Installation and Operating Manual

STAR✴TRAK

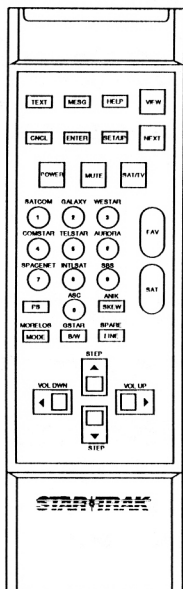**EIGHT**

Computer Synthesized
Satellite Receiver/Descrambler

PRELIMINARY MANUAL

STAR✴TRAK

THE REMOTE CONTROL

CNCL - Functions like a backspace key. Press to delete any digit(s) entered incorrectly.

ENTER - Press to confirm to the receiver the selections or password entries you make.

SETUP - Press for an on-screen menu of descrambler features, including your descrambler authorization number. Use SETUP with numeric keys 0-9 to select and customize features.

NEXT - Press to read information about the next scheduled program on that channel.

Numeric Keys 0 to 9

Dual function keys (for example, "GALAXY, 2" key is used for either GALAXY Satellite or the number 2) used for direct entry of channels, audio frequency information or satellites.

Receiver Function Control Keys

MUTE key - Turns audio on and off. Will also un-mute if channel changed or VOL control keys are used.

SAT/TV key - Lets you switch back and forth from Satellite television viewing to regular or cable TV watching.

FAV key - Lets you memorize or retreive favourite satellite channels.

SAT key - Use with the Numeric keys to directly select a satellite and channel.

PS key - Parental supervision lockout allows you to prevent access to specific channels, as well as other functions like video tuning etc.

MODE - Use to select audio mode and tune audio subcarriers.
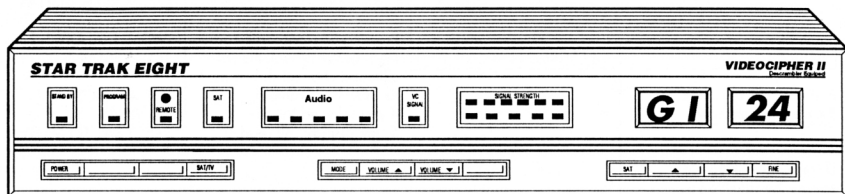
BW - Choose wide or narrow AUDIO bandwidth.

FINE - Used with the STEP keys to fine tune your STAR TRAK EIGHT for the best picture, or to switch on the optional TI filter.

STEP keys - Global function keys used for dish positioning, polarotor skew, audio and video tuning and channel selection.

VOLUME keys - Adjusts audio volume UP or DOWN. Also double asVideoCipher® II ◀ 1 ▶ keys in TEXT, MESSAGE, SETUP etc.

POWER key - Turns the receiver off and on. When the unit is off a Standby LED tells you it is still plugged in. Push the POWER key and the receiver restores the last watched Satellite Channel and settings.

Descrambler Function Keys

These 8 keys control the VideoCipher® II functions of your STAR TRAK EIGHT. Your receiver must be authorized and tuned to VideoCipher channel for descrambling operations.

TEXT - Press for a display of information bulletins and special notices from the program supplier.

MESG - Press to view personal message sent by a program supplier. A flashing asterisk (*) on screen signals a message has been transmitted.

HELP - Press for assistance in completing a descrambler feature.

VIEW - When viewing, press for information about the program in progress. VIEW can also be used to abort a function in progress.

FRONT PANEL CONTROL KEYS AND INDICATORS

STAR TRAK EIGHT
VIDEOCIPHER II Descrambler Equipped

G1 **24**

Control Keys:

POWER - Main power key turns receiver on or off.

SAT/TV - Push to switch between Satellite and regular TV.

MODE - Push to view or reset audio modes and subcarrier frequencies.

VOL (Up and Down) - Steps volume up or down.

SAT - Use to select the dish movement function. Push once to allow manual movement with the STEP keys. Push twice to enter Next SAT mode.

STEP KEYS - Global function keys used for dish positioning, polarotor skew, audio and video tuning and channel selection.

FINE - Use with STEP keys to fine tune the video or to select the TI filter.

LED Indicators:

STAND BY - shows the receiver is plugged in

PROGRAM - lights when in Program mode

REMOTE - target point for infrared remote signal. LED flashes when remote signal is received.

SAT - LED illuminated when viewing satellite TV

Audio Indicators:
DISC - indicates reception of Discrete stereo
MTRX - indicates reception of Matrix stereo
MONO - indicates reception of Mono
VC ST - indicates reception of VideoCipher stereo
W - lights up when Wide bandwidth AUDIO is selected

VC - lights with reception of VideoCipher signal

Signal Strength - bar graph of relative signal strength

TI - lights when TI filter in ON
C - lights when tuned to a C-band satellite
Ku - lights when tuned to a Ku-band satellite
H - lights on Horizontal polarity
V - lights on Vertical polarity

Satellite identification - A 2-digit display of the satellite being viewed, for example, "G1" = the "GALAXY 1" satellite.

Channel display - A 2-digit display of the channel number being viewed, for example, "G1 23" is channel 23 on the Galaxy 1 satellite.

BASIC OPERATIONS

NOTE: For Basic Operations, the key switch on the STAR TRAK EIGHT must be turned to the "RUN" mode.

SELECTING A SATELLITE

ACTION	ON SCREEN DISPLAY
Push the SAT key once. Receiver panel shows "_ _"	
Display will ask you to specify the satellite you want to receive.	'SATELLITE ?'

