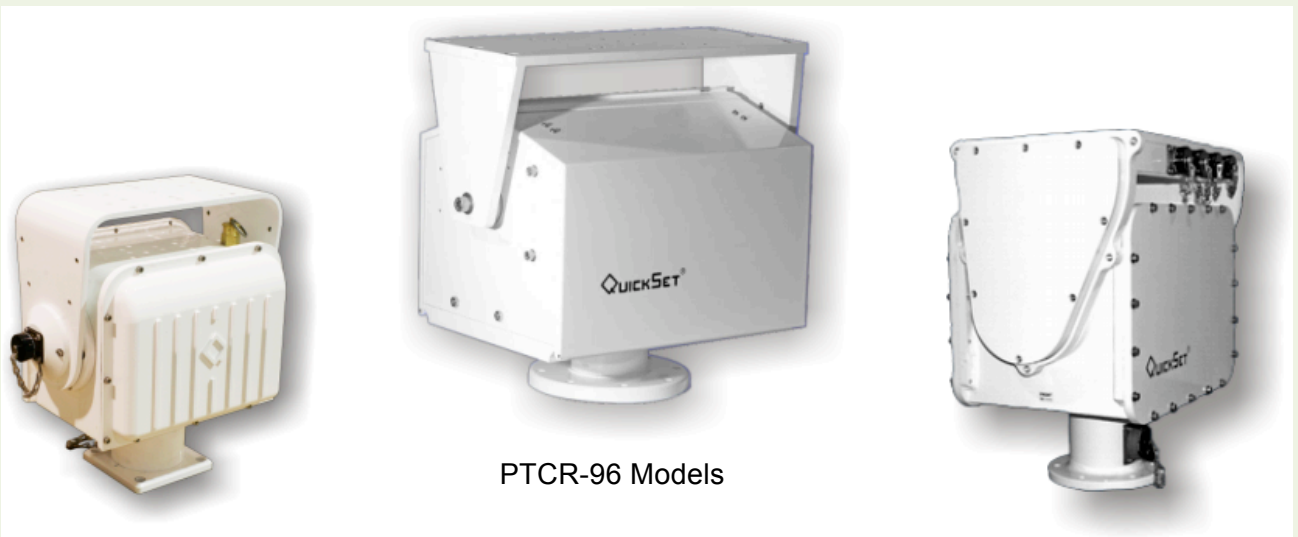


Emulator/GUI (GRAPHICAL USER INTERFACE) Manual

PRODUCT FAMILY: SENTRY SERIES USING PTCR-96 & PTCS-20
PRODUCT NAME: PTCR-96 REMOTE EMULATOR VERSION 2.0
PRODUCT MODELS: All PTCR-96 & PTCS-20 Stepper Models



PTCR-96 Models



PTCS-20 Models

MOOG QUICKSET
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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of the PTCR-96 Remote Control Emulator Ver 2.00/Graphical User Interface (GUI) manual (referred to from this point forward as the Emulator/GUI) is to familiarize the user in the operation of the QuickSet® PTCR-96 Remote Control Emulator Ver 2.00 software used to control the QuickSet® Sentry Series of Products (Pan & Tilt Units).

1.2 MANUAL CONTENTS

The Emulator/GUI Manual contains the following chapters:

Chapter 1.0	Introduction
Chapter 2.0	Product Connections
Chapter 3.0	Sentry Series Product Software
Chapter 4.0	Emulator/GUI Software Screens

1.3 EMULATOR/GUI SOFTWARE INTRODUCTION

The Emulator/GUI software included with the QuickSet® Sentry Series of Products allows the user to validate the operation and hookup, perform initial setup, set operational parameters, store presets, build Tours, and operate the unit from a PC. The Emulator/GUI is also helpful for user familiarization, training, and general troubleshooting of the unit.

The Emulator/GUI is compatible with all Windows™ 9x families, including ME, Windows™ 2000, Windows™ XP, and Windows™ 7; but is not compatible with Windows™ NT.

The Pan & Tilt Unit can be operated directly from a communication link compatible with the EIA RS232/422 standard when using the software. It does not directly support TCP/IP connectivity, however for TCP/IP connections to Moog QuickSet product with integrated Lantronix XPort® modules, you may use this software in conjunction with Lantronix Com Port Redirector.

This software automatically detects connections to products using PTCR-96 and PTCS-20 protocols. It automatically changes the graphics displayed to indicate PTCS-20 or PTCR-96 as shown below. In addition, the PTCR-96 supports 2 cameras and the PTCS-20 supports 1 camera as shown. On the video screen, there is no video switcher for the PTCS-20 just OSD controls.

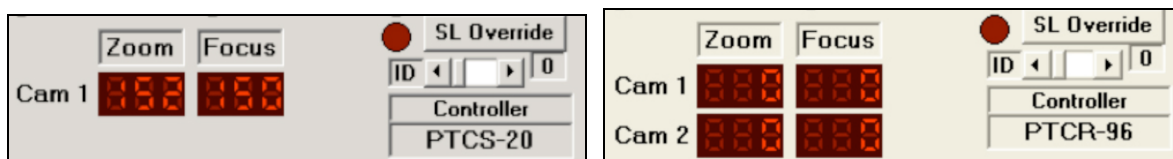


Figure 1: Differences Between PTCR-96 and PTCS-20

Graphics shown in this manual depict both the PTCR-96 and PTCS-20 screens.

1.4 SAFETY

The following safety recommendations do not supersede or replace any customer's in-house safety regulations or established practices. Its purpose is to remind users that care must be taken whenever working with or on the QuickSet® Sentry Series of Products.

Product users can be exposed to serious personal injuries if safe operating practices are not observed. Your knowledge of this equipment could prevent an accident which otherwise might happen. Always ask supervisory personnel if there are any specific safety precautions you should follow before operating a Sentry Series Product for the first time.

Always follow these basic safety recommendations:

- Only authorized personnel should operate or maintain the Pan & Tilt Units.
- You should read and thoroughly understand the basic procedures for operating this unit and its software. Read this manual completely before operating the unit or its software.
- Make sure all access covers are in place and secured while the unit is operating. If you observe any covers not in place, inform supervisory personnel so the problem can be corrected.
- Stop the unit completely and power-down before removing foreign objects that are near or obstructing the unit.
- Read, become familiar with, and follow the safety warnings affixed to the unit.



Figure 2: Typical Pan & Tilt Unit Safety Decals

(Most units will contain some of the above or similar decals.)

2.0 PRODUCT CONNECTIONS

2.1 CONNECTION DESCRIPTION

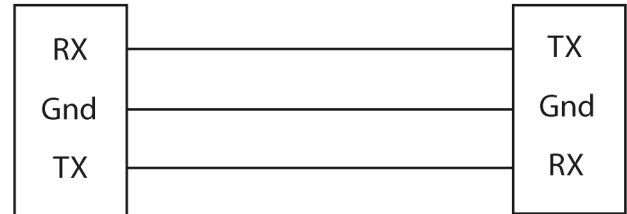
The QuickSet® Sentry Series of Products are connected from the Controller/PC to the Pan & Tilt Unit as follows:

RS232

NOTE:
Connection to PC via test cable or fabricated cable may require adapters from USB to RS-232 (9 pin)

RS232 Controller/PC

RS232 Pan & Tilt



RS422/485

NOTE:
Connection to PC via test cable or fabricated cable may require adapters from RS-232 (9 pin) or USB to RS422/485

RS422/485 Controller/PC

RS422/485 Pan & Tilt



Figure 3: RS232/422/485 Connection Diagram

CAUTION	<p>BEFORE APPLYING A SERIAL COMMUNICATION SIGNAL TO THE PAN & TILT DEVICE, CHECK YOUR SWITCH SETTINGS TO ASSURE THAT THE PROPER SETTING IS CHOSEN FOR YOUR METHOD OF COMMUNICATION.</p> <p><u>APPLYING AN RS232 SIGNAL TO A PAN & TILT SET FOR AN RS422 MAY CAUSE DAMAGE TO THE COMMUNICATION TRANSCEIVER!</u></p> <p>REFER TO THE SCHEMATIC SHIPPED WITH YOUR PRODUCT TO DETERMINE THE PROPER SWITCH SETTINGS FOR THE METHOD OF COMMUNICATION YOU WILL REQUIRE.</p>
----------------	---


NOTE: Typical signal levels for RS232 communications swing between –12 volts to + 12 volts. The typical signal levels for RS422 and RS485 communication swing between –6 volts to + 6 volts.

3.0 SENTRY SERIES PRODUCT SOFTWARE (EMULATOR/GUI)

3.1 INTRODUCTION

The software included with the QuickSet® Sentry Series of Products contains one (1) CD-ROM titled “**Software, GUI Manual, and Protocol for Sentry Series Products with PTCR-96**”


Included on the CD are the following programs/information:

	CD FILE FOLDER	DESCRIPTION
 <p>Figure 4: Supplied Software CD</p>	EMULATOR	The EMULATOR file folder contains the PTCR-96 Remote Control Emulator Version 2.0 software program. File name: setup.exe
	GUI MANUAL	The GUI MANUAL file folder contains the PTCR-96 Remote Control Emulator Version 2.0 Graphical User Interface (GUI) Manual for the QuickSet® Sentry Series of Products. This manual is referred to as the “Emulator/GUI Manual.” The Emulator/GUI Manual is in an Adobe Acrobat format (.pdf) that can be viewed/printed using the Adobe Reader software. File name: MN00163 GUI MANUAL.pdf
	LANTRONIX	See IP_Readme.pdf on this CD.
	PROTOCOL	The PROTOCOL file folder contains the Integrated Controller Protocol Manual, Rev. A for the Dual Camera Sentry Series of Products with PTCR-96 Stepper Drive. The Protocol Manual is in an Adobe Acrobat format (.pdf) that can be viewed/printed using the Adobe Reader software. File name: MN00162 PROTOCOL.pdf

3.2 INSTALLING THE EMULATOR/GUI SOFTWARE

Perform the following steps to load the QuickSet® Sentry Series Product Software:

Insert the QuickSet® CD into the CD-ROM drive. If the CD does not launch automatically, perform the following:

1. Click the Start button on the Windows* Task Bar and select Run.
2. Select Browse, go to the CD-ROM drive letter for your PC, select EMULATOR file folder, and double-click on the file name **setup.exe**. Follow the instructions on the PTCR-96 Remote Emulator Setup Wizard.
3. After the Emulator/GUI has been successfully installed, the  icon will be loaded onto the “Windows* Desktop.” Double-click on this icon to start the Emulator/GUI program. (See the MOVE TO screen in this manual for further details to start the Emulator/GUI software.)

3.3 VIEWING THE GUI MANUAL

Perform the following steps to view the manual you are currently reading (Emulator/GUI Manual). The Emulator/GUI Manual is in an Adobe Acrobat format (.pdf) that can be viewed/printed using the Adobe Reader software. Perform the following steps to view the Emulator/GUI Manual:

1. Open your Adobe Reader software.
2. Go to the GUI MANUAL file on the CD.
3. Double-click on the file **MN00163 GUI MANUAL.pdf** to open the GUI Manual.

3.4 INSTALLING THE LANTRONIX SOFTWARE

QuickSet® International incorporates proven Lantronix technology to network-enable their Pan & Tilt products for Ethernet connectivity.

The LANTRONIX DEVICE INSTALLER (Windows*-based software utility) is recommended for setting the IP address and network configuration of the serial-server module in the Pan & Tilt. For control over Ethernet, QuickSet's PTCR (Pan & Tilt Camera Remote) Emulator/GUI software requires the LANTRONIX COM PORT REDIRECTOR (Windows*-based software utility). This utility provides a "virtual Com Port" on the PC for Ethernet serial-tunneling, which is transparent to the PTCR Remote Emulator. Perform the following steps to install LANTRONIX software:

1. Download the LANTRONIX DEVICE INSTALLER™ and LANTRONIX COM PORT REDIRECTOR™ from www.lantronix.com (currently under SUPPORT then Utilities on their site).
2. Install the downloaded Lantronix DeviceInstaller.™
3. Install the downloaded Lantronix Com Port Redirector.™

NOTE: See the corresponding User Guide for further information and installation troubleshooting.

3.5 VIEWING THE PROTOCOL MANUAL

The PROTOCOL Manual provided on the CD is for developer's use to create other software applications to operate the QuickSet® Sentry Series of Products. The Protocol Manual is in an Adobe Acrobat format (.pdf) that can be viewed/printed using the Adobe Reader software. Perform the following steps to view the PROTOCOL Manual:

1. Open your Adobe Reader software.
2. Go to the PROTOCOL file on the CD.
3. Double-click on the file **MN00162 PROTOCOL.pdf** to open the Protocol Manual.

* Windows and Microsoft are registered trademarks of Microsoft Corporation.

4.0 EMULATOR/GUI SOFTWARE SCREENS

4.1 SOFTWARE SCREEN OVERVIEW

The following features are continuously displayed on each Emulator/GUI software screen:

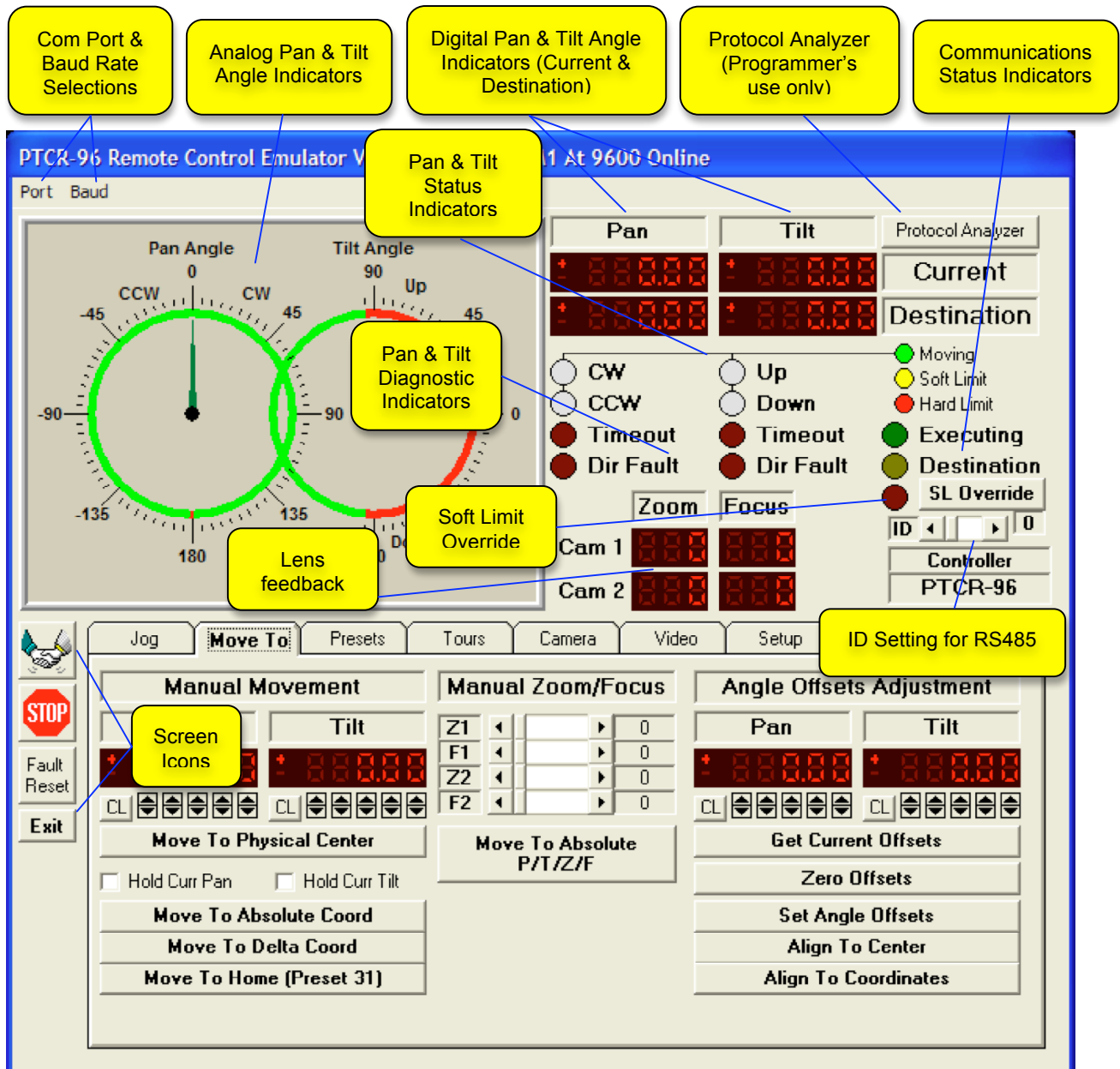


Figure 5: Software Screen Overview

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.1 PORT/BAUD SETTINGS

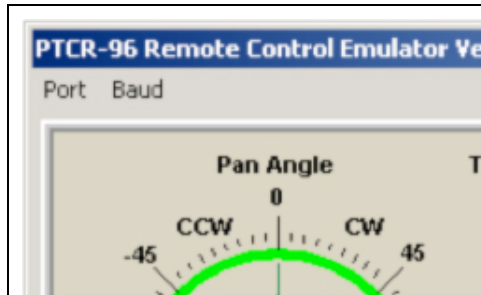
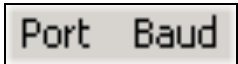


Figure 6: Port/Baud Settings

ICON	TITLE	DESCRIPTION
	Communication Port	<p>Use this selection to manually select the Communications Port setting as appropriate for the PC or controller being used. The Communication Port is normally set to COM1 from the factory. Additional Communication Port selections include COM2 through COM8.</p> <p>To manually select a new Com Port setting, click on the Port icon to view a list of additional Communication Ports that can be selected.</p>
	Baud Rate	<p>Use this selection to manually select a Baud Rate. Normally, the Automatic Baud Detection Procedure (Autobaud Synchronization) will take place on power up.</p> <p>To manually select a new Baud Rate, click on the Baud icon to view a list of additional Baud Rates that can be selected.</p>

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.2 ANALOG PAN & TILT ANGLE INDICATORS

The Analog Pan & Tilt Angle Indicators allows the user to visually observe the movement and position of the Pan & Tilt axes. It also shows Soft Limit positions, areas of allowable movement, and areas of restricted movement.

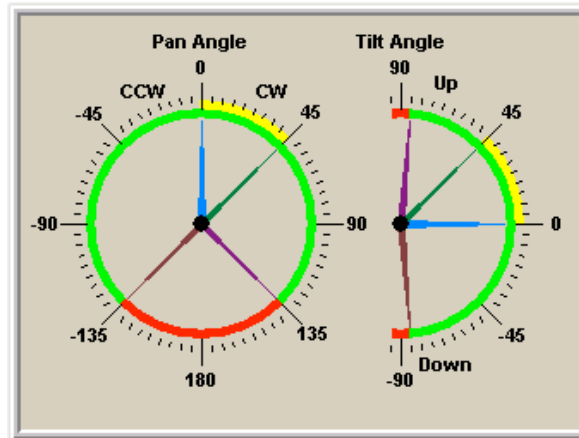


Figure 7: Analog Pan & Tilt Angle Indicators

ICON	DESCRIPTION
Blue Hand	The Blue Hand indicates the Current Position of the Pan or Tilt Axis.
Green Hand	The Green Hand indicates the Target Position of the Pan or Tilt Axis.
Purple Hand	The Purple Hand indicates the plus (+) Soft Limit as set in the JOG Screen for the Pan or Tilt Axis.
Brown Hand	The Brown Hand indicates the minus (-) Soft Limit as set in the JOG Screen for the Pan or Tilt Axis.
Green Ring	The Green Ring indicates the degrees of allowable (programmed) movement of the Pan or Tilt Axis.
Red Ring	The Red Ring indicates the restricted area of movement (zone past the set plus (+) and set minus (-) Soft Limits/Hard Limits) for the Pan or Tilt Axis.
Yellow Ring	The Yellow Ring indicates the direction of movement from the Absolute Position (blue hand) to the Current Position (green hand).

