# Owner's Manual

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

●

# TRX-2000
## Satellite Receiver

# TOSHIBA

# PLEASE READ

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

Model No. _____     Serial 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

Thank you for purchasing a TOSHIBA TRX-2000. This system has superior performance and many advanced functions. We are confident that you will be fully satisfied with your new TRX-2000. This system has the following features.

**Built-in VideoCipher® II Plus Descrambler module**
Allows enjoyment of VideoCipher® II Plus programming.

**Built-in Programmable Antenna Positioner With Power Supply**
30 C-band satellites and 30 Ku-band satellites can be programmed.

**Compatible with C/Ku band**
The dual LNB inputs may be connected to either single C-band and single Ku-band input or dual C-band or dual Ku-band inputs.

**Color On Screen Display**
Displays various functions such as satellite name, channel, audio, etc.

**A/V Inputs**
Allows the connection to an external descrambler.

**2 A/V Outputs**
Allows the connection to 2 A/V systems, such as TV and VCR.

**S-Video Output**
Allows the connection to a TV or VCR with S-Video Inputs.

**Built-in TI Filter**
Reduces the video noise which is caused by the terrestrial interference.

**Timer Functions**
Can be programmed for 8 events up to 1 year in advance.

**20 Favorite Channel Memory**
Stores satellite position, channel number and Audio.

**144 Memory For Category Selection**
Initially, 112 satellite programs are factory programmed in 12 different categories.
Allows easy selection of the satellite program.

**Liquid Crystal Multi-Function Display**
Displays antenna position, satellite name, channel, audio output level, etc.

**Full Function UHF Remote Control**

**Additional Features**

Frequency Synthesized Tuning System

Parental Control (Antenna lock, Channel lockout)

Beep Sound

Auto Tuning

Channel Scan

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# INDICATION OF CONTROLS

## FRONT PANEL
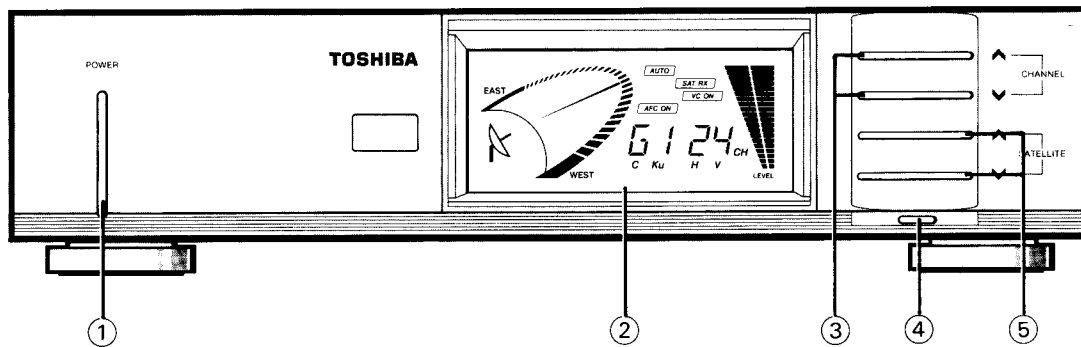


### (1) POWER BUTTON
Turns the receiver on or off.

### (2) LIQUID CRYSTAL DISPLAY
Displays current satellite information.

### (3) CHANNEL BUTTUN
Selects channels up or down.

### (4) UHF/IR BUTTON
Selects UHF or optional IR Remote Control.

### (5) 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.

## REAR PANEL

### ❶ INPUT C/V
This F connector is one of two "block" inputs accepting signals in the range of 950 to 1450MHz. Selection of this input is determined by the setting of "C/Ku" or "V/H".

### ❷ INPUT Ku/H
This F connector is one of two "block" inputs. See 1.

### ❸ CHANNEL 3/4
The output of the modulator ❹ (VHF OUT) is controlled by this switch. TV reception on channel 3 or 4 is possible.

### ❹ VHF OUT
Channel 3 or 4 modulated VHF signal output. Connect to the VHF input on a television set.

### ❺ VHF IN
A VHF signal input. Connect to a VHF antenna or cable system.

### ❻ UHF REMOTE IN
This connector is the input terminal for the UHF remote control. Plug the antenna in here.
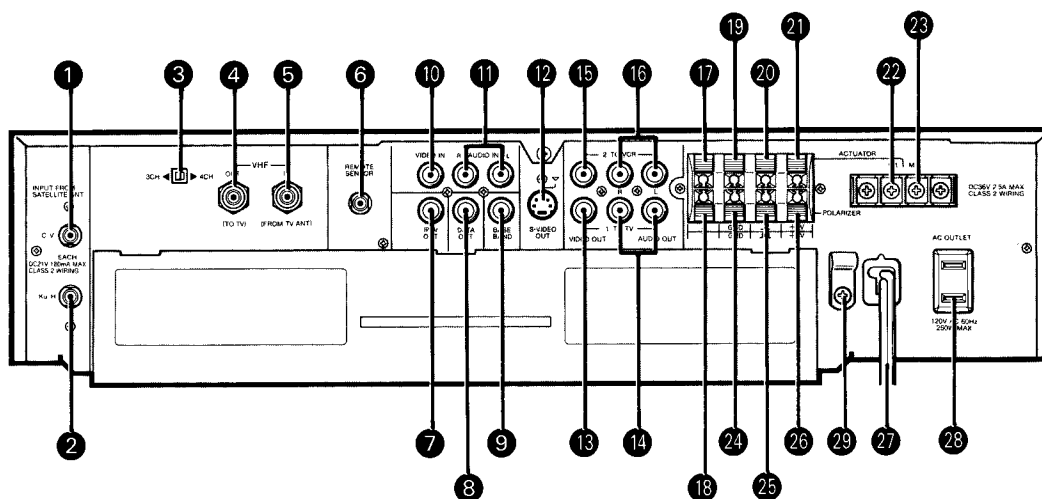
**7 IPPV OUT**

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

**8 DATA OUT**

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

**9 BASE BAND**

This phono connector provides unfiltered, unclamped composite baseband video output to an external de-scrambler. This output can be either de-emphasized or non-de-emphasized.

**10 VIDEO IN**

This phono connector receives the video signal from an external descrambler or a VCR.

**11 AUDIO IN**

These phono connectors receive the audio signal from an external descrambler or a VCR.

**12 S-VIDEO OUT**

This phono connector provides S-video output. Connect to the S-video input of a TV or a VCR.

**13 VIDEO OUT 1**

This phono connector provides the video output to a VCR or a monitor.

**14 AUDIO OUT 1**

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

**15 VIDEO OUT 2**

This phono connector provides the video output without on screen displays except for the VideoCipher® II Plus.

**16 AUDIO OUT 2**

These phono connectors provide the audio outputs, left and right. The mute and the volume level are not effected by the remote.

**17 H**

This is an auxiliary output that provides control signals to a H/V switch when H polarity is selected.

**18 V**

This is an auxiliary output that provides control signals to a H/V switch when V polarity is selected.

**19 GND**

An actuator position feedback line used in conjunction with 20 alone or 20 and 21.

**20 ⎍**

This is the actuator return pulse.

**21 +5V**

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

**22 M1**

Combined with 23, this output controls the motor direction and dynamic braking. When the EAST [∨] is pressed, +36V (MAX) appears at the M1 relative to M2.

**23 M2**

Combined with 22, this output controls the motor direction and dynamic braking. When the WEST [∧] is pressed, +36V (MAX) appears at the M2 relative to M1.

**24 GND**

This is the return line for 17, 18, 25, 26.

**25 ⎍⎍**

This terminal is the output control for the polarizer.

**26 +5V**

This terminal is the 5V supply for the polarizer.

**27 LINE CORD**

120V AC, 60Hz (nominal) input.

**28 AC OUTLET**

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

**29 CABLE HOLDER**

This is used to secure the cable from satellite antenna.

---

**■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



**TOSHIBA**
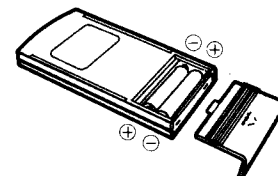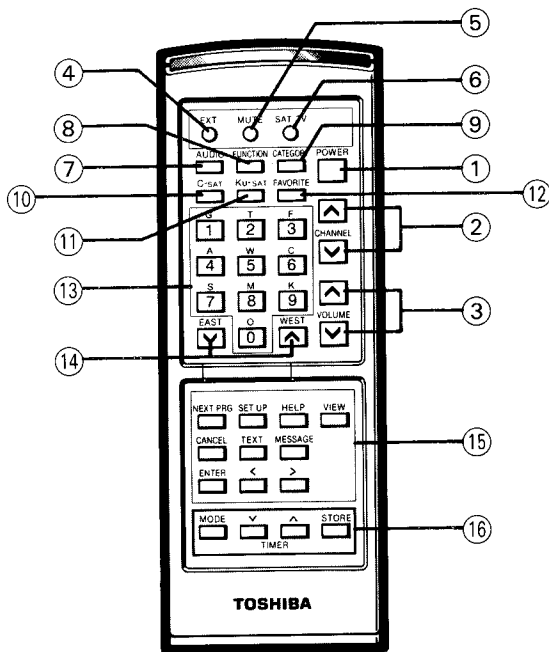
## ① POWER BUTTON
This button turns the receiver on or off.

## ② CHANNEL BUTTONS
These buttons allow channel scanning up or down.

## ③ VOLUME BUTTONS
These buttons adjust the audio up or down.

## ④ EXT BUTTON
This button selects the output signal (VIDEO OUT, S-VIDEO OUT, AUDIO OUT and VHF OUT) from either the external input (VIDEO and AUDIO IN) or the receiver signal.

## ⑤ MUTE BUTTON
This button mutes the sound.

## ⑥ SAT/TV BUTTON
This button selects the RF output, either satellite or TV.

## ⑦ AUDIO BUTTON
Pressing this button, followed by the ALPHANUMERIC buttons or EAST ▼ or WEST ▲, selects prepro-grammed audio subcarriers.

## ⑧ FUNCTION BUTTON
Pressing this button, followed by an ALPHANUMERIC button, selects one of the MAIN FUNCTIONS.

## ⑨ CATEGORY BUTTON
Pressing this button, followed by an ALPHANUMERIC button, selects a desired satellite program by category.

## ⑩ C-SAT BUTTON
Pressing this button, followed by the ALPHANUMERIC buttons or EAST ▼ or WEST ▲, selects C-band sat-ellites.

## ⑪ Ku-SAT BUTTON
Pressing this button, followed by the ALPHANUMERIC buttons or EAST ▼ or WEST ▲, selects Ku-band satellites.

## ⑫ FAVORITE BUTTON
Pressing this button, followed by the ALPHANUMERIC buttons, selects a favorite program channel which can be stored in the receiver's memory.

## ⑬ ALPHANUMERIC BUTTONS
These 10 buttons are used to do the following.

(1) To select a satellite and a channel directly. See page 17.

(2) To select a favorite program. See page 27.

(3) To select a satellite program by category. See page 21.

(4) To select an audio program.

(5) To select MAIN FUNCTIONS. See page 40.

## ⑭ ANTENNA EAST/WEST BUTTONS
This button is used to move the antenna. When pressed with [ Ku-SAT ], [ C-SAT ], this button cycles through pro-grammed satellite positions.

## ⑮ VIDEOCIPHER® II PLUS CONTROLS
These buttons perform those functions associated with the operation of the VideoCipher® II Plus Descrambler, and are operative only when receiving VideoCipher® signal. See page 38.

Note: [ ENTER ], [ VIEW ] and [◁] [▷] are also used for other functions.

If the wrong key was pressed or the operation of the TRX-2000 was unknown, press [ VIEW ]. [ VIEW ] will clear any on screen display.

## ⑯ TIMER FUNCTION BUTTONS
These buttons are used to operate the Timer functions. See page 29 in detail.

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

# LCD (LIQUID CRYSTAL DISPLAY)
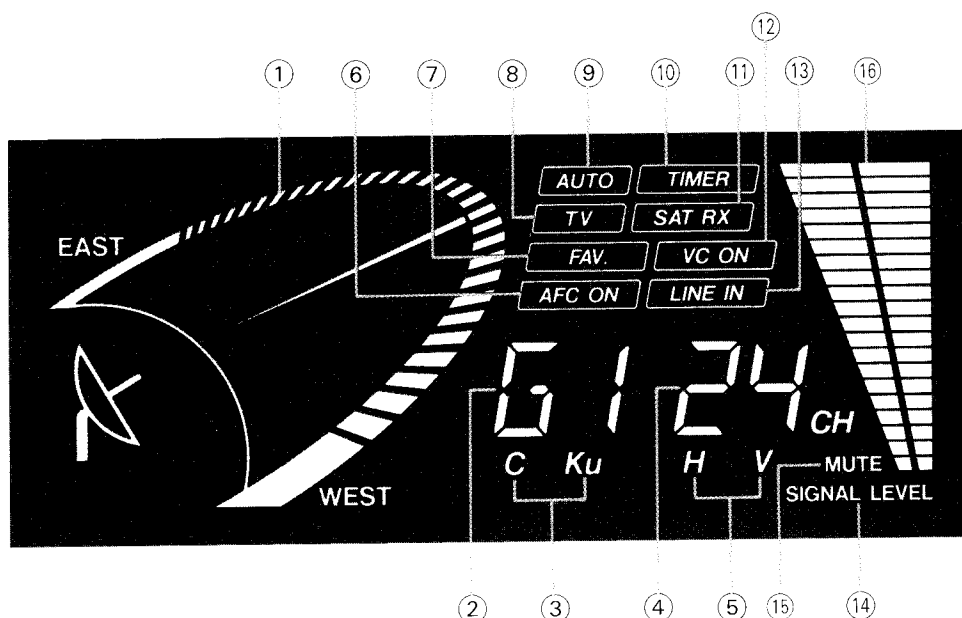
## ① ANTENNA POSITION DISPLAY
Graphically displays the antenna position.

## ② SATELLITE NAME DISPLAY
Displays the receiving satellite designation by 2 digits.
Displays EL when the dish is at the east limit, and WL when the dish is at the west limit.

## ③ C/Ku BAND INDICATOR
Indicates the satellite band being received.

## ④ CHANNEL DISPLAY
Displays the satellite channel being received or the favorite program number.

## ⑤ POLARITY INDICATOR
Indicates the channel polarity. Displays "H" for horizontal and "V" for vertical polarity.

## ⑥ AFC INDICATOR
Indicates the Automatic Frequency Control is on. See page 37.

## ⑦ FAVORITE INDICATOR
Indicates a favorite program is selected.

## ⑧ TV INDICATOR
Indicates when the television signal is selected.

## ⑨ AUTO MODE INDICATOR
Indicates the AUTO mode has been selected.

## ⑩ TIMER INDICATOR
Indicates the TIMER function is on and flashes when power failure is occured or clock is not set up.

## ⑪ SAT RX INDICATOR
Indicates the receiver is in the satellite mode.

## ⑫ VIDEOCIPHER® INDICATOR
Indicates the system is receiving a VideoCipher® II Plus signal.

## ⑬ LINE IN
Indicates the external signal (from VIDEO IN and AUDIO IN connecter) is provided to the output terminal.

## ⑭ SIGNAL LEVEL INDICATOR
In the AUTO mode, level is displayed. In the PROGRAM mode, signal level is displayed.

## ⑮ AUDIO MUTE INDICATOR
Indicates the audio output is muted.

## ⑯ BAR GRAPH INDICATOR
When the receiver is in the AUTO mode, the audio output levels are displayed.
When the receiver is in the PROGRAM mode, the input signal strength is displayed.

