CAUTION!

Please read the following safety precautions before operation of the APT BookScan 1200:

Operators:

Please be aware of 3 yellow warning labels located on the APT BookScan 1200:

- **Electrical Shock Hazard.** Located on top of Barrier Strip underneath covered rear components of the APT BookScan 1200. Only a qualified service technician may remove the cover for maintenance, repair, or replacement of parts. Unplug machine before servicing. Do not remove machine covers during normal operation.

- **Caution: Pinch Point.** Located on left & right side of SmartCradle™ linkage support bars. Do not insert hand or fingers into any part of the linkage while APT BookScan 1200 is powered on.

- **Caution: Laser Radiation.** Located in front of Flip Mirror assembly and directly behind front Adjustable Light Fixture. Do not stare into beam. Operator is advised to power off APT BookScan 1200 when working around laser beam to perform basic maintenance.

- Before powering up APT BookScan 1200 ensure that electrical outlet is properly grounded.

- No operator serviceable parts are contained inside the covered portion of the machine. **Light Bulb Replacement or Fixture Repair** to be performed only by qualified service technician. Eye protection is required for replacement of the fluorescent light bulbs in this machine.

- Appropriate fuses are used in the machine for the voltage ranges employed.

(See page 46 for Technical Machine Specifications)
# Kirtas APT BookScan 1200
## User Manual
### Version 4.0

## Table of Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Set-up</td>
<td>1</td>
</tr>
<tr>
<td>APT Manager</td>
<td>3</td>
</tr>
<tr>
<td>Initial Scan Set-up</td>
<td>5</td>
</tr>
<tr>
<td>Initial Book Set-up</td>
<td>7</td>
</tr>
<tr>
<td>Initial Imaging Set-up</td>
<td>10</td>
</tr>
<tr>
<td>Initial Camera Set-up</td>
<td>11</td>
</tr>
<tr>
<td>Camera Focus/Optimization</td>
<td>13</td>
</tr>
<tr>
<td>Scanning/Advanced Features— Changing Settings</td>
<td>14</td>
</tr>
<tr>
<td>Scanning/Advanced Features— Scanning Adjustments</td>
<td>17</td>
</tr>
<tr>
<td>Scanning/Advanced Features— Metadata Editing</td>
<td>18</td>
</tr>
<tr>
<td>Post Scanning</td>
<td>20</td>
</tr>
<tr>
<td>Basic Troubleshooting</td>
<td>21</td>
</tr>
<tr>
<td>Basic System Maintenance</td>
<td>24</td>
</tr>
<tr>
<td>Focusing Target</td>
<td>28</td>
</tr>
<tr>
<td>APT 1200 Component Diagram</td>
<td>27</td>
</tr>
<tr>
<td>APT 1200 Machine Specifications</td>
<td>29</td>
</tr>
</tbody>
</table>
**APT Bookscan 1200**

### Machine Set-up

#### Initial Power-up

- Connect **APT BookScan 1200 Serial Cable** to the **Com Port 1 of PC Workstation** (See **Fig. 1.1** for correct connection diagram).

- Connect **Canon EOS 1Ds Mark II** power cable and remote trigger cable to the side of the camera. Connect camera **Firewire Cable** to the firewire port of the **PC Workstation** (See **Fig. 1.1** for correct connection diagram).

- Plug the **PC Workstation** and **APT BookScan 1200** power cables into a properly grounded 110/120/220VAC outlet via a surge protector (See **Fig. 1.1** for correct connection diagram).

- Power up the **PC Workstation** and then the **APT BookScan 1200** by clicking switch on the back right side of the machine.

- Center the **SmartCradle™** by rotating **Thumbwheel** located underneath the left-side **Cradle Plate** until red dot on the shaft is aligned with flat side of thumbwheel coupling or until center partition of cradle is positioned directly behind front **Page Clamp Assembly** (See **Fig. 1.2**).
• Rotate **Page Clamp Adjustment Knob** counter-clockwise until **Page Clamp Assembly** is at its furthest point from the **SmartCradle™**.

• Open the **APT Manager** user interface on the **PC Workstation** by clicking icon. The **Communications Pop-up Screen** will appear verifying successful connection (see screenshot below).
APT Manager

The **APT Manager** is the primary user interface for the **APT BookScan 1200**.
There are six separate screens that can be individually accessed by clicking on
the corresponding tab at the top of each screen.