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.3 DIGITAL PAN & TILT ANGLE INDICATORS

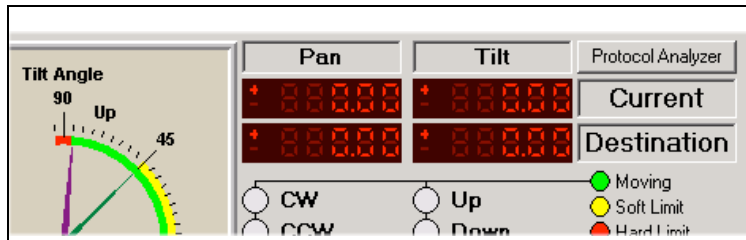
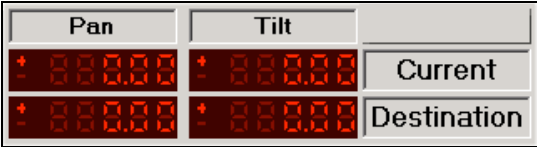


Figure 8: Digital Pan & Tilt Angle Indicators

ICON	TITLE	DESCRIPTION
	Current Pan	Indicates the Current Pan Angle (in 000.00 degrees \pm).
	Current Tilt	Indicates the Current Tilt Angle (in 000.00 degrees \pm).
	Destination Pan	Indicates the Destination Pan Angle (in 000.00 degrees \pm). NOTE: The Destination digital display displays the "Go To" position in advance of the move for automated moves. Automated moves include "Move To" or "Go To Preset," etc.
	Destination Tilt	Indicates the Destination Tilt Angle (in 000.00 degrees \pm). NOTE: The Destination digital display displays the "Go To" position in advance of the move for automated moves. Automated moves include "Move To" or "Go To Preset," etc.

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.4 STATUS INDICATORS/COLORS

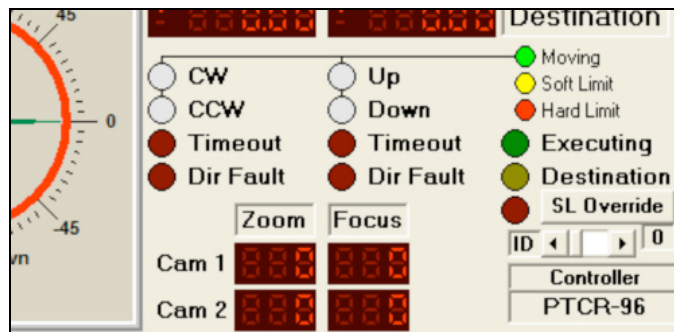



Figure 9: Status Indicators/Colors

ICON	TITLE	DESCRIPTION
STATUS INDICATORS		
	CW	The CW icon indicates the current status of the clockwise (right) movement of the Pan axis. (See STATUS COLORS.)
	CCW	The CCW icon indicates the current status of the counter-clockwise (left) movement of the Pan axis. (See STATUS COLORS.)
	Up	The Up icon indicates the current status of the Tilt axis movement in the “up” direction. (See STATUS COLORS.)
	Down	The Down icon indicates the current status of the Tilt axis movement in the “down” direction. (See STATUS COLORS.)
	STATUS COLORS	
	Green (Moving)	Indicates the Pan and/or Tilt axis is currently in motion.
	Yellow (Soft Limit)	Indicates the Pan and/or Tilt axis has reached one of its programmed Soft Limits (as set using the JOG Screen or SL Override icon).
	Red (Hard Limit)	Indicates the Pan and/or Tilt axis has reached one of its Hard Limits (as set mechanically using the Limit Rings).

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.5 DIAGNOSTIC INDICATORS

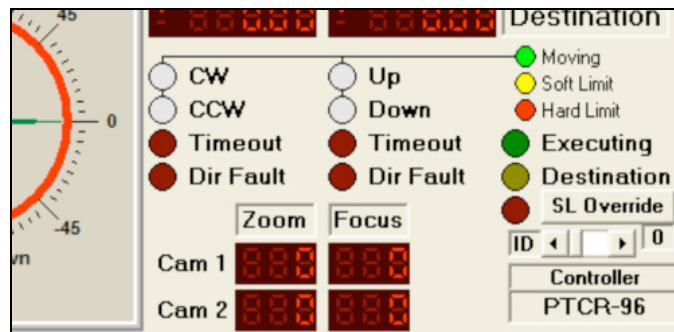




Figure 10: Diagnostic Indicators

ICON	TITLE	DESCRIPTION
NOTE: Each axis (Pan & Tilt) will have its own "Timeout" and "Dir Fault" indicator.		
	Timeout (Pan/Tilt)	When illuminated red, this indicates that an attempted move on the Pan Axis/Tilt Axis (as programmed or using the MOVE TO or TOUR Screen) has not completed its move within the prescribed time frame, (e.g., an obstruction has been encountered on the Pan and/or Tilt Axis, etc.).
	Dir (Direction) Fault (Pan/Tilt)	When illuminated red, this indicates that an attempted move on the Pan Axis/Tilt Axis (as programmed or using the MOVE TO or TOUR Screen) is reported to be moving in the "wrong" direction (e.g., Pan and/or Tilt axis overshot its position and has to backup to obtain the correct position).

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.6 COMMUNICATION STATUS INDICATORS

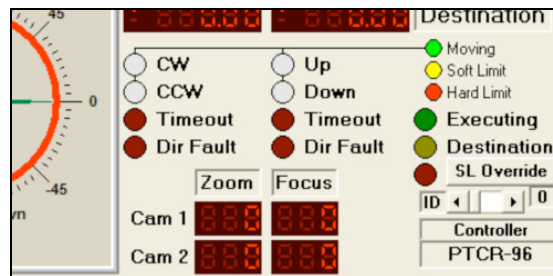




Figure 11: Communication Status Indicators

ICON	TITLE	DESCRIPTION
 Executing  Destination	Executing	When illuminated green, this indicates the PTCR-96 (Pan & Tilt Communications) is executing a “remote initiated” command.
	Destination	Prior to movement of a “remote initiated” command, the yellow “Destination” lamp will blink for a few seconds indicating movement is eminent. The “Destination” lamp will go out and the green “Executing” lamp will illuminate.

4.1.7 SL (SOFT LIMIT) OVERRIDE

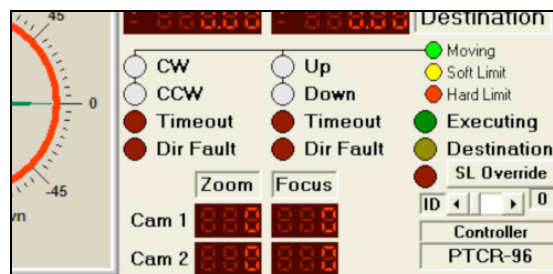



Figure 12: SL (Soft Limit) Override

ICON	TITLE	DESCRIPTION
 SL Override	SL Override (Soft Limit Override)	<p>NOTE: Prior to changing any Soft Limit setting, record the existing setting in the event you want to return to this Soft Limit setting.</p> <p>Press this icon (illuminates red) to manually toggle to the SL Override (Soft Limit Override) mode allowing the user to manually change the Soft Limit settings from those set at the JOG Screen. (See “Set Soft Limits” chapter at the JOG SCREEN.)</p> <p>SCREEN WINDOW NOTE: Override Soft Limit Stops – Usually Used From Jog To Establish New Soft Limits.</p> <p>NOTE: Units operated in a continuous rotation mode will not have “set” Pan axis Soft Limits.</p>

4.1 SOFTWARE SCREEN OVERVIEW (CONT)

4.1.8 SCREEN ICONS (START, HANDSHAKE, HATCHET, STOP, FAULT RESET, EXIT)

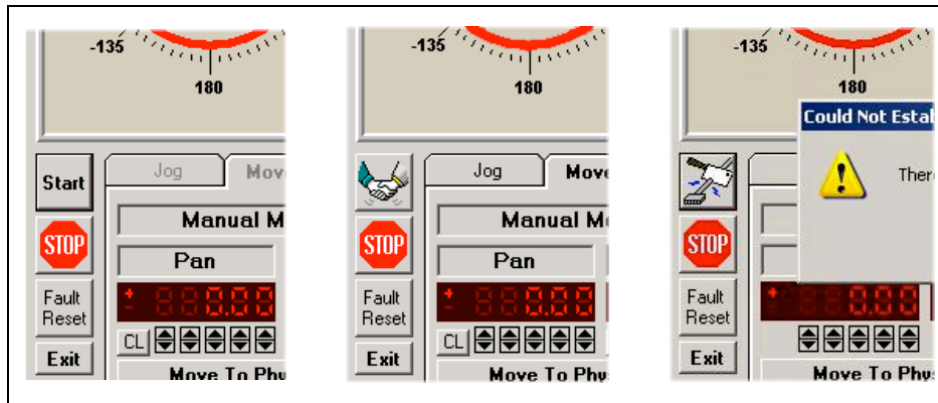








Figure 13: Screen Icons

ICON	TITLE	DESCRIPTION
	Start	Press the START icon to start the initialization/communications process with the Pan & Tilt control circuit board.
	Handshake	This icon indicates successful communications has been established with the Pan & Tilt control circuit board.
	Hatchet	<p>This icon indicates communications has not been established or has been lost with the Pan & Tilt control circuit board, for example:</p> <ul style="list-style-type: none"> • Power is not being supplied to the Pan & Tilt Unit. • Communication cabling (RS232/422/485) is not connected or has a poor connection. • The proper Com Port and/or Baud Rate has not been selected. <p>NOTE: The “windowed” message “There was a problem establishing a connection. Please check your port selection and baud rate and try again” is displayed on the screen. Press OK, select the proper Com Port or Baud Rate, and press the START icon to retry.</p>
	STOP	Press the STOP icon to stop an automated move or tour.
	Fault Reset	Press the FAULT RESET icon to reset any “corrected” fault the user may encounter, (i.e., Timeout Fault, Direction Fault, etc.).
	Exit	Press the EXIT icon to exit the Emulator/GUI Software.

4.2 MOVE TO SCREEN

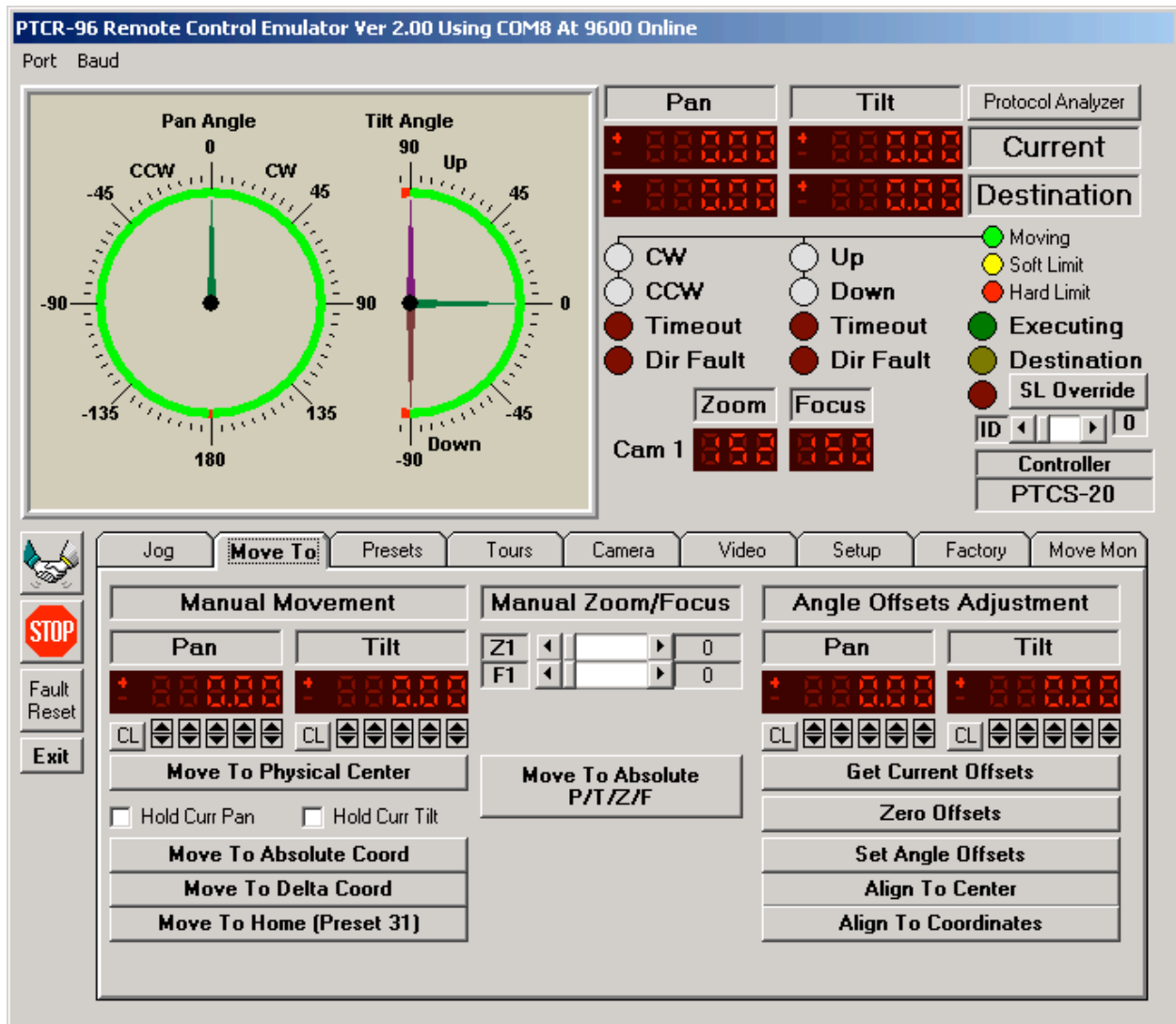


Figure 14: MOVE TO Screen

4.2 MOVE TO SCREEN (CONT)

4.2.1 STARTING EMULATOR/GUI COMMUNICATIONS WITH THE PAN & TILT

The MOVE TO Screen is the first screen (default screen) to be displayed after the Emulator/GUI software program has been started. Perform the following steps to initialize EMULATOR/GUI communications with the Pan & Tilt Control Circuit Board:

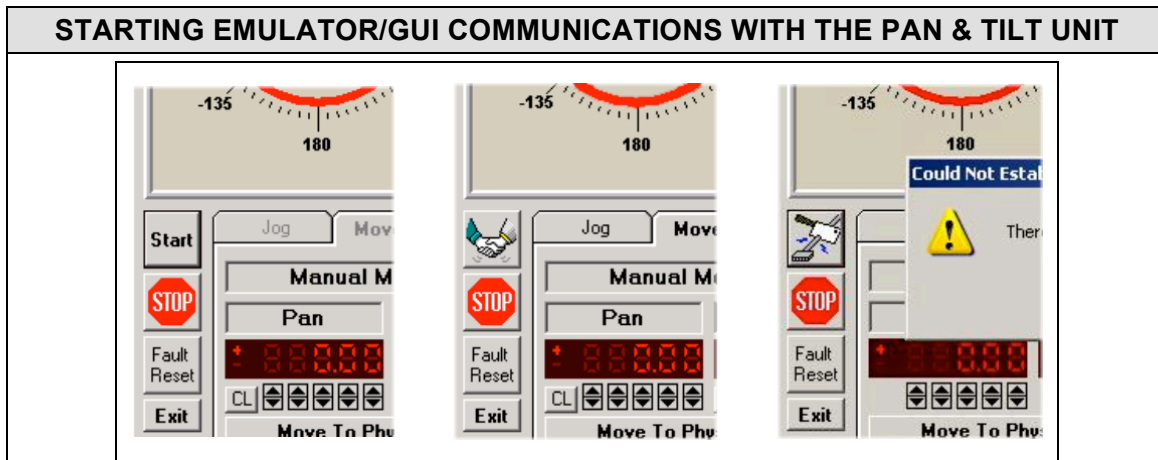



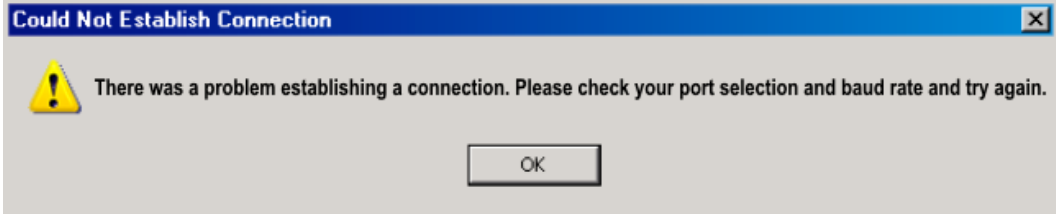
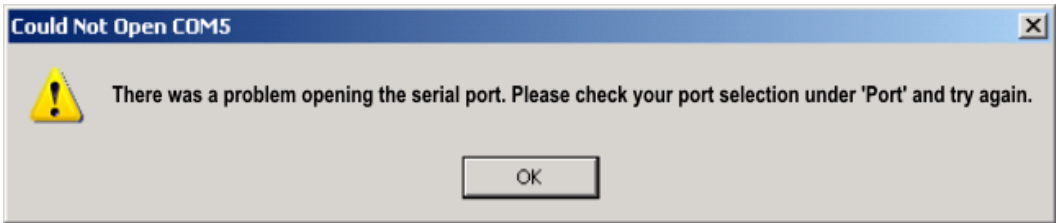


Figure 15: Emulator/GUI Communications Screen Icons

1.	 <p>Click on the START icon. The communications/initialization process is started between the Emulator and the Pan & Tilt Control Circuit Board.</p>
2.	<p>If the communications link to the Pan & Tilt Control Circuit Board is successful, the</p>  <p>HANDSHAKE icon will overlay the START icon.</p>
3.	<p>If the communications link to the Pan & Tilt Control Circuit Board is unsuccessful, the</p>  <p>HATCHET icon will overlay the START icon. The user should check for the following problems:</p> <ul style="list-style-type: none"> • Power is not being supplied to the Pan & Tilt Unit. • The communication cabling (RS232/422/485) is not connected or has a poor connection. • The proper Com Port and/or Baud Rate has not been selected. <p>(See MANUALLY SETTING THE COM PORT/BAUD RATE in this chapter.)</p>

4.2 MOVE TO SCREEN (CONT)

4.2.2 MANUALLY SETTING THE COM PORT/BAUD RATE

MANUALLY SETTING THE COM PORT/BAUD RATE	
<p>If a “HATCHET” icon is displayed after pressing the START icon (indicating an unsuccessful communications link to the Pan & Tilt), one of the following messages will be displayed:</p>	
	
Figure 16: “Could Not Establish Connection” Message	
	
Figure 17: “Could Not Open COMX” Message	

If one of the above messages is displayed after pressing the START icon, perform the following to change the Communications Port and/or the Baud Rate:

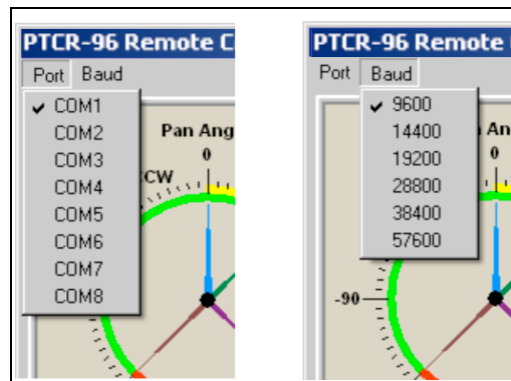

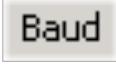


Figure 18: Selecting New Com Port or Baud Rate

TO SELECT A NEW COM PORT OR BAUD RATE	
1.	<p>Click on the PORT  icon and manually select one of the Communications Ports from the drop-down list as appropriate for the PC or controller being used.</p>
2.	<p>Click on the BAUD  icon and manually select the proper Baud Rate from the drop-down list.</p>

