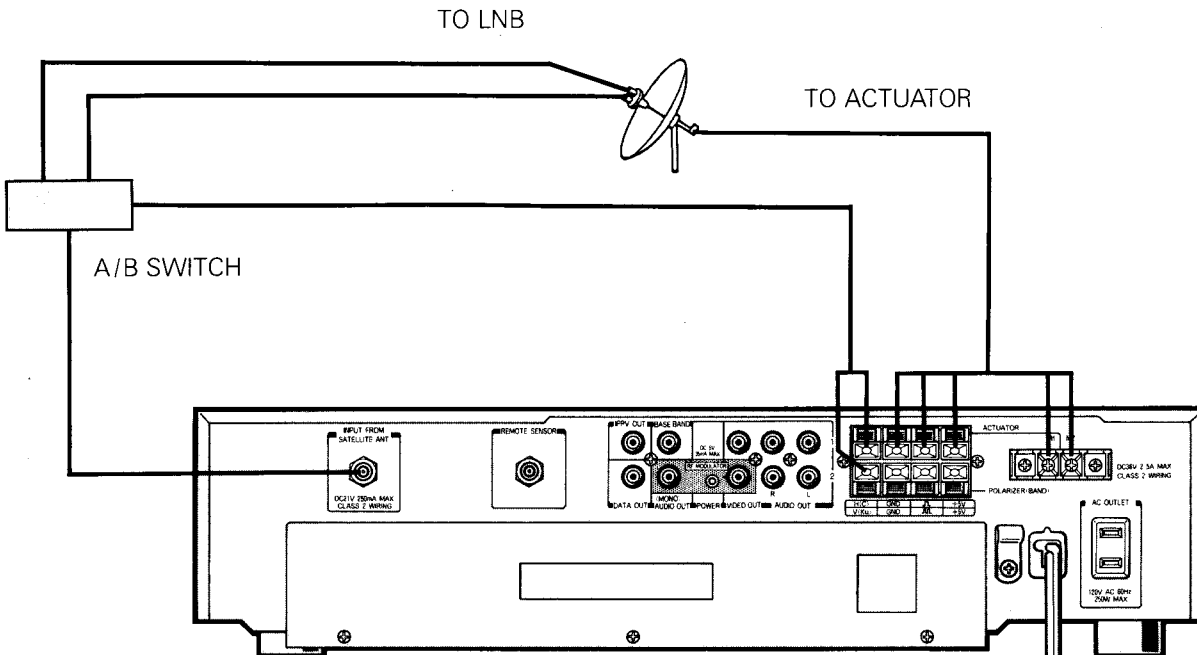
## 1. CONNECTIONS TO A SATELLITE ANTENNA

### (1) SINGLE LNB



### (2) DUAL LNBs (C-Band only or Ku-Band only)

Set the INPUT MODE to V/H.  
See page 11.



SET UP

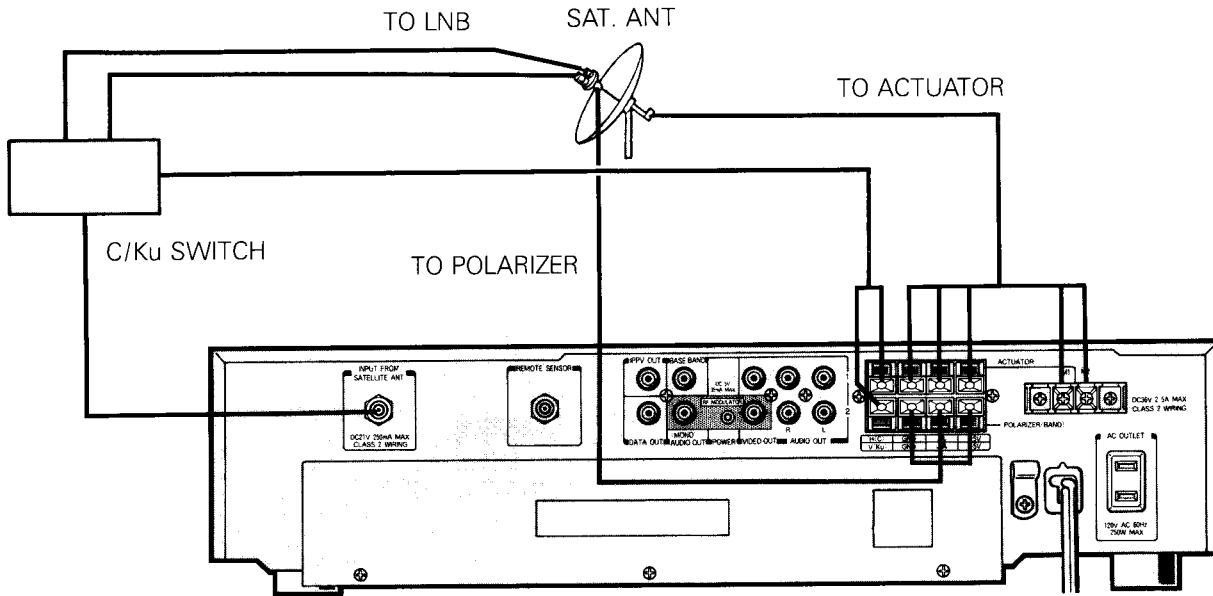


# INSTALLATION

## (3) DUAL LNBS

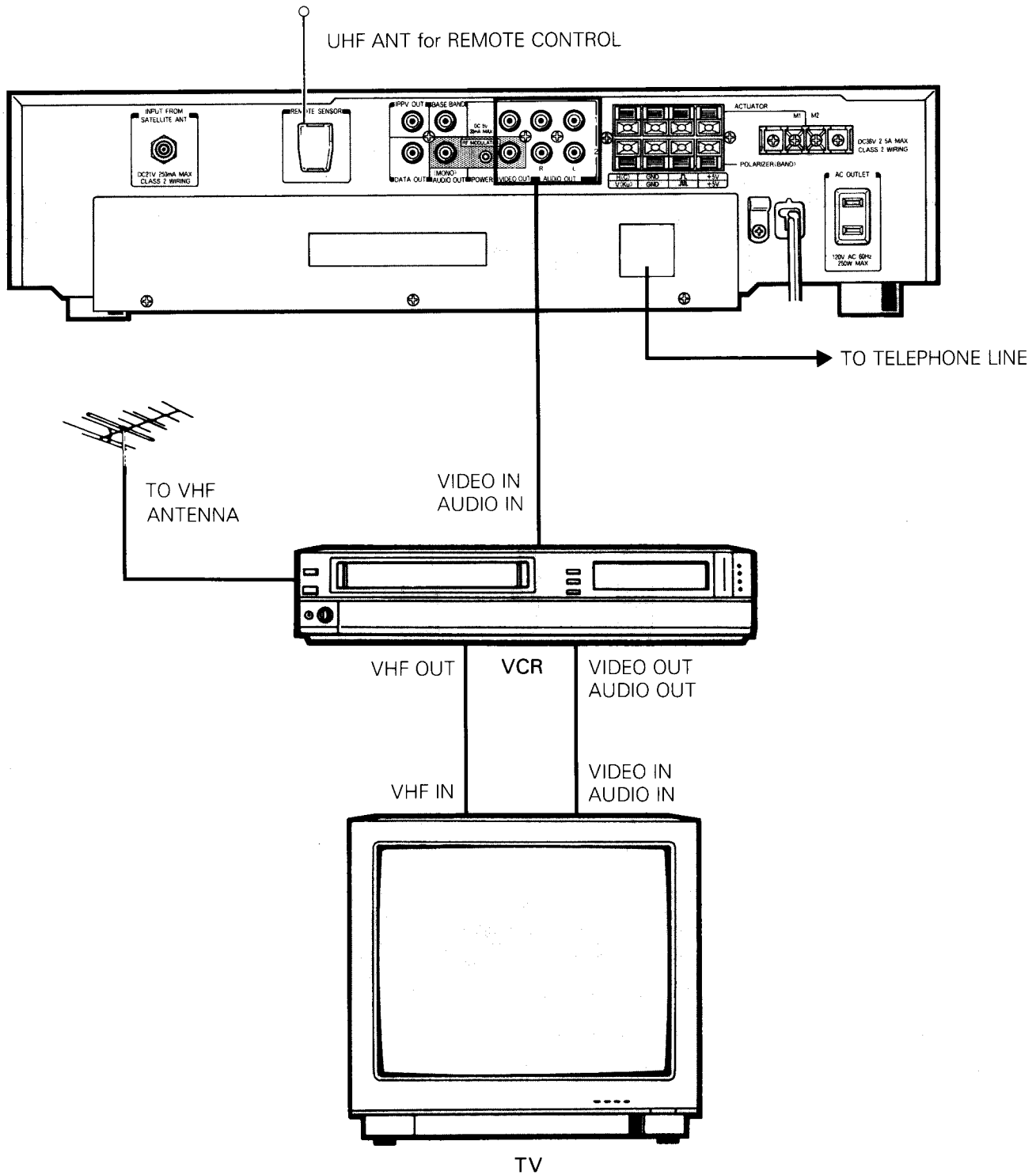
Set the INPUT MODE to C/Ku.

See page 11.



## 2. CONNECTION TO OTHER AV COMPONENTS

EX. 1



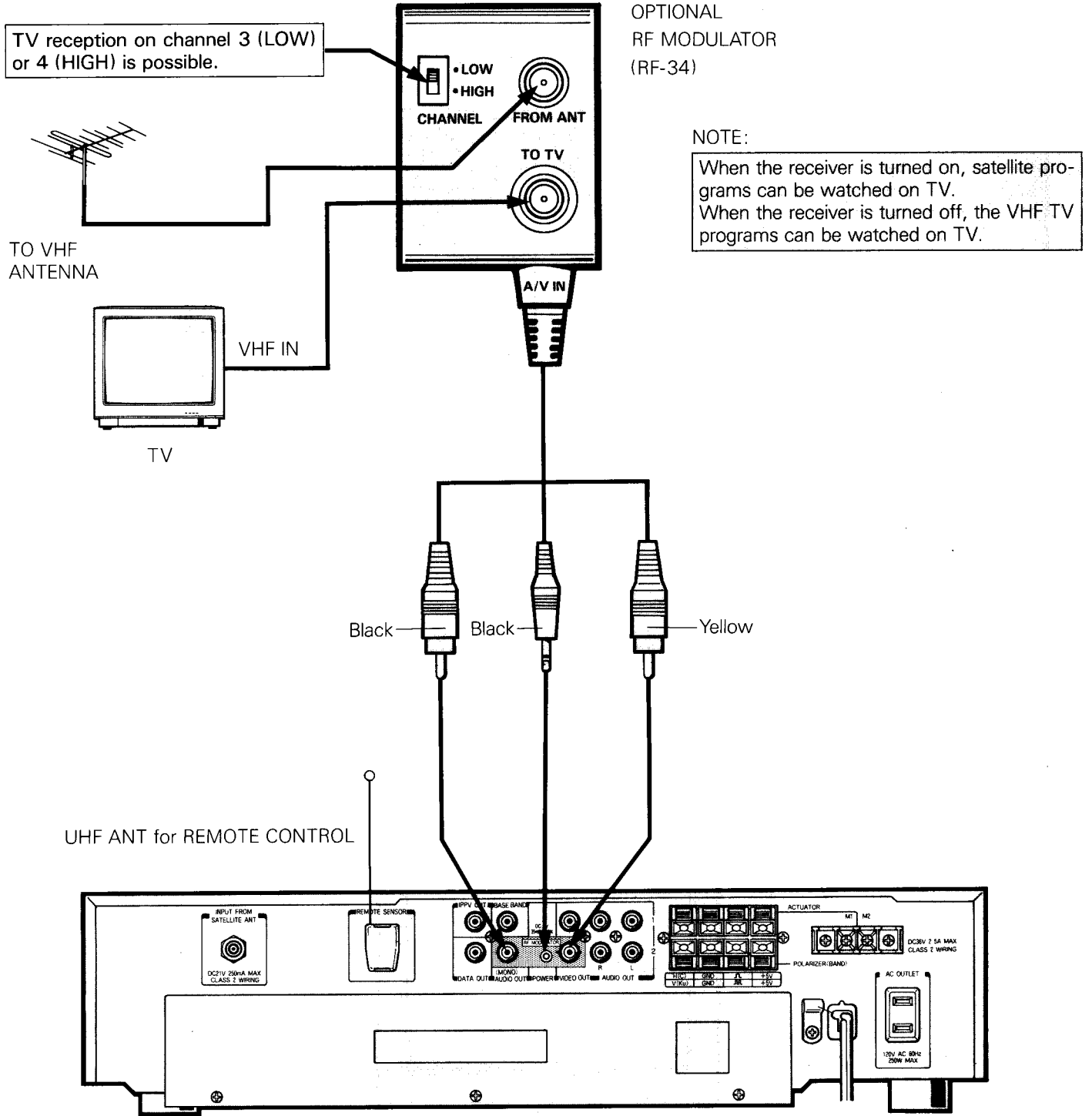
SET UP

- When recording a program on a VCR, set the TRX-1500's volume control to 63 (max).

# INSTALLATION

## EX. 2 When using a television without audio and video inputs.

In this case, the optional RF modulator (RF-34) is needed.



# INITIAL SETUP

The following initial setup procedures must be completed before attempting to operate the receiver. Under normal circumstances, there should be no need to change these programs after the initial setup.

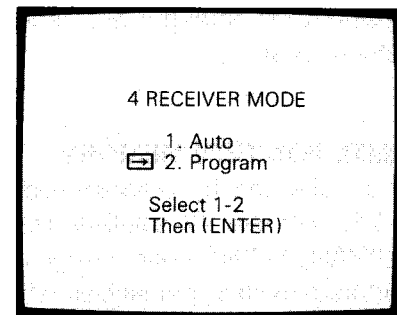
## 1. POWRE ON

Turn on the receiver, TV and other equipment (such as an audio system or a video system). Change the input of the TV to correspond with the input of the satellite receiver. (Ex. Video 1, 2 or Channel 3/4 when using the optional RF modulator.)

## 2. SELECTING THE RECEIVER MODE

Set the receiver to the PROGRAM mode as follows.

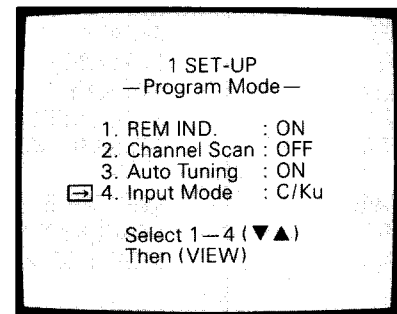
(a) Press **FUNCTION**, **4** and the display will be as shown at right.