**File Management Screen**

- **Library Search** functions work in conjunction with **Metadata Screen** functions.

- Always be sure to click **Apply** when button is highlighted green before moving on to next screen.

- Enter operator name or identification code inside **Operator** field and click **Enable Upload Button** *(Note: Configuration File cannot be uploaded unless operator name or identification has been entered. Field info will be used to populate ScanJob.xml)*.

- Under **Configuration File** menu, Click **Upload** button. A new window will appear.

- Navigate to **Program Files**\r**Kirtas**\r**APT Manager**\r**Data** folder (if necessary) and click on appropriate **Head Size Configuration File** *(small or big)* in the new window and click **Open** *(For Vacuum Head specifications see Fig. 1.3)*. A **Blue Progress Bar** will pass twice across the bottom of the APT screen. User will be prompted via pop-up message to create an image upload folder:
• Click **Apply** on **File Management** Screen (**Note**: Whenever a value in the **APT Manager** is added or changed, the **Apply** button will turn green, prompting user to click button in order to apply new settings).

• Press **Reset** on **APT BookScan 1200 Control Panel**. The **Vacuum Head, Smart Cradle™**, and **Flip Mirror** will move to their home positions.

• If necessary, change **Vacuum Heads** by depressing the small button and gently sliding head off of the **Pitch Arm Shaft**. With one hand holding the **Vacuum Head**, and the other firmly bracing the back of the **Pitch Arm Shaft**, gently slide the new head onto shaft until silver button clicks into place (See **Fig. 1.4**). Make sure that head size chosen matches uploaded configuration file.
**Scan Setup Screen**

- Measure the width of a page inside the book to be scanned and enter value into **Book Size → Width** (See *Tip*). (See *Scanning/Advanced Features* section for refining **Book Width** value during scanning).

- Select a **Clamp Mode** value. **Clamp Mode** defines the amount of pressure the **Page Clamps** apply to the book page. Default values are recommended but can be changed by sliding vertical lever up or down (See *Scanning/Advanced Features* section for altering **Clamp Mode** values during scanning).

- Select **Speed** value. Default value of 100% is equal to 1200 pages per hour and can be decreased proportionally (See *Tip*).
Select Book Imaging Sequence. For most books use the default value of Duplex (both sides of page in alternating sequence). For books that are printed on one page side only use corresponding side value (left or right).

Select Scan Mode. Default value is Automatic but can be changed to Manual. (See Scanning/Advanced Features for instructions on enabling Manual mode).

Select Head Vacuum Speed. This function controls the amount of suction coming from the Vacuum Head. Default values are recommended initially, but can be changed (See Scanning/Advanced Features to adjust Head Vacuum Speed during scanning).
• Select **Fluffer Blower Speed**. This function controls the amount of air blown from the **Page Fluffers** into the pages on the right side of the book. Default values are recommended initially, but can be changed (See *Scanning/Advanced Features* to adjust **Fluffer Blower Speed** during scanning).

• Click **Apply**. Wait for the **Blue Progress Bar** to pass completely across the bottom of screen before continuing.

**Book Setup**

• Press **Load** button on **APT 1200 Control Panel**. The **Vacuum Head** will rotate out and to the left and the right hand side **Cradle Plate** will lower slightly to facilitate proper placement of book (See *Fig. 1.5*).

![FIG. 1.5](image)

![SMART CRADLE IN LOAD POSITION](image)

• Gently position back cover of closed book between the right side **Cradle Clamps** (See *Fig. 1.6*). Lock **Cradle Clamps** in position by rotating **Cradle Clamp Lock** either clockwise or counter-clockwise. (See *Fig. 1.7*).
• Using **Page Fluffer Adjustment Lever**, Align **Page Fluffers** along the edge of the closed book, approximately 1-2 inches from the right corner of the right page (See **Caution** label on front of APT 1200).

• Press **Focus** button on **APT 1200 Control Panel**. The **Smart Cradle™** will lower or rise to bring the book into the correct focal range of the camera. To ensure an accurate reading, be sure not to block **Focusing Sensors** located on right side **Page Fluffers** and left side of **Page Clamp Assembly**.