Next, push the dual function keys for the desired satellite. For example, for GALAXY 1, push "GALAXY" then the "1".

Receiver panel shows **"G1"** followed by **"– –"** which will be flashing while the dish is being moved.

If your receiver has been programmed for the position for GALAXY 1. (see Programming the STAR TRAK EIGHT) The receiver will automatically adjust the antenna position for reception of GALAXY 1.
For example, the display reads:

**MOVING DISH
TO:GALAXY 1 23
4034**

When the antenna reaches the programmed position, the receiver will switch to the last channel you viewed on that satellite.

GALAXY G1   G1 23
The receiver panel displays the satellite name and channel number being received: **"G1 23".**

If you are an authorized subscriber, on VideoCipher channels the on screen display will show the Title, Rating and Time Left in the current program.

ACTION	ON SCREEN DISPLAY
Next SAT: If the SAT Key is pushed 2 times the receiver will enter the Next SAT Mode. The following will be displayed	TO: GALAXY 1 23 USE ▲ OR ▼ TO VIEW. PRESS SAT TO MOVE

FROM is the current satellite and channel that you are on.
TO As you push the STEP keys, this will scroll through all programmed satellites showing their last used channel.

This function will time out after 5 seconds of inactivity.

ACTION	ON SCREEN DISPLAY
Pressing SAT once will cause the receiver to seek the satelliteand channel shown next to 'TO:' For example, if you selected Westar 5, the display will read:	FROM: GALAXY 1 23 TO: WESTAR 5 02 USE ▲ OR ▼ TO VIEW. PRESS SAT TO MOVE.

Where "02" would be the last channel watched on this satellite. The receiver front panel would also change to the TO: position.

SELECTING A CHANNEL

There are two methods of channel selection: either by direct entry of the channel number or, by stepping channels.

DIRECT ENTRY. Enter a two-digit channel number, for example, for channel 3, push the "0" and "3" keys, for 03.

STEPPING. Use the STEP-up or STEP-down keys to move through the channels in sequence. The channel indicator will automatically wrap-around when the highest or lowest channel number is reached.

DELETING A CHANNEL

For convenience sake, you may delete a seldom watched channel as follows:
• Enter the channel number
• Press the CNCL key (within 5 seconds)

This channel will then be skipped when stepping up or down. To regain access to that channel, simply enter the channel number directly; for example, push keys "1" and "2" for channel 12.

USING THE "FAVORITE" FUNCTION

Note: The FAV key function lets you store and retreive up to 100 of your favorite satellite channels. Once saved, a touch of the FAV key and a number code will give you easy access to your favorite satellite and channel.

TO STORE A FAVORITE SATELLITE CHANNEL

ACTION	ON SCREEN DISPLAY
Press the FAV key. display reads:	'FAVORITE ??'
Hold the key for 4 seconds and the display changes to:	'STORE FAVORITE ??'

The receiver's LED display reads **'SF —'** for store favorite.

If a two-digit number is entered on the numeric key pad within 5 seconds (the time out) the satellite, channel, fine tune, and audio information will be stored in the memory location indicated by the number just entered.

For example: You are on GALAXY 1 14. When the first digit of the favorite code is entered the display will` change to show all the favorites stored in that 10's group. (e.g. if "6" is entered first, the display will change to the following:)

STORE FAVORITE 6*

```
60-G1 23 65-** **
61-G1 19 66-** **
62-G2 10 67-** **
63-F4 24 68-** **
64-S1 18 69-** **
```

When the second digit is entered, for example a "5", the display will change to the following.

GALAXY 1 14
STORED AS FAV 65

Number "65" is now stored in FAV memory as GALAXY 1, channel 14.

TO RETREIVE A FAVORITE SATELLITE CHANNEL:

ACTION	ON SCREEN DISPLAY
If the FAV key is pressed once, followed (within 5 seconds) by entry of a two-digit number, the receiver will recall the information (Satellite channel, audio and video settings) stored at that number.	
For example, press the FAV key. A one line display reads: If FAV is immediately followed by a number, "6" for example, the display shows the following:	'FAVORITE ??' RECALL FAVORITE 6*
	60-G1 23 65-G1 14 61-G1 19 66-** ** 62-G2 10 67-** ** 63-F4 24 68-** ** 64-S1 18 69-** **

Enter the second digit, "5" for example, and the display will change as follows:

If that favorite channel is on the same satellite as the current channel, the display reads the same as a simple channel change, like: 'GALAXY 1 14'). If the favorite is on a different satellite, the antenna will move to that satellite and the display reads:

GALAXY 1 14 4034

Where the four-digit position (4034) number is flashing indicating the antenna is moving to the GALAXY 1 satellite position

Note: If the favorite channel has not yet been assigned, the display will show:

NO FAVORITE 65
STORED

FINE TUNING VIDEO RECEPTION

Your STAR TRAK receiver is designed to provide the best audio and video quality from the signals it receives. The quality of those signals is determined by the strength of the signals received from the satellites, your antenna location, and the quality of your outdoor equipment and their installation.

You can maximize the video signals received by following three simple steps.

1. Adjust the dish position. Though you have programmed each satellite's position into memory, reception may be affected by the weather (snow on the dish, wind pushing the dish, or other interference.) A slight adjustment of the dish position may improve the picture.

