CameraMan®

3-CCD Presenter Camera System

Installation and Operations Manual

PARKER VISION®

Visibly Better.™

Table Of Contents

Congratulations On Your Purchase

Your new ParkerVision Presenter Camera System uses proven automatic tracking technology to help improve your distance learning, telemedicine and videoconferencing applications. You should use this manual in conjunction with the installation and operations manual that came with your CameraMan 3-CCD camera.

This manual covers the connection, configuration, and usage of your new Presenter Camera System. Along with basic pan, tilt, zoom, focus and IMAGE control of your CameraMan camera, the Presenter Camera System boasts advanced features and functionality. The system comes with an input/output Main Docking Station, the Tracking Ring Package with built-in microphone, and the wireless RF (or hard-wired) Tracking System Keypad from which autoTRACK Views and other tracking functions are controlled.

If you have questions regarding the installation or operation of your CameraMan 3-CCD General Pan/Tilt camera, refer to the installation and operations manual included with the camera

You'll see three icons in this manual:

! This icon alerts you to *important instructions* in the operation and maintenance of your Camera Control Keypad.

💡 This icon alerts you to *tips or noteworthy suggestions* in the operation, use or maintenance of your Camera Control Keypad.

📷 This icon refers you to the *3-CCD Camera Installation and Operations Manual* that came with your camera.

Your 3-CCD Presenter Camera System should include these components:

- One 3-CCD Main Docking Station
- One 10' Main Docking Station Cable
- One Tracking Power Pack
- One Tracking Ring Sensor
- One Tracking Ring Belt
- One Power Pack Charger
- One 3-CCD Tracking System Keypad
- One 3-CCD Presenter Camera System Operations Manual
- One 3-CCD Tracking Ring Package Quick Reference Card
- One Tracking Ring Power Pack Pouch
- CameraMan Keypad Cable (6-pin phone) - 25 feet
- Two Rubber Duck Antennas

Presenter System Components

The Presenter Camera System comes with various pieces that, using both infrared (IR) and radio-frequency (RF) autoTRACK technology, assist the CameraMan in automatically following you around the room. If you have purchased this as an upgrade, then your package will include all the necessary components except the camera.

Product Description

The Presenter Camera System contains the following components:

Main Docking Station

The Main Docking Station is the I/O center of your Presenter Camera System. It comes standard with two RF frequencies (alternate channels are available for special order). After you connect it to your CameraMan camera, you can control the camera's video and audio out, as well as it's movement via the tracking ring, tracking keypad, or another external control device. The Main Docking Station consists of:

- Main Docking Station with two antennas.

- 10' multi-conductor cable with 37-pin D-sub connectors.

Tracking Ring Package

The Tracking Ring Package uses ParkerVision's patented **autoTRACK™** technology to communicate with your CameraMan camera. By wearing the Tracking Ring, you can move freely throughout the room while the camera automatically follows your every move. This gives you the freedom to get up from the conference room table and walk to a flip-chart without depending on a human camera operator or a system with a fixed- or static-view camera. The Tracking Ring Package consists of:

- Tracking Ring with built-in microphone.

- Tracking Power Pack with a built-in 12 Hour Rechargeable Battery.

- Tracking Power Pack Belt.

- Tracking Power Pack Pouch.

- Power Pack Charger.

Tracking System Keypad

The Tracking System Keypad (7) lets you control camera features such as **autoTRACK Views**, location presets and manual pan/tilt functions in either a wireless RF, or hard-wired mode. With icons illustrating every **autoTRACK View** button, you can easily understand what each camera view should look like.

Also available (sold separately)

- Auxiliary Battery Pack (24 hr).
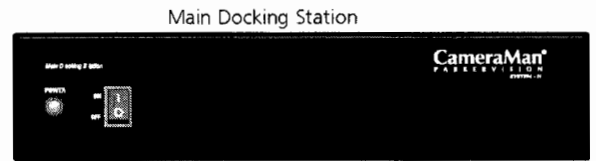
Main Docking Station
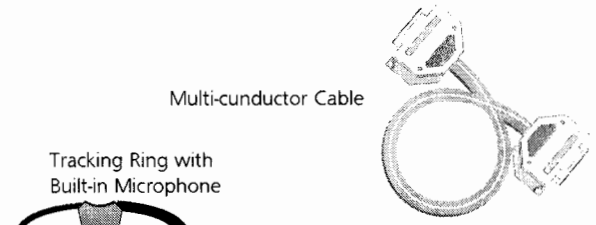
Multi-cunductor Cable
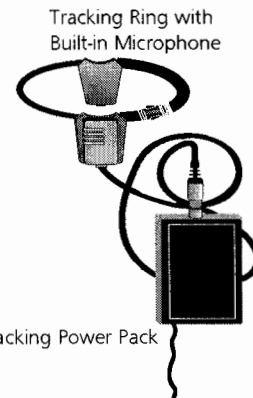
Tracking Ring with Built-in Microphone
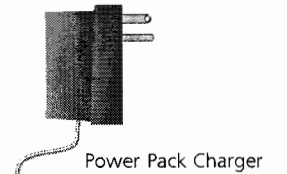
Tracking Power Pack

Power Pack Charger

Tracking System Keypad

Tracking Power Pack Belt
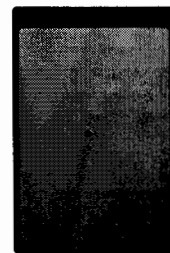
Auxiliary Battery Pack

Tracking Power Pack Pouch

Take a look at the back of your Main Docking Station. The diagram below shows the various connections and configuration switches.

- **ANTENNA** – RF receivers for the tracking power pack.

- **RF CHANNEL SELECT** – Used to select which RF channel the Main Docking Station will use to communicate with the Tracking Ring Package.

- **AUDIO: LEVEL SWITCH** – Used to configure the level of the balanced audio (XLR) output, available for either LINE or MIC level, depending on the type of audio system interfacing with the CameraMan system. The unbalanced output is LINE only.

- **AUDIO: LEVEL ADJUST** – Used to fine tune the level of the audio outputs..

- **S-VIDEO VIDEO OUT JACK** – Provides direct S-Video video output through standard mini-DIN jack (cable not provided).
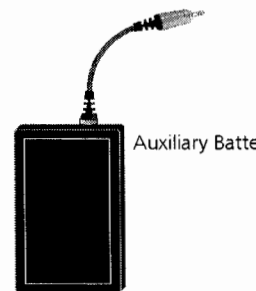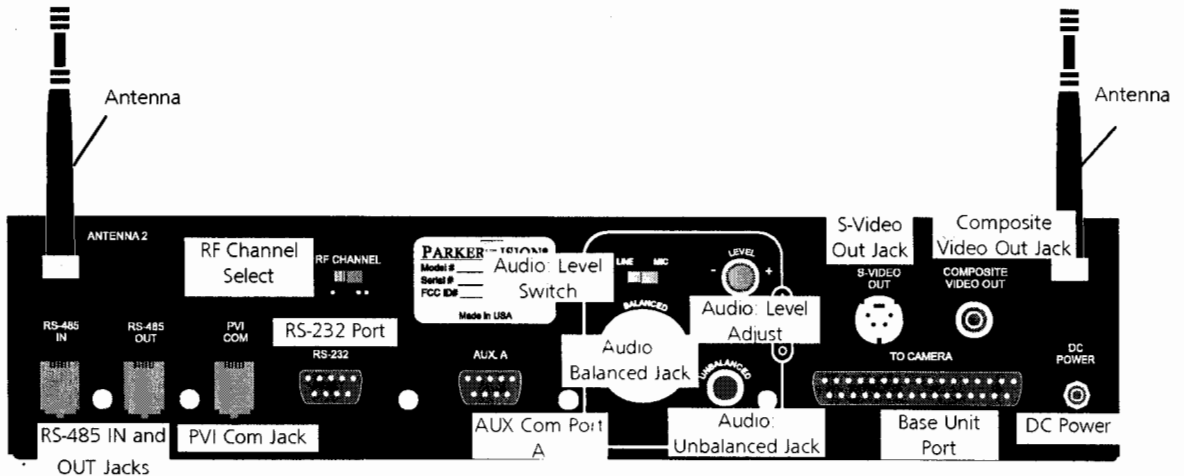
- **COMPOSITE VIDEO OUT JACK** – Provides direct composite video output through standard BNC-type jack (cable not provided).

- **RS-485 IN and OUT JACKS** – 4-position modular handset jacks used for RS-485 communications between the camera system and other CameraMan devices.

PVI COM JACK – 6-conductor RJ-11 jack used for communication with the Tracking System Keypad in hard-wired mode.

RS-232 PORT – Standard DB-9 (female) connector provides RS-232 communications capability for devices like PCs or other vendor-control systems.

- **AUXILIARY COMMUNICATIONS PORT A** – Provides communications to select CameraMan peripherals. Do not use unless otherwise specified.

- **AUDIO: BALANCED JACK** – Standard XLR-type connector provides balanced line or mic level audio output to connect to a standard mixer or similar audio equipment.

- **AUDIO: UNBALANCED JACK** – Standard RCA-type connector provides unbalanced, **line level only** mono audio output to connect to a standard mixer or similar audio equipment.

- **BASE UNIT PORT** – 37-pin D-sub connector provides communication between the Main Docking Station and the Camera System via a 10' multi-conductor cable .

- **DC POWER** – Power input for the Main Docking Station.

Tracking Ring Package

Before connecting, or using your Tracking Ring package, take a moment to learn what the various buttons, switches and jacks are for.

Power Pack

▼ **POWER INDICATOR LEDs** - Lets you know when power is **ON** (red) and when batteries are **LOW** (yellow).

▼ **POWER SWITCH** - Used to turn Power Pack and Tracking Ring on and off.

▼ **AUDIO SWITCH** - Used to turn Tracking Ring's microphone on and off.

top view of power pack

▼ **TRACKING RING PORT** - Used to connect Tracking Ring to power pack (see page 13).

▼ **AUXILIARY BATTERY PACK PORT** - Used to connect the optional auxiliary battery pack for extended use (see page 14).
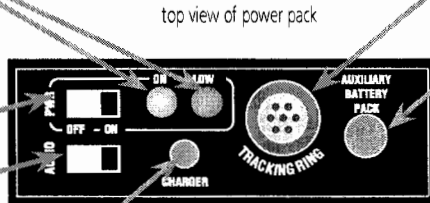
▼ **CHARGER PORT** - Used to connect battery charger to power pack.

