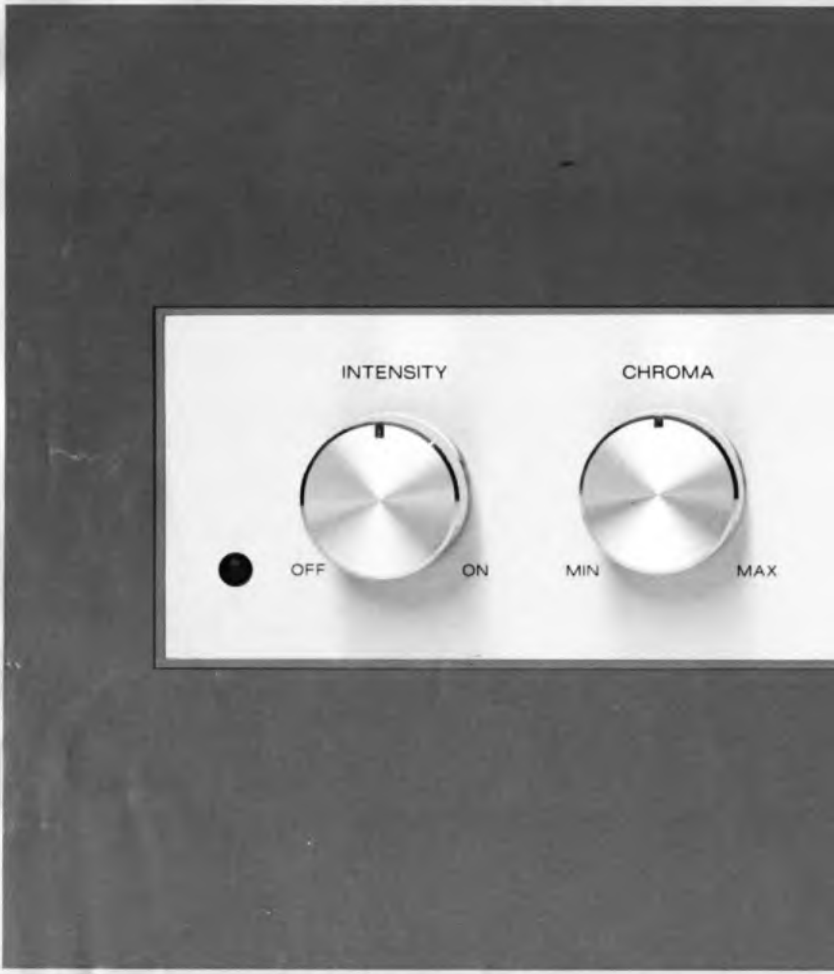
15-1275



Video Colour Processor

Owner's Manual

PLEASE READ BEFORE
USING THIS EQUIPMENT

ARCHER®*

Your **ARCHER® Color Processor** was developed by Radio Shack to improve the overall performance of your home video system. It may be used to improve the color reproduction of programs from a VCR or video disc player. It may also be used to improve recordings made from one VCR to another or direct camera-to-VCR recordings.

This unit will not create a color picture from a black and white recording.

FEATURES

- **MODE Switch** — Allows you to compare the processed color signal (COLOR position) with the unprocessed signal (BYPASS position) by moving a single switch.

  In the B/W position, you will see a pure black and white picture. Artificial color tint will be eliminated.

- **INTENSITY Control** — Varies the intensity of the brightness in the TV picture. This is similar to the contrast control on your TV, but the range is greater.

- **CHROMA Control** — Varies the intensity of the colors in the TV picture from faded to "saturated." This control works with the BURST control to compensate for tapes that were recorded with too little or too much color.

- **BURST Control** — Adjusts the burst signal to give the most useful operating range of the CHROMA control.

- **HUE Control** — Adjusts the hue of the color picture. This function is similar to that of the tint control on your TV, but the range is greater. Use this control to compensate for tapes recorded with too much red, green, or blue.

- **SOURCE A/B Switch** — Selects the signal to be processed by the Color Processor from one of two video inputs (VCR, video disc player, or other video source). The selected signal is sent to both OUT jacks (A/B).

Important Note

Your Color Processor must be connected to video equipment that has separate audio and video jacks, such as a VCR, video disc player, or a true TV "monitor."

To use this unit with a regular TV (with only VHF/UHF terminals) you must connect an RF modulator between the Color Processor and the TV, to convert the signals to regular VHF TV signals. Radio Shack's Video Stabilizer/RF Modulator (Cat. No. 15-1271) and Video Enhancer/Stabilizer (Cat. No. 15-1270) contain such modulators, as do all VCRs.

Please read this owner's manual carefully. It has been prepared to assist you during the initial set-up procedure and to guide you in everyday operation of the Video Color Processor.