ACTION	ON SCREEN DISPLAY
To adjust the dish, select the satellite allowing enough time for the antenna to target the selected satellite. Press SAT, then using the STEP up or down keys, step the position until the picture improves. The display reads:	GALAXY 1 23 MOVING DISH 4034 XXXX

The dish will continue moving as long the STEP key is held down. When you release the up or down keys XXXX will change to show the new position. Note: this new position is not stored.

Note: If it does not improve, return to the original reading. (The fastest way of doing this is by pushing SAT key, then enter the satellite name and number.)

2. Fine tune the video. After maximizing signal reception by adjusting the dish position you may still have to fine tune the channel frequency because of interference—as you would a conventional television receiver.

ACTION	ON SCREEN DISPLAY
Begin by pushing the FINE key.The display reads:	FINE TUNE 00.00 MHZ

Use STEP up and down keys to change the frequency. If the frequency goes below 00.00 the number will be preceded by a '-' if the value goes above 0.0 the number will be preceded by a '+'. STEP up or down to find the clearest reception.

ACTION	ON SCREEN DISPLAY
Push the fine button twice to allow the TI filter to be toggled on and off. Use the STEP up or down key and the display will show either:	'TI FILTER ON' OR 'TI FILTER OFF'

NB: The new TI setting will be memorized for this channel only.

ACTION	ON SCREEN DISPLAY
3.Adjust the polarotor skew. Push the SKEW key to get a reading of the skew (position of the polarotor). Display will show:	SKEW HORIZ. 000 >VERT. 255

The cursor arrow is pointing at the currently selected polarity (SET by the SATELLITE table). The other polarity is shown only for convenience and can not be changed unless the channel is changed to one on the other polarity. Use the STEP up or down key or direct entry to change the setting until the picture improves. If it does not, return to the original reading.
NB: This new setting will be memorized for all the channels on this polarity and on this particular satellite only.

SELECTING AUDIO SUBCARRIERS & AUDIO MODE
MODE:

ACTION	ON SCREEN DISPLAY
Press the MODE key and the display reads:	MONO A 6.80 MONO B 6.80 DISCRETE 6.80 6.80 MATRIX 6.80 6.80 >VC STEREO NARROW

Push the MODE button repeatedly and the arrow cursor will move through the various audio modes indicating the one selected. The bandwidth is displayed for convenience.

Monaural Modes:
MONO A is either a monaural audio or half of a subcarrier ·stereo pair (either Disc. or Matrix). The receiver front panel displays the frequency in MHz, for example, "A6.80"
MONO B is either a monaural audio or half of a subcarrier stereo pair (either Disc. or Matrix). The receiver front panel displays the frequency in MHz, for example, "B6.80"

Stereo Modes:
Discrete Stereo is a combination of MONO A and MONO B. Frequencies must be changed in MONO A and/ or MONO B modes. Lights "DISC" indicator on receiver front panel.
Matrix Stereo is a combination of MONO A and MONO B. Frequencies must be changed in MONO A and/or MONO B mode. Lights "MATRIX" indicator on receiver front panel.
VC Stereo is only available when tuned to a stereo broadcast on a VideoCipher channel. "VC ST" indicator on receiver front panel lights up in this mode.

Note: The STAR TRAK EIGHT TV modulator accepts channel A MONO output. For the true enjoyment of stereo audio you have to use a stereo audio reproduction system and a stereo VCR for recording.

CHANGING AUDIO SETTINGS
During production, your receiver's channels have been pre-programmed with the appropriate audio subcarrier frequencies - according to the programing information available at the time. Since satellite audio frequencies are sometimes changed and new programs are added, you may have to adjust the settings.

Once your channel is chosen, refer to your satellite program guide to identify the audio mode and frequency or frequencies that channel uses.

Frequency settings can be changes for Mono A and/or Mono B through either:
• Direct entry using the numeric keys or,
• By using the STEP up and down keys.

ACTION	ON SCREEN DISPLAY
Push the MODE key.	MONO A 6.80 MONO B 6.80 DISCRETE 6.80 6.80 MATRIX 6.80 6.80 >VC STEREO NARROW

Push MODE key again until the arrow cursor is on MONO A andor MONO B. Next, enter the new frequency or, use

the STEP up and down keys to change to the desired subcarrier frequency.

Note: This function will time out after 5 seconds of inactivity. At that time the last displayed frequency and mode is set into memory for that particular channel.

AUDIO BANDWIDTH

Although most stereo broadcasts are wide bandwidth, some audio is broadcast in narrow bandwidth.

ACTION	ON SCREEN DISPALY
To check your bandwidth setting, push the BW key. For example, if the display is:	MONO NARROW
The Audio mode and Bandwidth is shown. Pushing the BW key will toggle the Bandwidth and display the change. If the current mode is VC STEREO the display will be as follows.	VC STEREO

These functions are memorized for each channel.

VOLUME SETTINGS

ACTION	ON SCREEN DISPALY
Use the VOL UP or VOL DWN keys to raise or lower the volume. Each press on the key will increase or lower the volume in steps. The display will be:	VOLUME LEVEL [| | | | | | | | | | | | | |]
MUTE key - Turns audio on and off. Will also un-mute if channel changed or VOL control keys are used.Display will show:	'MUTED'

USING PARENTAL SUPERVISION (LOCKOUT) FEATURES

The PS, parental supervision key lets you keep exclusive control of many settings as well as preventing access to specific channels.
Note: To use this feature, you must have already programmed a 4- digit parental supervision code (page 13).

