1   Quick Start Guides

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Welcome to the Quick Start Guides for your Phantom camera.

The Quick Start Guides in this section are designed to provide a quick introduction on using a Phantom camera with the Phantom Camera Control application, Touch-Sensitive LCD Screens, and On-Camera Control Buttons. They are intentionally kept brief so that you can start using your camera as quickly as possible. The objective of these Quick Start Guides is not to teach you every single detail of the Phantom Camera Control applications, Touch-Sensitive LCD Screens, or On-Camera Control Buttons, but familiarize you with the basic procedures necessary to use your camera.

1.1 Phantom Cameras via Phantom Camera Control (PCC) Application

This Quick Start Guide aims to provide 6 easy steps to get started using your Phantom camera.

For full details on the procedures described in the guides, please refer to the Phantom Help Files>Phantom Camera Control section.

STEP-BY-STEP PROCEDURES

▼ Pre-Installation Check

The Phantom cameras have a few requirements, which must be met before you are able to use it.

1. The Phantom Control Unit must have either the Microsoft Windows NT, Window XP Pro, VISTA Business Edition or Windows 7 operating system installed.
2. The Phantom Control Unit's Firewalls must be turned off. (Contact your IT Group if necessary.)
3. The Phantom Control Unit must be set to IP Address: 100.100.h.h; (where h.h is a unique host identifier, i.e., 100.100.100.1) with a Sub-network Mask set to: 255.255.0.0.

   For step by step instructions to change IP Address, go to: Changing IP Address on the Phantom Control Unit.

▼ Connecting Camera and Controller Unit Operation

1. Connect the Power Supply to Phantom camera.
2. Connect the Ethernet cable to Phantom camera and the Phantom Control Unit.
3. Connect Capture Cable to Phantom camera.
4. If using an external trigger, connect it to Trigger BNC, (Red), of the Capture Cable.
5. Attach the lens to the Phantom camera.
6. Boot Up the Phantom Camera Control Software on Phantom Control Unit, then
7. Wait for the "Ethernet Connected" message window to appear just above the Phantom Control Unit's Taskbar.
8. Setup and record a cine file, (image data).

▼ Capturing Video via the Phantom Camera Control Application

1. If the Manager Control Panel is not the active dialogue window,
2. Click on the Manager tab, then
3. Double mouse-click on the Phantom camera to be used to record with from the Cameras Group.
4. Open the Live Control Panel by clicking on the Live tab.
5. Under Cine Settings define the:
   a. Set the Resolution, 800x600 by selecting the option from the pull-down selection list.
   b. Sample Rate, (also referred to as the Frame Rate or Recording Rate), i.e., 200pps by selecting the option from the pull-down selection list.

    c. Set the Exposure Time to the maximum available in the selectable pull-down list.

    d. Set the EDR, (Extreme Dynamic Range) exposure time to zero (0) by selecting the option from the pull-down selection list.

    e. Post Trigger to one (1) by:

        1) Enter a 1 into the Post Trigger entry field, alternatively

        2) Move the Trigger Position slider to the right.

5. Under Advance Settings set the External Sync>Sync Imaging parameter to Internal by selecting the option from the pull-down selection list.

6. Click on the Camera Settings selector, and

7. Click on the CSR button to perform a Current session Reference.

8. Using the Toolbar icons, click on the Zoom Actual Size, , icon.

9. View the preview image in selected Phantom camera's Preview Panel, and adjust the Resolution, Sample Rate, and Exposure Time for optimum viewing.

NOTE

The Live Status display is active indicating the camera is Preview Mode and is not recording any image data.

    10. Click on the Capture button to put selected Phantom camera into Record Mode.

NOTE

The Live and Rec Status displays are both active indicating the camera is still in Preview Mode and is also in Record Mode, (capturing image data).

    11. Trigger the Phantom camera, to stop recording, using any of the methods below:

    a. Click on the Trigger or Stop Recording button, alternatively

    b. Provide a switch closure or an external trigger signal, (a TTL pulse), to the Trigger BNC connector of the Capture Cable.

