

NV9575-VF

This guide is a compilation of information taken from the NV9000-SE Utilities help pages. It is with NV9000-SE Utilities that you must configure the NV9575-VF.

Refer to the NV9000-SE Utilities User's Guide (UG0007) for additional information.

Introduction

The NV575-VF is a tally interface:



This 1RU device (unlike router control panels) has no controls on its front panel. What it does have are 64 relay outputs and 32 optically isolated inputs, typically used for tally functions.

The NV9575-VF has 6 DB25 connectors on its rear panel—J1 through J6. J1, J2, J4, and J5 provide connections for the 64 relay outputs, 16 per connector, with 8 pins common. J3 and J6 provide connections for the 32 inputs, also 16 per connector with 8 pins common.

Each relay can be configured to switch on a number of conditions:

- One or more routes occurring on specific levels.
- Conditions involving output ports (destination, level).
- A transition on one or more of the NV9575-VF inputs.

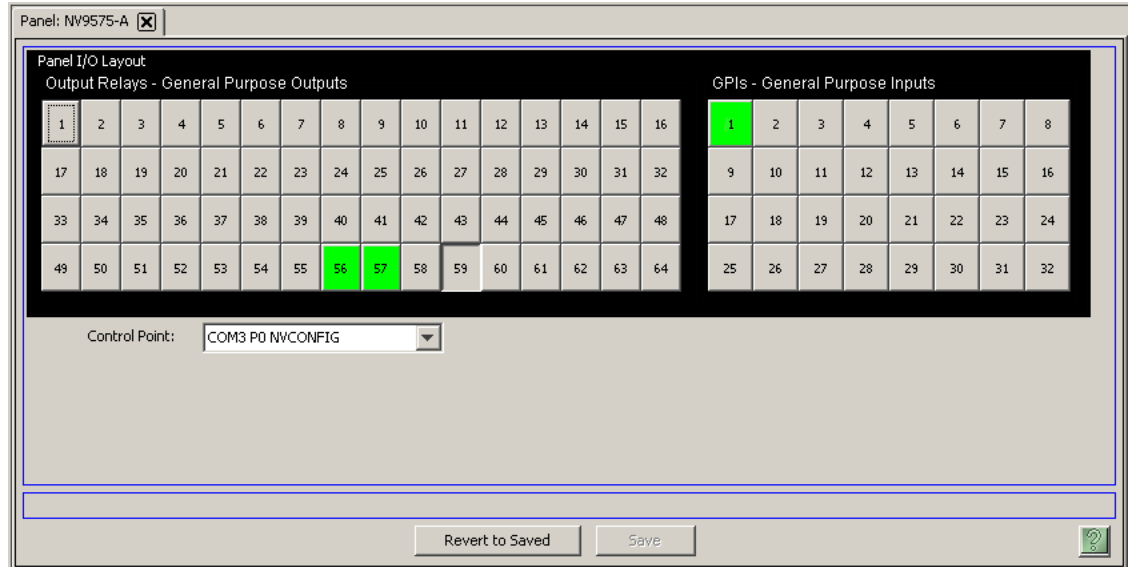
Each input (also called a GPI) can be configured to trigger a salvo on a transition from off to on and to trigger another salvo on a transition from on to off.

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Configuration

Configuration

This is the NV9575-VF panel configuration page from NV9000-SE Utilities:



Note: The “buttons” you see on the NV9575-VF page represent connections at the rear of the panel. The NV9575-VF has no buttons.

Initial setup of the NV9575-VF requires installation and use of the Videoframe configuration software. See [Initial Setup](#), on page 7, for details.

Regions of the Page

There are 3 regions:

- ‘Revert to Saved’ and ‘Save’ buttons.

These buttons are present on all configuration pages in NV9000-SE Utilities. Press ‘Save’ at any time to commit changes to the panel configuration. The ‘Save’ button is disabled (grayed out) if there are no changes to save.

Press ‘Revert to Saved’ if you want to discard recent changes that you have made.

- A graphic representation of the NV9575-VF connectors.

On the right side are 32 button images that represent the 32 optically isolated inputs. On the left side of the panel are 64 button images representing the 64 relay outputs. Click on a button to assign a function to its associated input or output.