▼ **RF CHANNEL SWITCH** - Used to select the RF channel the power pack will use to communicate with the Docking Station (they should be the same).
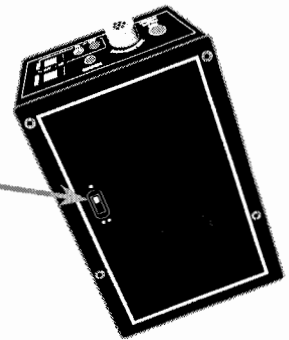
Tracking Ring Assembly

Back Sensor

Front Sensor

Tracking Ring Port Connector

Antenna
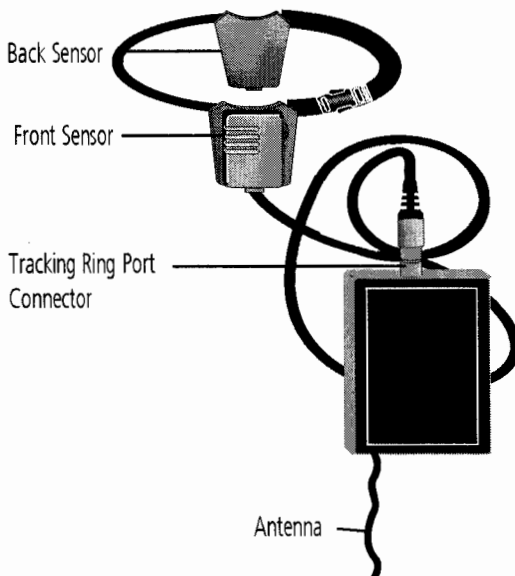
Belt Assembly — Using the pouch, clip power pack on belt as shown

Next, take a look at the front of your Tracking System Keypad. It is the control center for your Presenter Camera System and is composed of the following features.

▼ **SUBJECT POSITION CONTROLS** - Used to fine-tune the position of the subject while in autoTRACK mode.

▼ **ON LED** - Illuminates when batteries are placed in the keypad or function buttons are pressed.

▼ **LOCATION PRESET SELECT (1-3)** - Used to recall preset locations. The HOME button is considered PRESET 1.

▼ **TRACKING FREEZE** - Used to disengage autoTRACK, and freeze the camera's movement while in autoTRACK mode.

▼ **SETUP** – Used in conjunction with other controls for keypad customization and camera setup.

▼ **autoTRACK VIEWS** - Used to change the position and perspective of the presenter in the video frame while being tracked by the camera (choose between Tight, Wide, Right and Left).

▼ **IMAGE CONTROLS** - Used to brighten and darken the video picture.

▼ **autoIMAGE** - Used to allow the camera to automatically adjust brightness and darkness for each video picture.

▼ **ZOOM (IN/OUT)** - Used to control the tightness of the camera view.

In Camera Setup Mode:
- **Menu (Zoom IN)** – Used to toggle the on-screen menu display on and off.
- **Bars (Zoom OUT)** – Used to toggle the on-screen color bars on and off.

▼ **PAN/TILT** - Used to Controls the camera's up/down, and left/right movement.

Using the **PAN/TILT** arrow buttons disengages the autoTRACK mode.

▼ **FOCUS** - Used to manually adjust visual clarity of the video picture.

▼ **MODE** - Used, when pressed simultaneously with Setup Button to turn the keypad's Camera Setup Mode on and off.

Installing the Camera System

Now that you've identified the components of your Presenter Camera System, as well as their individual buttons, ports and jacks, you can begin connecting them to your CameraMan camera.

Removing the CameraMan Connector Block (Upgrade Only)

! If you are performing an initial installation of a system package, as opposed to an upgrade, this is not necessary.

Use the following procedure to remove the CameraMan Connector Block:

1. Turn the **POWER** switch on the back of the Camera **OFF**.
2. Disconnect all cables from the back of the camera.
3. Remove the screws that hold the connector block in place.
4. Pull the connector block out, unplugging it from the DB-37 connector. The Main Docking Station cable plugs into this port.

Three (3) screws through connector plate

Connector Plate

DB-37 connector

Mounting the Main Docking Station

You can mount the Main Docking Station with any orientation, but you must mount it within 10' of the autoTRACK camera (use only the supplied CameraMan cable to connect the two units). Mount the Main Docking Station using the following guidelines:

1. Mount the Main Docking Station in the desired location. Be sure to leave enough space for access to the connections on the back panel.
2. Verify that the **POWER** switch is **OFF** on the front of the Main Docking Station.
3. Mount or place the CameraMan Power Supply in a convenient location near the autoTRACK Docking station.
4. Plug the 5.5mm female connector from the power supply cord into the **DC POWER** jack in the back of the docking station. Do NOT plug it directly into the back of the camera.
5. Plug the other end of the power supply into a 120 VAC outlet.
6. Connect the antennas to the appropriate connectors and position them both to point vertically for optimum performance.

Back of Main Docking Station

! For best performance, locate the antenna in free space, at least 6" from the camera or any wires, metal surfaces, wall, etc.

! Make sure the Docking Station is at least 1 foot away from teh camrea unit

♀ See the Main Docking Station Clearance diagram on page 24.

Multi- Camera Applications

In a multi-camera application, refer to the multi-camera section of the **General Pan/Tilt Operations Manual**. Follow the appropriate procedure, using the RS-485 connections on the back of the Main Docking Station instead of the connections on the back of the camera.
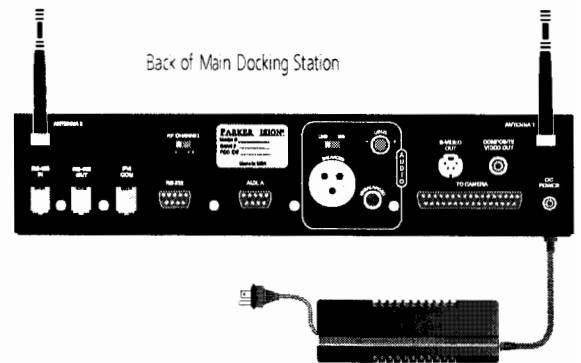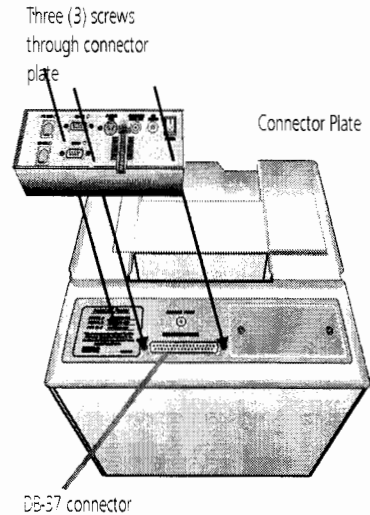
Now you can begin connecting your Main Docking Station to your CameraMan Camera System and your camera control devices.

Connecting the CameraMan Cable

The autoTRACK camera connects to the Main Docking Station using the supplied CameraMan 10' multi-conductor cable with DB-37 connectors on both ends.

1. Verify that the **POWER** switch is turned **OFF** on the front of the Main Docking Station before making this connection.
2. Connect the **DB-37** male connector to the back of the CameraMan camera and secure the connection using the two connector screws located on the cable connector. This ensures that the cable does not become dislodged due to the motion of the CameraMan camera.
3. Connect the other end of the CameraMan cable to the **BASE UNIT** connector on the back of the Main Docking Station.

> **!** Verify that the CameraMan Cable is supported so that the camera does not drag the cable as it moves. If the camera drags the cable, then system performance may be compromised.

PVI COM connection: up to 250

RS-232 connection to PC or other control device

Connecting a Keypad/Controller

The Tracking System Keypad can be *hard-wired* to the Main Docking Station using a CameraMan Keypad Cable (provided separately).

1. Connect one end of the cable to the **RJ-11** type jack located in the battery compartment of the keypad. (Remove batteries)
2. Connect the other end of the cable to the **RJ-11** type jack to the back of the Main Docking Station, labeled **PVI COM**.
3. The LED on the keypad should illuminate momentarily, indicating that the keypad is ready.
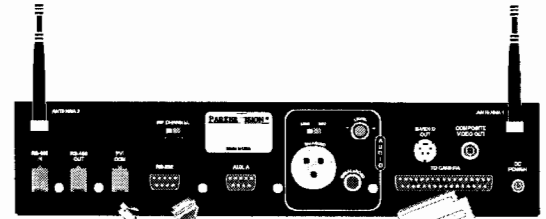
> **!** Using cable other than supplied cable for the **PVI COM** port may cause damage. The Tracking System Keypad can be hard-wired up to a maximum distance of 250'.

Multi-conductor cable connection up to 10'

Connecting to the RS-232 Port

The Presenter Camera System provides for RS-232 communications using the DB-9 jack on the back of the Main Docking Station, labeled **RS-232**. This RS-232 port can be used to control the CameraMan camera from external devices, such as a PC or other vendor control system (i.e., AMX or Crestron). Connect to this port using a standard computer cable with a DB-9 connector. This port operates at **9600 Baud** (**19,200** with CameraMan SHOT Director), **No Parity**, and software hand-shaking using CameraMan High Reliability or Basic protocols (only High Reliability with SHOT Director). The LED located above the RS-232 port indicates communication activity.

PROTOCOL/Baud Rate Configuration Switches

> **!** Verify which protocol is being used by checking the **PROTOCOL** switch (switch bank B- switch 1) on the back of the CameraMan camera, and which Baud rate (9600 or 19,200) is needed by checking switch bank A-7.

> For more information on setting the **PROTOCOL** on your CameraMan camera, see the *Installation and Operations Manual* that came with the camera.

Page 7

Tracking Ring Power Pack Assembly

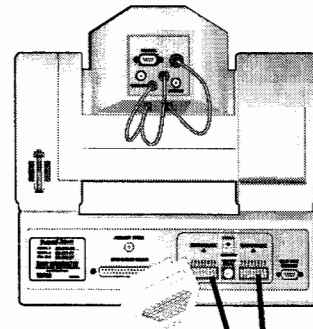**Now you're ready to assemble the Tracking Ring Package and learn how to wear it properly to ensure that your CameraMan camera follows you around the room.**

Tracking Ring Power Pack Assembly

Using the Power Pack Pouch, attach the Tracking Power Pack directly to your clothing by clipping it to your waistline or skirt, or to the Tracking Ring Power Pack Belt.

! The Tracking Power Pack must be worn so the antenna hangs loosely. Do not place the Power Pack in your pocket. This interferes with the RF signal and may affect the audio and tracking capability.
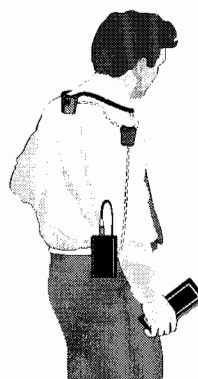
antenna should hang loosely out of hole in pouch.

Tracking Ring Sensors

1. Identify the sensors:
   Front Sensor: equipped with a built-in microphone and tracking sensor. It is identified by the main connector to the Power Pack.
   Back Sensor: equipped with the built-in tracking sensor only.
2. Slip the Tracking Ring around your neck.
3. Clip the Tracking Ring strap closed to form a complete circle around your neck.
4. Verify that the Front Sensor is lying flat and centered just above chest level, and the Back Sensor is lying flat on the back of your collar.
5. Plug the main connector into the port on the top of the Tracking Ring Power Pack.

Ensure that the sensors lie flat on the front and back

! The Front and Back Sensors require a direct *line-of-sight* link with the camera. The presenter must exercise caution to ensure no clothing or hair covers either Sensor.

About the sensors

You should understand how the autoTRACK Tracking Sensors work to obtain the maximum performance levels. The autoTRACK mode is an exclusive ParkerVision feature that enables the subject wearing the Tracking Ring Package to be tracked automatically by the camera.

Ensure that no hair or article of clothing covers the Tracking Sensors

! Since the Tracking Sensors require a direct *line-of-sight* link with the camera, the subject must exercise caution to ensure no clothing or hair covers the Sensors. This ensures constant communication with the CameraMan camera.

