

# TOPAZ<sup>®</sup> OCR

## Desktop Video Magnifier with OCR and Speech User's Guide

Freedom Scientific, Inc.

[www.FreedomScientific.com](http://www.FreedomScientific.com)

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To register your product, visit <http://www.FreedomScientific.com/Forms/ProductRegistration>.

## Safety and Maintenance

To keep the unit in good condition and to ensure safe usage, observe the following guidelines:

Do not stare at the operating illumination LED as it may be harmful to the eyes

Power rating: 100-240V~ 1A 47-63Hz

Read the instructions in this user's guide before attempting to use the unit.

Do not attempt to repair the unit or open its case. This product contains no user serviceable parts.

Keep the unit away from wet areas, rain, and other sources of liquids or high humidity. Do not submerge the unit.

Always operate the unit in a place where the temperature is between 10° and 40° C (50° and 104° F).

Always store the unit in a place where the temperature is between -20° and 65° C (-4° and 149° F).

Always use the unit on a stable, level, hard surface such as a desk or table.

When cleaning the screen, camera lens, or self-view lens, unplug the power cord and apply a small amount of non-abrasive cleanser, such as the following, to a soft, lint-free cloth and gently wipe:

- Water
- Isopropyl alcohol
- Petroleum benzene
- Vinegar mixed with water at a concentration of no more than 10 percent vinegar, for example, 1.5 tablespoons of vinegar per cup of water (100 ml per liter)

### **CAUTION:**

Do not apply excessive pressure to the screen, camera, or self-view lens. Do not spray cleanser directly on these items. Also, do not use any cleanser that contains the following agents: acetone, ethyl alcohol, ethyl acid, ammonia, or methyl chloride.

When cleaning the rest of the unit, make sure the unit is unplugged. Use a lightly dampened, soft, clean cloth with water or mild detergent.

## Federal Communications Commission (FCC) Compliance Statement

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for help

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

## Industry Canada (IC) Compliance Statement

CAN ICES-3(B) / NMB-3(B)

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The TOPAZ® OCR is a desktop video magnifier that provides clear and sharp magnification of documents, newspapers, photos, and other items. With simple to use controls, you can make quick magnification, color, and brightness adjustments to best suit your vision needs.

The high-definition camera produces a clear picture with sharp images and crisp text. This lets you use a lower magnification to maximize the amount of information displayed on the screen. It also reduces the need to move the XY table as much when reading text, looking at pictures, or working on crafts and other projects.

The TOPAZ also includes an OCR camera. A simple screen tap changes TOPAZ from a video magnifier to a scanning and reading device with speech. When in OCR mode, you can tap the screen and use the on-screen button bar to:

- Acquire and process documents displayed on the screen
- Listen to TOPAZ read the processed text
- See a full page view of the document with clearly marked reading zones. This allows for fast document navigation by tapping a zone and having immediate speech from that part of the document.
- Continue to add more pages to the document, and quickly save it to an SD card
- In addition to processing and reading text, TOPAZ can also be used as a picture viewer. This lets you capture a photograph, zoom in to view details, and save the picture to an SD card.

Additional TOPAZ features include:

- Auto-focus, which creates the clearest view without any need to make adjustments
- 16 magnification levels with a crisp, sharp image that lets you precisely adjust text to the size you need
- Adjustable pre-set color modes for high contrast text that is most comfortable for you
- One-touch button to freeze images

- 24-inch touchscreen display
- Adjustable screen brightness
- Lines, masks, and shades that make it easier to concentrate on certain areas of a document, newspaper, magazine, or book
- Create and save custom settings using the video magnifier Configuration menu
- Adjust the height and angle of the monitor for the best view as well as extra neck and upper back comfort when viewing the screen
- Two lights on either side of the camera provide object illumination, which is diffused to prevent glare and reflections when viewing shiny documents like magazines and photos
- Large low-friction reading table moves a full 16 inches from left to right for easy reading of even large-format documents
- XY table's braking mechanism lets you lock the table movement down tight when you want it to hold steady
- Working distance between XY table and camera: 8.25 inches / 21 cm
- In video magnifier mode, you can connect TOPAZ and your computer through the VGA video ports to use it as your main computer monitor, and then easily switch back and forth between your computer and the TOPAZ camera view
- In video magnifier mode, you can connect TOPAZ and your computer through USB ports to use the optional GEM<sup>®</sup> image management software to view, capture, and save magnified images from the TOPAZ to your computer