# INSTALLATION

## 1. CONNECTIONS TO A SATELLITE ANTENNA

**Note: The cable from satellite antenna is heavy. It is recommended to secure it with the cable holder.**

### (1) SINGLE C-BAND

Set the INPUT MODE to C/KU.
See page 13.
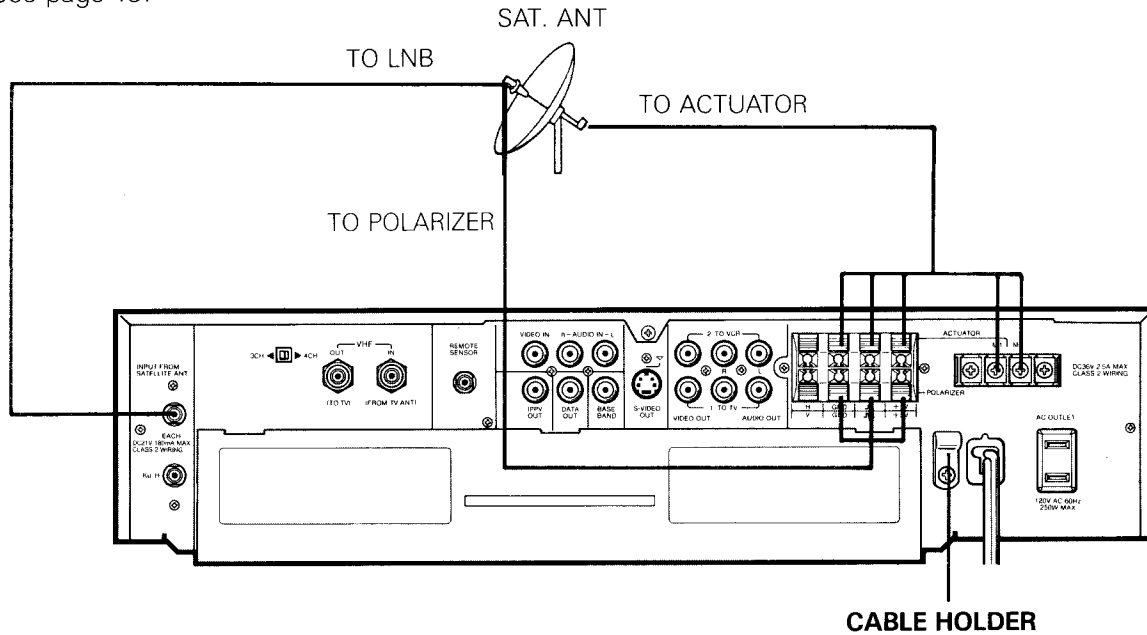


### (2) DUAL LNBs

Set the INPUT MODE to V/H.
See page 13.
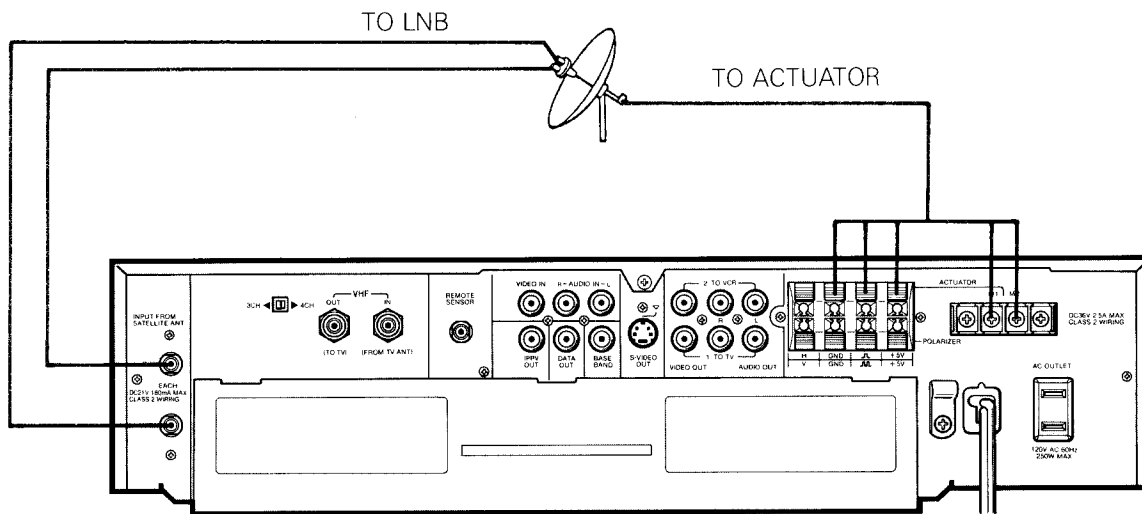
## (3) SINGLE C-BAND AND SINGLE KU-BAND LNBs

Set the INPUT MODE to C/KU.
See page 13.
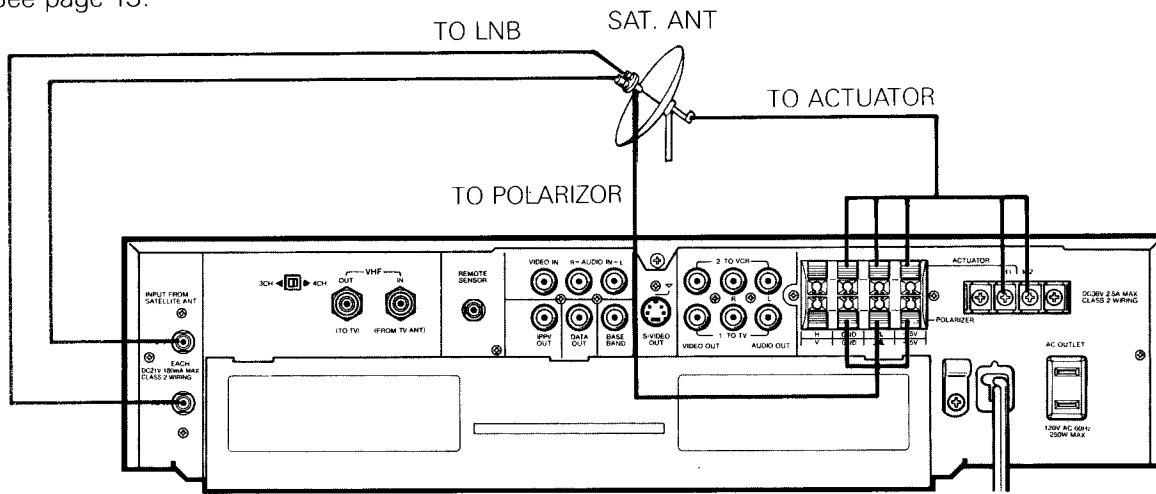


## (4) DUAL C-BAND LNBs AND MULTIPLE RECEIVERS

Set the INPUT MODE to V/H.
See page 13.



SET UP
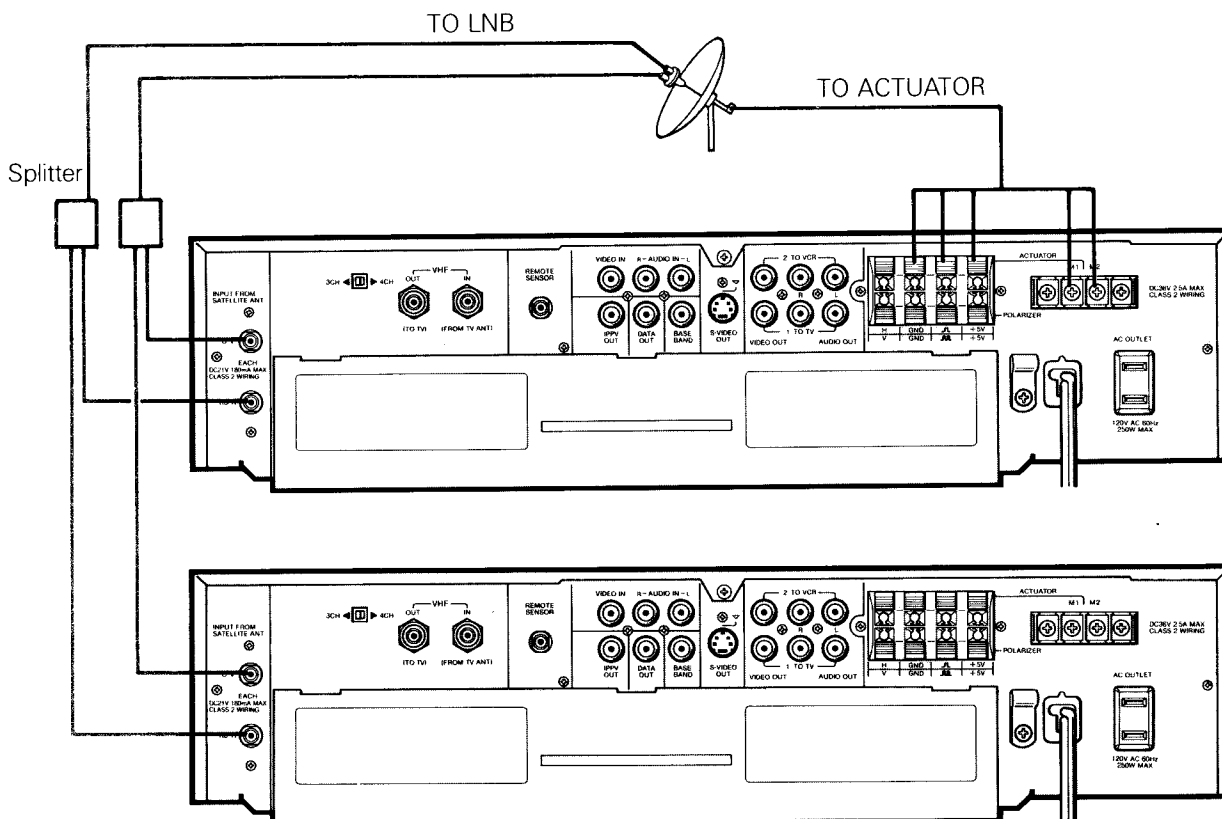
# 2. CONNECTION TO OTHER AV COMPONENTS

**EX. 1**

UHF ANT for REMOTE CONTROL

TO VHF
ANTENNA

VIDEO IN
AUDIO IN

VHF OUT   **VCR**   VIDEO OUT
AUDIO OUT

VIDEO IN
AUDIO IN

VHF IN

S-VIDEO IN

VIDEO IN
AUDIO IN

TV
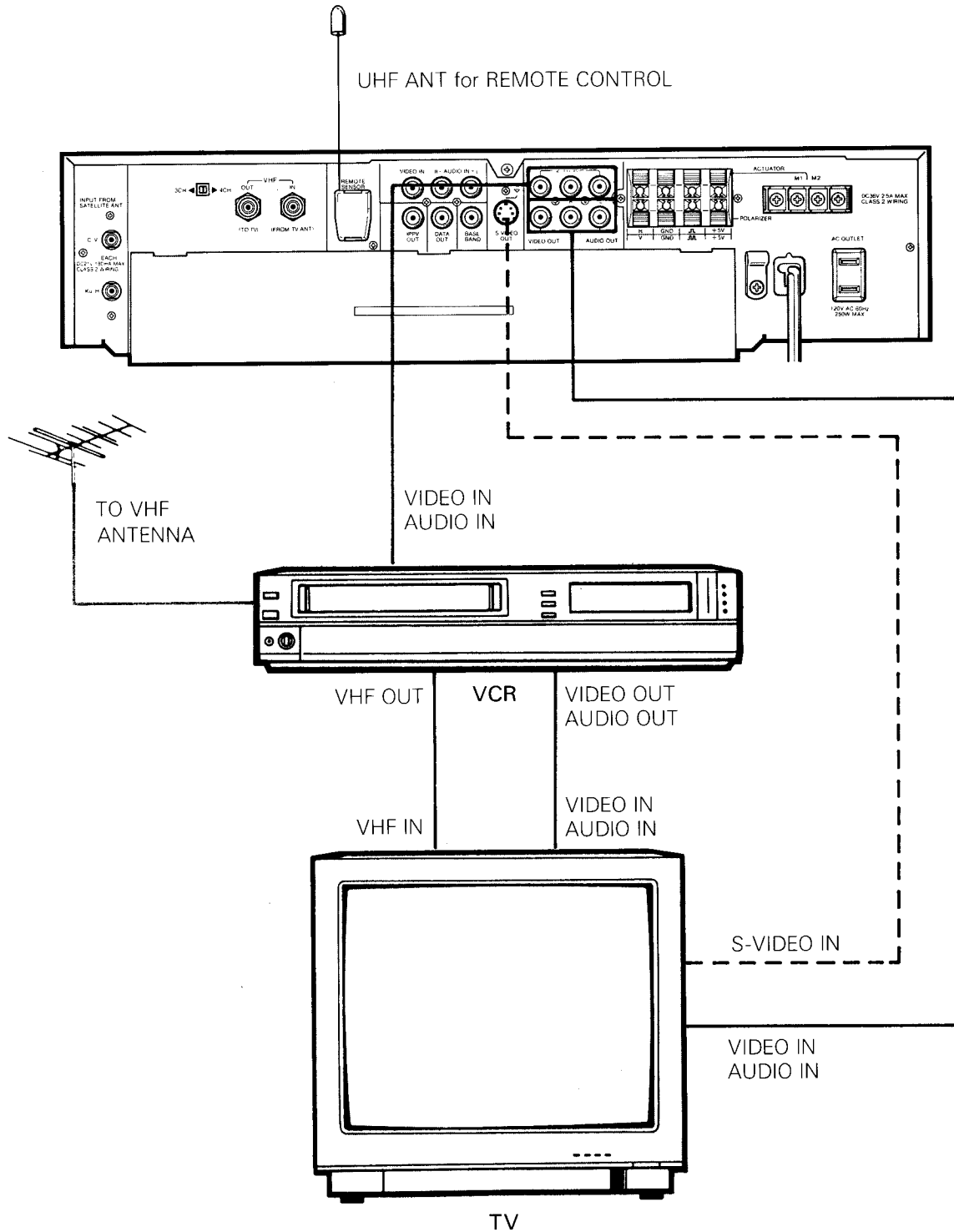
Note:
● When your TV set is equipped with S-VIDEO IN terminal, connect TRX-2000 to this terminal instead of the ordinary
VIDEO IN. Audio connection is common for both S-VIDEO and ordinary VIDEO.

**EX. 2**

UHF ANT for REMOTE CONTROL

S-VIDEO IN

TO VHF
ANTENNA

VIDEO IN
AUDIO IN

VHF OUT  **VCR**  VIDEO OUT
AUDIO OUT

VIDEO IN
AUDIO IN

VHF IN

TV
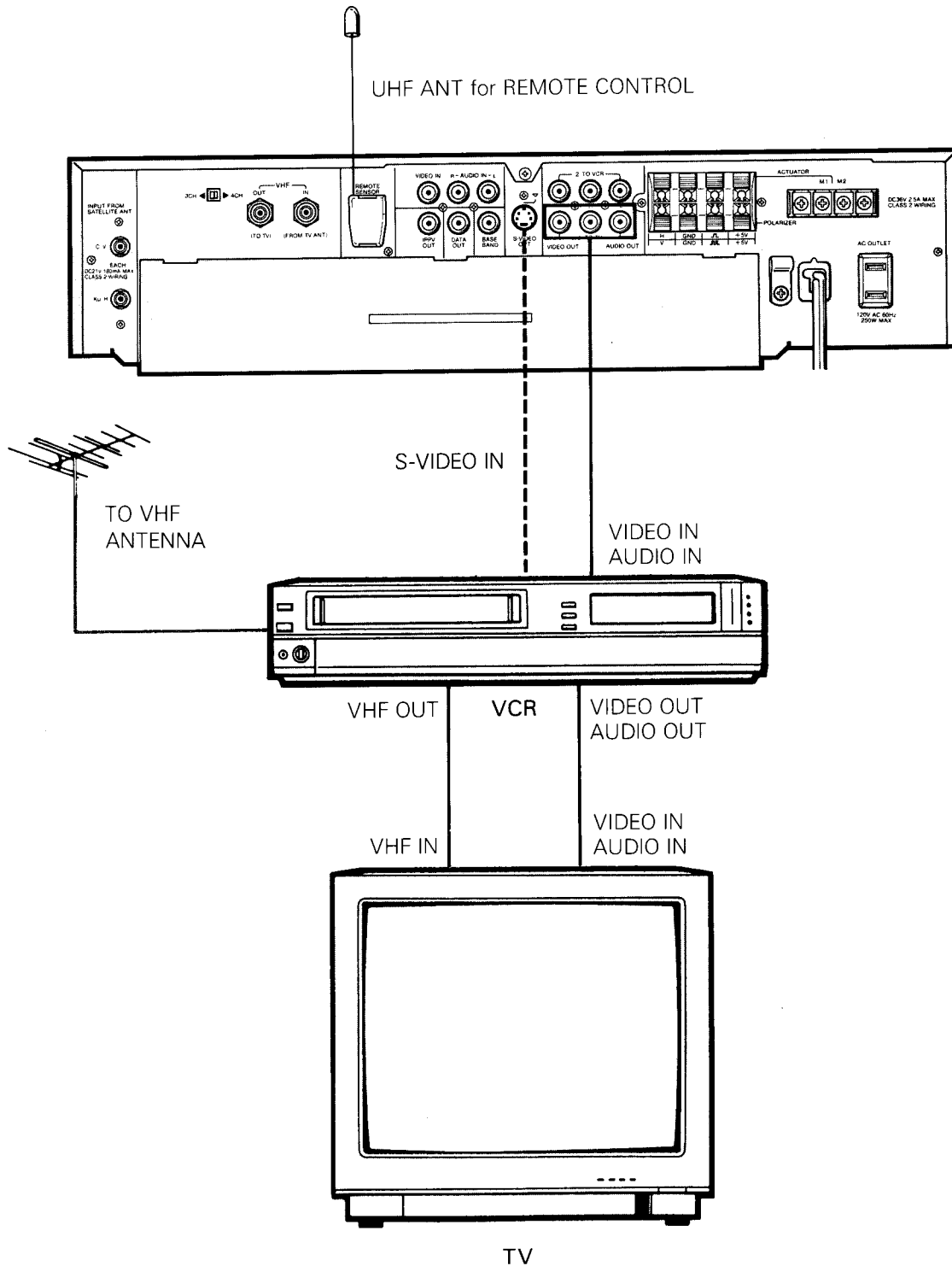
Note:
● When your VCR set is equipped with S-VIDEO IN terminal, connect TRX-2000 to this terminal instead of the ordinary VIDEO IN. Audio connection is common for both S-VIDEO and ordinary VIDEO.
● When recording a program on a VCR, set the TRX-2000's volume control to 63 (max.).