• Open front cover and secure between left side **Cradle Clamps** (See **Fig. 1.7**).
• Press **Focus** again to refine cradle positioning. It might be necessary to manually hold pages down near spine to improve focus accuracy. (**Caution:** Be sure not to block **Focusing Sensors** located on right side **Page Fluffer** and left side of **Page Clamp Assembly**).

• Refine positioning of **Page Fluffers** so they are 1-2 inches from the outside corner of the page (See **Fig. 1.8** below or **Fig. 1.12** in **Scanning/Advanced Features** for illustrations on optimal positioning).

• Using the **Thumbwheel**, adjust **Book Cradle** so that either **Laser Beam** or rear **Page Clamp Shaft** is aligned with the spine of the book.

• Adjust **Page Clamps** by rotating **Page Clamp Adjustment Knob**, located on the front of the **APT 1200**, until retracted barrel at the top of front **Page Fluffer** is approximately one finger’s width (approx. ½”) away from edge of page (See **Fig. 1.8**).

• Press the **Clamp** button on **APT 1200 Control Panel**. **Page Clamps** will lower onto book. Make sure Clamps fall ¼ to ½” inside the page edge (**Note:** It may be necessary to hold down the pages of the book near the spine while lowering Clamps). (See **Fig. 1.9** & **Scanning/Advanced Features**)

**FIG. 1.8**

*Using the Clamp Wheel, position Page Fluffers within 1 finger’s width from the edge of the page, 1” - 2” from the right-hand corner of book.*

**PROPER POSITIONING OF PAGE FLUFFERS**
Imaging Setup

APT Manager

File Management Tab

- Under File Naming, select Whole Document for continuous scan mode. Page Prefix, Number of Digits, and Starting Image number may be edited for specific output naming schemas. (Note: Deselect Whole Document and type in Number of Pages if only a certain number of digitized images are desired).

- Under Image Folder section, click Select Folder button and navigate until desired output image folder is found.

- If desired, create a hierarchal folder structure by entering values into default Project, ISBN, Year, and Part boxes. These defaults can be added to, altered, or removed (See Scanning/Advanced Features for more information on other Image Folder features).

- Click Apply. Wait for the blue progress bar to pass completely across the bottom of screen before continuing.
Metadata Input Screen

- Enter or upload, if desired, Metadata structure into fields on Metadata Input Screen. Click Save Metadata into XML File button when complete (See Scanning/Advanced Features for more information on Metadata).

Camera Set-up

- Select Camera Set-Up Screen tab on APT Manager.

Selection of Image Path or CURRENTDATE will enter stated values into Metadata.xml file.

Integration of a Barcode Scanner allows user to automatically populate Metadata fields (See Scanning/Advanced Features).

APT MANAGER: METADATA SCREEN

- Selection of Image Path or CURRENTDATE will enter stated values into Metadata.xml file.

APT MANAGER: CAMERA SET-UP SCREEN

- Default camera Values can be changed (see Scanning/Advanced Features).

Information entered into Camera Setup fields will populate ScanJob.xml file.

APT MANAGER: CAMERA SET-UP SCREEN
• Verify that **Connect Cam 1** button has been enabled (**Note**: Camera connection is automatically attempted by **APT Manager** every five seconds). Verify that **File Save Path** value is the same as that located in **Image Folder** fields on **File Management** screen. Default values for **Shutter Speed** (80), **F Stop** (F11), **ISO** (200), **Image Size** (LARGE), **Quality** (8-10), and **White Balance** (PC Set 1) should fill in underneath left side menu when properly connected. Initial camera values are recommended but can be changed if desired (see **Scanning/Advanced Features**).

• Enter in **Counter** value into corresponding box. Images will be numbered sequentially starting with this initial entered value (**Note**: it is not necessary to edit **Counter** value if already entered under **Starting Number** on **File Management** screen).

**Image Display Screen**

• Take two sample photos of the book by pressing **Take Picture** button on the **APT 1200 Control Panel**. Examine image thumbnails, ensuring whole page can be seen.
Camera Focus/Optimization

- Place focusing target (Note: target can be constructed using the image on page 28 of this manual. An image with a good amount of crisp, defined text can also be used) on the right page of open book. Switch M/A switch on the side of camera lens from M (manual focus) to A (automatic focus) (See Fig. 1.11).

