

VIDEOMATE 7500XY

Video Slide Projector

Instruction Manual

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Introduction to the VideoMate 7500XY/XYP

VideoMate Slide-to-Video Systems

Today's sophisticated audiences expect high quality visual aids in the presentations they attend. Since a picture is "worth a thousand words," as they say, there is no better way to increase the effectiveness of a presentation than to pack it full of interesting visual images.

A Navitar VideoMate is an ideal presentation tool. It enables you to easily integrate 35mm slides into presentations by converting them into video images which can be projected through a video projector or viewed on a TV monitor. VideoMates produce high resolution images with outstanding contrast and vivid color rendition, so slides can be shown as large projected video images without losing clarity or legibility. VideoMates are ideal for use in boardrooms, auditoriums and training rooms, or for AV rental and video production.

Description of the VideoMate 7500XY/XYP

The VideoMate 7500XY (NTSC) and 7500XYP (PAL) are advanced slide-to-video transfer systems that make the digital connection with built-in microprocessor control.

With the VideoMate 7500XY/XYP, full RS-232 control enables the projector, video camera, zoom lens and X/Y image positioning functions to be operated remotely from a PC computer or boardroom control system. A software package for a PC computer is available from Navitar.

The VideoMate 7500XY/XYP is based on a state-of-the-art Kodak Ektapro electronic slide projector. Integrated inside is a high resolution 3-chip CCD camera featuring Navitar's acclaimed precision zoom optics. To increase on-screen resolution even further, the VideoMate 7500XY/XYP can be used with a scan doubler, quadrupler, etc.

The "random access" feature allows the user to choose between pre-programming the exact slide sequence or randomly jumping to various slide tray positions. Random access is easy to use. Simply punch the slide numbers into the control system and press enter.

Introduction to the VideoMate 7500XY/XYP

The built-in motorized zoom lens allows the 7500XY/XYP to zoom in on slides for increased magnification or zoom out to view entire vertical slides.

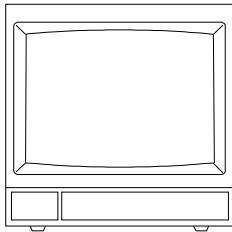
The X/Y image positioning system allows you to zoom in on any specific point on your slide and magnify it up to 6X. The slide can easily be reset to the starting position by pushing the home button.

The 7500XY/XYP outputs three different video outputs simultaneously: Y/C, Composite Video and true RGB/Sync. It also has genlock which allows you to tie the VideoMate into your switcher system.