(b) Select **2** and press **ENTER**.

## 3. SELECTING THE INPUT MODE FOR YOUR SYSTEM

(a) Press **FUNCTION**, **1**, **4** and the display will be as shown at right.



(b) By pressing EAST  or WEST , select C/Ku or H/V in accordance with the antenna and LNB configuration being used.

(c) Press **VIEW** to return.

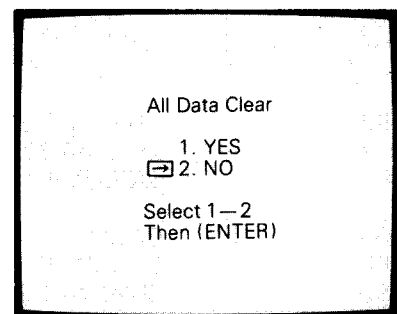
## 4. CHECK ACTUATOR WIRING

Confirm that when EAST  is pressed, the antenna moves to the east. If not, swap the connection of M1 and M2 on the rear panel of the receiver.

## 5. SETTING ANTENNA LIMITS

The Antenna limits must be set to prevent the antenna from traveling too far. The antenna limits should be set so that the antenna can aim anywhere between the farthest east satellite and the farthest west satellite, without hitting any objects such as the ground or a fence.

(a) Press **FUNCTION**, **3**, **4** and the display will be as shown at right.



## INITIAL SETUP

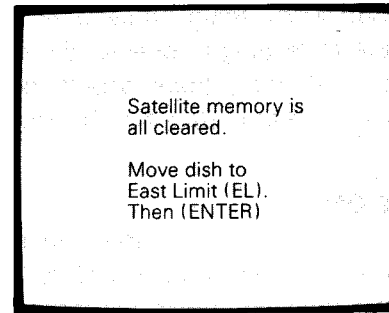
(b) Select **1** and press **ENTER**. At this time all data is initialized as factory preset. The display will be as shown at right.

(c) The east limit must be set first. Move the dish east until "No Return Pulse" is displayed on screen. At this time press WEST **▲** for 1~2 seconds. This is the east limit.

Press **ENTER** to store this position.

Note: To avoid possible damage to an actuator without a mechanical stop, an additional person should be located near the dish to notify the installer the actuator is reaching its limit.

(d) Repeat step (c) to enter the west limit. The antenna limit setup is over.



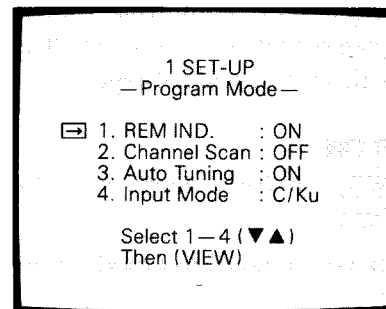
## 6. SATELLITE POSITION MEMORY

Up to 48 satellite can be programmed (C-band: 24, Ku-band: 24). For the 42 satellites listed below, the 2-digit ALPHANUMERIC code designates the band, polarity and audio/video frequencies which have been

stored in memory for each of the satellites. Therefore, it is necessary to program only the satellite locations for these 42 satellites.

DESIGNATION	C-BAND	POSITION	DESIGNATION	Ku-BAND
F5	AURORA 2	139° W		
C1	SATCOM C1	137° W		
G1	GALAXY 1	133° W		
F1	SATCOM F1	131° W		
T3	TELSTAR 303	125° W	G4	GSTAR 4
		123° W	S5	SBS 5
W5	WESTAR 5	122.5° W		
S1	SPACENET 1	120° W	T1	SPACENET 1
M2	MORELOS 2	116.8° W	M2	MORELOS 2
		114.9° W	C3	ANIK C3
M1	MORELOS 1	113.5° W	M1	MORELOS 1
E1	ANIK E1	111.1° W	E1	ANIK E1
		110° W	C1	ANIK C1
E2	ANIK E2	107.3° W	E2	ANIK E2
		105° W	G2	GSTAR 2
		103° W	G1	GSTAR 1
S4	SPACENET 4	101° W	T4	SPACENET 4
G6	GALAXY 6	99° W	S6	SBS 6
		97° W	S2	SBS 2
T1	TELSTAR 301	96° W		
		95° W	S3	SBS 3
G3	GALAXY 3	93.5° W		
		93° W	G3	GSTAR 3
		91° W	S4	SBS 4
S3	SPACENET 3	87° W	T3	SPACENET 3
T2	TELSTAR 302	85° W	K1	SATCOM K1
F4	SATCOM F4	82° W		
		81° W	K2	SATCOM K2
G2	GALAXY 2	74° W		
F2	SATCOM F2	72° W		
S2	SPACENET 2	69° W	T2	SPACENET 2

(a) Press **FUNCTION**, **1**. The display will be as shown at right.



(b) Select **2** and by pressing EAST **▼** or WEST **▲**, set the CHANNEL SCAN function to ON.

(c) Select **3** and by pressing EAST **▼** or WEST **▲**, set the AUTO TUNING function to ON.

(d) Press **VIEW** to store.

(e) Select C or Ku-band by pressing **C-SAT** or **KU-SAT** and select a satellite name by pressing **◀** or **▶** until the desired satellite name appears, or enter the satellite designation (2 digit) by the ALPHANUMERIC buttons.

Ex. When GALAXY 1 is selected, press **C-SAT**, **G**, **1**.

(f) By pressing and holding EAST **▼** or WEST **▲**, move the dish to the selected satellite until a picture is visible. To correctly identify the satellite, please refer to a current programming guide.

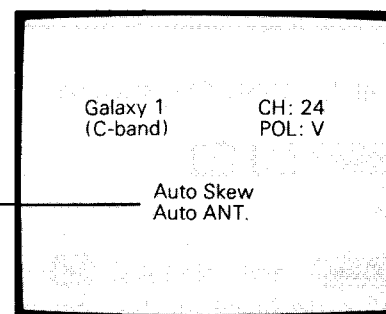
Press **ENTER**, the skew and satellite positioner will automatically adjust to deliver the best possible picture.

When completed, the antenna position is stored.

To program additional satellite positions, repeat steps (e) through (f).

The INITIAL SETUP is now completed.

Flashing during operation.



SET UP

# BASIC OPERATION

The following describes the basic operation of this receiver assuming that the operation of INSTALLATION section has been properly completed.

## 1. POWER ON

Press **POWER** and the power indicator on the front panel will light up.

Set the receiver to the AUTO mode. See page 48.

## 2. SATELLITE AND CHANNEL SELECTION

### (1) Satellite selection



There are two ways to select a satellite.

#### ● Direct access

Press **C-SAT** or **KU-SAT** and input the desired satellite designation (2 digit as G1, F3, etc.) by pressing the ALPHANUMERIC buttons.



Then the dish will move to the desired satellite.

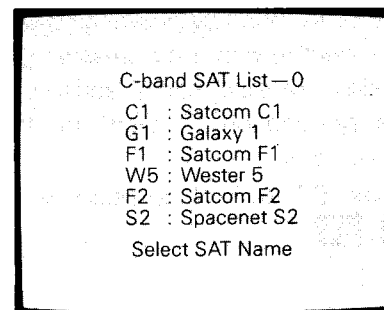
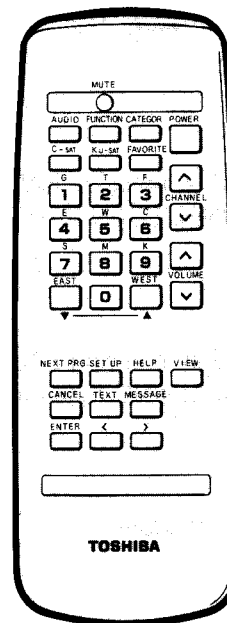
#### ● Next access

Press **C-SAT** or **KU-SAT** and press and hold **EAST**  or **WEST**  until the desired satellite name appears in the display.

After releasing the button, the dish will move to the desired satellite.

Note: If it is desired to view the programmed satellite list, press **C-SAT** or **KU-SAT** twice, the list will then be displayed on the TV screen.



Press  or  to see next or previous satellite list.



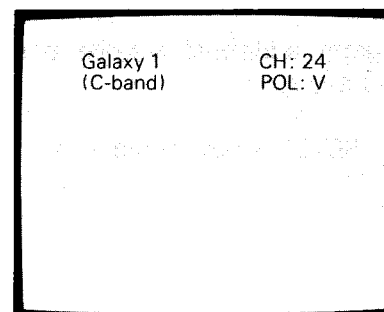
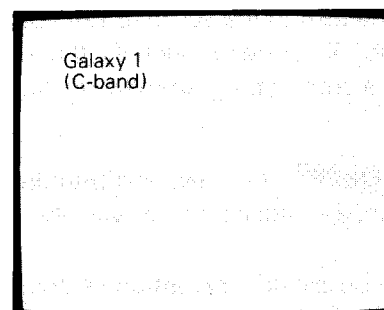
Ex. When G1, C-BAND is selected.

Press **C-SAT**, **G**, **1**.

or



Press **C-SAT**, and hold **EAST**  or **WEST**  until G1 is displayed on the front panel and on screen.

After the dish reaches the selected satellite position, (in this case, G1), the display will change.

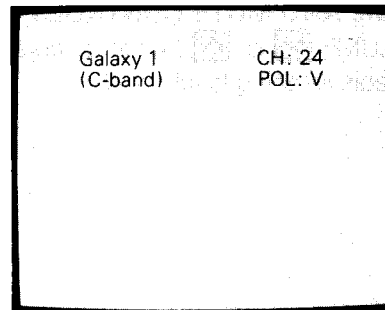


(2) Channel selection

There are two ways to select a channel.

- Direct access  
Enter the desired channel number by pressing the ALPHANUMERIC buttons.
- Up, down access  
Press CHANNEL  or  until the desired channel appears.

When a channel is selected, the number will be displayed as shown at right.





**3. AUDIO PROGRAM SELECTION**

This receiver has 20 (0—19) AUDIO PROGRAMS. By using this AUDIO PROGRAM function, the desired audio data can be selected easily. There are two ways to select an audio program.



● DIRECT ACCESS

(a) By pressing **AUDIO** twice, the AUDIO PROGRAM LIST will be displayed.

Press   to see the next or previous AUDIO PROGRAM LIST.

(b) Select the desired program number.

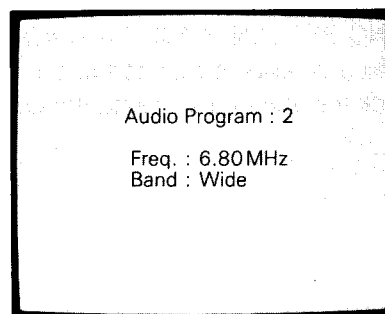
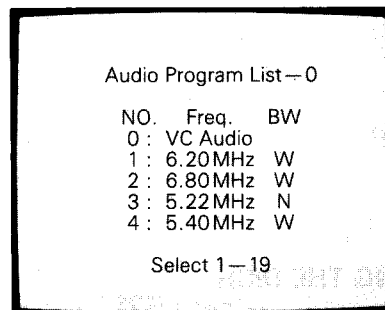
● UP/DOWN ACCESS

(a) By pressing **AUDIO** and holding EAST  or WEST , the AUDIO PROGRAM can be changed.

Note: The AUDIO PROGRAM 0 (VC AUDIO) is only for the VideoCipher® RS. The AUDIO PROGRAM is automatically set to the AUDIO PROGRAM 0 when receiving a VideoCipher® RS program.

Initially, the AUDIO PROGRAM is set as shown at right.

The AUDIO PROGRAMS can be changed except for the AUDIO PROGRAM 0, 1, 2 (page 49).



**BASIC OPERATION**

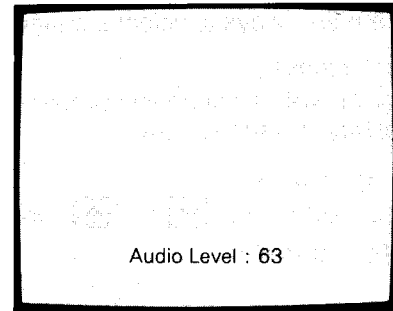




## BASIC OPERATION

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### 4. VOLUME AND MUTE CONTROLS

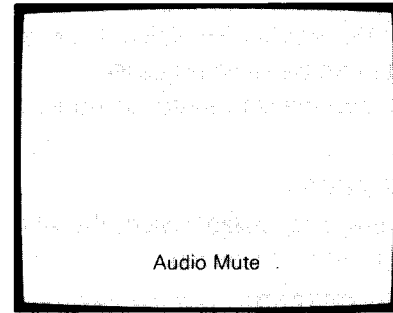
Press VOLUME  or  button to adjust the audio to a comfortable listening level.





The volume reference level, 0—63 will change by pressing VOLUME  or .

Press **MUTE** to turn off the audio. The display will be as shown at right.

Press **MUTE** again to return to the previous volume level.



### 5. MOVING THE DISH

To move the dish, use EAST  or WEST .

Note: If the wrong key was pressed or an undesired on screen display appears, press **VIEW**. VIEW will clear any on screen display.

If "NO RETURN PULSE" is displayed on screen when a satellite is selected or the dish is moved, check the antenna and actuator connections.

# CATEGORY SELECTION

The satellite programs are stored in 10 different categories. (Refer to the PROGRAM NAME LIST on page 20.) By using this function, it is possible to select the desired satellite program very easily. If desired, the factory programmed data can be changed. It is possible to store up to 100 satellite programs.

## 1. SELECTION

(a) Press **CATEGORY** and the category list will be displayed as shown at right.

Category List	
0. Movies	6. Rock/Jazz
1. Variety	7. Class/Count
2. Sports	8. Contem/Easy
3. News/INF.	9. News/VAR.
4. Networks	
5. Pay-Per-View	

Select 0—9

(b) Select the desired category number and the program name list will be displayed as shown at right. Press **<** **>** to see the next or previous list. Select the desired program number.

Ex. When **0** is selected.