An input can trigger a salvo.

A relay closure occurs based on Boolean expressions defined for the output. The expression can reflect (1) the occurrence of a particular source switched to a particular destination, on a particular level, (2) output port status, and (3) input transition.

A button appears pressed (like button 59 in the illustration above) when you are assigning a function to it. Buttons that have been assigned functions appear green (like buttons 56 and 57 above).

- A drop-down menu in which to select a control point for the NV9575-VF.

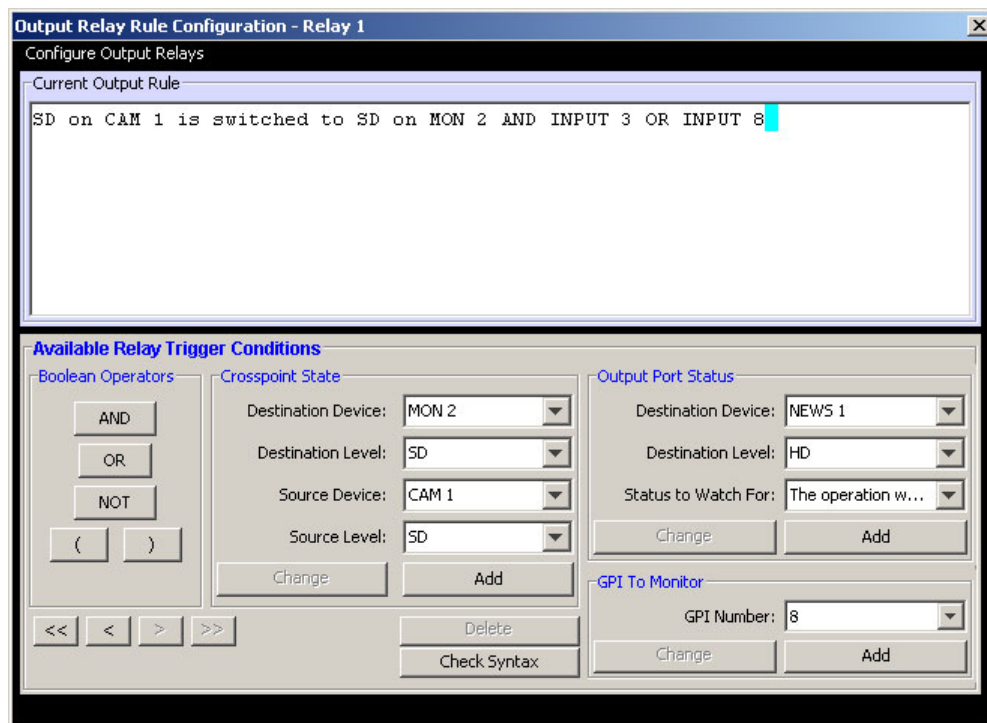
The control point is one you will have created for the NV9575-VF. See [Initial Setup](#) on page 7 for details.

Button Definitions

There are two types of buttons in the configuration page: outputs and inputs.

Outputs

Clicking an output button (one of 64 on the left) displays a “Relay Rule” dialog:



In this dialog, you enter a Boolean expression involving sources, destinations, port status, and GPI status. This sample shows one such Boolean expression.

Boolean expressions comprise *terms* and *operators*. The operators include those indicated on the left: AND, OR, and NOT. Expressions can be parenthesized to control the order of evaluation. Operator precedence is normally NOT > AND > OR. All parenthesized expressions are evaluated first; nested parentheses are evaluated before outer parentheses.

Terms (i.e., operands) are generated by choosing entries in the other fields and clicking ADD. The example shows the following:

Dest. Device:	MON2	Dest. Level:	SD
Source Device:	CAM1	Source Level:	SD

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Choosing these items (and clicking ADD) produces the Boolean expression:

SD on CAM1 is switched to SD on MON2

In the preceding illustration, that expression is ANDed with another expression

INPUT 3 OR INPUT 8

The relay chosen (relay 1) will transition when the *entire* expression is true. That is, when the switch occurs and either of the inputs (3 or 8) transitions from off to on.

(To allow a relay to switch when an input transitions from on to off, precede the input term by “NOT.” For example, the expression

INPUT 3 OR NOT INPUT 8

will evaluate true either when input 3 goes from off to on or when input 8 goes from on to off.)