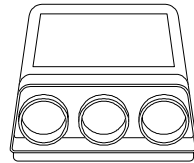
VideoMate Slide-to-Video



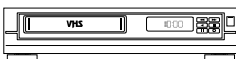
Output to Video Equipment



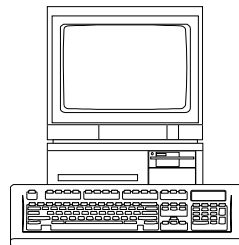
TV Monitor



Video Projector

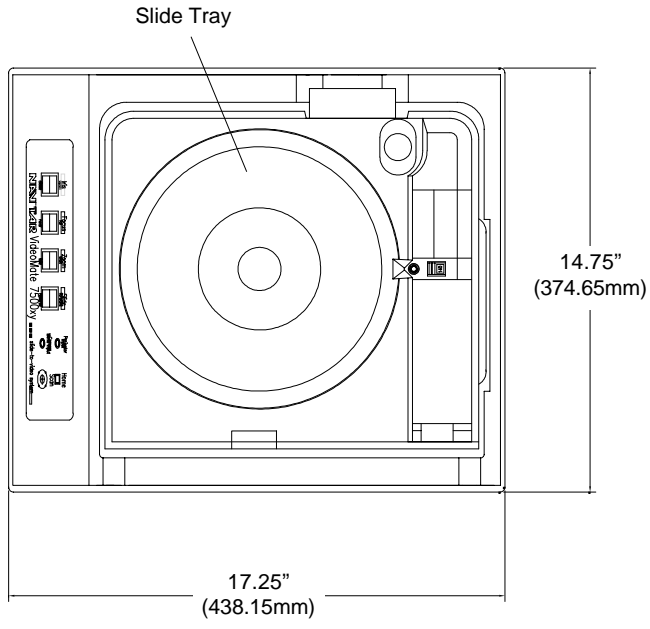


VCR

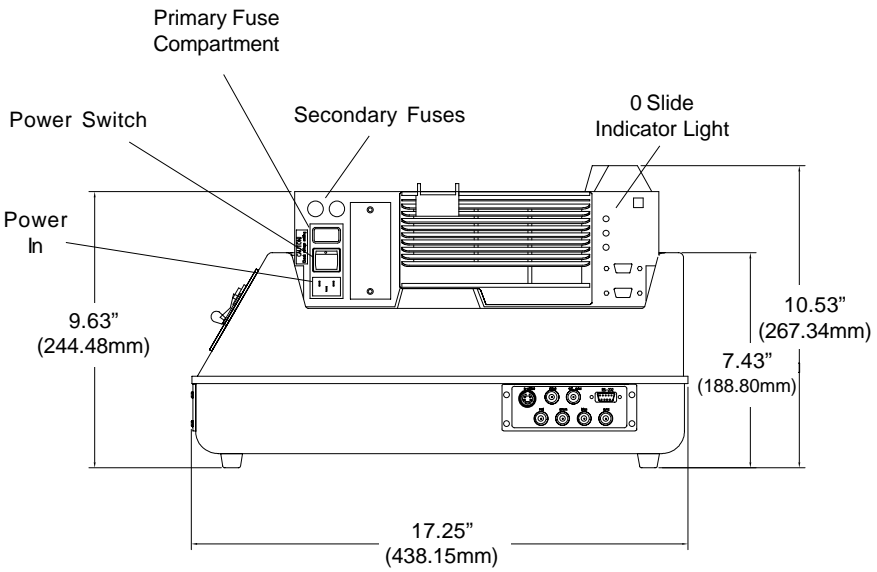


Computer

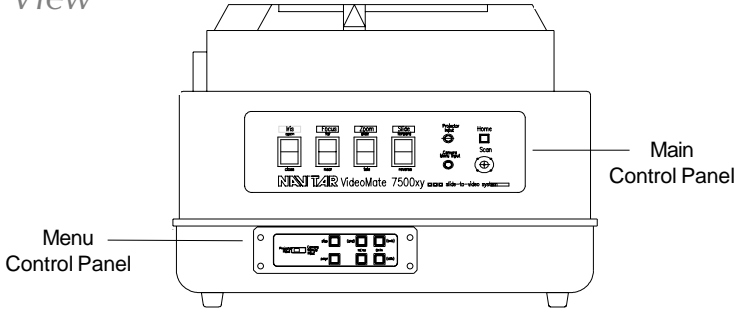
Top View



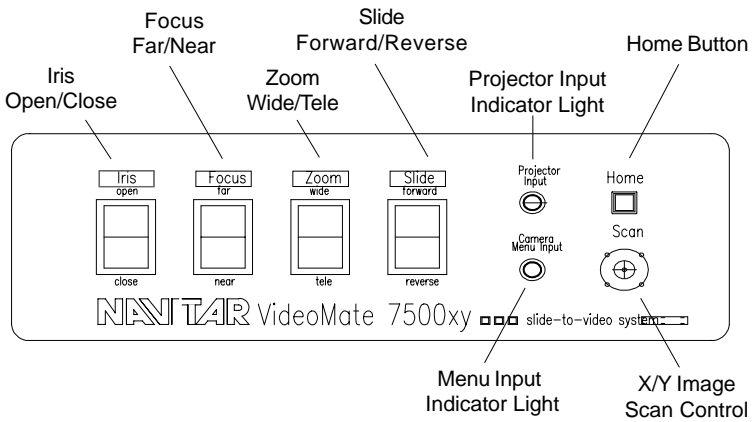
Side View



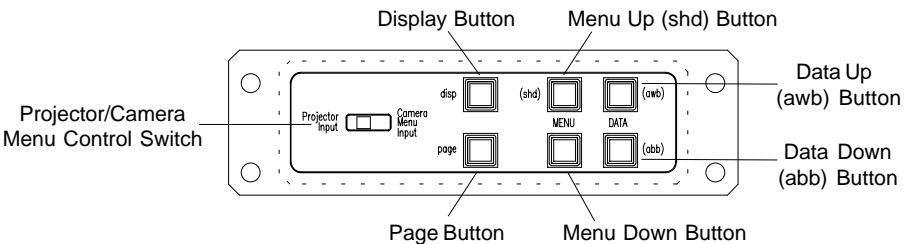
Front View



Main Control Panel



Menu Control Panel



Safety Precautions

To prevent damage to the equipment and operating personnel, please observe the following precautions:

Set the projector voltage switch to the proper wall outlet voltage for your country (USA = 120v and UK = 240v).

Make sure that the voltage source contains a satisfactory path to ground.

Do not operate the unit where water or other fluids can come into contact with the electrical components.

Maintain a six inch air space around all sides of the equipment to allow for proper ventilation.

When changing the bulb:

1. Disconnect the electrical supply.
2. Allow the unit to cool.
3. Use only a General Electric 787 (6 volt, 10 watt) lamp or the equivalent (Navitar part # 9-12126). Higher wattage lamps will cause severe internal damage to the camera and electronics.

There are no user serviceable components (other than changing the lamp). Opening the unit will expose dangerous voltage levels and sensitive electronic components. All repairs should be performed by a qualified technician.

To protect the unit from damaging condensation and thermal shock, certain procedures must be followed:

1. In cold weather, always put the unit in a moisture proof container or enclosure before transporting.
2. Either keep the unit warm during transportation or allow sufficient time for it to warm up at the destination. Keep the unit in the original moisture resistant package while it warms up. (The goal is to prevent warm, moist air from striking the cold electronic and optical components which will cause damaging condensation).

Warning



Never operate a cold projector to warm it up.