## **About this Guide**

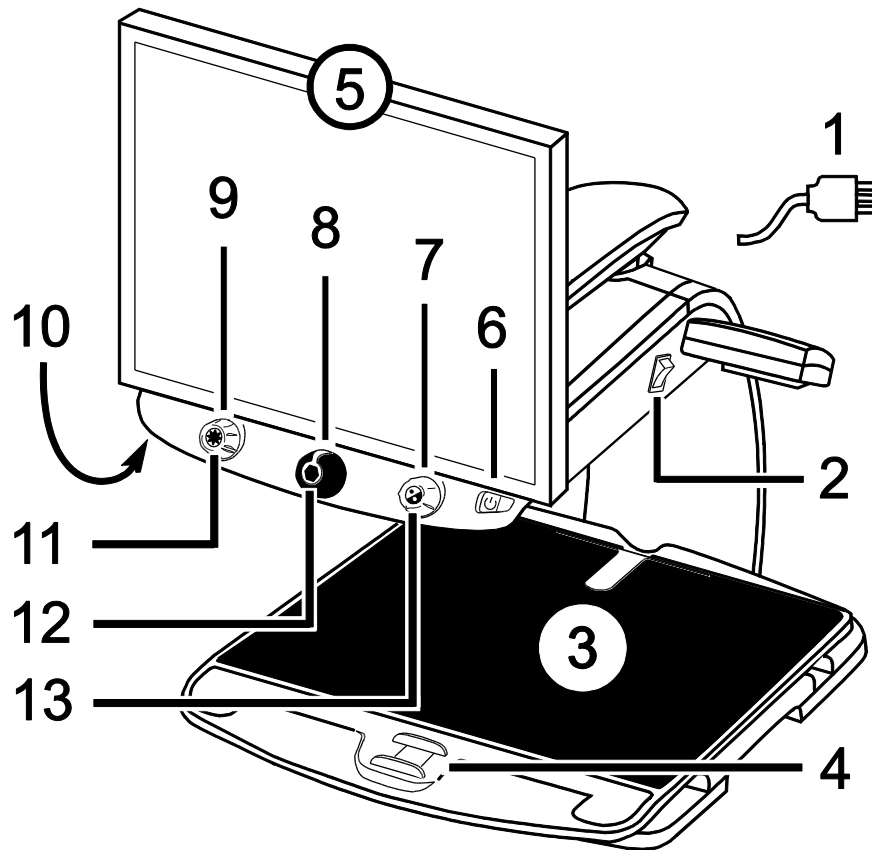
This guide familiarizes you with the magnification, OCR, and speech functions of TOPAZ. Throughout this guide, TOPAZ OCR is referred to as TOPAZ.

At Freedom Scientific, we are constantly improving our products and their functionality. Therefore, it is possible that this guide is not the latest version. Please download the most up-to-date guide by visiting [www.FreedomScientific.com](http://www.FreedomScientific.com), choosing **Support**, and then **Documentation**.