— 11 —

TO VHF
ANTENNA

UHF ANT for REMOTE CONTROL

VHF IN

TV
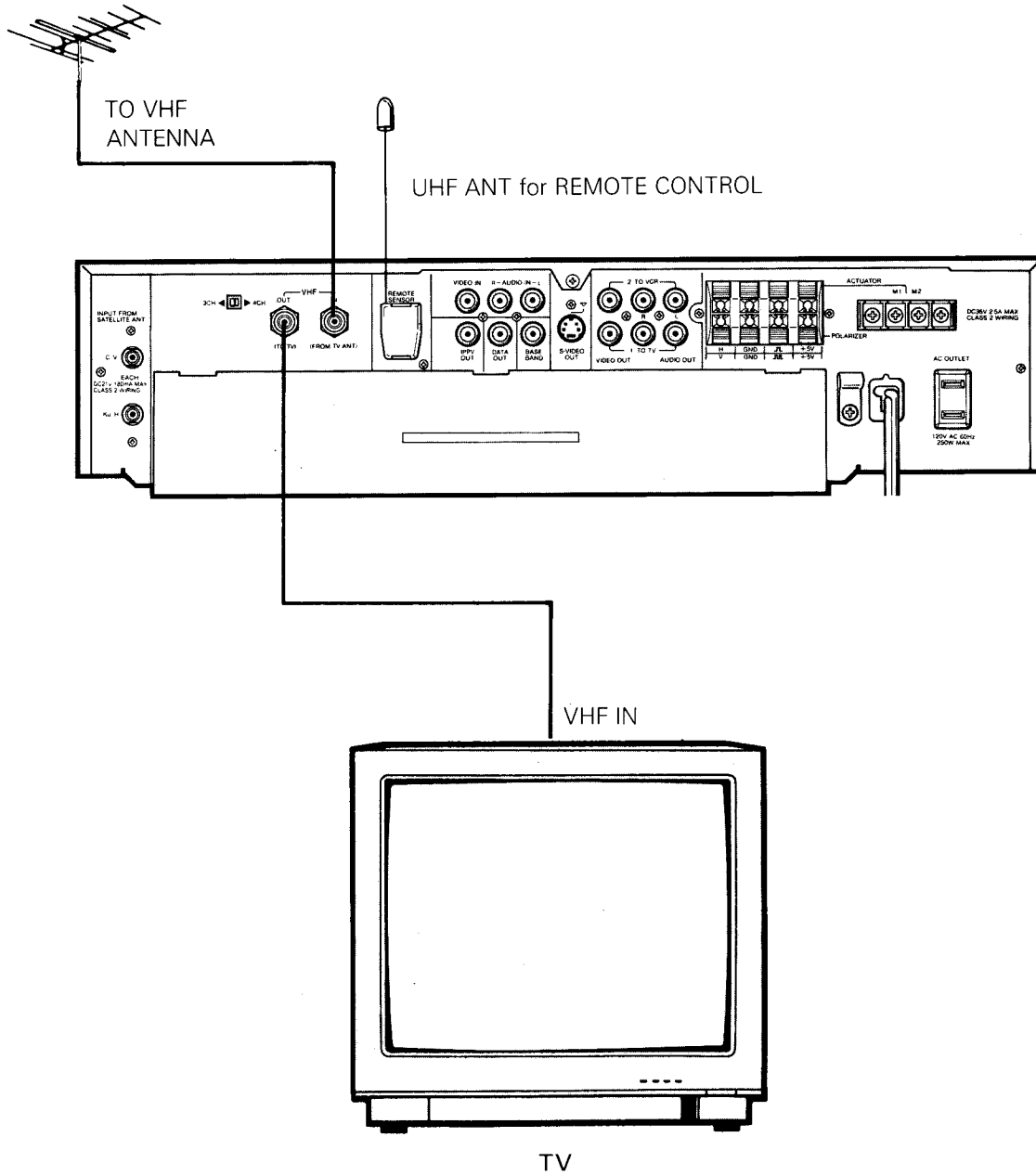
# INITIAL SETUP

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

## 1. POWER ON
Turn on the receiver, TV and other equipment (such as an audio system or a video system). Select the appropriate input of the TV in accordance with the connection of the TV and the receiver.

## 2. SELECTING THE RECEIVER MODE
Confirm that the receiver is in the Program mode by checking that "AUTO" is not on the front panel display. When the "AUTO" light is on, set the receiver to the Program mode as follows.

(a) Press [ FUNCTION ], [ 1 ], [ 6 ] and the display will be as shown at right.
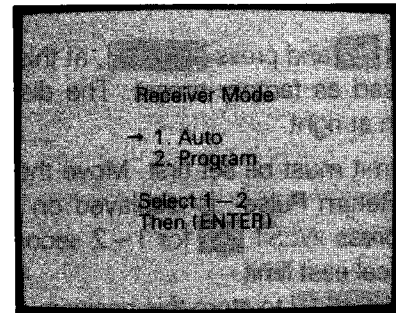


(b) Select [ 2 ] and press [ ENTER ].

## 3. SELECTING THE INPUT MODE FOR YOUR SYSTEM
(a) Press [ FUNCTION ], [ 1 ], [ 5 ] and the display will be as shown at right.

(b) Select [ 1 ] or [ 2 ] in accordance with the connection of the antenna and LNB system which is being used.

(c) Press [ ENTER ] to select the mode.
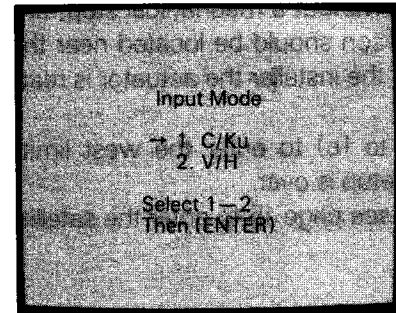


## 4. CHECK ACTUATOR WIRING
Confirm that when EAST [ ∨ ] is pressed, the antenna moves to the east. If not, swap the connection of M1 and M2 on the rear panel of the receiver.

## 5. SETTING ANTENNA LIMITS

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 , 4 , 4 and the display will be as shown at right.
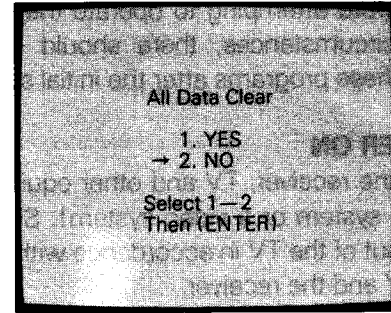


(b) Select 1 and press ENTER , at this time all data is initialized as factory preset. The display will be as shown at right.
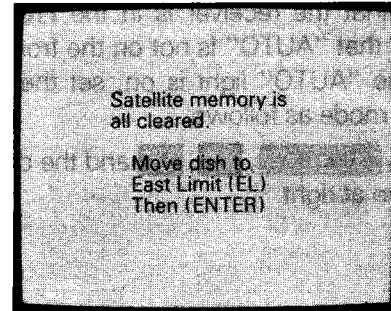
(c) East limit must be set first. Move the dish east until "No Return Pulse" is displayed on screen. At this time press WEST ▲ for 1~2 seconds. This is the electrical east limit.
Press ENTER to store this position.

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) Refer to (c) to enter the west limit. The antenna limit setup is over.
Next, see page 15 to enter the satellite positions.

## 5. SATELLITE POSITION MEMORY

Up to 60 satellites can be programmed (C-band: 30, Ku-band: 30). For the 34 satellites listed below, the 2-digit ALPHANUMERIC 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 34 satellites.

### C-BAND

| NO. | DESIGNATION | SATELLITE | POSITION |
|-----|-------------|-----------|----------|
| 1 | F5 | AURORA | 143° W |
| 2 | F1 | SATCOM F1R | 139° W |
| 3 | G1 | GALAXY 1 | 134° W |
| 4 | F3 | SATCOM F3 | 131° W |
| 5 | T3 | TELSTAR 303 | 125° W |
| 6 | W5 | WESTAR 5 | 122.5° W |
| 7 | S1 | SPACENET 1 | 120° W |
| 8 | M1 | MORELOS 1 | 113.5° W |
| 9 | A2 | ANIK D2 | 110.5° W |
| 10 | A1 | ANIK D1 | 104.5° W |
| 11 | W4 | WESTAR 4 | 99° W |
| 12 | T1 | TELSTAR 301 | 96° W |
| 13 | G3 | GALAXY 3 | 93.5° W |
| 14 | W3 | WESTAR 3 | 91° W |
| 15 | S3 | SPACENET 3 | 87° W |
| 16 | T2 | TELSTAR 302 | 85° W |
| 17 | F4 | SATCOM F4 | 82° W |
| 18 | W2 | WESTAR 2 | 79° W |
| 19 | G2 | GALAXY 2 | 74° W |
| 20 | F2 | SATCOM F2R | 72° W |
| 21 | S2 | SPACENET 2 | 69° W |

### Ku-BAND

| NO. | DESIGNATION | SATELLITE | POSITION |
|-----|-------------|-----------|----------|
| 1 | T1 | SPACENET 1 | 120° W |
| 2 | C3 | ANIK C3 | 117.5° W |
| 3 | M1 | MORELOS 1 | 113.5° W |
| 4 | C2 | ANIK C2 | 110° W |
| 5 | G2 | GSTAR 2 | 105° W |
| 6 | G1 | GSTAR 1 | 103° W |
| 7 | S1 | SBS 1 | 99° W |
| 8 | S2 | SBS 2 | 97° W |
| 9 | S3 | SBS 3 | 95° W |
| 10 | S4 | SBS 4 | 91° W |
| 11 | K1 | SATCOM K1 | 85° W |
| 12 | K2 | SATCOM K2 | 81° W |
| 13 | T2 | SPACENET 2 | 69° W |

SET UP

# INITIAL SETUP

(a) Press FUNCTION , [1] , [2] . The display will be as shown at right.

Select [1] and press ENTER to enable the CHANNEL SCAN function.

```
          Channel Scan

             1. ON
          → 2. OFF

          Select 1—2
          Then (ENTER)
```
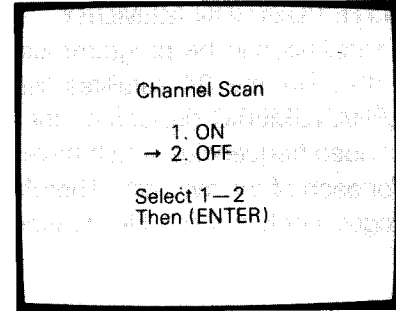
(b) Press FUNCTION , [1] , [3] . The display will be as shown at right.

Select [1] and ENTER to enable the AUTO TUNING function.

```
          Auto Tuning

          → 1. ON
            2. OFF

          Select 1—2
          Then (ENTER)
```
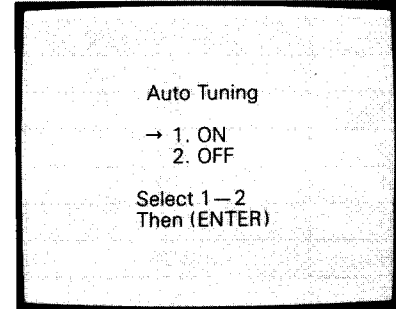
(c) Select C or Ku-band by pressing C-sat or Ku-sat and select a satellite name by pressing [<] or [>] until the desired satellite name appears, or enter the satellite designation (2 digit) by the ALPHANUMERIC buttons.
Ex. When GALAXY 1 is selected.

(d) 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.

```
          Satellite Memory
      Galaxy 1          CH: 24
      (C-band)          POL: V

      Select SAT name
      by (LEFT), (RIGHT)
      Move dish to SAT
      Then (ENTER)
```
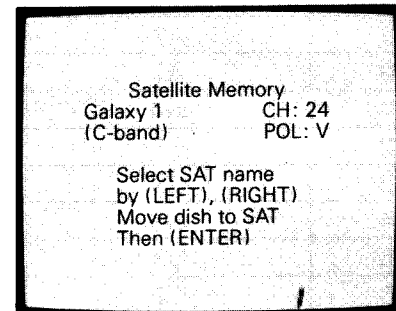
Press ENTER and the skew automatically adjusts to the satellite and then the antenna position automatically adjusts to the satellite.
When completed, the antenna position is stored.
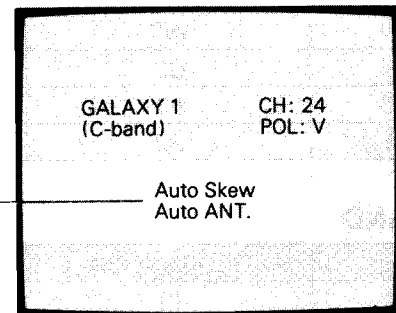
Flashing during operation.

```
      GALAXY 1          CH: 24
      (C-band)          POL: V

          Auto Skew
          Auto ANT.
```

To program additional satellite positions, operate again from (c) to (d).

The INITIAL SETUP is now finished.

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

## 1. POWER ON

Press _____ . The LIQUID CRYSTAL DISPLAY (LCD) on the front panel will light up. Check the LCD that AUTO appears. If not, set the receiver mode to AUTO. See page 43.

## 2. SATELLITE AND CHANNEL SELECTION

(1) Satellite selection

There are two ways to select a satellite.

● Direct access

Press _____ or _____ 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 _____ or _____ and press and hold _____ or _____ 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 _____ or _____ twice, it will be displayed on the TV screen.

Press _____ or _____ to see next or previous satellite list.



```
C-band SAT. List

F1  : Satcom F1R
G1  : Galaxy 1
F3  : Satcom F3
W5  : Wester 5
F2  : Satcom F2
S2  : Spacenet S2

Select SAT. Name
```
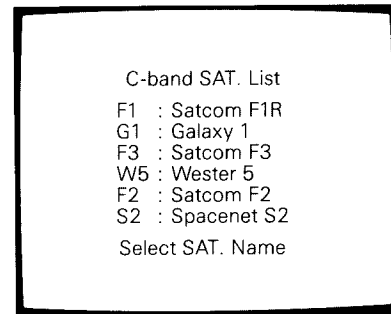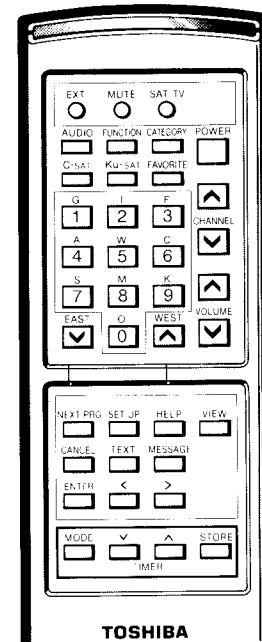
Ex. When G1, C-BAND is selected.

Press _____ , _____ , _____ .

or

Press _____ , and hold _____ or _____ until G1 is displayed on the LCD and on screen.
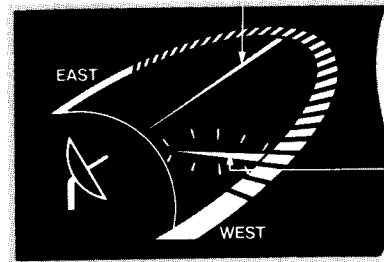


Displays the present antenna position. It moves toward the selected satellite position.

The flashing bar displays the selected satellite position.
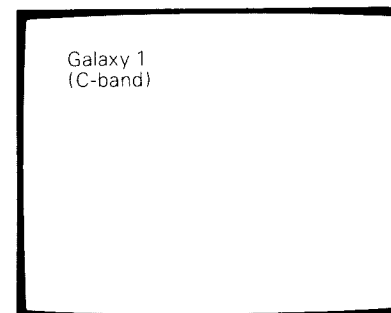
```
Galaxy 1
(C-band)
```

**BASIC OPERATION**

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

```
Galaxy 1          CH: 24
(C-band)          POL: V
```



(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            or      until the desired channel appears.

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

```
Galaxy 1          CH: 24
(C-band)          POL: V
```

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

```
Galaxy 1          CH: 24
(C-band)          POL: V
```

(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            or      until the desired channel appears.

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

```
Galaxy 1          CH: 24
(C-band)          POL: V
```
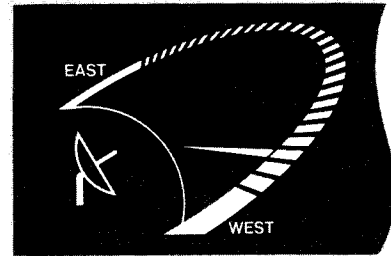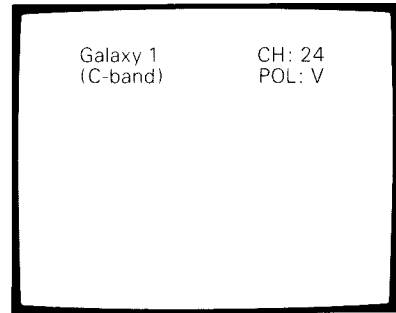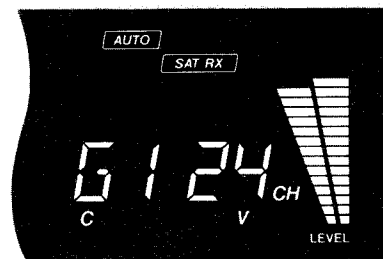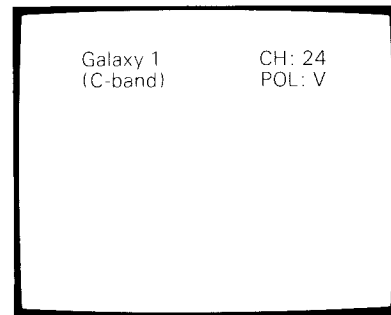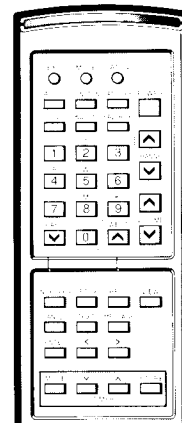
## 3. AUDIO PROGRAM SELECTION

This receiver has 30 (0-29) 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 ⟨∨⟩ or ⟨∧⟩ , the AUDIO PROGRAM can be changed.

