MicroImage PIX/2

Models PX100EX, PX300EX, PX100BW

Instruction Manual

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Contents

Features

- PX100EX and PX300EX are designed specifically for color cameras
- Provides horizontal and vertical split screens between two color cameras
- Uses standard connectors and cables for easy interface to cameras
- Provides a front panel phase control for precise color balance between cameras (EX units only)
- Provides a front panel setup control for camera B to match brightness between cameras
- High temperature stability to minimize drift
- Clamped video signals to reduce errors due to contrast changes

Unpacking Instructions

The MicroImage PIX-2 system consists of:

MicroImage PX100EX (NTSC), PX300EX (YC) or PX100BW (B&W) unit
Detachable 3 wire power cord
This Instruction Manual

Unpack all items carefully.

Inspect unit to make sure that there was not any shipping damage. If there was shipping damage, call MicroImage Video Systems *Immediately*. Do NOT connect unit to power if damaged.

Installation

Plug power cord into POWER connector on rear of unit.

Plug power cord into 120 VAC 60Hz AC power.

Turn on power switch. Green power light in switch should come on.

If everything is OK, go to the next step. If something is wrong, recheck connections.

Connect unit as specified in the ***Video Connections*** section of this manual.

Video Connections

The PIX/2 model PX100EX is designed to work with NTSC color video cameras that have a Genlock input. The model PX300EX is designed to work with color video cameras that have a YC (S-Video) output and a Genlock input. Camera connections are made via two cables (one for each camera) and another BNC to BNC cable to carry Genlock to camera B. The PX100EX provides an NTSC output while the PX100BW provides a B&W output. The PX300EX provides a YC output and generates an NTSC video output derived from the YC signal. Generating NTSC Video from YC maintains excellent phase characteristics between camera A and camera B.

Camera Connections

Decide which camera should be camera A and which should be B. Connect an appropriate cable from the output of camera A to the camera A input on the PIX/2. Connect an appropriate cable from the output of camera B to the camera B input on the PIX/2. Connect a BNC to BNC cable from the GENLOCK connector on the PIX/2 to the Genlock input connector on Camera B. If there are Genlock termination switches on the cameras, place **both** in TERM or 75 Ω position. If the Genlock signal is connected to camera A, a very strange unstable picture will result.

Connect the camera power supplies to the cameras following the camera manufacturer's instructions.

NTSC/B&W Output

Connect a BNC cable from the NTSC OUT connector on the Split Screen Controller to the VIDEO IN connector on the monitor. If this is the only monitor being used, place the TERM switch in TERM or 75 Ω position.

If a second monitor is being used, please consult the monitor manual for proper looping and termination procedures. Not all monitors terminate the same way. Some monitors do not have looping capability, in this case a Video Distribution Amplifier will be required. An improperly terminated monitor will result in a degraded picture.

YC Output

Connect a YC (4 pin to 4 pin) cable from the YC OUT connector on the Split Screen Controller to the YC IN (S-Video) Connector on the monitor. If only one YC monitor is being used, place the YC TERM switch in TERM or 75Ω position.

If a second YC monitor is being used, please consult the monitor manual for proper looping and termination procedures. Not all monitors terminate the same way. Many monitors do not have looping YC capability, in this case a YC Distribution Amplifier will be required. An improperly terminated monitor will result in a degraded picture.

VCR Connections

The NTSC and YC signals may be recorded on videotape. High resolution VCRs such as the S-VHS type will give higher quality recordings than standard VCRs. Use of the YC signal with these VCRs will provide the highest resolution.

NTSC/B&W

Connect cameras as described in the ***Camera Connections*** section under the ***Video Connections*** heading.

Connect a cable from the NTSC OUT connector of the Split Screen Controller to the VIDEO IN connector on the VCR. Note that adapters or special cables may be required.

Connect a cable the VIDEO OUT connector of the VCR to the Video or NTSC INPUT connector of an NTSC monitor as described in the VCR instruction manual.

DO NOT connect the above signals to the Antenna or ANT connectors on the VCR.

YC

Connect cameras as described in the ***Camera Connections*** section under the ***Video Connections*** heading.

Connect a YC (S-Video) cable from the YC OUT connector on the Split Screen Controller to the S-Video INPUT connector on the VCR. Note that a VCR with YC capability such as an S-VHS VCR must be used.

Connect a YC (S-Video) cable from the S-Video OUTPUT connector on the VCR to the YC or S-Video INPUT connector on a YC monitor as described in the VCR instruction manual.

If the VCR has a switch to select NTSC(Video) or S-Video, place the switch in the S-Video position. See the VCR operation manual for more information.