# SETTING UP YOUR TOPAZ OCR

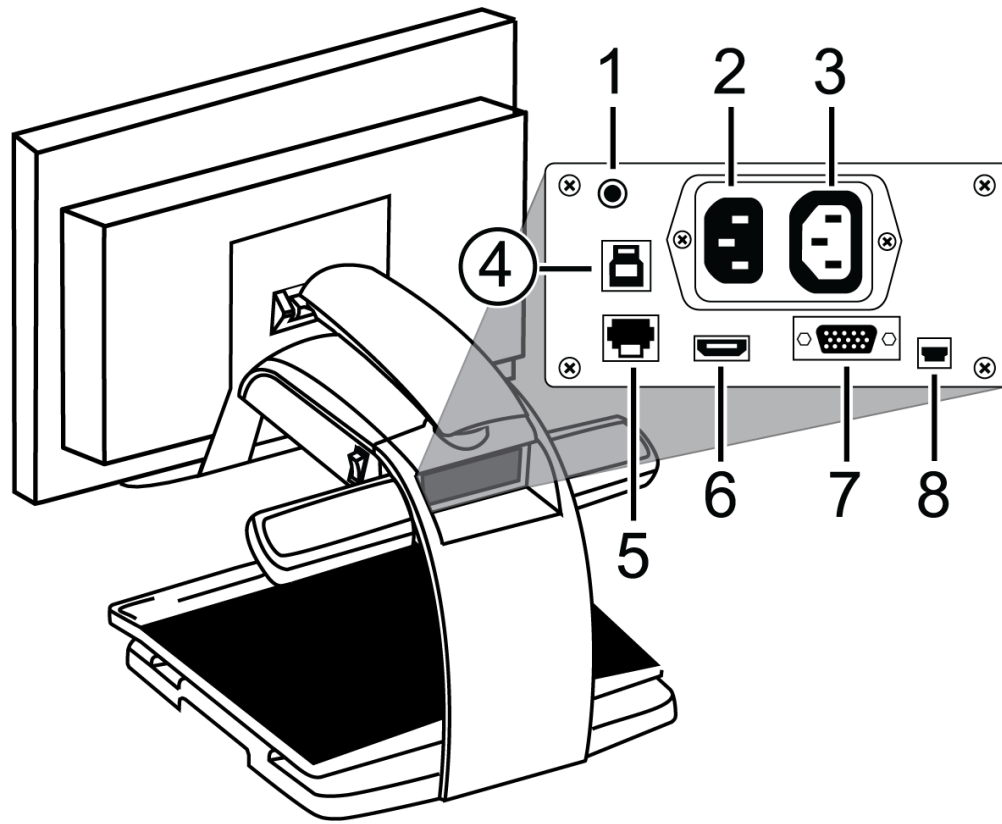
## Hardware Description



1. Power Cord
2. Main Power Switch
3. XY Table
4. XY Table Brake
5. Touchscreen Display
6. Power Button
7. Color Select Dial
8. Magnification Dial
9. Brightness Dial
10. Focus Lock Button – bottom of control panel
11. Find Button
12. Freeze Frame Button
13. Reference Line Button or Computer View Toggle Button \*

\* TOPAZ can be connected to a computer and used as a computer monitor. When used this way, the button switches between your computer view and the TOPAZ camera view. Video magnifier mode only.

## Rear Panel Connectors



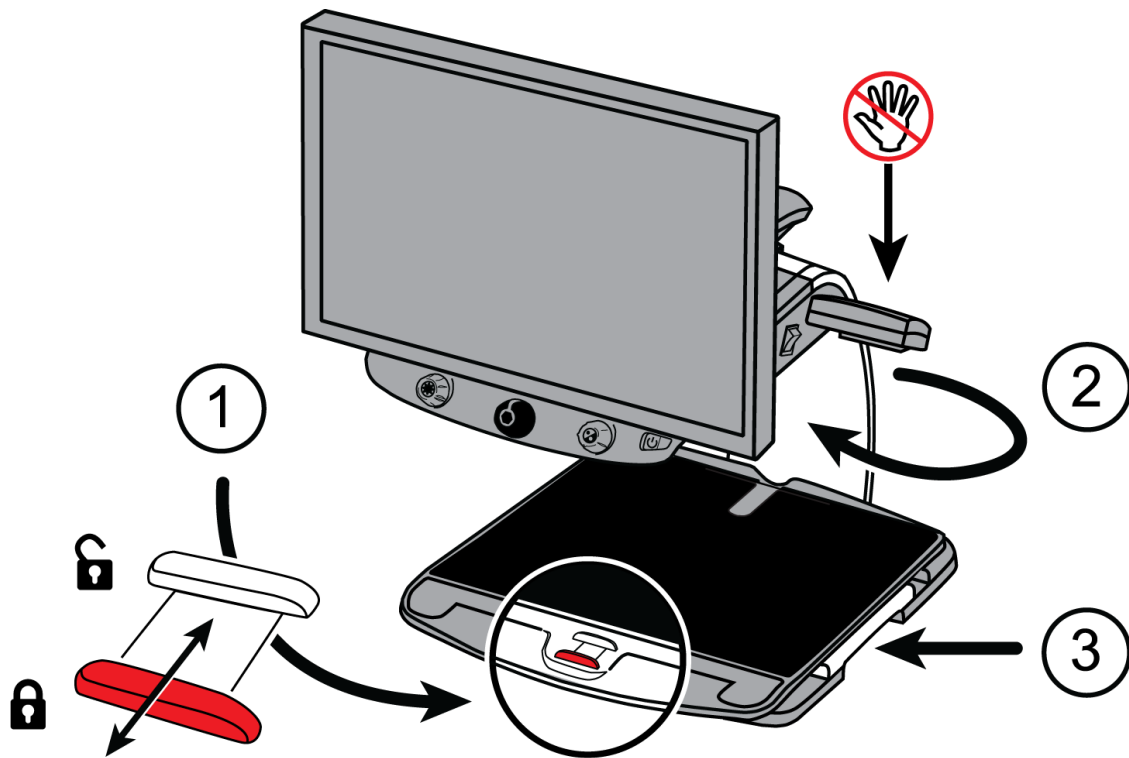
- 1. OCR power connector**  
Provides power to OCR camera light. Do not disconnect cable.
- 2. AC power connector**  
Plug power cord from wall outlet to TOPAZ.
- 3. Monitor power connector**  
Power cord from monitor to TOPAZ. There is no need to remove it under normal operation.
- 4. OCR USB connector**  
Transfers OCR data. Do not disconnect cable.
- 5. Control panel jack**  
Connects the control panel to the camera. Do not disconnect cable unless servicing TOPAZ.
- 6. Monitor HDMI connector**  
Connects the monitor to the camera. There is no need to remove it under normal operation. However, if you later decide to connect a TV or larger monitor to TOPAZ, then use this connector.
- 7. VGA video connector (15-pin)**  
Connects a computer's video output to the TOPAZ monitor. The monitor now becomes your computer's display.
- 8. USB connector**  
Connects a computer to TOPAZ for operation with GEM image management software. Video magnifier mode only.