    12. Playback the recorded cine, (image data), file.

▼ Playback Operation

1. Open the Play Control Panel by clicking on the Play tab.

2. Use the Playback controls to view recorded images:

fast reverse   fast forward

reverse   stop/pause   forward

reverse 1 image   forward 1 image

3. Edit the record cine file:

   a. Locate the first image of the cine file to be saved,and

   b. Click on the Mark-In [button.

   c. Locate the last image of the cine to be saved, then

   d. Click on the Mark-Out] button.

4. Click the Mode button, and

   a. Select, (check), Limit to Range.

   b. Deselect, (uncheck), Repeat.

5. Playback the preferred, (edited), cine.

6. Save, (download), the edited cine to the hard drive of the Phantom Control Unit.

▼ Save Cine File to the Controller Unit

1. After completing the Playback Operations procedure,

2. Click the Save Cine... button at the bottom of the Play Control Panel.

3. In the Save Cine dialogue window:

   a. Create a Windows Folder to store the cine file(s) into.

   b. Enter a distinct/unique file name for each cine file in the File name: entry field.

   c. From the Save as type pull-down selection list select the Cine Raw, *.cine file format.

   d. Click the Border Data... button, (optional), and select the desired information to be displayed.

   e. Click the Save button to begin downloading the cine file from the Phantom camera to the Phantom Control Unit's hard drive.

4. Ensure the cine file you just downloaded, has been stored in the Phantom Control Unit, and is not corrupted before deleting the cine file from the camera:

   a. Click on the Cine Menu, and

   b. Select the Open File command.

   c. In the Open Cine dialogue window:

      1) Navigate to the Windows Folder containing the cine file you just downloaded.

      2) Highlight the cine file to be opened.

      3) Click the Open button.

   d. From the Play Control Panel, play the saved cine file.

▼ Get Ready to Record Again

After ensuring the cine file you just downloaded, has been saved to the Phantom Control Unit's hard drive, and was not corrupted:

1. Via Manager Control Panel:

   a. Open the Manager Control Panel by clicking on the Manger tab.

   b. Highlight the recorded cine file under the selected Phantom camera, then

c. Click the Remove From Tree button to erase the image data stored in the camera's DRAM.

d. Click the OK button when the "Delete all cines from camera?" warning message appears.

RESULT: Camera is now in Live Mode as indicated by the Live Status displays below the selected Phantom camera's Preview Panel.

2. Via Live Control Panel:

a. Open the Live Control Panel by clicking on the Live tab.

b. Click on the Capture button.

c. Click the OK button when the "Delete existing RAM cines and proceed to new recording?" warning message appears.

RESULT: Camera is now in Live Mode as indicated by the Live Status displays below the selected Phantom camera's Preview Panel.

3. Go back and follow directions for Capturing Video via the Phantom Camera Control Application and Playback Operations.

IMPORTANT OPERATIONAL NOTES

1. Do NOT disconnect the Ethernet cable from the Phantom Control Unit or the Phantom camera while in operation. If the Ethernet connection is disrupted, the camera may lock up. Be sure to close the Phantom Camera Control application completely on the control unit before disconnecting the Ethernet cable.

2. ALL images will be LOST in camera if power to the camera is removed.

3. Insure the lens is clean before recording.

RELATED PROCEDURE

▼ **Changing IP Address on the Phantom Control Unit**

1. Click the Start button in the Windows Taskbar, then

2. Open the Control Panel.

3. Double-click on the Network Connections option.

4. In the Network Connections window:

a. Right-mouse click on appropriate Ethernet Connection, then

b. Select the Properties command.

5. In the connection's Properties dialogue window:

a. Highlight the Internet Protocol (TCP/IP) option, then

b. Click the Properties button.

6. In the Internet Protocol (TCP/IP) Properties dialogue window:

a. Enable the "Use Follow IP Address automatically" radial button.

b. Enter   IP Address :   100.100.100.1
            Subnet: 255.255.0.0

c. Click OK.

7. Close all open windows and return to Pre-Installation Check.

1.2   Phantom Cameras via Phantom Control (Legacy) Software

Welcome to the Quick Start Guide for the Phantom camera. This Quick Start Guide aims to provide 7 easy steps to get started.

For full details on the procedures described in the guides, please refer to the Phantom Help Files>Phantom Camera Control section.