4.2 MOVE TO SCREEN (CONT)

4.2.3 MANUAL MOVEMENT SECTION

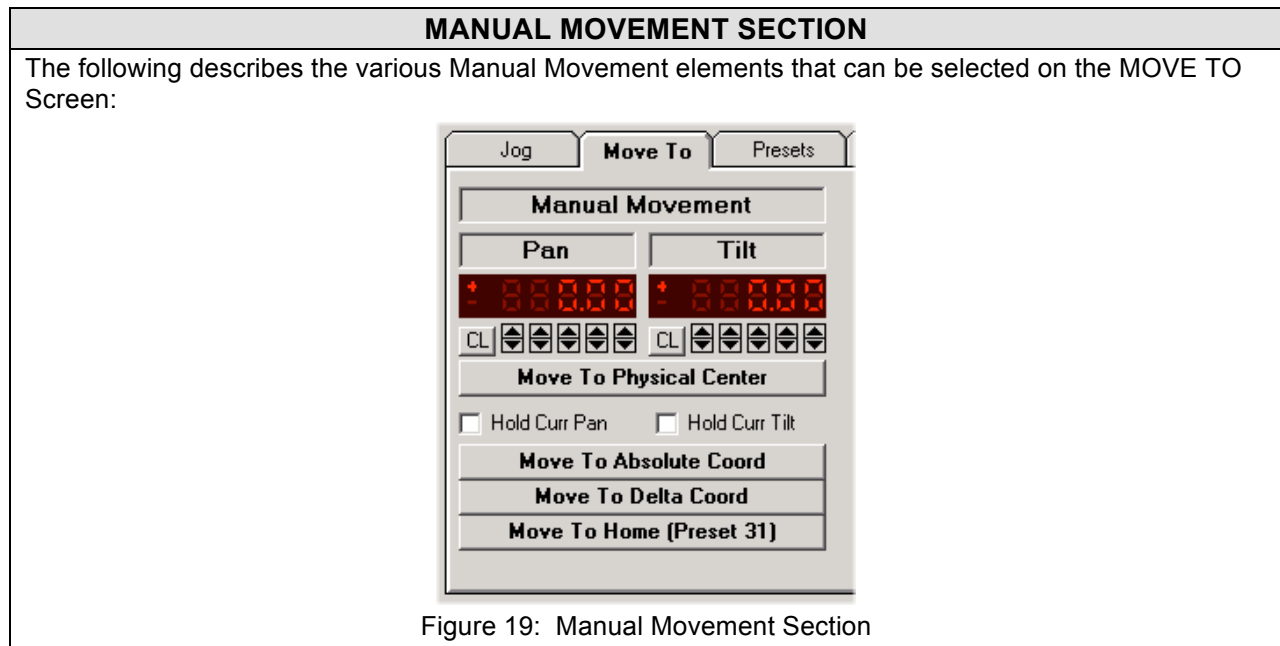
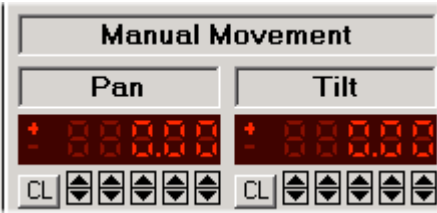

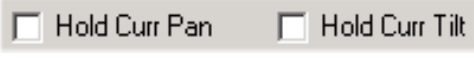
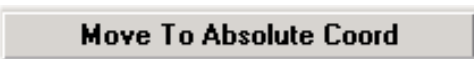


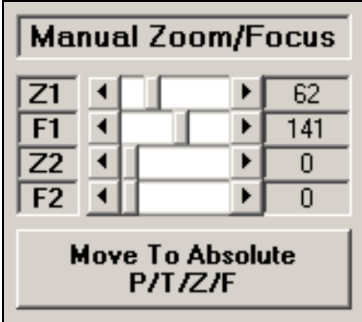


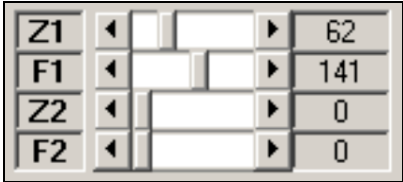
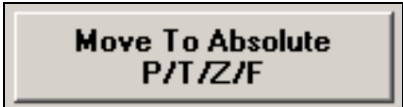
Figure 19: Manual Movement Section

ICON	DESCRIPTION
	<p>The Degree Display is used to manually enter angle coordinates (movement in 000.00 degrees \pm) for the Pan and/or Tilt axes. To change a particular value of a decimal position, click the \blacktriangle (to add to) or \blacktriangledown (to subtract from) symbol located below each decimal position.</p> <p>NOTE: Movement of the coordinates entered <u>will not</u> be enabled until one of the “Move To” icons is pressed.</p> <p>Click on the Pan or Tilt CL icon to clear any manually entered coordinates on the Degree Display.</p>
	<p>Click on the “Move To Physical Center” icon to move the Pan & Tilt to its “preset” center position (0/0 default Factory setting).</p>
	<p>Check the “Hold Curr Pan/Tilt” box to force that particular axis to remain stationary during a manual movement regardless of what is entered on the Degree Display. Check this box again to remove this option. Only one (1) box can be selected at a time.</p>
	<p>Click on the “Move To Absolute Coord” icon to move the Pan & Tilt axes to the coordinates manually entered on the Degree Display.</p>
	<p>Click on the “Move To Delta Coord” icon to allow the user to move the Pan/Tilt axis (as entered on the Degree Display) to a specific angular distance from its current position.</p>
	<p>Click on the “Move To Home (Preset 31)” icon to move the Pan & Tilt axes to its home position as programmed on the PRESETS Screen (Normally 0.00° Pan and 0.00° Tilt).</p>

4.2 MOVE TO SCREEN (CONT)

4.2.4 MANUAL ZOOM/FOCUS SECTION

MANUAL ZOOM/FOCUS SECTION	
<p>The following describes the various Manual Zoom/Focus elements that can be selected on the MOVE TO Screen:</p> <div style="text-align: center; margin: 20px 0;">  </div>	
Figure 20: Manual Zoom/Focus Section	

ICON	DESCRIPTION
NOTE: The following controls only function when using the onboard motor drivers to control a lens with position feedback.	
	<p>The Camera1/Camera2 Zoom & Focus sliders (Z1 & F1, Z2 & F2) are used to manually enter the corresponding camera's zoom and focus position. A position value of zero (0) will force the zoom/focus to remain in its current position.</p> <p>Connected lens systems may not be able to move across the full range of coordinates. If a zoom or focus position is selected that cannot be attained by the peripheral, the unit will be moved as close as possible and then a timeout will allow the command to complete without generating an error.</p>
	<p>Click on the "Move To Absolute P/T/Z/F" icon to move the Pan & Tilt axes to the coordinates that were manually entered in the Manual Zoom/Focus sliders and Degree Display.</p>

4.2 MOVE TO SCREEN (CONT)

4.2.5 ANGLE OFFSETS ADJUSTMENT SECTION

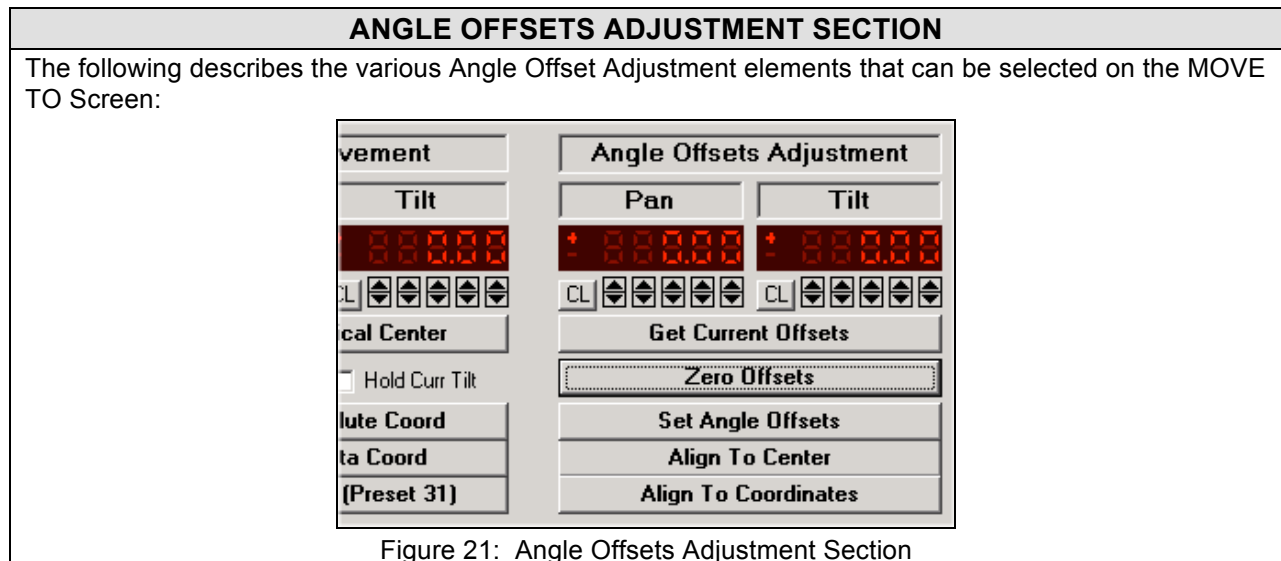
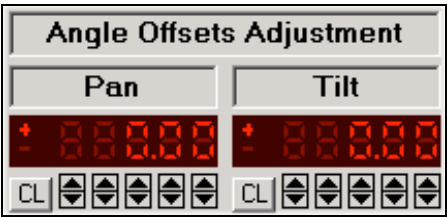




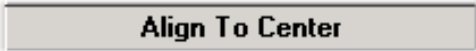



Figure 21: Angle Offsets Adjustment Section

ICON	DESCRIPTION
	<p>The Degree Display for the Angle Offsets Adjustment is used to manually enter angle coordinates (in 000.00 degrees \pm) for the Pan and/or Tilt axes. To change a particular value of a decimal position, click the \blacktriangle (to add to) or \blacktriangledown (to subtract from) spin button symbol located below each decimal position.</p> <p>NOTE: Action on any entered angle offset <u>will not</u> be enabled until the selected icon is pressed. (Pan axis maximum offset = $\pm 180^\circ$, Tilt axis maximum offset = $\pm 90^\circ$.)</p> <p>Click on the Pan or Tilt  icon to clear any manually entered coordinates.</p>
	<p>To view the current “angle offsets” assigned/set for the Pan and/or Tilt Axes, click on the “Get Current Offsets” icon. The angle offsets will be displayed on the Degree Display.</p>
	<p>Click on the “Zero Offsets” icon to clear any Angle Offsets assigned to the Pan & Tilt. Click on the “Get Current Offsets” to verify the offsets have been cleared from the Degree Display.</p>

4.2 MOVE TO SCREEN (CONT)

4.2.5 ANGLE OFFSETS ADJUSTMENT SECTION (CONT)

ANGLE OFFSETS ADJUSTMENT SECTION (CONT)	
ICON	DESCRIPTION
	<p>In the event the user cannot mount the unit as recommended by QuickSet[®], (front of Pan Axis is facing forward at 0.00° and top of Tilt Axis is sitting level at 0.00°), or an alternate method of measuring is necessary, the “Set Angle Offsets” option can be used. For example:</p> <p>If the Unit currently is level and has a 0.00° Tilt Offset, a Preset move to –20.00° will move the platform to a –20.00° of Tilt. The digital display will read –20.00° of Tilt.</p> <p>If a +10.00° “Set Angle Offset” is entered, executing the same Preset move to –20.00° will adjust the Platform an additional +10.00° direction of Tilt. The digital display will read –10.00° of Tilt. Only the displayed angle has been altered to accommodate for the entered “Set Angle Offset.”</p> <p>NOTE: When the Platform is at the level position, the digital display will read +10.00°.</p>
	<p>Click on the “Align To Center” icon to automatically calculate the Pan and Tilt angle corrections to realign the platform angular position display. This will allow the current position to be considered as the center position. The digital display will read a Pan and Tilt angle of 0.00°.</p> <p>Also, use this command to measure the relative angle between two objects. The user jogs to the first object, clicks on the “Align To Center” icon changing the displayed angle to 0°/0°. The user Jogs to the next target and the relative angle between the two objects will be displayed.</p>
	<p>The “Align To Coordinate” option allows the user to change the current angle in the digital display to the desired angle to be displayed.</p> <p>For example, the user jogs the platform to a reading of –45.00° in the Pan axis. If the user wants this to read +90.00° reflecting a compass point, a +90.00° is entered in the digital display and the “Align To Coordinates” icon is selected. The offset will be automatically calculated and stored.</p>

4.3 JOG SCREEN

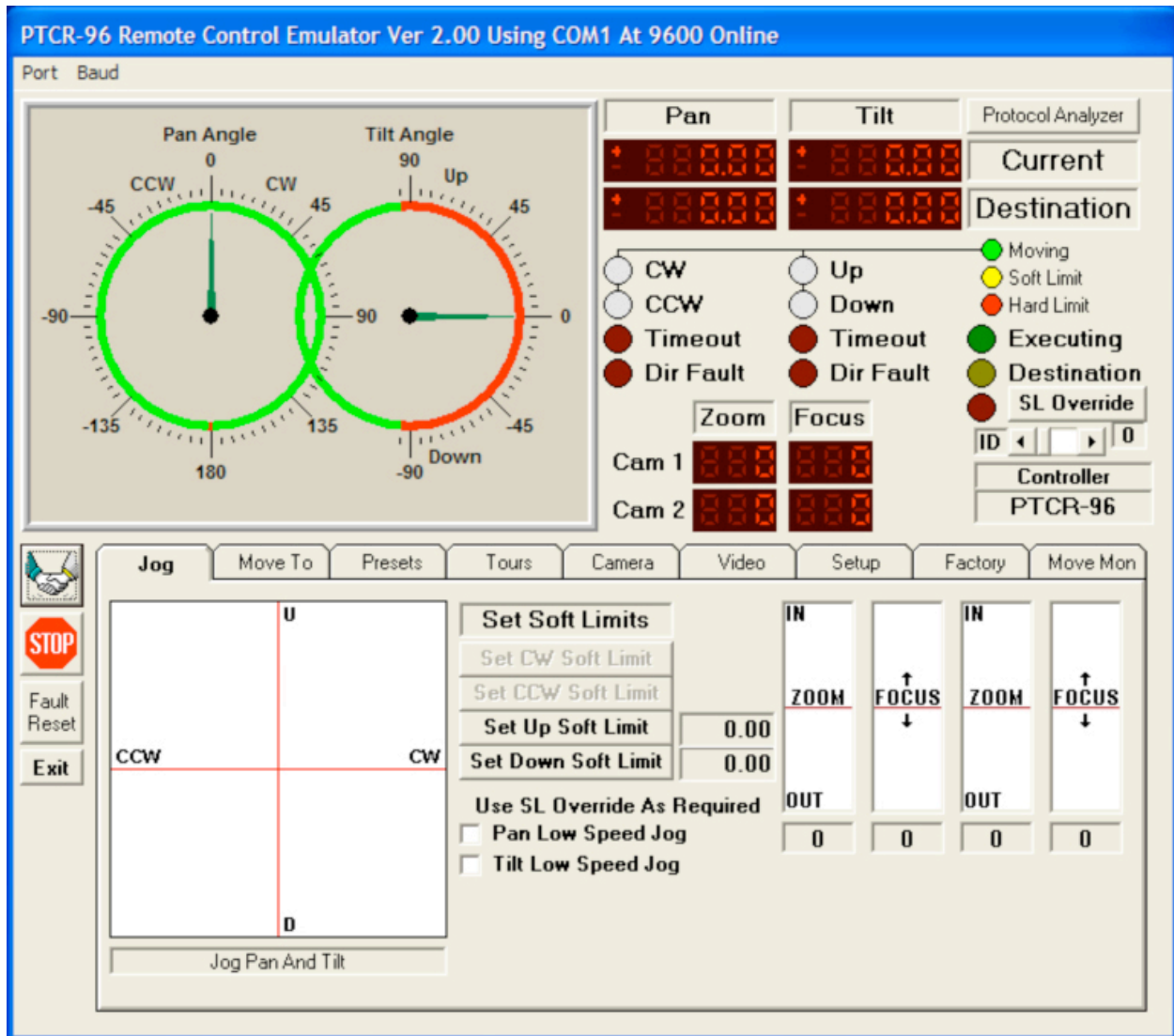


Figure 22: JOG Screen

4.3 JOG SCREEN (CONT)

4.3.1 JOG PAN AND TILT VIRTUAL JOYSTICK

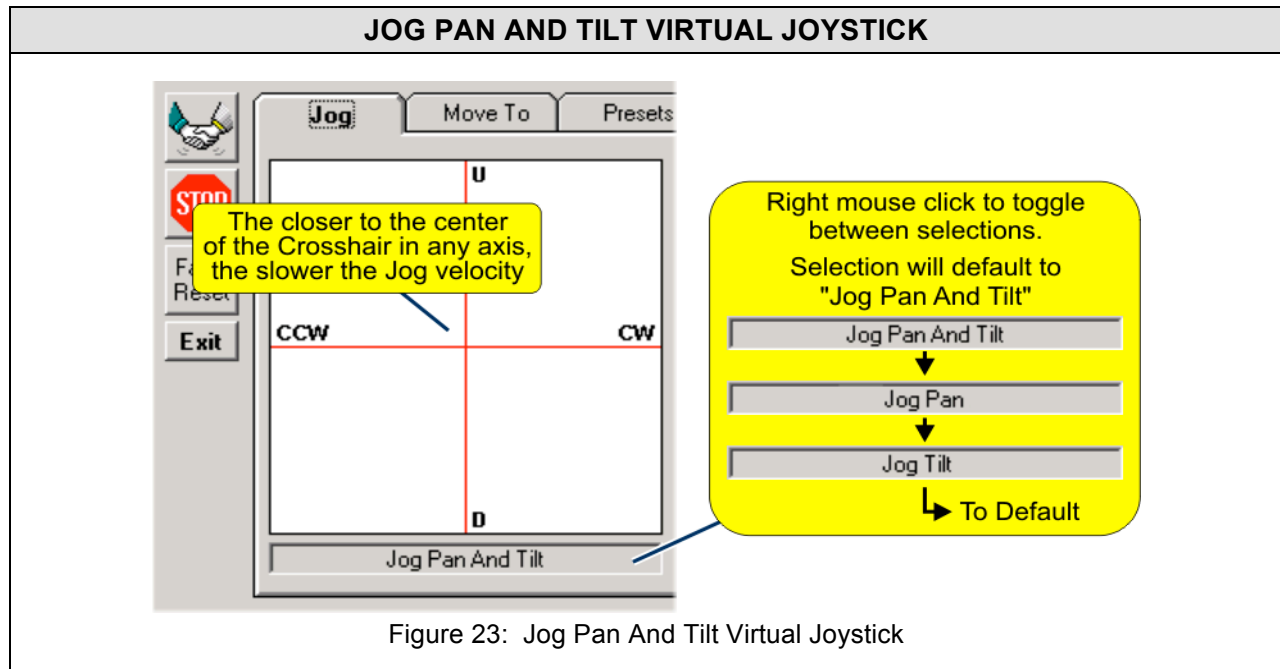


Figure 23: Jog Pan And Tilt Virtual Joystick

ICON	DESCRIPTION
U (Up (+) Tilt Movement)	<p>Click, hold, and slide the cursor in the vicinity of the “U” Tilt (+), D Tilt (-), CW Pan (+), or CCW Pan (-) segment of the Virtual Joystick to jog a selected axis in that particular direction. The jog movement will stop after releasing the cursor or if the Soft Limit is reached.</p> <p>NOTE: Two (2) adjacent axes can be moved simultaneously by roughly centering the Virtual Joystick cursor between the axes crosshairs, (e.g., CW (Pan +) and UP (Tilt +) can be jogged simultaneously, or CCW (Pan -) and UP (Tilt +) can be jogged simultaneously, etc.).</p> <p>NOTE: The closer to the crosshair intersection, the slower the jog velocity and vice versa. Minimum and maximum jog velocities are set in the FACTORY Screen.</p>
D (Down (-) Tilt Movement)	
CW (Clockwise (+) Pan Movement)	
CCW (Counter-Clockwise (-) Pan Movement)	