0. Movies				
NO.	Name	SAT	CH	Audio
0:	AMC	F1	1	2
1:	HBO-E	G1	23	2
2:	HBO-W	F1	13	2
3:	MAX-E	G1	19	2
4:	MAX-W	F1	23	2

Select 0—9

# CATEGORY SELECTION

## 2. CHANGING A PROGRAM

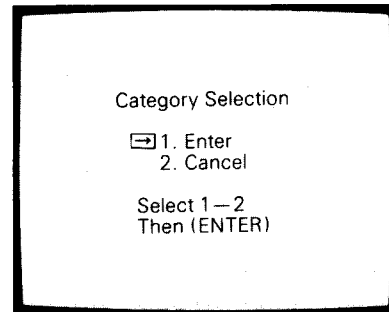
Initially, 89 satellite programs have been factory preset as shown in the list on page 20.

If desired, they can be re-programmed as follows.

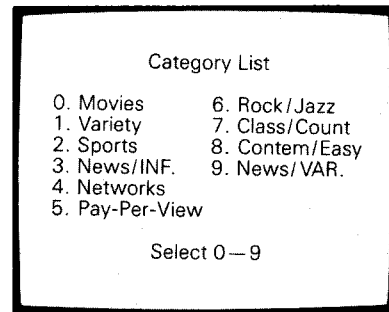
Note: When reprogramming a CATEGORY SELECTION, when a service moves satellites or transponder, be sure to change the same program in the FAVORITE channels. This is not changed automatically. Using CHANGING A PROGRAM has no effect on data stored in the FAVORITE channels.

### (1) TO STORE A PROGRAM

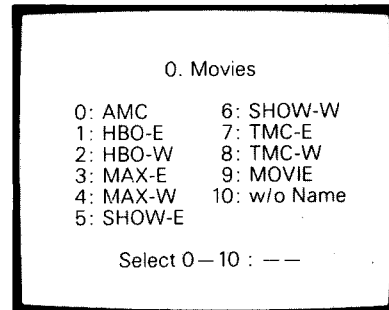
- (a) Set the receiver to the AUTO mode.  
Move the dish to the desired satellite and channel.
- (b) Receive the desired satellite, channel and audio that is to be stored.
- (c) Press **FUNCTION**, **2**, **5** and the display will be as shown at right.



- (d) Select **1** and press **ENTER**. The category list will be displayed as shown at right.



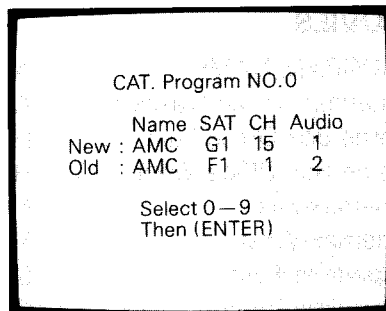
- (e) Select the desired category number and the program name list will be displayed.  
Press **<** **>** to see the next or previous list.



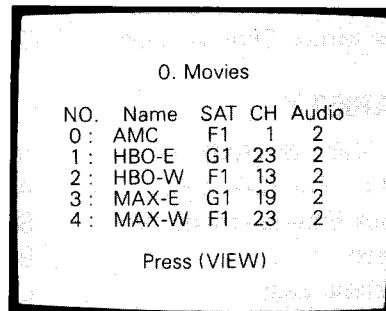
# CATEGORY SELECTION

(f) Select the desired program name to be stored. If it is desired to store without a name, select 10 (w/o Name).

(g) Select the desired program number. The pre-programmed data will be displayed as shown at right. Press **ENTER** to store the new location.



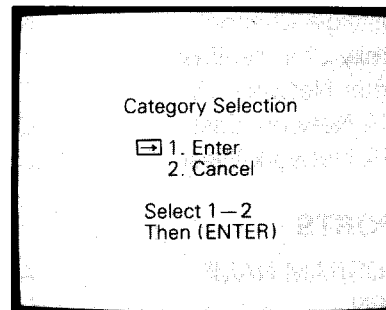
(h) If unsure of which program number to store, press **CATEGORY**. The category program list will be displayed as shown at right. Press **<** **>** to see the next or previous list. Press **VIEW** to return.



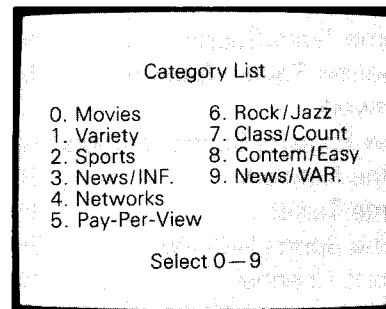
## (2) TO CANCEL A PROGRAM

(a) Set the receiver to the AUTO mode.

(b) Press **FUNCTION**, **2**, **5** and the display will be as shown at right.

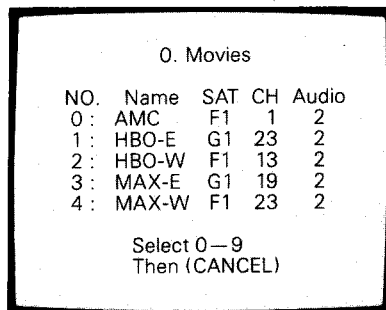


(c) Select **2**, **ENTER** and the category list will be displayed as shown at right.



(d) Select the category number and the pre-programmed list will be displayed as shown at right. Press **<** **>** to see the next or previous list.

(e) Select the program name to be cancelled and press **CANCEL** to delete the data.



ADVANCED OPERATION

# CATEGORY SELECTION

## CATEGORY SELECTION SATELLITE PROGRAM LIST

### 0. MOVIES

PROGRAM NAME	ABBR	SAT	CH
0. American Movie Classics	AMC	F1	1
1. Home Box Office-East	HBO-E	G1	23
2. Home Box Office-West	HBO-W	F1	13
3. Cinemax-East	MAX-E	G1	19
4. Cinemax-West	MAX-W	F1	23
5. Showtime-East	SHOW-E	G1	5
6. Showtime-West	SHOW-W	G1	16
7. The Movie Channel-East	TMC-E	G1	10
8. The Movie Channel-West	TMC-W	G1	14

### 1. VARIETY

PROGRAM NAME	ABBR	SAT	CH
0. Arts & Entertainment	A/E	G1	12
1. Black Entertainment TV	BET	F1	20
2. Bravo	BRAVO	F1	24
3. Lifetime-East	LIFE-E	G3	20
4. Lifetime-West	LIFE-W	F1	17
5. Nostalgia Channel	NOST	F4	21
6. Family Channel-East	TFC	G1	11
7. Turner Network TV	TNT	G1	17
8. USA Network-East	USA-E	G1	21
9. USA Network-West	USA-W	F1	10

### 2. SPORTS

PROGRAM NAME	ABBR	SAT	CH
0. ESPN	ESPN	G1	9
1. HSE	HSE	C1	10
2. Home Team Sports	HTS	S3	23
3. Madison Square Garden Network	MSGN	F4	6
4. New England Sports Network	NESN	F4	13
5. Prime Network	PRIME	F1	11
6. Prime Ticket	PRTIC	C1	7
7. Prime Sports Network	PSN	W5	22
8. Sports Channel	SPCHAN	F4	10
9. Sunshine Network	SUNET	C1	24

### 3. NEWS & INFORMATION

PROGRAM NAME	ABBR	SAT	CH
0. All News Channel	ANC	F2	7
1. CNBC	CNBC	F1	6
2. Headline News	CNN	G1	8
3. Cable News Network	CNNET	G1	7
4. C-SPAN	CSPAN	G3	24
5. C-SPAN II	CSPAN2	G3	14
6. Financial News Network	FNN	F1	11
7. NASA	NASA	F2	13
8. The Weather Channel	TWC	G3	13
9. Worldnet C-SPAN	WORLD	S2	24

### 4. NETWORKS

PROGRAM NAME	ABBR	SAT	CH
0. ABC	ABC	G6	18
1. CBS	CBS	T1	15
2. Fox Net	FOX	G3	2
3. KCNC-Denver (NBC)	KCNC-D	C1	14
4. KMGH-Denver (CBS)	KMGH-D	C1	6
5. KUSA-Denver (ABC)	KUSA-D	C1	2
6. NBC-E	NBC	C1	9
7. WABC-New York (ABC)	WABC	F2	4
8. WBBM-Chicago (CBS)	WBBM	F2	2
9. WXIA-Atlanta (NBC)	WXIA	F2	12

### 5. PAY-PER-VIEW

PROGRAM NAME	ABBR	SAT	CH
0. Action	ACTION	S3	11
1. Cable Video Store PPV	CVS	F4	4
2. KBL Sports Network	KBL	S2	19
3. Midwest Sports Channel	MSC	W5	20
4. Pass Sports Channel	PASS	S3	21
5. Playboy At Night	PLAY	F4	22
6. Spice	SPICE	F4	18
7. TVN1	TVN	T3	1
8. Viewers Choice PPV 1	VC-1	G3	21
9. Viewers Choice PPV 2	VC-2	G3	16

## CATEGORY SELECTION

### 6. ROCK/JAZZ

PROGRAM NAME	ABBR	SAT	CH
0. CMFI-Vancouver	CFMI	E2	22
1. CILQ-Toronto	CILQ	E1	20
2. CIRK-Edmonton	CIRK	E2	18
3. Super Radio Prime Demo	SRPD	G3	11
4. ————	—	—	—
5. Super Radio New Age Of Jazz	SRJAZZ	G3	11
6. Satellite Jazz KLON- Long Beach	KLON	S3	15

### 7. CLASSIC/COUNTRY

PROGRAM NAME	ABBR	SAT	CH
0. Classical Music	CM	E1	17
1. Super Radio Classical Collections	SRCC	G3	11
2. WFMT-Chicago	WFMT	G1	3
3. WOXR-New York	WOXR	G1	15
4. ————	—	—	—
5. CHON-Whitehorse	CHON	E2	23
6. CKNM-Yellowknife	CKNM	E2	21
7. Transtar Country & Western	TRANS	S3	9
8. WSM-Nashville	WSM	G1	2

### 8. CONTEMPORARY/EASY LISTENING

PROGRAM NAME	ABBR	SAT	CH
0. AEI/Life Style	AEI	G1	3
1. CHFI Toronto	CHFI	E2	8
2. Contemporary Background Music	CBM	E2	6
3. Super Radio Light & Lively Rock	SRLLR	G3	11
4. ————	—	—	—
5. AEI Easy Listening	EASY	G1	3
6. In Store Easy Listening	STORE	S1	17
7. Super Radio Soft Sound	SRSS	G3	11
8. United Video Easy Listening	UVEL	F4	8

### 9. NEWS/VARIETY

PROGRAM NAME	ABBR	SAT	CH
0. BBC World Radio Service	BBC	G3	24
1. Business Radio Network	BRN	G3	8
2. CNN Radio Network	CNN	G1	7
3. C-SPAN Radio	CSPAN	G3	24
4. ————	—	—	—
5. Super Radio Classic Hits	SRCH	G3	11
6. Super Radio In Touch	SRIT	G3	8
7. Radio Reading Service	RRS	S3	2
8. Yesterday USA	Y-USA	F4	15

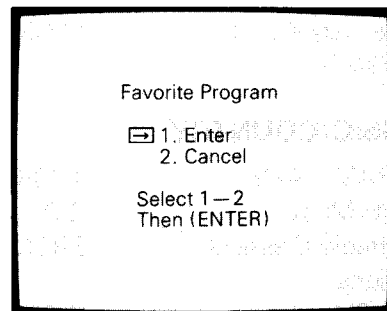
# FAVORITE PROGRAM

By using this function, it is possible to store up to 20 of your favorite satellite programs. It is then possible to select your desired program without selecting a satellite or channel. These programs may be on the same satellite or 20 different satellites. This feature is only available in the AUTO mode.

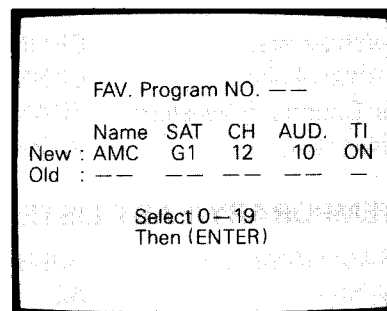
## 1. PROGRAMMING FAVORITE CHANNELS

### (1) STORING A FAVORITE PROGRAM

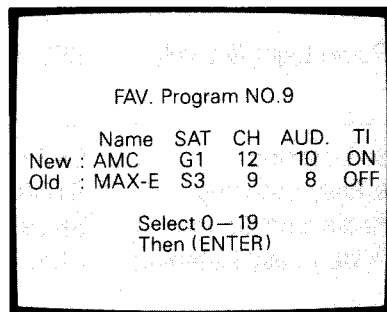
- (a) Set the receiver to the AUTO mode.
- (b) Move the dish to the satellite and channel to be stored.
- (c) Press **FUNCTION**, **2**, **6** and the display will be as shown at right.



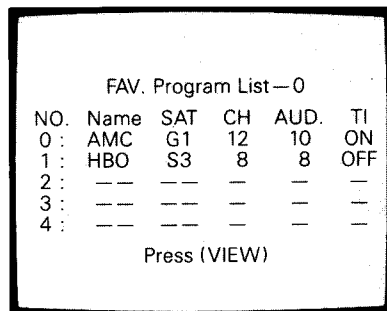
Select **1** and **ENTER**. The satellite and channel will be displayed as shown at right.



Input the FAVORITE PROGRAM number (0-19), which is to be stored and press **ENTER**.

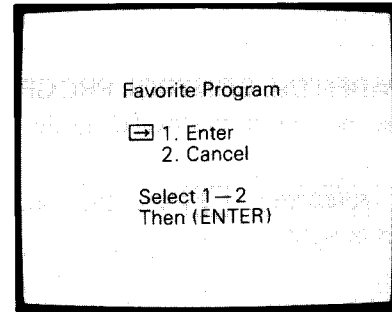


- (d) If it is undecided which program number to store, press **FAVORITE**. Press **<** or **>** to see the next or previous favorite program list. Press **VIEW** to return.



## (2) TO CANCEL A FAVORITE PROGRAM

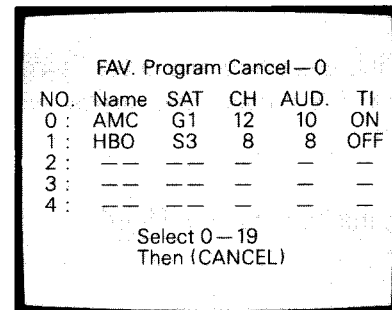
- (a) Set the receiver to the AUTO mode.
- (b) Press **FUNCTION**, **2**, **6** and the display will be as shown at right.



Select **2** and **ENTER**, the display will be as follows.

Press **<** or **>** to see the next or previous list.