CAUTION

This unit can be permanently damaged by exposure to:

- **Excessive heat (above 150°F/65°C)**
- **Moisture or humidity**
- **Excessive dust or dirt**

Take care to avoid these conditions at all times.

WARNING: TO AVOID THE HAZARDS OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR OTHER MOISTURE.

For your own protection, we urge you to record the serial number of this unit in the space provided below. The serial number is located underneath the unit.

Serial Number_____

SPECIFICATIONS

Video Output	with 1VP-P input, output can be set from 0.5 to 1.5VP-P into one 75 ohm load
Video Input	0.75VP-P to 3VP-P into 75 ohms
Luminance Range	−0dB to +3.5dB
Burst Phase Range	100 degrees
Burst Output Range	0.14 to 0.43VP-P
Chroma Output Range	0.10 to 0.30VP-P
Power Consumption	5 watts maximum, 120 VAC, 60 Hz
Input and Output Jacks	RCA Phono

The lightning symbol is to remind you that there is dangerous voltage inside the unit. Do not open the enclosure.

The exclamation symbol indicates there is important operating information in this manual.

CONTENTS

CONTROLS AND FUNCTIONS
(Operation Summary)

① **Power LED**
Use to tell when the power is on.

② **INTENSITY Control**
Turn this knob clockwise to "click" the power on.

Continue turning it clockwise to increase the intensity of the TV picture brightness. This control is similar to your TV contrast control but it operates over a greater range and has less effect on other components of the TV picture (color, hue, etc.).

Turn it counterclockwise to decrease the intensity of the brightness or to "click" the power off.

The INTENSITY setting is not affected by the position of the MODE switch; this control is always active when the power is on.

③ **CHROMA Control**
Turn this control clockwise to increase the intensity of the colors in the TV picture. This is necessary for tapes recorded with insufficient color or excessive burst signal. (Colors will look faded.)

Turn this control counterclockwise to decrease the intensity of the colors in the TV picture. This is necessary for tapes that were recorded with excessive color or insufficient burst signal. (Colors will look too intense.)

④ **BURST Control**
Turn this control clockwise to reduce the burst signal; this increases color intensity. Turn it counterclockwise to increase the burst signal; this decreases color intensity.

The combination of the BURST and CHROMA controls gives you the greatest possible range of color control.

What is a Burst Signal?

A burst signal tells your TV that the TV signal contains color information. It acts also as a reference point from which your TV evaluates the intensity of that color information. The proper setting of the BURST control assures maximum control range for the CHROMA control.

If there is too little burst signal, as in some worn or third generation tapes, the color will be too intense.

If there is too much burst signal, as in some tapes made from TV broadcasts, the color will appear faded.

If there is no burst signal the picture will be black and white, even if the color information is on the video tape.

⑤ **HUE Control**
Turn this control to change the hue of the colors in the TV picture. You will have complete control for correction of pictures with too much red, green, or blue.

This control is similar to the tint control on your TV but operates over a greater range. Use it in combination with the TV tint control for even greater control range.

⑥ **MODE Switch**
BYPASS — Select this position to bypass all Color Processor controls except INTENSITY.

COLOR — Select this position for complete color processing.

B/W — Select this position for pure black and white viewing (without false color tint).

⑦ **SOURCE A/B Switch**
Set this switch to A to process the source connected to the **A** VIDEO IN jack; set it to B to process the source connected to the **B** VIDEO IN jack. The selected source will be sent to both A and B VIDEO OUT jacks.

⑧ **Power Cord**
Plug into a standard AC outlet (120V, 60 Hz).