4.3 JOG SCREEN (CONT)

4.3.2 SET SOFT LIMITS

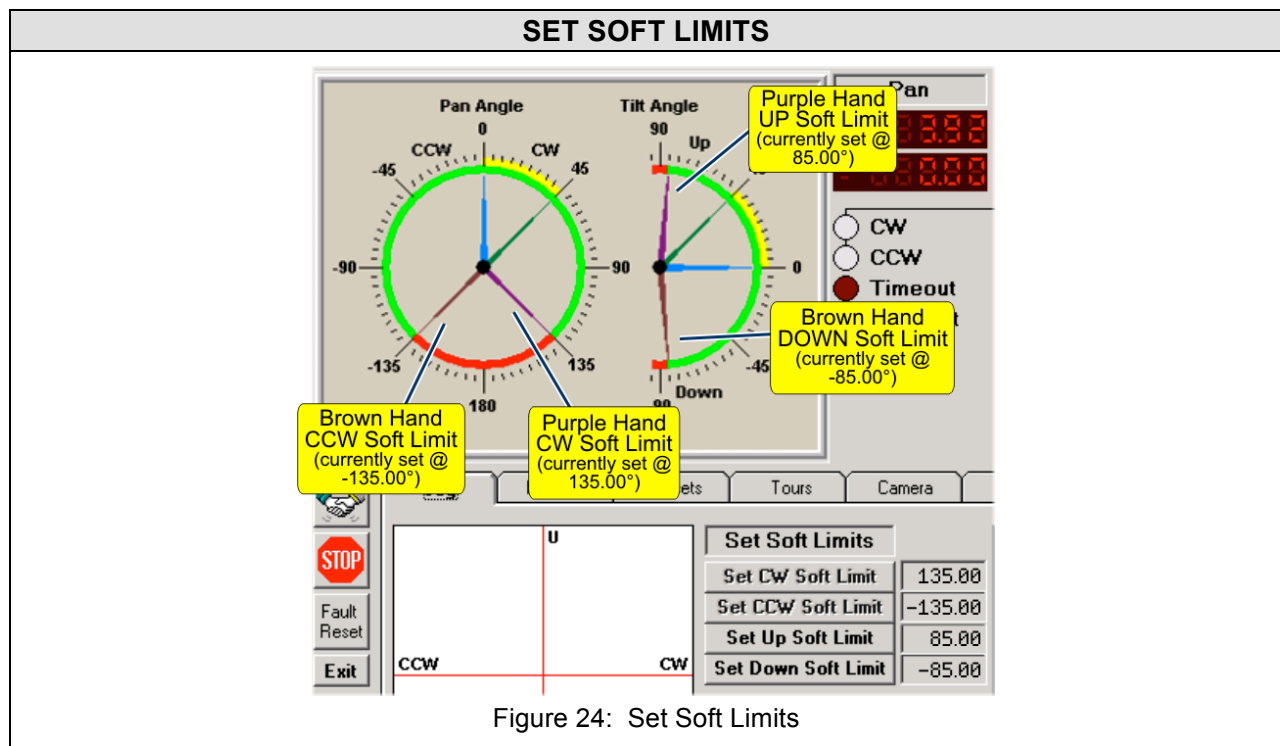






Figure 24: Set Soft Limits

ICON	DESCRIPTION
   	<p>CAUTION! To avoid possible collisions, the Soft Limits should only be set while physically observing the Pan & Tilt Unit's movement.</p> <p>Set the Soft Limits using the following methods:</p> <p>NOTE: The CW & CCW soft limits must be set separately as well as the Up and Down soft limits.</p> <p>Using the Virtual Joystick, jog the Pan and Tilt to the desired Soft Limit position. Click on the corresponding SET XX SOFT LIMIT icon to set the Soft Limit for that particular axis. Repeat the procedure for the remaining axis. CW (or Up) values must be numerically higher than CCW (or Down) values or the unit will not move.</p> <p>or</p> <p>Go to the MOVE TO Screen, enter the desired Soft Limit position on the digital display for one (1) of the Pan axes and one (1) of the Tilt axes. Click on the "Move To Absolute Coord" icon and the axis will move to that position.</p> <p>Return to the JOG Screen and click on the corresponding SET XX SOFT LIMIT icon to set the Soft Limit for that particular axis. Repeat the procedure for the remaining axis.</p>

4.3 JOG SCREEN (CONT)

4.3.3 PAN/TILT LOW SPEED JOG

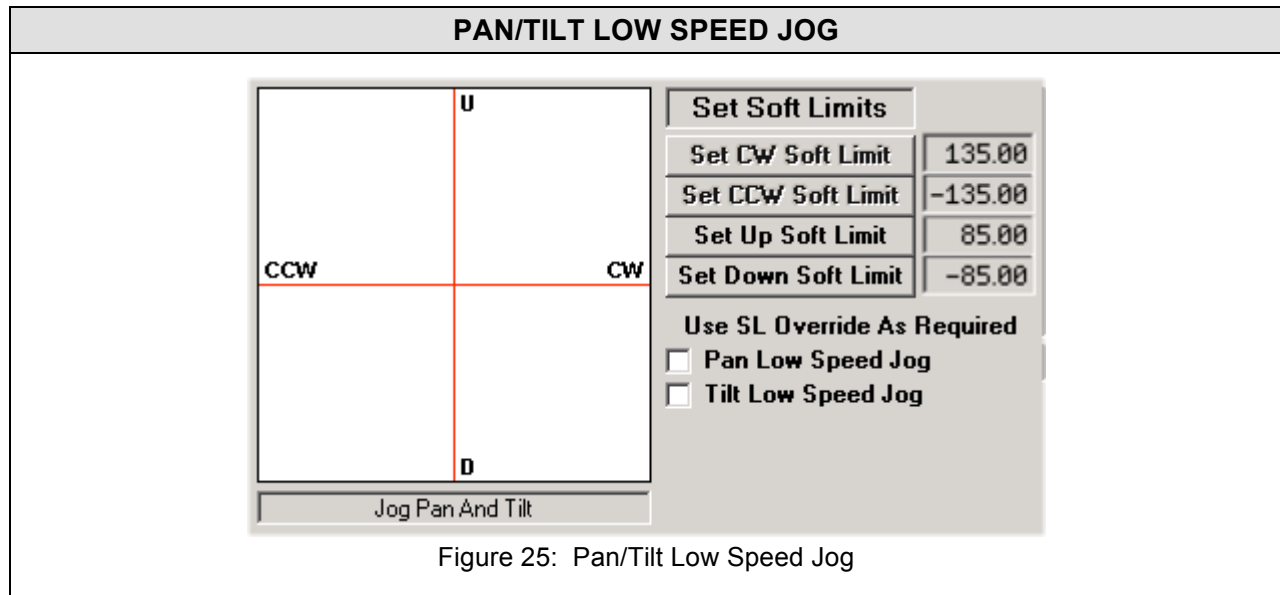


Figure 25: Pan/Tilt Low Speed Jog

ICON	DESCRIPTION
<input type="checkbox"/> Pan Low Speed Jog	Click on either the Pan Low Speed Jog and/or the Tilt Low Speed Jog check box to force that particular axis to be jogged at the "Min Step Rate" as programmed in the FACTORY Screen.
<input type="checkbox"/> Tilt Low Speed Jog	This allows the user to be able to jog an axis to a precise position at a slow speed when using the Virtual Joystick.

4.3 JOG SCREEN (CONT)

4.3.4 CAMERA 1 & 2 VIRTUAL ZOOM/FOCUS

CAMERA 1 & 2 VIRTUAL ZOOM/FOCUS

Set Soft Limits

Set CW Soft Limit	135.00
Set CCW Soft Limit	-135.00
Set Up Soft Limit	85.00
Set Down Soft Limit	-85.00

Use SL Override As Required

☐ Pan Low Speed Jog

☐ Tilt Low Speed Jog

IN

ZOOM

OUT

159

↑

FOCUS

↓

96

IN

ZOOM

OUT

64

↑

FOCUS

↓

64

NOTE:

When connected to lenses with feedback potentiometers, the numbers displayed under the Virtual Slide Controls represent the relative value (scale is 0-255) of the position of the Zoom and Focus attributes for that lens. This allows the Zoom and Focus positions to be stored and reproduced when executing Presets or Tours.

Not applicable when connected to product using PTCS-20 Control Board (one camera only)

Figure 26: Camera 1 & 2 Virtual Zoom/Focus

4.4 PRESETS SCREEN

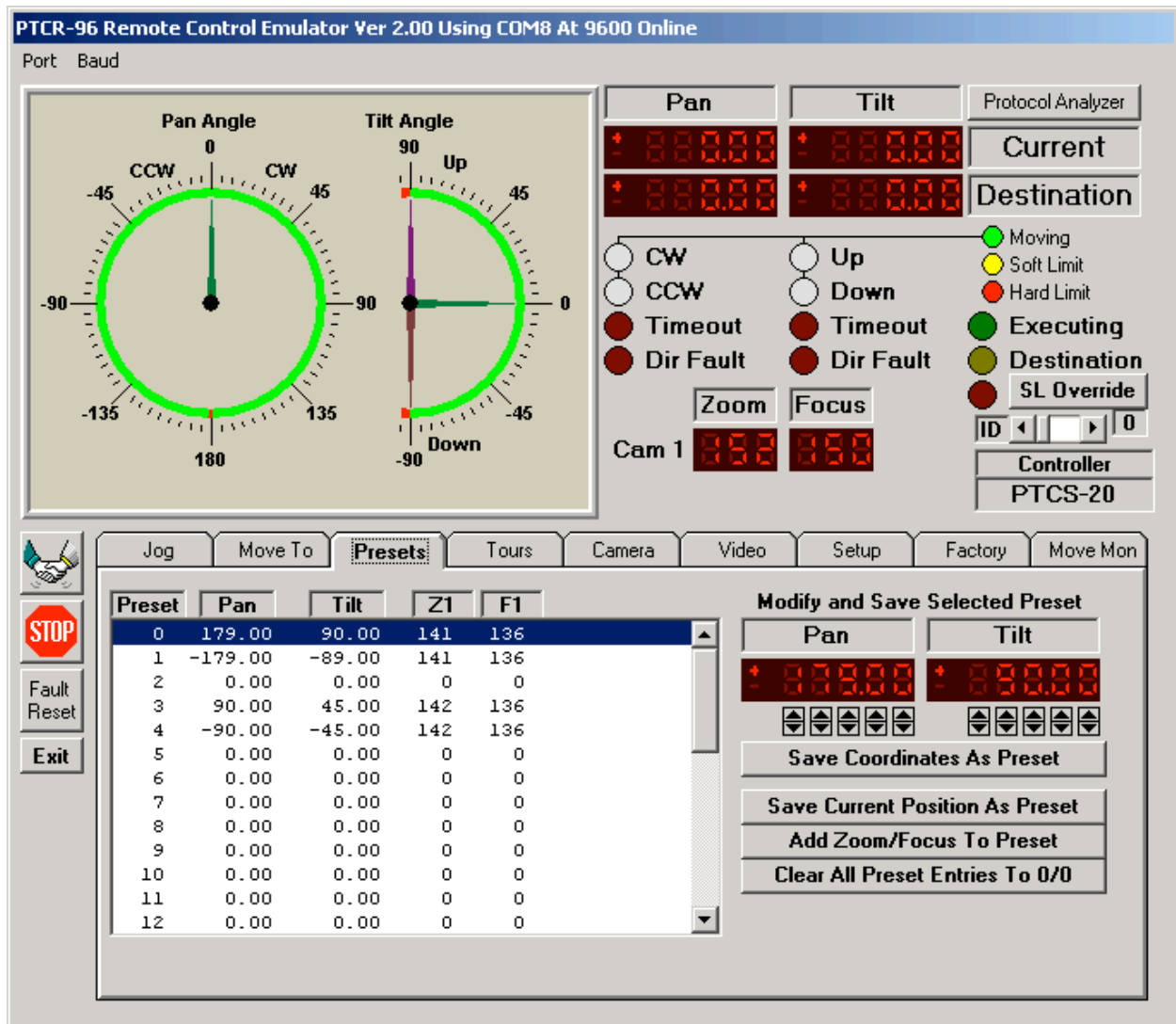


Figure 27: PRESETS Screen

4.4 PRESETS SCREEN (CONT)

4.4.1 PRESET LIST SECTION

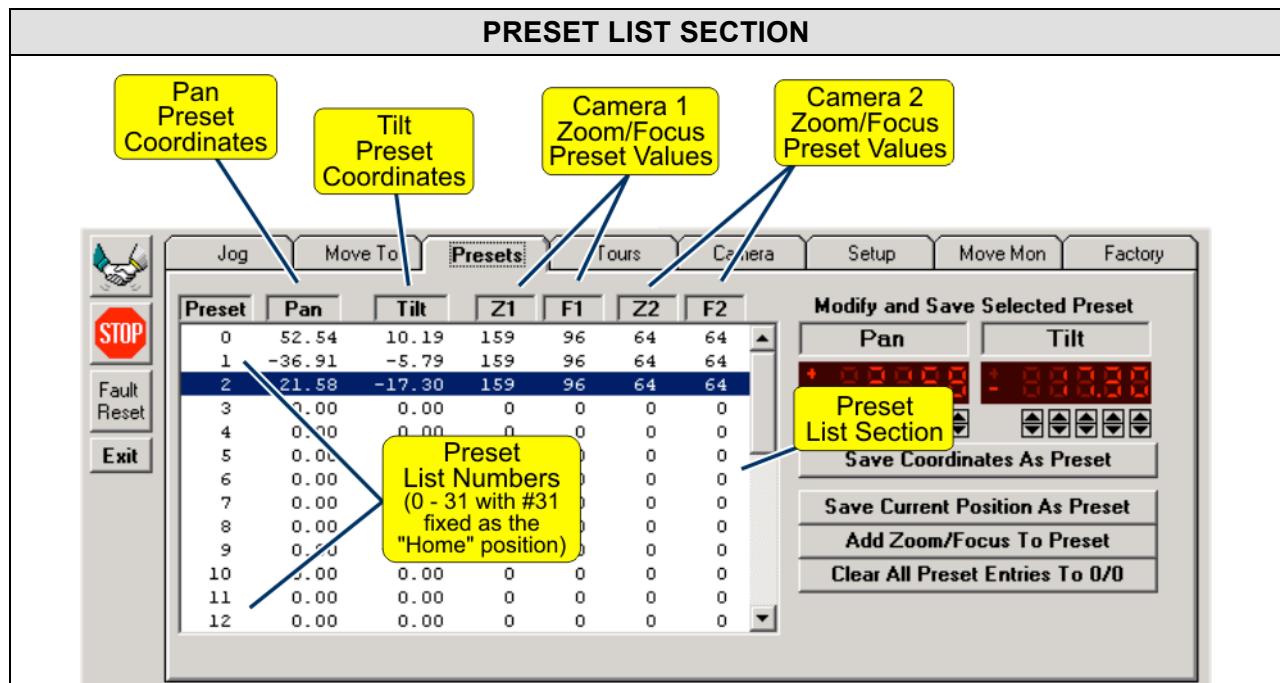


Figure 28: Preset List Section

ICON	DESCRIPTION
	<p>The "Preset List Section" is used to list the various Pan, Tilt, Camera 1 Zoom/Focus, and Camera 2 Zoom/Focus Presets as entered by the user. There are thirty-one (31) total Preset List Numbers (0 – 31 with #31 dedicated to the Move to Home Position). Double-clicking on a line item will move the Pan & Tilt to that particular Preset value.</p> <p>NOTE: Use the "Modify and Save Selected Preset" Section to add or modify presets.</p>

4.4 PRESETS SCREEN (CONT)

4.4.2 MODIFY AND SAVE SELECTED PRESET SECTION

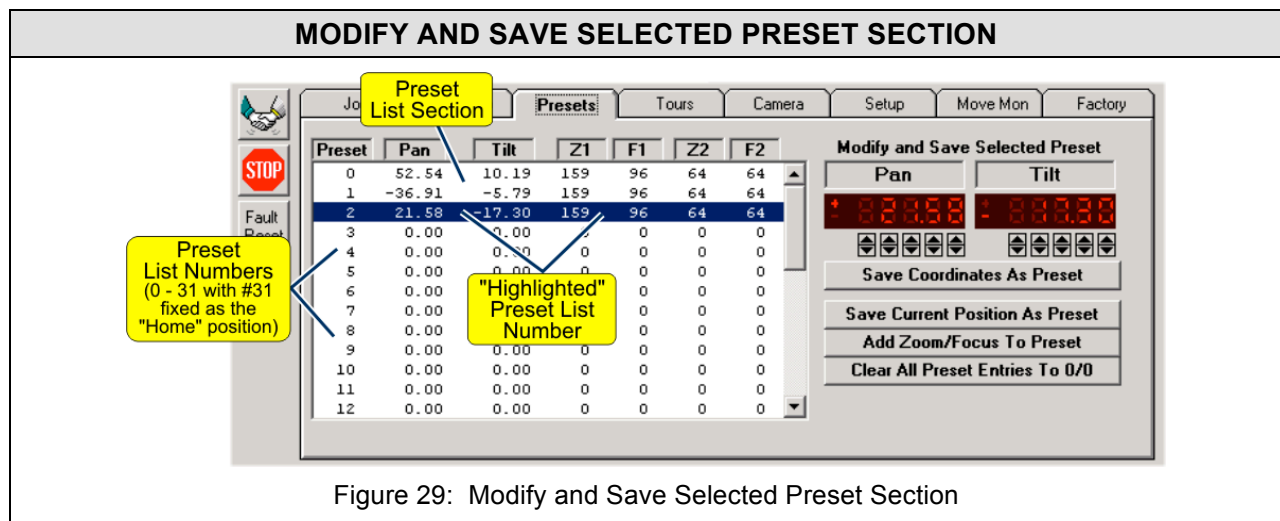
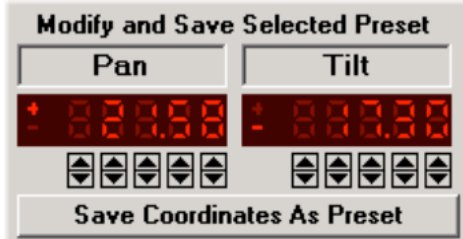

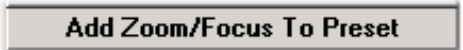



Figure 29: Modify and Save Selected Preset Section

ICON	DESCRIPTION
 <p>NOTE:</p> <p>No axis movement will take place for any coordinate manually entered on the digital display. The coordinate must first be saved as a Preset and then double-clicked in the Preset List Section to enable movement.</p>	<p>To execute a "Save Coordinates As Preset" and to move the Pan & Tilt to that Preset Position, perform the following:</p> <ul style="list-style-type: none"> Click once on the selected Preset List Number in the Preset List Section. The entire "line item" will be highlighted. Using the Degree Display, manually enter the desired coordinate (in 000.00 degrees ±) for the Pan and/or Tilt axes by clicking on the ▲ (to add to) or ▼ (to subtract from) spin button located below each decimal position. Click on the "Save Coordinates As Preset" to save the entered coordinates. To move to the new preset position, double-click on the new Preset List Number.
	<p>Using the MOVE TO or JOG Screen, move the Pan & Tilt to the desired position. Highlight a Preset List Number and then click on the "Save Current Position As Preset." The current Pan, Tilt, Zoom, and Focus attributes are saved into the highlighted Preset List Number.</p>
	<p>To change a Zoom or Focus attribute in a Preset, go to the JOG Screen and adjust the Zoom/Focus sliders to the desired value.</p> <p>Go back to the PRESETS Screen and highlight the desired Preset List Number. Click on the "Add Zoom/Focus To Preset" icon and the new Zoom/Focus values will replace the current Zoom/Focus values. Do not add Zoom/Focus to presets if your lens does not provide position feedback potentiometers.</p>
	<p>Click on the "Clear All Preset Entries To 0/0" icon to clear <u>all</u> of the Presets from the Preset List Section.</p>

