

**instruction manual**

**video mirror models  
NVVN420CS & NVVN420C**

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

boulder, colorado

## **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.

## **TABLE OF CONTENTS**

<b>Section I</b>	<b>GENERAL DESCRIPTION</b>	<b>Page</b>
	1.1 Introduction	4
	1.2 Purpose of Equipment	4
	1.3 Description of Equipment	4
	1.4 Specifications	5
<b>Section II</b>	<b>OPERATING INSTRUCTIONS</b>	6
	2.1 Introduction	6
	2.2 Installation and Operation	6
<b>Section III</b>	<b>WARRANTY</b>	7

## **SECTION I**

### **GENERAL DESCRIPTION**

#### **1.1 INTRODUCTION**

This instruction manual is to be used as a guide to the installation, adjustment, operation and maintenance of the Colorado Video Model NVVN420C(S) Video Mirror.

#### **1.2 PURPOSE OF EQUIPMENT**

The Model NVN420C(S) Video Mirror can reverse a video image from a video camera so that the camera appears to scan from right to left (opposite of the video monitor). It is useful in situations where optical systems cause an image reversal that needs to be corrected for proper image display. It may also be used in situations where a reversed image is desirable.

#### **1.3 DESCRIPTION OF EQUIPMENT**

The Model NVVN420C(S) accepts composite video at a terminated input, swaps left and right video content and provides a composite video output for display on a composite video monitor.

The NVVN420CS, constructed of ABS plastic, is free standing with a sloping face for bench top use. The NVVN420C, constructed of Aluminum, is optionally available with a single space rack mount.

## 1.4 SPECIFICATIONS

<b>Size:</b>	NVFN420CS: 6.9"W x 4.9"L x 2.4"H sloping to 1.4"H NVFN420C: 8"W x 8"L x 1.75"H
<b>Mounting:</b>	Bench Top or, for NVFN420C only, optional rack mount
<b>Construction:</b>	Solid-state, SMT PC Board
<b>Power:</b>	NVFN420CS: +5VDC, 1000mA regulated NVFN420C: 100-240 VAC 50-60 Hz, 7W
<b>Input Signal:</b>	Video, composite NTSC or PAL, 1 V p-p, 75 $\Omega$
<b>Output Signal:</b>	Video, composite NTSC or PAL, 1 V p-p, 75 $\Omega$
<b>Controls:</b>	Mode: Lock/Setup/Hold to Save Mode: Normal/Mirror
<b>Indicators:</b>	Locked Mode (controls are locked when lit) Setup Mode (controls are active when lit) Picture Normal Picture Mirrored
<b>Connectors:</b>	Video In: BNC Video Out: BNC NVFN420CS: +5 VDC Power: Coaxial 5.5mm x 2.5mm NVFN420C: IEC C-14 Chassis Mounted 3-pin Power Inlet

## SECTION II

### OPERATING INSTRUCTIONS

#### 2.1 INTRODUCTION

This section contains the general operating instructions and procedures for the Model NVVN420C(S) Video Marker.

#### 2.2 INSTALLATION AND OPERATION

Connect a camera or other source of a composite video signal to the “input” connector on the rear of the NVVN420C(S). Connect a composite video monitor to the “output” connector.

For NVVN420CS, connect the coaxial power input to a regulated 5VDC, >900mA, center pin positive power source. For NVVN420C, connect the IEC C-13 power cord to the unit and the AC Mains and turn the power switch ON. The “Lock” LED should appear steady and the “Setup” LED should flash for about ten seconds while the unit boots. About two seconds after booting, the unit should function according to previously saved settings.

**Lock/Setup:** The Video Mirror can be toggled between two modes of operation by means of the Lock/Setup button. Push the button briefly to change modes. In the **Lock Mode**, all other controls are locked. Controls are active in the **Setup Mode**. Either mode can be used indefinitely.

**To select Normal or Mirrored Mode,** place the Video Marker in “Setup” mode by pressing the “Lock/Setup” button until the “Setup” LED is illuminated. Press the “Normal/Mirror” button until a green LED indicates the desired mode.

The unit can be left indefinitely in the “Setup” mode to allow the controls to remain active. Use the “Lock/Setup” button to toggle to “lock” mode in order to make the controls inactive.

**Settings can be saved** in order to preserve them while power is absent. While the unit is in “setup” mode, press and hold the “Lock/Setup” button. Release the button once the “Setup” LED has extinguished. Settings will be saved until this process is repeated for new settings.

# warranty

Colorado Video, Incorporated warrants the equipment of its manufacture to be free of defects in material and/or workmanship under normal use and service. Colorado Video, Incorporated's obligation under this warranty is limited to making good at its laboratories any part or parts thereof, which shall within one (1) year after delivery to the original purchaser be returned to Colorado Video, Incorporated at its laboratories, with transportation charges prepaid, and which Colorado Video, Incorporated's examination shall disclose to its satisfaction to have been defective.

This warranty is expressly in lieu of all other warranties and representation, express or implied, and of all other obligations or liabilities on the part of Colorado Video, Incorporated. In no event shall Colorado Video, Incorporated be liable for damages of any kind connected with the use of its equipment or its failure to function properly.

This warranty shall not apply to any equipment which shall have been repaired or altered outside of Colorado Video, Incorporated's laboratories so as to, in Colorado Video, Incorporated's judgement, affect its use, function, reliability, or which shall have been subject to misuse, alteration, improper installation, negligence, or accident.

Before any equipment is returned to Colorado Video, Incorporated for repairs or adjustments, shipping instructions should be obtained from Colorado Video, Incorporated. Colorado Video, Incorporated assumes no responsibility for unauthorized returns.