ACTION	ON SCREEN DISPLAY
Pressing the PS key once causes the display to show the lock functions available.	
Push the PS button. The display reads:	>LOCK CHANNEL LOCK STORE ALIGN DISH
(Note: These functions are only available in RUN Mode.)	PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE

Press PS repeatedly and the display scrolls through the other function codes.

Entering your 4 digit password will execute the function shown.

Note: When the correct password is entered to execute a function the function will flash until time out (approx. 5 seconds) then the On Screen Display will turn off.

ACTION	ON SCREEN DISPLAY
If the wrong password is entered the display reads:	INVALID TRY AGAIN

To LOCK CHANNEL:

ACTION	FRONT PANEL
Push the PS key until the arrow cursor is on "LOCK CHANNEL." The receiver's LED display shows 'LC' for lock channel.	"LC"

Enter your 4-digit PS code to execute the lockout of that channel. The receiver front panel display will show the next available channel.

The locked channel will now be skipped during channel step. If you direct access the channel number, no picture or sound will be available, and a '.' will appear after it to indicate that it is locked out.

TO UNLOCK CHANNEL:

If you are on a CHANNEL which is already locked out the first line will be replaced by 'UNLOCK CHANNEL' and the receiver panel displays 'UC' for UNLOCK CHANNEL.

ACTION	FRONT PANEL	ON SCREEN DISPLAY
PS	UC	>UNLOCK CHANNEL LOCK STORE ALIGN DISH PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE

With the cursor on 'UNLOCK CHANNEL', enter your PS code.

TO LOCK STORE:

This function allows you to lock out the following from automatic memorization: Video fine tune, Skew, Audio Mode, BW. You will still be able to execute these functions but the previous settings stored in memory will not be effected.

ACTION	FRONT PANEL
Push the PS key until the arrow cursor is on "LOCK STORE." The receiver front panel display shows 'LS' for lock store. Enter your 4-digit PS code to complete the lock out.	"LS"

The receiver front panel display returns to SATCHAN.
NB: This function applies to all channels on all satellites.

To UNLOCK STORE:

If memory is already locked the second line will be replaced by 'UNLOCK STORE' and the receiver display reads 'US' for unlock store.

FRONT PANEL	ON SCREEN DISPLAY
"US"	LOCK CHANNEL >UNLOCK STORE ALIGN DISH PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE

With the cursor on 'UNLOCK STORE', enter your PS code.

To ALIGN DISH:

Use this function periodically to correct for wind or other weather conditions that can cause slight distortions in antenna positioning.

With the cursor on 'ALIGN DISH', enter your 4-digit PS code. The receiver front panel changes from 'AD' for align dish to 'MD' for move dish.

Press STEP up or down to find the satellite. Display will flash MD while the dish is moving. Press SAT 3 times to store the new position value for the dish. The receiver display will flash AD 3 times to indicate that the new value is stored then return to SATCHAN display.

VHF IN
TV

Local T.V. ant.
or cable T.V.

IF loop (supplied) or
70 MHz filter or
70 MHz descrambler

ANT.
IN

T.V.
OUT

Prog.
LOCK

LNB
IN

Base Band
Descrambler

B/B

Video
Monitor

Video
OUT

L
Audio
OUT
R

L
Stereo
R

DATA IPPV

Actuator

Rouge +5V.
Blanc pul.
Noir GND
H/V SW
C/KU SW
UHF REM+
12V. —
pul.
Motor GND
+5V.

Polarotor

LNB's

Motor
+36V.

Spks.   Spks.