NOTE: The above VCR connections are for recording the Split Screen Controller image on the video tape.

Initial Calibration

To obtain maximum performance, the PIX/2 must be calibrated to the cameras in the typical operating environment. The procedure is simple and only takes a few minutes.

Allow cameras and Pix/2 to warm up for 10 minutes minimum.

Turn both the A and B switches to the OFF position (LEDs off).

Adjust the position control to the approximate center of the range (slot up and down).

> The screen should now be split in the middle with camera A at the top and camera B at the bottom. If not, recheck switch settings.

Cover the lens of each camera or use a TOTALLY DARK field and adjust the B SETUP control to match the black level of camera B to that of camera A.

For color units, place identical color material in the field of view of each camera. Adjust the B Phase control to match the color of camera B to that of camera A.

End of initial calibration.

NOTE: NO TWO CAMERAS LOOK EXACTLY THE SAME! When two cameras (regardless of manufacturer) are displayed on the same screen, slight differences are VERY noticeable. Cameras manufactured a long time apart from each other may have wider variation than two cameras built on the same run. Even expensive Broadcast cameras can suffer from this problem. MicroImage Video Systems puts much effort into precise camera setup, however even a difference of a few percent is easy to spot with a split screen.

Operating Instructions

When the screwdriver adjustable controls are properly set, they normally don't require readjustment during normal operation. However, the controls are long life, sealed units that will not be harmed by frequent changes. Below is a description of the switch and control operation.

Camera Select Switches

The Split Screen Controller has two switches on the front (besides the power switch). These are labeled A and B and are used to select the screen modes. Each switch also has an LED to provide positive indication of the switch position. The following four modes are available:

Switch A on, B off - This combination will display only camera A full screen. The split mode is turned off.

Switch B on, A off - This combination will display only camera B full screen. The split mode is turned off.

Both switches on - This will place a vertical split on the screen dividing it into left and right sections. Camera A will be displayed on the left side. (See Note about ***CR option*** below)

Both switches off - This will place a horizontal split on the screen dividing it into top and bottom sections. Camera A will be displayed on the top part. (See Note about ***CR option*** below)

CR Option: If the CR option is ordered with the PIX/2, this switch combination will cause camera B to be displayed in the lower left corner. The position control will adjust the size of the box.

Note: The position control (described below) adjusts the split position. If the control is turned all the way in one direction, the split may not be evident.

Split Position Control

The split position control is an adjustment which controls the location of the split. The adjustment range is very wide and will typically go beyond the edges of the screen. The control is linear so when the control is in the center, the split will also be very close to the center.

B Setup Control

The B setup control is a brightness control for camera B. It is used to match the brightness level of blacks in the B camera to the brightness level of blacks in the A camera. This control is also screwdriver adjustable and usually only needs to be set once when the system is installed.

B Phase Control

The B phase adjustment is used to match the phase (or hue) of the B camera to that of the A camera. The control provides greater than 360 degrees range without the use of switches. This control is a screwdriver adjustable control and typically only needs to be adjusted once after installation. It may also need to be adjusted if the length of the camera cables is changed. This control should be adjusted with both cameras focused on similar source material (i.e. of the exact same color)

Note: This control is not present on the PX100BW.

Operation with a VCR

For normal use, the Split Screen Controller and the VCR may be left connected. However, both the Split Screen Controller and the VCR (along with any other connected equipment) must have their power turned on in order to see a proper camera image on the video monitor. For camera operation without the Split Screen Controller image, press the display switch to turn off the Split Screen Controller display. A recording can then be made without the Split Screen Controller image. If the VCR is connected properly, it should pass the camera (and Split Screen Controller image) just as if the VCR was not connected. If PLAY is pressed on the VCR, then you should see the video tape picture instead of the current camera image.

The exact procedure for recording and playing tapes on a VCR varies between different models. It is impossible to describe all the methods here. Please refer to your VCR operation manual BEFORE calling MicroImage Video Systems. If calling MicroImage Video Systems for assistance on VCR connection problems, please have the VCR operation manual handy. Manuals for other equipment are also good to have at hand. Not all VCR related problems are the VCR.

Precautions

DO NOT open unit. Lethal voltages are present inside. Refer servicing to authorized personnel.

DO NOT connect camera(s) while unit is turned on. Damage to the Split Screen Controller and/or the camera(s) may result.

DO NOT allow water or moisture to enter unit. Injury and/or damage may result.

Connect unit only to 110-125 VAC 50/60Hz.