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

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

Audio Program List — 0

| NO. | Mode | BW | A1 | A2 |
|-----|------|-----|-------|----|
| 0: | VC | Audio | | |
| 1: | MN | W | 5.40 | |
| 2: | MN | W | 5.41 | |
| 3: | MN | W | 5.58 | |
| 4: | MN | W | 5.76 | |
| 5: | MN | W | 5.94 | |

Select 1 — 29

Audio Program 11

Mode : Monaural

Band : Wide
A1      6.80 MHz

## 4. VOLUME AND MUTE CONTROLS

Press          or     button to adjust the audio to
a comfortable listening level.
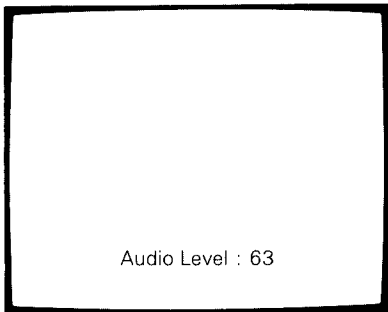
Audio Level : 63

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

The display will be as shown at right.
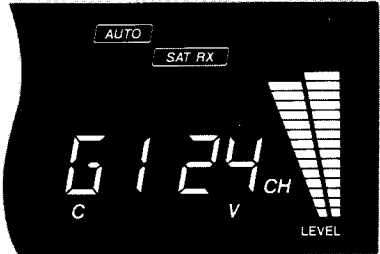
The bargraph indicator will move
up or down in accordance to the
audio level.

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

Audio Mute

Press          again to return to the previous volume
level.
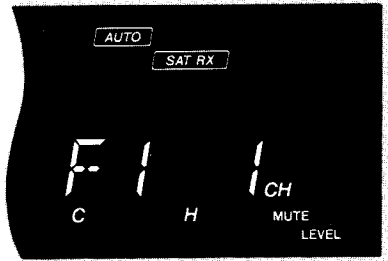
## 5. MOVING THE DISH

To move the dish, use          or          .

Note: If the wrong key was pressed or the operation of
the TRX-2000 was unknown, press          .
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 12 different categories. (Refer to the PROGRAM NAME LIST on page 25.) 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 144 satellite programs. Up to 12 programs can be stored in each category.

## 1. SELECTION

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

```
                    Category List
        1. Movies          7. Children
        2. Variety         8. Music
        3. Sports          9. Superstn
        4. News           10. Education
        5. Networks       11. Foreign
        6. Special        12. Religious
              Select 1—12 : ——
```
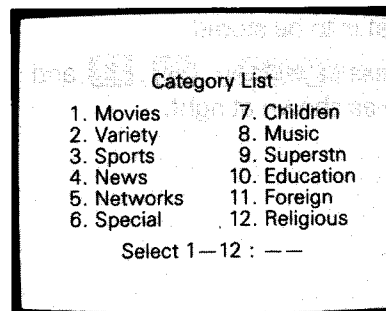
Ex. When ⬚ is selected.

(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.

```
                      1. Movies
        NO.    Name    SAT    CH    Audio
         1:    AMC      F3    12     11
         2:    MAX-E    G1    19     11
         3:    MAX-W    F3    23     11
         4:    HBO-E    G1    23     11
         5:    HBO-W    F3    13     11
         6:    MOVIE    F3    15     11
            Select number 1—12 : ——
```
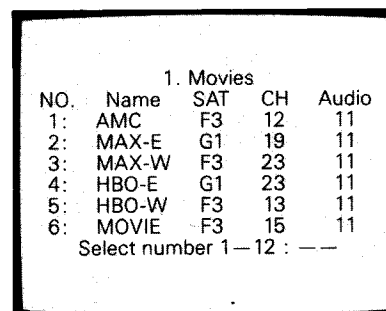
## 2. CHANGING A PROGRAM

Initially, 112 satellite programs have been factory pro-
grammed as shown in the list of the page 25.
If desired, they can be re-programmed as follows.

(1) TO STORE A PROGRAM

    (a) Confirm that the receiver is in the Auto mode.

    (b) Receive the desired satellite, channel and audio
        that is to be stored.

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

```
        Category Selection

          1. Enter
          2. Cancel

         Select 1—2
         Then (ENTER)
```
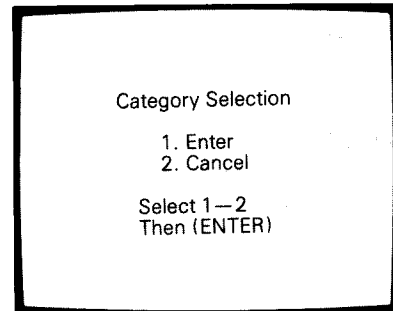
    (d) Select 1 and press  ENTER . The category list
        will be displayed as shown at right.

```
               Category List

     1. Movies       7. Children
     2. Variety      8. Music
     3. Sports       9. Superstn
     4. News        10. Education
     5. Networks    11. Foreign
     6. Special     12. Religious
          Select 1—12 : ——
```

    (e) Select the desired category number and the
        program name list will be displayed.
        Press ◁ ▷ to see the next or previous list.

```
               1. Movies
     0. W/O Name      7. SHOW-E
     1. AMC           8. SHOW-W
     2. MAX-E         9. Star
     3. MAX-W        10. SPC
     4. HBO-E        11. TMC-E
     5. HBO-W        12. TMC-W
     6. MOVIE
          Select 0—12 : ——
```
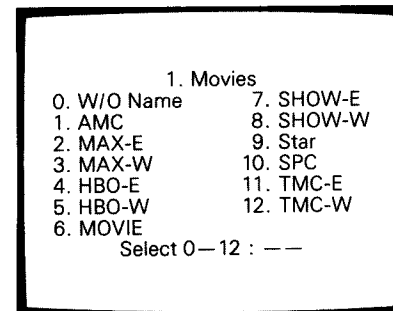
(f) Select the desired program name to be stored. If it is desired to store without a name, select 0 (w/o name).

(g) Select the desired program number from 1 to 12. The preprogrammed data will be displayed as shown at right. Press [ ENTER ] to store.



CAT. Program NO. — —

New Program
| Name | SAT | CH | Audio |
|------|-----|----|-------|
| TMC-W | F3 | 12 | 11 |

Old Program
| Name | SAT | CH | Audio |
|------|-----|----|-------|
| — — | — — | | |

Select 1 — 12
Then (ENTER)
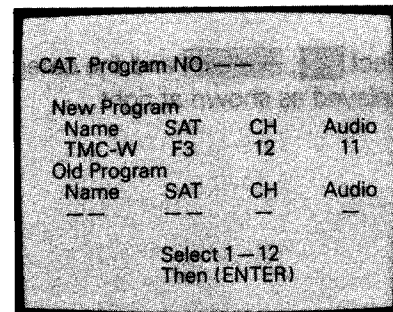
(h) If it is not decided which program number to store, press [ CATEGORY ] . The category program list will be displayed as shown at right. Press [<] [>] to see the next or previous list. Press [ VIEW ] to return.



1. Movies
| NO | Name | SAT | CH | Audio |
|----|------|-----|----|-------|
| 1: | AMC | F3 | 12 | 11 |
| 2: | MAX-E | G1 | 19 | 11 |
| 3: | MAX-W | F3 | 23 | 11 |
| 4: | HBO-E | G1 | 23 | 11 |
| 5: | HBO-W | F3 | 13 | 11 |
| 6: | MOVIE | F3 | 15 | 11 |

Press (VIEW)

ADVANCED OPERATION
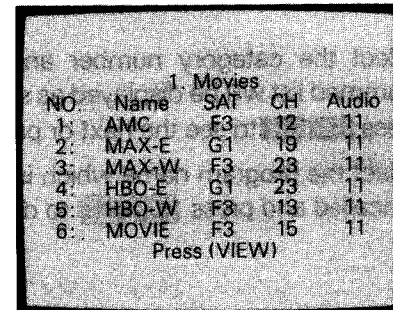
## CATEGORY SELECTION

(2) TO CANCEL THE PROGRAM

    (a) Confirm that the receiver is in the Auto mode.

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

> Category Selection
>
> 1. Enter
> 2. Cancel
>
> Select 1—2
> Then (ENTER)
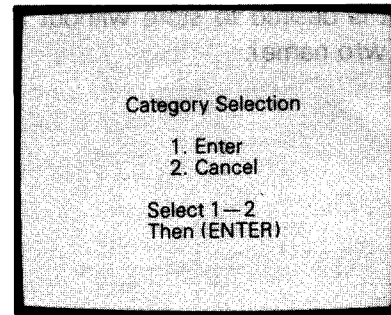
    (c) Select `2`, `ENTER` and the category list will be displayed as shown at right.

> Category List
>
> 1. Movies     7. Children
> 2. Variety     8. Music
> 3. Sports     9. Superstn
> 4. News     10. Education
> 5. Networks     11. Foreign
> 6. Special     12. Religious
>
> Select 1—12 : — —
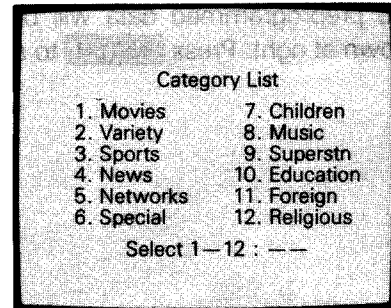
    (d) Select the category number and the preprogrammed list will be displayed as shown at right. Press `<` `>` to see the next or previous list.

    (e) Select the program name which is desired to be cancelled and press `CANCEL` to delete the data.

> 1. Movies
>
> | NO. | Name | SAT | CH | Audio |
> |-----|------|-----|----|----|
> | 1: | AMC | F3 | 12 | 11 |
> | 2: | MAX-E | G1 | 19 | 11 |
> | 3: | MAX-W | F3 | 23 | 11 |
> | 4: | HBO-E | G1 | 23 | 11 |
> | 5: | HBO-W | F3 | 13 | 11 |
> | 6: | MOVIE | F3 | 15 | 11 |
>
> Select 1—12 : — —
> Then (CANCEL)
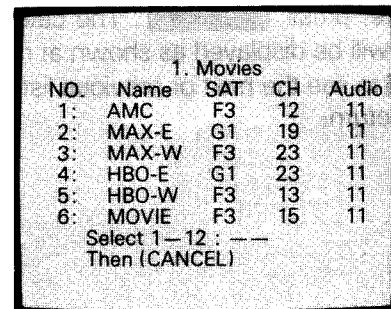
## CATEGORY SELECTION
## SATELLITE PROGRAM LIST

### 1. MOVIES

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. American Movie Classics | AMC | F3 | 12 |
| 2. Cinemax-East | MAX-E | G1 | 19 |
| 3. Cinemax-West | MAX-W | F3 | 23 |
| 4. Home Box Office-East | HBO-E | G1 | 23 |
| 5. Home Box Office-West | HBO-W | F3 | 13 |
| 6. Movietime | MOVIE | F3 | 15 |
| 7. Showtime-East | SHO-E | G1 | 5 |
| 8. Showtime-West | SHO-W | G1 | 16 |
| 9. Stardust Theatre | STAR | G2 | 2 |
| 10. Starion Premiere Cinema | SPC | S3 | 19 |
| 11. The Movie Channel-East | TMC-E | G1 | 10 |
| 12. The Movie Channel-West | TMC-W | G1 | 14 |

### 2. VARIETY

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. Arts & Entertainment | A E | G1 | 12 |
| 2. Black Entertainment TV | BET | F3 | 20 |
| 3. Bravo | BRAVO | F3 | 4 |
| 4. Channel America | CHAMER | S2 | 5 |
| 5. Family Channel-East | TFC | G1 | 11 |
| 6. Lifetime-East | LIFE-E | G3 | 20 |
| 7. Lifetime-West | LIFE-W | F3 | 17 |
| 8. Nostalgia Channel | NOST | F4 | 21 |
| 9. RFD-TV | RFD-TV | W5 | 17 |
| 10. Turner Network TV | TNT | F3 | 18 |
| 11. USA Network-East | USA-E | G1 | 21 |
| 12. USA Network-West | USA-W | F3 | 10 |

### 3. SPORTS

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. ESPN | ESPN | G1 | 9 |
| 2. Home Team Sports | HTS | S3 | 23 |
| 3. Madison Sq. Garden Network | MSGN | F4 | 6 |
| 4. Midwest Sports Channel | MSC | W5 | 20 |
| 5. New England Sports Network | NESN | F4 | 13 |
| 6. Pacific Sports Network | PSN | F1 | 5 |
| 7. Pass-Detroit | PASS | S3 | 21 |
| 8. Prime Sports Network | PSNW | F1 | 17 |
| 9. Prime Ticket | PRTIC | F4 | 20 |
| 10. Sports Channel | SPCHAN | F4 | 10 |
| 11. Sports Newsatellite | SNS | T1 | 13 |
| 12. Sunshine Network | SUNNET | F1 | 11 |

### 4. NEWS & INFORMATION

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. All News Channel | ANC | F2 | 7 |
| 2. C-SPAN | CSPAN | G3 | 24 |
| 3. C-SPAN II | CSPAN2 | G3 | 14 |
| 4. Cable News Network | CNNET | G1 | 7 |
| 5. CNBC | CNBC | F3 | 6 |
| 6. Headline News | CNN | G1 | 8 |
| 7. Financial News Network | FNN | F3 | 11 |
| 8. NASA-Select Channel | NASA | F2 | 13 |
| 9. The Travel Channel | TTC | F3 | 16 |
| 10. The Weather Channel | TWC | G3 | 13 |
| 11. The Weather Network | TWN | A2 | 11 |

### 5. NETWORKS

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. ABC-East | ABC-E | T1 | 10 |
| 2. CBC North-East | CBC-E | A1 | 19 |
| 3. CBC North-Pacific | CBC-P | A1 | 11 |
| 4. CBMT-Montreal (CBC) | CBMT | A1 | 20 |
| 5. KCNC-Denver (NBC) | KCNC-D | F1 | 4 |
| 6. KMGH-Denver (CBS) | KMGH-D | F1 | 6 |
| 7. KRMA-Denver (PBS) | KRMA-D | F1 | 12 |
| 8. KUSA-Denver (ABC) | KUSA-D | F1 | 2 |
| 9. PBS-A | PBS-A | W4 | 15 |
| 10. WABC-New York (ABC) | WABC | F2 | 4 |
| 11. WBBM-Chicago (CBS) | WBBM | F2 | 2 |
| 12. WXIA-Atlanta (NBC) | WXIA | F2 | 12 |

### 6. SPECIAL

| PROGRAM NAME | ABBREV | SAT | CH |
| --- | --- | --- | --- |
| 1. Cable Video Store PPV | CVS | G3 | 5 |
| 2. Comedy Channel | COMEDY | G1 | 1 |
| 3. Drive-In Cinema PPV | DCINE | S2 | 1 |
| 4. HA Channel | HA | G3 | 23 |
| 5. Playboy At Night | PLAY | F4 | 24 |
| 6. Rendezvous PPV | REN | S2 | 3 |
| 7. Viewer's Choice PPV 1 | VC-1 | G3 | 16 |
| 8. Viewer's Choice PPV 2 | VC-2 | G3 | 21 |

ADVANCED OPERATION

## 7. CHILDRENS

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. Disney Channel-East | DIS-E | G1 | 4 |
| 2. Disney Channel-West | DIS-W | G1 | 24 |
| 3. Nickelodeon-East | NICK-E | G3 | 19 |
| 4. Nickelodeon-West | NICK-W | G3 | 22 |

## 8. MUSIC

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. Country Music TV | CMTV | G1 | 13 |
| 2. Music TV-East | MTV-E | G3 | 17 |
| 3. Music TV-West | MTV-W | G3 | 18 |
| 4. Much Music | MUCHM | A1 | 6 |
| 5. Nashville Network | TNN | G1 | 2 |
| 6. Video Hits One | VH-1 | G3 | 15 |

## 9. SUPERSTATIONS

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. KTLA-Los Angeles | KTLA | S3 | 15 |
| 2. KTVT-Ft. Worth | KTVT | S3 | 5 |
| 3. KWGN-Denver | KWGN | F1 | 14 |
| 4. Superstation-TBS | TBS | G1 | 18 |
| 5. WGN-Chicago | WGN | G1 | 3 |
| 6. WPIX-New York | WPIX | S3 | 9 |
| 7. WSBK-Boston | WSBK | S3 | 3 |
| 8. WWOR-New York | WWOR | G1 | 15 |

## 10. EDUCATION

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. The Discovery Channel | DISC | G1 | 22 |
| 2. The Learning Channel | TLC | F3 | 2 |
| 3. Mind Extension University | MEU | G3 | 11 |
| 4. Oklahoma State | OSU | W4 | 13 |

## 11. FOREIGN

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. CBC French-East | CBFT | A1 | 15 |
| 2. French TV1 | FTV1 | F2 | 20 |
| 3. Galavision (Spanish) | GALAV | G1 | 20 |
| 4. Galavision ECO (Spanish) | GALA | W5 | 6 |
| 5. SCOLA | SCOLA | S2 | 19 |
| 6. Telemundo (Spanish) | TELE | S2 | 9 |
| 7. TV5 (French) | TV5 | A2 | 17 |
| 8. XEW-Mexico City (Spanish) | XEW | M1 | 14 |
| 9. XHTV Mexico City | XHTV | M1 | 7 |
| 10. XHDF-Mexico City (Spanish) | XHDF | M1 | 8 |
| 11. XHGC-Televisa (Sapnish) | XHGC | M1 | 10 |
| 12. XHIMT-Mexico City (Spanish) | XHIMT | M1 | 2 |

## 12. RELIGIOUS

| PROGRAM NAME | ABBREV | SAT | CH |
|---|---|---|---|
| 1. AM. Christian TV System | ACTS | G3 | 7 |
| 2. Baptist Television Network | BTN | S1 | 21 |
| 3. Eternal Word TV Network | EWTN | G3 | 10 |
| 4. Familynet | FAMILY | F4 | 5 |
| 5. Inspirational Network | INNET | G1 | 17 |
| 6. Keystone Inspirational Net. | KIN | W4 | 9 |
| 7. National Christian Network | NCN | W4 | 6 |
| 8. Trinity Broadcasting Network | TBN | F3 | 3 |
| 9. University Network | UNET | W5 | 2 |
| 10. Vision TV | VISNTV | A2 | 15 |
| 11. VISN | VISN | F3 | 9 |