16
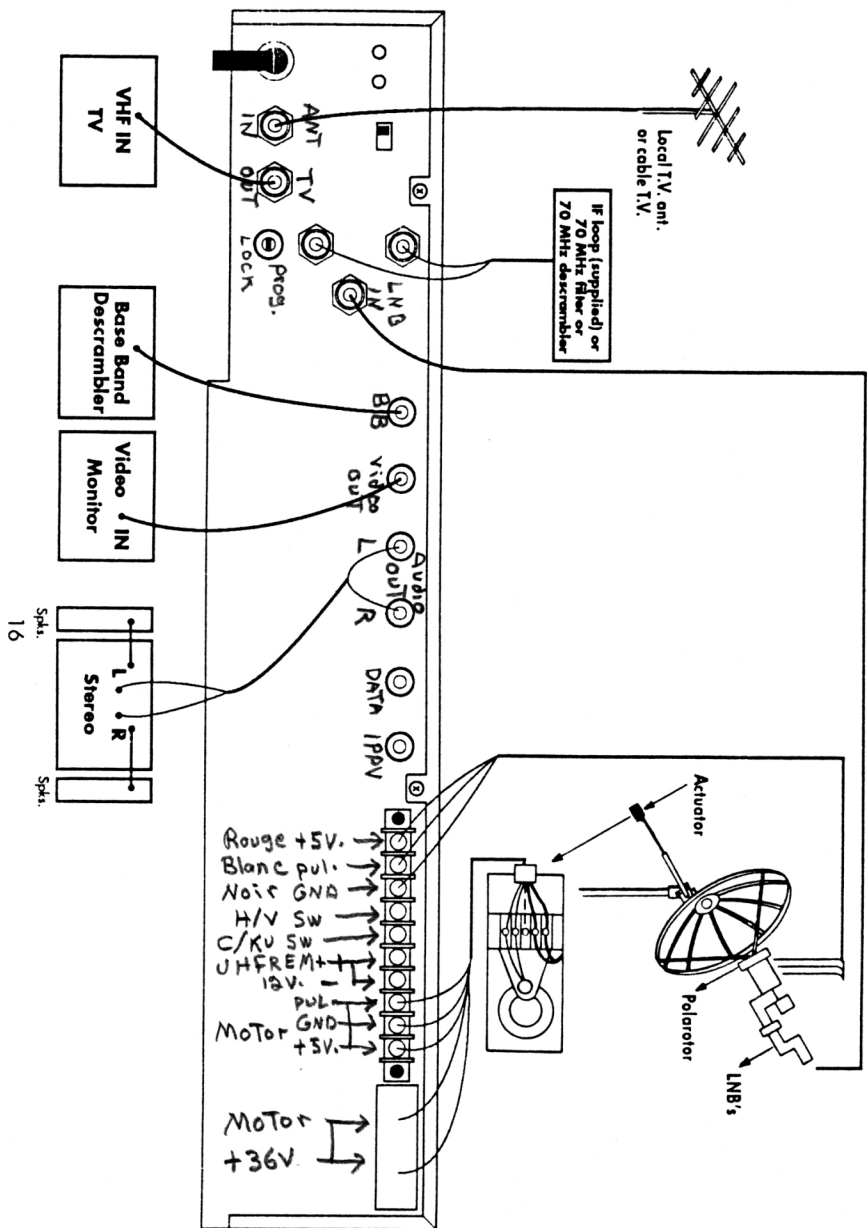
Model: **S8UK**

Compatibility: **StarTrak Eight Satellite Receiver**
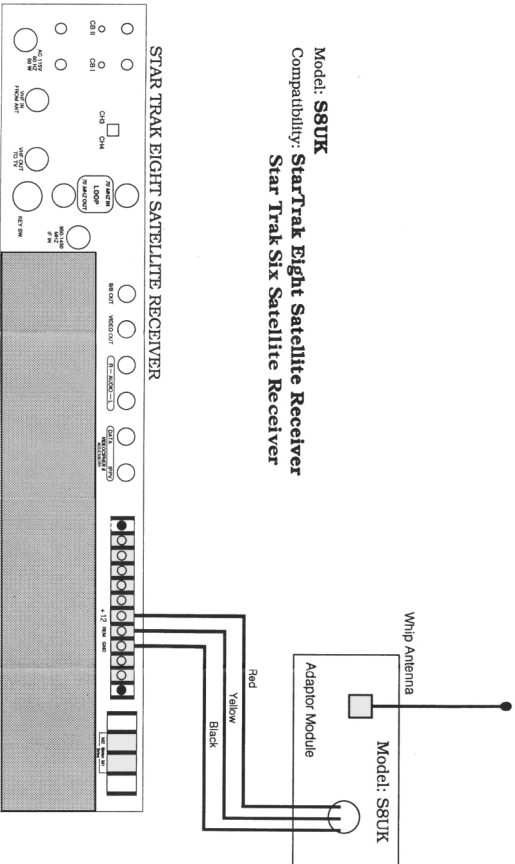
Star Trak Six Satellite Receiver

STAR TRAK EIGHT SATELLITE RECEIVER

Whip Antenna

Adaptor Module

Model: S8UK

Red

Yellow

Black

+12 REM GND

PROGRAMMING THE STAR TRAK EIGHT

To program your receiver, the key on the back panel must be in the PROG position. To prevent anyone from tampering with your programmed positions, remove the key and store in a secure place.

INITIAL PROGRAMING
Note: This applies to new units with a cleared memory, Or, after using the Erase All function in PS mode.

A current Satellite Program Guide will be useful to help you locate satellite positions when setting the dish limits and to identify specific satellite channels to load into the receiver's memory.

ACTION	ON SCREEN DISPLAY
When the back panel key-switch is turned to PROG mode the OnScreen Display will show the following line of the top of the screen.	*PROGRAM MODE*

The line will not time out and will remain on screen as long as the key-switch is in PROG mode.

SETTING DISH LIMITS:
This function is used to program the receiver with the upper and lower position limits of the satellites in the satellite belt. It also helps to prevent any damage to the antenna jack that could arise if the jack were extended too far or retracted too low.

ACTION	ON SCREEN DISPLAY
In PROG mode, when the receiver is turned on for the first time, or after Erase All is used, the display reads:	*PROGRAM MODE*
	SET LOWER LIMIT!
	USE ▲ AND ▼ TO MOVE DISH TO LIMIT. PRESS SAT 3 TIMES TO STORE LIMIT.

The receiver's front panel will display 'SL', a prompt to set the lower limit (Jack retracted). Set the lower limit just slightly below the lowest satellite in the satellite belt.

Press the STEP up or STEP down keys to move the antenna jack either out or in to allow positioning of the lower limit.

Press the SAT key 3 times to store the limit in memory.

FRONT PANEL	ON SCREEN DISPLAY
Once stored, the receiver front panel display will Flash 'LS' 3 Times to indicate the limit is set and the screen display will read:	*PROGRAM MODE*
	LOWER LIMIT STORED
After 5 seconds the display will change to the following.	
	PROGRAM MODE
	SET UPPER LIMIT!
	USE ▲ AND ▼ TO MOVE DISH TO LIMIT. PRESS SAT 3 TIMES TO STORE LIMIT.