Check Voltage Setting

The VideoMate 7500XY is exported throughout the world to countries with different mains voltages. The projectors are set to a fixed mains voltage at the factory.

120v Mains

Shipment to countries with 120v mains will be equipped with a 4A fuse.

220, 230 or 240v Mains

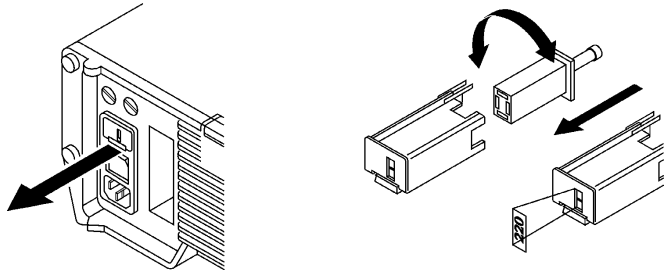
Shipment to countries with 220, 230 or 240v mains will be equipped with a 2A fuse.

Before you switch on your projector, make sure that the voltage is correctly adjusted!

An incorrectly adjusted mains voltage can damage the projector. The voltage indicator must show your country's actual mains voltage.

Changing the Operation Voltage Setting

1. Pull out the fuse link compartment by gripping the small catch.
2. Push the fuse link into the compartment so that the applied voltage can be seen in the window of the compartment.
3. Push the loaded compartment (with mounting underneath) firmly into the projector opening provided.



Warning



For safety, the mains lead must be unplugged.

Important



Make sure that the 120v setting uses a different fuse than the 220/240v setting.

Dissolve Operation

The VideoMate 7500XY is fully equipped for dissolve operation and is fully compatible with external dissolve control systems already in existence. Dissolve operation is controlled by using the Kodak Ektapro IR Remote System RA/LP, available from Navitar as an option.

RS-232 Remote Control

In the past, most projectors were controlled by simple contact closure. Today's advanced boardroom control systems, however, are using RS-232 for control of the AV components and room functions.

With the VideoMate 7500XY, you can electronically control the projector, video camera, zoom lens and X/Y image positioning functions of your slide-to-video transfer unit by RS-232 control from your PC computer or boardroom control system via the RS-232 (9-pin sub D socket) located on the video output panel. Use a 9-pin D-Sub male to 9-pin D-Sub female for connection (1:1, shielded).

A software control package for a PC computer is available.

Motorized Zoom

The motorized zoom function allows you to zoom in on a slide for increased magnification or zoom out to view a vertical slide.

Random Slide Access

You can pre-program the exact slide sequence you require or randomly jump to any slide tray position at any time. For example, you can randomly program your slide sequence to go from slide #1 to slide #10 and have different zoom positions (magnifications) and brightness presets for each slide. Just punch the number of the desired slide into your control system and press enter. It's that simple.

Genlockability

The VideoMate 7500XY can be genlocked into any video system. In order to utilize the genlock feature, a second video source, a video switcher and the appropriate input/output cables are required. See page 22 for more information.

X/Y Image Positioning

You can zoom in on any specific point on your slide and magnify it up to 6X with the X/Y image positioning system. You can reset your image to the starting position by pressing the home button. This joystick controlled system can be operated remotely by RS-232 control.

Camera Menu Controls

Various settings on the camera can be controlled by using the on screen menu displayed on the monitor. Once you have made your selections they will remain in the camera's memory so it is unnecessary to re-set them each time you use the camera. These functions can also be controlled by a RS-232 control system. See page 16 for more information about using the menu controls.

Electrical System

Power Voltage

AC only! Different power voltages are adjustable via the removable fuse link (120, 220, 230, 240v).

Frequency

50/60Hz

Performance

Approximately 100VA

Fuses

Primary circuit: 1x2A slow blow for 220, 230 and 240v or 1x4A slow blow for 120v.

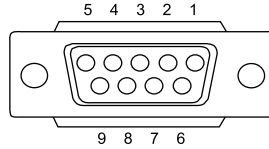
Secondary circuit: 1x2A/26v slow blow. 1x1.25A/10v slow blow.

Supply Voltage for External Units

Provision of 12v/50mA (DC) direct voltage on the 8-pin remote control socket.

RS-232 Connectors and Interfaces

RS-232 Control Port on Video Panel

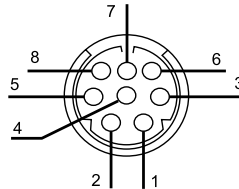


The following pin connections are used for data transmission:

- Pin 2: Transmit data TxD
- Pin 3: Receive data RxD
- Pin 5: Signal ground

8-pin Standard Projector Socket

This 8-pin remote control socket is only to be used for wired or infrared remote control units.



- Pin 1: 12 VDC/50mA
- Pin 2: Ground
- Pin 3: Signal 1 (LSB)
- Pin 4: Signal 2
- Pin 5: Signal 3
- Pin 6: Signal 4
- Pin 7: Signal 5 (MSB)
- Pin 8: Interrupt

Control System

Slide Change Time

0.8 seconds (independent of mains voltage and frequency).