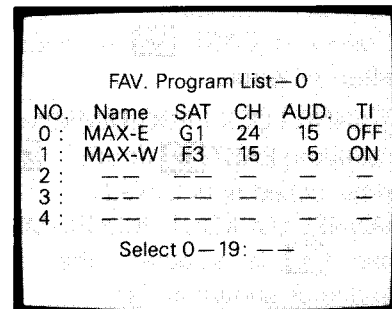
- (c) Select the program number and press **CANCEL** to delete a program.



## 2. OPERATION OF A FAVORITE PROGRAM

Press **FAVORITE** twice and the FAVORITE PROGRAM list will be displayed. Press **<** or **>** to see the next or previous list. Enter the program number to select your FAVORITE PROGRAM.

Note: To select a FAVORITE PROGRAM directly without displaying the favorite program list, press **FAVORITE** and continue to enter the desired program number.





# PARENTAL CONTROL

There are two features in PARENTAL CONTROL. One is antenna lock and the other is channel lockout. The password is needed to use this PARENTAL CONTROL feature. The factory preset password is 1048.

## NOTE:

This function can be used only when receiver is in the AUTO mode. When PARENTAL CONTROL is on, the receiver can not be changed from AUTO to PROGRAM.

## 1. THE PARENTAL CONTROL PROGRAMMING

(a) Set the receiver to the AUTO mode.

(b) Press **FUNCTION**, **3** and the display will be as shown at right.

(c) Input the password and press **ENTER**. When the password is correct, the display will be as shown at right.

(d) Select the item number (1—4).

(e) The PARENTAL CONTROL items are as follows.

### 1. PL ENABLE/DISABLE

By pressing EAST **▼** or WEST **▲**, select Enable or Disable.

### 2. ANTENNA LOCK PROGRAMMING

By pressing EAST **▼** or WEST **▲**, the antenna can be locked or unlocked.

### 3. CHANNEL LOCKOUT PROGRAMMING

When **3** is selected, the display will be changed as shown at right.

#### ● Programming a channel lockout

Select the desired channel by pressing EAST **▼** or WEST **▲**.

Press **ENTER** and the channel is programmed to lockout and an L will be displayed as indicated at right.

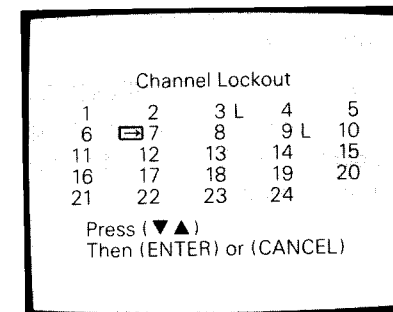
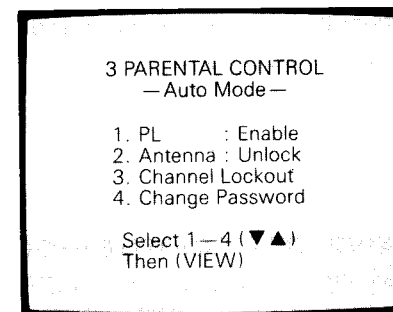
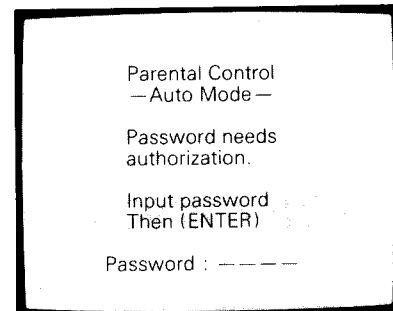
Press **VIEW** and the previous on-screen display will be back.

#### ● Canceling a channel lockout

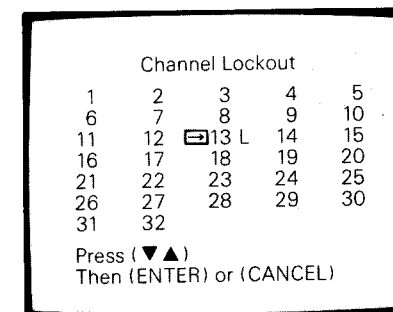
By pressing EAST **▼** or WEST **▲**, select the channel that is locked out.

Press **CANCEL** and the channel will not be locked out.

Press **VIEW** and the previous on-screen display will be back.



On the C-band satellite.

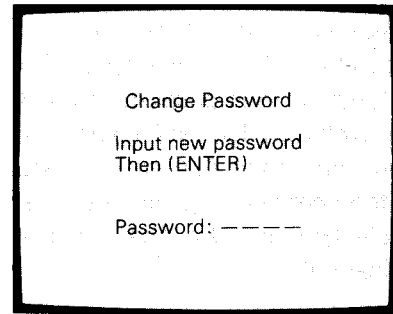


On the Ku-band satellite.

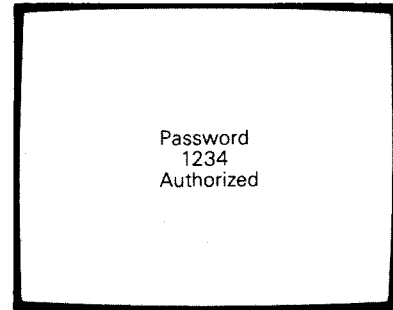
**4. CHANGING A PASSWORD**

When **4** is selected, the display will be as shown at right.

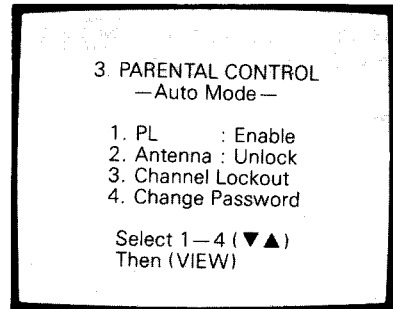
Input the new password (4 digit) by using the ALPHANUMERIC buttons and press **ENTER** to store. The display will be back to the parental control menu.



EX. When "1234" is entered as a new password, the display will be as shown at right.

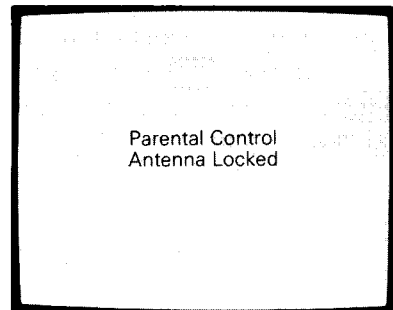


(f) Press **VIEW** to return to normal mode.

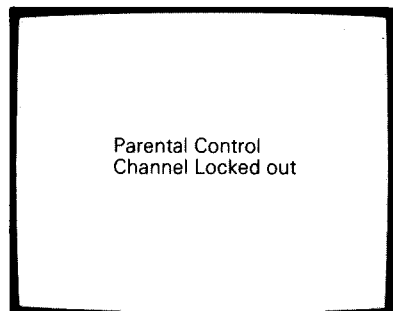


**2. OPERATION OF THE PARENTAL CONTROL FEATURES**

● When the antenna lock is on and EAST **▼** or WEST **▲** is pressed to try to move the antenna, or if a satellite ALPHANUMERIC designation is entered, the display will be as shown at right.



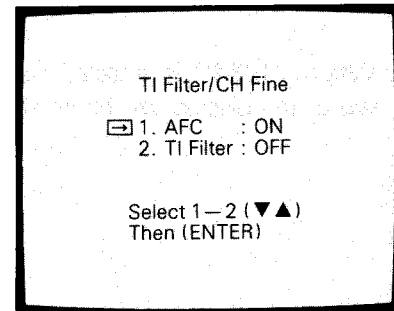
● When the channel lockout is on and a satellite channel is selected that is programmed to lockout, the display will be as shown at right.



# T.I FILTER & CH FINE TUNING

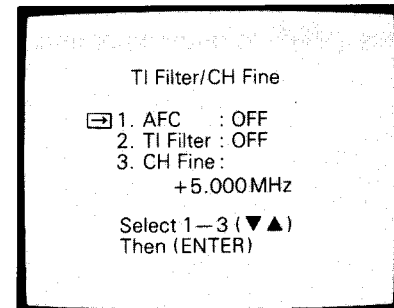
This receiver has a built in TI filter and storable frequency tuning by channel, with the TI/CH Fine function. By using this function, it is possible to reduce the sparkle noise in the picture, which is caused by terrestrial interference. Only when the AFC (Auto Frequency Control) is off, can the channel frequency be tuned. The TI filter ON/OFF selection and the channel fine tune can be stored by channel.

(a) Press **FUNCTION**, **2**, **2** and the display will be as shown at right.



(b) Select 1-2.

By pressing or holding EAST **▼** or WEST **▲**, turn the AFC & TI filter ON or OFF.



(c) The channel frequency can be tuned only when the AFC is OFF. Select **3** and press EAST **▼** or WEST **▲** to set the channel frequency. Press **ENTER** to store.

# DESCRAMBLER OPERATION

Your new satellite system contains a VideoCipher® Renewable Security (VideoCipher® RS, or VCRS) descrambler. With this descrambler, VideoCipher® scrambled channel can be enjoyed. This section describes how to use the descrambler.

## I. GETTING STARTED

### MODULE AUTHORIZATION

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

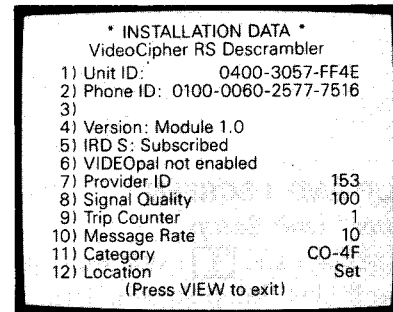
1. Tune to a VideoCipher® scrambled channel. At this time the VideoCipher® signal LED should be illuminated on the receiver.
2. Press **SETUP** and **1** and **1**. The Unit ID will appear in two formats on the screen (shown below) in lines number 1 and 2. Please write the numbers down in the spaces provided:

Unit ID:    \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_

Phone ID:   \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_ - \_ \_ \_ \_ \_

These lines contain your unique unit identification numbers (which will differ from those shown at right) and are used by your program providers to authorize you for subscription program reception.

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.



### SUBSCRIPTION SERVICES TRANSFER: NEW OR EXISTING

4. Call the programmer(s) who provided subscription services on the old module (their telephone numbers are included with the new module for your convenience). 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.

5. After initiating or transferring services, leave the receiver tuned to a VideoCipher® scrambled channel until the module receives authorization and you are able to view the programs you ordered. If you view the Setup 1,1 screen again, you will notice that your trip counter number has increased.

# DESCRAMBLER OPERATION

## OPERATIONS: ON-SCREEN DISPLAYS AND DESCRIPTIONS

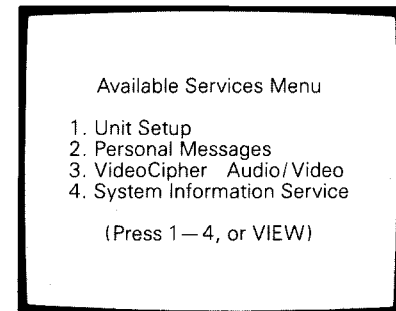
Once your module has received subscription authorization, you may want to take the time to become familiar with the many different features, capabilities, and on-screen displays (OSDs) that your VCRS module can produce and what purposes they serve. Your on-screen displays allow you to: 1) see how well your system is functioning on VideoCipher® channels; 2) receive important messages from your programmer; 3) limit access to programs with mature subject materials; or 4) use the Instant Pay-Per-View features of your module.

**NOTE:** These on-screen displays are visible only on VideoCipher® channels.

### THE SETUP SCREEN

#### *Available Services Menu*

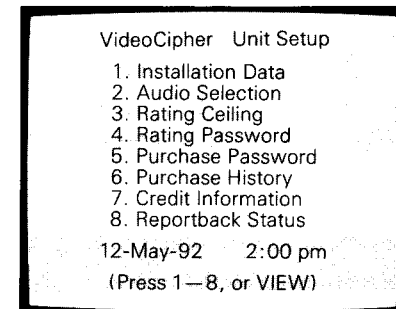
The first screen you see after you press **SET UP** is "Available Services Menu". This menu simply allows you to choose the next screen you want to see from four available choices. If you wish to return to normal television viewing at any time, press **VIEW**.



### THE SETUP AND 1 SCREEN

#### *VideoCipher® Unit Setup*

Pressing **SET UP** and **1**, will allow you to view the VideoCipher® Unit Setup screen. This screen contains eight different choices. Choices 1 through 4 are used for normal operation of the module, while choices 5 through 8 relate to instant pay-per-view operation. Press **VIEW** to leave this screen and resume normal viewing.



### SETUP 2

#### *Personal Messages*

Pressing **SET UP** and **2**, or the message key will allow you to view the Personal Messages screen. Unless your programmer has sent you a message, this screen will read "No Personal Messages". Press **HELP** for additional information on the Personal Messages screen. Press **VIEW** to leave this screen and return to normal viewing.

**NOTE:** Your VCRS module cannot be disabled from receiving messages. Read messages (to remove the blinking message indicator) by pushing the **MESSAGE** key. Press **VIEW** to leave this screen and resume normal viewing.

**SETUP 3****VideoCipher® Audio/Video**

Pressing **SET UP** and **3** will allow you to view the programming currently offered on the VideoCipher® channel that you have selected. Selecting **VIEW** is the same as pressing **SET UP**, **3**.

**SETUP 4****System Information Service**

Pressing **SET UP** and **4** will allow you to view the Systems Information Services screen. This screen is intended for broadcast text messages and will be headed by the title VideoCipher® Text Service. This text service is broadcast at the programmer's option and may not be available on many channels. Press **HELP** for further information on the Systems Information Services screen. Press **VIEW** to leave this screen and return to normal viewing.

**OTHER MODULE FUNCTIONS**

In addition to the **SET UP** key functions, your VCRS module also offers some other key functions. They are listed below:

**HELP**

This key provides any additional information available for the screen you are viewing.

**MESSAGE**

This key allows you to view any personal messages you may have.

**NEXT**

This key allows you to see information about the next program being broadcast on the channel you are viewing. This information is transmitted at the programmer's option.

**VIEW**

This key allows you to see information about the current program. This may include the program name and how much time is left in the program. In addition, it returns you to normal viewing from any other on-screen display. The information displayed disappears after 5 seconds if the key is not pressed again.

**NOTE:** Not all programmers broadcast **VIEW** or **NEXT** information.

The VideoCipher® Unit Setup screen contains many important diagnostic items. Let's review them one at a time.

