

instruction manual  
model 441C series frame store

s/n \_\_\_\_\_

boulder, colorado

june 2003

## **WARNING**

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications.

It has been tested and found to comply with the limits for a class A computing device pursuant to subpart of J of part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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## SECTION I

### GENERAL DESCRIPTION

#### INTRODUCTION

This instruction manual is to be used as a guide to the installation, adjustment, operation and maintenance of the Colorado Video Model 441C Video Frame Store.

#### DESCRIPTION OF EQUIPMENT

The Model 441 series Frame Store is a full frame, high resolution, video memory. Upon command, it captures a full video frame in 1/30<sup>th</sup> of a second from a standard NTSC video input (1/25<sup>th</sup> for PAL 625-line). The FREEZE command can be given by means of a front panel push button or rear panel external contact-closure input. Resolution is 720 x 480 for standard units conforming to EIA RS-170A specifications and 720 x 580 for units ordered to conform to PAL 625-line specifications.

#### SPECIFICATIONS

<b>Size:</b>	<b>441C: 1 3/4" X 11" X 8"</b> <b>441CS: 2.5: X 4.9" X 6.9"</b>
<b>Mounting:</b>	<b>Free standing (1 3/4" X 19" rack mount fro 441C optional)</b>
<b>Weight:</b>	<b>441C: 3.5 lbs</b> <b>441CS: 1 lbs.</b>
<b>Power:</b>	<b>441C: 100-240 VAC, 50/60 Hertz, 75 VA</b> <b>441CS: 5VDC regulated, 2A</b>
<b>Inputs:</b>	<b>Composite Video: 1 V p-p, 75<math>\Omega</math></b> <b>525-line NTSC (625-line PAL optional):</b>  <b>Ext. Freeze Command: Contact closure to ground to freeze picture</b>
<b>Outputs:</b>	<b>Composite Video: 1 V p-p into 75<math>\Omega</math> load (TV monitor)</b>
<b>Controls:</b>	<b>Front Panel: Power: On/Off (441C only)</b> <b>Update</b> <b>Normal/Freeze</b> <b>Field/Frame</b>
<b>Connectors:</b>	<b>Video: BNC</b>  <b>Freeze Control: BNC</b>
<b>Performance:</b>	<b>Resolution: 720 pixels per line x 480/580 lines</b>

## SECTION II

### OPERATING INSTRUCTIONS

#### INITIAL INSTALLATION

##### System Connections

The Model 441 Frame Store is usually used with a television camera and monitor. The video interconnections are made using  $75\Omega$  coaxial cables. The most commonly used cable is Type RG-59/U with BNC connectors on each end, and are available from Colorado Video or almost any electronics supply store.

Use of the remote "Freeze" control signal is optional. To use the external control, place the normal/freeze switch in the normal position. To freeze the picture, the two conductors in the rear panel BNC should be shorted with a contact closure or equivalent. Opening the short or pressing the "Update" button will cause the picture to update until closed again.

##### Initial Operation

Set the FIELD/FRAME switch to FRAME and the NORMAL/FREEZE switch to FREEZE. Turn on the power for all units in the system. Push the UPDATE pushbutton. A stored image of whatever the camera is looking at should appear on the monitor. You can hold down the UPDATE pushbutton or set the NORMAL/FREEZE switch to NORMAL to get a "real time" image on the monitor which may be useful in framing and focusing the camera.

For proper video output, whether in normal or freeze mode, a proper NTSC or PAL video signal must be present at the input.

## OPERATING CONTROLS

### Front Panel Controls

The Model 441's controls have the following functions:

Power	ON/OFF with internal indicator light.
Field/Frame	Selects whether the stored information comes from a single field or a full frame of the input video signal. The Field position is sometimes useful when grabbing images with fast motion in them. The Frame position provides better vertical resolution.
Update	Push this pushbutton to "grab" and store an image. The storage process continues as long as this push button is pushed, and the 441 holds the last field or frame after the pushbutton is released.
Normal/Freeze	Selects whether input video is passed through to the output continuously (Normal) or only when the Grab button is pressed (Freeze). Also, to use the external freeze control, this switch must be in the normal position.

### External Control Signal

Rear panel BNC:

A remote switch can be connected here. Short the center pin and shield to freeze the picture. Open to update the picture. Be sure the normal/freeze switch is in the normal position to use this control input.

# warranty

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