4.5 TOURS SCREEN

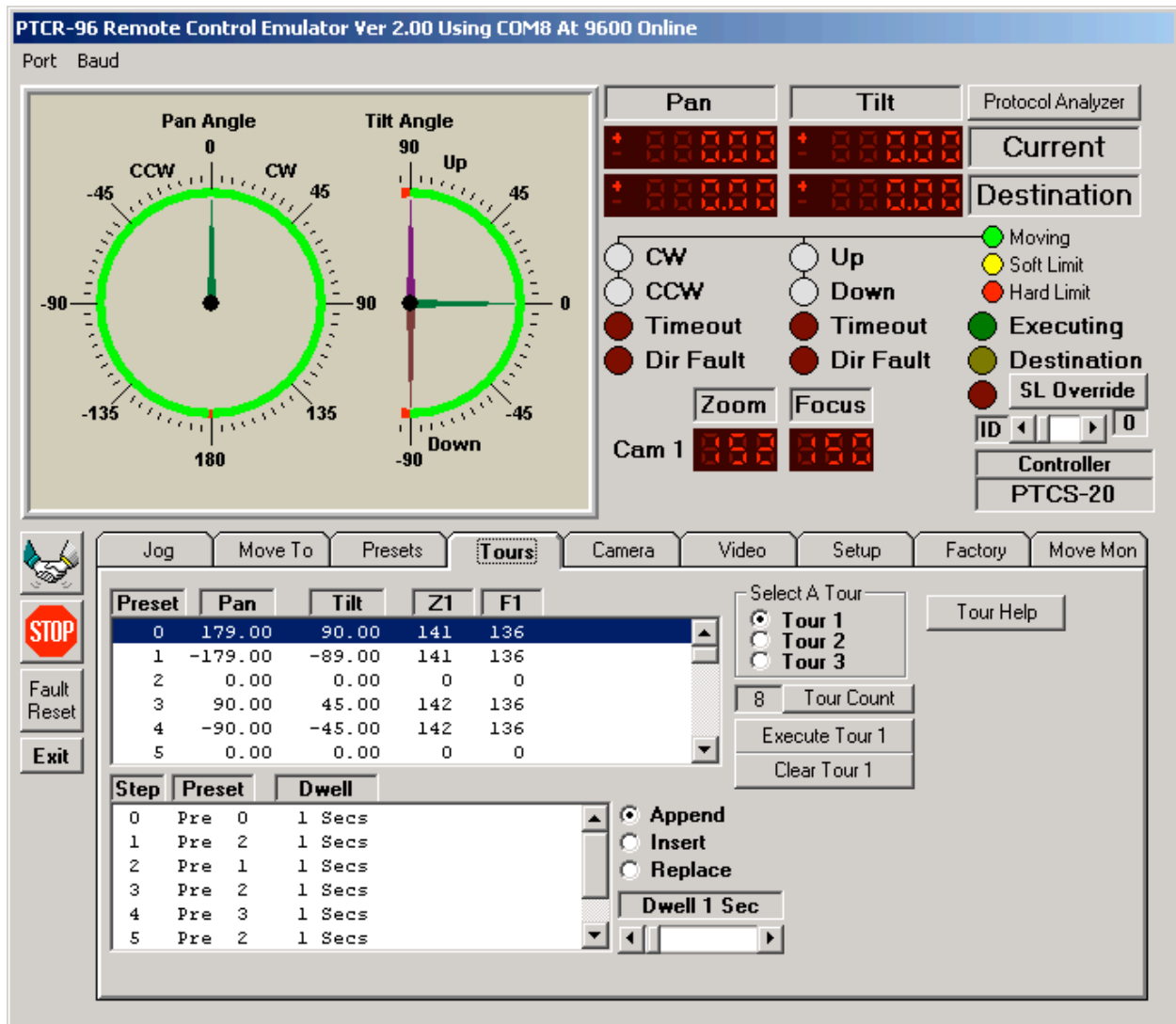


Figure 30: TOURS Screen

4.5 TOURS SCREEN (CONT)

4.5.1 TOUR SCREEN OVERVIEW

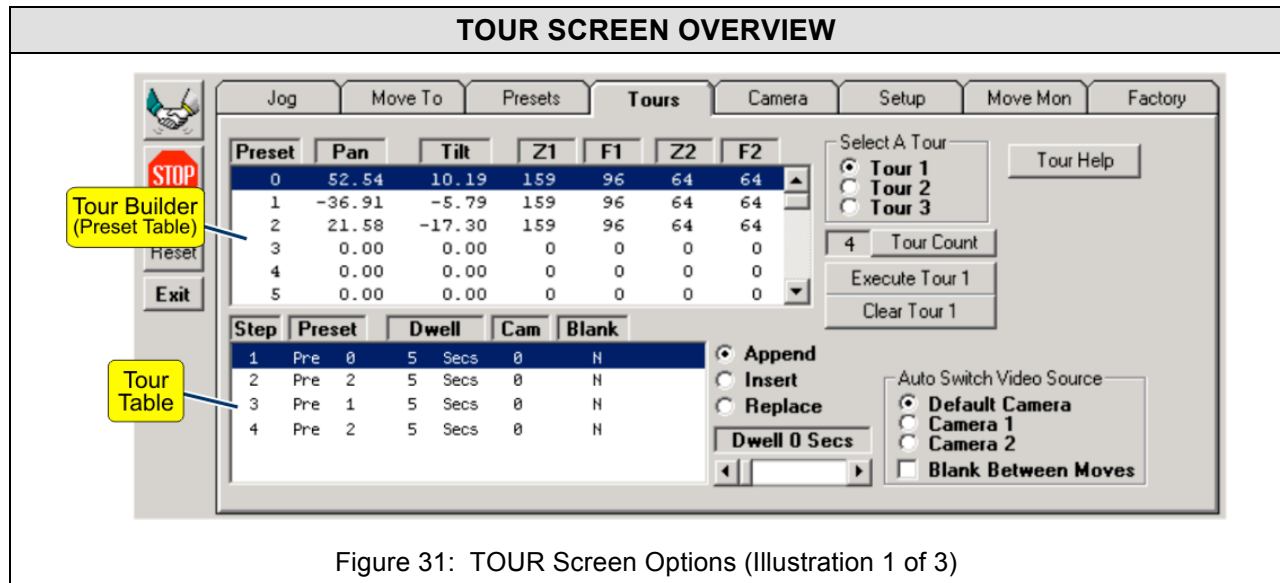
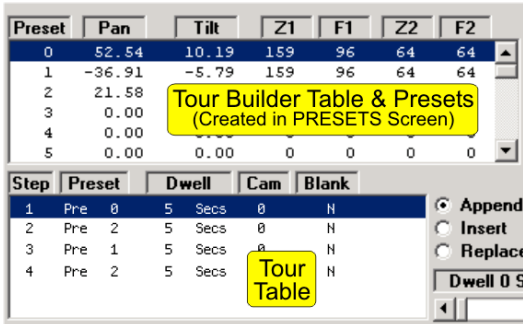

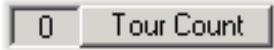


Figure 31: TOUR Screen Options (Illustration 1 of 3)

ICON	DESCRIPTION
	<p>NOTE: Tours are built from storing Presets in any order as selected by the user.</p> <p>The Tour Builder Table and Presets is a duplicate listing of the of the Preset List Numbers created in the PRESETS Screen. Any combination of Presets from the Tour Builder Table can be selected to create a Tour in the Tour Table.</p> <p>The Tour Table contains the Tour Steps created for a Tour. The Tour Table can contain up to 64 (numbered 0-63) Tour Steps.</p>
	<p>Use the "Select A Tour" section to select one of three (3) Tours that can be enabled (e.g., Tour 1 can be selected to scan northern presets, Tour 2 can be selected to scan eastern presets, etc.).</p> <p>NOTE: Each Tour can contain up to 64 (numbered 0-63) Tour Steps.</p>
	<p>The Tour Count option displays the quantity of Tour Steps contained in a selected Tour.</p> <p>NOTE: If the quantity of steps shown in the Tour Count window does not match the quantity of Tour Steps contained in the Tour Table, the tour data is corrupt and the Tour should be rebuilt.</p>

4.5 TOURS SCREEN (CONT)

4.5.1 TOUR SCREEN OVERVIEW (CONT)

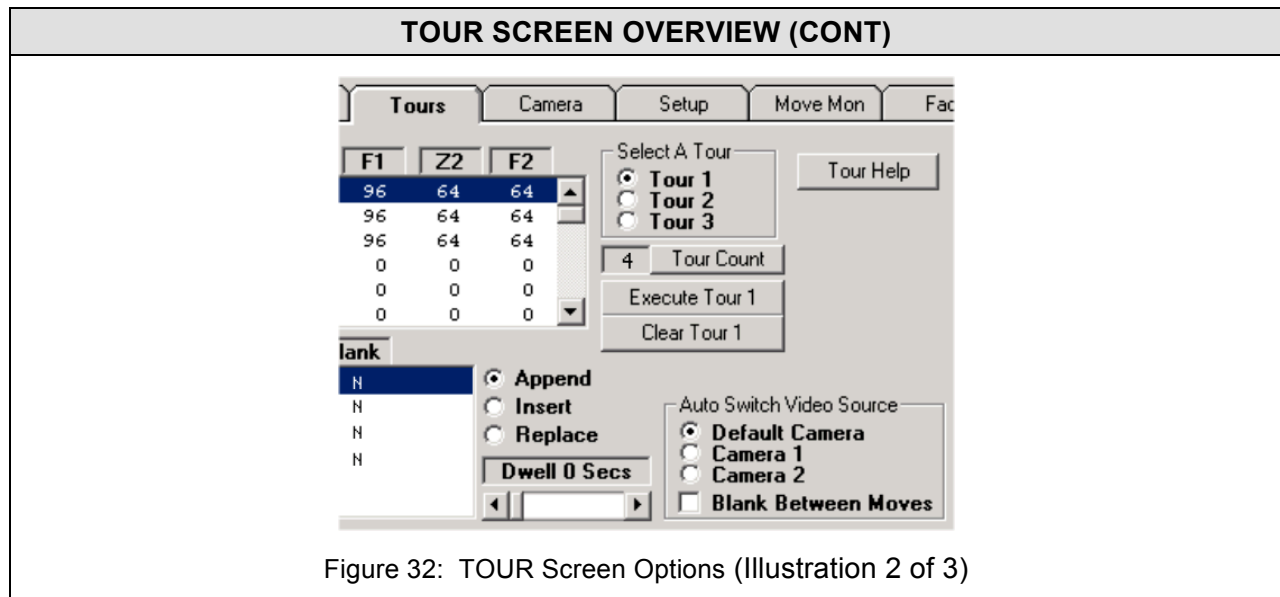
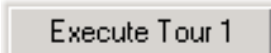

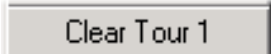



Figure 32: TOUR Screen Options (Illustration 2 of 3)

ICON	DESCRIPTION
	Click on the “Execute Tour X” to execute the tour as selected in the “Select A Tour” section. The selected Tour will run continuously or until the  icon is pressed.
	Click on the “Clear Tour X” to completely clear all of the Tour Steps out of the currently selected Tour and its Tour Table.
	<p>The following can be performed when selecting the Append, Insert, or Replace options:</p> <ul style="list-style-type: none"> • Append - Select the “Append” option to change a Dwell, Cam, or Blank attribute in a highlighted step. • Insert – Select “Insert” option to add an additional Step. Highlight the step in the Tour Table before the position where the inserted step is to be entered. Double-click on the new step in the Tour Builder Table and the new step will be inserted in the Tour Table. • Replace – Select “Replace: to replace a Step in the Tour Table. Highlight the old step in the Tour Table and double-click on the new step in the Tour Builder Table.

4.5 TOURS SCREEN (CONT)

4.5.1 TOUR SCREEN OVERVIEW (CONT)

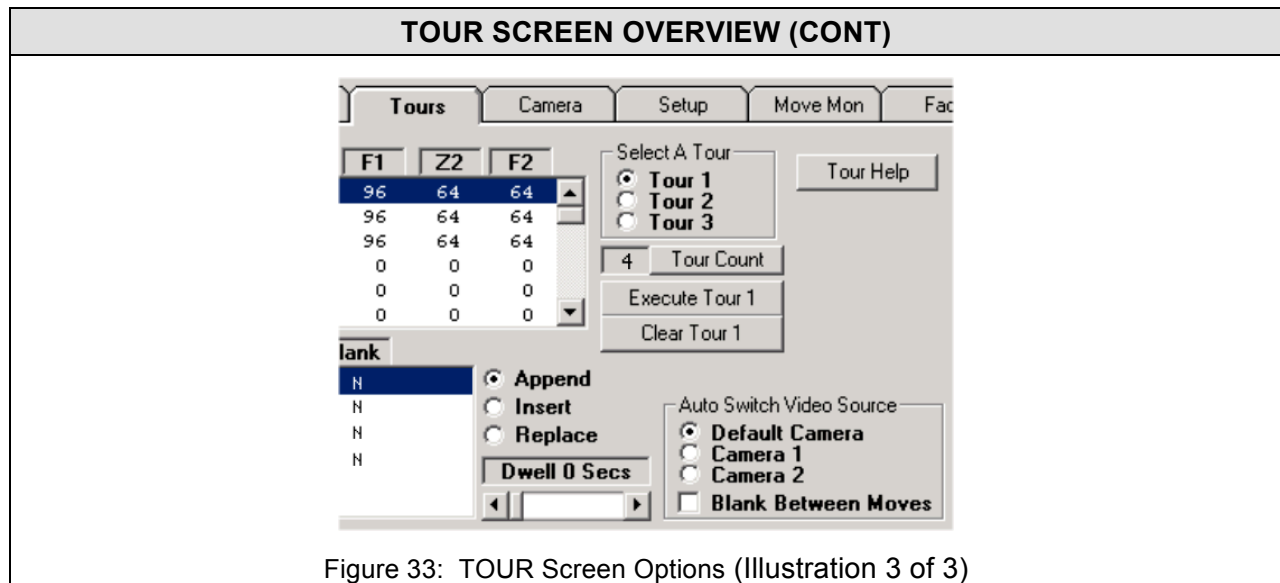
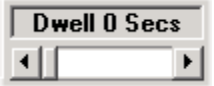




Figure 33: TOUR Screen Options (Illustration 3 of 3)

ICON	DESCRIPTION
	The "Dwell" option is used to program a dwell time (the time, in seconds, the Pan & Tilt spends at this step before moving to the next step) for the Step highlighted in the Tour Table. To adjust the Dwell, select the "Append" option, position and slide the cursor until the desired amount of seconds (1 to 255 seconds) is displayed in the window. Release the bar.
	Use the "Auto Switch Video Source" to select a camera option to be applied to a highlighted Step in the Tour Table, for example: <ul style="list-style-type: none"> Default Camera – Check this option to use the Default Camera (Cam 1) in this Step of the Tour. Camera 1 – Check this option to use Camera 1 (Cam 1) in this Step of the Tour. Camera 2 – Check this option to use Camera 2 (Cam 2) in this Step of the Tour. Blank Between Moves – Check this option to "blank" the video between the highlighted Step and the next Step in the Tour. <p>An "N" in the Tour Table Step (Blank) position indicates a camera is being used.</p> <p>A "Y" in the Tour Table Step (Blank) position indicates "Blank Between Moves" option has been selected indicating a camera is not being used in this Step.</p>
	Click on the "Tour Help" icon to access Tour Help information.

4.5 TOURS SCREEN (CONT)

4.5.2 CREATING A TOUR USING THE TOUR BUILDER & TOUR TABLE

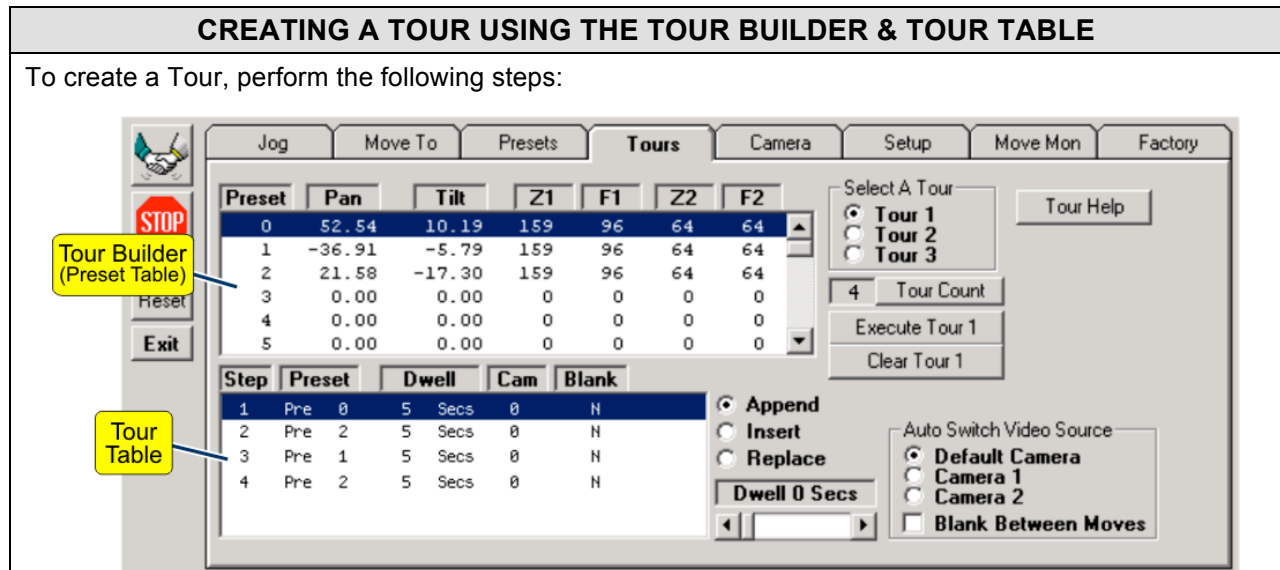


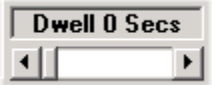
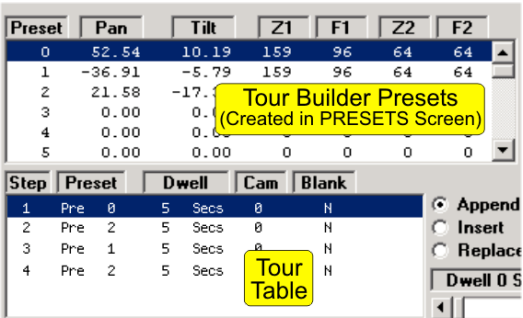


Figure 34: Tour Builder & Tour Table

ICON	DESCRIPTION
	<p>At the “Select A Tour” section, select one of the three (3) Tours that can be built (Tour 1, Tour 2, or Tour 3).</p> <p>NOTE: Each Tour can contain up to 64 (numbered 0-63) Tour Steps.</p>
	<p>Select the “Append” option located to the right of the Tour Table.</p>
	<p>Select a “Dwell” time (the time, in seconds, the Pan & Tilt spends at this step before moving to the next step). To adjust the Dwell, position and slide the cursor until the desired amount of seconds (1 to 255 seconds) is displayed in the window. Release the bar.</p>
	<p>Double-click on the desired Preset from the Tour Builder Presets. The Preset will be saved to the Tour Table including the Dwell attributes as selected above.</p> <p>Repeat the above procedure for each Tour Step to be created (up to 64 (numbered 0-63) steps per Tour).</p>