▼ **Pre-Installation Check**

The Phantom v-Series cameras have a few requirements, which must be met before you are able to use it.

1. Controller Unit must have Windows NT, Window XP Pro, or VISTA Business Edition.
2. Controller Unit Firewalls must be turned off. (Contact IT Group if necessary.)
3. Controller Unit TCP/IP must be set to IP Address: 100.100.h.h; (where h.h is a unique host identifier, i.e., 100.100.100.1 with a Sub-network Mask set to: 255.255.0.0).

   For step by step instructions to change IP Address, go to "Changing IP Address on Controller Unit" in this topic.

▼ **Connecting Camera and Controller Unit Operation**

1. Connect Power Supply to the camera.
2. Connect Ethernet to camera and Controller Unit.
3. Connect Capture Cable to the camera.
4. Attach the lens to the camera.
5. If using an external trigger, connect to "Trigger" BNC cable (Red),
6. Boot Up Phantom Camera Control Software on Controller Unit.
7. Wait for a notice on the Dialog Box " Ethernet Connected".

▼ **Capturing Video - On Phantom Software**

1. Click Acquisition, then
2. Select the Setup and Recording command.
3. In the Setup and Recording dialogue window, then:
   a. Set the Resolution, i.e., 800x600. (Selectable Pull Down Menu)
   b. Set the Sample Rate, (Recording or Frame Rate), i.e., 200pps. (Selectable Pull Down Menu)
   c. Set the Exposure to Maximum. (Selectable Pull Down Menu)
   d. Set the EDR to Zero. (Selectable Pull Down Menu)
   e. Set the Post Trigger to 1. (Selectable Pull Down Menu)
   f. Set the Zoom to 1. (Selectable Pull Down Menu)
   g. Set the Sync mode to Internal. (Selectable Pull Down Menu)
4. View images on Control Unit Screen and adjust Resolution, Sample Rate and Exposure for optimum viewing.

NOTE

"Preview Waiting for pre-trigger" (Camera is NOT in RECORD Mode. It is in PREVIEW Mode).

    11. Click the Capture button to place the camera into the Capture, (Record), mode.

NOTE

Dialog Box Reading (On the bottom of Screen) indicates "Preview Recording Cine 1 ... Waiting for trigger"

    12. Click the Trigger button in the Setup and Recording dialogue window, or use External Trigger to trigger camera and end recording.

    13. Click "OK" button to go to Playback Mode.

▾ Playback Operation

1. Use Playback controls to view recorded images, (forward, fast forward, reverse, etc)
2. Use "Mark Begin" and "Mark End" to select preferred video images.
3. Check "Endless Loop" button and "Limit to Range" to playback preferred video segment.
4. Use "Save" to download to the Phantom Unit.

▾ Downloading Videos to Control Unit

1. Make a Windows Folder to Store videos.
2. Select a distinct/unique file name for each video.
3. Click the Border Data button, (Optional), to save border data on video.
4. Click the Save button to begin downloading from the camera to the Phantom Control Unit.
5. Make sure the file is stored in Phantom Control Unit. (Check the Windows directory before erasing video from Command!)

▾ Get Ready to Record Again

1. Click the Close button
2. Click on the Acquisition>Setup and Recording command.
3. Click on the Capture button.
4. Click the Delete Cine and Start New Recording button.(Are sure that the video has successfully been downloaded to Windows directory?)
5. Camera is now in Capture, (Recording), Mode. ("Preview Recording Cine1 … Waiting for Trigger" is visible in Dialog Box at the bottom.)
6. Go back and follow directions for Recording and Playback.

IMPORTANT OPERATIONAL NOTES

1. Do NOT disconnect the Ethernet cable from the Phantom Control Unit or the Phantom camera

while in operation. If the Ethernet connection is disrupted, the camera may lock up. Be sure to close the Phantom Camera Control application completely on the control unit before disconnecting the Ethernet cable.