Slide Access Times

Less than 3 seconds for the longest search run.

Quick Start

If you are familiar with both the operation of a 35mm slide projector and your video display, you may follow an abbreviated start-up procedure.

Before starting, review the precautions on page 6.

To “Quick Start” the VideoMate 7500XY, proceed as follows:

1. Check the voltage setting before powering on. Make sure that the setting above the power cord is correct for your voltage. In addition, the fuse behind the voltage settings needs to be checked.
2. Plug the power cable into a suitable power supply.
3. Connect your TV monitor to the Composite Video and/or Y/C (S-Video) or RGB/Sync output connector on the back panel of the VideoMate.
4. If genlocking, connect the external sync cable to the external sync input port of the projector. Skip to number 5 if you are not using genlock.
5. On the menu control panel, set the projector/camera menu control switch to the projector position. Make sure that the green LED is lit. (If the yellow LED is lit, only the menu panel controls will work.)
6. Load the slide tray onto the projector.
7. Turn on the TV monitor and the VideoMate power switch.
8. Advance to the first slide.
9. Press the home position button to center the slide on your screen.
10. Adjust the TV monitor controls and the iris and focus controls on the control panel of the projector to produce a suitable image.

Note: A very dark slide may require readjustment of the iris, but a setting can usually be reached that produces an acceptable display throughout a range of slides.

Installation

To install the VideoMate 7500XY, proceed as follows:

1. Check the voltage setting before powering on. Make sure that the setting above the power cord is correct for your voltage. Also, check the fuse behind the voltage setting to make sure it is correct for your country.
2. Plug in the power cable.
3. Connect the cable to your peripheral equipment (TV monitor, video projector, etc.). The connection for Composite Video or RGB/Sync is BNC and a 4-pin MiniDin for Y/C (S-Video).
4. If genlocking, connect the external sync cable to the external sync input port of the projector. Skip to number 6 if you are not using genlock.
5. If genlocking, follow the procedure on page 22.
6. On the menu control panel, set the projector/camera menu control switch to the projector position. Make sure that the green LED is lit.
7. Load the slide tray and “power-up” all equipment.
8. Press the forward button to advance the first slide.
9. When the projector is powered-up, the factory settings for focus and iris are in the auto gain and auto white balance modes. See the camera set-up section for optional settings procedure.
10. Press the zoom button to select the correct picture size for your presentation.
11. Adjust the iris and focus to produce a satisfactory image. These are toggle controls that change +/- when the button is pushed down.

Loading and Installing the Slide Tray

The VideoMate 7500XY will accept all 80 and 140 Carousel, Ektagraphic and SAV slide trays. We recommend the 80 slide tray for maximum reliability.

1. Check that the base plate of the slide tray, located on the underside on the slide tray, is locked into the zero position and cannot be rotated. (If the base plate is not locked into the zero position, when you try to advance the tray, you will hear the slide advance mechanism working, but the tray will not advance.)
2. Load the slides upside down for normal front projection. Replace and lock the cover to prevent damage in case the tray is dropped or turned over.
3. Place the loaded tray into its zero position on the projector's transport ring. The cleft in the slide tray (zero position) fits into the notch of the transport ring.

Before you switch on the projector, please make sure that the tray setting switch is in the correct position.

Tray Positioning Index Mark

Projectors are often installed on racks where tray installation may be difficult and only possible from the rear of the projector. In this case, the tray positioning index mark on the back of the projector is very helpful: The tray is properly set when the index mark aligns with the mark placed on the tray (at slide #20 of the 80 slide tray and at slide #35 on the 140 slide tray).

Changing Slides

Slides are changed by using the slide forward/reverse button on the control panel.

The VideoMate 7500XY can sense when there is a slide in the gate. Only then will the shutter open and the lamp achieve its optimum brightness. It is no longer necessary to use dark slides when the slide gate is empty.

Changing the Slide Tray

Always lift the slide tray off when it is in the zero position. The zero positioning indicator lights up when the slide transport ring is in the zero position.

Moving the Tray into the Zero Position

Using the slide change button on your projector

Push the slide change button repeatedly to move the tray forward or backward until it stops in the zero position.

Using the Kodak Ektapro IR Remote System RA/LP

Press "0" on the remote control and confirm with the enter key.

Using the power switch

Turn the projector off by the power switch. When the projector is turned on again, it will complete a system check and bring the slide tray back to the zero position.

Using RS-232 Control

The slide tray can also be moved into the zero position using RS-232.

Removing the Slide Tray

In an emergency (such as a transport failure), the tray can be removed from the projector in any position.

1. First, switch off your projector!
2. Push aside the slide tray lock, located in the center of the tray, and hold it while lifting off the tray.
3. Turn the slide tray over and rotate the base plate until it clicks into the zero position. Otherwise, the slide tray cannot be replaced on the projector in the zero position.
4. Turn the projector on again. The slide remaining in the slide gate will be ejected by the slide lift and can be replaced in the slide tray.

Understanding Which Video Output is Best for You

Composite Video

Standard video image quality which is fine for showing pictures of objects on a TV monitor.