## Carrying and Moving TOPAZ OCR

This section describes how to carry, move, and reposition TOPAZ.

### CAUTION:

TOPAZ weighs approximately 46 lbs. / 21 kg. **Get assistance if you need help lifting and moving it.**



**Important:** Do **NOT** lift TOPAZ by the LED reading lights.

1. Lock the **XY table** (1) to stop it from moving by pulling the red brake lock toward you.
2. Lift and carry TOPAZ to a sturdy surface such as a table, desk, or countertop.

One suggested method is to stand behind TOPAZ, wrap your forearm around the **rear post** (2), and then lift.

Another method is to stand in front of TOPAZ, hold the **repositioning grips** (3) on both sides of the reading table, and then lift.

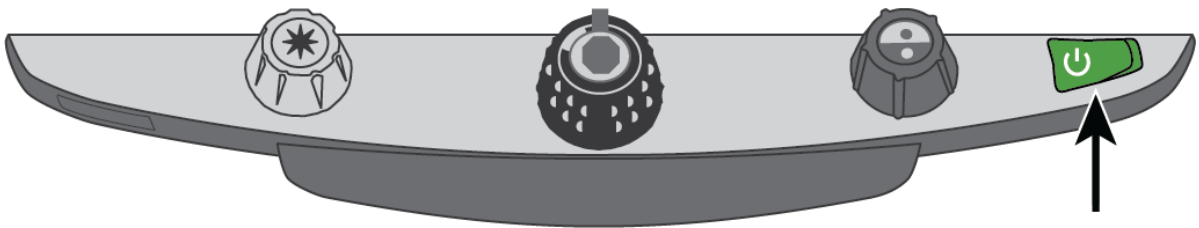
3. Once TOPAZ is on a sturdy surface, use the **repositioning grips** (3) to move and position it to your liking.

## Power and Monitor Adjustments

1. Plug the power cord from the middle power connector on the rear of TOPAZ to an electrical wall outlet.
2. Press the white main power switch to the ON (1) position. It is located near the LED reading light on the right side of TOPAZ.

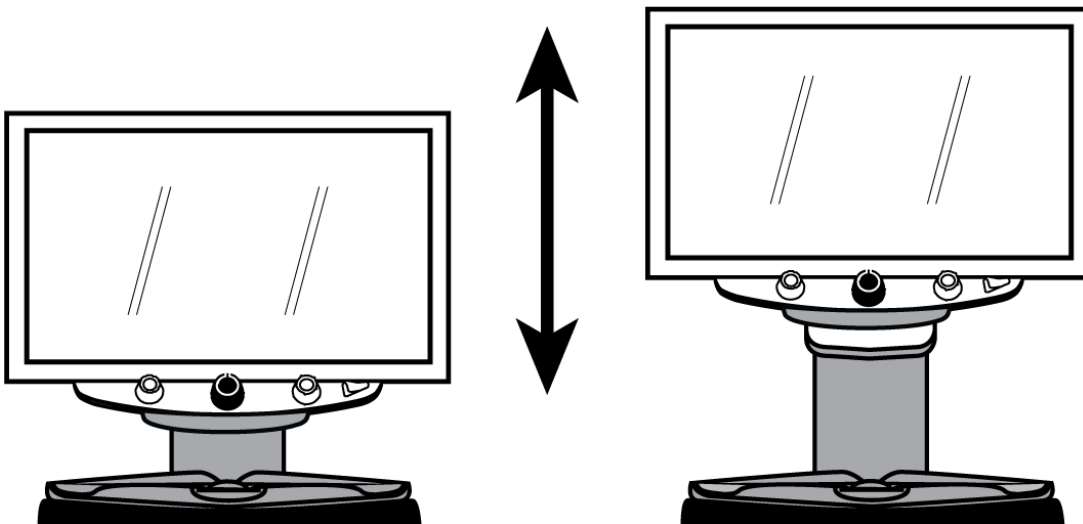


3. Press the green standby power switch on the right side of the control panel.



**Note:** As TOPAZ boots, an audible beep is heard for approximately 40 seconds, followed by silence, and then an audible chime. TOPAZ is now ready for use in OCR mode.