# FAVORITE PROGRAM

By using this function, it is possible to store up to 20 of your favorite satellite programs. Then it is possible to select your desired satellite channel without selecting a satellite or channel. These programs may be on the same satellite or 20 different satellites. These features are only available in the AUTO mode.
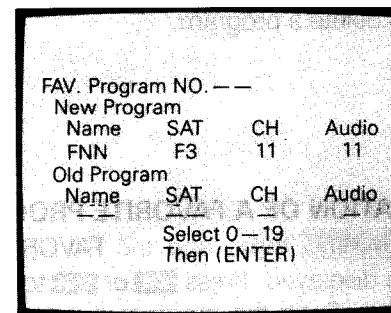
## 1. FAVORITE PROGRAMMING
(1) STORING A FAVORITE PROGRAM
- (a) Confirm that the receiver is in the AUTO mode by checking the LCD on the front panel.
- (b) Receive the satellite, channel and audio that is to be stored.
- (c) Press FUNCTION , 3 , 3 and the display will be as shown at right.

```
Favorite Program

→ 1. Enter
  2. Cancel

Select 1—2
Then (ENTER)
```
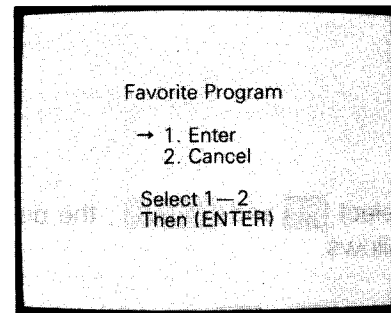
Select 1 and ENTER . The satellite and channel will be displayed as shown at right.

```
FAV. Program NO. ——
 New Program
  Name     SAT    CH    Audio
  FNN      F3     11     11
 Old Program
  Name     SAT    CH    Audio
  ——       ——     ——     ——
       Select 0—19
       Then (ENTER)
```

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

```
FAV. Program NO. 3
 New Program
  Name     SAT    CH    Audio
  FNN      F3     11     11
 Old Program
  Name     SAT    CH    Audio
  AMC      F3     12     11
       Select 0—19
       Then (ENTER)
```
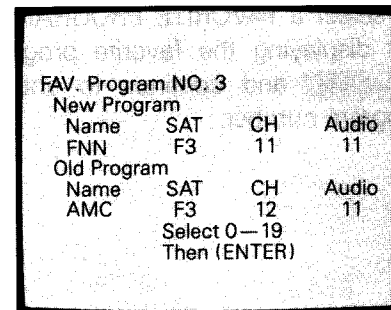
- (d) If it is undecided which program number to store, press FAVORITE . Press ◁ or ▷ to see the next or previous favorite program list. The FAVORITE PROGRAM list will be displayed as shown at right. Press VIEW to return.

```
FAV. Program List—0
NO.  Name    SAT   CH   Audio
 0:  MAX-E   G1    8     8
 1:  HBO-W   F3    2     7
 2:          F3    2     6
 3:  ——      ——    ——    —
 4:  ——      ——    ——    —

     Press (VIEW)
```
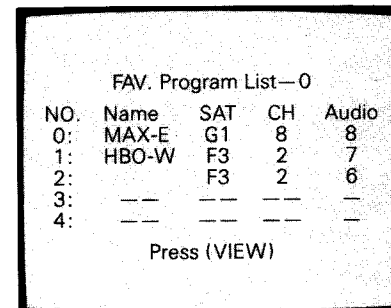
# FAVORITE PROGRAM

(2) TO CANCEL A FAVORITE PROGRAM

    (a) Confirm that the receiver is in the AUTO mode by checking the LCD on the front panel.

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

```
┌──────────────────────────┐
│                          │
│      Favorite Program    │
│                          │
│    → 1. Enter            │
│       2. Cancel          │
│                          │
│       Select 1—2         │
│       Then (ENTER)       │
│                          │
└──────────────────────────┘
```

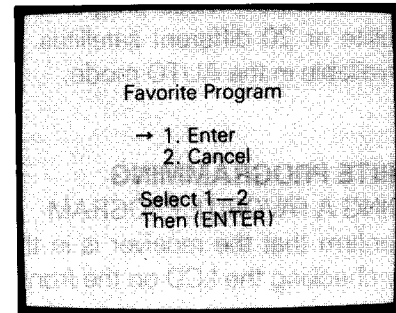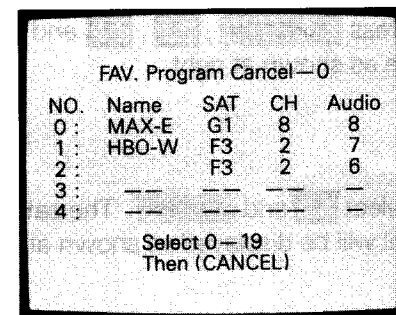        Select ⬚2⬚ and ENTER , the display will be as follows.

        Press ◁ or ▷ to see the next or previous list.

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

```
┌──────────────────────────────┐
│                              │
│      FAV. Program Cancel—0   │
│   NO.  Name   SAT  CH  Audio │
│   0 :  MAX-E  G1   8    8     │
│   1 :  HBO-W  F3   2    7     │
│   2 :         F3   2    6     │
│   3 :   ──    ──   ──   ──    │
│   4 :   ──    ──   ──   ──    │
│                              │
│        Select 0—19           │
│        Then (CANCEL)         │
│                              │
└──────────────────────────────┘
```

## 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.

```
┌──────────────────────────────┐
│                              │
│      FAV. Program List—0     │
│   NO.  Name   SAT  CH  Audio │
│   0 :  MAX-E  G1   8    8     │
│   1 :  HBO-W  F3   2    7     │
│   2 :         F3   2    6     │
│   3 :   ──    ──   ──   ──    │
│   4 :   ──    ──   ──   ──    │
│                              │
│        Select 0—19           │
│                              │
└──────────────────────────────┘
```
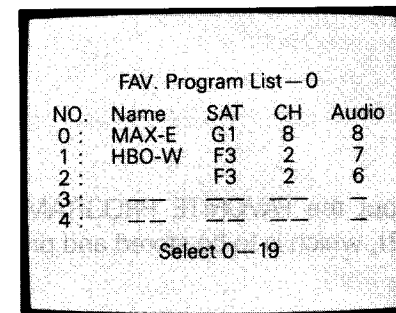
# TIMER FUNCTION

There are 2 types of timer functions. They are normal and daily. A normal program can be set for 1 day up to a year in advance. A daily program can be s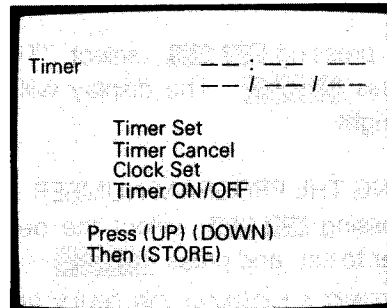et for the same program everyday. Up to 8 programs can be set in all. When the programmed time has come, the receiver will be turned on, and go to the satellite and channel which has been programmed.

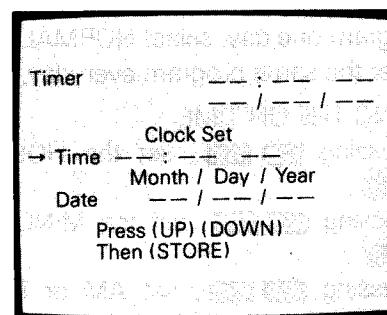The timer function is only available in the Auto mode.

(1) CLOCK SETTING

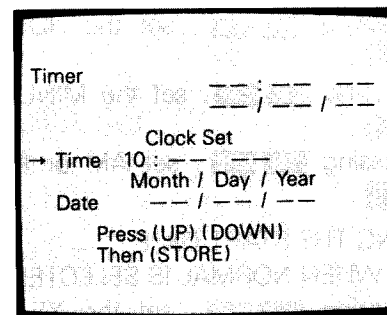Before using the TIMER FUNCTION, it is necessary to set the clock.

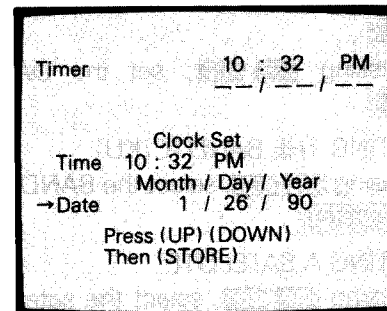(a) Press [MODE] and the display will be as shown at right.

```
Timer              --  :  --   ---
                    -- / -- / --

           Timer Set
           Timer Cancel
           Clock Set
           Timer ON/OFF

           Press (UP) (DOWN)
           Then (STORE)
```

(b) By pressing [v][^], select "Clock Set".
Press [STORE] and the display will be as shown at right.

```
Timer              --  :  --   --
                    -- / -- / --

              Clock Set
→ Time    -- : -- --
              Month / Day / Year
  Date      -- / -- / --
           Press (UP) (DOWN)
           Then (STORE)
```

(c) Set the present time.
First, set the hour by pressing [v][^].
Press STORE .
Next, set the minutes and AM or PM.

```
Timer              --  :  --  , --
                    -- / -- / --

              Clock Set
→ Time   10 : -- --
              Month / Day / Year
  Date      -- / -- / --
           Press (UP) (DOWN)
           Then (STORE)
```
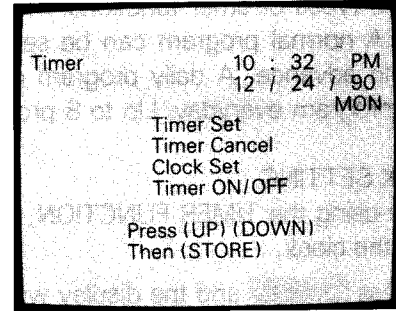
(d) Set the date.
First, set the year by pressing [v][^].
Press STORE .
Next, set the month and the day.
When the date is stored, the day of the week will be displayed.

```
Timer              10 : 32   PM
                    -- / -- / --

              Clock Set
  Time   10 : 32  PM
              Month / Day / Year
→ Date       1 / 26 / 90
           Press (UP) (DOWN)
           Then (STORE)
```

# TIMER FUNCTION

## (2) SETTING THE TIMER
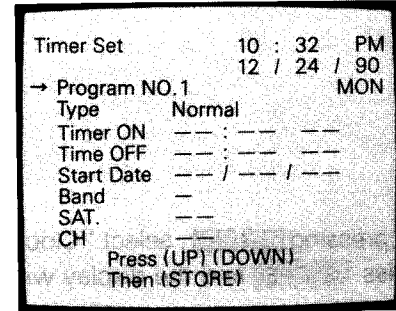
(a) Press  MODE  and the display will be as shown at right.

(b) By pressing ⊡ ⊡ , select "Timer Set" and press  STORE . The display will be as shown at right.

### SETTING THE PROGRAM NUMBER
By pressing ⊡ ⊡ , select the desired program number to set, and press  STORE .

### SELECTING A NORMAL OR DAILY PROGRAM
By pressing ⊡ ⊡ , select the NORMAL PROGRAM or DAILY PROGRAM.
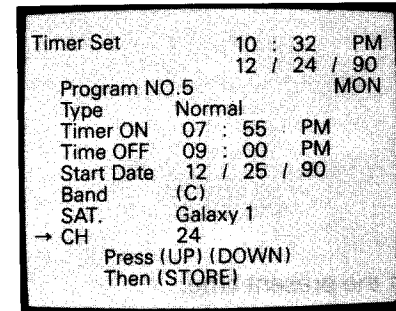To program one day, select NORMAL.
To enter the same program everyday, select DAILY.

### SETTING THE ON TIME
By pressing ⊡ ⊡ , set the HOUR and press  STORE .
By pressing ⊡ ⊡ , set the MINUTE and press  STORE .
By pressing ⊡ ⊡ , set AM or PM and press  STORE .

### SETTING THE OFF TIME
By pressing ⊡ ⊡ , set the HOUR and press  STORE .
By pressing ⊡ ⊡ , set the MINUTE and press  STORE .
By pressing ⊡ ⊡ , set AM or PM and press  STORE .

### SETTING THE START DATE
(ONLY WHEN NORMAL IS SELECTED)
By pressing ⊡ ⊡ , set the YEAR and press  STORE .
By pressing ⊡ ⊡ , set the MONTH and press  STORE .
By pressing ⊡ ⊡ , set the DAY and press  STORE .

### SELECTING THE BAND (C/KU)
By pressing ⊡ ⊡ , select the BAND (C or Ku) and press  STORE .

### SELECTING A SATELLITE
By pressing ⊡ ⊡ , select the satellite name and press  STORE .

### SELECTING A CHANNEL
By pressing ⊡ ⊡ , select the channel number and press  STORE .

---

```
Timer                10 : 32    PM
                     12 / 24 / 90
                              MON
         Timer Set
         Timer Cancel
         Clock Set
         Timer ON/OFF

         Press (UP) (DOWN)
         Then (STORE)
```

```
Timer Set            10 : 32    PM
                     12 / 24 / 90
→ Program NO.1                MON
  Type      Normal
  Timer ON  — — : — —   — —
  Time OFF  — — : — —   — —
  Start Date — — / — — / — —
  Band      —
  SAT.      — —
  CH        — —
         Press (UP) (DOWN)
         Then (STORE)
```

```
Timer Set            10 : 32    PM
                     12 / 24 / 90
  Program NO.5               MON
  Type      Normal
  Timer ON  07 : 55   PM
  Time OFF  09 : 00   PM
  Start Date 12 / 25 / 90
  Band      (C)
  SAT.      Galaxy 1
→ CH        24
         Press (UP) (DOWN)
         Then (STORE)
```
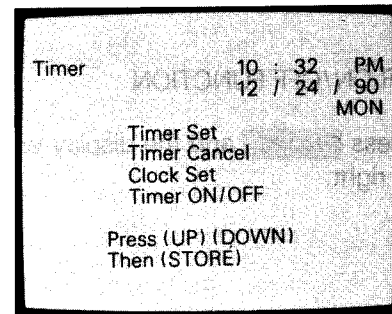
**IMPORTANT:**

See TIMER ON/OFF FUNCTION section (page 32) to turn on the timer function.
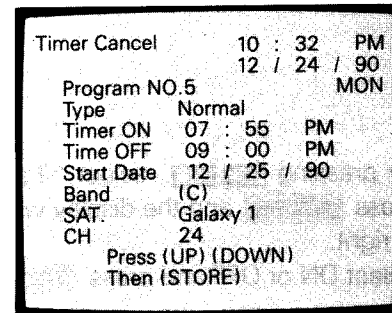
**NOTE:**

Even after the timer is programmed, and is on, the receiver can be used as normal. When the programmed time has come, the receiver will automatically move to the programmed satellite position and channel.
When the timer is on, only the power button can be used. All other front panel and remote control buttons are inoperative.

(3) CANCELING A TIMER PROGRAM

    (a) Press        and the display will be as shown
       at right.

```
Timer                10 : 32   PM
                     12 / 24 / 90
                            MON

     Timer Set
     Timer Cancel
     Clock Set
     Timer ON/OFF

     Press (UP) (DOWN)
     Then (STORE)
```

    (b) Select "Timer Cancel" and press  STORE . The
       display will be as shown at right.

```
Timer Cancel         10 : 32   PM
                     12 / 24 / 90
   Program NO.5             MON
   Type      Normal
   Timer ON  07 : 55   PM
   Time OFF  09 : 00   PM
   Start Date 12 / 25 / 90
   Band       (C)
   SAT.       Galaxy 1
   CH         24
        Press (UP) (DOWN)
        Then (STORE)
```

    (c) By pressing □ □, select the desired program
       number to cancel.
       Press  STORE  to cancel the data.
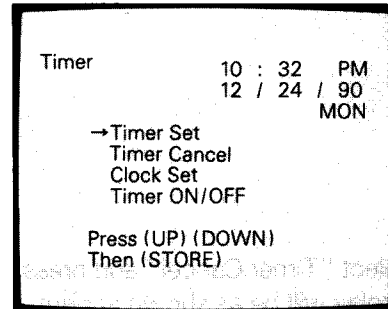
**ADVANCED OPERATION**

## NOTE: IN CASE OF POWER FAILURE

When there has been a power failure, "TIMER" indicator on the front panel flashes to inform. In this case, set the clock again.
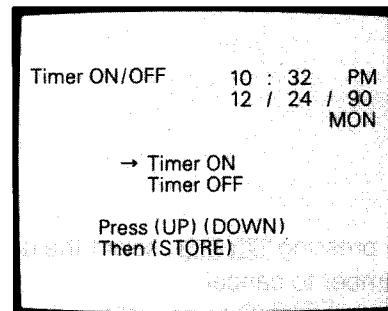
(4) TIMER ON/OFF FUNCTION
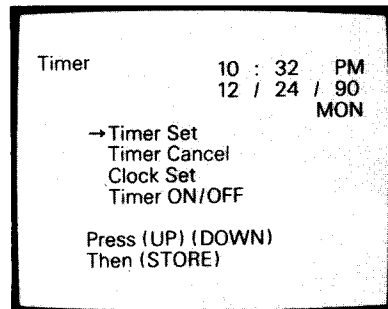
(a) Press MODE and the display will be as shown at right.

```
Timer              10 : 32    PM
                   12 / 24 / 90
                           MON
      →Timer Set
       Timer Cancel
       Clock Set
       Timer ON/OFF

       Press (UP) (DOWN)
       Then (STORE)
```

(b) By pressing ☑ ☑, select "Timer ON/OFF".
Press STORE and the display will be as shown at right.
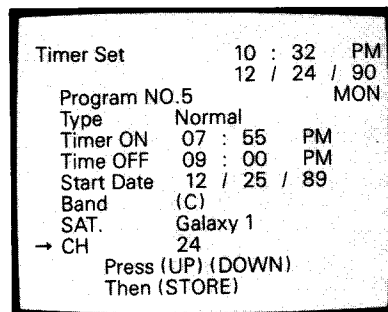Select ON or OFF and press STORE .

```
Timer ON/OFF       10 : 32    PM
                   12 / 24 / 90
                           MON
      → Timer ON
        Timer OFF

        Press (UP) (DOWN)
        Then (STORE)
```

(5) CONFIRMING THE TIMER PROGRAM

(a) Press MODE and the display will be as shown at right.

```
Timer              10 : 32    PM
                   12 / 24 / 90
                           MON
      →Timer Set
       Timer Cancel
       Clock Set
       Timer ON/OFF

       Press (UP) (DOWN)
       Then (STORE)
```

(b) By pressing ☐ ☐, select "Timer Set".
Press and the display will be as shown at right.