The Front Sensor should be lying flat and centered on the body, just above chest level. The Back Sensor should lie flat against the back of the collar or neck. When a presenter turns around to point to a flipchart, for example, the Back Sensor continues to receive the infrared tracking signal from the camera.

With the proper positioning of the sensors, the CameraMan camera provides 360° of coverage for the presenter wearing the Tracking Ring.

Back Sensor

Front Sensor

Configuring the Main Docking Station

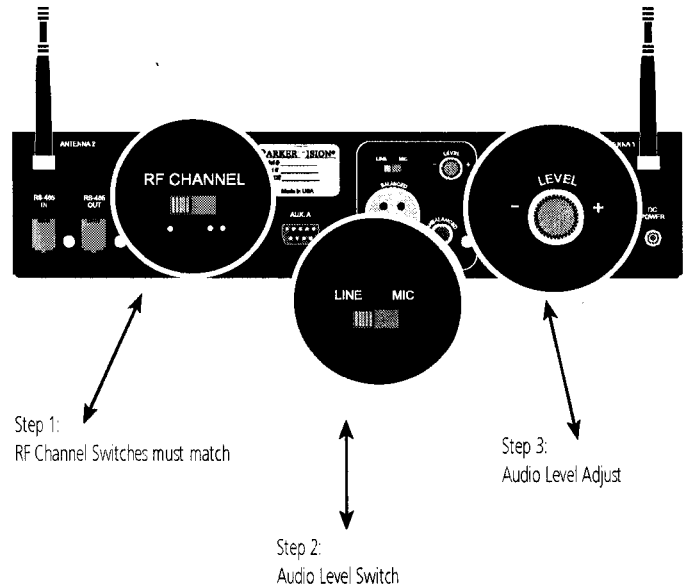Before you can begin to use your new Presenter Camera System, you need to configure its components.

There are two settings on the back of the Main Docking Station which must be set as follows:

1. Set the **RF CHANNEL** switch to the desired channel. This **must match** the setting on the Tracking Ring Power Pack. If you experience any problems on one of the channels, switch both to the alternate channel. (Factory Default: **UP** position/one dot)

2. Set the **AUDIO LEVEL** switch to the desired audio output.
   - To have a mic-level audio signal, set this switch to **MIC**.
   - To have a line-level audio output, set this switch to **LINE**.
   - This switch setting will apply to the balanced audio output only. (Factory Default: **MIC**)

3. Set the **AUDIO LEVEL ADJUST** to the desired volume level.

> Refer to Appendix A for specifications on the audio outputs.

Step 1:
RF Channel Switches must match

Step 2:
Audio Level Switch

Step 3:
Audio Level Adjust
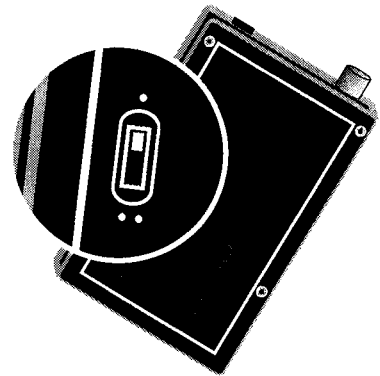
Powering Up

Before you can configure the rest of your Presenter Camera System, you need to turn the system power ON.

Switch **ON** the **POWER** button on the front of the Main Docking Station. The CameraMan camera should automatically enter its position calibration mode and then stop at the 0° Pan/0° Tilt position. Verify that the base is now facing in the direction you pointed the **FRONT** label when mounting.

> For more information on mounting the CameraMan, see the Installation and Operations Manual that came with the camera.

Main Docking
Station Power
Switch

Page 9

Configuring the Tracking System Keypad

Tracking System Keypad

Check the **KEYPAD ADDRESS** rotary switch (located in the battery compartment of the keypad) and verify that the selected setting corresponds to the setting of the **BASE UNIT ADDRESS** switch on the back of the autoTRACK camera. If the two are different, adjust them so that they correspond.

> For more information on configuring the **BASE UNIT ADDRESS** on the camera and keypad, refer to the *CameraMan® Camera Installation and Operations Manual* that came with the camera.

If the Tracking System Keypad is being used in the wireless RF mode:

1. Install the supplied AA batteries in the Tracking System Keypad by removing the battery door and inserting the batteries into the battery compartment.
2. After installing the batteries, replace the battery door and press one of the pan keys.
3. Look to verify that the LED on the front of the keypad illuminates. This indicates that the batteries are installed properly.

> If the LED does not illuminate, the batteries may be installed backwards. Reverse the way the batteries are inserted, and try again.

> If the batteries are inserted improperly, it will not damage the keypad, the keypad will simply not work.

If the Tracking System Keypad is being used in the hard-wired mode, connect the CameraMan Keypad Cable to the **RJ-11** type jack located in the battery compartment of the Tracking System Keypad. Remove the batteries first.

> You do not need batteries installed in the Tracking System Keypad when it is being used in the hard-wired mode.

Press the **PAN** and **TILT** arrows one at a time and verify that the camera is responding to the keypad. The **COM** LED on the front of the camera should flash with every command received by the camera. If the **autoTRACK** LED on the front of the camera is not illuminated, press one of the four **autoTRACK View** buttons on the keypad. This should cause the **autoTRACK** LED to begin flashing.

> Refer to pages 15 through 22 for details on using the Tracking System Keypad.

Keypad Address

Battery compartment

Tracking System Keypad in hard-wired mode
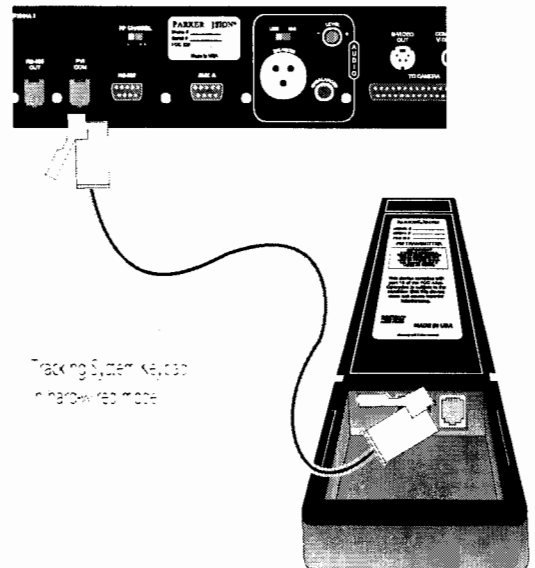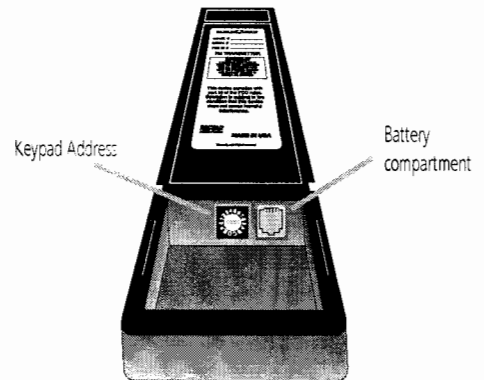
Configuring the Tracking System Keypad

You can control the CameraMan camera's panning motion with either the PAN/TILT arrows on the bottom, or, when using autoTRACK, the SUBJECT POSITION arrows on the top of your Tracking System Keypad. Understanding how the camera moves will help you stay in control of your presentations.

! Modification of the following features is not required for system operation, but they are available if needed.

🎥 For information on configuring your CameraMan camera, refer to the *Installation and Operations Manual* that came with the camera.

Understanding the Panning Motion

The **PAN/TILT** and **SUBJECT POSITION** arrows on your Tracking System Keypad are designed to help you maneuver the camera both in and out of autoTRACK mode.

The default setting, shown in Example 1, is designed to operate as if you are facing the CameraMan camera. Some examples of applications that would benefit from the default settings are:

*   Distance Learning where you are the instructor.
*   Presentations where you are the presenter and the audience members are watching you on a monitor.
*   Videoconferences where the you are an on-screen participant.
*   Any other application where you, the keypad controller, need to be on camera.

However, there are applications in which you do not need to face the camera (Example 2) so the default setting will not work. In these cases, you can stand BEHIND the camera. But when you want the camera to move right, the picture moves left. These applications require that you re-orient the **PAN** arrows. Some examples of applications that might benefit from this re-orientation are:

*   Presentations where you are not the presenter, but are controlling the camera's movement.
*   Videoconferences where you are a moderator, but not an on-screen participant.
*   Applications where you are in a control room controlling the camera.
*   Any other application where the keypad controller does not need to be on camera.

Re-Orienting the Pan Arrows

To re-orient (reverse) the default setting of the **PAN** arrows on your Camera Control Keypad, use the following procedure:

1. Press the **TRACKING FREEZE** and **SETUP** buttons simultaneously.
2. The keypad will beep after about two seconds.
3. Release the buttons.

! This will also reverse the operation of the **SUBJECT POSITION** arrows.

Example 1 (Default setting): Facing toward the camera so you are seeing yourself. **The camera sees you. You are facing the FRONT of the camera.**

Your line of sight
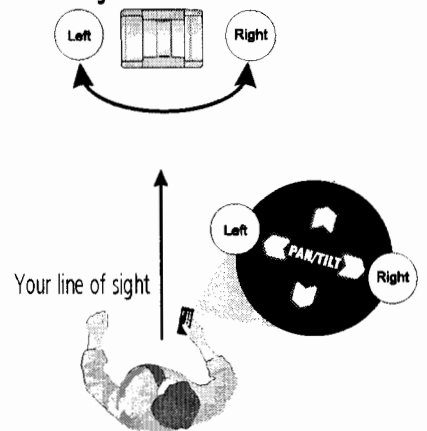
Example 2: Facing away from the camera so you see the talent, or on-screen participants. **The camera sees what you see. You are faciing the BACK of the camera.**

Your line of sight
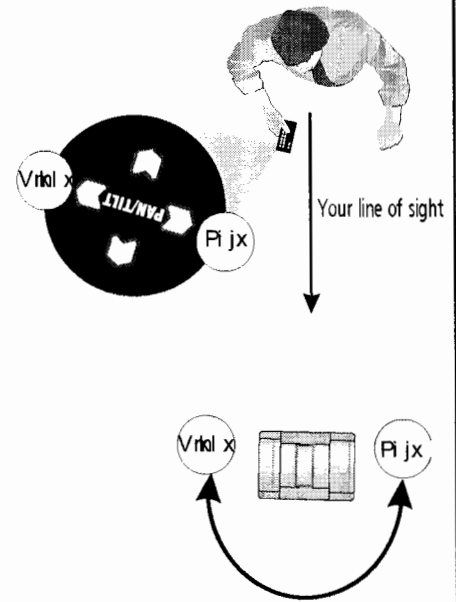
Other Configurations

The following configurations, like the panning orientation, would apply to your specific application need.