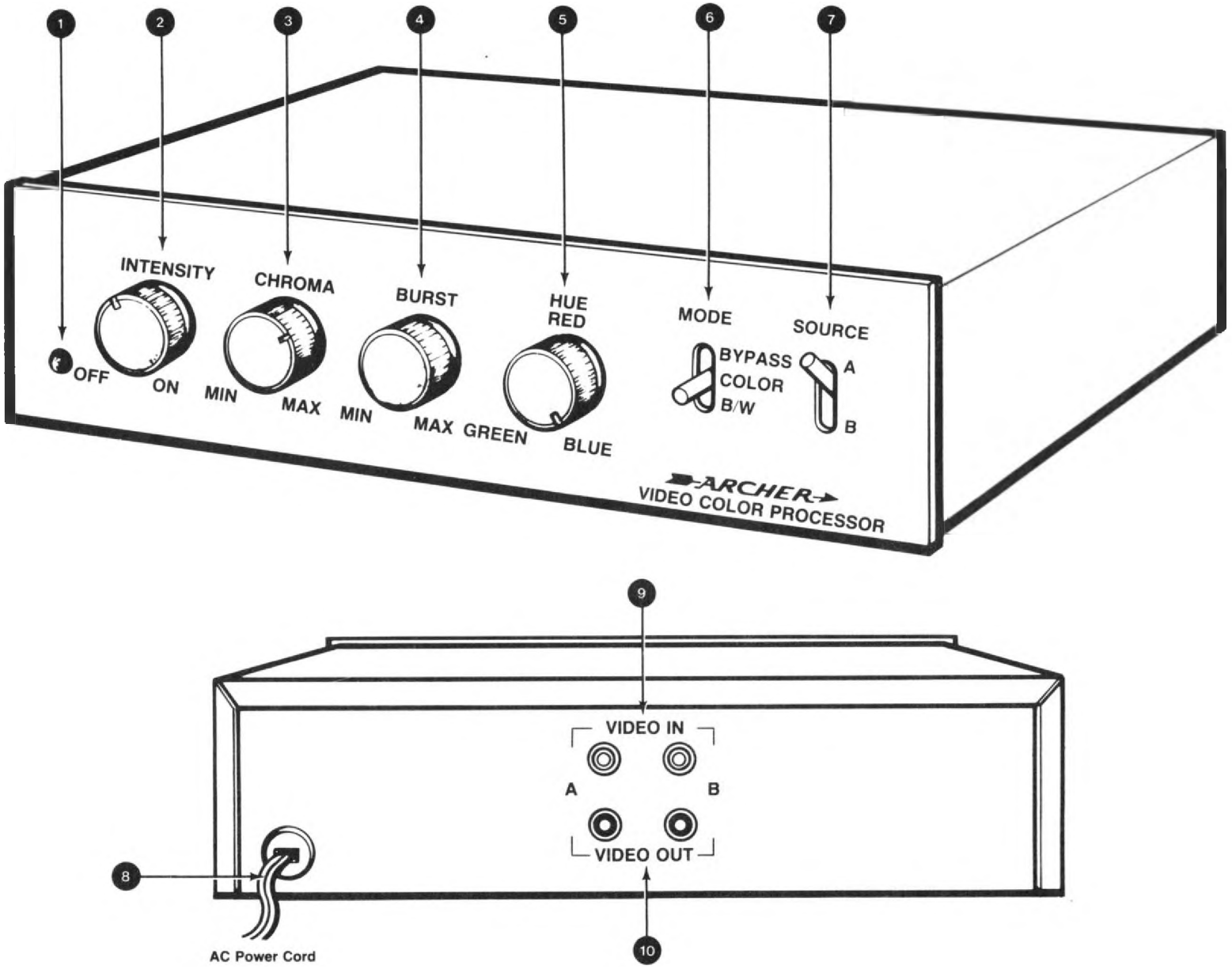
⑨ **VIDEO IN Jacks (A/B)**
Connect one of these jacks to the video out jack on your VCR or video disc player; use shielded cable with RCA-type plugs. You may connect up to two units.

Use the A/B Switch to select the source to be processed by the Color Processor.

⑩ **VIDEO OUT Jacks (A/B)**
Connect one of these jacks to the video in jack on your VCR, video stabilizer/RF modulator, video enhancer/stabilizer, or a true TV monitor; use shielded cable with RCA-type plugs. You may connect up to two units.

The source selected by the A/B switch will be sent to both VIDEO OUT jacks.

Note: The VIDEO OUT jacks are active only when the power is on.


1
2
3
4
5
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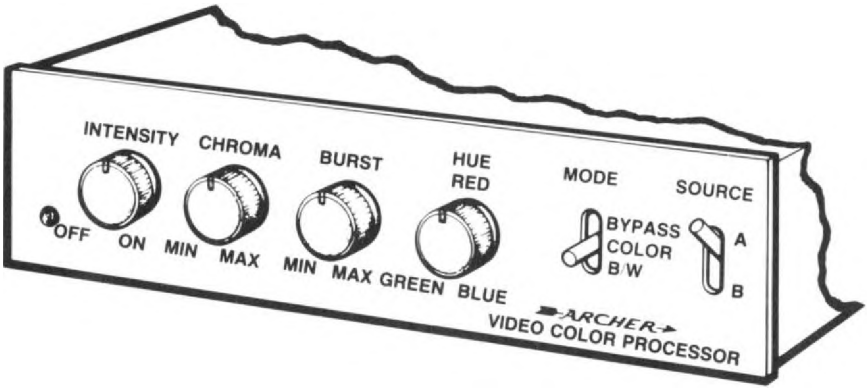
7
INTENSITY
CHROMA
BURST
HUE
RED
MODE
SOURCE
OFF
ON
MIN
MAX
MIN
MAX
GREEN
BLUE
BYPASS
COLOR
B/W
A
B
ARCHER
VIDEO COLOR PROCESSOR
9
VIDEO IN
A
B
VIDEO OUT
8
10
AC Power Cord

PREPARATION FOR USE

Make sure all connections have been made as outlined on page 4 and as shown in the drawings in the "Operation" section of this manual. If you are unsure about your connections, draw a diagram of your system and take it to your local Radio Shack for advice.