**THE SETUP 1 AND 1 SCREEN****Checking The Unit Status**

When you press **SET UP**, **1** and **1** you will see the Installation Data screen. This screen provides information about unit and system operation. Press **HELP** for additional information on the Installation Data screen. Press **VIEW** to leave this screen and continue normal viewing, or press **ENTER** to return to the Setup menu.

```

* 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)

```

## DESCRAMBLER OPERATION

---

**Lines 1 and 2** contain your unique unit identification number, used by the programmer to authorize you for subscription programming.

**Line 3** will be blank unless the VideoCipher® RS replaceable security element, the TvPass Card, is installed. It will then display a TvPass Card ID number.

**NOTE:** The TvPass Card is not included in this initial shipment of the VCRS module.

**Line 4** tells you what version of module and TvPass Card is in your system.

**NOTE:** The numbers shown on your screen may be different than the ones shown above. The TvPass Card version will only show up if one is installed.

**Line 5** tells you the scrambling status of the VideoCipher® channel to which you are currently tuned. Refer to the table below for possible displays.

<u>MODEL TYPE</u>	<u>SCRAMBLING STATUS</u>	<u>AUTHORIZATION STATUS</u>
DES = Module inserted into a standalone descrambler	F = Fixed Key	Subscribed
IRD = Module inserted into an integrated receiver descrambler	P = Processed, Unscrambled	Purchased
	S = Scrambled	Not Subscribed

**Line 6** shows if your new module has been authorized for instant pay-per-view operation. This line will read, "VIDEOpal enabled" if the module is authorized for instant pay-per-view (see page 34 of this manual to authorize your built-in VIDEOpal Order Recorder).

**Line 7** contains the unique Programmer ID code for each channel.

**Line 8** is your Signal Quality. The maximum Signal Quality is 100. As noted earlier in the Authorization-section of this manual, if this number is less than 60, you may have difficulty authorizing the module and your satellite system is possibly in need of tuning or maintenance to operate properly.

**Line 9** shows how many authorization change requests your module has received since you turned to this screen.

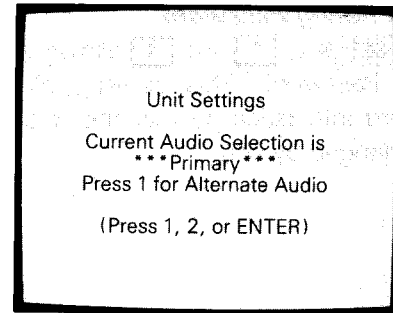
**Line 10** shows if your module is receiving a clear signal from your satellite dish. The clearest signal will be a 10.

**Line 11** shows if your system has received its monthly authorization update from the programmer. These numbers should be the same on all working descramblers, and will change on a monthly basis. Your programmer may ask about these characters should you have trouble gaining access to programming.

**Line 12** shows that the programmer has your unit identification number stored properly, enabling you to receive the programming you have ordered.

**THE SETUP 1 AND 2 SCREEN****Checking The Unit Settings**

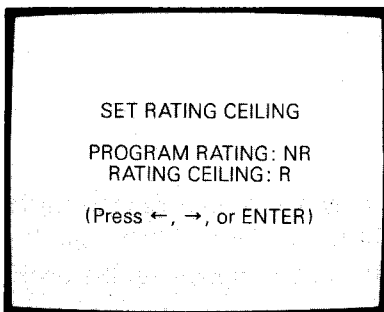
When you press **SETUP**, **1** and **2** you will see the Audio Selection screen.

**Current Audio Selection**

This feature allows setting the audio on scrambled channels to either **\*\*\*Primary\*\*\*** or **\*\*\*Alternate\*\*\***. The normal setting will be **\*\*\*Primary\*\*\***. Scrambled channels may or may not broadcast an **\*\*\*Alternate\*\*\*** audio feed. Pressing **1** will change the module setting to **\*\*\*Alternate\*\*\***. (Alternate could be a second language transmission.) Press **VIEW** at any time to resume normal viewing.

**THE SETUP 1 AND 3 SCREEN****Setting The Rating Ceiling**

Pressing **SETUP**, **1** and **3** reveals the Set Rating Ceiling screen. For example, if you set your Rating Ceiling at "PG-13", your module will require a password (if one has been set) before allowing viewing access of any movies with "R" or "X" ratings. You cannot, however, lockout shows with a "G" rating or non-rating, "NR". Refer to the guide below for a complete list of movie ratings.

MOVIE RATINGS GUIDE

- NONE** — No Rating
- G** — General Audiences
- PG** — Parental Guidance Suggested
- PG13** — Parental Guidance for Children Under 13
- R** — Restricted
- NR** — Not Rated; Used for Non-Rated Adult Programming
- NC17** — No Children 17 or Under
- X** — Adult, No One Under 18

The Program Rating line shows the rating the current program carries. An "NR" on this line indicates the program being viewed is not rated by the Motion Picture Association of America (MPAA). The Rating Ceiling line indicates the highest rating the module will allow to be viewed. To set the level, press the left or right arrow keys until the rating ceiling reaches the desired level. If you wish to insure that no programs are locked out due to Rating Ceiling, this setting should remain at "X". Remember, you must press **ENTER** to save the changes and it is advisable to set a password, as described below, to enforce this rating level. Press **HELP** for additional information on the Set Rating Ceiling screen. Press **VIEW** to return to normal viewing.

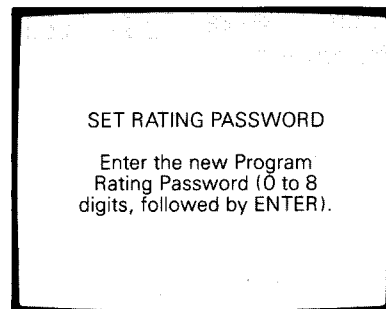


# DESCRAMBLER OPERATION

## THE SETUP 1 AND 4 SCREEN

### Setting A Rating Password

Pressing **SETUP**, **1** and **4** allows you to establish a Rating Password. This screen will allow putting a password into place so that the Rating Ceiling can only be changed by you.



### To Set A Rating Password

Choose an easy to remember number (a birth date, etc.). Enter up to 8 characters (the screen will show one \* for each number pressed) and press **ENTER**. The module will ask you to enter your password again for confirmation. Enter the same numbers, followed by **ENTER**. Your new Rating Ceiling Password will be stored. If you make a mistake, use the left arrow key to erase the entry. If you decide to change your Rating Ceiling (**SETUP**, **1** and **3**), the module will ask you to enter the existing Rating Password. After the password has been entered, you can change your Rating Ceiling as described above. Press **HELP** for further information on the Set Rating Password screen. Press **VIEW** to leave this screen and resume normal viewing.

### To Remove A Rating Password

Press **SETUP**, **1** and **4** to re-enter the Password screen. Next, enter the existing password, then press **ENTER**. Now, press **ENTER** two more times to remove your Rating Ceiling Password. If you want to set a new password, follow the instructions above. Press **VIEW** to resume normal viewing.

## THE TvPass Card

In the event of a change in Programmers' authorization levels, programmers may decide to utilize the card authorization feature of the VCRS module. This feature consists of a TvPass Card, which is a plastic "smart card", about the size of an average credit card. This card will fit into the slot provided in the rear of the module, at the back of IRD.

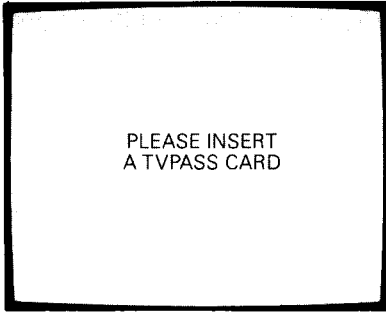
If a TvPass Card is in use with this VCRS module, you will need to be aware of some additional OSDs. These OSDs are designed to inform you of satellite system problems relating to the installation and use of the TvPass Card. These displays will appear automatically on all VideoCipher® Channels in the event of a problem with your TvPass Card.

**NOTE:** These displays cannot be seen unless the TvPass Card system is in use and you are tuned to a VideoCipher® channel. The TvPass Card is not included in this initial shipment of the VCRS module.

**CONDITION**

**EXPLANATION/ACTION**

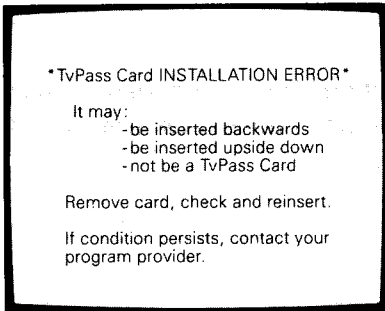
**TvPass Card Not Installed**



System authorization has been upgraded to a higher level, which now requires a TvPass Card.

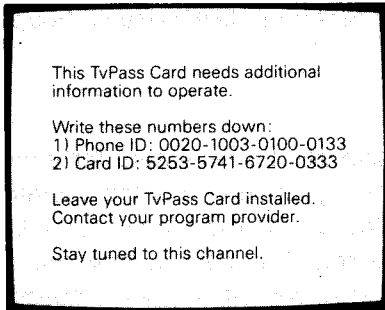
1. Insert your TvPass Card into the VCRS descrambler via the opening in the back of the module.
2. If this screen appears and you do not have a TvPass Card, contact your program provider.

**TvPass Card Installation Error**



The TvPass Card you are attempting to install is not working properly. Please make sure that its orientation is correct. Only General Instrument TvPass Cards will work in this VCRS descrambler. Contact your program provider if this problem persists.

**TvPass Card Needs Information**

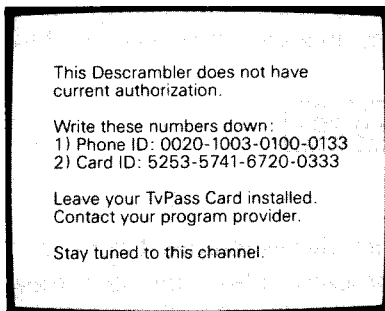


This TvPass Card needs additional information to operate. Write down the numbers appearing on your screen, leave your TvPass Card installed, stay tuned to this channel, and contact your program provider.

Phone ID:  
 \_ \_ \_ \_ - \_ \_ \_ - \_ \_ \_ \_ - \_ \_ \_ \_

Card ID:  
 \_ \_ \_ \_ - \_ \_ \_ - \_ \_ \_ \_ - \_ \_ \_ \_

**Descrambler Not Authorized**



This descrambler is not currently authorized. Write down the numbers appearing on your screen, leave your TvPass Card installed, stay tuned to this channel, and contact your program provider.

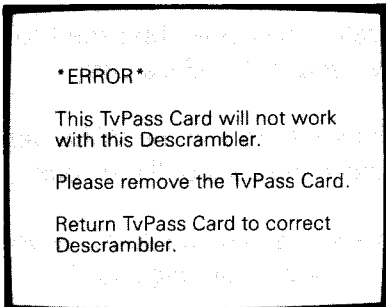
Phone ID:  
 \_ \_ \_ \_ - \_ \_ \_ - \_ \_ \_ \_ - \_ \_ \_ \_

Card ID:  
 \_ \_ \_ \_ - \_ \_ \_ - \_ \_ \_ \_ - \_ \_ \_ \_

**ADVANCED OPERATION**

# DESCRAMBLER OPERATION

## Wrong TvPass Card In Descrambler



This TvPass Card was authorized in a different VCRS-equipped IRD, and cannot be moved to this VCRS descrambler. You must return it to the original unit.

## II. INSTANT PAY-PER-VIEW

### THE WORLD OF VIDEOPAL® INSTANT PAY-PER-VIEW

The VIDEOpal Order Recorder is a breakthrough in home satellite viewing. It provides your system with instant pay-per-view at the touch of a button! With it, you'll enjoy many special programs and events once available only to cable subscribers or on videotape. The benefits of the VIDEOpal system are many.

### INSTALLATION INFORMATION

#### FCC-Required Notification

##### *Type Of Service*

The built-in VIDEOpal system in the VCRS module is designed to be used on standard telephone lines and connects to the telephone line by means of a standard jack called the USOC RJ1C. Connection to telephone company-provided coin service (central office implemented systems) is prohibited.

##### *Telephone Company Procedures*

In order for your telephone company to provide you service, it may occasionally be necessary for them to make changes in their equipment, operations, or procedures. If these changes affect your service or the operation of your equipment, the telephone company should give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service. If you have any questions about your telephone line, such as how many pieces of equipment you can connect to it, your telephone company should provide this information upon request. In certain circumstances, it may be necessary for your telephone company to request information from you concerning the equipment which you have connected to your telephone line. Upon request of your telephone company, provide the FCC registration number and the Ringer Equivalence Number (REN) of the equipment which is connected to your line: both of these items are listed on the equipment label. The sum of all the RENs on your telephone lines should be less than five in order to assure proper service from your telephone company. In some cases, a sum of five may not be usable on a given line.

**NOTE:** The REN for your built-in VIDEOpal system in the VCRS module is 0.3B.

##### *If Problems Arise*

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If your telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you should be notified as soon as possible. When you are notified, you should be given the opportunity to correct the problem and be informed of your right to file a complaint with the FCC.

**NOTE:** The VIDEOpal Order Recorder will not work properly at this time if you are on a party line or if operator assistance is required to make long distance telephone calls.

## NOTICE FOR CANADIAN USERS

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system (if present) are connected together. This precaution may be particularly important in rural areas.

**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician.

The Load Number for the VCRS with the internal VIDEOpal system is 7.