The receiver's front panel will display 'SU', a prompt to set the upper limit (Jack extended). Set the upper limit just slightly above the highest satellite in the satellite belt.

Press the STEP up or STEP down keys to move the antenna jack either out or in to allow positioning of the upper limit.

Press the SAT key 3 times to store the limit in memory.

FRONT PANEL	ON SCREEN DISPLAY
Once stored, the receiver front panel display will Flash 'LS' 3 Times to indicate the limit is set and the screen display will read:	*PROGRAM MODE*
	UPPER LIMIT STORED!

Now the SAT key will allow entry of satellite names.

Note: If No pulses are sensed from the antenna jack the display will change to the following.

PROGRAM MODE
JACK ERROR!!!
NO RETURN PULSE
In this case there may be a loose or broken wire or other problem with the jack installation or in the wiring from the antenna jack to the receiver. See the Trouble Shooting Section.

PROGRAMING SATELLITE POSITIONS:

ACTION	ON SCREEN DISPLAY
Once the upper limit is stored, after 5 seconds the display screen will change to the following.	*PROGRAM MODE* NO SATELLITES STORED PRESS SAT,NAME,NUM THEN ▲ OR ▼ TO MOVE DISH

In PROG mode, the SAT key does not allow the direct recall of satellites. The SAT key is used only to set a satellite name into memory which will then have a position assigned.

ACTION	ON SCREEN DISPLAY
To assign a satellite's name and position into memory: Push the SAT key, then the satellite's name and number.	
After SAT-NAME-NUM are entered the display will change to the following format.	*PROGRAM MODE* NAME NUMBER XXXX

Where NAME= The selected name (GALAXY for example).
NUMBER = The selected number (GALAXY 1, for example.)
XXXX= The current position.

Use the STEP up and down keys to move the dish and locate the satellite. When STEP up and down are used the XXXX will flash to show that the dish is moving. (Press MUTE to use the scan tune function to help locate the satellite.)

When the satellite position is found, optimize the video and audio settings (as per Fine tuning, Polarity and Audio instructions in Basic Operations section).

Entering a new satellite name or, dropping into Channel change mode will automatically store the satellite position into memory.

If the satellite name is called again you can make further adjustments to the position. Calling another satellite name or dropping to channel change mode will again store the updated position values in memory.

Scan Tuning:
Pressing MUTE in PROG mode gives you access to the scan tune function. This allows you to quickly scan all channels of a satellite in about three seconds.

As the dish tracks across the satellite belt use scan tune to help locate the flashes of video that indicte you have located a satellite. Once you have hit a satellite position stop the scan tune function and, with the help of a current satellite guide, step through the channels to properly identify that satellite.

To stop Scan Tune, press MUTE again or direct enter a channel.

PROGRAM NEXT SATELLITE MODE

ACTION	ON SCREEN DISPLAY
In PROG mode, press the SAT key twice. This gives you access to the Program Next Satellite Mode. The display will read:	*PROGRAM MODE* XXXXXXXX YY USE▲ OR ▼ TO VIEW. PRESS SAT THEN ▲ OR ▼ TO MOVE DISH

Where XXXXXXXX = The Satellite name YY = The Satellite Number

Use the STEP up and down keys to scroll through the available satellite names in memory.

ACTION	ON SCREEN DISPLAY
When you have located the satellite name and number that you would like to program, press SAT again and the display reads:	*PROGRAM MODE* NAME NUMBER XXXX

This is the same as a direct entry of satellite name and number but allows programing from the front panel controls. Use the STEP up and down keys to position the dish.

ACTION	ON SCREEN DISPLAY
Then if you press SAT again, you enter channel mode on that satellite. The display reads:	*PROGRAM MODE* NAME NUMBER CHANNEL

Where NAME = Selected satellite name, Number = selected satellite number, Channel = Channel entered to stop scan tune or the last channel selected during program mode.

The GLOBAL SHIFT FUNCTION:
This function allows you to shift your STAR TRAK receiver frequency to be better able to match the frequency of your LNB (block downconverter).

NB: Adjustments made under this function are global, this lets you change the Vertical on all C and/or Ku Band satellites as well as the Horizontal on all C and/or Ku Band satellites.

ACTION	ONSCREEN DISPLAY
1) Go to a channel which is being received by the LNB but needs fine tuning of the frequency.	
2) Press and hold the FINE key for 4 seconds and the display will read:	*PROGRAM MODE* XXXXXXXX YY ZZ THIS IS A T BAND PPPPPPPPPP CHANNEL USE ▲ OR ▼ TO RETUNE LNB.

Where XXXXXXX is the current Satellite YY is the current Satellite number ZZ is the current Channel T is the Band either 'C' or 'K' PPPPPPPPPPP is the polarity either VERTICAL or HORIZONTAL.

3) Use the UP and DOWN keys to fine tune.

NB: If you have a single LNB with a skewable feed, you must repeat steps 1, 2, and 3 on a channel of the opposite polarity.

PROGRAMING THE PARENTAL SUPERVISION (PS) FEATURES
In PROG mode the PS function lets you set or change your 4-digit password code, or erase a satellite from memory or, if required, erase all the previously programmed audio, video and satellite information stored in memory.

ACTION	ON SCREEN DISPLAY
In PROG mode, push the PS button and the display reads:	*PROGRAM MODE* >CHANGE PASSWORD ERASE SATELLITE ERASE ALL PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE.