**!** Before changing the autoTRACK Window size, you will need to power up the tracking ring package. Refer to page 13.
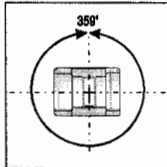
Maximum Pan/Tilt Travel

Once the CameraMan camera is installed, you can configure the maximum **PAN/TILT** settings to the application. The camera has a maximum **PAN** range of **359°**, but comes programmed with factory default settings of **±90°** of **PAN** and **±25°** of **TILT**. If desired, use the following procedure to change the maximum position settings:
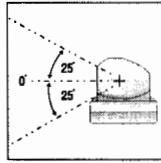
1. Press and hold **SETUP**.
2. Press and hold one of the **PAN/TILT** arrows until achieving the desired maximum position.
3. Release **SETUP**.
4. Listen for two beeps to indicate that the maximum position for that direction has been set.
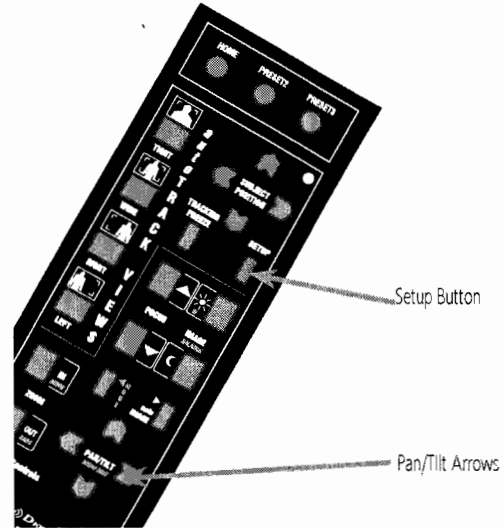

Setup Button

Pan/Tilt Arrows
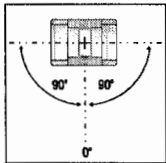
180° Default **Pan** Settings   359° Maximum **Pan** Settings   50° Default **Tilt** Settings

autoTRACK Windows

Each **autoTRACK View** includes a pre-programmed window. This window is an invisible area around the presenter where the Tracking Ring's movement does not cause CameraMan to **PAN** or **TILT**. Once the presenter moves in a direction outside of the invisible **autoTRACK window**, the CameraMan continues to autoTRACK. This eliminates unnecessary camera motion, provides better picture quality for videotaping, and minimizes the amount of updating necessary at lower CODEC update rates in videoconferencing applications.

Invisible autoTRACK Window

Video Frame

! Each **autoTRACK View** has a preprogrammed window. Each window is set at a predetermined factory default, and in most applications does not need to be adjusted.

! Proper window sizes are factory-determined for best results. ParkerVision recommends that you do not alter or adjust the window size.

If a change in Window size is absolutely necessary:
1. Press and release the desired **autoTRACK View**.

2. Press and release both **SETUP** and the desired **SUBJECT POSITION** arrow simultaneously
   as follows: **Left Arrow**   *Decrease Pan Window*
                  Right Arrow   *Increase Pan Window*
                  Down Arrow   *Decrease Tilt Window*
                  Up Arrow   *Increase Tilt Window*

autoTRACK
View Buttons

3. Press and hold the selected **autoTRACK View** until you hear 2 beeps indicating that the new window size has been set.

Subject Position
Arrows

Setup Button
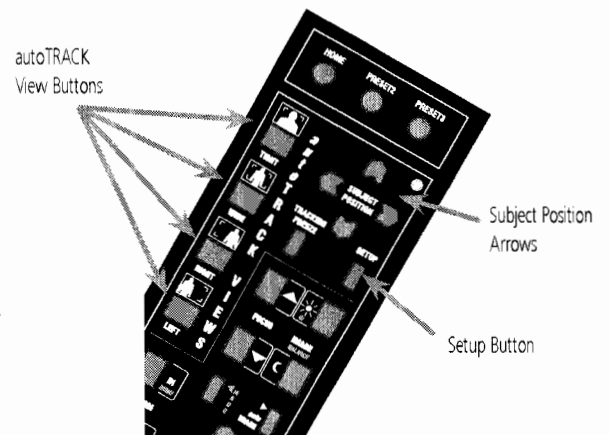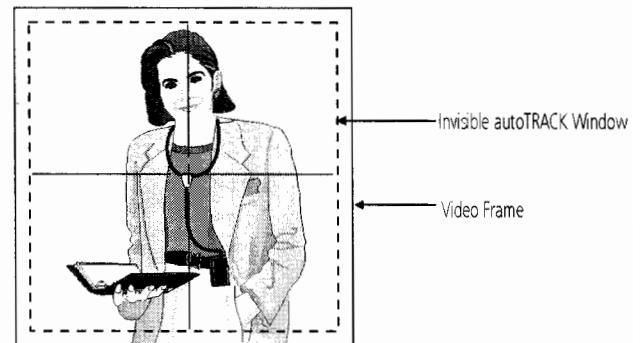
Once all necessary connections and configurations are made, you are ready to start up the rest of the system.

Tracking Ring Package

1. Power **ON** the CameraMan camera with the **POWER** switch on the Main Docking Station.
2. Set the Tracking Ring Power Pack's **Power** switch, located on the top of the unit, to **ON**. The **Power ON** LED on the Power Pack will illuminate.

   💡 If the **Power ON** LED on the top of the Tracking Ring Power Pack does not illuminate, refer to the *Troubleshooting* section of this manual.

3. Verify that the **TRACKING UNIT STATUS** LED on the camera's display panel is illuminated, indicating the communication link between the camera and the Tracking Ring.
4. Press one of the four **autoTRACK View** buttons on the keypad to activate the autoTRACK functionality of the Camera System (the camera will not track until one of the autoTRACK buttons is pressed). Once you are in autoTRACK mode, the **autoTRACK** LED on the camera's display panel will illuminate.

If the **autoTRACK** LED on the CameraMan's display panel is blinking, CameraMan is in autoTRACK mode, but the link between CameraMan and the Tracking Ring is not active.

To establish this link, move into the CameraMan's field-of-view (see the *autoTRACK MODE* or *Troubleshooting* sections of this manual for further assistance).

Rechargeable Battery

The Tracking Ring Power Pack comes with a built-in 12-hour Rechargeable Battery. When the battery is running low, the **Battery LOW** LED on the top of the Tracking Ring Power Pack illuminates. At this time the Tracking Power Pack should be recharged or an Auxiliary Battery Pack should be attached to the Tracking Ring Power Pack.

To recharge the battery:
1. Turn **OFF** the Tracking Ring Power Pack.
2. Set the switch on the front of the Battery Charger to **TRACKING POWER PACK**.
3. Plug the Battery Charger into an electrical outlet and connect it to the Power Pack.

   ❗ The Battery Charger takes two to three hours to recharge the Tracking Ring Power Pack.

The LED on the Battery Charger indicates when the battery is fully charged. If a battery is very low, the LED on the charger flashes slowly. When the battery is fully charged, the LED on the charger flashes quickly.
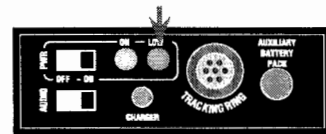
Top view of Power Pack illustrating power switch and ON LED
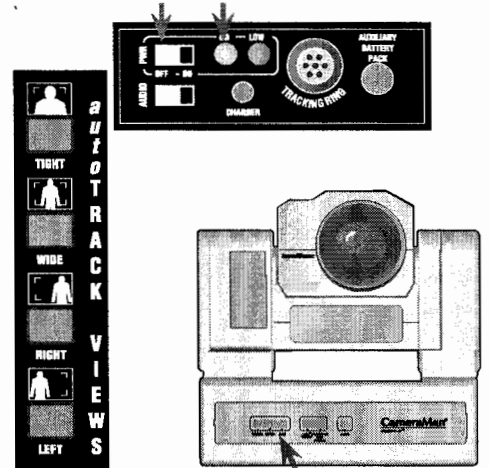
autoTRACK View buttons on Keypad

CameraMan display panel autoTrack and Tracking Unit Status LEDs. (ON when active)
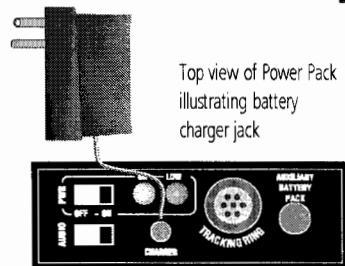
Top view of Power Pack illustrating battery LOW light

Tracking Power Pack switch on back of battery charger

Top view of Power Pack illustrating battery charger jack

Page 13

System Start Up

Optional Auxiliary Battery Pack

An optional Rechargeable Auxiliary Battery Pack is available to connect with the Tracking Power Pack for extra long use. When attached to the Tracking Power Pack, the Auxiliary Battery Pack overrides the built-in 12-hour Battery. If you need more than 12 hours of use, connect the Auxiliary Battery Pack to the Tracking Power Pack. This provides up to 24 hours of use.
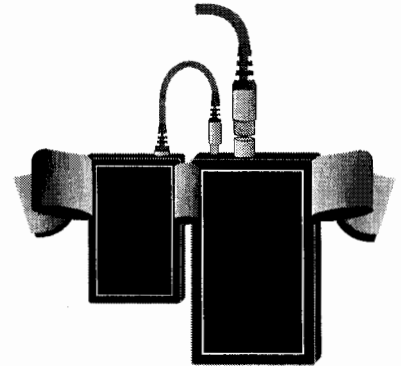
To recharge the Auxiliary Battery Pack:
1. Turn **OFF** the Tracking Power Pack.
2. Set the switch on the front of the Battery Charger to **AUXILIARY BATTERY PACK**.
3. Plug the Battery Charger into an electrical outlet and connect the Auxiliary Battery Pack to the charger.

💡 To get the maximum hours of use, use the 12-hour built-in battery first until the **Battery LOW** light illuminates, and then attach the Auxiliary Battery Pack for an additional **24** hours, giving you a total of **36** hours of use.

❗ The Battery Charger takes 4 to 6 hours to recharge the Auxiliary Battery Pack.

Audio Switch

To activate Audio:
1. Set the **AUDIO** switch on the top of the Tracking Ring Power Pack to **ON**.
2. Speak at a normal level.

If you decide not to use the Audio feature of the Tracking Ring Package, the **AUDIO** switch on the top of the Tracking Power Pack should be set to **OFF**.

Auxiliary Battery Pack plugged into Power Pack and mounted on Tracking Ring Power Pack Belt
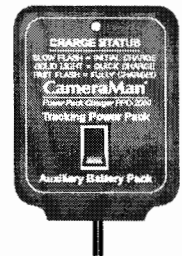
Auxiliary Battery Pack switch on battery charger

Top view of Power Pack illustrating audio switch and **ON** light

Page 14
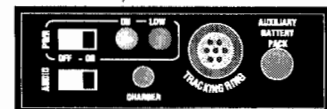
Your Presenter Camera System's ability to follow a presenter around the room is unmatched in the industry. Now that you've connected, configured, and powered up all the system components, you can begin to put them to use.

autoTRACK Mode

autoTRACK mode enables the CameraMan camera to follow a presenter who is wearing the Tracking Ring Package. To engage the autoTRACK mode, press one of the four **autoTRACK View** buttons on the Tracking System Keypad.

If you are using a Deluxe Camera System with Personal Locator Keypads, use the following procedure:

1. When you are ready to begin autoTRACKing, press **LOCK** on the Chairperson Locator Keypad to disable all Personal Locators from controlling the camera.
2. Press one of the four **autoTRACK View** buttons on the Tracking System Keypad.
3. When you are finished autoTRACKing, press **UNLOCK** on the Chairperson Locator Keypad.

For more information on the Personal Locator Keypads, see the *CameraMan Personal Locator System Operations Manual*.