2. ALL images will be LOST in camera if power to the camera is removed.

3. Insure the lens is clean before recording.

RELATED PROCEDURE

▼ **Changing IP Address on Controller Unit**

1. Click Start in Windows.
2. Click My Network Places.
3. Click View My Network Connection.
4. Right click on the appropriate Ethernet Connection, then
5. Click Properties.
6. Select the "Use the Following IP Address" radial button, then
7. Enter   IP Address :   100.100.100.1
            Subnet: 255.255.0.0
8. Click OK.
9. Close all windows and return to Pre-Installation Check.

1.3 Phantom Miro Touch-Sensitive LCD Cameras

This Quick Start Guide aims to provide 6 easy steps to get started using your Phantom Miro cameras using the "Touch-Sensitive" LCD Screens.

For full details on the procedures described in the guides, please refer to the Phantom Help Files> Phantom Miro Control via "Touch-Sensitive" LCD Screens section.

STEP-BY-STEP PROCEDURES

▼ Power Up the Phantom Camera

1. Connect Capture Cable to Phantom camera.

2. If using an external trigger, connect it to Trigger BNC, (Red), of the Capture Cable.

3. Attach the Power Supply connector to the Phantom Miro camera, then

4. Apply AC Power to the Power Supply Adapter.

5. Hold the Power-On/Trigger button in, on the Phantom Miro camera for approximately 2 seconds, then

6. Release the Power-On Trigger button.

NOTE

The start-up process takes approximately 15-seconds to complete. Once completed the camera will be placed into the LIVE PRE, (Live Preview), Mode.

▼ Prepare the Camera to Record a Cine File

1. From the LIVE PRE Display Screen:

   a. Set the Resolution:
      1) Press directly on the Resolution field to select the field.
      2) Pressing directly on the value a second time increases the value.
      3) Pressing approximately 1/3 the screen height above the value to decrease the value.
      4) Repeat until the desired value is displayed.

NOTE

The Resolution of a Phantom Miro 1 is fixed at 640x480, and con not be changed.

   b. Set the Sample Rate:
      1) Press directly on the Sample Rate field to select the field.
      2) Pressing directly on the value a second time increases the value.
      3) Pressing approximately 1/3 the screen height above the value to decrease the value.
      4) Repeat until the desired value is displayed.
   c. Set the Exposure Time:

1) Press directly on the Exposure field to select the field.

2) Pressing directly on the value a second time increases the value.

3) Pressing approximately 1/3 the screen height above the value to decrease the value.

4) Repeat until the desired value is displayed.

2. Perform a Black Reference Calibration:

   a. Cover the lens with the lens cap.

   b. If not already in the Power Off Display Screen, gently tap on the Phantom logo to access the Power Off Display Screen.

   c. From the Power Off Display:

     1) Press the BREF (Black Reference) selector.

NOTE

The Black Reference adjustment process should be performed whenever your camera settings are changed.

3. Perform a White Balance Adjustment (Color Cameras Only):

   a. Point the camera at a white object.

   b. Align the object to center of the frame.

NOTE

Ensure that the area to calculate the White Balance adjustment on is not saturated and is completely over a white reference.

   c. If not already in the Power Off Display Screen, gently tap on the Phantom logo to access the Power Off Display Screen.

   d. In the Power Off Display Screen:

     1) Gently press the WBAL (White Balance) selector.

     2) Examine the display, if you need to perform a White Balance again, simply repeat the process until you are satisfied.

NOTE

The White Balance adjustment process should be performed whenever lighting conditions change.

     3) Gently press on the Back selector.

▼ **Capture Video via the LCD**

1. Click on the Record selector in the LIVE PRE Display Screen.

2. Trigger the Phantom Camera via the:

   a. LIVE WTR Display Screen

     1) Press the Trigger selector to supply a soft-trigger signal to the camera.

   b. Power-On/Trigger Button

1) Depress the Power On/Trigger button to apply a hard-trigger to the camera.

   c. Capture Cable Trigger Input Connector

     1) Provide a hard trigger to the camera by supplying:

       a) Dry switch closure, or

       b) A low TTL pulse signal.

▼ Playback Operation

1. Gently press on the Play selector in the LIVE CST Display Screen.

2. Use the Playback controls to review recorded images:

    ◀ Reverse; to double the reverse playback speed hold down for approximately 1 seconds.

    ⏮ Reverse 1 Image.

    ⏭ Forward 1 Image.