To realize the maximum benefit from your Color Processor, your TV must be in good working condition with the controls set for a normal color picture. The other components of your video system must also be working properly. **This unit will not compensate for defects in other video equipment.**



Control Settings

The initial settings for all the front-panel control knobs should be 12 o'clock (the pointers straight up). Remember: signals will not pass through the Color Processor unless the power (INTENSITY control) is on.

MODE Switch

The usual setting for the MODE switch will be COLOR. Switch temporarily to BYPASS to compare the unprocessed color picture with the processed one.

Use the B/W position to eliminate false color (red, green, or blue tint) in black and white pictures.

Remember: The INTENSITY control is active with all settings of the MODE switch, as long as the power is on.

OPERATION

Adjusting the Color Processor Controls

Even though the controls on the Color Processor are more sensitive and selective than the controls on your TV, they do interact with each other and with the controls on your TV, VCR, and other video equipment. Follow the instructions below and the instructions in the owner's manuals for your other video components.

Refer to "Controls and Functions" on page 4 for details on the effect of each control and switch.

1. Set all the Color Processor control knobs and switches as described in "Preparation for Use."
2. Turn on your TV and set it to the same channel as the channel switch on the RF modulator you are using (or set your TV to "monitor").
3. Set the SOURCE A/B switch for the desired input source and begin playback from the selected input source (VCR or video disc player).
4. If you are using an enhancer/stabilizer/modulator or similar product, adjust it as described in its owner's manual.
5. Adjust the INTENSITY control for the desired picture brightness.
6. If there is no color in the picture (and you are playing a color tape) center the BURST control and adjust the CHROMA control for the desired amount of color.
7. Adjust the BURST control for further fine tuning of the color intensity.
8. Adjust the HUE control to achieve the desired color tint (especially flesh tones).

Continue fine tuning each Color Processor control, along with the controls on your other video equipment, to obtain the desired results.

Use the BYPASS setting of the MODE switch, at any time, to compare the processed and unprocessed pictures.

The uses for, and possible connections with, this unit are practically endless. And as you add more equipment, such as video enhancer/stabilizers or audio processors, the numbers increase. The information on the next few pages should get you started; then it's up to you.

Monitoring a Recorded Program

This is the simplest and most common use for the Color Processor. It requires only one input source (VCR or video disc player), a unit that contains an RF modulator (such as Radio Shack's Cat. No. 15-1271 Video Stabilizer/RF Modulator or 15-1270 Video Enhancer/Stabilizer), and a TV.

Note: The modulator unit is not necessary if you have a TV (such as Radio Shack's Cat. No. 16-106) with a true monitor function. True TV monitors have separate audio and video inputs.

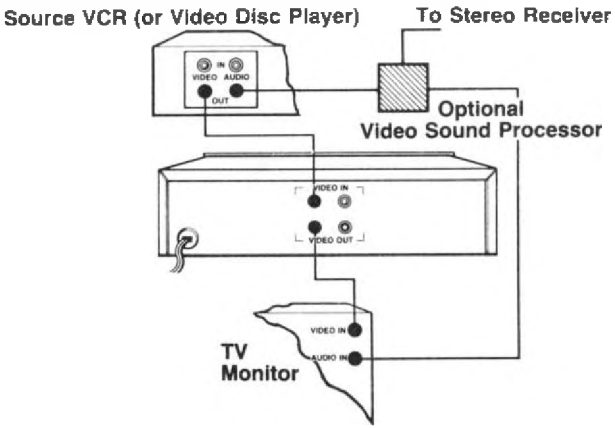
Use the drawings below and at right as a guide to connections for this basic Color Processor function.