Clean unit with only a mild cleaner. Strong cleaners may damage the finish. When cleaning, dampen a soft cloth and then wipe unit. NEVER spray cleaner directly into any electronic product. A lethal or severe shock may result!

Please put all manuals for a system in a safe place where they are easily found.

In Case of Difficulty

1 - No Picture:

1) Check all connections.

2) Make sure power is connected and unit is turned on. Power light should be illuminated. If power lamp does not come on and power is applied, return the unit to MicroImage Video Systems for repair. (Call for RMA number first)

3) Make sure power is applied to both cameras or signal is present from both cameras.

4) Check beam splitter on microscopes or lens covers.

2 - Picture on one side of screen:

1) No video input to either A or B.

3 - Non-Locking picture on right side or bottom of picture:

1) No genlock on B.

Technical Assistance

WORLD VIDEO SALES CO., INC.
P.O. Box 331
Boyertown, PA 19512
Attention: Customer Service
Phone: (610) 754-6800

Specifications

Input Levels:	
NTSC/B&W	1.0 Vpp, 75 Ω
YC	1.0 Vpp (Y), 75 Ω 0.286 Vpp Burst Level (C), 75 Ω
Output Levels:	
NTSC	Same as respective input ±5% into 75 Ω
YC	Same as respective input ±5% into 75 Ω
Genlock	Sync - 286mVpp, Burst - 286mVpp
Gain Matching (camera A to B):	±3%
Bandwidth:	Greater than 15Mhz
Split Adjustment range:	Greater than 90% of picture area
Connectors:	
Camera inputs (YC)	4 pin mini-DIN Female (Std. S-Video conn.)
Camera Inputs (NTSC/B&W)	BNC Female
B Genlock	BNC Female
NTSC out	BNC Female
YC out	4 pin mini-DIN Female (Std. S-Video conn.)
Temperature:	
Operating	0° ~ 40° C (32° ~ 104° F)
Storage	-40° ~ 60° C (-40° ~ 140° F)
Humidity:	
Operating	10% ~ 90% (noncondensing)
Storage	0% ~ 95% (noncondensing)
Power:	
Voltage	110 ~ 125 VAC 50/60 Hz
Consumption	25W max.
Size	11.6(W) x 10.2(D) x 2.5(H) 295mm(W) x 259mm(D) x 63.5mm(H)
Weight	7 lbs, 3.175Kg

Specifications are subject to change without notice.

MiroImage Video Faders

MicroImage Video Camera Systems

MicroImage Video Pointers

MicroImage Timer / Titlers

MicroImage Fixed Pattern Generators

MicroImage CrossLine Generators

MicroImage Video Distribution Amplifiers (VDA)

MicroImage Video Passive Switch Boxes

CABLES

CAB11003	3 ft BNC to BNC Cable
CAB11006	6 ft BNC to BNC Cable
CAB11012	12 ft BNC to BNC Cable
CAB11025	25 ft BNC to BNC Cable
CAB12006	6 ft S-Video (YC) Cable
CAB12012	12 ft S-Video (YC) Cable
CAB12020	20 ft S-Video (YC) Cable
CAB14006	6 ft BNC to RCA Cable

MicroImage Camera adapter cables. Call MicroImage Video Systems for information regarding specific part numbers for different MicroImage cameras.

Call MicroImage Video Systems to check availability of cables not listed above.

All above items may be ordered from your MicroImage Video Systems Dealer.

World Video Sales Co., Inc. warrants that each MicroImage PIX/2 is free of defects due to faulty materials or improper workmanship. World Video Sales Co., Inc. further warrants that any part which proves defective in materials or workmanship within one year, will be replaced or repaired at no cost to the user. Labor to replace defective parts will be done without charge, provided the equipment is returned to World Video Sales Co., Inc. prepaid, insured and properly packaged. Prior return authorization must be obtained from World Video Sales Co., Inc.

NOTE

This warranty covers the MicroImage PIX/2 only.

CONDITIONS

This warranty is void if the warranted part has been altered or subjected to abuse or misuse. Defective parts must be returned to World Video Sales Co., Inc.

SOLE WARRANTY

This Warranty is in lieu of all other warranties expressed or implied including, without limitation, any implied warranty or any implied warranty of fitness for a particular purpose. World Video Sales Co., Inc. shall have the final right to determination as to the existence and cause of any defect and its appropriate adjustment in accordance with the terms of this warranty. In no event shall World Video Sales Co., Inc. be liable for any consequential or collateral damages.

Please call for a RMA Number before returning any product.

World Video Sales Co., Inc.
625 Hoffmansville Road
Suite 3
Bechtelsville, PA 19512
Attention: <RMA #>
Phone: (610) 754-6800