If the LOCK button is not used and a MY TURN button is pressed while autoTRACKing, then the system disengages the autoTRACK mode and goes to the MY TURN position.

The autoTRACK mode's operation requires the subject to be in the field-of-view of the autoTRACK camera. Once the subject enters the field-of-view, the camera moves to lock onto line-of-sight tracking.

If the subject becomes obscured from its line-of-sight, then the camera stops tracking and returns to the **HOME** position (see page 21). However, momentary breaks (e.g., someone walking through the line-of-sight) has minimal effects to the tracking performance.

Once the subject enters the field-of-view...

100° Field-of-view

Presenter

the CameraMan camera moves to lock onto the line-of-sight tracking

Line-of-sight
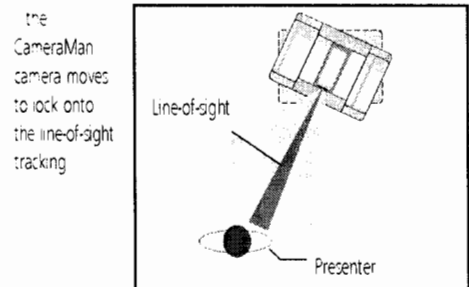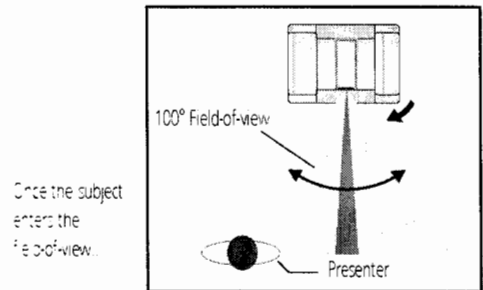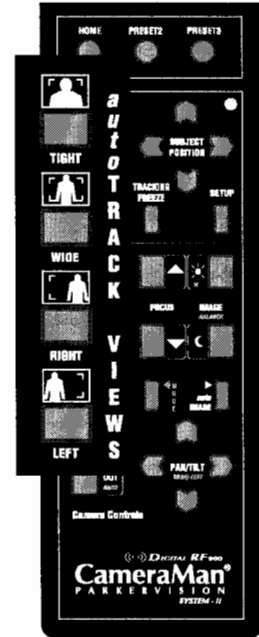
Presenter

One of the keys to your Presenter Camera System is its ability to not only track you around the room, but memorize various views and presets. These help you to make more effective and dynamic presentations.

autoTRACK Views Overview

You can choose from four **autoTRACK Views** to engage the autoTRACK mode. These **Views** can be stored and recalled from the Tracking System Keypad by pressing one of the **autoTRACK View** buttons.

For example, when you make a presentation, you can change from a close head shot with the **TIGHT autoTRACK View** button, to emphasize facial expressions, to a full body shot by pressing the **WIDE autoTRACK View** button. Presenters can also share the video screen with a flipchart or other key presentation areas with the **LEFT** or **RIGHT autoTRACK View** buttons.

Each **autoTRACK View** stores and recalls a **ZOOM** perspective with an **IMAGE** and **focus** setting.

Changes in the **Subject Position** within the video frame also can be stored. These functions enable the subject to fine-tune their position in each of the **autoTRACK Views**.

For example, you may want to Zoom in slightly closer on the **WIDE autoTRACK View** or adjust your position in the video frame more to the left or right. This provides you with the flexibility to customize each **autoTRACK View** to suit your needs.

The **autoTRACK Views** can be reset to accommodate these changes using the procedures on the following pages.

Tight autoTRACK view
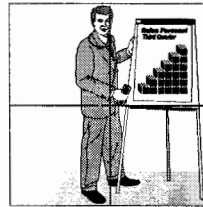
Wide autoTRACK view

Right autoTRACK view

Left autoTRACK view

TIGHT autoTRACK View

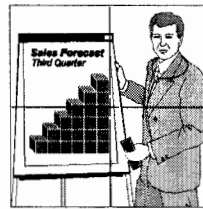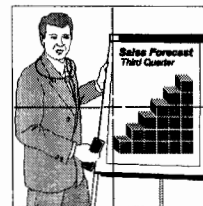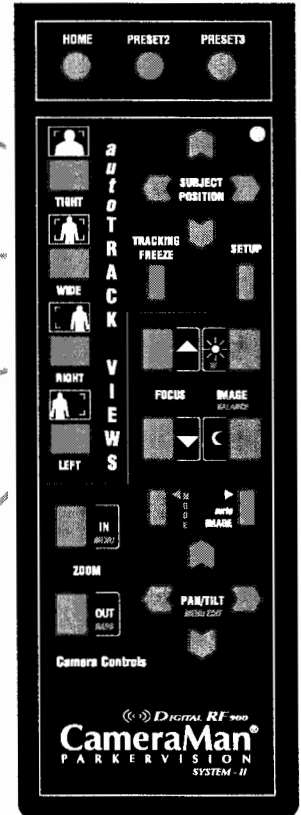Press the **TIGHT autoTRACK View** button. The video frame should show a close head shot of you. This view is used to emphasize facial expressions. If you would like to alter your image in this view, you will need to reset the **Tight View**.

To SET or CHANGE the tight autoTRACK View:

1. After pressing **TIGHT View**, use the **SUBJECT POSITION** arrows to position yourself in the middle of the video frame.
2. Use the manual **ZOOM** buttons to set the needed Zoom perspective, if needed.
3. Use the manual **FOCUS** buttons to set the focal point, if needed.
4. Use the manual **IMAGE** buttons to set the needed light/dark contrast, if needed.
5. Press and hold **TIGHT** until you hear two beeps indicating the new setting is stored.

To RECALL the tight autoTRACK VIEW:

- Press and release **TIGHT View**. The camera recalls the information stored with the **TIGHT** button.

WIDE autoTRACK View

Press the **WIDE autoTRACK View** button. The video frame should show a wide body shot of you. If you would like to alter your image in this view, you will need to reset the **Wide View**.

To SET or CHANGE the wide autoTRACK VIEW :

1. After pressing **WIDE View**, use the **SUBJECT POSITION** arrows to position yourself in the middle of the video frame.
2. Use the manual **ZOOM** buttons to set the needed Zoom perspective, if needed.
3. Use the manual **FOCUS** buttons to set the focal point, if needed.
4. Use the manual **IMAGE** buttons to set the needed light/dark contrast, if needed.
5. Press and hold **WIDE** until you hear two beeps, indicating the new setting is stored.

To RECALL the wide autoTRACK VIEW:

- Press and release **WIDE View**. The camera recalls the information stored in the **WIDE** button.
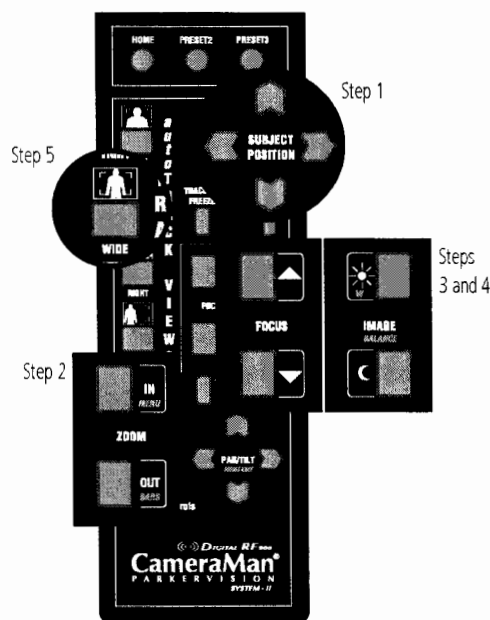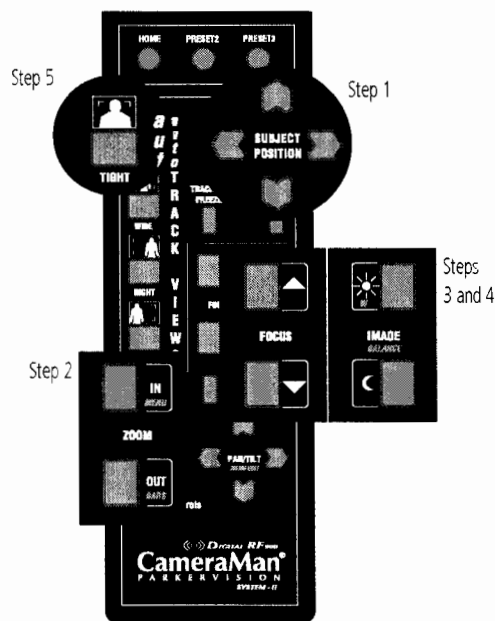
Using autoTRACK Views

RIGHT autoTRACK View

Press the **RIGHT autoTRACK View** button. Your image should now be offset to the right side of the video frame. This view is used when the presenter wants to share the video screen with key presentation areas (a left-handed presenter may use this view while pointing to a flipchart). If you would like to alter your image in this view, you will need to reset the **Right View**.

To SET or CHANGE the right autoTRACK VIEW:

1. After pressing **RIGHT View**, use the **SUBJECT POSITION** arrows to position yourself in the middle of the video frame.
2. Use the manual **ZOOM** buttons to set the needed Zoom perspective, if needed.
3. Use the manual **FOCUS** buttons to set the focal point, if needed.
4. Use the manual **IMAGE** buttons to set the needed light/dark contrast, if needed.
5. Press and hold **RIGHT** until you hear two beeps, indicating the new setting is stored.

To RECALL the right autoTRACK VIEW:

- Press and release **RIGHT View**. The camera recalls the information stored in the **RIGHT** button.

LEFT autoTRACK View

Press the **LEFT autoTRACK View** button. Your image should now be offset to the left side of the video frame. This view is used when the presenter wants to share the video screen with key presentation areas (a presenter who is right-handed may use this view while pointing to a flipchart). If you would like to alter your image in this view you will need to reset the **Left View**.

To SET or CHANGE the left autoTRACK VIEW:

1. After pressing **LEFT View**, use the **SUBJECT POSITION** arrows to position yourself in the middle of the video frame.
2. Use the manual **ZOOM** buttons to set the needed Zoom perspective, if needed.
3. Use the manual **FOCUS** buttons to set the focal point, if needed.
4. Use the manual **IMAGE** buttons to set the needed light/dark contrast, if needed.
5. Press and hold **LEFT** until you hear two beeps, indicating the new setting is stored.

To RECALL the left autoTRACK VIEW:

- Press and release **LEFT View**. The camera recalls the information stored in the **LEFT** button.