Procedure

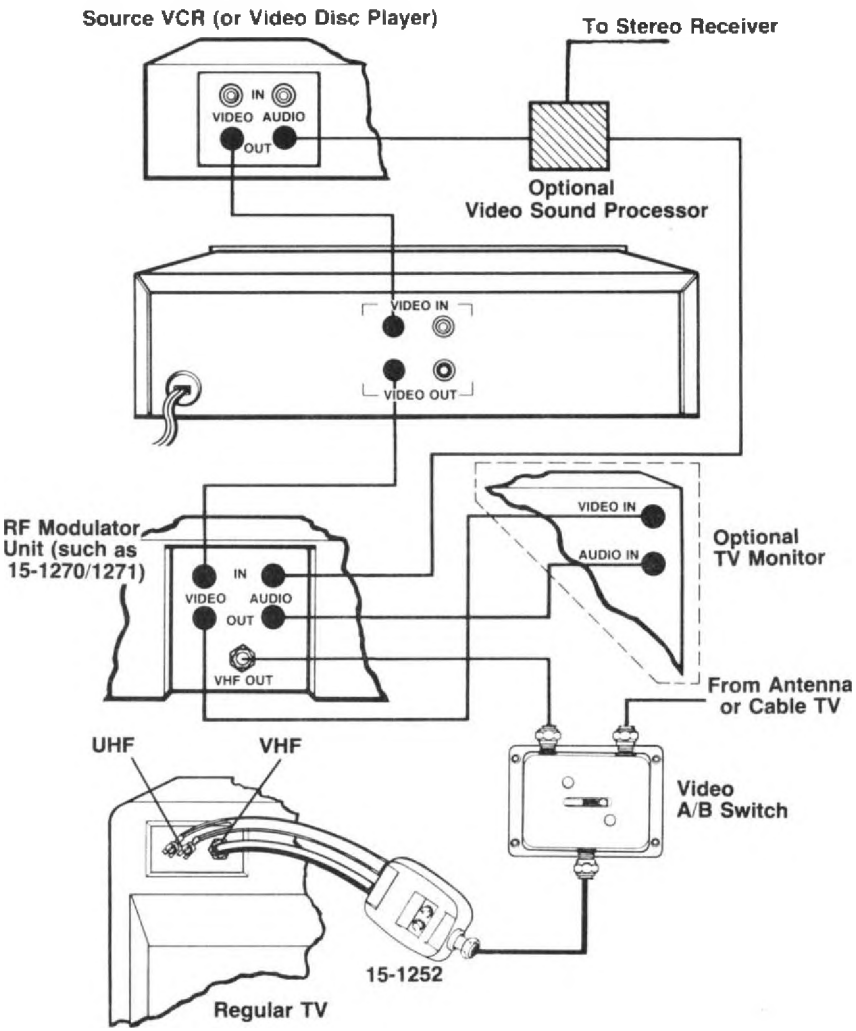
1. Make the connections as shown at right.
2. Turn on all equipment in your video system.
3. Make all adjustments and settings as described on page 6 of this manual.

Remember, you will have to make adjustments when you use a different tape, if it was recorded at a different speed or was recorded from a different quality source.

Connections for TV Monitor without RF Modulator



Connections with RF Modulator Unit



Note: If you use a regular TV for viewing, the A/B switch will give you easy access to cable or antenna TV broadcasts.

Recording from a Source VCR (or Video Disc Player) to One Other VCR

This procedure requires two VCRs (or one VCR and one video disc player) and a TV.

Note: You may use a TV with a true monitor function, such as Radio Shack's Cat. No. 16-106, instead of a regular TV. True TV monitors have separate audio and video inputs.

Use the drawing at right as a guide to connections for this basic Color Processor function.

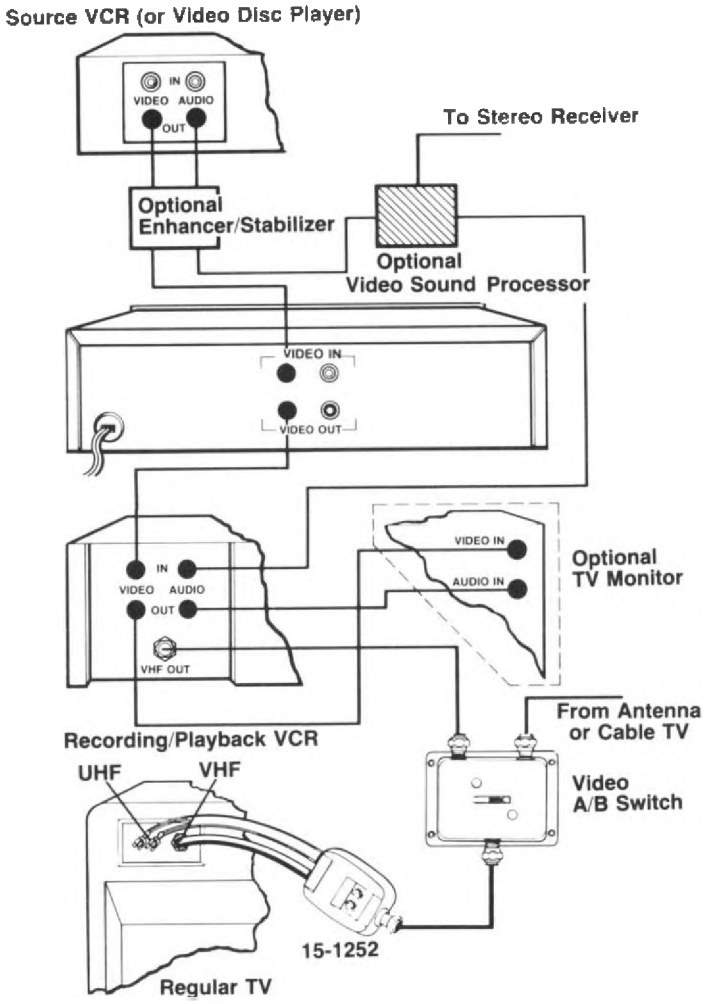
Procedure

1. Make the connections as shown at right.
2. Turn on all equipment in your video system.
3. Make all adjustments and settings as described on page 6 of this manual.
4. Begin playback on the source VCR, and record a short "test" segment of the program on the recording VCR.
5. Play back the test recording.
6. If the picture is not exactly as you want it, make the necessary fine-tuning adjustments of the color processor (and other components) controls.