Y/C (also known as S-Video and S-VHS)

Improved resolution that is less grainy due to the elimination of dot crawl. Better for presentation of text and graphic slides because words are more defined.

RGB/Sync

Separate red, green and blue signals are output for display on devices that are RGB/Sync capable. This is similar to Y/C in performance, but colors seem more pleasing to the eye.

Note: You can output both Y/C, Composite Video and RGB/Sync simultaneously if you desire.

Adjusting the Zoom Lens

Using the button on the projector's control panel

Press the zoom button until the desired slide magnification is selected.

Using RS-232 control

The zoom lens can also be controlled by RS-232.

Adjusting the Iris and Fine Focus

Using the buttons on the projector's control panel

Press the iris and focus buttons to achieve the correct settings for brightness and focus. These buttons adjust the iris or focus up or down.

Using RS-232 control

The iris and focus settings can be set for the entire presentation or you can program the show and select different settings for each slide.

Adjusting the X/Y Image Position

Using the buttons on the projector's control panel

The X/Y image position can be changed by using the scan joystick on the control panel. You can return to your starting position by pressing the home button.

Using RS-232 control

Use your mouse to click on the arrows to scan your image. The home position returns you to your starting image position.

Using the Menu Controls

To use the on-screen menu control system, follow the procedure below:

1. Turn the power switch to the on position.
2. Locate the projector/camera menu control switch on the menu control panel. Select the camera menu position. The yellow LED will light on the main control panel.
3. Push the DISP button on the menu control panel and a color bar will appear on the screen.
4. Push the DISP button a second time and the index menu will appear.
5. To select the item you would like to change, move the on-screen arrow "→" to the page you want to select by pushing the MENU UP, MENU DOWN buttons. Then push the PAGE button to advance to that page.

To move to from one page a different page, you can push the PAGE button to advance, in order, to the following pages. Or, you can push the DISP button to return to the index menu and select a new page using the MENU UP, MENU DOWN buttons.

6. Please note that there is no automatic way to return to the factory settings once you have made changes.
7. When you are finished making changes, press the DISP button to return to "live" video. Set the projector/camera menu control switch back to the projector position. The green LED will light on the main control panel.

Shutter (menu page 1)

The electronic shutter is factory set and cannot be adjusted.

Shutter factory settings:

```
-- 1 SHUTTER --  
→ MODE           MANU  
   MANU           OFF  
   FLD/FRM       FLD
```

Video Gain (menu page 2)

When the picture image is dark, even if the lens iris is open and the lamp is on, change the gain (video gain) to the proper video level.

Gain factory setting:

```
-- 2 GAIN --  
   MODE           AUTO  
→ MAX GAIN       09dB
```

Changing the maximum gain in AUTO (automatic gain control) mode

When the output is low, the gain is automatically adjusted to a suitable level. To adjust the automatic maximum gain setting, use the DATA UP, DATA DOWN buttons. The gain increases by pushing DATA UP and decreases by pushing DATA DOWN. The maximum gain value ranges from 0dB to 18 dB.

White Balance (menu page 3)

White balance factory settings:

```
-- 3 WHITE BALANCE --  
   MODE           AWB  
→ OFFSET         00  
   AREA           PRESET A  
   AREA DISP      OFF
```

Changing the AWB (Automatic White Balance) mode settings

Automatic white balance (AWB) adjusts white balance by displaying the white object inside the areas set by the AWB menus. Using the MENU UP, MENU DOWN buttons, move the arrow “→” to select either the OFFSET, AREA or AREA DISP mode.

Changing the AWB offset (tint)

1. Set the “→” to OFFSET by pushing the MENU UP, MENU DOWN buttons.
2. Set the offset amount by pushing the DATA UP, DATA DOWN buttons. The tint value ranges from -10 to 10. Red increases by pushing DATA UP and blue increases by pushing DATA DOWN.

Changing the AWB zone area

1. Set the “→” to AREA by pushing the MENU UP, MENU DOWN buttons.
2. Select an area by pushing the DATA UP, DATA DOWN buttons. You have five possible area selections to choose from (PRESET A, PRESET B, PRESET C, PRESET D or the custom selection, USER).



PRESET A



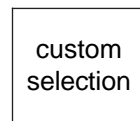
PRESET B



PRESET C



PRESET D



USER

Confirming the contents of the zone area selected by AWB

1. Set the “→” to AREA DISP by pushing the MENU UP, MENU DOWN buttons.
2. Select ON by pushing the DATA UP, DATA DOWN buttons.
3. Push the DISP button to return to the menu.

When USER is selected, a grid with 64 zones will appear on-screen. Each zone can be set to ON/OFF using the following steps.

Uo							

1. Move the “o” to different zones by pushing the MENU UP, MENU DOWN, DATA UP and DATA DOWN buttons. The MENU UP, MENU DOWN buttons move the “o” up or down. DATA UP and DATA DOWN move the “o” to the right or left.
2. Select either ON or OFF for a zone by pushing the PAGE button. When ON is selected, the display “□” appears on the screen. When OFF is selected, “□” turns off.