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

## PAY-PER-VIEW AUTHORIZATION WITH THE SATELLITE VIDEO CENTER

To authorize your VCRS module for pay-per-view programming, please follow these simple steps:

1. Ensure proper connection of the module to the telephone system as explained in the installation instructions. It is necessary for the module to be connected to a live telephone line for pay-per-view authorization. It is suggested that you test this line by connecting a telephone to this line and placing a call. Be sure to reconnect the telephone line to the module before proceeding with authorization.
2. Tune to a VideoCipher® scrambled channel and verify proper signal strength. Press **SET UP**, **1** and **1** to verify. The signal strength that appears on line 8 should read greater than 60. If this signal reads less than 60, you may experience difficulty authorizing the module. Adjusting dish alignment, receiver tuning, and/or skew may help to increase the module Signal Quality.
3. Call your pay-per-view program provider or the Satellite Video Center at 800-54-VIDEO (800-548-4336). A Customer Service Representative will assist you in setting up an account to purchase pay-per-view. The module is authorized for pay-per-view when Line 6 reads "VIDEOpal enabled".

```
* 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)
```

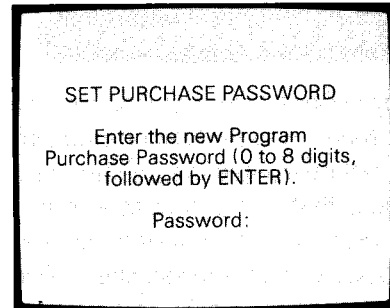
# DESCRAMBLER OPERATION

## ON-SCREEN DISPLAYS AND DESCRIPTIONS FOR PAY-PER-VIEW

### THE SETUP 1 AND 5 SCREEN

#### *Setting/changing Purchase Passwords*

1. Press **SET UP** , **1** and **5** to establish a purchase password. This screen allows you to limit access to pay-per-view programming, by setting a security password for use with the module's internal VIDEOpal Order Recorder. For example, you may wish to prevent purchases by children or babysitters in your home. This feature is for customer convenience, but is not required to operate the instant pay-per-view feature. It is, however, strongly suggested that a password be used in order to prevent unauthorized pay-per-view purchases. Press **HELP** for further information on the Purchase Password screen. Press **VIEW** to leave this screen and resume normal viewing.

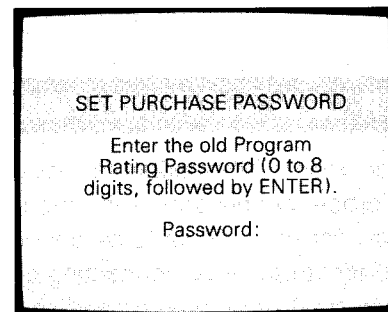


2. There are two types of passwords with this product. You may have already set a Rating Password, now you are going to set a Purchase Password. Choose an easy to remember number (such as an anniversary, etc.). Enter up to 8 characters (the screen will show one \* for each number pressed) and then press **ENTER** . For confirmation, the module will ask you to enter your new password again. Enter the same numbers, followed by the **ENTER** key. Your new Purchase Password will be stored. If you then wish to make a purchase, you will be asked to enter the Purchase Password. Enter it as instructed above and you will be allowed to complete your purchase.

#### *To Change A Purchase Password*

Follow these simple steps:

1. Press the **SET UP** , **1** and **5** keys on the remote control and follow the directions on your screen.



#### *Removing A Password*

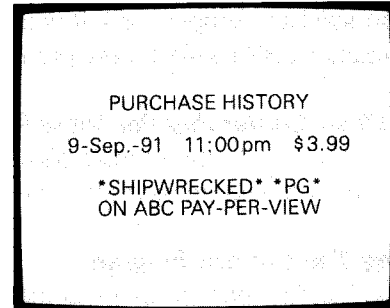
Press **SET UP** , **1** and **5** to re-enter the Password screen. Next, enter the existing password, then press **ENTER** . Now, press **ENTER** two more times to remove your Purchase Password. If you want to set a new password, follow the instructions at the top of this page. Press **VIEW** to resume normal viewing.

**NOTE:** If you should forget your password, it may be necessary to call your pay-per-view program provider or the Satellite Video Center at 800-54-VIDEO. They will remove the forgotten password via satellite. This will reset the Purchase Password and the Rating Password, making it necessary to reset both. There may be a charge for a password reset.

## THE SETUP 1 AND 6 SCREEN

### *Purchase History*

Pressing the **SETUP** , **1** and **6** buttons will allow you to view the Purchase History screen. This screen will allow you to review the 16 most recent programs purchased with your instant pay-per-view feature. Use the left and right arrow keys on your remote control to see all 16 purchases. Press **HELP** for additional information on the Purchase History screen. Press **VIEW** to leave this screen and resume normal viewing. (If you have no purchase history, you will only view the Unit Setup screen.)



## THE SETUP 1 AND 7 SCREEN

### *Credit Information*

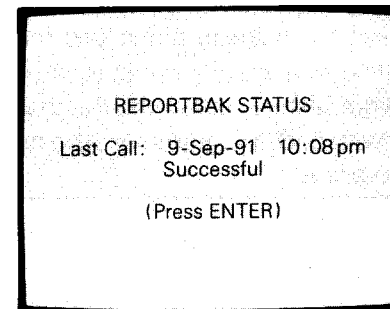
Pressing **SETUP** , **1** and **7** will allow you to view the Credit Information screen. The Satellite Video Center (or another authorization center) may ask you to read this screen if the unit's instant pay-per-view services are interrupted. The credit amount shown at the top of the screen does not represent dollars credited to the unit account—it is for administrative purposes only. The last line indicates whether or not you have established an account to purchase programs with the Satellite Video Center. Press **HELP** for additional information on the Credit Information screen. Press **VIEW** to leave this screen and resume normal viewing. You will not be able to access this screen if you have not established VIDEOpal services.



## THE SETUP 1 AND 8 SCREEN

### *Reportback Status*

Pressing **SETUP** , **1** and **8** will allow you to view the Reportback Status screen. Periodically, the VIDEOpal Order Recorder will report through a toll-free (800) number, any instant pay-per-view purchases that have been made. This screen will display whether or not the last reportback attempt was successful. The screen should always read SUCCESSFUL. If this screen reads anything else, please check the telephone cable connection on the rear of the module and contact the Satellite Video Center at 800-54-VIDEO. Press **HELP** for additional information on the Reportback Status screen. Press **VIEW** to leave this screen and resume normal viewing.



ADVANCED OPERATION

# DESCRAMBLER OPERATION

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## **Instant Pay-Per-View Operation**

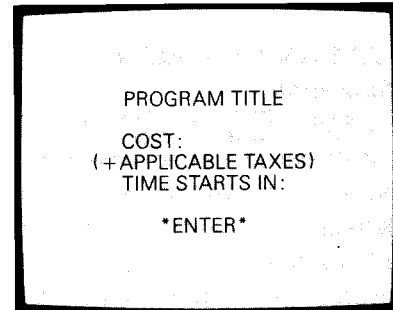
Once authorized by the Satellite Video Center, your module provides you with the ability to purchase pay-per-view services on satellite. Simply consult your program listings for available program services and follow the instructions below to enjoy VCRS pay-per-view programming.

## **Satellite Video Center Pay-Per-View Programs**

The VIDEOpal built into the module allows purchase of the current program being offered on pay-per-view channels or the program coming up next after the current program ends.

## **Purchasing The Current Program**

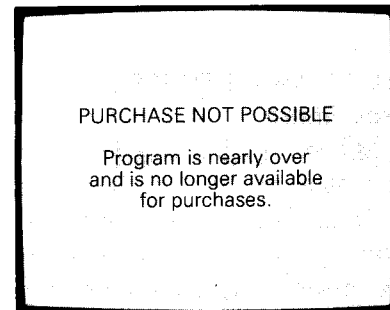
1. Tune the satellite receiver to the satellite and transponder (channel) of the pay-per-view program you wish to purchase. For a complete listing of pay-per-view movies and events, check your satellite program guide.
2. Press **VIEW** for purchasing information. This screen will display the name of the program, the amount of time remaining in the program (if it has already started), and the price of the program.
3. To order the program, press the **ENTER** key, enter the password (if there is one), then press **ENTER** again to confirm the order. *That's all it takes!*



Current Program Screen

**NOTE:** Pay special attention to the time the program ends. Your account will be billed for the full program price regardless of how much of the program has elapsed before you order. Also, Rating Ceiling lockout applies prior to confirmation of purchase, if active.

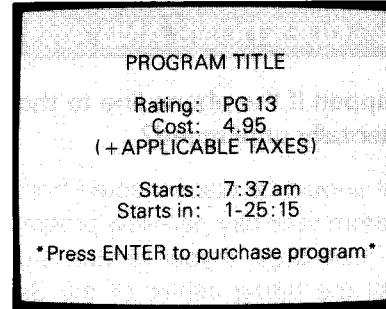
**NOTE:** All programmers have the ability to prevent a late program purchase after some portion of the program has already elapsed. For example, if you should accidentally try to purchase a program after it has passed the halfway mark, you may see a message stating that you cannot purchase this program. This lockout feature, called the Purchase Window, is optional with each programmer who may or may not decide to use it.



Purchase Window Screen

## **Purchasing The Next Program**

1. To order the next program, tune the satellite receiver or IRD to the correct satellite and transponder (channel) and press **NEXT** . The screen will display information on the program title, cost, and the amount of time remaining before the next program begins. You may also consult a satellite guide for program availability.



Next Program Screen

2. The screen will prompt you to press **ENTER** to purchase the next program. Press **ENTER** if you wish to order the program, enter the purchase password (if there is one), and then press **ENTER** again to confirm the order. Keep your IRD turned on and wait for the start of the next program. You may buy only one show in advance.

### **IMPORTANT: Cancelling The Program After Ordered**

It is possible to cancel the NEXT program once it has been ordered. Should you decide not to view the program coming up next, simply change the channel. Or, you may also press **NEXT** and then **ENTER** at the "press ENTER to CANCEL" prompt before the program begins. Your account will not be billed for the purchase of the program if it is cancelled before it begins. It is not possible, however, to cancel the current program once it has been purchased and the program has begun.

**Note:** VIDEOCIPHER® RS is a registered trademark of GENERAL INSTRUMENT CORPORATION.

TvPass™ Card is a trademark of GENERAL INSTRUMENT CORPORATION.

VIDEOCIPHER® RS trademark is used under license from CABLE/HOME COMMUNICATIONS CORP. (C/HCC), subsidiary of GENERAL INSTRUMENT CORPORATION.

To enable your satellite descrambler and obtain proper authorization for descrambling, appropriate programming providers or their agents must be contacted.



## DESCRAMBLER OPERATION

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### VIDEOPAL® QUESTIONS AND ANSWERS

**Q) What happen if the phone line to the VCRS system is accidentally unplugged?**

A) If the unit should be disconnected from your home telephone system your pay-per-view programming services may be interrupted. If your service is discontinued, you must call the billing center or the Satellite Video Center for re-authorization.

**Q) Will the VIDEOpal system interfere with my phone service?**

A) Usually not. The VIDEOpal system is called upon to use your phone line when you are least likely to be using it. If you should pick up your receiver and hear a very unusual noise, it may be the VIDEOpal unit communicating with the Satellite Video Center's (or billing center's) computer at the other end. Please hang up and try your call again.

**Q) Do I have to pay for the phone call?**

A) The VIDEOpal Order Recorder calls in on a special toll-free (800) number so you shouldn't see the call on your monthly phone bill.

**Q) How long do the calls last?**

A) Typically, they last less than 15 seconds and they are usually made late at night when you are least likely to be using your telephone.

**Q) Will the VIDEOpal system interfere with my telephone answering service or answering machine?**

A) The VIDEOpal module is not equipped to receive phone calls, only make them. If your service or answering machine is not currently disturbed by outgoing calls, the VIDEOpal system should not cause any problems.

**Q) I'm on a party line. What happens if my VIDEOpal unit tries to make a call and someone else is on the line?**

A) The VIDEOpal will not work with party lines, or if you require an operator's assistance to make long distance calls.

**Q) I have call forwarding / call waiting. Will the VIDEOpal system have any affect on it?**

A) The VIDEOpal features should not have any affect on these services.

**Q) I sometimes unplug my phone at night. Will that affect the VIDEOpal system's ability to call out?**

A) It is all right to unplug your phone, however, be certain to unplug it rather than leave the receiver off the hook. Leave the VIDEOpal unit plugged into the phone line at all times.

**Q) What if I should happen to forget my password?**

A) If you should forget your password, it will be necessary to call the Satellite Video Center (or your billing center). They will remove the password for you, along with any other VCRS passwords. (There may be a service charge for this.) You may then enter a new password if you wish. **NOTE:** The VIDEOpal password may be the same as your VCRS password.

**Q) What if I should change channels while the event is taking place, and then tune back to the same channel? Will I be charged twice for the same program?**

A) No. To clarify, you will not be charged again when returning to a purchased program, even if you purchased a second program before returning to the original.

**Q) What if I purchase the NEXT program, but then don't watch it?**

A) Your account won't be charged for any programming you order in advance if your receiver is tuned to a different channel before the next program starts.

**Q) How far in advance may I order a program?**

A) You may order only the program in progress or the next program available.

**Q) My telephone sometimes chirps when the VIDEOpal Order Recorder is making a phone call. Is this normal?**

A) There are two basic types of phone service your phone company may offer: Rotary/Pulse (mechanical dial) and Tone (push button). Many electronic push button telephones will work with Rotary/Pulse service by using the Pulse dialing method (after pressing the telephone's buttons you will hear a clicking sound in the receiver.) The VIDEOpal Order Recorder operates in the same manner as a Pulse telephone and may cause some telephones to chirp briefly when it makes a call. This will not interfere with your telephone service or your telephone.

**Q) I cannot receive the channel. What do I do?**

A) Operation of the VIDEOpal system is almost totally automatic and there are no adjustments necessary. If you should ever experience any difficulty using the VIDEOpal system, please refer to the following troubleshooting suggestions:

- 1) Check all connections and make sure that the power is ON to all components.
- 2) Make certain that your satellite system is tuned to the correct satellite and channel. **NOTE:** Weather conditions and your geographical location may affect signal quality.
- 3) Check a program guide to make certain that the program you're interested in is available for pay-per-view and can be ordered with the VIDEOpal system.
- 4) Make certain your account is current (press **SET UP** , **1** , **7** for possible on-screen directions).

**ATTENTION:**

This consumer unit is intended for the authorized descrambling for personal use of those satellite television signals which have been scrambled using the VIDEOCIPHER® II or VIDEOCIPHER® II Plus scrambling format. Ownership or possession of the descrambler does not entitle (not enable) the owner or possessor thereof to receive descrambled VIDEOCIPHER® II or VIDEOCIPHER® II Plus television signals. To obtain proper authorization for this consumer descrambler, the owner or possessor must separately contract with the appropriate programming provider(s) or this (their) agent(s).

U.S. government restrictions may prohibit the export of this product outside the United States, its territories, or possessions without a valid export license.