You can also include one or more expressions regarding the state of output ports. You must choose an entry in the drop-down menu. These are the choices:

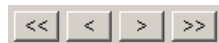
- The operation was successful
- Destination port locked
- Destination port protected
- Router offline / unavailable
- No tieline available
- Used as master point to point
- Used as master without responses
- Used as broadcast master
- Used as slave point to point
- Used as slave without responses
- Used as Broadcast Slave

Choosing ‘Used as broadcast slave’, VTR3, and CTRL for output port status produces the proposition

CTRL on VTR3 has status of ‘Used as broadcast slave.’

which you can combine with other expressions as you require.

Four arrow buttons at the lower left corner of the relay dialog allow you to traverse the expression you are building:



The left double arrows highlights the first term or operator in the expression. The right double arrow positions you at the very end of the expression where you may add more items.

The single arrows select and highlight the previous or next terms, operators, or spaces between terms and operators. If you wish to change a term, you may highlight it, reconstruct the term in the appropriate entry fields, and click the Change button to effect the change.

Using the arrows is the only way to position between two items or at the end of the expression. You can double-click a term or an operator to select it directly.

You can click “Check Syntax” to evaluate the syntax of your complete expression. Generally, a syntax error will have occurred because you forgot an operator between terms or you have an extra operator at the end.

You can click “Delete” to delete a selected term or operator.

This is a brief summary of the Boolean operators:

All operands evaluate either TRUE or FALSE.

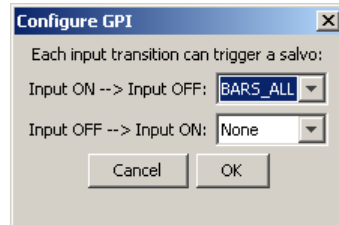
AND = true if ALL terms are true; false if ANY term is false.

OR = false if ALL terms are false; true if ANY term is true.

NOT = true if term is false; false if term is true (i.e., negation).

Inputs

Clicking an input button (one of 32 on the right) displays this dialog:



An event is signalled when a transition occurs on the input from on to off or from off to on. You can configure the NV9575-VF to recognize either occurrence on any of the 32 inputs, and specify the salvo to execute at either occurrence or both.

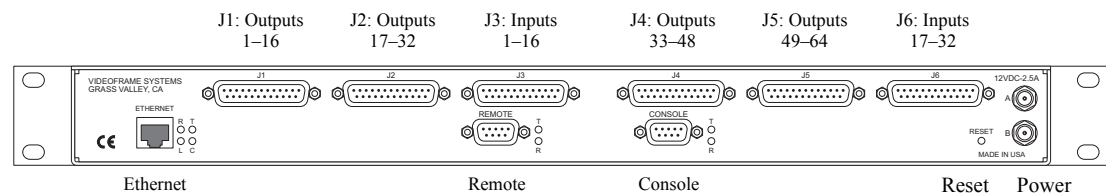
Note that you can also include one or more input transitions in relay output expressions.

Important

Be sure to 'Save' frequently.

Connections

This is the rear of the tally interface:



The NV9575-VF has 6 DB25 connectors on its rear panel—J1 through J6. J1, J2, J4, and J5 provide connections for the 64 relay outputs, 16 per connector, with 8 pins common. J3 and J6 provide connections for the 32 inputs, also 16 per connector with 8 pins common.

It also has 2 power connectors, an RJ-45 Ethernet port, two DE9s (remote and console). The DE9s and the Ethernet port have LED activity indicators.

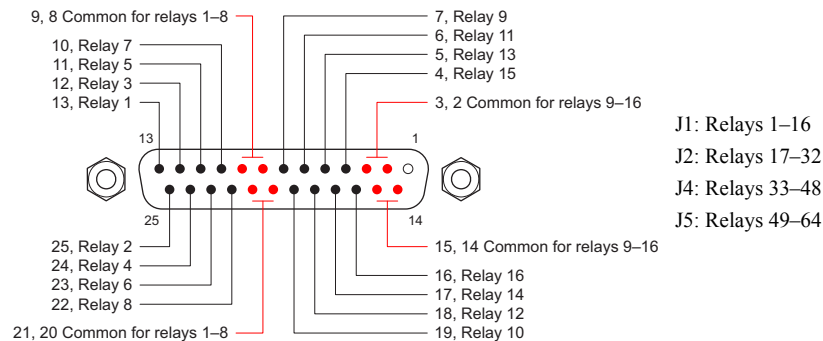
The 'remote' connector is not used. The console connector is used briefly to assign the NV9575-VF an IP address. The Ethernet connector is the port through which the NV9000 system communicates with the NV9575-VF.