Do not select OFF for all 64 zone areas or the AWB function will not perform correctly.

3. Push DISP to return to the menu.

Process (menu page 4)

Process factory settings:

→	4	PROCESS	--
→	GAMMA	ON/OFF	ON
	GAMMA		00
	BLACK	GAMMA	NORM
	2D	LPF	ON
	DTL	GAIN	0
	DTL	B. FREQ	NORM
	M.	PED	00

Changing the process mode settings

To select a process mode from the on-screen menu, move the arrow "→" by pushing the MENU UP, MENU DOWN buttons. Once the arrow is set to the item you want to change, you can adjust the settings in that mode by pushing the DATA UP, DATA DOWN buttons.

Changing the gamma correction ON/OFF

1. Set the "→" to GAMMA ON/OFF by pushing the MENU UP, MENU DOWN buttons.
2. Select either ON or OFF by pushing the DATA UP, DATA DOWN buttons.

When ON is selected, the menu will show the GAMMA and BLACK GAMMA selections.

When OFF is selected, GAMMA, BLACK GAMMA and 2D LPF selections disappear from the screen and cannot be selected.

Changing the gamma correction level

1. Set the "→" to GAMMA by pushing the MENU UP, MENU DOWN buttons.
2. Adjust the gamma correction level by pushing the DATA UP, DATA DOWN buttons. The correction amount increases by pushing DATA UP and decreases by pushing DATA DOWN. The correction level ranges from -10 to 10.

When GAMMA ON/OFF is set to OFF, the gamma correction level cannot be adjusted.

Changing the black gamma correction level

1. Set the "→" to BLACK GAMMA by pushing the MENU UP, MENU DOWN buttons.
2. Select the black gamma correction level, LOW, NORM or HIGH, by pushing the DATA UP, DATA DOWN buttons.

Changing the two-dimension low pass filter

(This function is not available in PAL format.)

1. Set the "→" to 2D LPF by pushing the MENU UP, MENU DOWN buttons.
2. Select either ON or OFF by pushing the DATA UP, DATA DOWN buttons.

When ON is selected, the cross noise in VBS output is reduced. Select OFF when using signals other than the VBS output.

(When OFF is selected in the GAMMA ON/OFF line or when DTL OUT ON is selected on the OPTION menu, the display 2D LPF turns off automatically and 2D LPF change cannot be performed. It is set to OFF.)

Changing the detail (outline) gain

1. Set the "→" to DTL GAIN by pushing the MENU UP, MENU DOWN buttons.
2. Set the detail gain by pushing the DATA UP, DATA DOWN buttons. The detail increases by pushing DATA UP and decreases by pushing DATA DOWN. The detail gain level ranges from -5 to 5. At -5, DTL is OFF.

(When DTL OUT ON is selected in the OPTION menu, the display DTL GAIN turns off automatically and DTL GAIN cannot be performed.)

Changing the detail boost frequency

1. Set the "→" to DTL B. FREQ by pushing the MENU UP, MENU DOWN buttons.
2. Use the DATA UP, DATA DOWN buttons to set the detail boost frequency to LOW, NORM or HIGH.

Changing the master pedestal

1. Set the “→” to M. PED by pushing the MENU UP, MENU DOWN buttons.
2. Set the master pedestal by pushing the DATA UP, DATA DOWN buttons. The DATA UP button increases the master pedestal and the DATA DOWN button decreases it. The master pedestal setting ranges from -50 to 50.

When DTL OUT ON is selected in the OPTION menu, the display M. PED turns off automatically and cannot be changed.

*SYNC for
Genlock
(menu page 5)*

Additional equipment required

To use the genlock feature, a second video source, a video switcher and the proper input/output cables are required. We also strongly recommend the use of a vector scope for the best possible results.

When an external sync signal is input, the display mode changes from the factory set INT (internal sync) to EXT (external sync) automatically.

SYNC screen for EXT:

	- 5 SYNC --	
	MODE	EXT
→	H PHASE	00
	SC 0/180	0
	SC PHASE	00

Please note that there is no factory setting for the genlock data. Your external data may appear different from what is shown here, however, adjusting the data is done in exactly the same way.

Changing EXT Settings

To select the item you want to adjust, move the arrow “→” on the left side of the screen up and down by pushing the MENU UP, MENU DOWN buttons. Once you choose an item, you can change the setting by pushing the DATA UP, DATA DOWN buttons.

Adjusting the Horizontal Phase

1. Set the arrow "→" to H PHASE by pushing the MENU UP, MENU DOWN buttons.
2. Adjust the horizontal phase by pushing the DATA UP, DATA DOWN buttons. The values range from -99 to 99, DATA UP will increase the setting towards 99 and DATA DOWN will decrease it towards -99.

Coarse Adjustment of the Sub Carrier Phase

1. Set the arrow "→" to SC 0/180 by pushing the MENU UP, MENU DOWN buttons.
2. Select either 0 or 180 by pushing the DATA UP, DATA DOWN buttons.