Page 18
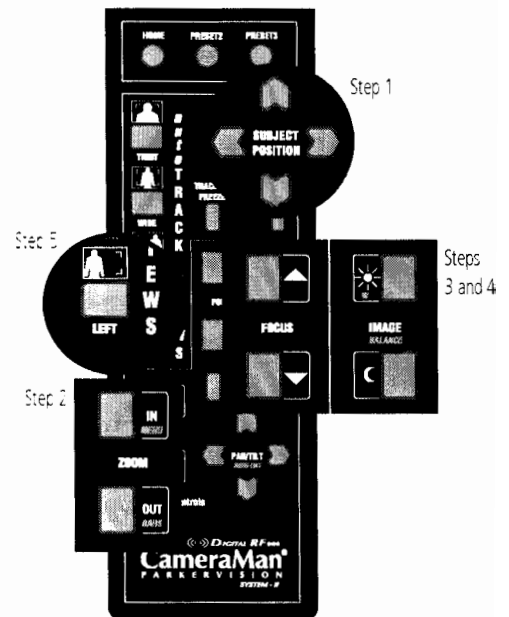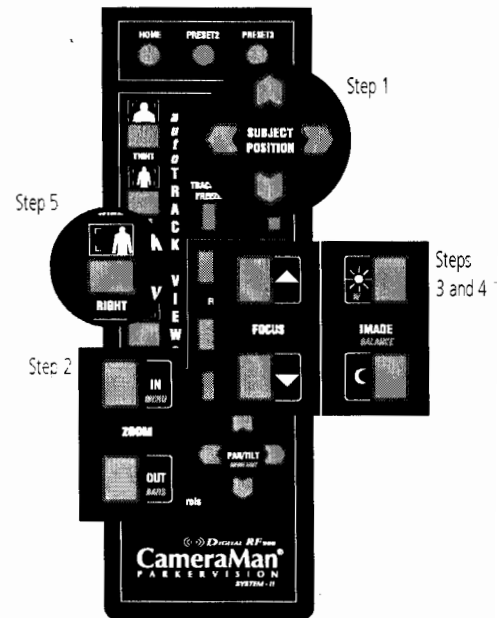
Using the Subject Position and Pan/Tilt Arrows

This section is dependent upon the orientation of your panning arrows. We have used the default orientation for the examples.

Subject Position Arrows

In the autoTRACK mode, press any one of the four directional **Subject Position** arrows to adjust your location in the current **autoTRACK View**. Pressing the up, down, right or left arrows changes the subject's position in the video frame.

If the subject appears too low in the frame...   ...press the DOWN arrow to lower the camera, and raise the subject's position.

If the subject appears too far to the right in the frame...   ...press the LEFT arrow to move the subject's position.
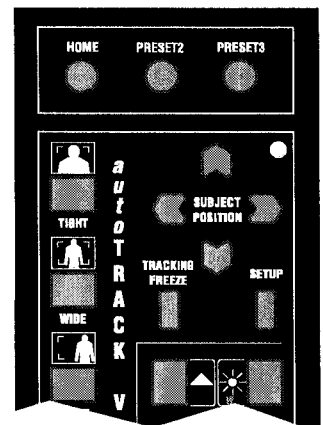
Subject Position arrows

Manual Pan/Tilt Arrows

Press the up, down, right, or left **PAN/TILT** arrows to pan or tilt the autoTRACK camera in that direction.

! By pressing any of the **PAN/TILT** arrows in the Camera Control section of the Tracking System Keypad, you will disengage the autoTRACK mode.

💡 To reactivate the autoTRACK mode, press any of the four **autoTRACK View** buttons. This will engage the autoFIND mode. When the presenter is in the field-of-view, CameraMan locks onto line-of-sight tracking in the view selected.
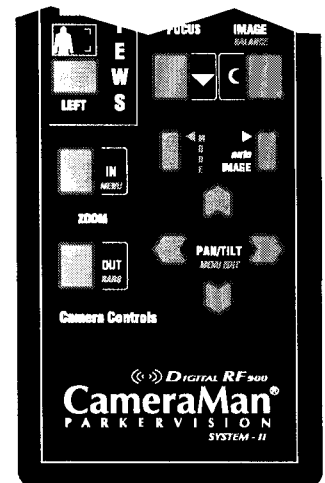
Manual Pan/Tilt arrows

Using autoFIND and Tracking Freeze

These Presenter Camera System features will help you to take control of your presentations.

autoFIND

When you press an autoTRACK View button to enable autoTRACK, the CameraMan will automatically begin panning toward the HOME position (see page 21), looking for the Tracking Ring Sensor. This process is known as autoFIND.

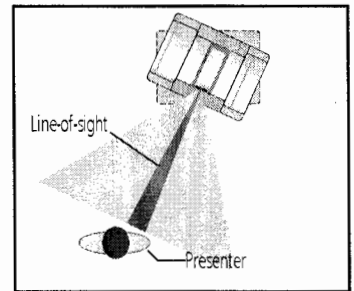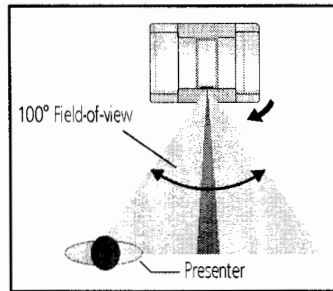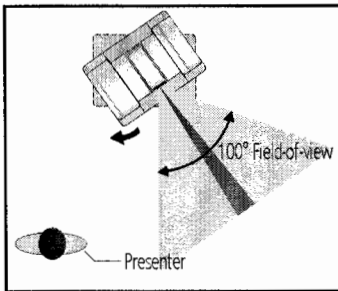Once CameraMan reaches the HOME position, it will stop if you are not in the field-of-view. Once you enter the field-of-view...

...the camera moves to lock onto line-of-sight tracking.

! If you are not in the autoTRACK mode and are out of the field-of-view, to activate the autoFIND feature you must press any of the four autoTRACK View buttons. The autoTRACK LED on the CameraMan's display panel will then begin blinking until the camera moves to lock onto line-of-sight tracking. The light will then stay illuminated to indicate that you are in the camera's line-of-sight.
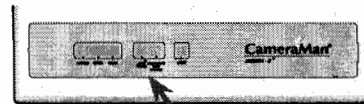
autoTRACK Mode Status LED
- Is ON when locked onto line-of-sight tracking
- Blinks during autoFIND.

Tracking Freeze

While in the autoTRACK mode, the presenter can stop or "freeze" the camera's movement by pressing the TRACKING FREEZE button.

! By pressing the TRACKING FREEZE button, the autoTRACK mode will disengage.

For example, you may want to use this feature when making a presentation in front of a flipchart. You may be offset to the right or left autoTRACK View and be making notes on the flipchart.

Now you can press the TRACKING FREEZE button and walk away from the flipchart while still speaking. This enables the camera to freeze and lock on the flipchart so that those either attending the videoconference, or viewing the videotape, can continue to study it while the you, the speaker, are no longer in the video frame.

💡 To reactivate the autoTRACK mode, simply press any of the four autoTRACK View buttons. This will engage the autoFIND mode. When you are within the field-of-view, CameraMan will lock onto line-of-sight tracking in the view selected.

If you want to walk away from the flipchart and lock the camera into position...
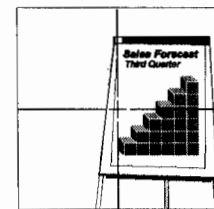
...press the TRACKING FREEZE button, which will stop the camera's movement until you re-activate the autoTRACK function.

Using Location Presets

Location Presets allow you to make your presentations more effective by incorporating other media, such as maps, flipcharts, overheads, etc.. Using the Presenter Keypad, you can store and recall a PAN/TILT position, ZOOM perspective, FOCUS and an IMAGE for each Location Preset.

Home (Preset 1)

The first Location Preset position is the HOME position. This is the Preset Location that you will use most often.

For example, you may want to program the HOME position at a podium or the conference room table, where most of the speaking is likely to take place. This Preset can be recalled at any time during a videoconference or videotaping session.

❗ The HOME position is also used as a default position while in the tracking mode. This means that during tracking, if the line-of-sight between the camera and the Tracking Ring is obstructed, the camera will automatically return to the HOME position. Please see pages 15 and 20 for more information.

❗ The Location Preset HOME button is factory set for the autoTRACK Camera to be facing straight ahead (in the direction of the "front" label on the bottom of the camera.) This factory setting can be reset by the presenter to accommodate his or her needs.

Preset 2 and Preset 3

The other two Location Presets can be used to store key presentation areas such as a map or other visual aids. These Presets can also be recalled at any time during a videoconference.

### To SET or CHANGE Home, Preset 2, or Preset 3:
1. After selecting a Preset, use the PAN/TILT arrows to move the camera to the desired location.
2. Only when desired, use the manual ZOOM buttons to set the needed Zoom perspective.
3. Only when desired, use the manual FOCUS buttons to set the focal point.
4. Only when desired, use the manual IMAGE buttons to set the needed light/dark contrast.
5. Press and hold any of the three Location Preset buttons (HOME, PRESET2 or PRESET3) until you hear two beeps.

To RECALL a Location Preset:
• Press and release the desired Location Preset button (HOME, PRESET2 or PRESET3). The CameraMan will then move to the memorized location and recall the information stored for that Preset.

❗ Pressing any of the Location Presets on the Tracking System Keypad will disengage the autoTRACK mode.

💡 To reactivate the autoTRACK mode, simply press any of the four autoTRACK View buttons. The camera will then go into the autoFIND mode until you are in the camera's line-of-sight. The Camera will then begin tracking you in the view selected.
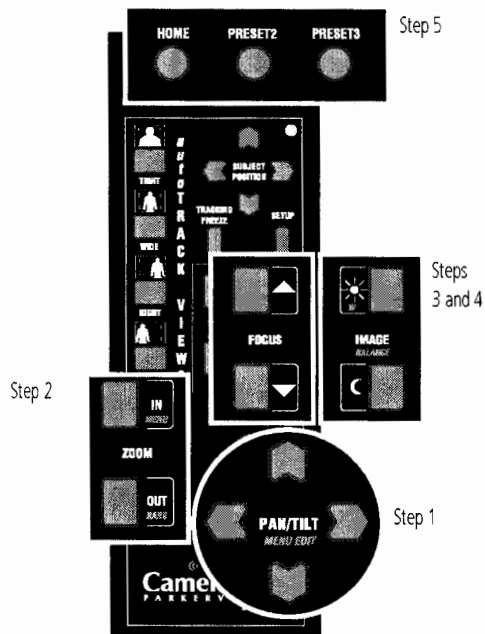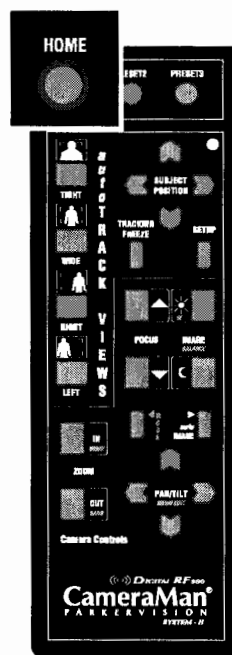
Controlling the Zoom, Focus and IMAGE

These control features help ensure that your video looks great...whether you control the image, or let the camera do it automatically.

Image Settings

The IMAGE setting adjusts the picture brightness in the video frame.

Manual Setting
By pressing either IMAGE button, the camera's Image control will automatically become a manual adjustment.

To Manually Control Image:
- Press the top IMAGE button to brighten the picture.
- Press the bottom IMAGE button to darken the picture.

💡 The Image can be adjusted manually and can be stored in a Location Preset or an autoTRACK View.

💡 For example, you may want to use the Manual Image setting when you are not fully satisfied that the video image is as dark or light as it should be. Otherwise, the Image setting will automatically adjust itself to the lighting conditions in all areas of the room.

Automatic Setting
In this mode, CameraMan will automatically adjust the Image (light & dark) for each camera view.
- Press the autoIMAGE button to enable automatic operation of the CameraMan's Image function.