4. Hold the sides of the monitor with both hands and move it up or down to change the height for the best viewing position.



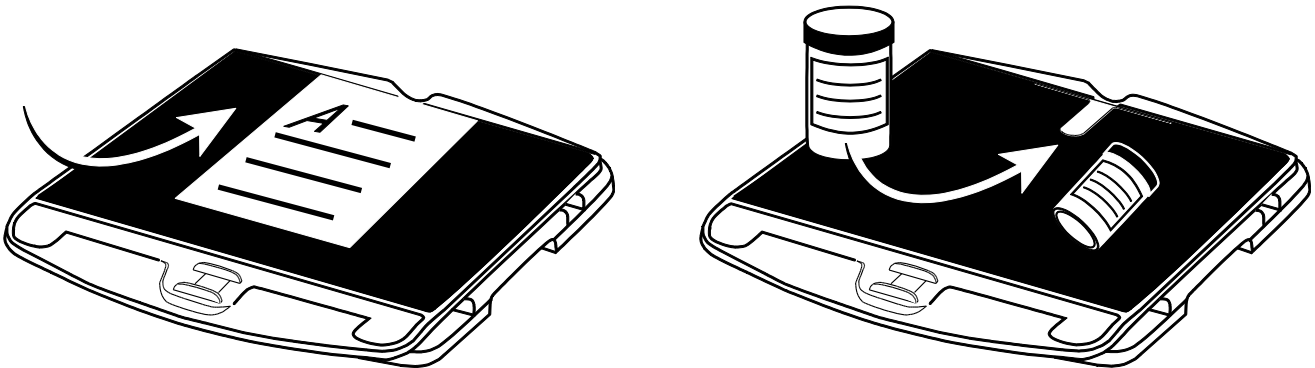


# VIDEO MAGNIFIER

### Placing Items on the XY Table

The following describes how to change magnification and brightness, change color modes, and freeze an image on the screen.

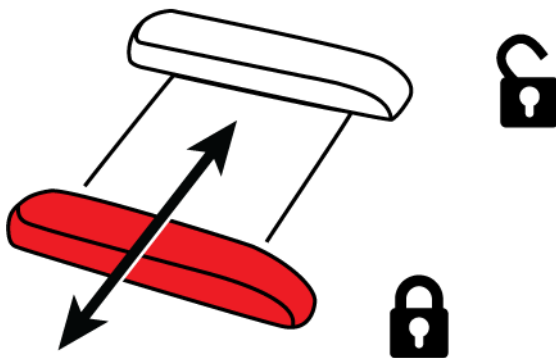
1. Make sure TOPAZ is turned on and that the XY table is visible on the monitor screen.
2. Place the item that you want to magnify onto the center of the reading table.



If it is a document, move it back so that it touches the rear of the XY table.

To read a cylindrical item, such as a pill bottle, place it in the indentation located at the rear of the XY table. This prevents the bottle from rolling on the table.

3. Unlock and move the XY table so that the document or item appears on the screen.



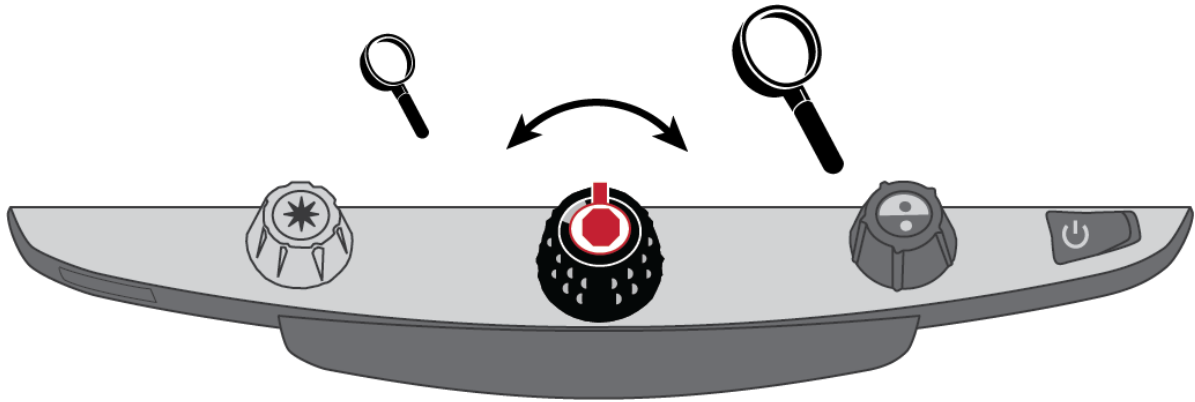
When the table is unlocked, you can move it back and forth so that the document's text moves across the screen making reading easier.