Adjusting the Sub Carrier Phase

1. Set the arrow "→" to SC PHASE by pushing the MENU UP, MENU DOWN buttons.
2. Adjust the sub carrier phase by pushing the DATA UP, DATA DOWN buttons. The values range from -99 to 99, DATA UP will increase the setting towards 99 and DATA DOWN will decrease it towards -99.

Option (menu page 6)

Option factory settings:

→	6 OPTION	--
→	OUTPUT1	RGB
	OUTPUT2	VBS
	NEGA/POSI	POSI
	DTL OUT	OFF
	SHADING	OFF
	G SYNC	ON

Use the MENU UP, MENU DOWN buttons to move the arrow "→" to the menu selection you want to set. Then, push the DATA UP, DATA DOWN buttons to adjust the setting.

Changing the OUTPUT1 output

1. Set the “→” to OUTPUT1 by pushing the MENU UP, MENU DOWN buttons.
2. Select either RGB or Y/PR/PB by pushing the DATA UP, DATA DOWN buttons.

When Y/PR/PB is selected, the display G SYNC turns off automatically and cannot be changed.

Changing the OUTPUT2 output

1. Set the “→” to OUTPUT2 by pushing the MENU UP, MENU DOWN buttons.
2. Select either VBS or Y/C by pushing the DATA UP, DATA DOWN buttons.

Changing the Negative/positive inversion switch

1. Set the “→” to NEG/POS1 by pushing the MENU UP, MENU DOWN buttons.
2. Select either NEGA (negative) or POS1 (positive) by pushing the DATA UP, DATA DOWN buttons.

Changing the detail signal output

1. Set the “→” to DTL OUT by pushing the MENU UP, MENU DOWN buttons.
2. Select either ON (only the detail signal is output) or OFF (video signal output) by pushing the DATA UP, DATA DOWN buttons.

Changing the shading

1. Set the “→” to SHADING by pushing the MENU UP, MENU DOWN buttons.
2. Select either ON or OFF by pushing the DATA UP, DATA DOWN buttons.

When ON is selected, the automatic shading correction can be performed by the MENU UP button.

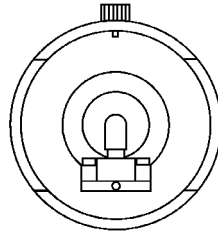
Changing the G SYNC

1. Set the “→” to G SYNC by pushing the MENU UP, MENU DOWN buttons.
2. Select either ON or OFF by pushing the DATA UP, DATA DOWN buttons.

Replacing the Lamp

Use a General Electric 787 (6 volt, 10 watt) lamp or its equivalent (Navitar part # 9-12126).

1. Turn the power switch off and allow the lamp to cool before handling.
2. Loosen the cover lock screw two turns. Rotate the cover counterclockwise and remove.
3. Remove the old lamp by pulling it straight up. Do not twist the lamp or the glass envelope may shatter.
4. Insert the new lamp carefully.
5. Remove any fingerprints from the lamp envelope.
6. Replace the cover and tighten the lock screw.



Replacing Fuses

Always switch off the projector and unplug the mains lead before replacing fuse!

To avoid the risk of fire, replace only with a fuse of the same type and rating.

Fuses

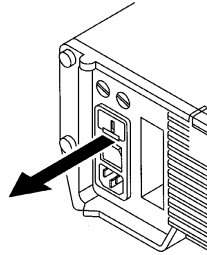
Primary circuit: 1x2A slow blow for 220, 230 and 240v or 1x4A slow blow for 120v.

Secondary circuit: 1x2A/26v slow blow. 1x1.25A/10v slow blow.

The electric circuits in your projector are protected by three fuses which you can replace yourself.

To replace primary circuit fuses, proceed as follows:

1. Pull out the fuse link compartment by gripping the small catch.
2. Replace the defective fuse.
3. Push the fuse link compartment back into the projector. Do not change the position of the fuse holder when reinserting it into the projector.

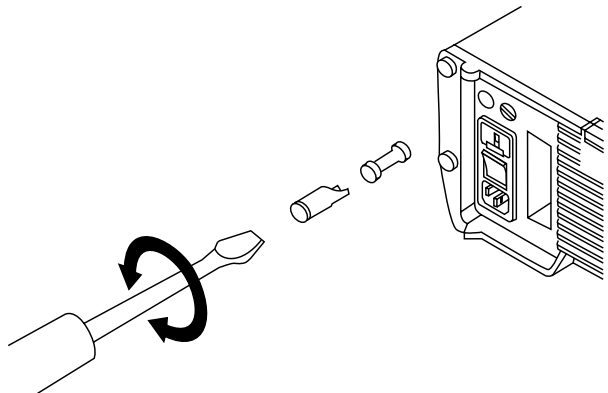


Replacing Secondary Circuit Fuses

Please note that these fuses are different!

Two secondary fuses protect the projector against damage caused by overloading the projector's remote socket.

1. Turn the fuse carrier counterclockwise with a screwdriver or coin.
2. Replace the defective fuse.
3. Screw the carrier, clockwise, back into position.