- If using a zoom lens, zoom Camera Lens in or out by rotating clockwise or counterclockwise, respectively until page fills the majority of the image.

- Carefully tap camera Shutter Release button and listen for lens to stop focusing.

- Fully depress Shutter Release button two times and take a picture.

- Switch M/A switch back to M (Manual focus).

- Examine image on PC Workstation for clarity. Repeat focusing procedure, if necessary.

- Using the Camera Set-up Screen, change, (if necessary) default PC settings for book. (See Scanning/Advanced Features for camera image optimization)

- Press Start on APT 1200 Control Panel or on APT Manager to begin scanning.

- Press Pause button to make any needed changes in APT Manager, or for further adjustment of book in the cradle. (See Scanning/Advanced Features).
Changing Settings

Pausing Scanning

If anytime during scanning the **APT 1200** needs to be paused, press the **Pause** button on the **APT 1200 Control Panel** (Do not press **Stop** unless machine is going to be shut down). **Vacuum Head** will turn the next page but camera will not be triggered.

To resume scanning, press the **Start** button. Camera will image pages and then **Vacuum Head** will resume its cycle.

Vacuum Head Speed

Varying the amount of suction at the **Vacuum Head** can help eliminate any dropped pages or multi-feeds that may be experienced while scanning. This value can be altered by changing the values on the **Scan Setup Screen** during **Pause** mode or during operation by adjusting value and clicking, **Apply Now!** button.

- **Increase vacuum if:**
  - Some pages are not picked up by the **Vacuum Head**.
  - Pages are large, heavier weight than average, glossy, or card stock.

- **Decrease vacuum if:**
  - More than one page is picked up by the **Vacuum Head**.
  - Pages are small, a lightweight paper, or pages in magazines, phonebooks, periodicals, etc.
Fluffer Blower Speed/Positioning

Varying the position and amount of air coming from the **Page Fluffers** can help ensure consistent pick-up of the pages in a book. Ideal fluffing will result on the pages being fluffed evenly and consistently (See **Fig. 1.12**). This value can be altered by changing the values on the **Scan Setup Screen** during **Pause** mode or during operation by adjusting value and clicking, **Apply Now! Button**

- **Increase Blowers if:**
  
  o  Pages are made of a heavyweight paper, or are from a signature book with rough and/or gilded edges.

- **Decrease Blowers if:**
  
  o  Pages are a lightweight paper, or for pages in magazines, phonebooks, periodicals, pamphlets, etc.

- **Adjust Fluffer & Blower Positioning if:**
  
  o  Air is causing uneven separation results with both the top and the bottom of the page. Using **Fluffer Adjustment Lever**, move Fluffer up or down alongside of book. Adjust small barrels located inside of Fluffers to focus airflow accordingly.
Clamp Mode

Varying the pressure of the Page Clamps can help with flattening of the page, as well as minimization of page curvature. This value can be altered by changing the values on the Scan Setup Screen during Pause mode.

- **Increase Clamp pressure if:**
  - Pages of book are of a heavyweight paper and/or they have a tendency to resist lying flat.

- **Decrease Clamp pressure if:**
  - Pages of a book are lightweight paper and/or have a tendency to lie flat without any pressure applied to them.
  - Pages bow underneath the clamp, forming an indentation that leads to increased page curvature.

Adjustment of Vacuum Head

Due to the variable nature of page width in certain books, the Vacuum Head may fall upon or outside the outer edge of the right page. This can cause multi-feeds and/or dropped pages. Ideally, the Vacuum Head should fall ½-1 inch from the right edge of the right-hand page.

To change the Vacuum Head’s position during scanning do the following:

- Enable Arm Position Switch on APT 1200 Control Panel. Each click will move Vacuum Head in 1/10th inch increments in either direction. Clicking switch to the left will bring Vacuum Head further into the book (towards the spine). Clicking switch to the right will bring the Vacuum Head further towards the edge of the right page (Note: Vacuum Head will pause 1-2 seconds to calibrate new value before it resumes cycle).
  -or-

- Push Pause on APT Control Panel. Go to Scan Setup screen on APT Manager.
• Decrease **Book Width** to a slightly smaller value.

• Click **Apply**. Resume Scanning. Repeat if necessary.