## Changing Magnification

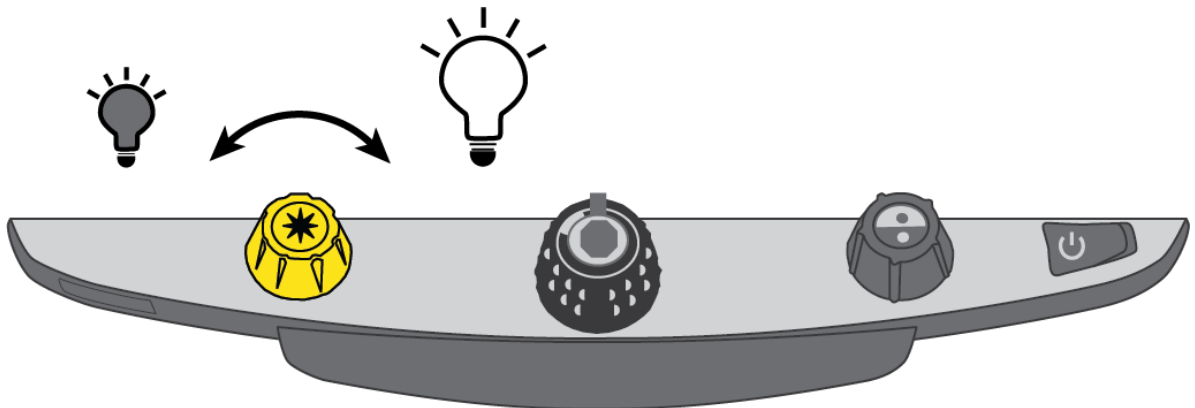
Turn the **black Magnification dial** clockwise to zoom in or counterclockwise to zoom away from the object that is displayed on the screen.

TOPAZ can display 16 levels of magnification.



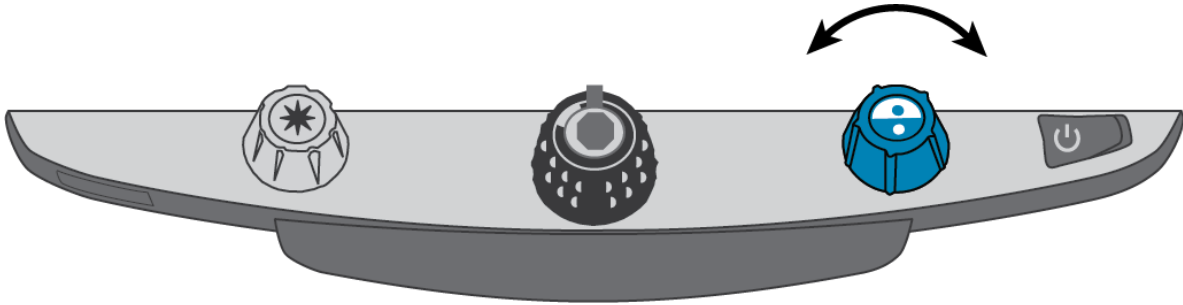
## Adjusting Screen and Image Brightness

Turn the **yellow Brightness dial** to adjust brightness.



## Changing Screen Colors

Turn the **blue Color Select dial** to choose a color mode that best suits your vision needs.



A color mode is a pre-defined color combination (for example, yellow text on a black background). You can use color modes to reduce glare and provide contrast to make it easier to read text on the screen.

There are five default color modes:

- True Full Color – always available, cannot be deleted
- Black on White (high-contrast positive) – always available, cannot be deleted
- White on Black (high-contrast negative) – always available, cannot be deleted
- Yellow on Blue
- Yellow on Black

You can also activate up to 28 additional color modes for a total of 33. For a complete list, refer to **Color Modes** on page 20.