SYMPTOM	CAUSE/REMEDY
The projector is not operable after switching the power on	<p>On the menu control panel, make sure that the camera control/projector control switch is in the projector position.</p> <p>Is a fuse (primary or secondary) blown? Check the fuses and replace them if necessary.</p> <p>Users in the U.K. should check 13A plug.</p>
The slide tray does not fit on the transport ring.	Is the slide tray transport ring, on the underside of the tray, in the zero position? Either press the slide change buttons until the tray stops in the zero position or switch the projector off and on again so that it indexes to the zero position.
The slide tray cannot be moved.	Is the slide tray placed correctly on the transport ring? Lift the tray off, switch the projector on and off again then replace the tray.
The red LED is flashing and all functions are blocked (after switching on or during operation).	<p>Is a slide jammed in the gate? Switch the projector off and lift off the slide tray. Remove the slide from the gate. Rotate the base plate until it locks into position, replace the tray and switch the projector back on.</p> <p>Is the slide tray base plate in the zero position? Switch the projector off, lift off the slide tray, rotate the base plate until it locks into position, replace the tray and switch the projector back on.</p> <p>Is the slide tray base bent? Try using a new slide tray.</p> <p>Is the tray setting switch set correctly? Switch the projector off, lift off the slide tray and rotate the base plate until it locks into position. Set the tray setting to the correct position, then replace the tray and switch the projector back on.</p>
There is no image on-screen.	<p>Is all of the equipment "powered-up?" Check all of the electrical outlets and equipment power switches.</p> <p>Are the cables or connectors bad?</p> <p>Is the lamp blown?</p> <p>Is the auto focus lamp flashing? Try resetting the power.</p>
The image is too dark or too light.	<p>Is the illumination level adequate? Set the iris (I) as required.</p> <p>Is the monitor adjusted correctly?</p>
The image is not sharp.	<p>Is the focus adjusted properly?</p> <p>Is the illumination level too high? Set the iris (I) as required.</p> <p>Is the motor adjusted correctly?</p> <p>Are you using the correct grade of cables? They should be "grounded shield video" grade, 75OHM.</p>

Camera

Pick-up Device	1/3" interline transfer CCD (3)
Pixel Count	NTSC 768 (H) x 494 (V) x 3 PAL 752 (H) x 582 (V) x 3
Signal System	NTSC standard (PAL optional)
Horizontal Resolution	750 TV lines (NTSC & PAL)
Sensitivity	F8 (2000Lux), 3200K° color temperature
Genlock	Yes, fine and coarse chroma and H-phase adjustment
S/N Ratio	62dB standard

Projector

Model Number	VM-7500 _{XV} /VM-7500 _{XYP}
Power Consumption	Approximately 100 watts
Power	100-240 volts, 60 Hz/50Hz
Projector Lamp	6 volt, 10 watt Halogen GE 787 or equal
Slide Projector	Modified Kodak Ektapro
Lens	6X Motorized
Iris/Focus Controls	Motorized
Slide Tray Capacity	Kodak 80 or 140 slide tray
Controls/Manual	On/off, forward/reverse, zoom in/out, focus, iris, X/Y image positioning, home
Remote Operation	RS-232 Control for all projector, camera, lens & X/Y image positioning functions including: power, forward/reverse, zoom in/out, focus, iris, stand-by, random access, white balance, iris gain, etc.
Camera Connectors	BNC - Composite Video, RGB/S & genlock. 4-pin MiniDin - Y/C (S-Video)
Dimensions	Length 18" Width 14 ½" Height 11 ½" Weight 42 lbs.
Video Cables (optional)	Model 8-11113, 12 foot, S-Video cable Model 1-11787, 12 foot Composite Video cable (BNC-BNC)

5 Years Parts/ 5 Years Labor

This product is warranted to be free from defects in material and workmanship for a period of five years from the date of invoice to the original purchaser.

If during the warranty period the product is found to be defective, it will be repaired or replaced at the facilities of Navitar. However, Navitar reserves the right to refund the purchase price if the replacement or repair is not commercially practical or timely. Parts not manufactured by Navitar carry only the warranty of their manufacturer. Lamps and fuses carry no warranty.

This warranty does not cover damage caused in transit; damage caused by misuse, neglect or carelessness; or damage resulting from either improper servicing or modification by someone other than Navitar. Further, this warranty does not cover any routine maintenance work that is reasonably expected to be performed by the purchaser.

No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of Navitar.

For service, repair or return procedures under this warranty, contact your distributor, your local Navitar field officer or Navitar direct at (716) 359-4000 or (800) 828-6778 in the United States.

Except as stated herein, Navitar makes no other warranties, expressed or implied by law, whether of merchantability, fitness for a particular purpose or otherwise. Further, Navitar shall not, under any circumstances, be liable for incidental, consequential or other damages.

This warranty applies only to those original purchasers (non-dealers) returning the product warranty card within 30 days of purchase date. For purchasers who do not return the warranty card within 30 days, or for items sold to dealers for their own use or rental use, our standard 90 day parts and 1 year labor warranty will apply.

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