4.6 CAMERA SCREEN

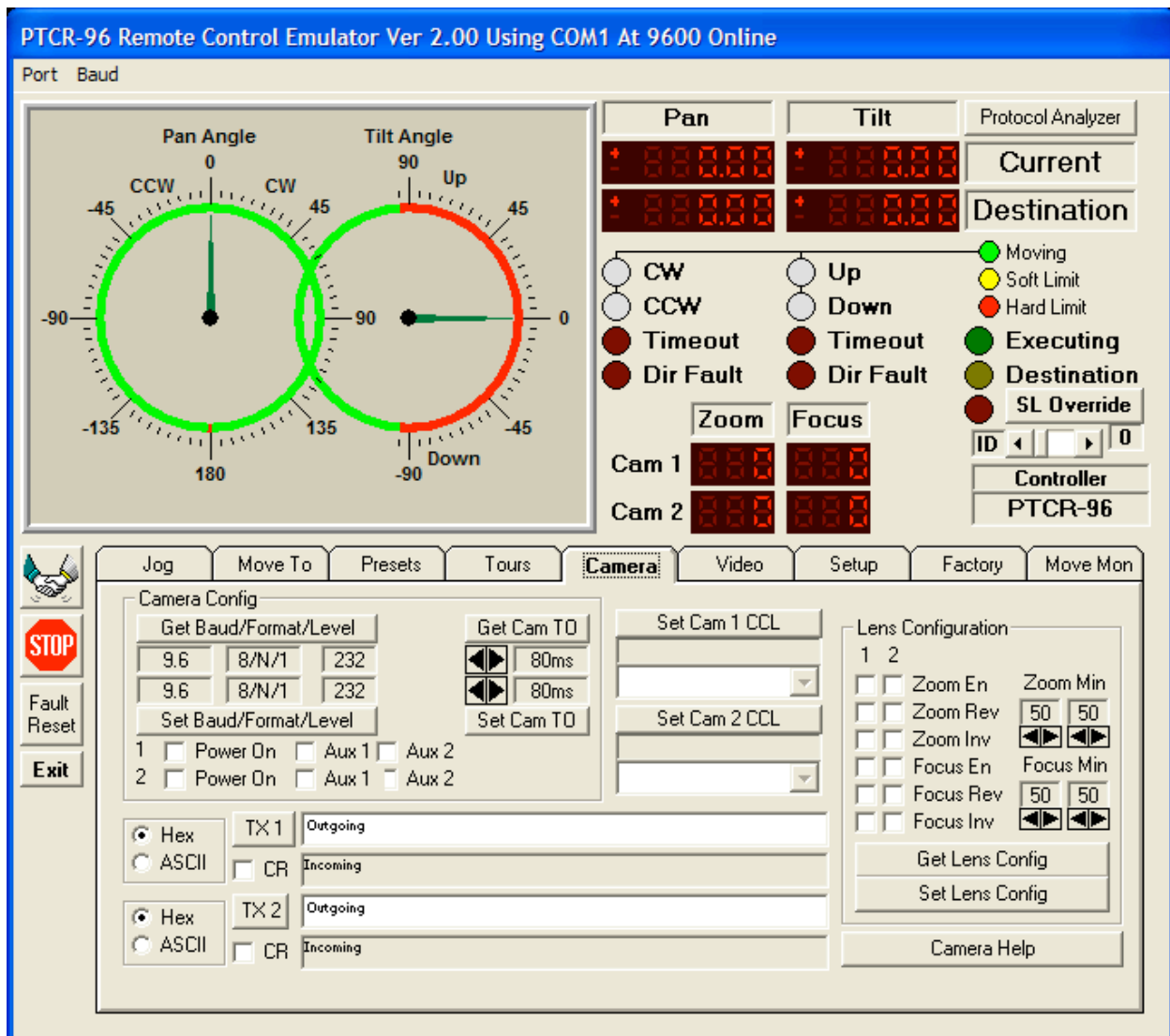


Figure 35: CAMERA Screen

CAUTION: Before making changes to this screen, it is strongly advised to document the current settings. This is easily accomplished by holding the Alt & Print Screen keys to save the front-most screen image. This can then be pasted into a Word™ document for reference at a later time.

4.6 CAMERA SCREEN (CONT)

4.6.1 CAMERA SCREEN OVERVIEW

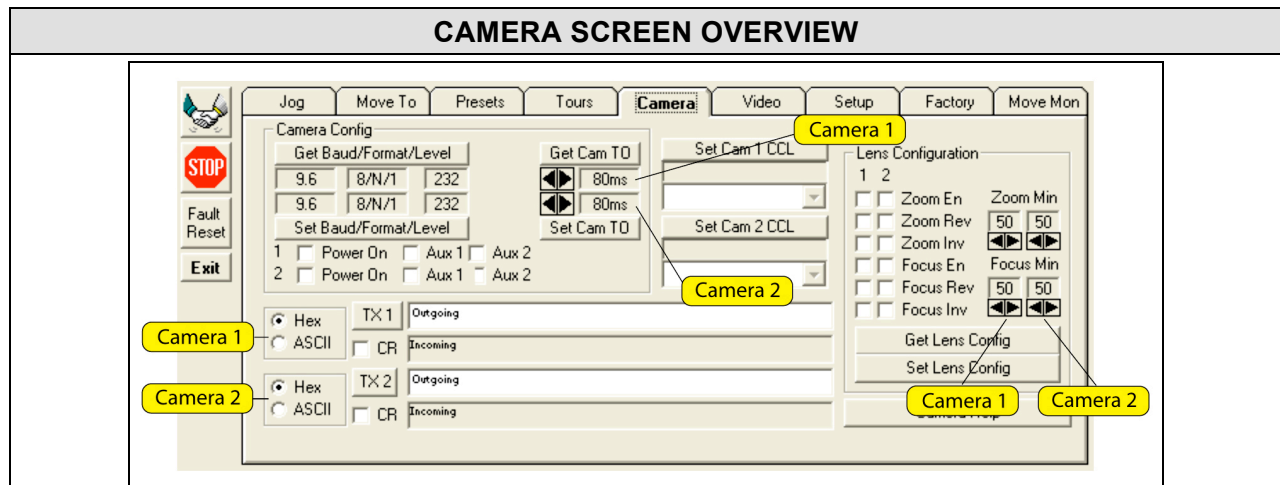
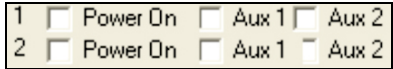
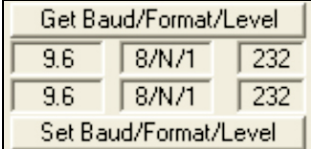


Figure 36: CAMERA Screen (Illustration 1 of 3)

ICON	DESCRIPTION
<p>NOTE: Consult your specific camera documentation prior to making any changes/adjustments.</p> 	<p>Use the Power on window in the “Camera Config” Section to select the following options for Camera 1 and/or Camera 2:</p> <ul style="list-style-type: none"> • Power On – Select the “Power On” option to automatically power-up the selected camera(s) when the Pan & Tilt Unit is powered-up. • Aux 1/2 – Select the “Aux 1/Aux 2” option to power-on/off auxiliary components (i.e., camera lens, lens wipers, lens washers, and light bar, etc.,). <p>After the Power Options have been selected, the user can save the Camera Power settings by clicking on the Store Video Mode As Initial icon on the VIDEO SCREEN to save the options as the initial settings at power-on.</p>
	<p>Click on the “Get Baud/Format/Level” icon to view the list of additional Baud Rates and Data Levels for each Camera. After any changes have been made, the user clicks on the Set Baud/Format/Level to save the new settings.</p>

4.6 CAMERA SCREEN (CONT)

4.6.1 CAMERA SCREEN OVERVIEW (CONT)

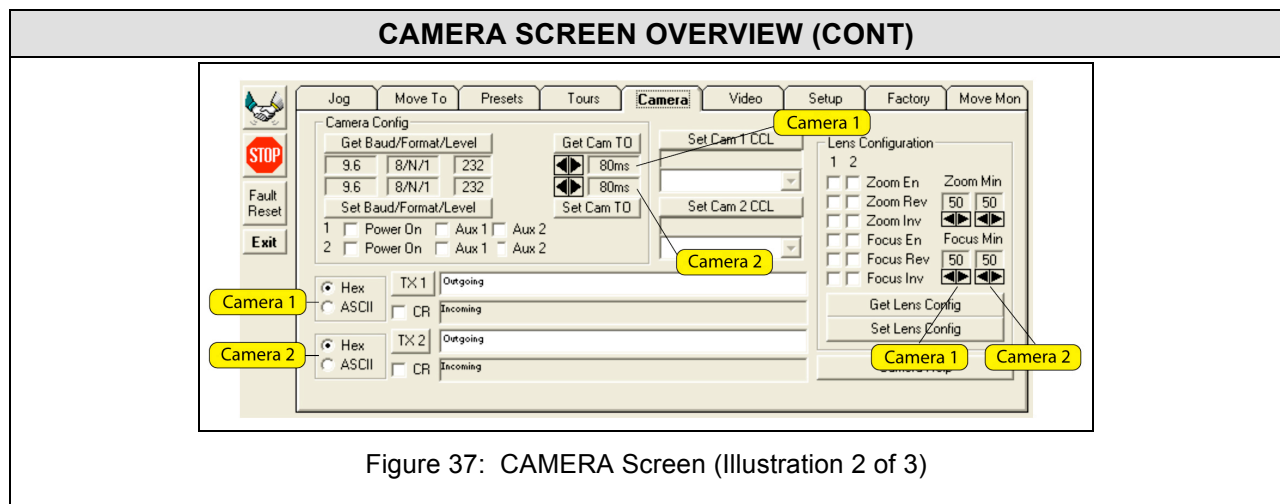
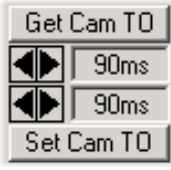
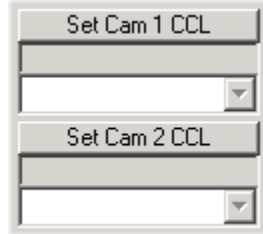



Figure 37: CAMERA Screen (Illustration 2 of 3)

ICON	DESCRIPTION
<p>NOTE: Consult your specific camera documentation prior to making any changes/adjustments.</p> 	<p>The Cam TO (Camera Timeout) selection is used to change the camera timeout timer (in 4 millisecond increments). The user should set the Cam TO to a minimal value and then increase it until reliability is received. If a defined camera type is selected, the Cam TO will be automatically selected. To view/change the Cam TO setting, perform the following:</p> <ul style="list-style-type: none"> Click on the “Get Cam TO” icon to view the last saved setting. To change the value, adjust the increment/decrement spin buttons until the desired amount of milliseconds is displayed in the window. Click on the “Set Cam TO” icon to save the setting.
	<p>Set Cam 1/2 CCL (Camera Control List) contains a pool of camera commands (commonly used command strings) specific to a particular type of camera. To select a CCL for your particular camera, perform the following:</p> <ul style="list-style-type: none"> Click on the drop-down list and select one of the commands. The command will be displayed in the window. Click on the “Set Cam 1/2 CCL” icon to save the command. If you would like CCL files developed for your camera, contact QuickSet® Account Manager for information.
	<p>NOTE: Only experienced personnel should perform operations in this section of the CAMERA Screen.</p> <p>Use this selection to manually input Hex/ASCII command strings for a particular camera.</p>

4.6 CAMERA SCREEN (CONT)

4.6.1 CAMERA SCREEN OVERVIEW (CONT)

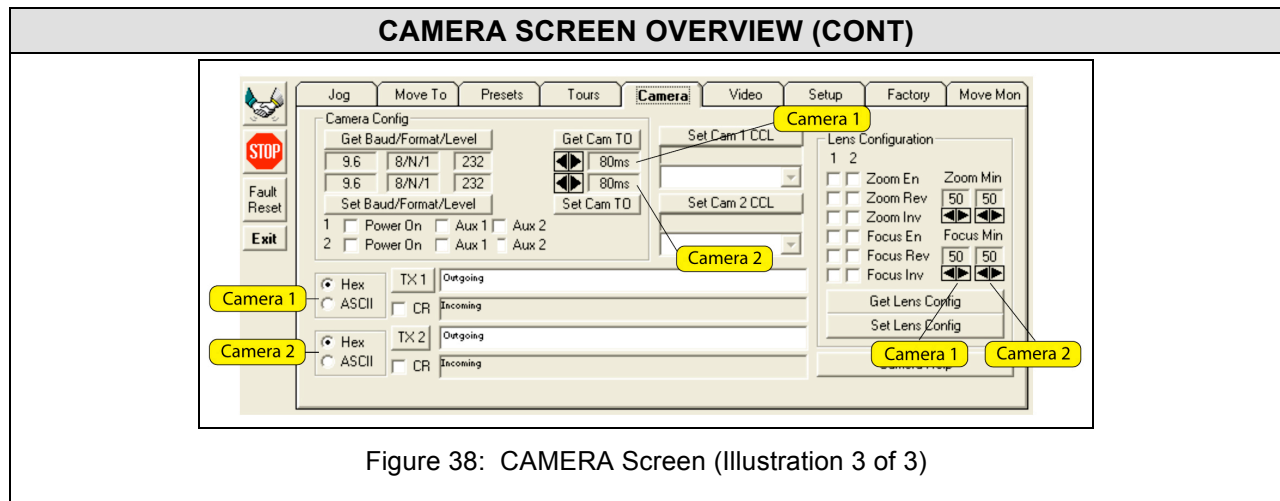
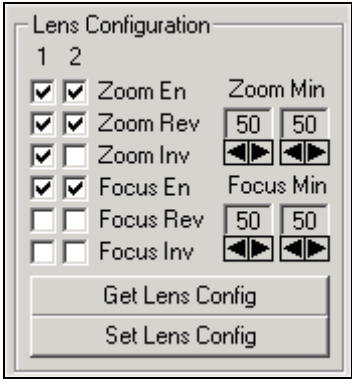
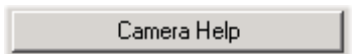


Figure 38: CAMERA Screen (Illustration 3 of 3)

ICON	DESCRIPTION
	<p>The “Lens Configuration” section is used to control the zoom and focus configuration of the Camera 1 and/or 2 motors as follows:</p> <p>NOTE: Click on the “Get Lens Config” icon to view the last saved Lens Configuration.</p> <ul style="list-style-type: none"> • Zoom/Focus En – Select the Zoom/Focus En box to enable control of the zoom and/or focus motors. • Zoom/Focus Rev – Select the Zoom/Focus Rev box to reverse the direction of the Zoom/Focus motors in the event the motors are operating in the wrong direction (moving in the wrong direction to reach a preset position). • Zoom/Focus Inv – The controller expects the Zoom or Focus feedback numeric value to increment when zooming in or focusing far. Use this toggle to reverse the direction of the feedback. • Zoom/Focus Min – Use this selection to set the Zoom/Focus minimum speed. If a Zoom/Focus motor does not start, stalls, or stops during its movement, the minimum speed may be set too low. Adjusting the minimum speed is trial and error and is performed as follows: <ul style="list-style-type: none"> • Using the increment/decrement spin buttons, change the value of the minimum speed for the Zoom and Focus motors. • After the desired changes have been made, the user clicks on the “Set Lens Config” icon to save the changes.
	<p>Click on the “Camera Help” icon to access Camera Help information.</p>

4.7 VIDEO SCREENS

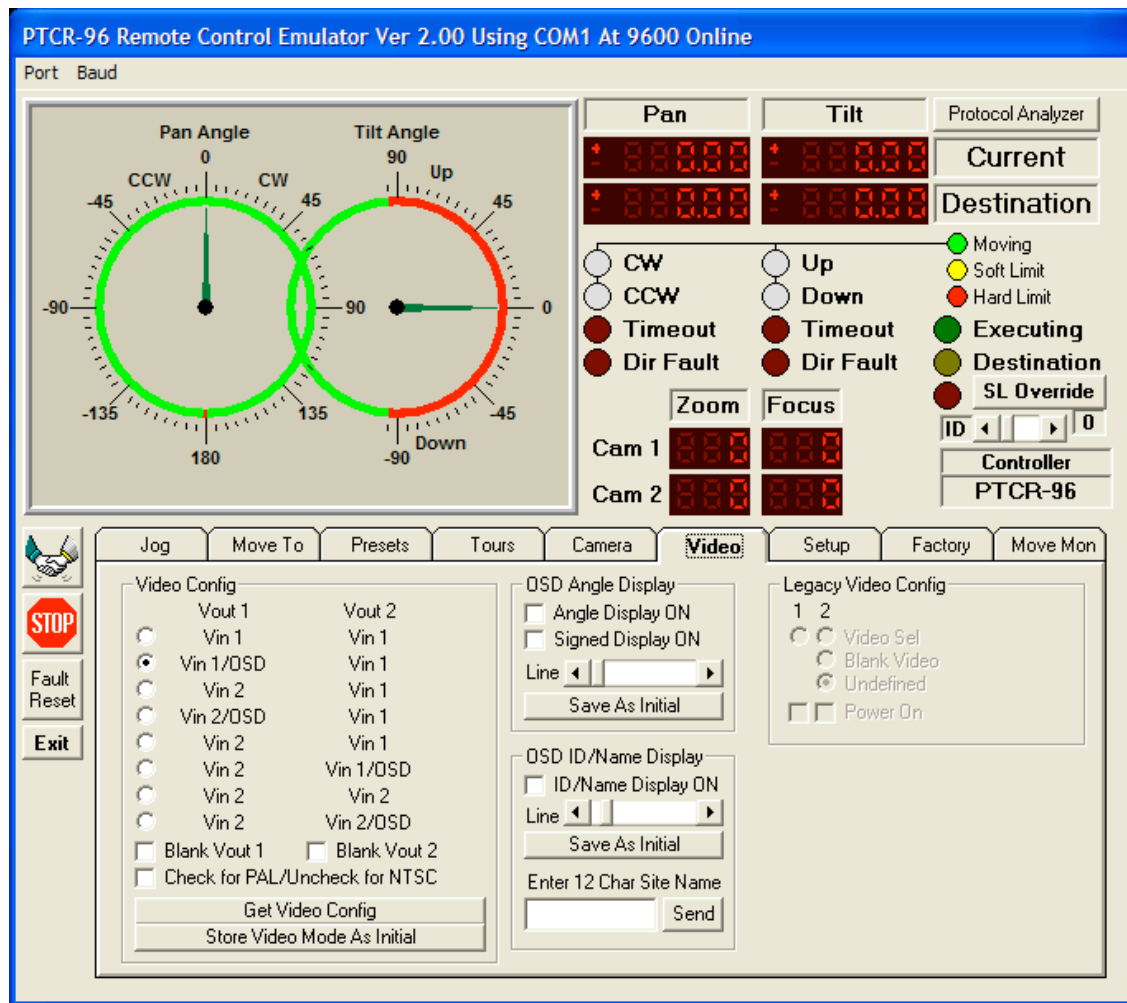


Figure 39: VIDEO Screen PTCR-96

4.7.1 VIDEO PTCR-96

Use the Video Screen to configure the camera video selection and brings the OSD online and offline. The video selection system is a limited 2 x 2 crosspoint switch. There are two video inputs, one from each camera. There are two video outputs, Vout1 and Vout2. Either output may display either camera input and can also be independently blanked. The following table shows the mode, OSD control, and blanking configurations possible with the onboard video selector.

Video Config	
Vout 1	Vout 2
<input type="radio"/> Vin 1	<input type="radio"/> Vin 1
<input checked="" type="radio"/> Vin 1/OSD	<input type="radio"/> Vin 1
<input type="radio"/> Vin 2	<input type="radio"/> Vin 1
<input type="radio"/> Vin 2/OSD	<input type="radio"/> Vin 1
<input type="radio"/> Vin 2	<input type="radio"/> Vin 1
<input type="radio"/> Vin 2	<input type="radio"/> Vin 1/OSD
<input type="radio"/> Vin 2	<input type="radio"/> Vin 2
<input type="radio"/> Vin 2	<input type="radio"/> Vin 2/OSD
<input type="checkbox"/> Blank Vout 1	<input type="checkbox"/> Blank Vout 2
<input type="checkbox"/> Check for PAL/Uncheck for NTSC	
Get Video Config	
Store Video Mode As Initial	

4.7.2 VIDEO PTCS-20

Use the Video Screen to configure the OSD online and offline.