    ▶ Forward; to double the forward playback speed hold down for approximately 1 seconds.

NOTE

To Pause the playback process, gently press slightly below the Memory Buffer Graphical Representation Bar at the top of the display screen.

3. Edit the record cine file:

   a. Gently press the Edit/Save selector.

   b. Locate the first frame the cine file is to begin with.

     1) Press a little below the Memory Buffer Graphical Representation Bar, then

     2) Hold down on the screen, and

     3) Scrub in the direction you wish the cine file to go, (right - backwards, left - forwards).

   c. Set the Mark In Point:

     1) Press the Set In Selector.

   d. Locate the last frame the cine file is to end with:

     1) Press a little below the Memory Buffer Graphical Representation Bar, then

     2) Hold down on the screen, and

     3) Scrub in the direction you wish the cine file to go, (right - backwards, left - forwards).

   e. Set the Mark Out Point:

     1) Press the Set Out Selector.

NOTE

To scrub through the cine file:

   a. Press slightly below the Memory Buffer Graphical Representation Bar, then

   b. Gently hold down on the screen, and

c. Scrub in the direction you wish the cine file to go, (right - backwards, left - forwards).

To reset the Mark In and Mark Out Points, press the Reset selector.

4. Press the Back selector, and Playback the preferred, (edited), file.

5. Save the edited file to the installed Type1 CompactFlash® Card.

    a. Press the Save selector in the Edit/Save Display Screen.

    b. Ensure that the Size of the Cine to be saved does not exceed the amount of available Free Space on the Compact Flash card.

        a) Press the Save Selector in the Save Display Screen if there is enough Free Space on the CompactFlash Card.

        b) If there is not enough room on the CompactFlash Card to save the cine file:

            1) Replace the CompactFlash Card with one that has enough space available.

            2) Press the Save Selector, or

            3) Connect the camera to the Phantom Control Unit and use the Phantom Camera Control application to save the cine file to an external storage device.

6. Ensure the cine file you just downloaded, has been stored in the Type1 Compact Flash Card, and is not corrupted before deleting the cine file from the camera.

NOTE

A CompactFlash Card Reader connected to the Phantom Control Unit is required for this portion of the process.

    a. Carefully remove the CompactFlash Card from the camera.

    b. Insert the CompactFlash Card into the Flash Card Reader.

    c. Attach the CompactFlash Card Reader to the Phantom Control Unit.

    d. From the Desktop of the Phantom Control Unit:

        1) Click Start>My Computer.

        2) Double-click on the CompactFlash Drive.

        3) Double-click on the cine file just saved, then

        4) Review the saved cine file in the Phantom Camera Control application.

            a) If the cine file was not saved, or corrupted:

                i. Carefully, re-install the CompactFlash Card into the camera, then

                ii. Retry saving the edited cine file again.

CAUTION

Ensure that the CompactFlash Card is oriented properly before seating it in the camera. DO NOT FORCE THE CARD INTO THE CAMERA. Failure to comply with this instruction may result in a serious camera failure requiring it to be returned to Vision Research for service.

            b) If the cine file was saved properly:

                i. Carefully, re-install the CompactFlash Card into the camera, then

                ii. Continue with Quick Start Process.

▾ **Get Ready to Record Again**

After ensuring the cine file you just downloaded, has been saved to the Type1 Compact Flash Card, and was not corrupted:

1. Delete the recorded cine file from the camera's DRAM.

   a. Click the Back selector in the Save Display Screen.

   b. Click the Back selector in the Edit/Save Display Screen.

   c. Click the Delete selector in the PL CST Display Screen, then

   d. Click the Yes selector in the Delete Existing Recording Display Screen.

2. Go back and follow directions for Capturing Video via LCD and Playback Operations until all required cine files have been recorded.

▾ **Power Down the Camera**

1. From the Power Off Display:

   a. Press Power Off selector.

2. In the Power Off Confirmation Screen:

   a. Press the Yes selector to power off the camera, or

   b. Press the No selector continue.

CAUTION

Any cine file stored in the camera's memory must be deleted prior to powering down the camera. Failure to comply with this procedure will cause the camera to run on battery power until the battery discharges completely.