# MAIN FUNCTIONS

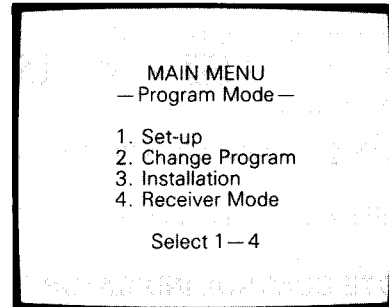
## MAIN MENU

— PROGRAM MODE —		— AUTO MODE —	
1. SET-UP	1.1 REM IND. 1.2 CH SCAN 1.3 AUTO TUNING 1.4 INPUT MODE (C/KU OR H/V)	1. CUSTOMER CHOICE	1.1 REM IND. 1.2 BASIC OSD 1.3 ANT. MOVE BLANK 1.4 SKIP TUNING
2. CHANGE PROGRAM	2.1 CHANGE POLARITY/SKEW 2.2 TI FILTER/CH FINE 2.3 CHANGE ANT. LIMIT	2. CHANGE PROGRAM	2.1 CHANGE POLARITY/SKEW 2.2 TI FILTER/CH FINE TUNING 2.3 CHANNEL SKIP 2.4 AUDIO PROGRAM 2.5 CATEGORY SELECTION 2.6 FAVORITE PROGRAM 2.7 REALIGN SAT. MEMORY
3. INSTALLATION	3.1 KU-SAT FORMAT 3.2 CALIBRATE KU-CH 3.3 REM NOISE SENSOR 3.4 ALL DATA CLEAR	3. PARENTAL CONTROL	3.1 PL ENABLE/DISABLE 3.2 ANTENNA LOCK 3.3 CH LOCKOUT 3.4 CHANGE PASSWORD
4. RECEIVER MODE (AUTO/PROGRAM)		4. RECEIVER MODE (AUTO/PROGRAM)	

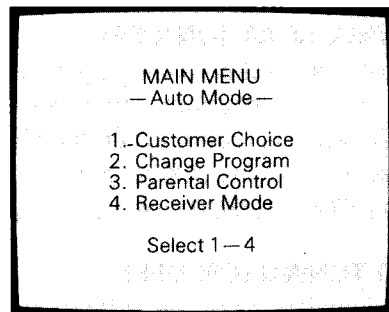
These functions can be easily used with **FUNCTION** and an ALPHANUMERIC BUTTON as follows.

## 1. BASIC OPERATION OF THE MAIN FUNCTIONS

(a) Press **FUNCTION** and the main menu will be displayed as shown at right.



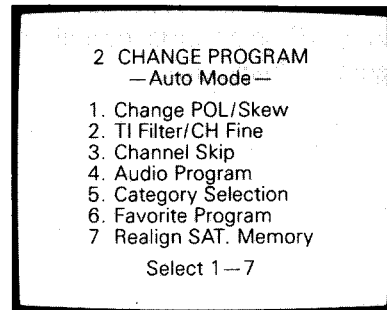
IN THE PROGRAM MODE



IN THE AUTO MODE

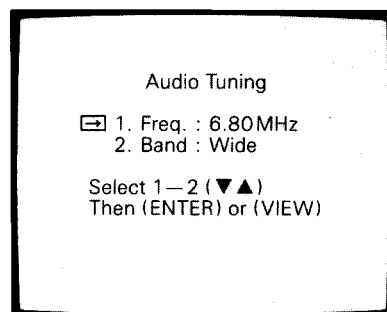
(b) Select the desired main function number by pressing an ALPHANUMERIC button. The main function chosen will be displayed as shown at right.

Ex. 1. When **FUNCTION**, **2** is pressed in the AUTO mode.



(c) Select the desired item number by an ALPHANUMERIC button. Operating instructions will appear on screen.

Ex. 2. When **4** is pressed after Ex. 1.



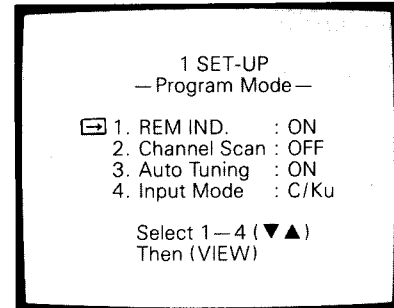
# MAIN FUNCTIONS

## — PROGRAM MODE —

### 1. SET UP

- (a) Press **FUNCTION**, **1** and the SET UP menu will be displayed as shown at right.
- (b) Select the item number (1–4).  
By pressing EAST **▼** or WEST **▲**, set to the desired condition.
- (c) Press **VIEW** to return to normal mode.

The SET UP items are as follows.



#### 1.1 REMOTE CONTROL INDICATOR (ON/OFF)

This function is used to turn the remote control indicator on the front panel on or off.

#### 1.2 CHANNEL SCAN (ON/OFF)

The channel scan feature allows the receiver to search rapidly for an active channel. The receiver stops scanning when a signal is found. When the channel signal is lost, the receiver begins scanning again. See the SAT-ELLITE POSITION MEMORY section (page 12).

#### 1.3 AUTO TUNING (ON/OFF)

When this function is on, the antenna position and the skew is automatically fine-tuned.

#### 1.4 INPUT MODE SELECTION (C/Ku or H/V)

Select C/Ku or H/V in accordance with the antenna and LNB configuration being used.

## 2. CHANGE PROGRAM

### 2.1 CHANGE POLARITY AND SKEW

Polarity settings are factory programmed and are selected when recalling a satellite and a channel. Normally it is not necessary to change the polarity. When the factory polarity does not correspond to the channel polarity, it can be changed and stored.

The CHANGE POLARITY AND SKEW function is available both in the PROGRAM mode and AUTO mode.

- (a) Press **FUNCTION**, **2**, **1** and the display will be as shown at right.
- (b) Select 1—3.
- (c) By pressing EAST  or WEST , set the format and skew desired.
- (d) Press **ENTER** to store the data.

The items are as follows.

#### ● C-band

1. FORMAT  
Select NORMAL for the factory programmed polarity, or select INVERSE for the opposite polarity. The selected polarity is set to every channel.
2. SKEW  
Changes the angle of the probe in the feedhorn.
3. CH  
Changes the satellite channel being received.

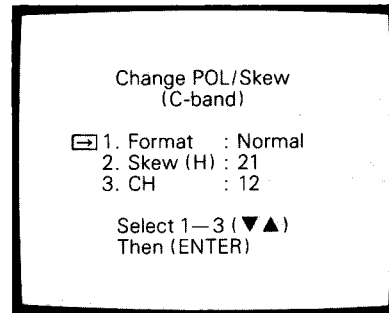
#### ● Ku-band

1. POLARITY  
Select H for the horizontal polarity, or V for the vertical polarity.
2. SKEW  
Changes the angle of the probe in the feedhorn.
3. CH  
Changes the satellite channel being received.

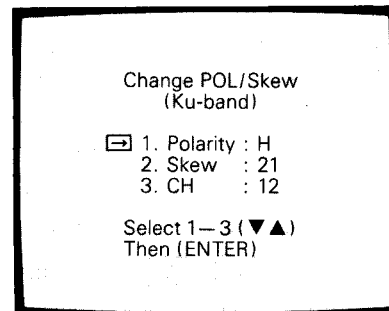
### 2.2 TI FILTER AND CH FINE TUNING

By using this function it is possible to reduce the sparkle noise in the picture, which is caused by terrestrial interference.

See page 26 for operation.



On the C-band satellite.



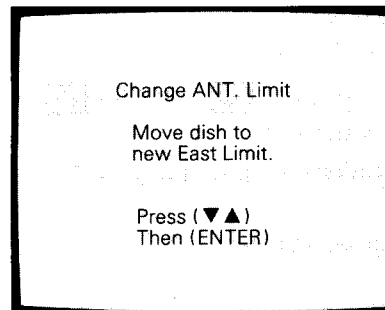
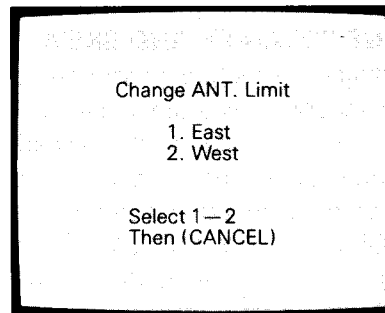
On the Ku-band satellite.

# MAIN FUNCTIONS

## 2.3 CHANGE ANTENNA LIMIT

The antenna limits can be changed as follows.

- Set the receiver to PROGRAM mode.
- Press **FUNCTION**, **2**, **3** and the display will be as shown at right.
- Select **1** for EAST limit, **2** for WEST limit and press **CANCEL** to cancel the old antenna limit.  
Ex. Select **1** for the EAST limit and then **CANCEL**.
- Move the dish to the new east or west limit.  
Press **ENTER** to store the new antenna limit.

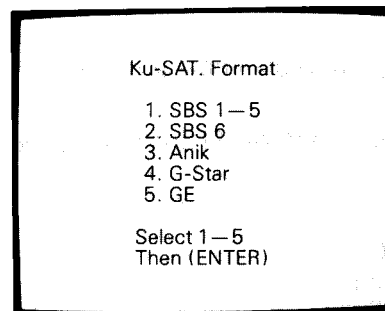


## 3. INSTALLATION

### 3.1 KU SAT. FORMAT

This function is used to specify the Ku-band satellite channel format, number of channels, polarity, and center frequencies for any new satellites. This will be helpful when programming a new Ku-band satellite that does not appear on the satellite chart in the programming section of this manual. The time required to program a new satellite is reduced by assigning it a similar existing format. This function can be used as follows.

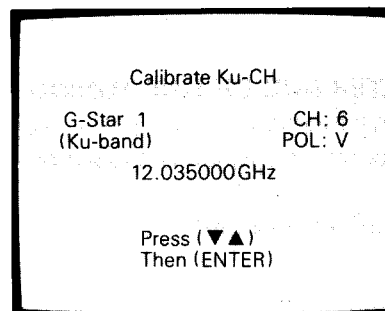
- Set the receiver to the PROGRAM mode.  
Press **KU-SAT** and enter the satellite designation that is desired to match the specified format.
- Press **FUNCTION**, **3**, **1** and select the desired satellite format (1—5).  
Press **ENTER** to specify the format.



### 3.2 CALIBRATE Ku-CHANNEL

This function is used to assign any channel frequency to any channel number on the Ku-band. A Ku-band satellite channel can be programmed as follows.

- Set the receiver to the AUTO mode.  
Select the Ku-band satellite to be calibrated.
- Set the receiver to the PROGRAM mode.
- By using the channel **▼** or **▲** buttons, or the ALPHANUMERIC buttons, input the channel number to be programmed.
- Press **FUNCTION**, **3**, **2** and the display will be as shown at right.
- By using the EAST **▼** or WEST **▲** button, adjust the frequency for the best picture.
- Press **ENTER** to store the channel frequency.

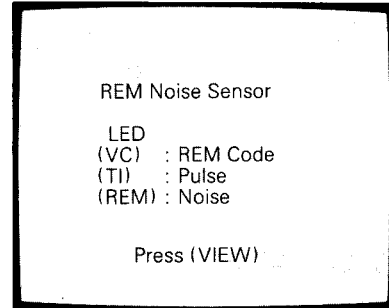


If it is desired to program additional channels, operate again from (c). When completed, set the receiver mode to the AUTO mode.

### 3.3 REM (Remote Control) NOISE SENSOR

The remote noise sensor detects unwanted interference which can inhibit proper operation of the Remote Control unit (RCU). Using the indicators on the front panel, it is possible to reorient the UHF antenna to minimize the amount of noise being received. This is essential for maximum Remote Control performance.

- (a) Set the receiver to the PROGRAM mode.
- (b) Press **FUNCTION**, **3**, **3** and the display will be shown at right.
- (c) There are 4 LED's on the front panel of the TRX-1500. Only the power indicator should be illuminated. If any of the other 3 indicators are flashing or illuminated, (TI, VC, REM), reorient the UHF antenna. The antenna must be repositioned away from the noise generating source. It may be necessary to extend the antenna away from the unit using a COAX cable.



Maximum RCU performance will be achieved when the TI, REM, and VC indicators are not illuminated or flashing.

To test the remote control, press **HELP**. When pressing and holding **HELP** on the RCU, the VC indicator should flash once and the TI and REM Led's should continue to flash. This indicates proper operation of the RCU and Receiver.

- (d) Press **VIEW** when finished.
- (e) Return the receiver to the AUTO mode.

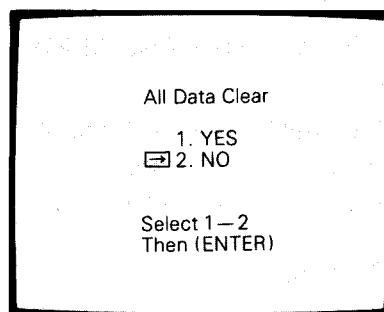
If the VC indicator is flashing.	The receiver is accepting remote control signals.
If the TI indicator is flashing.	The receiver is accepting the remote control signals or interference which is similar to the remote control's signal.
If the RCU indicator (REM) is flashing.	The receiver is accepting interference.

### 3.4 ALL DATA CLEAR

This function is used to erase and initialize all data which has been programmed.

- (a) Set the receiver to the PROGRAM mode.
- (b) Press **FUNCTION**, **3**, **4** and the display will be as shown at right.

Select **1** and press **ENTER** to erase and initialize all data.



Note: When data is initialized, the audio level is set to maximum.

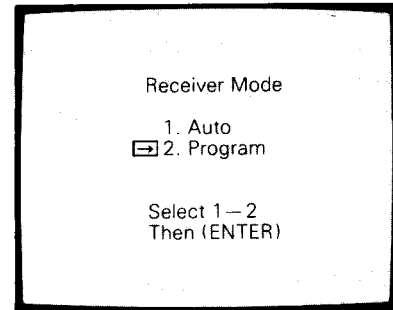


# MAIN FUNCTIONS

## 4. RECEIVER MODE SELECTION

The 2 modes of the receiver are PROGRAM and AUTO. The PROGRAM mode is used when entering the east and west limits and satellite positions. The AUTO mode is used after initial programming is completed.

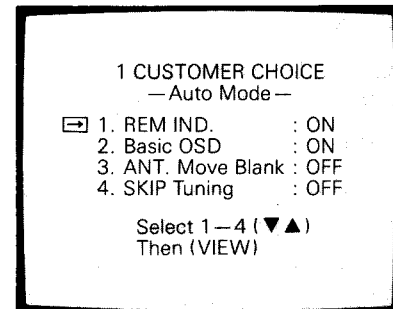
- (a) Press **FUNCTION**, **4**, and the display will be as shown at right.
- (b) Select **1** for the AUTO mode, **2** for the PROGRAM mode and press **ENTER**.