### Scanning Adjustments

#### Refocusing Book

A book may need to be re-focused so that the **Vacuum Head** and **Page Clamps** can function more efficiently. This may happen if the book’s spine is broken or if its pages have a tendency to not lie flat.

**To re-focus during scanning follow the following procedure:**

• Press **Pause** on **APT 1200 Control Panel**. **Vacuum Head** will move into its rest position.

• Press **Clamp** button on **APT 1200 Control Panel**. **Page Clamps** will rise. Place hand upon book near the spine, being careful not to block **Cradle Sensors** and, while holding the pages down, press **Focus** button.

• Press **Clamp** button to lower Clamps back into position (**Caution**: do not push Focus when Page Clamps are in their down position upon the book. Doing so may damage APT machinery or the book).

#### Centering

*It is important to keep the spine of the book centered with respect to the middle of the cradle for optimal page turning and proper placement of the Page Clamps. During scanning use the following process:*

• Wait until images have been taken and **Vacuum Head** has just started its cycle.

• Rotate **Thumbwheel** to move **SmartCradle™** so that book spine is positioned directly beneath **Laser Beam**.

• Repeat as needed throughout scanning. Some books may need only a couple adjustments, while others may need adjustment every 20 pages or so (**Note**: Sometimes it becomes necessary to re-center the Smart Cradle™ using the thumbwheel. Push **Pause** on **APT Control Panel**. Then raise **Page Clamps** and re-position cradle using **Thumbwheel**. Press **Focus**. Then lower **Page Clamps** and resume scanning).
SmartCradle™ Positioning

It is important to keep the SmartCradle™ as close as possible to the center portion of the machine. If the cradle is too far to the left or to the right, it will trip a limit switch and the APT 1200 will cease scanning.

In order to re-center the Cradle follow the following procedure:

- Press ** Pause **. Press ** Clamp ** button to raise ** Page Clamps **. Rotate ** Cradle Thumbwheel ** until cradle is again aligned (See Fig. 1.2). Press ** Focus **. Press ** Clamp ** button to lower ** Page Clamps ** and resume scanning.

**Manual Image Capture**

Sometimes it is necessary to manually turn pages of a book in order to scan them. This is true for imaging foldouts and covers of books as well as books containing torn or loose pages. To manually scan a page:

- Press ** Pause ** button on ** APT 1200 Control Panel **. Allow ** Vacuum Head ** to come to its paused position.

- Press ** Pause ** two times in quick succession to cancel ** Automatic ** mode. Click on ** Scan Set-Up ** tab on the ** APT Manager ** and select ** Scan Mode: Manual **. Click ** Apply **. Press ** Start ** button on ** APT Control Panel **. Images will be taken and then ** Page Clamps ** will rise. Manually turn to the next set of pages. Click ** Start ** button again. ** Page Clamps ** will lower, images will again be taken and the clamps will again raise. Turn to the next set of pages, press ** Start ** and repeat as necessary.

**Metadata/Database Creation and Editing**

Using the Metadata page of the ** APT Manager **, book metadata can be manually entered or automatically pulled from an existing location and used to populate an ** XML file **. Metadata can also be stored in a default ** Dublin Core ** tagging schema.

```
<book>
  <title>One Upon a Time On the Moon</title>
  <author>Proppley, Bob</author>
  <subject>Science Fiction, Cooking</subject>
  <description>A man goes to sleep and wakes up on the moon where he encounters many strange and fascinating creatures. He sets up a small cafe in a rather large crater and serves exotic ethnic cuisine to the creatures, who hail him as king.</description>
  <publisher>AstroNutz Press, Inc.</publisher>
  <contributor>Armstrong, Neil</contributor>
  <date>August, 1994</date>
  <type>Text/XML</type>
  <format>Large print paperback, 129 pages</format>
  <identifier>A0B0W574 1994</identifier>
  <language>English</language>
  <relation>none</relation>
  <coverage>Moon, Ethnic Cuisine</coverage>
  <rights>Open Access</rights>
</book>
```

Metadata sample in ** Dublin Core ** format
Creation/Connection of Remote z39.50 Database

- Click Select Libraries button on Metadata screen of APT Manager. The following pop-up window will appear:

The Library of Congress Voyager database is the default library enabled by the APT Manager, although others may be added and saved.