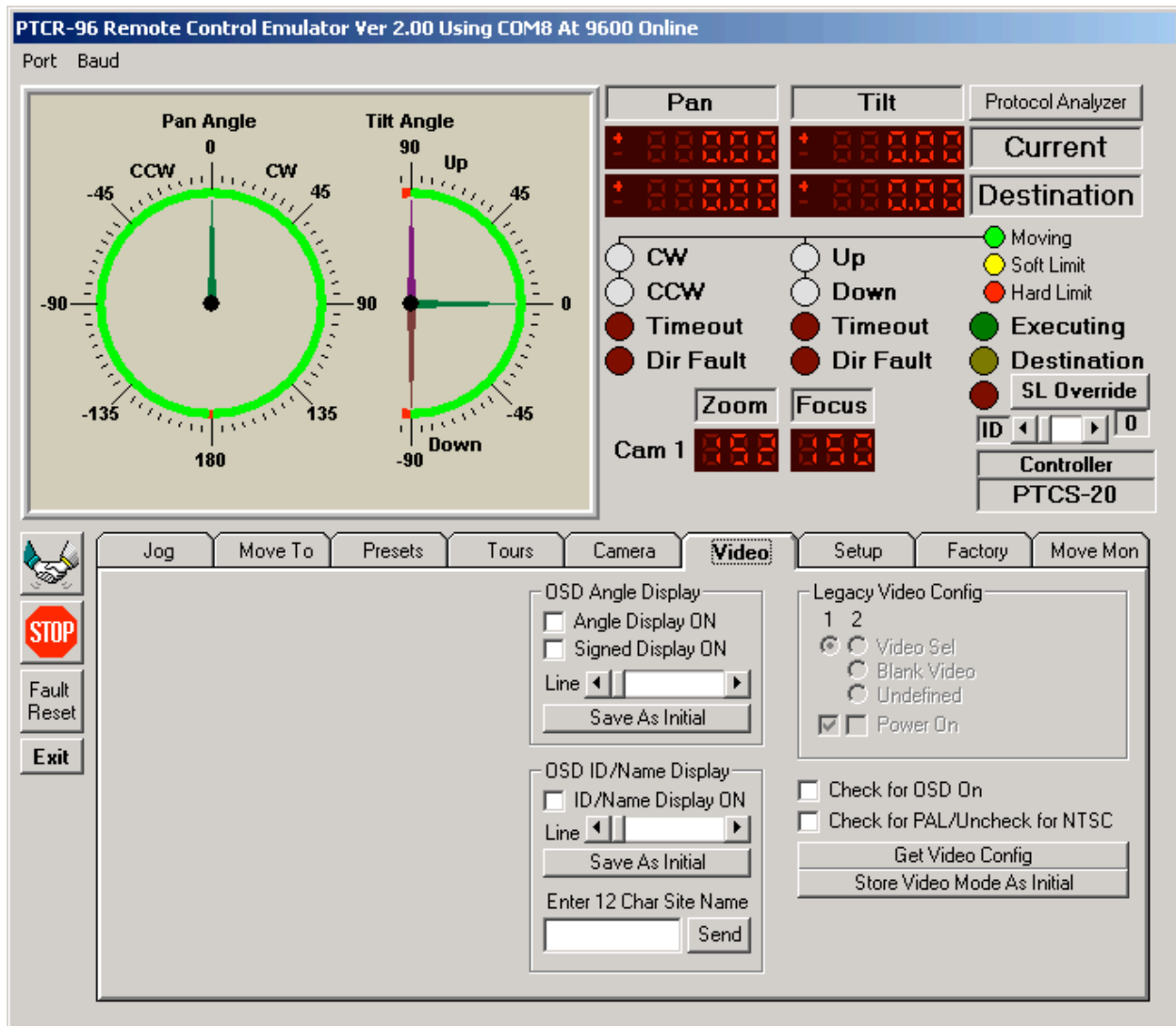


Figure 40: VIDEO Screen PTCS-20

4.7.2 VIDEO PTCS-20

The PTCS-20 based product is configured for one camera, and therefore there are no accommodations for video switching. When the Emulator/GUI is connected to PTCS-20 based product, these options will not appear.

4.8 SETUP SCREEN

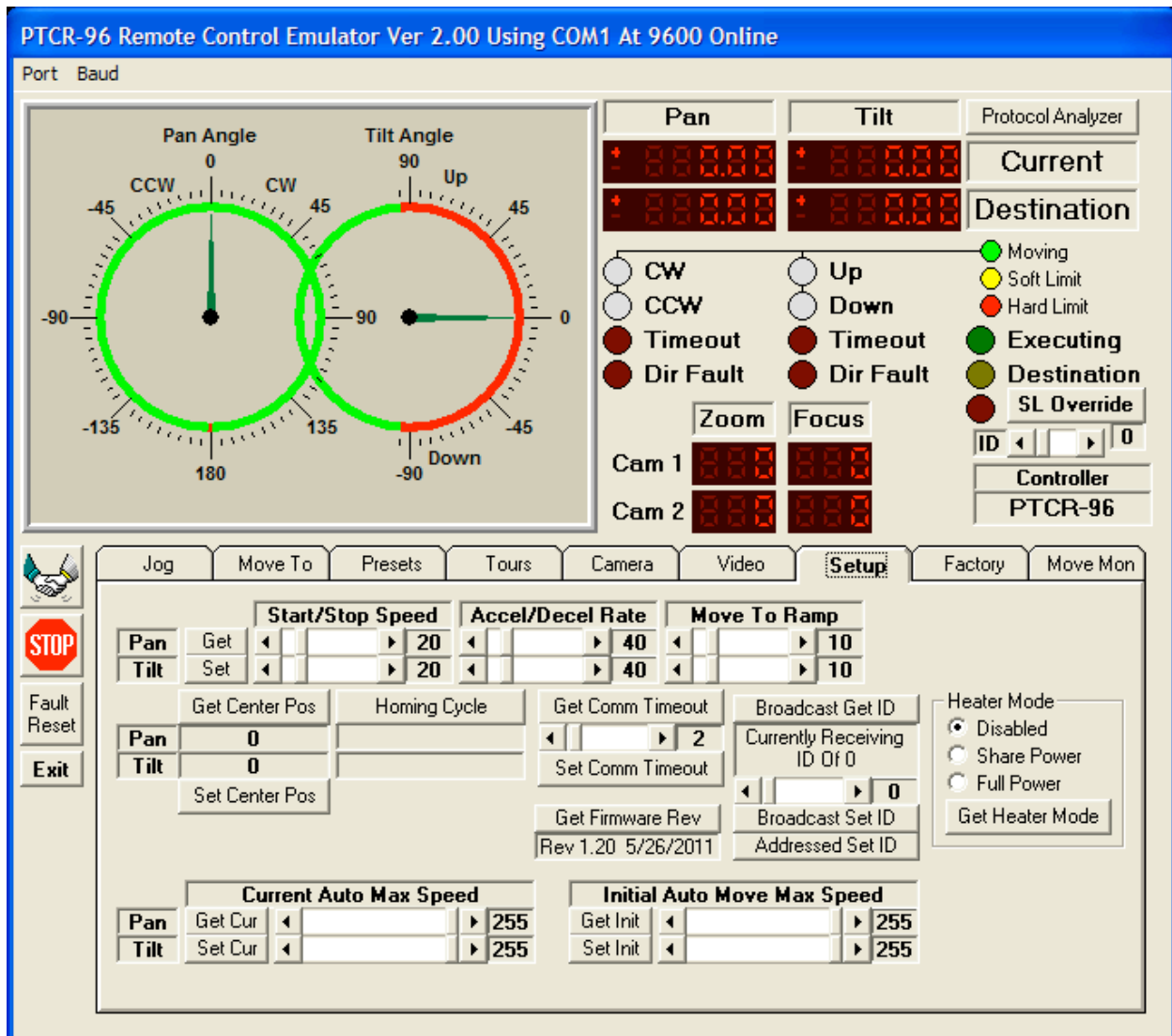


Figure 41: SETUP Screen

CAUTION: Before making changes to this screen, it is strongly advised to document the current settings. This is easily accomplished by holding the Alt & Print Screen keys to save the front-most screen image. This can then be pasted into a Word™ document for reference at a later time.

4.8 SETUP SCREEN (CONT)

4.8.1 SETUP SCREEN (TOP SECTION)

SETUP SCREEN (TOP SECTION)

Jog		Move To		Presets		Tours		Camera		Video		Setup		Factory		Move Mon	
		Start/Stop Speed				Accel/Decel Rate				Move To Ramp							
Pan	Get	◀ ▶		20		◀ ▶		40		◀ ▶		10					
Tilt	Set	◀ ▶		20		◀ ▶		40		◀ ▶		10					
Get Center Pos				Homing Cycle				Get Comm Timeout				Broadcast Get ID					
Pan	0							◀ ▶				2					
Tilt	0							Set Comm Timeout				Currently Receiving ID Of 0					
Set Center Pos								Get Firmware Rev				Broadcast Set ID					
				Rev 1.20 5/26/2011				Addressed Set ID				Heater Mode <input checked="" type="radio"/> Disabled <input type="radio"/> Share Power <input type="radio"/> Full Power Get Heater Mode					

Figure 42: SETUP Screen (Top Section)

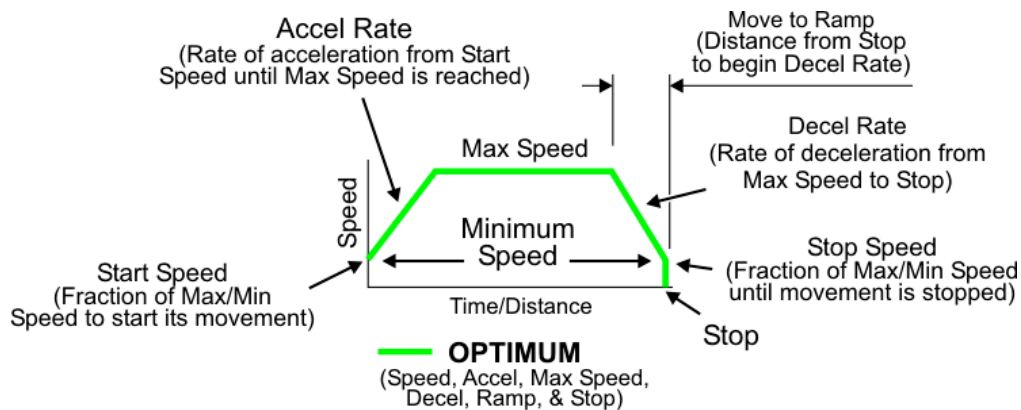
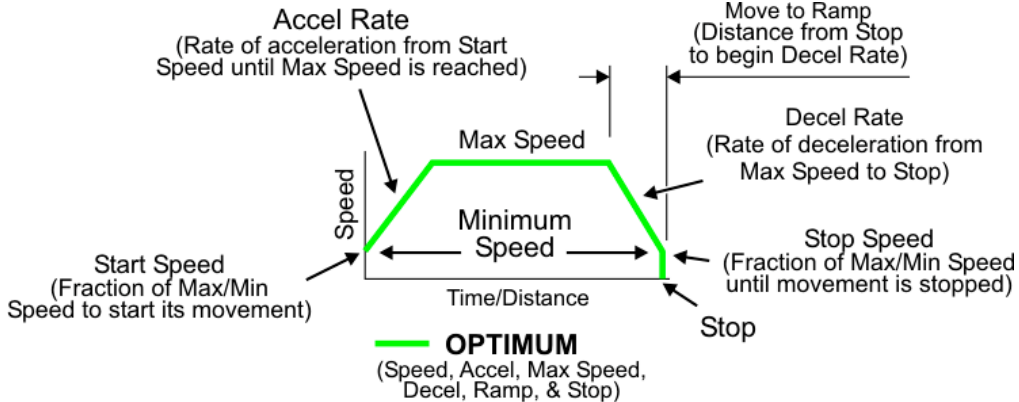
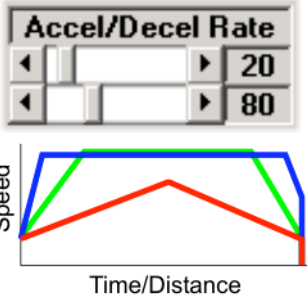
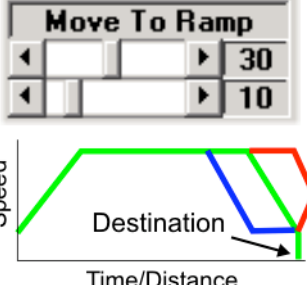


Figure 43: Optimum Unit Performance (Illustration 1 of 2)

ICON	DESCRIPTION
NOTE: To view the last saved Start/Stop Speed, Accel/Decel Rate, or Move to Ramp values, click on the Get icon. After changes have been made to these values, click on the Set icon.	
<div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <p> — Start/Stop Speed too High (lower speed) — Start/Stop Speed too Low (raise speed) — Optimum </p>	<p>Select a "Start/Stop Speed" to adjust the speed (in fractions of the Min/Max Speed) for the Pan & Tilt to start or stop its movement.</p> <p>To adjust the Start/Stop Speed, position and slide the cursor until the desired Start/Stop Speed is shown in the window. Release the bar. Adjust the Start/Stop Speed as follows:</p> <ul style="list-style-type: none"> If the setting is too high, the motors will not have enough torque to move. The unit will not move and a fault will occur. If the setting is too low, the Pan & Tilt will take a longer time to reach full speed, <p>NOTE: The Start/Stop Speed should only be set after a final "load" has been placed on the Pan & Tilt Unit.</p>

4.8 SETUP SCREEN (CONT)

4.8.1 SETUP SCREEN (TOP SECTION) (CONT)

SETUP SCREEN (TOP SECTION) (CONT)	
 <p>OPTIMUM (Speed, Accel, Max Speed, Decel, Ramp, & Stop)</p>	
 <p>— Accl/Decel Rate too High (raise Rate) — Accl/Decel Rate too Low (lower Rate) — Optimum</p>	<p>Select an “Accel/Decel Rate” to adjust the rate of acceleration from the Start Speed until it reaches its Max Speed (operational speed) or the rate of deceleration from its Max Speed until the axes is stopped. Adjust the Accel/Decel Rate as follows:</p> <ul style="list-style-type: none"> To adjust the Accel/Decel Rate (the higher the value, the slower the acceleration or if the unit faults during acceleration or deceleration phase of movement, try increasing the acceleration valve), position and slide the cursor until the desired Accel/Decel Rate is shown in the window. Release the bar.
 <p>— Ramp too Early (reduce value) — Ramp Overshoots (raise value) — Optimum</p>	<p>Select a “Move To Ramp” setting to adjust the distance the Pan and/or Tilt begins to decelerate from its final “destination” position. Adjust the Move To Ramp value as follows:</p> <ul style="list-style-type: none"> To adjust the Move To Ramp (the higher the value, the further from the destination the deceleration occurs), position and slide the cursor until the desired Accel/Decel Rate is shown in the window. Release the bar. <p>NOTE: The user should determine the proper Accel/Decel Rate first and then use that setting to determine the Move To Ramp setting.</p>

4.8 SETUP SCREEN (CONT)

4.8.2 SETUP SCREEN (BOTTOM SECTION)

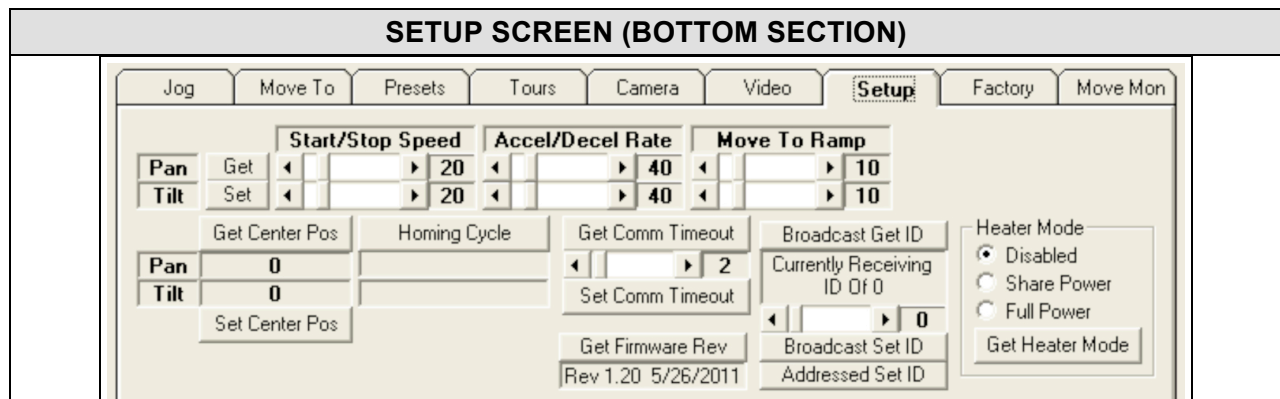
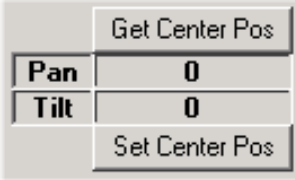
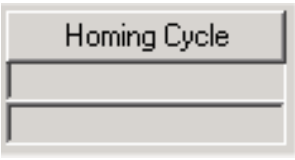



Figure 45: SETUP Screen (Bottom Section) (Illustration 1 of 3)

ICON	DESCRIPTION
	<p>Use the “Get Center Pos” selection to view the current center position (value will be 0 for encoder systems).</p> <p>To Set Center Position, perform the following:</p> <ul style="list-style-type: none"> • Position the Pan & Tilt to its “Physical Center” position (Pan axis facing forward (see arrow decal), Tilt axis level). • Click on the “Set Center Pos” icon. The system automatically stores an offset value in memory relative to its physical center position. • The Pan & Tilt digital displays will read 0/0.
	<p>The Homing Cycle command will automatically move the platform to find the encoder’s index pulse (produced once per revolution to recalibrate the Pan & Tilt). Once found, the system automatically stores an offset value in memory relative to its physical center position.</p>
	<p>The “Get/Set Comm Timeout” setting is used to adjust the amount of time (in seconds) the Pan & Tilt Unit will communicate with the “host” computer. If this value is exceeded, a “Timeout Fault” will be initiated and all Pan & Tilt movement will stop. Normally this value is set to 2 (2 seconds). To view the current Comm Timeout value, press the “Get Comm Timeout” icon.</p> <p>To adjust the Comm (Communications) Timeout, perform the following:</p> <ul style="list-style-type: none"> • Position and slide the cursor until the desired value is shown in the window. Release the bar. <u>Do not</u> set the “Get Comm Timeout” to a zero (0) setting. • Click on the “Set Comm Timeout” icon to save the setting.