(c) By pressing ☐ ☐, the program number can be changed.
And the programmed data will be displayed.
Press MODE to return.

```
Timer Set          10 : 32    PM
                   12 / 24 / 90
   Program NO.5            MON
   Type      Normal
   Timer ON  07 : 55    PM
   Time OFF  09 : 00    PM
   Start Date 12 / 25 / 89
   Band      (C)
   SAT.      Galaxy 1
 → CH        24
        Press (UP) (DOWN)
        Then (STORE)
```

# PARENTAL CONTROL

There are two features in PARENTAL CONTROL, one is antenna lock and the other is channel lcokout. The password is needed to use this PARENTAL CONTROL feature. Initially, 1048 was programmed. If desired, a password can be added by using the CHANGING PASSWORD section.
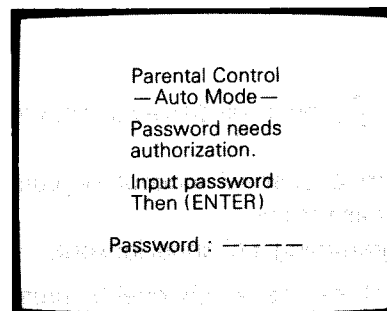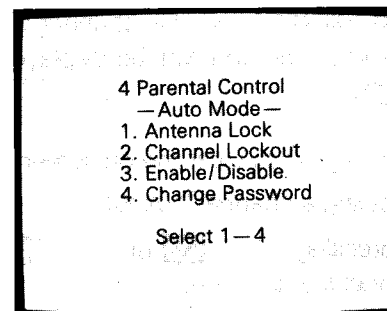
## 1. ANTENNA LOCK PROGRAMMING

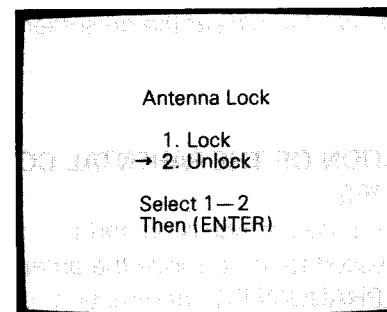(a) Confirm that the receiver is in the AUTO mode. Select the desired satellite.

Press FUNCTION , [4] and the display will be as shown at right.

```
Parental Control
—Auto Mode—
Password needs
authorization.
Input password
Then (ENTER)

Password : — — — —
```

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

```
4 Parental Control
—Auto Mode—
1. Antenna Lock
2. Channel Lockout
3. Enable/Disable
4. Change Password

Select 1—4
```

(c) Select [1] and the display will be as shown at right.

```
Antenna Lock

1. Lock
→ 2. Unlock

Select 1—2
Then (ENTER)
```

(d) Select lock or unlock.
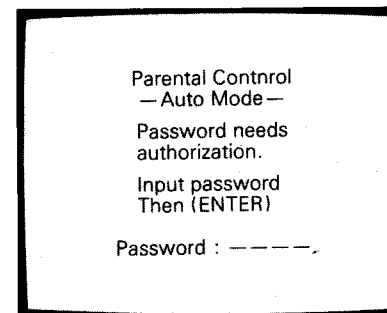● To lock the antenna, press [1] and ENTER .

● To unlock the antenna, press [2] and ENTER .

## 2. CHANNEL LOCKOUT PROGRAMMING

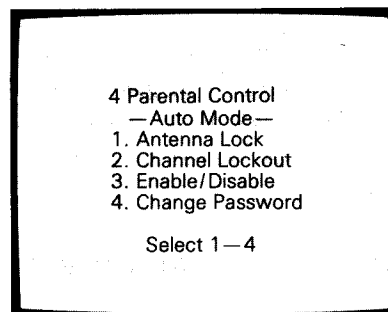(a) Confirm that the receiver is in the AUTO mode. Select the satellite which has the desired channel to be locked out.

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

```
Parental Contnrol
—Auto Mode—
Password needs
authorization.
Input password
Then (ENTER)

Password : — — — —,
```

ADVANCED OPERATION

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

```
4 Parental Control
   —Auto Mode—
1. Antenna Lock
2. Channel Lockout
3. Enable/Disable
4. Change Password

   Select 1—4
```

(d) Select ☐2☐ and it will display as shown at right.

(e) Program a channel lockout or cancel a channel lockout as follows.
● Programming a channel lockout.

Select the desired channel by pressing ▢ ☐▼☐ or WES☐ ☐▲☐.

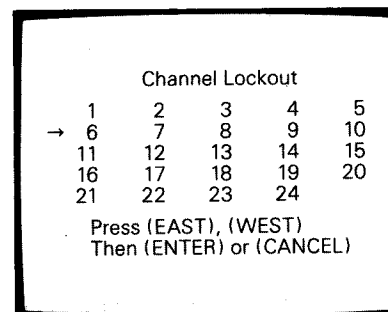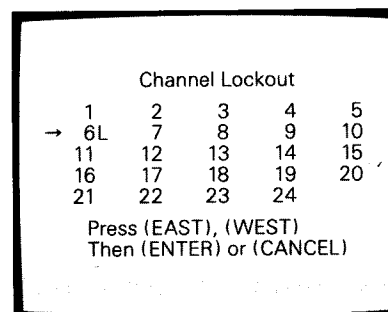Press ☐ENTER☐ and the channel is programmed to lockout and an L will be displayed as indicated at right.

Press ☐VIEW☐ to clear the on screen display.

● Canceling a channel lockout.

By pressing EAST ☐▼☐ or WES☐ ☐▲☐, select the channel that is locked out..

Press ☐CANCEL☐ , channel will not be locked out.

Press ☐ VIEW ☐ to clear the on screen display.

```
          Channel Lockout
      1     2     3     4     5
→   6L     7     8     9    10
     11    12    13    14    15
     16    17    18    19    20
     21    22    23    24

     Press (EAST), (WEST)
     Then (ENTER) or (CANCEL)
```

```
          Channel Lockout
      1     2     3     4     5
→    6     7     8     9    10
     11    12    13    14    15
     16    17    18    19    20
     21    22    23    24

     Press (EAST), (WEST)
     Then (ENTER) or (CANCEL)
```

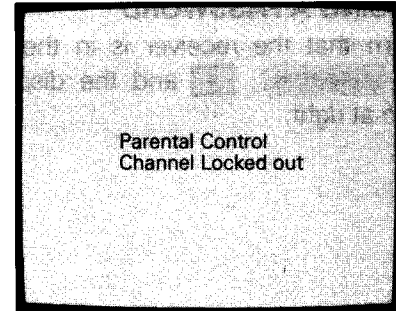### 3. OPERATION OF THE PARENTAL CONTROL FEATURES
● When the antenna lock is on and EAST ☐▼☐ or ▢ ☐▲☐ is pressed to try to move the antenna, or if a satellite ALPHANUMERIC designation is entered, the display will be as shown at right.
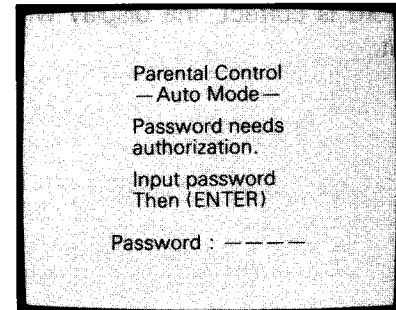
```
     Parental Control
     Antenna Locked
```
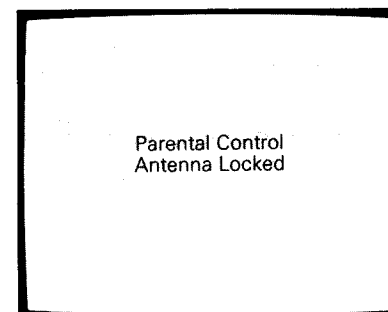
● When the channel lockout is on and a satellite channel is selected that is programmed to lockout, the display will be as shown at right.
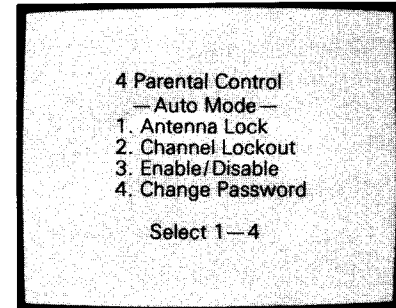
> **Parental Control
> Channel Locked out**

## 4. TO ENABLE OR DISABLE THE PARENTAL CONTROL FEATURES

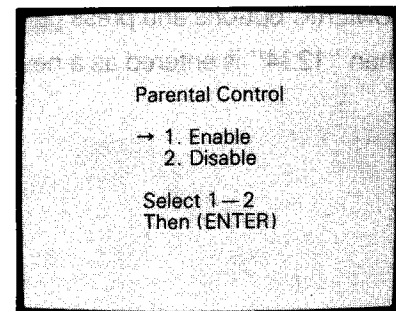(a) Confirm that the receiver is in the AUTO mode. Press `FUNCTION`, `4` and the display will be as shown at right.

> **Parental Control
> — Auto Mode —**
>
> **Password needs
> authorization.**
>
> **Input password
> Then (ENTER)**
>
> **Password : — — — —**

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

> **4 Parental Control
> — Auto Mode —**
> 1. **Antenna Lock**
> 2. **Channel Lockout**
> 3. **Enable / Disable**
> 4. **Change Password**
>
> **Select 1 — 4**

Select `3` and the display will be as shown at right.
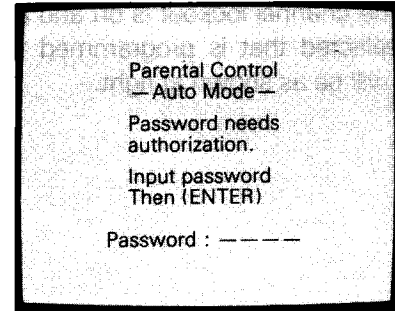
(c) Select enable or disable as follows.
  ● To enable the parental control.
    Select `1` and press `ENTER`.
  ● To disable the parental control.
    Select `2` and press `ENTER`.

> **Parental Control**
>
> → 1. **Enable**
>    2. **Disable**
>
> **Select 1 — 2
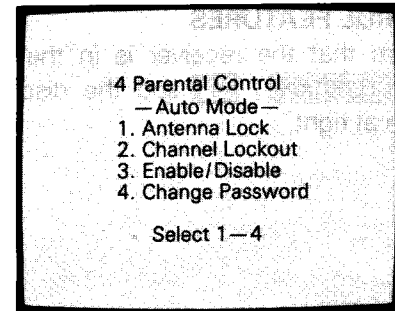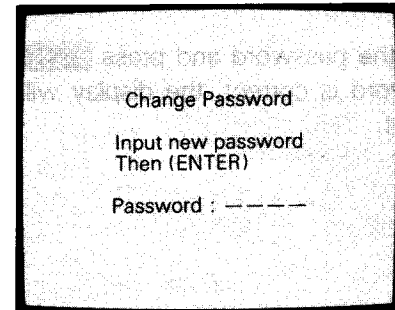> Then (ENTER)**

**ADVANCED OPERATION**

## PARENTAL CONTROL

### 5. CHANGING A PASSWORD

(a) Confirm that the receiver is in the AUTO mode. Press FUNCTION , 4 and the display will be as shown at right.

```
Parental Control
  — Auto Mode —

Password needs
authorization.

Input password
Then (ENTER)

Password : ————
```

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

```
4 Parental Control
   — Auto Mode —
1. Antenna Lock
2. Channel Lockout
3. Enable/Disable
4. Change Password

   Select 1—4
```

(c) Select 4 and the display will be as shown at right.

```
Change Password

Input new password
Then (ENTER)

Password : ————
```

(d) Input the new password (4 digit) by using the AL-PHANUMERIC buttons and press ENTER to store.

Ex. When "1234" is entered as a new password.
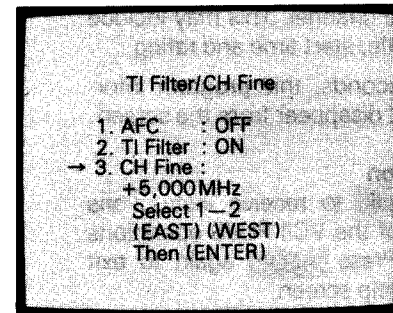
```
Password
  1234
Authorized.
```
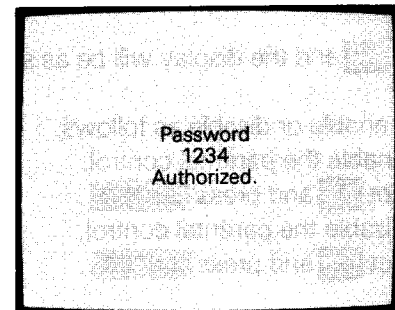
# T.I FILTER & CH FINE TUNING

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], [3] and the display will be as shown at right.

```
        TI Filter/CH Fine

→ 1. AFC    : ON
  2. TI Filter : OFF


      Select 1—2
      (EAST) (WEST)
      Then (ENTER)
```
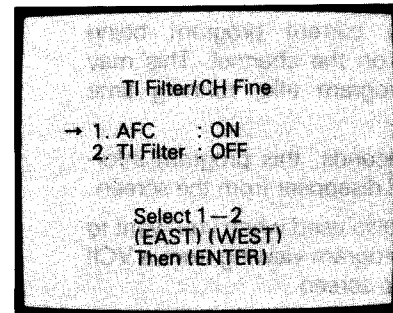
(b) Select 1—2.
    By pressing or holding FAST [∨] or WEST [∧], turn the AFC & TI filter ON or OFF.

```
        TI Filter/CH Fine

  1. AFC    : OFF
  2. TI Filter : ON
→ 3. CH Fine :
    +5,000 MHz
    Select 1—2
    (EAST) (WEST)
    Then (ENTER)
```

(c) The channel frequency can be tuned only when the AFC is OFF. Select [3] and press FAST [∨] or WEST [∧] to set the channel frequency.
    Press ENTER to store.

# VIDEOCIPHER® II PLUS OPERATION

Once you have received authorization, you can view VCII PLUS channels just as you would unscrambled channels. However, VCII PLUS channels provide additional features and services. The following features can be used only on VCII PLUS channels. Here's how to use them:

## View Button

Press VIEW to view information about the current program being broadcast on the channel. This may include program title, running time and rating.

After 3 seconds, this program information will disappear from the screen.

VIEW is also used when you want to return to program viewing from a VCII PLUS setup screen.

## Next Button

Press NEXT PRG to view information about the next program to be broadcast on the channel. This may include program title, start time and rating.

After 3 seconds, this program information will disappear from the screen.

## Help Button

Press HELP to receive instructions for many of the VCII PLUS operations features. Press HELP again to exit from the Help screen.

## Message Button

VCII PLUS channels have the ability to broadcast messages addressed to individual users. Press MESSAGE to view these personal messages. Press [<] or [>] to erase the message after you have read it. If message prompting is enabled, a star [*] will appear on your screen when a personal message is received. See "Unit Settings" for message prompting description.

## Text Button

Some VCII PLUS channels may broadcast information service text messages over the channel (e.g. news bulletins, program information, etc.). TEXT allows direct access to the two types of information services — channel based, and system wide. To view information service text:

1. Press TEXT .

2. Press [1] to access the Channel Information Service text which pertain to the current channel only.

3. Press [2] to access the System Information Service text (for information on the entire system).

## Setup Button

Press SETUP to view the Available Services Menu. This menu provides access to the Unit Setup submenu and lists the services on this channel (Audio, Video, Data, Channel Information, or System Information). On any given channel, the number of available services will vary, but there will always be Personal Messages and the program video/audio. A small arrow will point to the service currently selected.

1. **Unit Setup**
   The Unit Setup submenu is used to customize other VCII PLUS features. Press [1] to access the Unit Setup submenu.

2. **Personal Messages**
   VCII PLUS offers access to personal messages through both MESSAGE and the AVAILABLE SERVICE menu. See "Message Button" for details. Press [2] to read any personal messages.

3. **Program Name**
   This is the name of the current audio/video program. Press [3] to select the current program.

4. **Data Services**
   Some VCII PLUS channels may broadcast up to three data services (stocks, news) along with the current audio/video program. You can receive only one data service at a time. To receive a data service:

a) Connect your data receiver equipment (computer) to the "auxiliary data out" port of your IRD. NOTE: You will need a specialized data receiver device for this connection.

b) Press the appropriate number button to select the desired data service.