## — AUTO MODE —

### 1. CUSTOMER CHOICE

- (a) Press **FUNCTION**, **1** and the CUSTOMER CHOICE MENU will be displayed as shown at right.
- (b) Select the item number (1-4).  
By pressing EAST **▼** or WEST **▲**, select ON or OFF. Press **VIEW** to return to normal mode.
- (c) The CUSTOMER CHOICE items are as follows.



#### 1.1 REMOTE CONTROL INDICATOR (ON/OFF)

This function is used to turn the remote control indicator on the front panel on or off.

#### 1.2 BASIC OSD (ON/OFF)

This function is used to turn the basic on-screen display ON or OFF.

#### 1.3 ANTENNA MOVE BLANK (ON/OFF)

This function makes the TV screen blackout when the antenna is moving between the satellites.

#### 1.4 SKIP TUNING (ON/OFF)

When this function is on, the channel **▼** **▲** buttons will select the same polarities first and the opposite polarities second.

Ex. 1, 3, 5, 7, 9, ....., 2, 4, 6, 8, 10, .....

## 2. CHANGE PROGRAM

### 2.1 CHANGE POLARITY AND SKEW

See page 45 for operation.

### 2.2 TI FILTER AND CH FINE TUNING

By using this function it is possible to reduce the sparkle noise in the picture, which is caused by terrestrial interference.

See page 26 for operation.

## 2.3 CHANNEL SKIP

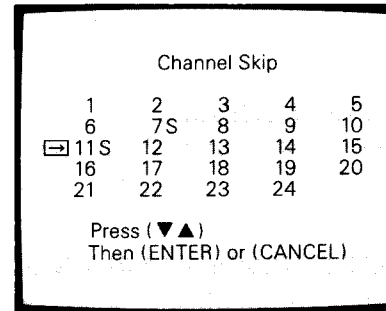
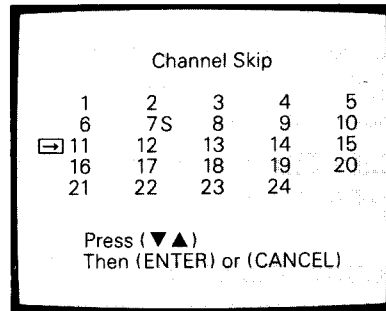
The TRX-1500 can be programmed to skip one or more channels of a satellite.

(a) Select the satellite that has a channel or channels desired to be skipped.

(b) Press **FUNCTION**, **2**, **3** and the display will be as shown at right.

When programming a channel skip: Select the desired channel by pressing EAST **▼** or WEST **▲**. Press **ENTER** and the channel is programmed to be skipped. An S will be displayed as shown at right. Press **VIEW** to clear the on screen display.

When canceling a channel skip: Pressing EAST **▼** or WEST **▲** to select the desired channel to cancel a skip. Press **CANCEL** and the skip will be canceled. Press **VIEW** to clear the on-screen display.



## 2.4 AUDIO PROGRAM

20 audio subcarriers are factory programmed. If desired, the audio program can be changed as follows.

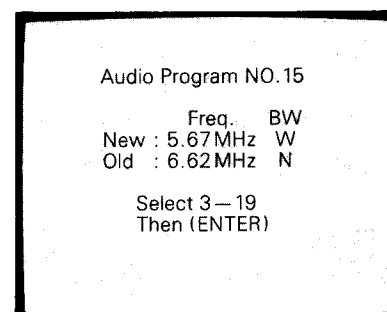
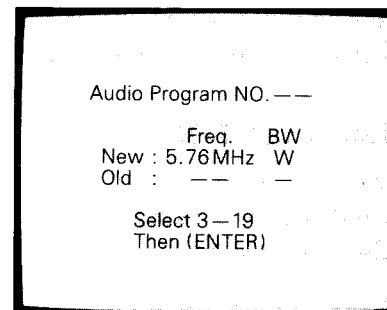
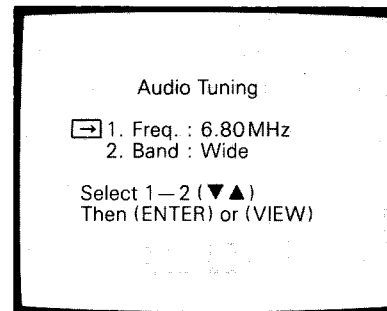
(a) Press **FUNCTION**, **2**, **4** and the display will be as shown at right.

(b) Select 1—2.

By pressing or holding EAST **▼** or WEST **▲**, select the desired audio subcarrier.

Press **ENTER** and the AUDIO program will be displayed as shown at right.

Select the AUDIO PROGRAM number (3—19) that is to be changed, and press **ENTER**.



# MAIN FUNCTIONS

- (c) If it is undecided which program number to store, press **AUDIO**. Then the AUDIO PROGRAM list will be displayed as shown at right.  
Press **◀** or **▶** to see the next or previous list.  
Press **VIEW** to return.

## 2.5 CATEGORY SELECTION

By using this function, it is possible to change the stored data for category selection.  
See CATEGORY SELECTION section (page 17) to operate.

## 2.6 FAVORITE PROGRAMS

This receiver can store up to 20 favorite programs.  
See FAVORITE PROGRAM section (page 22) to operate.

## 2.7 SATELLITE MEMORY REALIGNMENT

This function is used when a sensor wire has come loose, an actuator clamp has slipped, or an actuator has been reinstalled after a repair. It allows realignment of the actuator to match the already stored satellite positions without having to reprogram all of the satellites. Memory can be restored if all satellites are mispositioned either east or west by the same amount.

- (a) Confirm that the receiver is in the AUTO mode.
- (b) Select an active channel on the desired satellite that is programmed.
- (c) Press **FUNCTION**, **2**, **7** and the display will be as shown at right.
- (d) By using **EAST** **▼** or **WEST** **▲**, move the antenna to the position for the best picture.  
Press **ENTER** to realign the satellite memory.

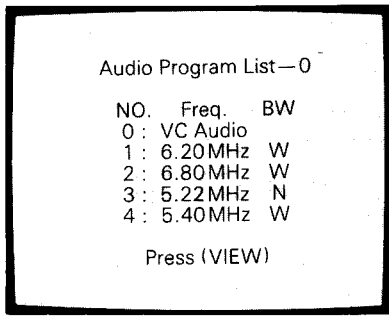
## 3. PARENTAL CONTROL

This receiver has two parental control functions, antenna lock and channel lockout.  
See page 24 for operation.

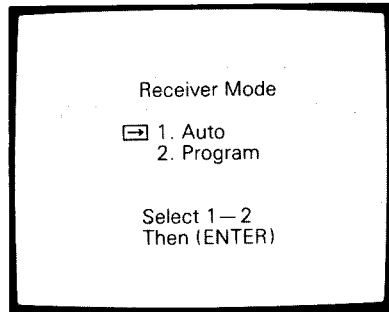
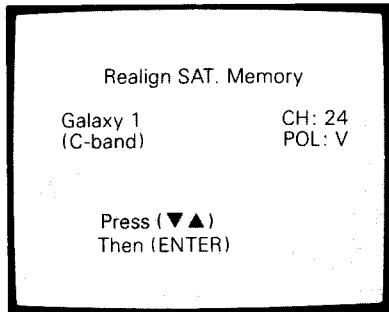
## 4. RECEIVER MODE SELECTION

The 2 modes of the receiver are PROGRAM and AUTO. The PROGRAM mode is used when entering the east and west limits and satellite positions. The AUTO mode is used after initial programming is completed.

- (a) Press **FUNCTION**, **4**, and the display will be as shown at right.
- (b) Select **1** for the AUTO mode, **2** for the PROGRAM mode and press **ENTER**.



AUDIO PROGRAM 0 (VC AUDIO) is only for VideoCipher® channels. AUDIO PROGRAM 0, 1, and 2 cannot be changed.



# TROUBLESHOOTING

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The TRX-1500 is designed to give years of trouble free service. However, if a problem should occur, please check the following before calling your dealer.

problem: No picture or sound, no front panel light.  
solution: Check that the receiver AC cord is plugged into an active wall outlet.

problem: No picture or sound, but the front panel lights are on.  
solution: Check that the antenna is aimed to an operating satellite.  
Check all cable connections.  
Check to be sure television is tuned to channel 3 or 4 channel when using the optional RF modulator.

problem: No picture but sound is OK.  
solution: Check cable connections to the video monitor or television.

problem: Snowy or sparkly picture.  
solution: Check antenna alignment, polarity fine tuning and all interconnect cables. On some weak transponders, some snow in the picture may be normal.  
Turn TI filter on or off.

problem: No sound or noisy sound but the picture is OK.  
solution: Check the volume and mute controls.  
Check the audio program and the audio tuning.  
Check all audio cables for worn insulation or shorts.

problem: Antenna does not return accurately to all satellites.  
solution: Check the mounting of the actuator on the antenna, and mounting bolts on the antenna.  
Realign satellites by using the REALIGN SATELLITES SECTION in the MAIN FUNCTIONS.

problem: The receiver can not be set to the PROGRAM mode.  
solution: Confirm that the PARENTAL CONTROL is off.

problem: When the parental control password has been forgotten.  
solution: Use 1048.

problem: When an unusual condition occurs and the remote control buttons do not operate.  
solution: Unplug the AC cord.  
Wait a few minutes and reconnect.  
Check that the UHF antenna is plugged into the UHF REMOTE IN connector.  
See page 4 ②

# SPECIFICATIONS

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## RF

Input Frequency	950 to 1450 MHz
Input Impedance	75 ohms
Noise Figure	12 dB
Image Rejection	45 dB
Input Signal Level	-60 to -30 dBm
L.O. Leakage at Input Terminal	-50 dBm max.
2nd IF Frequency	402.78 MHz
Threshold	7 dB C/N
Bandwidth	27/16 (Selectable) MHz

## VIDEO PERFORMANCE

### VIDEO OUT

Format	NTSC
De-emphasis	CCIR REC. 405-1
Output Impedance	75 ohms
Frequency Response (10 KHz to 4.2 MHz)	+1/-3 dB
Output Level	1 Vp-p $\pm$ 2 dB

## AUDIO PERFORMANCE

Bandwidth	330 KHz/150 KHz (selectable)
De-emphasis	75 $\mu$ sec.
Subcarrier Frequency	5.0 to 8.5 MHz tuneable
Frequency Response	$\pm$ 1 dB (30 to 15 KHz)
Output Impedance	600 ohms Unbalanced
Output Level	-4.2 dBs $\pm$ 2.5 dB at 75 KHz
	Deviation
Signal to Noise	60 dB

## POWER

Primary Power	120 VAC, 60 Hz
Power Consumption	170 watts
Power Supply to LNB	15 to 21.2 VDC, 180 mA max. $\times$ 2
Polarizer Output (Motor Driven type)	5 $\pm$ 0.5 V 1.0 A max.

## ACTUATOR INTERFACE

Motor Power (M1, M2)	36 V max., 2.5 A max. class 2
5V Supply	5.5 V min. 6.0 V max.
Sense (Reed Switch) (Hall)	Form C closure +5 V TTL Level

## ENVIRONMENTAL CONDITIONS

Ambient Operation Temperature	+0 to +40°C (32 to 104°F)
Humidity	Indoor Environment

## MECHANICAL

Size	16-15/16" $\times$ 4-3/16" $\times$ 15"
Weight	17 lbs

Design and specifications are subject to change without notice.

## LIMITED WARRANTY TOSHIBA SATELLITE RECEIVER

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

### Limited Two (2) Year Warranty

TACP warrants this product and its parts against defects in materials or workmanship for a period of two years after the date of original retail purchase. The VideoCipher® RS module is also warranted for 2 years. During this period TACP will repair a defective product or part, without charge to you. You must deliver the entire set to a selling dealer. You pay for all transportation and insurance charges for the set to and from the selling dealer. This warranty does not cover Acts of God, such as, but not limited to, lightning.

### Owner's Manual and Warranty Registration

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

### Your Responsibility

The above warranties are subject to the following conditions:

- (1) You must retain your bill of sale or provide other proof of purchase. Completing and mailing in the attached registration card within ten days after the original retail purchase is one way of providing such other proof of purchase.
- (2) You must notify the selling dealer within ten (10) days after you discover a defective product or part.
- (3) All warranty servicing of this product must be made by a TACP Service Center.
- (4) These warranties are effective only if the product is purchased and operated in the U.S.A.
- (5) Any charges for installation, assembly, set up adjustment of controls are not covered by this warranty. Reception problems caused by inadequate antenna systems and other components are your responsibility.
- (6) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident, improper installation, improper maintenance, assembly or use with incompatible products or use in violation of instructions furnished by us; or to units which have been altered or modified without authorization of TACP or to damage to products or parts thereof which have had the serial number removed, altered, defaced or rendered illegible.  
NOTE: The VideoCipher® RS descrambler module should not be returned for service without the TRX-1500, unless you have received prior authorization from the TACP Service Center.
- (7) TACP shall have no liability or responsibility to reimburse or compensate you for the loss of paid subscription television programming, such as, but not limited to, HBO, Showtime, etc. in the event this product requires servicing. You are advised to notify each programmer being paid a subscription fee that the product is "out of service" and that you wish to suspend you subscription while the product is being serviced.

### Step-by-Step Procedures—How to Obtain Warranty Service

To obtain warranty servicing, you should:

- (1) Contact the selling dealer for warranty service within ten (10) days after you find a defective product or part for instructions.
- (2) Arrange for the delivery of the product to the selling dealer. Products shipped to the selling dealer must be insured and safely and securely packed, preferably in the original shipping carton, and a letter explaining the defect and also a copy of the bill of sale or other proof of purchase must be enclosed. All transportation and insurance charges must be prepaid by you.
- (3) If you have any question about service, please contact the following TACP Service Center.

Toshiba America Consumer Products, Inc.  
Satellite Service Center  
1010 Johnson Drive  
Buffalo Grove, IL 60089-6900  
Phone Number:  
(708) 541-9400

ALL WARRANTIES IMPLIED BY STATE LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY STATE LAW AS HEREBY LIMITED, THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS AND SIMILAR OBLIGATIONS OF MANUFACTURER OR SELLER WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PRODUCT OR PARTS. IN NO EVENT SHALL TACP BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you.

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

**TOSHIBA AMERICA CONSUMER PRODUCTS, INC.**

BRANCH OFFICE/CHICAGO: 1010 JOHNSON DRIVE, BUFFALO GROVE, ILLINOIS 60089-6900