To change your password, simply enter a new 4-digit number. The receiver display will show 'CP' for Change Password.

ACTION	ON SCREEN DISPALY
At this prompt a new 4 digit password code can be entered. After the number is entered the display will then read:	*PROGRAM MODE* PASSWORD HAS BEEN CHANGED TO: XXXX

Where XXXX = The 4 digit number you just entered.

To erase a satellite, with the cursor on ERASE SATELLITE simply enter your password.

ACTION	ON SCREEN DISPLAY
The receiver front panel display shows 'ES' for Erase Satellite. Entering the 4 digit password will make the receiver erase all stored information for that current satellite including satellite position information used for direct access. The on screen display will read:	*PROGRAM MODE* NAME NUM ERASED

Where Name + Num = The satellite which has now been erased.

Note: If the receiver has not yet been stored with satellite names and positions, or if there was no satellite of that name and number already stored in memory, the display would read:
PROGRAM MODE

NO SATELLITES STORED
PRESS SAT,NAME,NUM
THEN
A OR V TO MOVE DISH

TO CHANGE LIMITS
If the dish was up against either the Upper or Lower limit set for the Jack, the receiver front panel display will read 'CL' for change limit and the on screen display will read 'CHANGE LIMIT' instead of 'ERASE SATELLITE'.

FRONT PANEL/ACTION	ON SCREEN DISPLAY
"CL"	*PROGRAM MODE*
	CHANGE PASSWORD >CHANGE LIMIT ERASE ALL
	PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE.
With the cursor on 'CHANGE LIMIT,' enter your 4-digit password. Entering the password will erase the current limit and the receiver panel will change to either 'SU' or 'SL'. The on screen display will read:	*PROGRAM MODE*
	SET ***** LIMIT!
	PRESS SAT AND USE ▲OR ▼ TO MOVE DISH PRESS SAT 3 TIMES TO STORE LIMIT.

Where '******' is either the UPPER or LOWER limit that the
dish is against.

Proceed now as if this limit will be set for the first time.(See
SETTING DISH LIMITS)

ACTION	ON SCREEN DISPLAY
Then press the SAT key 3 times to store that limit and the display will read.	*PROGRAM MODE*
	***** LIMIT STORED

To Erase all:

ACTION	ON SCREEN DISPLAY
To ERASE ALL in memory To clear all information stored in memory, press PS until the cursor is on the 'ERASE ALL' option.	*PROGRAM MODE*
	CHANGE PASSWORD ERASE SATELLITE >ERASE ALL
	PRESS PS TO SELECT ENTER PASSWORD TO EXECUTE.
If ERASE ALL is selected and you enter your 4-digit pass- word code the receiver panel will read 'EA' for erase all. This is the master clear for all programmed information. Entering your 4 digit password will change the display to 'YN' for yes/no. The on screen display will read:	
	PROGRAM MODE
	ERASE ALL WILL DESTROY ALL STORED INFORMATION! TO CONTINUE ENTER PASSWORD. ANY OTHER KEY TO EXIT. XXXX

Where XXXX is where your password code will show if
entered. Entering your code a second time will erase all
stored information. Pressing any other key will cancel the
command.

If code is entered a second time the memory will be erased
and the screen will show the same screen as when you first
powered up t he new unit: 'SET LOWER LIMIT'

INDOOR CONNECTION PROCEDURE

IMPORTANT!

TO PROTECT YOUR DISH AND ACTUATOR DRIVE SYSTEM, FOLLOW THESE INSTRUCTIONS IN THE PROPER SEQUENCE.

FOLLOW THE TEST PROCEDURES CAREFULLY AND DO NOT CONNECT THE MOTOR WIRES UNTIL INSTRUCTED.

1) Make a drip loop in the cable just before it enters the house.

2) Place the receiver on a secure, flat surface.

3) Connect the short coaxial cable (provided in the receiver package) to the 70MHz INPUT and 70MHz OUTPUT terminals. (Do not add attachments to these terminals until the receiver is fully installed and tested.)

4) Plug the receiver into a properly grounded outlet. Install batteries in the remote control. Switch the power on. If the display is blank, check the outlet for power.

5) Turn the programming mode control key on the back panel to PROG. Check the front display to make sure the programming decimal indicator is illuminated.

6) Separate the individual wires of the one-run cable to ensure that each set of wires can easily reach the terminals. Install an F-type connector to the coaxial cable of the multi-run cable. Connect the coaxial cable to the IF IN terminal.

7) Polarotor Connection. Following the color code used outdoors, insert the 3X18 gauge polarotor wires into quick connector terminals. Normally: Red to +5V, Black to GND, White to PULSE
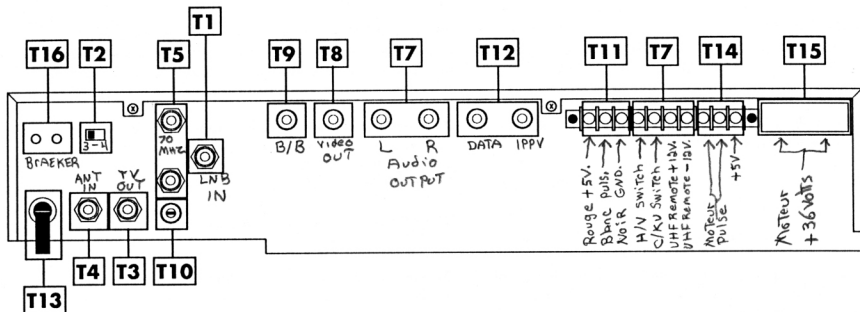
8) Motor Connections. Insert the 2X16 gauge wires into the MOTOR terminals.