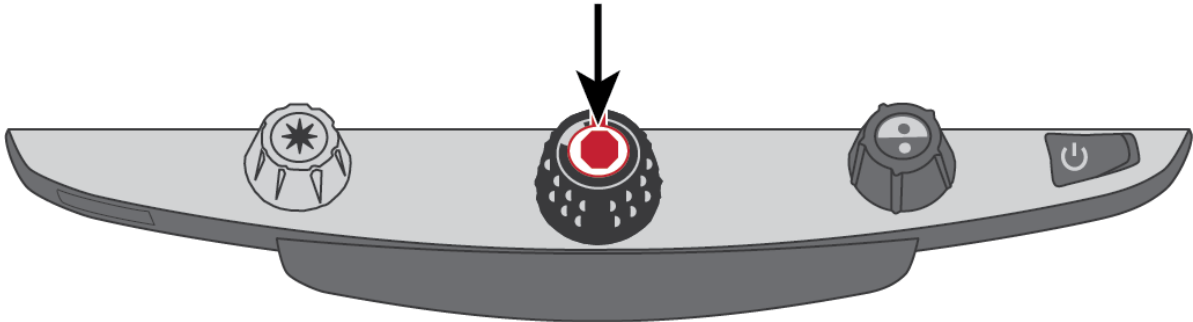
To add more color modes, refer to **Changing Configuration Menu Settings** on page 21

## Freezing an Image

To freeze the current image that is displayed on the screen, do the following:

1. Press the center of the **black Magnification dial**.

The freeze frame icon appears on the screen: **||**

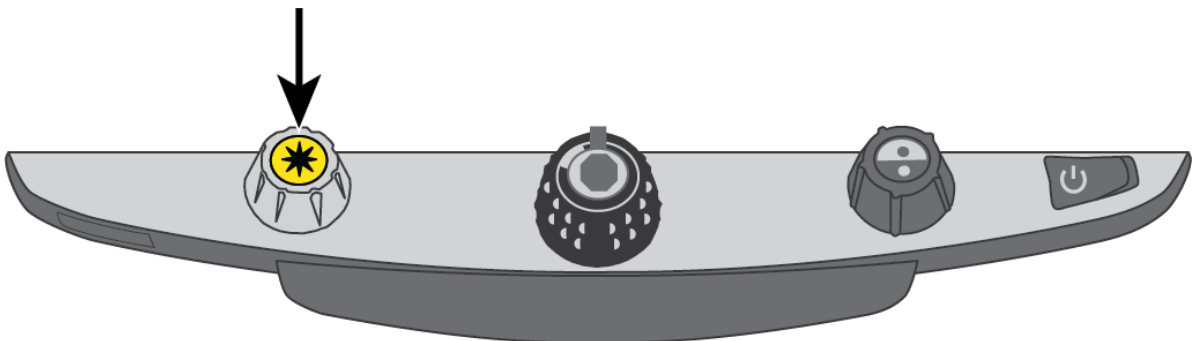


2. Press it again to turn off Freeze Frame and return to the camera's live view.


## Using the Find Feature

The Find feature is useful when moving and repositioning a document or item under the camera. Crosshairs display on the screen to assist with positioning.

1. Press and **hold** the **Find button**  located in the center of the **yellow Brightness dial**.



Crosshairs display on the screen (indicating the center of the image on the screen), and the camera zooms out.

2. While still holding the button, move the XY table and use the crosshairs to center and view a new area of the document.
3. Release the **Find button** . The camera zooms in to its previous magnification level and the crosshairs turn off.

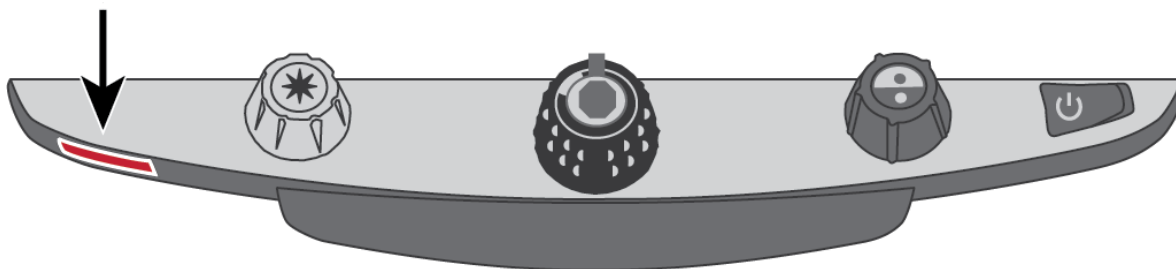
## Locking Camera Focus

Focus lock keeps the camera focused on the item you are viewing instead of trying to automatically focus on your hand, or any other item that passes in front of the camera. This is useful when working or writing directly under the camera.