💡 The autoIMAGE can be stored in a Location Preset or an autoTRACK View.

Focus Setting

The Focus setting adjusts the lens for visual clarity of the video picture. To control the focus:

- Press the top FOCUS button to adjust the lens for objects closer to the camera.
- Press the bottom FOCUS button to adjust the lens for objects farther from the camera.
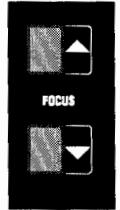
Zoom Perspective

- Press the Zoom IN button for the camera to zoom in for a tighter view.
- Press the Zoom OUT button for the camera to zoom out for a wider view.

💡 The Zoom can be adjusted manually and can be stored in a Location Preset or an autoTRACK View.

The Camera Setup Mode buttons (with green text) on your keypad allow you to adjust the camera's settings via four on-screen menus. These adjustments should be made by qualified technical personnel only.

! **Important Note:** If your system includes a CameraMan SHOT Director, make these adjustments only with the SHOT Director. Do not use the Keypad.
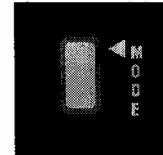
Adjusting the Camera Setup Mode Settings

SETUP and MODE Buttons
To enter the camera setup mode:
- Press and hold the SETUP and MODE buttons simultaneously for 2.5 seconds. The keypad should beep once.
- Release both buttons.
- The camera will flash, and an on-screen menu will appear when it enters the camera setup mode.
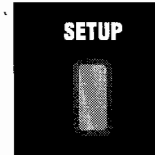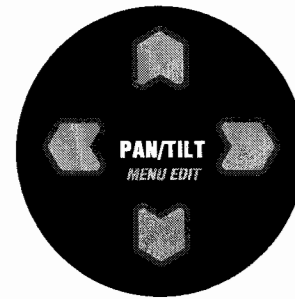
SETUP button   MODE button

MENU EDIT arrows
To select a setting, or the value of a setting, use the PAN/TILT MENU EDIT left/right, and up/down arrows on your keypad.
- tilt UP: moves the on-screen cursor up.
- tilt DOWN: moves the on-screen cursor down.
- pan RIGHT: increases, or changes the setting.
- pan LEFT: decreases, or changes the setting.

To change between the various on-screen settings menus:
- Place the cursor on the first line of the menu using the menu edit UP and DOWN arrows.
- Select the menu page (1-4) using the menu edit LEFT and RIGHT arrows.

MENU EDIT arrows

For more information on the on-screen camera settings and their functionality, refer to the CameraMan installation and operations manual that came with your camera.

! When accessing the on-screen camera settings, do not change the BAUD RATE as this may impact the camera's communication links.
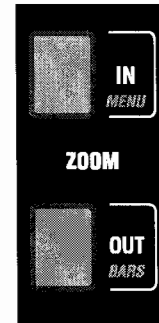
MENU Button
Press the Menu button to toggle between the on-screen settings menu and the video image.

MENU button

BARS button

BARS Button
Press the Bars button to toggle between the on-screen color bars and the video image.

White Balance Button
Press the button next to the W to automatically set the white balance in the camera setup mode.
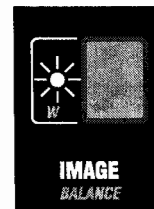
WHITE BALANCE button

Once all adjustments have been made, the camera must be returned to the system mode for normal operation. Just follow the same directions to enter camera setup mode (listed above).

Page 23

Appendix A: Specifications and Clearance Diagram

The following specifications are for the Main Docking Station, Tracking Ring Package, and Tracking System Keypad. For specifications on your CameraMan camera, refer to the installations and operations manual that came with your camera.

Specifications

Main Docking Station

Video Out (75 ohm): .... Composite or S-Video
NTSC
Y: VS 1.0 Vp-p Sync negative C: Burst 0.286 Vp-p
VBS: 1.0 Vp-p Composite
PAL
Y: 1.0Vp-p Sync negative C: Burst 0.300 Vp-p
VBS: 1.0 Vp-p Composite

Audio Out (80 db SPL into MIC)
.... Unbalanced : (RCA) 0dBv +/- 6dBv into 40K ohms
.... Balanced :
.... (XLR) Line Level : 0dBm +/- 6dBm into 600 ohms
.... Mic Level : -46dBv +/- 6dBv into 150 ohms

RS-232 Port: .... DB-9 (female) connector
Power: .... US: 120V, 60Hz AC power supply, INTL: 100-240V, 50-60Hz AC 100 W maximum consumption
Temperature: .... 32° to 100° F
Humidity .... 0 to 95% non-condensing
Dimensions: .... 11.64" L x 6.65" W x 2.6" H
Weight .... 10 lbs.

Tracking Ring Package

Tracking Range: .... Up to 60' from autoTRACK Camera
Wireless Audio: .... 60' from Main Docking
RF Tracking Freq.: .... Standard A/B: 209.3 MHz/212.5 MHz
Special H/I: 213.0 MHz/207.6 MHz
.... Special L/N: 212.0 MHz/207.1 MHz
Dimensions: .... 4.6" L x 2.8" W x 1.0" H
Battery Life .... 12 hours per charge
24 hour auxiliary battery (optional)

Tracking System Keypad

RF Range: .... 60' from autoTRACK Camera (typical)
Hard-wired Range: .... 250' from autoTRACK Camera (typical)
Power: .... (2) AA DURACELL® batteries
Dimensions: .... 7.0" L x 2.20" W x 0.85" H

Docking Station Clearance Diagram
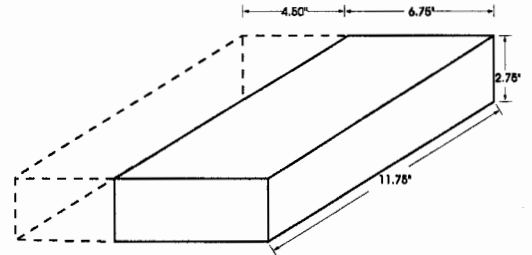
More space is needed for the antennas.

Should you have any problems with your CameraMan Presenter Camera System, please refer to the following guide. After referring to the guide, should you still have questions, please contact your authorized ParkerVision reseller, or call ParkerVision Product Support direct at (800) 532-8034 or (904) 737-1367.

Problem: The CameraMan autoTRACK Camera will not follow the Tracking Ring Package.

Solution: 1. Is the **POWER** LED on the CameraMan's front panel illuminated?

• If it is illuminated, proceed to step #2.

• If it is not illuminated, make sure the Main Docking Station is plugged in and its POWER switch located on the front panel is moved to the ON position. The POWER LED on the front of the Main Docking Station should be illuminated.

2. Is the **TRACKING UNIT STATUS** LED on the camera's front panel illuminated?

• If it is **ON**, proceed to step #3.

• If it is **OFF**, make sure the Tracking Ring Power Pack is powered ON.

• If it is still OFF, check the **Battery LOW LED** on the top of the Tracking Ring Power Pack. If the Battery LOW LED is illuminated, then the battery is low and needs to be recharged.

• If both the ON LED and the LOW LED on the top of the Power Pack are not illuminated, then the battery may be completely discharged and needs to be fully recharged.

• If the battery is fully charged and the TRACKING UNIT STATUS LED is still OFF, check that the **RF CHANNEL switch** on the back of the Main Docking Station matches the position of the RF Channel switch on the back of the Tracking Ring Power Pack.

3. Is the autoTRACK LED on the camera's display panel illuminated or flashing?

• If it is ON, proceed to step #4.

• If it is OFF, use the Tracking System Keypad to select one of the four autoTRACK View buttons.

4. If the POWER and the TRACKING UNIT STATUS LEDs are illuminated, and the autoTRACK LED is blinking,

• Check to make sure that the **Tracking Ring Sensors** are attached properly and are not covered by hair or clothing.

• Be sure that you are standing in the field-of-view of the camera.
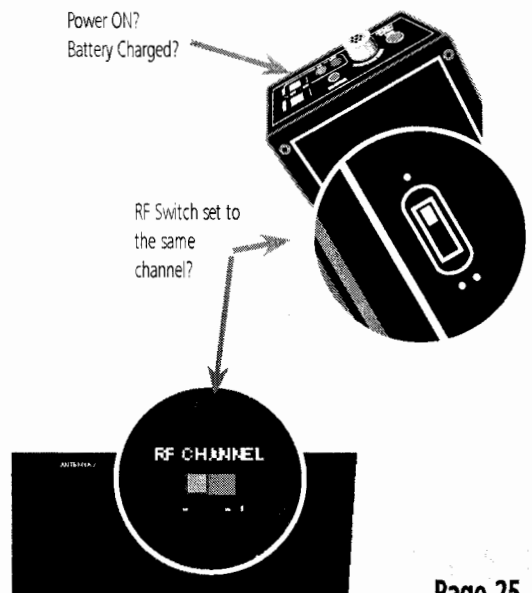
Front of CameraMan Camera
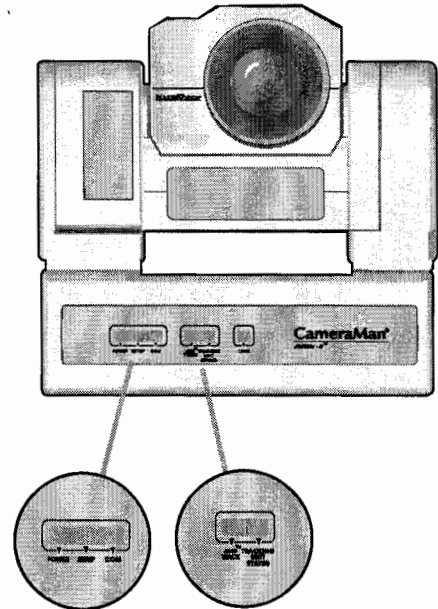
Step 1:
Is POWER LED ON?

Step 2:
Is TRACKING UNIT STATUS LED ON?

Step 3:
Is autoTRACK LED flashing?

Power ON?
Battery Charged?

RF Switch set to the same channel?

RF CHANNEL

Appendix B: Troubleshooting

Problem: The CameraMan Camera's autoTRACK operation is irregular.

Solution:
1. Check the **Battery LOW LED** on the top of the Tracking Ring Power Pack. If the LED is illuminated, the battery is low and needs to be recharged.

2. If the battery is charged, you may need to change the RF frequency on which the CameraMan is currently operating. To do this, change the position of the **RF CHANNEL switch** on the back of the Main Docking Station and RF CHANNEL switch on the back of the Tracking Ring Power Pack to the opposite setting (both switch positions must match).

3. Inspect the CameraMan Camera's location to verify that no **obstructions**, such as the main power cable, are impeding its ability to freely pan left and right or tilt up and down.

4. Verify that both **antennas are connected** to the Main Docking Station and that no wires or metal objects are touching either antenna.

5. Check the battery in the Tracking System Keypad.

> **!** Note: The Keypad takes (2) AA batteries with a lifespan of two to three months with average use. The Keypad will indicate that its battery is low with a long beep when any button is pressed. At that time, the battery should be replaced.

Battery Charged?