9) Install the 2x24 gauge wires to the sensor terminal marked   and GND.

10) With the senor and actuator motor now properly wired, connect the video and audio components.
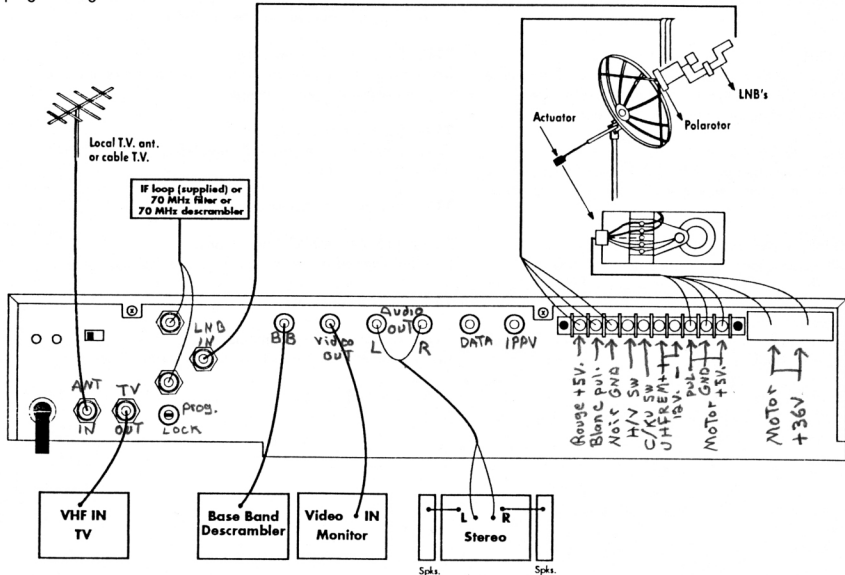
BACK PANEL DESCRIPTIONS

T1 - IF Input
950 - 1450 MHz intermediate frequency input terminal from block downconverter.

T2 - Channel 3 - 4 Selector
Provides option of receiving satellite signal on channel 3 or 4 of your TV

T3 - TV Output
Connects to your TV receiver antenna terminal. The satellite picture is received through this output. When off, the receiver provides signal from the antenna input.

T4 - Antenna Input
Connect local antenna or cable to this input. When not viewing satellite signal, this input provides antenna/cable picture.

T5 - 70 MHz INPUT and OUTPUT Terminals
To install 70 MHz loop, connect coaxial cable to these terminals. Before connecting TI filters, consult filter manual.

T6 - Accessory Terminal
For connection of Star Trak accessory components. Consult appropriate manual.

T7 - Audio Output
Right and Left audio outputs for standard audio amplifiers.

T8 - Video Output
Direct video output. Connect to your video monitor unit. Consult monitor manual before connection.

T9 - Unclamped Video Output
For connecting additional components like descramblers. Consult appropriate manuals before installation.

T10 - Programming Mode Key
Select programming or run modes. Key may be removed to protect pre-programmed settings

T11 - Polarotor Terminals
Quick connector terminals to receive +5V, Pulse and GND wiring from polarotor.

T12 - VideoCipher Accessories Terminals

T13 - 115 VAC 60 Hz Power Cord
Must be plugged into properly grounded 3-prong outlet.

T14 - Sensor Terminals

T15 - Actuator Motor Terminals
Quick connector terminals to receive actuator motor wires.

T16 - Circuit Breakers

SATELLITE AND TRANSPONDER LOG

Satellites In Memory		Access By Key Stroke	Your Dish Position	Sat/Channel To Be Locked	Satellites In Memory		Access By Key Stroke	Your Dish Position	Sat/Channel To Be Locked
ACS	1 C Band	01	_____	_____	INTELSAT	1C	81	_____	_____
						2 Ku	82	_____	_____
SATCOM	1	11	_____	_____					
	2	12	_____	_____	SBS	1	91	_____	_____
	3	13	_____	_____		2	92	_____	_____
	4	14	_____	_____		3	93	_____	_____
	6	16	_____	_____		4	94	_____	_____
	K1	17	_____	_____		5	95	_____	_____
	K2	18	_____	_____					
	K3	19	_____	_____	SPARE	1 C	VID1	_____	_____
						2 C	VID2	_____	_____
GALAXY	1	21	_____	_____		3 C	VID3	_____	_____
	2	22	_____	_____		6 KU	VID6	_____	_____
	3	23	_____	_____		7 KU	VID7	_____	_____
	4	24	_____	_____		8 KU	VID8	_____	_____
WESTAR	3	33	_____	_____	GSTAR	1	BW1	_____	_____
	4	34	_____	_____					
	5	35	_____	_____	MORELOS	1 C	MODE1	_____	_____
	6	36	_____	_____		1 KU	MODE7	_____	_____
COMSTAR	3	43	_____	_____	ANIK	D1	POL1	_____	_____
						D2	POL2	_____	_____
TELSTAR	1	51	_____	_____		C3	POL3	_____	_____
	2	52	_____	_____		C2	POL8	_____	_____
	3	53	_____	_____					
AURORA	1	61	_____	_____					
SPACENET	1	71	_____	_____					
	2 C								
	3	72	_____	_____					

STAR✦TRAK