4.8 SETUP SCREEN (CONT)

4.8.2 SETUP SCREEN (BOTTOM SECTION) (CONT)

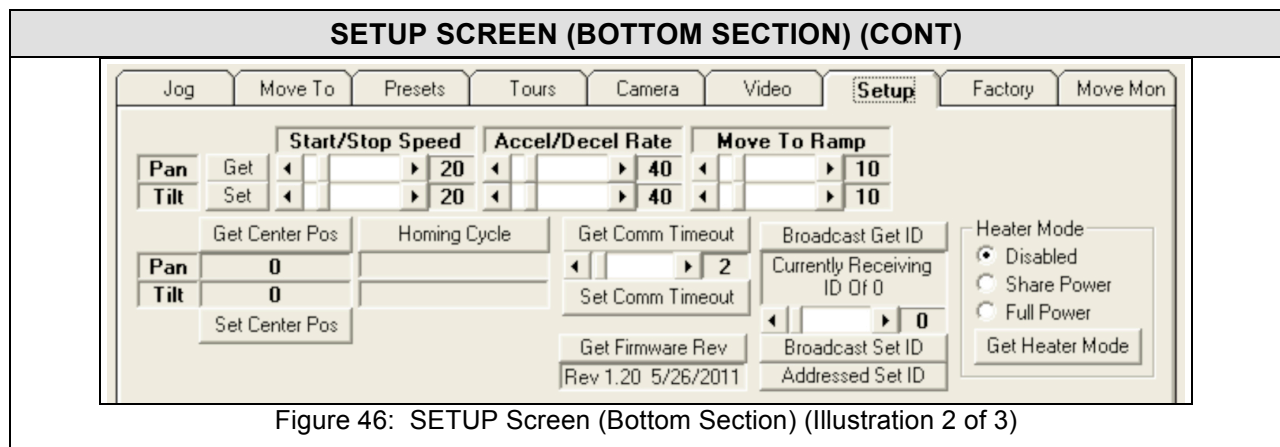




Figure 46: SETUP Screen (Bottom Section) (Illustration 2 of 3)

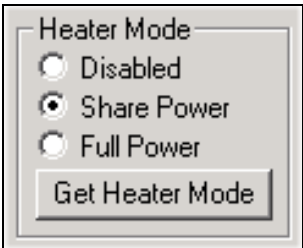
ICON	DESCRIPTION
	<p>The microcontroller used in this system is reprogrammable therefore, to view the current Firmware Revision, click on the “Get Firmware Rev” icon. The currently installed Firmware Revision and its release date will be displayed in the window.</p>
	<p>The controller identity or ID is used to allow the system to work in an RS-485 daisy-chain structure with other Pan & Tilts sharing the same communication lines. ID of 0 is a special Broadcast Mode and is also used on dedicated RS-232 and RS-422 systems. ID's of 1-99 are used for individual addressing.</p> <p>BROADCAST GET ID – The “Broadcast Get ID” should be used only when connected to a specific Pan & Tilt or when other units in a “daisy-chained” system have been disabled. “Broadcast Get ID” command will return the unit's ID number.</p> <p>BROADCAST SET ID – The “Broadcast Set ID” command is used to set a Pan & Tilt's identity. Slide the number bar to the appropriate ID number prior to using this command.</p> <p>ADDRESSED SET ID – The “Addressed Set ID” is used to address a specific Pan & Tilt Unit in a daisy-chained system.</p>

4.8 SETUP SCREEN (CONT)

4.8.2 SETUP SCREEN (BOTTOM SECTION) (CONT)

SETUP SCREEN (BOTTOM SECTION) (CONT)									
<div> Jog Move To Presets Tours Camera Video Setup Factory Move Mon </div>									
<div> <div> <div>Start/Stop Speed</div> <div>Accel/Decel Rate</div> <div>Move To Ramp</div> </div> <div> <div> Pan Get 20 </div> <div> Tilt Set 20 </div> </div> <div> <div> Get Center Pos Homing Cycle </div> <div> Get Comm Timeout Broadcast Get ID </div> </div> <div> <div> Pan 0 </div> <div> Tilt 0 </div> </div> <div> <div> Set Center Pos </div> <div> Set Comm Timeout Broadcast Set ID </div> </div> <div> <div> Get Firmware Rev Rev 1.20 5/26/2011 </div> <div> Currently Receiving ID Of 0 Addressed Set ID </div> </div> <div> <div> Heater Mode <input checked="" type="radio"/> Disabled <input type="radio"/> Share Power <input type="radio"/> Full Power </div> <div> Get Heater Mode </div> </div> </div>									

Figure 47: SETUP Screen (Bottom Section) (Illustration 3 of 3)

ICON	DESCRIPTION
	<p>Use this command to select an operating mode for Heater availability (available power for operating the system). Select from the following:</p> <ul style="list-style-type: none"> Disabled – Disables heater operation, regardless of ambient temperature. Share Power – Power to the heater is turned-off while the Pan & Tilt axes motors are in operation. When the axes movement has stopped, power to the heater is turned on, if the ambient temperature is below the turn-on threshold. Full Power – Power to the heater will be “on” even during a Pan & Tilt axes movement, if the ambient temperature is below the turn-on threshold. Get Heater Mode – Click on the “Get Heater Mode” icon to view the current Heater Mode setting. <p>Typical heater thermostat setting: ON at 32°, OFF at 36°.</p>

4.9 MOVE MON (MONITOR) SCREEN (CONT)

4.9.1 MOVE MON SCREEN OVERVIEW

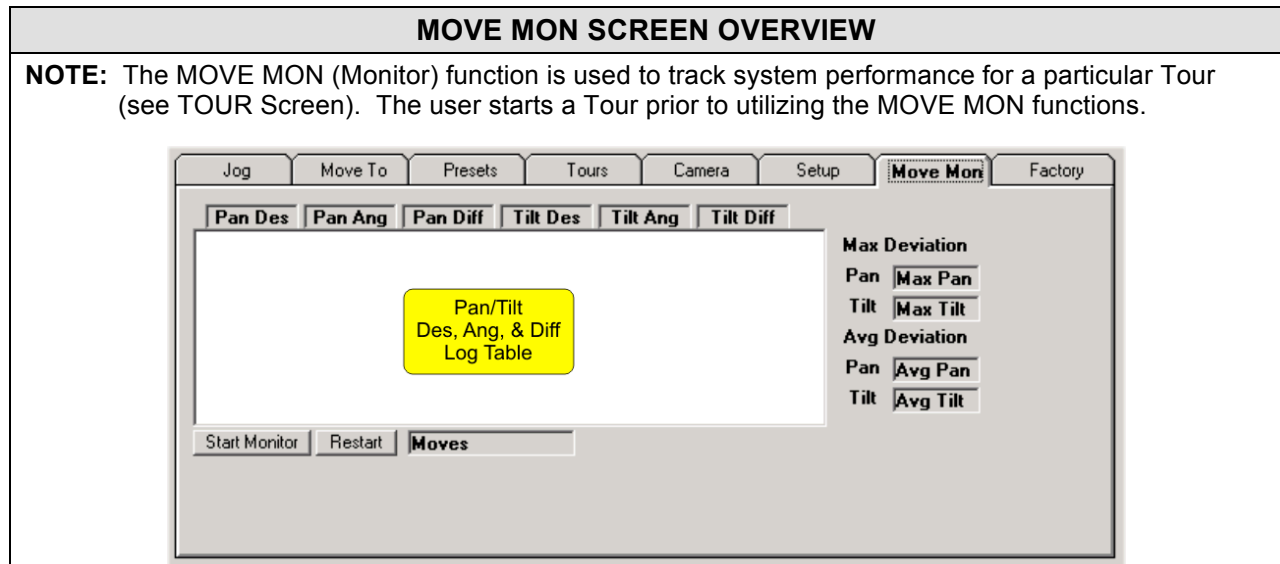







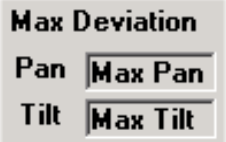


Figure 49: MOVE MON Screen (Illustration 1 of 2)

ICON	DESCRIPTION
	After a Tour has been started at the TOUR Screen, the user clicks on the “Start Monitor” icon to start logging information to the Log Table for the Pan/Tilt Des (Destination), Pan/Tilt Ang (Angle), and Pan/Tilt Diff (Difference) columns.
 	Use the Pan/Tilt Des (Destination) column to view the “intended tour destination” for logged entries.
 	Use the Pan/Tilt Ang (Angle) column to view the “actual tour destination” for logged entries.
 	Use the Pan/Tilt Diff (Difference) column to view the difference between a Pan/Tilt Des value and a Pan/Tilt Ang value for a logged entry.
	Use the Pan/Tilt Max (Maximum) Deviation window to view the maximum deviation (differences) between logged Pan/Tilt Des and Pan/Tilt Ang entries.

4.9 MOVE MON (MONITOR) SCREEN (CONT)

4.9.1 MOVE MON SCREEN OVERVIEW (CONT)

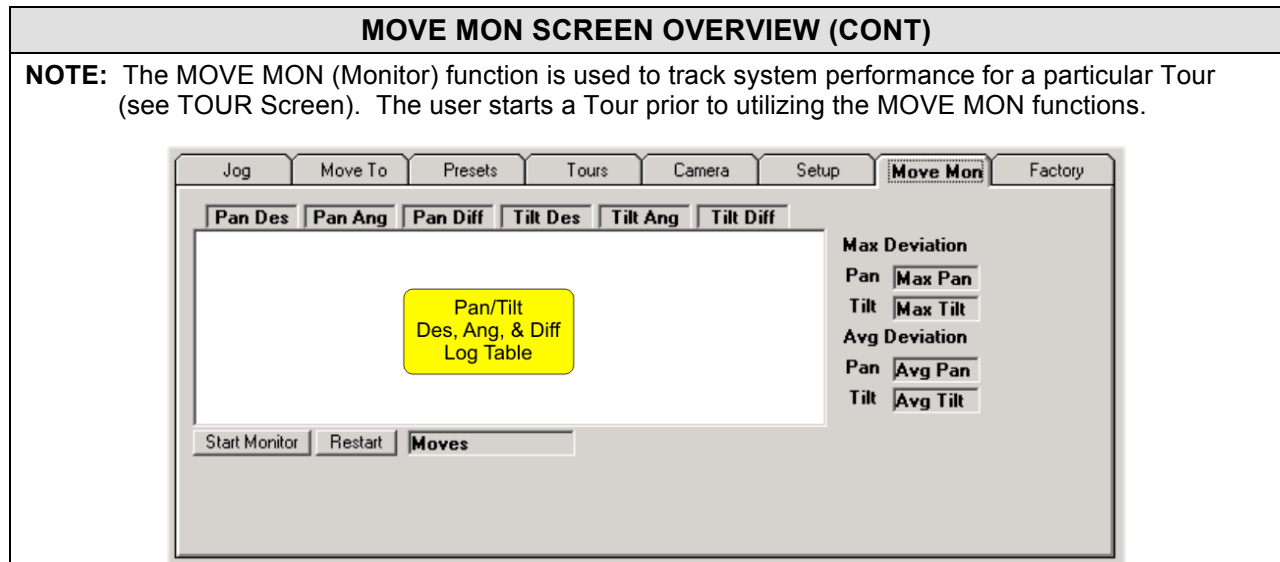






Figure 50: MOVE MON Screen (Illustration 2 of 2)

ICON	DESCRIPTION
	Use the Pan/Tilt Avg Deviation window to view the average deviation (differences) between logged Pan/Tilt Des and Pan/Tilt Ang entries.
	Click on the "Restart" icon to restart the tracking process of a tour.
	<p>The "Moves" window displays the actual moves tracked during this session. If this total is different from the total steps shown on the TOUR Screen, click on the  icon to restart the tracking process.</p>

5.0 FACTORY SCREEN

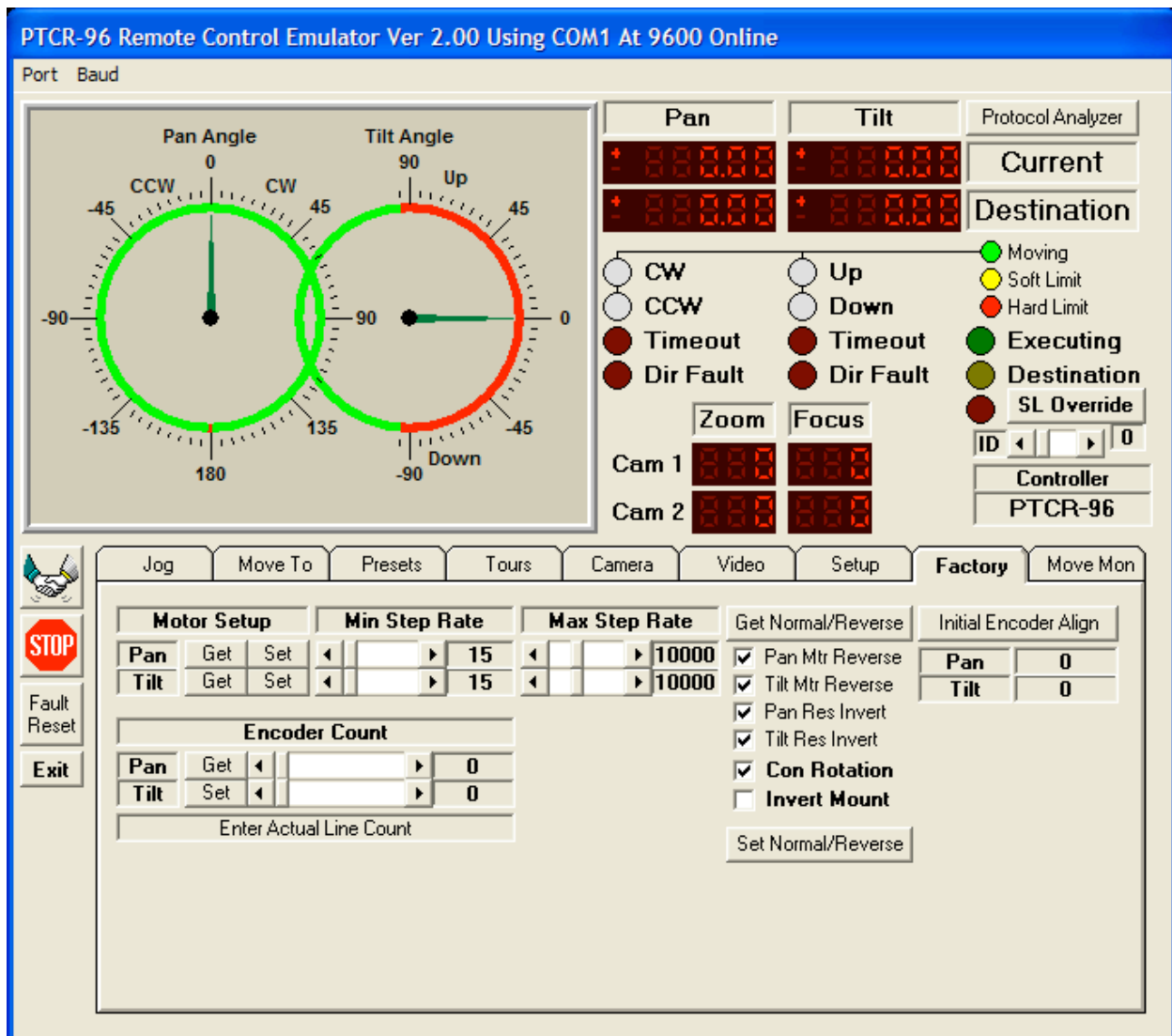


Figure 51: FACTORY Screen

CAUTION	ONLY AUTHORIZED PERSONNEL WILL HAVE ACCESS TO THE FACTORY SCREEN. THE PROPER PASSWORD MUST BE ENTERED TO MAKE ANY ADJUSTMENTS.
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CAUTION: Before making changes to this screen, it is strongly advised to document the current settings. This is easily accomplished by holding the Alt & Print Screen keys to save the front-most screen image. This can then be pasted into a Word™ document for reference at a later time.

5.0 FACTORY SCREEN (CONT)

5.0.1 MOTOR SETUP

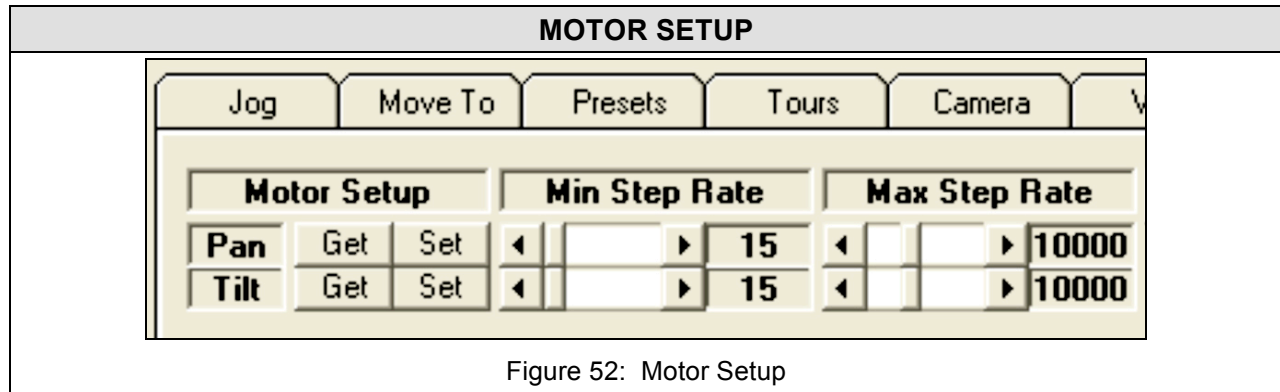

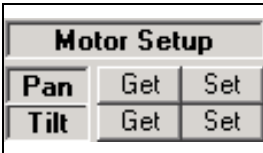
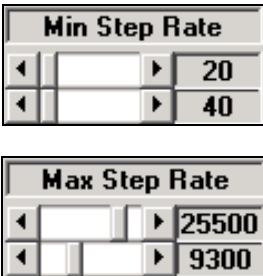


Figure 52: Motor Setup


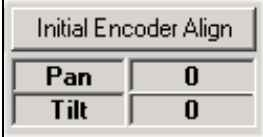
ICON	DESCRIPTION
	<p>After selecting the FACTORY file folder, by default, the “Enter Password” dialog box will appear. Only authorized personnel will possess the proper password to be able to access the FACTORY Screen.</p>
	<p>To view the last saved Min Step Rate/Max Step Rate settings, click on the “Get” icon. The last saved settings will appear in the Windows.</p>
	<p>Use the “Min/Max Step Rate” selections to set the minimum/maximum Pan & Tilt drive motor speeds. To adjust the minimum and maximum motor speeds, perform the following:</p> <ul style="list-style-type: none"> • Position and slide the cursor until the desired value is shown in the window. Release the bar. • Click on the “Set” icon for Pan and/or Tilt. The adjusted value will be saved.

5.0 FACTORY SCREEN (CONT)

5.0.2 GET/SET NORMAL/REVERSE & INITIAL ENCODER ALIGN

GET/SET NORMAL/REVERSE & INITIAL ENCODER ALIGN					
<div> <div>Tours</div> <div>Camera</div> <div>Video</div> <div>Setup</div> <div>Factory</div> <div>Move Mon</div> </div>					
<div>Rate</div> <div>15</div> <div>15</div> <div>0</div> <div>0</div>		<div>Max Step Rate</div> <div>10000</div> <div>10000</div>		<div>Get Normal/Reverse</div> <div> <input checked="" type="checkbox"/> Pan Mtr Reverse <input checked="" type="checkbox"/> Tilt Mtr Reverse <input checked="" type="checkbox"/> Pan Res Invert <input checked="" type="checkbox"/> Tilt Res Invert <input checked="" type="checkbox"/> Con Rotation <input type="checkbox"/> Invert Mount </div> <div>Set Normal/Reverse</div>	
		<div>Initial Encoder Align</div> <div> <div>Pan</div> <div>0</div> </div> <div> <div>Tilt</div> <div>0</div> </div>			

Figure 53: Get/Set Normal/Reverse & Initial Encoder Align

ICON	DESCRIPTION
	<p>Use the "Get/Set Normal/Reverse" selection in the event the Pan and/or Tilt is operating in the opposite direction as required. Perform the following:</p> <p>NOTE: Click on the "Get Normal/Reverse" icon to view the last saved configuration.</p> <ul style="list-style-type: none"> • Pan Mtr Reverse - Select the Pan Motor Rev box to reverse the direction of the Pan axis drive motor in the event the motor is operating in the wrong direction. • Tilt Mtr Reverse - Select the Tilt Motor Rev box to reverse the direction of the Tilt axis drive motor in the event the motor is operating in the wrong direction. • Pan Res Invert - Select the Pan Resolver Invert box to invert the readings of the Pan axis (e.g., axis is moving in the plus (+) direction but the readings indicate a minus (-) direction). • Tilt Res Invert - Select the Tilt Resolver Invert box to invert the readings of the Tilt axis (e.g., axis is moving in the plus (+) direction but the readings indicate a minus (-) direction). • Con Rotation – Select the Continuous Rotation box to enable a Continuous Rotation Pan & Tilt Unit. • Invert Mount – Select the Invert Mount for Inverted Mounting • After the desired changes have been made, the user clicks on the "Set Normal/Reverse" icon to save the changes.
	<p>NOTE: Before performing an "Initial Encoder Align" operation, the Hard Limits must be properly set, the Motor/Resolver Normal/Reverse selections must be correct, and the Continuous Pan box must be checked.</p>

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