Note: VCRs do not record the signal exactly as you see it on the screen. The "test" recording is absolutely necessary for getting the desired results. In some cases, you might want to make more than one test recording (repeat steps 4 - 6).

7. Rewind both VCR tapes to the beginning.
8. Activate the record mode on the recording VCR; then start playback on the source VCR.
9. At the end of the recording, press the stop buttons on both VCRs.
10. Check the newly recorded tape.

Connections



Recording from a Source VCR (or Video Disc Player) to Two Other VCRs

This procedure requires three VCRs (or two VCRs and one video disc player) and a TV.

Note: You may use a TV with a true monitor function, such as Radio Shack's Cat. No. 16-106, instead of a regular TV. True TV monitors have separate audio and video inputs.

Use the drawing at right as a guide to connections for this basic Color Processor function.

Procedure

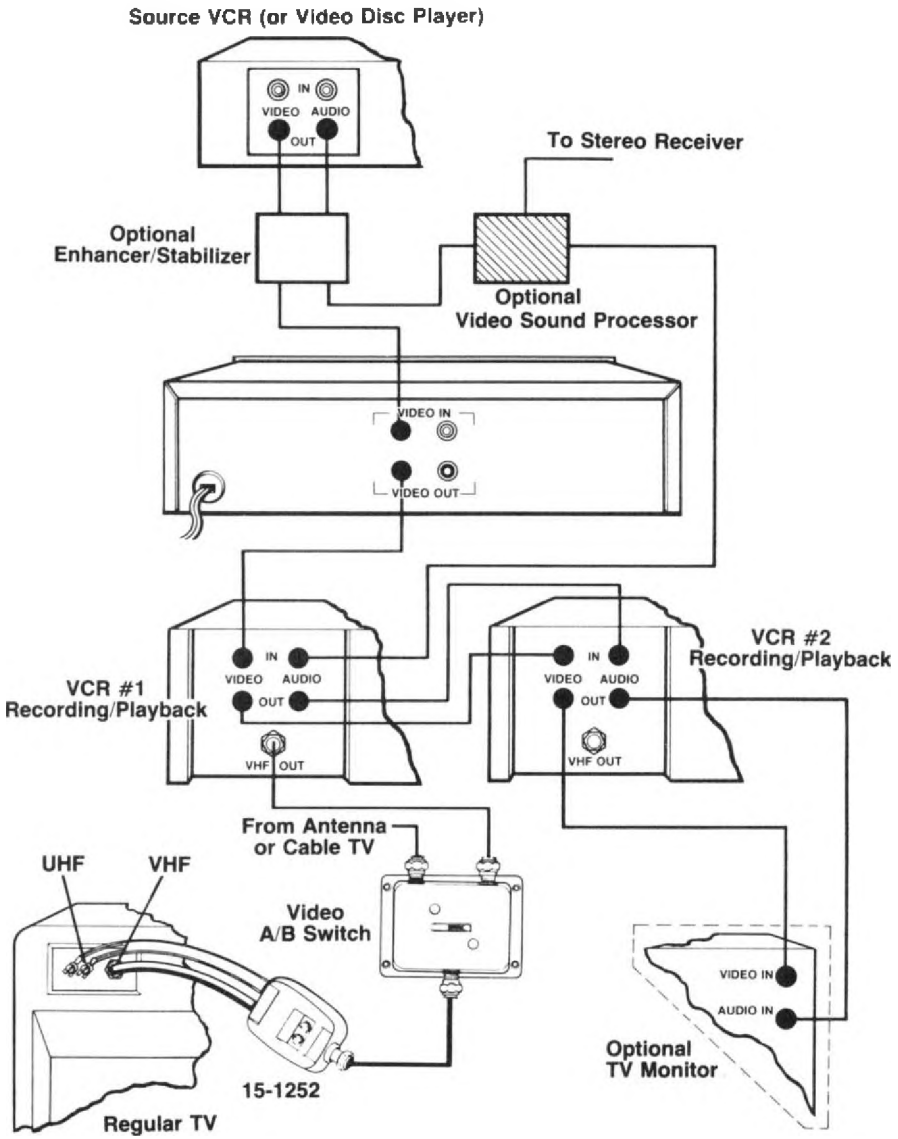
1. Make the connections as shown at right.
2. Turn on all equipment in your video system.
3. Make all adjustments and settings as described on page 6 of this manual.
4. Begin playback on the source VCR, and record a short "test" segment on recording VCR #1.