5/6. **Channel/System Information Service**
   VCII PLUS offers access to information service messages through both TEXT and the AVAILABLE SERVICES menu. See "Text Button" for details. Press the appropriate number button to access either Channel or System Information Service.

## Unit Setup

Press SETUP , [1] to access the Unit Setup submenu. You can then choose any one of these VCII PLUS setup screens by pressing the appropriate number button on your remote control.

The following VCII PLUS features can be accessed through the Unit Setup menu:

### 1. Installation Data
This screen displays your Unit ID number, signal quality and other unit status information.

### 2. Unit Settings
This screen allows you to enable/disable message prompting and to select primary/alternate audio.

#### A. Audio Selection
Some VCII PLUS channels offer second languages on their programs.

Press [1] to switch between the PRIMARY (usually English) and the ALTERNATE (second language) audio selection.

#### B. Message Prompting
When message prompting is enabled, an [*] will appear on your TV screen when a personal message is received. Press [2] to enable/disable message prompting.

## 2. Rating Ceiling (Parental Lockout)

Rating ceilings are used to control the types of VCII PLUS programs you wish other family members to view. Rating ceilings are based on those used by the motion picture industry to rate their films according to age groups.

By setting Rating Levels, you can prevent viewing all VCII PLUS programs that have been rated above the level that you set. For example, if you set the level at PG-13, your system will allow only NR, G, PG, and PG-13 rated programs. Both R and X-rated programs will be locked out. (NOTE: Not all VCII PLUS channels use rating levels so you may want to consult a satellite guide for details on a particular program.)

To set your Rating Ceiling:

A. Tune to any VCII PLUS channel.

B. Press SET UP , ⬚1 and then ⬚3 .

C. Enter your password if one has been set.

D. Use ⬚<, ⬚> to lower/raise the Rating Ceiling.

## 3. Rating Password

The Rating Password is used to control access to the Rating Ceiling screen. We suggest that you pick as a password a number that is easy to remember, your zip code, date of birth, phone number, street address, etc. If you forget your password, you will need to contact your program distributor to have it reprogrammed.

To set or change a rating password:

A. Press SET UP , ⬚1 , ⬚4 .

B. If your system already has a password stored, you will need to enter it and press ENTER before the system will accept a new one.

C. Enter your new password (up to 8 digits), then press ENTER .

D. Repeat the new password a second time and press ENTER to confirm.

If you don't want rating password control:

A. Press SET UP , ⬚1 , ⬚4 and then press ENTER twice when prompted to enter a password.

## 4. Purchase Password

The Purchase Password controls access to program purchases. See Rating Password for Instruction on setting and using the Purchase Password.

## 5. Purchase History

The Purchase History screen displays information about the last 15 pay-per-view programs purchased. This information includes, date/time of purchase, program name and cost. Use ⬚< ⬚> to view all programs in the list.

## 6. Credit Information

The Pay-Per-View Credit Information screen may display your credit limit and credit verification. This screen is for informational use only.

## 7. Consumer Key (Button) Entry

VCII PLUS is designed to accept secondary authorization in the form of a Consumer Key. The Consumer Key Entry screen allows for entry of this key. If the Consumer Key is not needed, this entry will not appear in the Setup Menu.

## Program Messages

VCII PLUS program suppliers offer a wide variety of services, some of which may require pay-per-view or other restrictions on viewing. If this occurs, you will see one of the following messages on your TV screen when you are tuned to that channel:

A. **"No subscription for this channel."**
This indicates that your unit has not been authorized to receive this channel. Contact the program supplier to receive authorization.

B. **"Blacked out."**
The program is not available in your geographical area.

C. **"Program locked out."**
The rating of the program currently being broadcast exceeds your Rating Ceiling. If this happens, you will be prompted to override the rating lockout. If you have set a Rating Password (see "Rating Password"), you will be prompted to enter it.

Note: The rating override is in effect for the duration of the program (even if you change channels and then tune back to the overridden channel). To cancel rating overrides, you must turn your unit off.

---

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

VIDEOCIPHER® II PLUS 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.

---

ADVANCED OPERATION

# MAIN FUNCTION

**MAIN MENU**

| —AUTO MODE— | | —PROGRAM MODE— | |
|---|---|---|---|
| 1. CUSTOMER CHOICE | 1.1 BEEP<br>1.2 BASIC OSD<br>1.3 ANTENNA MOVE BLANK<br>1.4 AUDIO LEVEL METER<br>1.5 SKIP TUNING<br>1.6 RECEIVER MODE<br>    (AUTO or PROGRAM) | 1. SET UP | 1.1 BEEP<br>1.2 CHANNEL SCAN<br>1.3 AUTO TUNING<br>1.4 SIGNAL BAR SHIFT<br>1.5 INPUT MODE<br>    (C&Ku or H&V)<br>1.6 RECEIVER MODE<br>    (AUTO or PROGRAM) |
| 2. TUNING | 2.1 CHANGE POLARITY H/V<br>2.2 ADJUST SKEW<br>2.3 TI FILTER & CH FINE TUNING<br>2.4 CHANNEL SKIP | 2. TUNING | 2.1 CHANGE POLARITY H/V<br>2.2 ADJUST SKEW<br>2.3 TI FILTER & CH FINE TUNING |
| 3. CHANGE PROGRAM | 3.1 AUDIO PROGRAM<br>3.2 CATEGORY SELECTION<br>3.3 FAVORITE PROGRAM<br>3.4 REALIGN SAT. MEMORY | 3. CHANGE PROGRAM | 3.1 AUDIO PROGRAM<br>3.2 CATEGORY SELECTION<br>3.3 ANTENNA LIMIT |
| 4. PARENTAL CONTROL | 4.1 ANTENNA LOCK<br>4.2 CH LOCKOUT<br>4.3 PL ENABLE/DISABLE<br>4.4 CHANGE PASSWORD | 4. INSTALLATION | 4.1 KU-SAT FORMAT<br>4.2 CALIBRATE KU-CH<br>4.3 ALL SATELLITES CLEAR<br>4.4 ALL DATA CLEAR |

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

# 1. BASIC OPERATION OF THE MAIN FUNCTION

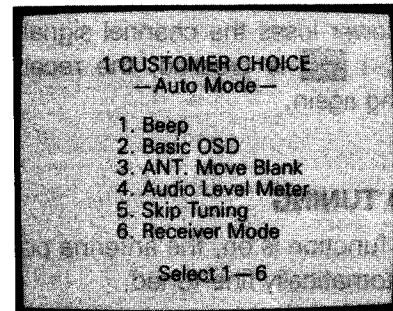(a) Press [FUNCTION] and the main menu will be displayed as shown at right.
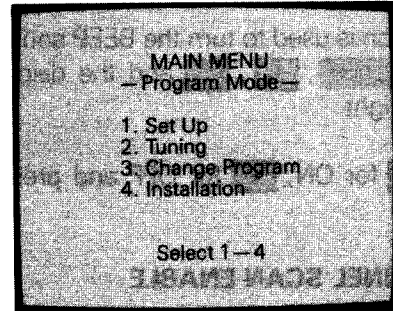


IN THE PROGRAM MODE
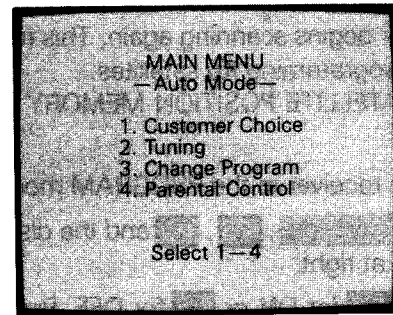


IN THE AUTO MODE

(b) Select the desired main function number by pressing an ALPHANUMERIC button.
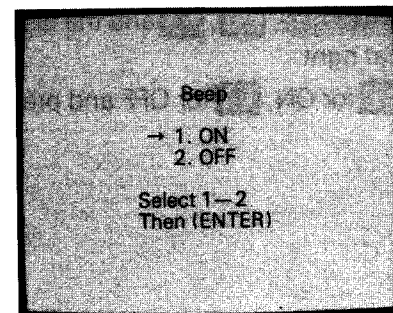The main function which is selected will be displayed as shown at right.
Ex. 1. When [FUNCTION], [1] is pressed in the AUTO mode.



(c) Select the desired item number by an ALPHANUMERIC button.
Operating instructions will appear on screen.
Ex. 2. When [1] is pressed after Ex. 1.



ADVANCED OPERATION

# MAIN FUNCTION

## — PROGRAM MODE —

## 1. SET UP

### 1.1 BEEP ON/OFF

This function is used to turn the BEEP sound ON or OFF.
Press [FUNCTION], [1], [1] and the display will be as
shown at right.

Select [1] for ON, [2] for OFF and press [ENTER] to
store.

### 1.2 CHANNEL SCAN ENABLE

The channel scan feature allows the receiver to search
rapidly for active channels. The receiver stops scanning
when a signal is found. When the channel signal is lost,
the receiver begins scanning again. This function is use-
ful when programming Ku satellites.
See the SATELLITE POSITION MEMORY section (page
15).

(a) Set the receiver to the PROGRAM mode.

(b) Press [FUNCTION], [1], [2] and the display will be as
shown at right.

(c) Select [1] for ON or [2] for OFF. Press [ENTER] to
turn the channel scan on or off. When CHANNEL
SCAN ON is selected, it will begin channel scanning
rapidly and will stop when a signal is found. When
the receiver loses the channel signal as EAST [⌄]
or WEST [⌃] is pressed, the receiver will begin
scanning again.

### 1.3 AUTO TUNING

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

(a) Set the receiver to the PROGRAM mode.

(b) Press [FUNCTION], [1], [3] and the display will be as
shown at right.

(c) Press [1] for ON, [2] for OFF and press [ENTER].
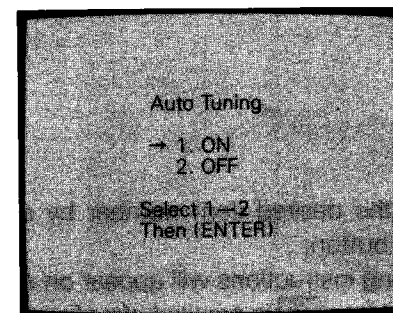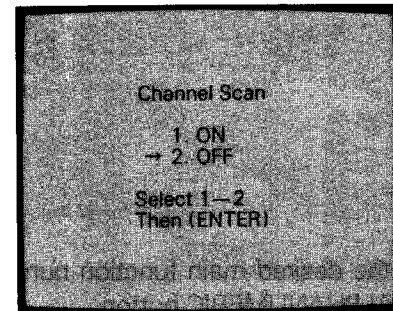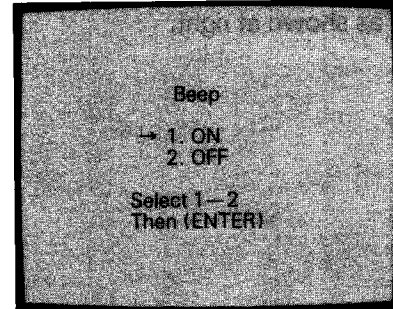
## 1.4 SIGNAL BAR SHIFT

The signal bar graph indicates the input signal level in the PROGRAM mode, and indicates the audio output level in the AUTO mode. The input signal level can be shifted up or down to accommodate very weak or very strong RF signals. The signal bar shift has no effect on the audio output level.

(a) Set the receiver mode to the PROGRAM mode.

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

(c) By pressing or holding          or          , set the indicator to the desired level.
Press          to return to the normal mode.

In the PROGRAM mode, the left indicator displays the RF input signal level and the right indicator displays the reference level for the input signal. If the RF signal is too weak, the reference indicator can be shifted down to compensate for the low input level.

In the AUTO mode, the indicators display the audio output level.
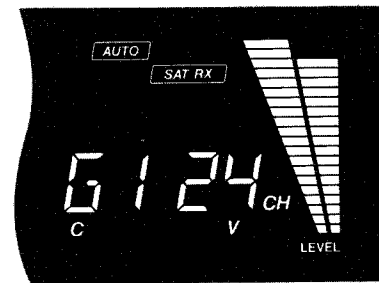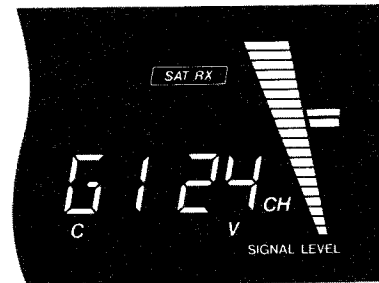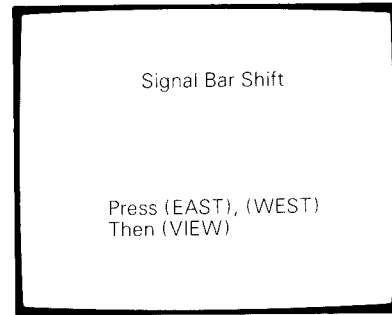
## 1.5 INPUT MODE SELECTION

This receiver has 2 input modes, C&KU and V&H.
Set to the appropriate mode in accordance with the antenna and feed.

(a) Press          ,     ,     and the display will as shown at right.

(b) Select          for C&KU,          for V&H and press

When the AUTO mode is selected, "AUTO" will appear on the front panel display.

## 1.6 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          ,     ,     and the display will be as shown at right.

(b) Select          for the AUTO mode,          for the PRO-GRAM mode and press          .
When the AUTO mode is selected, "AUTO" will appear on front panel display.



Signal Bar Shift

Press (EAST), (WEST)
Then (VIEW)







Input Mode

→ 1. C/KU
   2. V/H

Select 1—2
Then (ENTER)



Receiver Mode

   1. Auto
→ 2. Program

Select 1—2
Then (ENTER)

ADVANCED OPERATION

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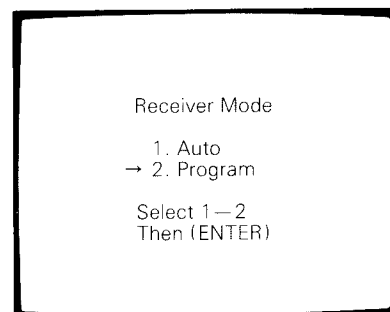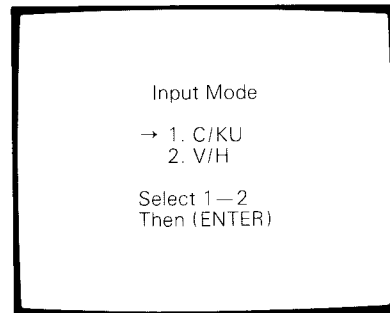
## 2. TUNING

### 2.1 CHANGE POLARITY

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 programmed polarity does not correspond to the channel polarity, it can be changed and stored. The CHANGE POLARITY function is available both in the PROGRAM mode and the AUTO mode.
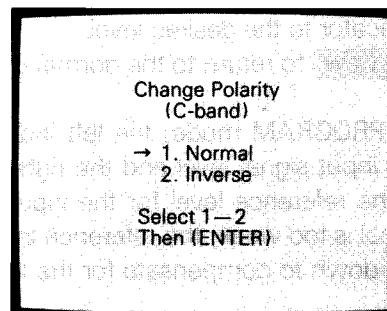
● C-band

Press FUNCTION , [2] , [1] and the display will be as shown at right.

Select [1] for the factory programmed polarity, or select [2] for the inverse, the selected polarity is set for every channel.

Press ENTER to store the selected polarity, or press VIEW to select it tempolarily.

Change Polarity
(C-band)

→ 1. Normal
2. Inverse

Select 1—2
Then (ENTER)

● Ku-band

Press FUNCTION , [2] , [1] and the display will be as shown at right.

Select [1] for H, select [2] for V, the selected polarity is set for every channel.

Press ENTER to store the selected polarity, or press VIEW to select it tempolarily.

Change Polarity
(Ku-band)

→ 1. H
2. V

Select 1—2
Then (ENTER)
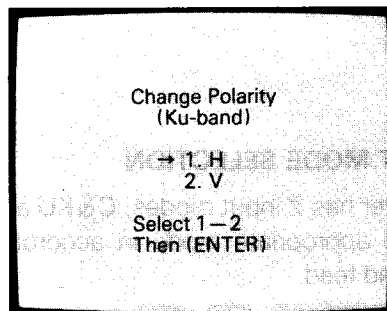
### 2.2 ADJUST SKEW

Normally when the AUTO TUNING is selected (MAIN FUNCTION 1-3), there is no need to adjust the skew. But if desired, the skew can be adjusted manually as follows.

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

(b) Adjust the skew by pressing [EAST] [∨] or [WEST] [∧] to get the best picture.

Press ENTER to store.

Adjust Skew

Skew Angle : 21

Press (EAST) (WEST)
Then (ENTER)
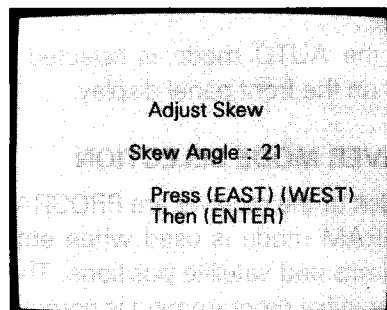
### 2.3 TI FILTER & CH FINE TUNING

See page 37 for operation.

## 3. CHANGE PROGRAM

### 3.1 AUDIO PROGRAM

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

(a) Press  FUNCTION , ⬚3 , ⬚1  and the display will be as shown at right.

```
┌─────────────────────────────┐
│       Audio Tuning          │
│                             │
│  → 1. Mode : Matrix         │
│             Stereo          │
│    2. Band : Narrow         │
│    3. A1   : 5.76 MHz       │
│    4. A2   : 5.92 MHz       │
│                             │
│   Select 1—4,               │
│   (EAST), (WEST)            │
│   Then (ENTER) or (VIEW)    │
└─────────────────────────────┘
```

(b) Select 1—4.