- Under Add New Library box, type the name of a Library to be created/added.

- Type in the library’s corresponding z39.50 internet address (**Note**: Database must be z39.50 enabled to work on APT Manager. Database address usually follows the following format: numeric IP address:numeric port number/database name).
• Select *Search In All fields is Supported* box.

• Enter in *Account* and *Password* info, if necessary.

• Click *Add to Libraries List*. New library will then be added to list.

• In *Libraries List* box, check the box of library or libraries to be searched. Click *Connect to New Library* button. Look for “Connection OK” prompt under Libraries List.

• Enter in query into *Search For* field located on *Metadata Screen* and click *Search* button.

**Post-Scanning**

• When scanning has been completed, press the *Pause* button. Wait until *Vacuum Head* has settled into its rest position.

• Unlock *Cradle Clamps* and loosen back cover of book from right hand side *Cradle Plate*. Close book and gently remove from left side after unlocking *Cradle Clamps*. *(Note: Make sure that the *Cradle Clamps* have been pushed back in against the sides of *Cradle Plate* after removal of the book).*

• *Page Fluffers* may be slid out of the way to facilitate removal of a book, but they must be returned to a position in front of the empty *Smart Cradle* *(See *Caution* sticker on front of *APT BookScan 1200)*.

**Shutdown**

• Press *Stop* two times on *APT 1200 Control Panel*. *Vacuum Head* will fall to its left-side rest position and clamps will lower.

• Power off *APT 1200* by depressing rocker switch on back right corner of machine.
Basic Troubleshooting

APT 1200 and APT Manager

- **Problem**: Machine and PC Workstation are powered up, but a connection has not been achieved through the **APT Manager**.
  
  - Check connections with the machine, PC, and camera.
  - Ensure that only one instance of **APT Manager** is running on the PC by examining PC **Task Manager**.
  - Confirm that five field boxes are checked and that the blue bar completes its pass on Communications Pop-up screen. If no connection is achieved, press **Simulate** button.
  - Select **General Options Screen** and confirm that **Com1** is selected under **Machine** and that **APT 1200 Serial Cable** is plugged into **Com1** on back of the PC.
  - If connection still isn’t achieved, close **APT Manager**. Power off the **APT BookScan 1200**, wait five seconds, and then power it back on. Proceed with proper set-up sequence.
• **Problem:** After pushing **Reset**, **APT 1200 Vacuum Arm** doesn’t move into its home position, or doesn’t move at all.

  o Power off machine and check **2AMP Slow Blow** fuses located on the left side of the machine. Using a small flathead screwdriver, rotate fuse knobs counterclockwise to remove. If a fuse has blown replace it, replace, press in, and rotate knob clockwise until secure, and then power on **APT 1200**. (*Caution: always make sure that power to the APT BookScan 1200 is off when checking and replacing fuses*).

• **Problem:** **Page Clamps** make a chattering noise and do not function properly or **Vacuum Arm** freezes midway through cycle.

  o Machine may be experiencing problems due to static discharge. Check to make sure that the environment the machine is operating in has a humidity level of at least 25% (see Specifications on page 29). Use of a grounded Static Mat and/or humidifier to increase humidity to an ideal level is strongly recommended.

• **Problem:** During scanning, flashing red or yellow icons appear at the bottom of the **APT Manager**.

  o A flashing yellow icon indicates a **SmartCradle™** safety limit switch has either been triggered or is in danger of being triggered. Press **Pause** on **APT 1200 Control Panel** and then press **Clamp** button to raise clamps. Re-center **SmartCradle™**. Press **Reset**. Then press **Focus** and resume scanning.

  o A flashing red icon indicates that an internal communication error has occurred in the **APT 1200**. Press **Reset** button on the **APT 1200 Control Panel**. If no machine response, power down and then power on **APT 1200** in order to resume scanning. Follow normal set-up procedure. (*Note: Details concerning the error will be displayed inside the Machine Status field at the bottom of the APT Manager. Write down details and call Kirtas Support Services at 585-924-2420 ext. 3050 if error persists*).
Camera and Integration

- **Problem:** Camera does not take pictures when either *Photo* button on APT 1200 or *Take Picture* button on APT Manager is pressed.

  o Check **Camera Set-up Screen** to ensure that camera 1 is connected.

  o If no connection is established, unplug **Camera Power Cable** from camera. While depressing small black button located under power cable jack, flip up and rotate small black flap and slide camera battery sleeve out of the camera *(Note: battery will not be in battery sleeve).* Slide back into place and lock, and then replace **Camera Power Cable.** (See **Fig T-2**). Click **Shutter Release** button on camera and then, using the APT Manager re-connect the camera. Press the *Photo* button on the APT 1200 to make sure that photos are being taken and properly downloaded to the PC.