   If you are using two similar machines (both machines are VHS or BETA) and both are recording at the same speed, test recording on only one VCR is usually sufficient.
5. Play back the test recording.
6. If the picture is not exactly as you want it, make the necessary fine-tuning adjustments of the color processor (and other component) controls.

Note: VCRs do not record the signal exactly as you see it on the screen. The "test" recording is absolutely necessary for getting the desired results. In some cases, you might want to make more than one test recording (repeat steps 4 - 6).

7. Rewind all three VCR tapes to the beginning.
8. Activate the record mode on both recording VCRs; then start playback on the source VCR.
9. At the end of the recording, press the stop buttons on all VCRs.
10. Check the newly recorded tape.

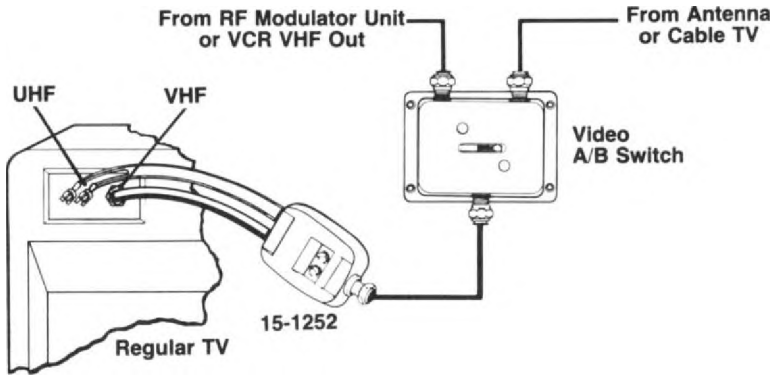
Connections



Note: You may connect a regular TV or TV monitor to either or both recording VCRs.

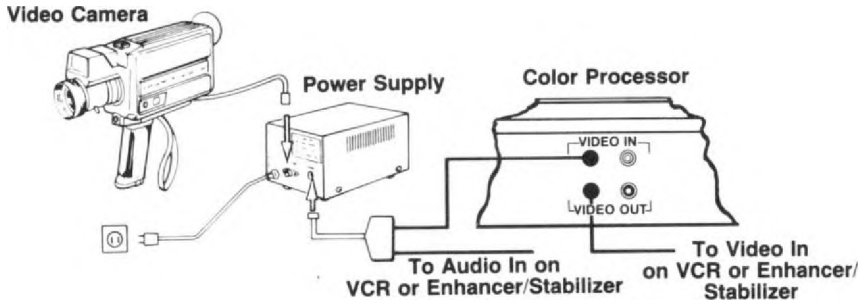
Connecting the Color Processor and Other Input Sources to Your TV

If you want to use a regular TV as a monitor for the Color Processor signal, there must be an RF modulator (as in a VCR or enhancer/stabilizer unit) in between, as shown below. When using your TV as a monitor, you may also have easy access to other input sources, such as cable TV or a TV antenna, by using a video A/B switch or video selector (available from Radio Shack).