RF Switch set to the same channel?
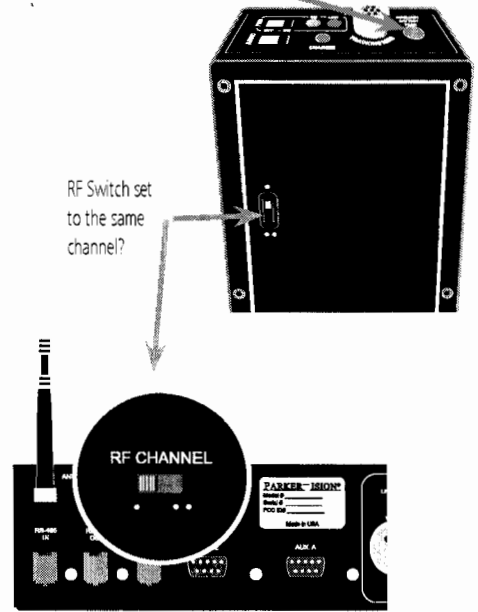
Problem: The Tracking Ring Unit's audio is not working.

Solution:
1. Check to make sure that the **AUDIO switch** is set to the ON position.

2. Check the top of the Tracking Ring Power Pack to make sure the Tracking Ring is **plugged in**to the port marked TRACKING RING.

3. Check to see if the **AUDIO LED** on the back of the Docking Station illuminates when the microphone is receiving audio.

> **!** The LED will only illuminate while speaking into the Tracking Ring microphone.
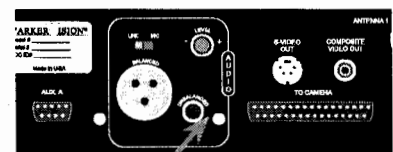
4. If the AUDIO LED on the back of the Main Docking Station illuminates and you are still not receiving audio, you may have a wiring problem from the Main Docking Station to the audio system. If this is the case, please contact your CameraMan System Installer.

Plugged In?

Audio ON?

Audio LED ON?

Appendix B: Troubleshooting

Problem: The Tracking System Keypad will not control the autoTRACK Camera when used in the wireless RF mode.

Solution:
1. Verify that the **batteries** are installed in the keypad properly.

2. Verify that the **BASE UNIT ADDRESS** switch on the back of the autoTRACK Camera, and the BASE UNIT ADDRESS switch in the battery compartment of the keypad are set to the same setting.

3. Verify **RF command switch** on the back of the autoTRACK Camera is set to ENABLE (Switch Bank B-4).

4. Verify that the **LED** on the front of the Tracking System Keypad illuminates for a few seconds when the battery is first installed.

Keypad Address correct?

Battery in place?
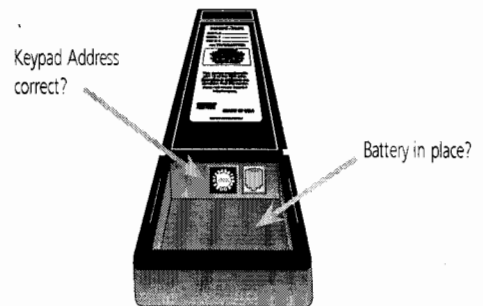
Problem: The Tracking System Keypad will not communicate with the autoTRACK Camera in a "hard-wired" mode.

Solution:
1. Verify that the **CameraMan Keypad Cable** is connected from the **PVI COM port** on the back of the Main Docking Station to the RJ-11 jack in the battery compartment of the Tracking System Keypad.

2. Does the **LED** on the front of the keypad come on for a few seconds when the keypad is first plugged in? If not, replace cable with a ParkerVision supplied cable only.
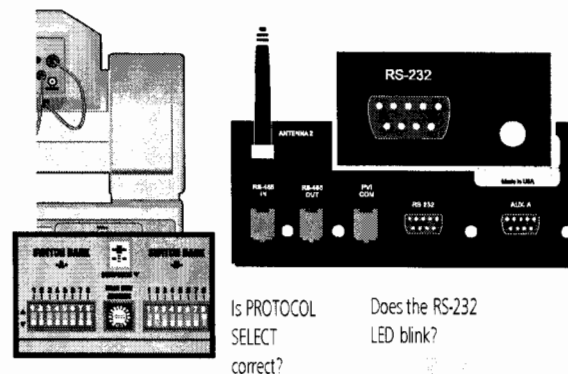
Cable in PVI Com Port?
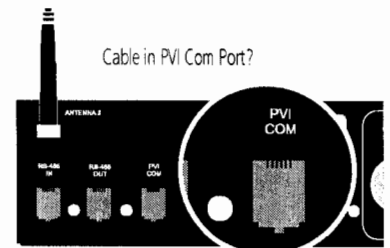
Problem: The autoTRACK Camera's Video is not working properly.

Solution:
1. Verify that the **VIDEO SELECT switch** on the back of the autoTRACK Camera is set properly.

2. Verify that the appropriate video connection is being used on the back of the Main Docking Station, either **S-VIDEO or COMPOSITE VIDEO OUT**. (see page 3)

3. Verify a **solid connection** of the CameraMan Cable to both the Main Docking Station and the autoTRACK Camera.
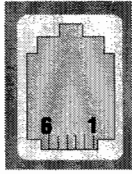
Does Switch on camera match connection?
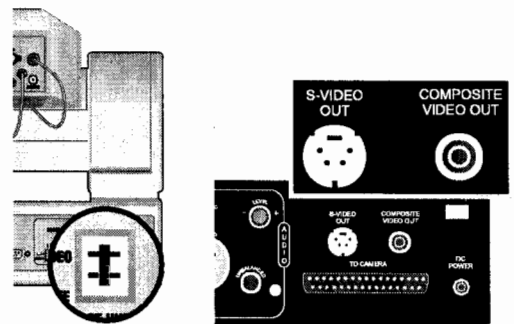
Problem: No communications through the RS-232 port.

Solution:
1. Verify that the cable being used is **wired correctly**.

2. Verify that the **PROTOCOL SELECT** switch (Switch Bank B- Switch 1) and the Baud rate (9600 or 19,200) (Switch bank A-7) on the back of the autoTRACK Camera is set properly.

3. Does the **COM LED** above the RS-232 port on the back of the Main Docking Station blink when you send a command through this port?
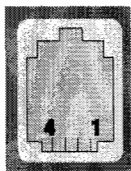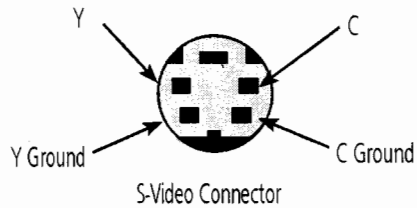   - If not, change the cable and retry.

Is PROTOCOL SELECT correct?

Does the RS-232 LED blink?

Page 27

© 2001 ParkerVision, Inc. • Meet Your 3-CCD Presenter Camera System

Appendix C: Pinout Connections

Pin	Signal
1	12v
2	12v
3	Ground
4	Signal A
5	Signal B
6	Ground

PVI COM
RJ-11

Y
C
Y Ground
C Ground
S-Video Connector

Pin	Signal
1	Ground
2	Signal A
3	Signal B
4	Ground

RS-485
Four position
Modular Handset
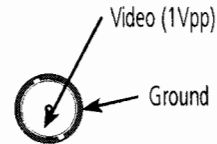
Video (1Vpp)
Ground
Composite Video
BNC Connector
(75 ohms)
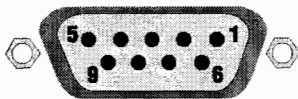
Pin	Signal
2	Transmit
3	Receive
5	Ground
1,4,6-9	Not Used

9-pin Female D-9 Sub
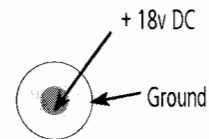
+ 18v DC
Ground
5.5mm DC Power
Connector
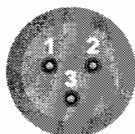
Pin	Signal
1	Common
2	Signal 1
3	Signal 2

Balanced
Audio Out
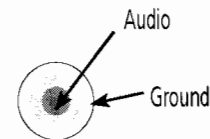
Audio
Ground
Unbalanced
Audio Out

Page 28

Appendix D: Typical System Diagram

Below is a typical setup for your Presenter Camera System. The items in the diagram are not to scale.

RS-485
Composite Video Out
S-Video Out
Audio Out (switchable line / mic level)
RS-232

CameraMan System II Camera

Power Supply

Main Docking Station

CameraMan Cable
10 ft. max.

IR, line-of-sight tracking
up to 60 ft. max.

RF link to
CameraMan System II;
60 ft. max.*

*Note: The Tracking System Keypad, as an option, can be "hard-wired" to the Main Docking Station up to a maximum distance of 250 feet.

Back
Tracking
Sensor

Front Microphone
& Tracking Sensor

CameraMan
Tracking System Keypad

Front microphone &
tracking sensors connection to
Tracking Ring Power Pack / RF Transmitter

RF link to Docking Station =
60 ft. max. for commands & audio

The Presenter is wearing the
Tracking Ring Package

Appendix E: Glossary of Terms

The following are terms used throughout the Presenter Camera System Operations Manual that will assist you in understanding the use of the CameraMan system.

- autoFIND* - A feature of the autoTRACK Camera which enables the camera to automatically search for a Tracking Device worn or held by a presenter that is not in the camera's field-of-view.

- autoTRACK* – An exclusive and patented technology of ParkerVision which allows a presenter to be automatically tracked by a robotic motion control camera.

- autoTRACK Mode* – The exclusive mode of operation used by ParkerVision's autoTRACK camera system which automatically tracks a presenter's movements.

- autoTRACK Views* – Any of four camera views selected by the presenter where the presenter appears in either a close camera view, a wide angle camera view, a left-of-center camera view or a right-of-center camera view, while being automatically tracked by the camera.

- CameraMan autoTRACK Camera – A robotic, video tracking camera that uses a patented technology called autoTRACK to automatically track an presenter's movements in videoconferencing or videotaping applications.

- Field-of-View – The area in front of the autoTRACK Camera where it can communicate with and locate the Tracking Device worn or held by the presenter.

- Focus – Adjusts the lens for visual clarity of the video frame.

- IMAGE – Adjusts picture brightness in the video frame.

- Line-of-Sight – An unobstructed line between the CameraMan autoTRACK Camera and the Tracking Device worn or held by the presenter.

- Location Preset – A feature that allows a presenter to program a specific camera view and location that can be recalled at anytime at the touch of a button.

- Tracking System Keypad – A hand-held keypad used by a presenter to control camera functions and tracking features utilizing wireless radio frequency communications.

- RF – An abbreviation for Radio Frequency that is a technology used in wireless or hard-wired communications.

- Subject Position* – The position or location of a presenter wearing or holding the Tracking Device within the video frame while in the autoTRACK mode.

- Tracking Freeze – A feature of the CameraMan autoTRACK Camera which enables a presenter to stop or freeze the camera's automatic movements by pressing a button on the Tracking System Keypad.

- Tracking Ring Package* – A ring or necklace worn by a presenter that receives a signal through its sensors enabling the CameraMan autoTRACK Camera to automatically track the presenter.

- Window* – An invisible area within each autoTRACK view in which movement of the subject wearing a Tracking Ring will not cause the autoTRACK Camera to PAN or TILT, eliminating unnecessary movement.

- Zoom – Controls the camera perspective for a wider or tighter view.

* Features with patents granted or patents pending.

FCC STATEMENT

The manufacturer is not responsible for any radio
or TV interference caused by unauthorized modifications
to this equipment. Such modifications could void the
user's authority to operate the equipment.