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Connections

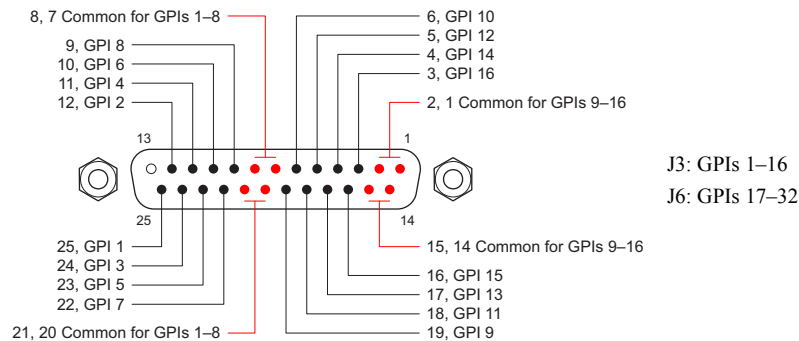
Output Connectors

The 4 output connectors all have the same format, but for consecutive sets of outputs:



Input Connectors

The 2 input connectors have the same format, but for consecutive sets of inputs:



Power Supplies

The tally expander can operate with either one or two external power supplies.

The power supplies connect to the tally expander with 2.5 mm connectors. The power supply connectors screw securely onto the tally expander's connectors. The LEDs on the front of the tally expander indicate whether power is present at either of the receptacles.

You can use two power supplies for redundancy. The secondary supply will take over without interruption in event of a failure. (A redundant supply is optional.)

We recommend using the furnished power supply. However, in an emergency, any well-regulated 12V 2.5A supply can be used. A power supply connected to the tally expander must have a long-shaft bayonet connector with a 2.5mm center pin. Many power supplies have 2.1mm center pins. These do not fit the receptacles on the frame.

Console Port

Use the console port to load an IP address into the NV9575-VF (using Videoframe's software). This port connects to a COM port of your PC. A DE9 female null modem serial cable is supplied with the tally expander. (You can purchase a replacement at any computer store.)

Remote Port

This port is not used.

Ethernet Port

The tally expander has one 10baseT Ethernet port (an RJ-45 connection). This port connects to the (Ethernet switch/hub of) the NV9000 panel and router network.

Reset Button

The reset button, near the power connectors, is recessed. You will need a pencil or small screwdriver to press the reset button.

Initial Setup

Before you can configure or use the NV9575-VF, you must perform two setup tasks, first in NV9000-SE Utilities, the second in the Videoframe configuration software. The NV9575-VF must be connected to the NV9000's panel and router network. Determine an IP address for the NV9575-VF. You will enter the IP address in NV9000-SE Utilities and the Videoframe configuration software.

After performing these initial steps, connect the NV9575-VF to (the Ethernet switch/hub of) the NV9000's panel and router network.

In NV9000-SE Utilities

Follow these steps (guidelines) to create an external interface definition in your current NV9000 configuration:

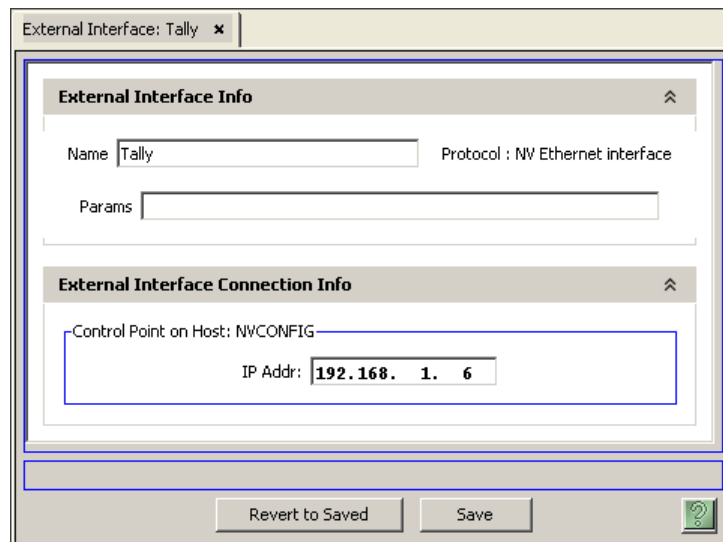
- 1 Open the configuration in NV9000-SE Utilities.
- 2 Go to the Tasks > Add External Interfaces page. Enter a name for the interface. Specify 'NV Ethernet interface' for the protocol, and choose '-New-' for the control point.

The screenshot shows a dialog box titled "Add External Interface" with a close button (X). Inside the dialog, there is a message: "Fields labeled in red are required." Below this message are five fields, each with a red label: "Name" (text input with "Tally"), "Host" (dropdown menu with "NWCONFIG"), "Protocol" (dropdown menu with "NW Ethernet interface"), "Control Point" (dropdown menu with "-New-"), and "Params" (empty text input). At the bottom of the dialog are three buttons: "Add & Edit", "Add & Clear", and "Clear", along with a help icon (question mark in a green square).

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Initial Setup

Leave the 'Params' field blank. Click 'Add & Edit'. The 'External Interface Detail' page appears:



Enter the IP address you chose for the NV9575-VF on this page. Click 'Save.'

The NV9000 control point for the NV9575-VF uses this IP address. The 'Control Points' table of NV9000-SE Utilities will include it. The 'External Interfaces' table will include this interface.

In Videoframe Configuration Software

If you have not yet done so, install the Videoframe configuration software. To do so, load the Videoframe installation disk in your CD drive. Open the CD at the top directory level.

Then, double-click Videoframe Configuration V1.5.exe to launch the program installer. Go through the installation steps as they occur, clicking 'Next' to advance to the next step. The installation takes a few seconds.

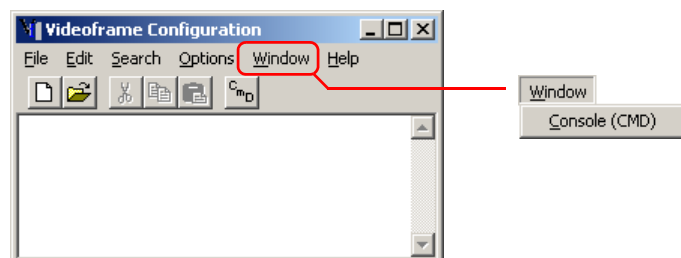
Connect a COM port of your PC to the console port of the NV9575-VF using a null-modem cable. The serial settings must be 9600 Baud, 8N1, no echo, and no flow control (if you need to adjust the settings in the Videoframe software).

Follow these steps (guidelines) to set the IP address in your NV9575-VF:

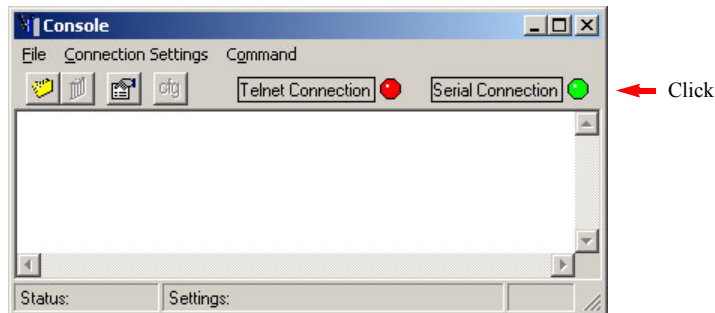
- 3 Launch the configuration software. From the Windows Start menu, that is (by default)

Start > Programs > Videoframe > VideoframeConfiguration

The Videoframe Configuration window appears:

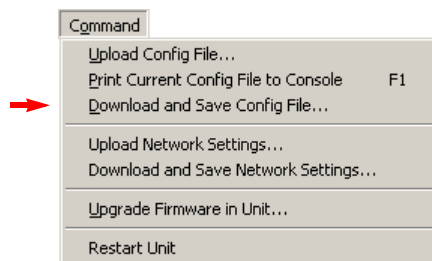


- 4 Choose 'Console (CMD)' from the 'Window' menu to open the "console":

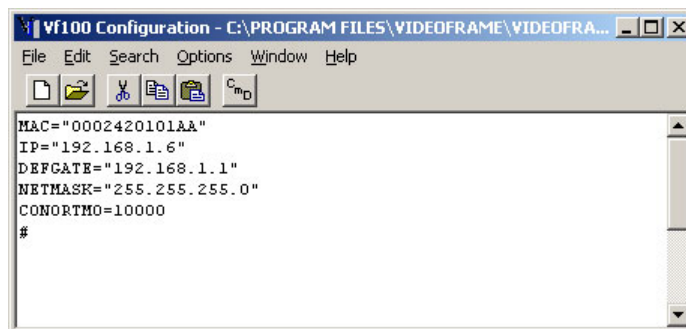


Click the 'Serial Connection' button to make it turn green. This activates serial communication.

- 5 Choose 'Download and Save Config File...' from the Command menu:



This command copies the configuration from the NV9575-VF to a file in your PC. The file contents appears in the Videoframe Configuration window.



Modify the configuration, in this window, as required. In particular, specify the IP address of the NV9575-VF and ensure that "CONORTMO"—connection override timeout, in milliseconds—is 10,000 or more.

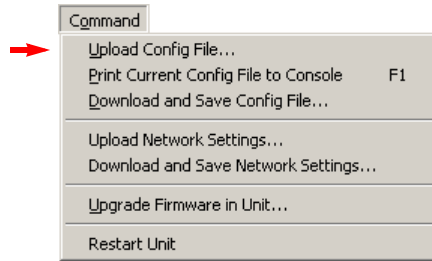
You may ignore "DEFEGATE." The "NETMASK" must be 255.255.255.0.

Choose 'Save' from the 'File' menu to save the configuration file.

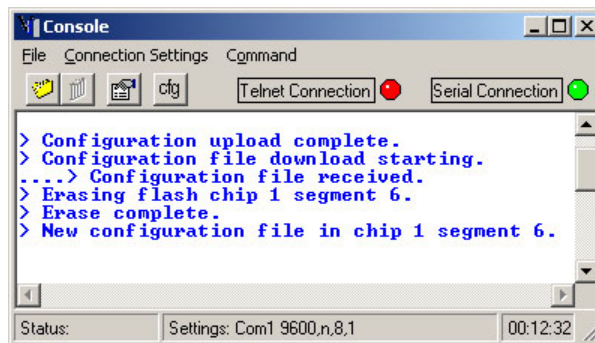
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Specifications

6 Choose 'Upload Config File...' from the 'Command' menu:



This copies the modified configuration back to the NV9575-VF. The console window displays a confirmation.



You might now choose 'Print Current Config to Console' from the 'Command' menu. This allows you to verify visually that your configuration is now in the NV9575-VF.

That is all that is required of the Videoframe Configuration software. You may now proceed to NV9000-SE Utilities to configure the NV9575-VF relays and inputs.

Specifications

Power Supply:	External 12VDC at 2.5 A.
Dimensions:	19.0" × 10.0" × 1.75".
Weight:	6.0lb.
Power:	≤ 15 W (with one 12V external supply).
Relay current:	≤ 0.5 A

Notes

Technical Support

Grass Valley has made every effort to ensure that the equipment you receive is in perfect working order and that the equipment fits your needs. In the event that problems arise that you cannot resolve, or if there are any questions regarding this equipment or information about other products manufactured by Grass Valley, please contact your local representative or contact Grass Valley directly through one of the appropriate means listed here.

- Main telephone: 514-333-1772

Fax: 514-333-9828

In the Americas, call toll-free: +1-800-547-8949 or +1 530 478 4148 (9 am to 9 pm EST)

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For playout automation, call +44 870 500 4350 (9 am to 5:30 pm, GMT)

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Note

Return Material Authorization (RMA) required for all returns.

Videoframe, Inc.

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Notes