Using Video Cameras with the Color Processor

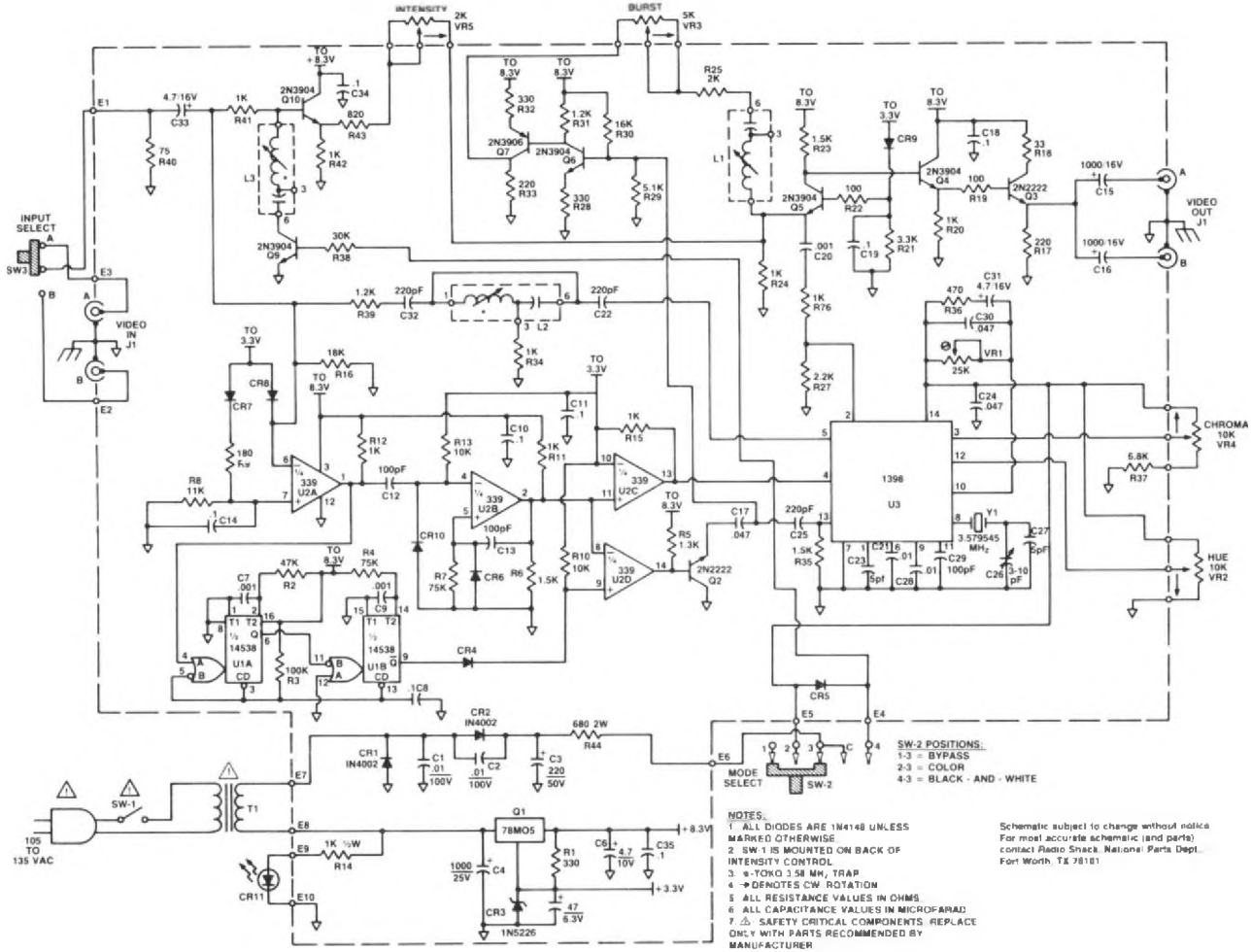
You may use a video camera in place of the source VCR in any of the suggested connections. This will allow you to improve the picture's colors as the original recording is being made. You must use RCA-type phono connectors for the inputs to the Color Processor. A camera AC power supply that provides power for the camera and has the necessary RCA-type audio and video outputs will be needed.



PROBLEM SOLVING

Your Archer® Color Processor is constructed of the finest materials and components. It should give you years of trouble-free service. However, if you do have problems and cannot find the solution below, bring the unit to your local Radio Shack.

No Picture	— Check the setting of the SOURCE A/B switch on the Color Processor. — Set your TV to the same channel as the channel switch on your VCR or modulator unit. — Turn the INTENSITY control on. — Make sure the TV works when connected to other input sources. — Make sure the separate A/B switch between the VCR, or modulator unit, and your television is set to the correct position. — Check all video and power connections. — Check the brightness control on your TV.
Picture but No Sound	— The Color Processor has no audio connections. Check the audio connections on your other components. — Check the setting of the volume control on your TV.
No Color	— Check the setting of the MODE switch. — Adjust the CHROMA and BURST controls. — Make sure you are watching a color program.
No Recording	— Check the setting of the SOURCE A/B switch on the Color Processor. — Check the connections between the Color Processor and the recording VCR(s). — Check the settings on the recording VCR(s).


INTENSITY
2K VR5
BURST
5K VR3
INPUT SELECT
SW3
VIDEO IN J1
VIDEO OUT J1
CHROMA 10K VR4
HUE 10K VR2
1398 U3
3.579545 MHz
MODE SELECT
SW-2
SW-1
105 TO 135 VAC
T1
78M05
1N5226
SW-2 POSITIONS:
1-3 = BYPASS
2-3 = COLOR
4-3 = BLACK - AND - WHITE
NOTES:
1. ALL DIODES ARE 1N4148 UNLESS MARKED OTHERWISE.
2. SW-1 IS MOUNTED ON BACK OF INTENSITY CONTROL.
3. ●-TOKO 3.58 MH, TRAP.
4. →DENOTES CW ROTATION
5. ALL RESISTANCE VALUES IN OHMS.
6. ALL CAPACITANCE VALUES IN MICROFARAD
7. ⚠ SAFETY CRITICAL COMPONENTS. REPLACE ONLY WITH PARTS RECOMMENDED BY MANUFACTURER
Schematic subject to change without notice
For most accurate schematic (and parts)
contact Radio Shack, National Parts Dept.
Fort Worth, TX 76161