![FIG. T-2](image-url)
Basic System Maintenance

APT 1200

Normal wear and accumulation of dust in the machine will require simple maintenance to ensure proper functioning of machinery.

Clamp Assembly

Lubrication of **Clamp Shaft** with a *Silicon Spray* is recommended if clamps start to stick or squeak while in operation. *Silicon Spray* should be applied in short bursts through a thin, elongated spray can nozzle (See **Fig. M-1**).

![FIG. M-1](image)

**Clamp Shaft Lubrication**

Spray a small amount of lubricant inside the small hole on front of clamp casing. Rotate Clamp Barrel located at bottom of Clamp assembly until shaft is visible through small hole in front of casing.

Swing Arm Lead Shaft

Lubrication of **Swing Arm Lead Nut Shaft** with *Silicon Spray* is recommended if shaft starts to squeak while **APT 1200** is in operation (See **Fig. M-2**).

![FIG. M-2](image)

**Lead Nut Lubrication**

Hold paper towel behind *Lead Nut* and apply small amount of Silicon Spray to center of the shaft.
Cleaning Flip Mirrors & Camera Lens

Periodic dusting of Static Mirrors and Flip Mirrors, as well as the Camera Lens is recommended. A basic camera cleaning kit (see Fig. M-2) containing an air duster can be used to gently remove small particles without damaging the APT 1200 or camera components (See Fig. M-3).

Sensor Cleaning

Sometimes it becomes necessary to clean the CMOS Sensor located inside the camera and free it from accumulated dust and debris due to normal usage of the camera and its lens(es). This procedure is recommended only when there is noticeable accumulation of debris on the camera image.

To perform Sensor cleaning do the following:

- Remove camera from mount & remove lens (Do not unplug Power cable). Click Menu button on back of Canon Mark II 1Ds camera. Rotate selection dial and choose Tools 2 tab. Press Select button and use selection dial to choose Sensor Cleaning option. Release Select Button.
Hold down the **Select** button and turn the selection dial and choose **OK**. Then let go of the **Select** button. The LCD monitor will turn off.

Press the **Shutter Release** button on camera. The mirror will lock up and the shutter will open.

Use a rubber hand blower to blow out mirror chamber.

Using a sensor brush, gently sweep along the sensor surface, being careful not to touch the sides of the chamber, which might contain lubricant.

Remove and then re-insert camera battery jacket (see **Fig. T-2**). Shutter will shut. Replace lens and place camera back into mount. Take a sample photo of a blank sheet of white paper to verify that sensor debris has been successfully removed.
Focusing Target For Kirtas APT 1200 and 2400

Cut and paste target on 6" by 6" piece of corrugated cardboard or masonite. It is recommended to make two targets for the APT 2400 and use them in tandem on both sides of the SmartCradle™.
APT BOOKSCAN 1200

TECHNICAL MACHINE SPECIFICATIONS

Dimensions: 32” x 33.5” x 45.5”
Weight: Approx. 150 lbs.
Power Rating: 110-240 VAC, 50/60Hz 3.2 AMP, single phase

Environmental Conditions: It is recommended that the APT 1200 be operated in a clean, spacious area with a temperature of 60-77º F and a humidity level of at least 25-55% (35% being the ideal). Use of a reliable humidity measurement tool is advised.

Service clearance of two feet (24”) between all sides of machine and walls is recommended.

Machine may be placed upon a sturdy appropriate sized cart with wheels to be moved, observing all environmental specifications during periods of operation.

The use of a static “grounding” mat, wrist strap, or some other grounding device while machine is in operation is recommended.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

FCC (Class A) LABELING INSTRUCTIONS:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For technical and operational support and assistance regarding this product please e-mail support@kirtastech.com or call 585-924-2420 ext. 3050 Monday - Friday 8AM -8PM EST.