By pressing or holding  AS1  ✓  or  ⌃ , select the desired audio subcarrier.

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

```
┌─────────────────────────────┐
│   Audio Program NO. ——      │
│                             │
│ New Program                 │
│  Mode    BW    A1    A2     │
│   MS     N    5.76  5.92    │
│                             │
│ Old Program                 │
│  Mode    BW    A1    A2     │
│   ——     —    ——    ——     │
│                             │
│       Select 1—29           │
│       Then (ENTER)          │
└─────────────────────────────┘
```

Select the AUDIO PROGRAM number (1—29) that is to be changed, and press  ENTER .

```
┌─────────────────────────────┐
│    Audio Program NO.15      │
│                             │
│ New Program                 │
│   Mode   BW    A1    A2     │
│    MS    N    5.76  5.92    │
│ Old Program                 │
│   Mode   BW    A1    A2     │
│    DS    W    6.80  6.72    │
│                             │
│       Select 1—29           │
│       Then (ENTER)          │
└─────────────────────────────┘
```

(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.

Note: AUDIO PROGRAM 0 (VC AUDIO) is only for VIDEOCIPHER® II Plus channels. Audio program 0 can not be changed.
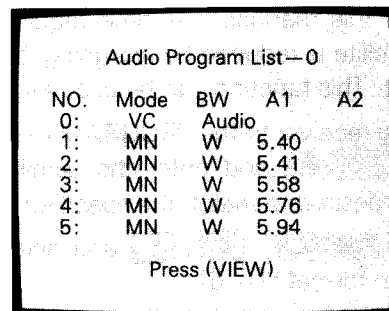
```
┌─────────────────────────────┐
│    Audio Program List—0     │
│                             │
│ NO.  Mode   BW    A1    A2  │
│  0:   VC   Audio           │
│  1:   MN   W    5.40       │
│  2:   MN   W    5.41       │
│  3:   MN   W    5.58       │
│  4:   MN   W    5.76       │
│  5:   MN   W    5.94       │
│                             │
│       Press (VIEW)          │
└─────────────────────────────┘
```

### 3.2 CATEGORY SELECTION

By using this function, it is possible to change the stored data for category selection.
See CATEGORY SELECTION section (page 21) to operate.

ADVANCED OPERATION

## 3.3 CHANGE ANTENNA LIMIT
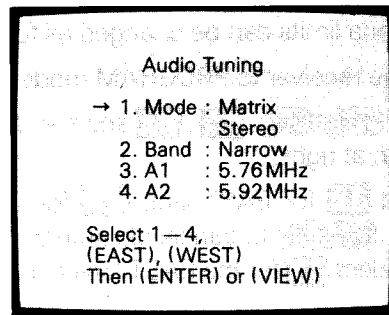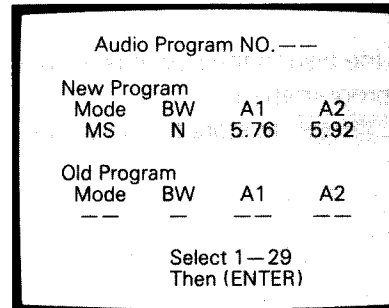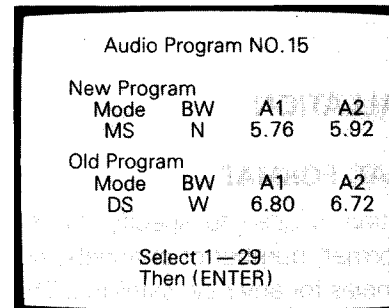
The antenna limits can be changed as follows.

(a) Set the receiver to PROGRAM mode.

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

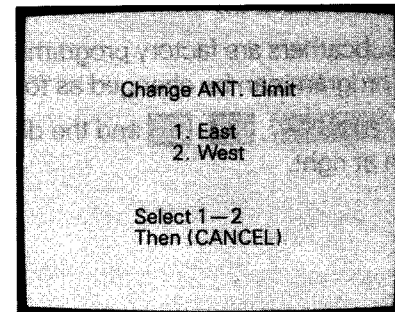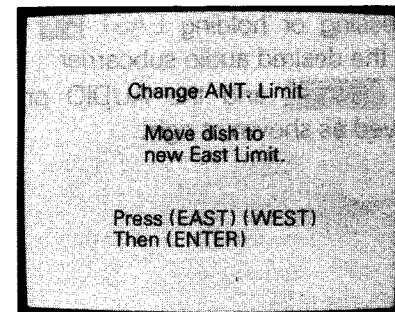(c) Select 1 for EAST limit, 2 for WEST limit and press CANCEL to cancel old antenna limit.
Ex. Select 1 for the EAST limit and then CANCEL .

(d) Move the dish to the new east or west limit which is to be programmed.
Press ENTER to store the new antenna limit.

# 4. INSTALLATION

## 4.1 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.

(a) Set the receiver to the PROGRAM mode.
Press Ku-SAT and enter the satellite designation that is desired to match the specified format.

(b) Press FUNCTION , 4 , 1 and select the desired satellite format (1 — 6).
Press ENTER to specify the format.
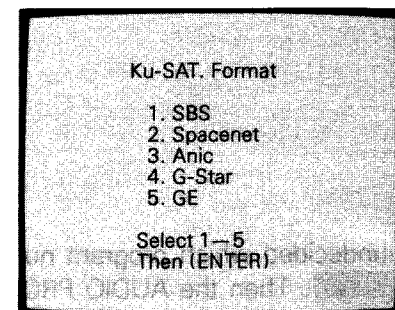
## 4.2 CALIBRATE Ku-CHANNEL

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.

(a) Confirm that the receiver is in the AUTO mode. Select the Ku-band satellite to be calibrated.

(b) Set the receiver to the PROGRAM mode.

(c) By using the channel ▼ or ▲ buttons, or the AL-PHANUMERIC buttons, input the channel number to be programmed.

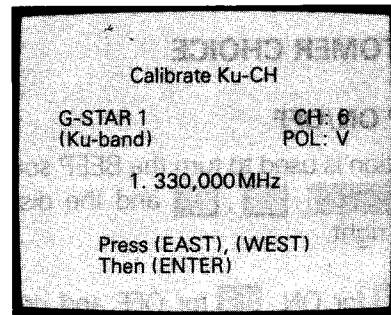(d) Press FUNCTION , 4 , 2 and the display will be as shown at right.

(e) By using the EAST ▼ or WEST ▲ button, adjust the frequency for the best picture.

(f) 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.

```
            Calibrate Ku-CH

G-STAR 1                  CH: 6
(Ku-band)                 POL: V

          1. 330,000 MHz

       Press (EAST), (WEST)
       Then (ENTER)
```

## 4.3 ALL SATELLITES CLEAR

This function is used to erase and initialize all of the satellite data.

(a) Set the receiver to the PROGRAM mode.

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

Select 1 and press ENTER to erase and initialize all of the satellite data.

```
           All SAT. Clear

              1. YES
          → 2. NO

          Select 1—2
          Then (ENTER)
```
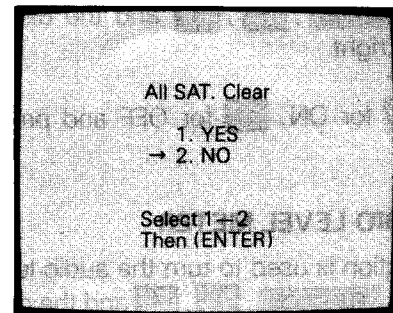
## 4.4 ALL DATA CLEAR

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 , 4 , 4 and the display will be as shown at right.

Select 1 and press ENTER to erase and initialize all data.
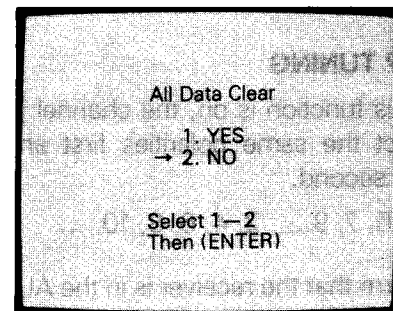
Note: When data is initialized, the audio level is set to maximum.

```
           All Data Clear

              1. YES
          → 2. NO

          Select 1—2
          Then (ENTER)
```

**ADVANCED OPERATION**

# —AUTO MODE—

## 1. CUSTOMER CHOICE

### 1.1 BEEP ON/OFF

This function is used to turn the BEEP sound ON or OFF. Press FUNCTION , 1 , 1 and the display will be as shown at right.

Select 1 for ON, 2 for OFF and press ENTER to store.

```
Beep
→ 1. ON
   2. OFF

Select 1—2
Then (ENTER)
```

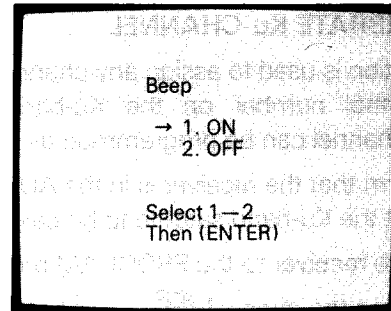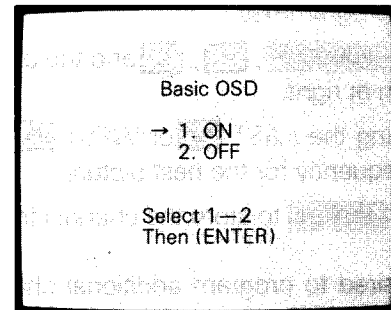### 1.2 BASIC OSD ON/OFF

This function is used to turn the basic on screen display (channel, band and satellite name etc.) ON or OFF. Press FUNCTION , 1 , 2 and the display will shown at right.

Select 1 for ON, or 2 for OFF and press ENTER

```
Basic OSD
→ 1. ON
   2. OFF

Select 1—2
Then (ENTER)
```

### 1.3 ANTENNA MOVE BLANK

This function makes the TV screen blackout when the antenna is moving between satellites. Press FUNCTION , 1 , 3 and the display will be as shown at right.

Press 1 for ON, 2 for OFF and press ENTER to store.

```
ANT. Move Blank
   1. ON
→ 2. OFF

Select 1—2
Then (ENTER)
```
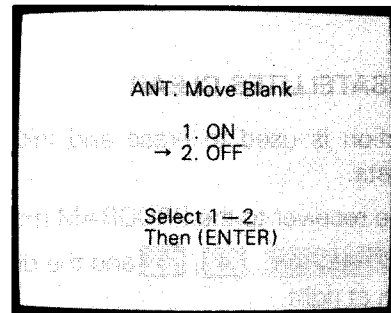
### 1.4 AUDIO LEVEL METER

This function is used to turn the audio level meter on or off. Press FUNCTION , 1 , 4 and the display will be as shown at right. Select for ON, for OFF and press ENTER to store.

```
Audio Level Meter
→ 1. ON
   2. OFF

Select 1—2
Then (ENTER)
```
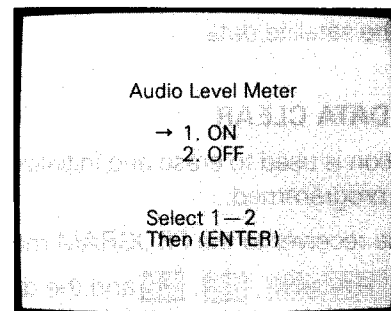
### 1.5 SKIP TUNING

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.....

(a) Confirm that the receiver is in the AUTO mode.

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

(c) Select for normal, for Skip Tuning and press ENTER.

```
Skip Tuning
→ 1. Normal
   2. Skip

Select 1—2
Then (ENTER)
```

## 1.6 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 , ⬛1⬛ , ⬛6⬛ and the display will be as shown at right.

(b) Select ⬛1⬛ for the AUTO mode, ⬛2⬛ for the PRO-GRAM mode and press ENTER .
When the AUTO mode is selected, "AUTO" will appear on front panel display.

```
┌─────────────────────────────┐
│                             │
│       Receiver Mode         │
│                             │
│     → 1. Auto               │
│       2. Program            │
│                             │
│     Select 1—2              │
│     Then (ENTER)            │
│                             │
└─────────────────────────────┘
```
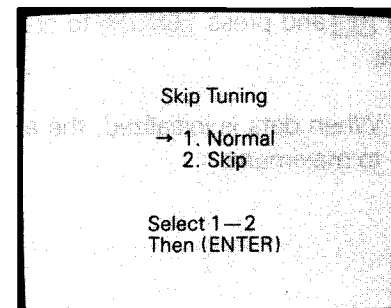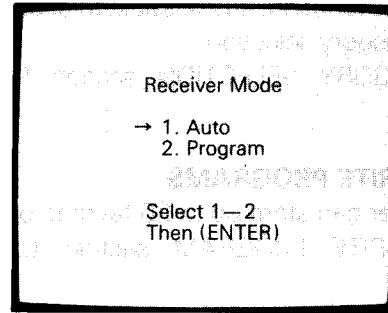
## 2. TUNING

### 2.1 CHANGE POLARITY H/V

See page 44 for operation.

### 2.2 ADJUST SKEW

See page 44 for operation.

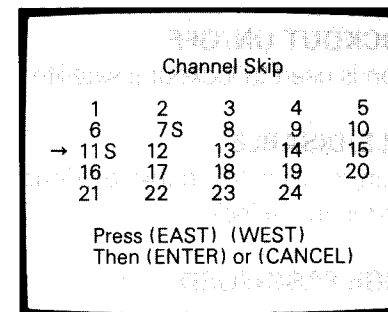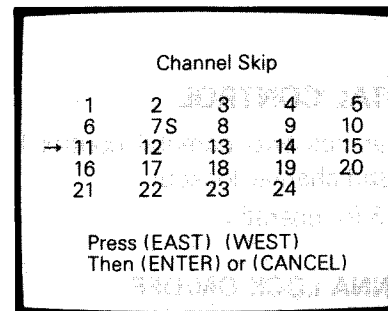### 2.3 TI FILTER & CH FINE TUNING

See page 37 for operation.

### 2.4 CHANNEL SKIP

The TRX-2000 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⬛ , ⬛4⬛ and the display will be as shown at right.
When programming a channel skip: Select the desired channel by pressing ⬛⌄⬛ 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.

```
┌─────────────────────────────┐
│       Channel Skip          │
│                             │
│    1    2    3    4    5     │
│    6   7S    8    9   10     │
│  → 11   12   13   14   15     │
│   16   17   18   19   20     │
│   21   22   23   24          │
│                             │
│    Press (EAST) (WEST)      │
│    Then (ENTER) or (CANCEL) │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│       Channel Skip          │
│                             │
│    1    2    3    4    5     │
│    6   7S    8    9   10     │
│  → 11S   12   13   14   15    │
│   16   17   18   19   20     │
│   21   22   23   24          │
│                             │
│    Press (EAST) (WEST)      │
│    Then (ENTER) or (CANCEL) │
└─────────────────────────────┘
```

## 3. CHANGE PROGRAM

### 3.1 AUDIO PROGRAMS

30 audio subcarriers are factory programmed.
If desired, the audio programs can be changed. See page 19 for operation.

ADVANCED OPERATION

## 3.2 CATEGORY SELECTION

By using this function, it is possible to change the stored data for category selection.

See CATEGORY SELECTION section (page 21) to operate.

## 3.3 FAVORITE PROGRAMS

This receiver can store up to 20 favorite programs.

See FAVORITE PROGRAM section (page 27) to operate.

## 3.4 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 , [3] , [4] and the display will be as shown at right.

(d) By using [∨] or [∧] , move the antenna to the position for the best picture.
Press ENTER to realign the satellite memory.
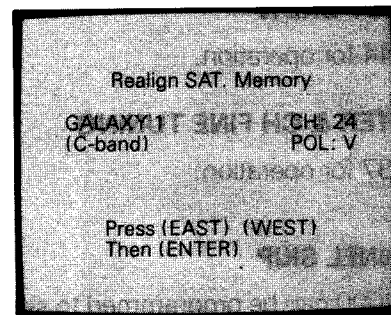


## 4. PARENTAL CONTROL

This receiver has two parental control functions, antenna lock and channel lockout.

See page 33 for operation.

## 4.1 ANTENNA LOCK ON/OFF

This function is used to lock the antenna movement.

## 4.2 CH LOCKOUT ON/OFF

This function is used to lockout a satellite channel.

## 4.3 ENABLE/DISABLE

This function is used to enable or disable all channel lockouts and antenna lock.

## 4.4 CHANGE PASSWORD

This function is used to change a password to the parental control feature.

# TROUBLESHOOTING

The TRX-2000 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 to be sure television is tuned to channel 3 or 4 channel when using the VHF OUT.

Check that the antenna is aimed to an operating satellite.

Check all cable connections.

Check that the satellite name appears on the LCD.

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.

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 ❻.

OTHER

# SPECIFICATIONS

**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 ±2 dB |

**AUDIO PERFORMANCE**

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

**RF MODULATOR**

| | |
|---|---|
| Output Frequency | VHF US 3 or 4ch selectable |
| Output Level | 66 dBμV ±3 dB |

**POWER**

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

**ACTUATOR INTERFACE**

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

**ENVIRONMENTAL CONDITIONS**

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

**MECHANICAL**

| | |
|---|---|
| Size | 16-15/16″ × 3-1/2″ × 14-15/16″ |
| 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® II PLUS 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® II PLUS descrambler module should not be returned for service without the TRX-2000, 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.

OTHER

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# TOSHIBA AMERICA CONSUMER PRODUCTS, INC.

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