To use Focus Lock, do the following:

1. Press the **red Focus Lock button** once to turn on Focus Lock.

The padlock icon appears on the screen: 

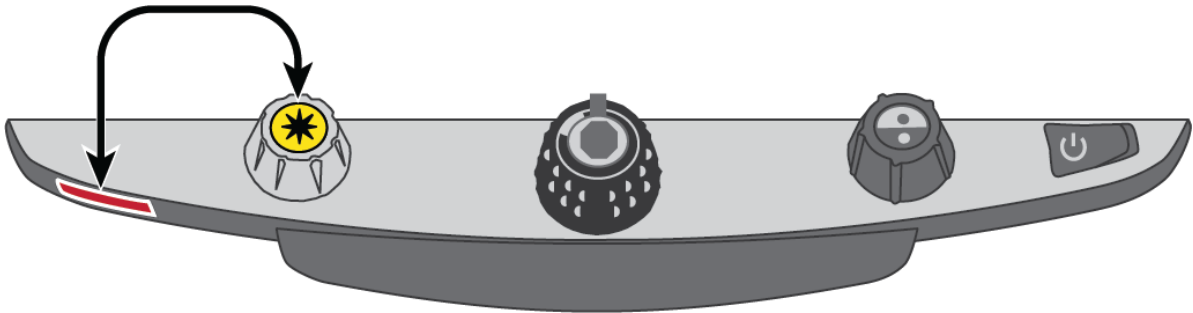


2. Press the button a second time to turn off Focus Lock, and restore automatic focus.

### Turning LED Reading Lights On or Off

**Note:** TOPAZ has two lights designed to illuminate documents and other items that you place on the reading table. This lighting is diffused to reduce glare and reflections. However, some items, such as photographs or glossy magazine pages, may be too shiny or reflective to view easily. When viewing such items, you can turn off the reading lights if you like.

1. To turn off the LED reading lights, press and **hold** the center of the **yellow Brightness dial** and the **red Focus Lock button** simultaneously.
2. Press and **hold** both again when you want to turn the reading lights on.

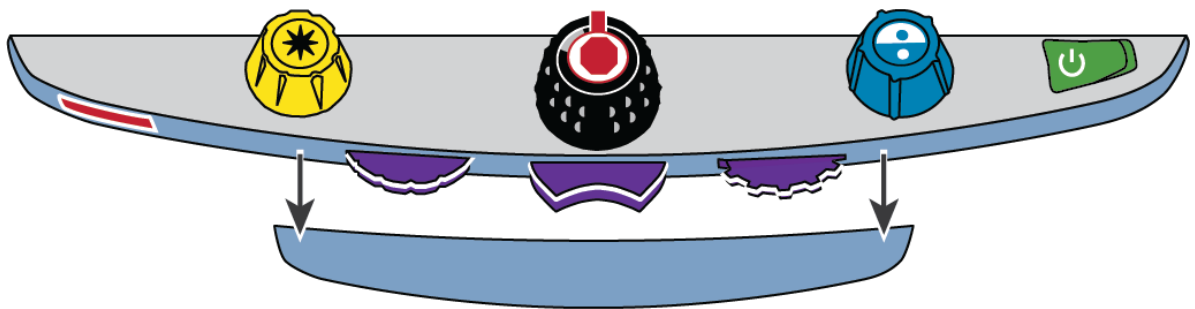


**Note:** You can adjust brightness setting in the Configuration menu. For more information, refer to the Configuration menu procedure on page 21.

## Lines, Masks, and Shades

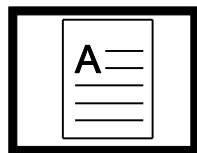
Lines display as two horizontal or vertical lines on the screen. Masks and shades block part of the screen to show only a horizontal or vertical slice of the screen. This makes it easier to focus on a specific area of the reading material while also reducing glare from bright backgrounds. You can also adjust the distance between the lines, masks, or shades that display on the screen.

**Note:** The switch and dials that control lines, masks, and shades are located under the plastic cover on the bottom of the control panel. Press the two recessed tabs on the backside of the cover to remove it to access the purple switch and dials.



### Displaying Lines, Masks, or Shades – Center Switch

Press the **center purple switch** to the right or left to cycle through and display lines, masks, or shades horizontally or vertically on the screen.



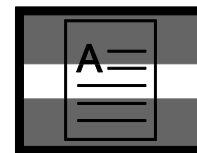
None



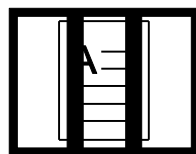
Horizontal  
Lines



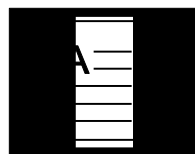
Horizontal  
Masks



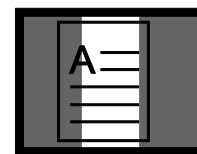
Horizontal  
Shades



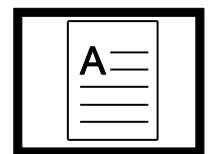
Vertical  
Lines



Vertical  
Masks



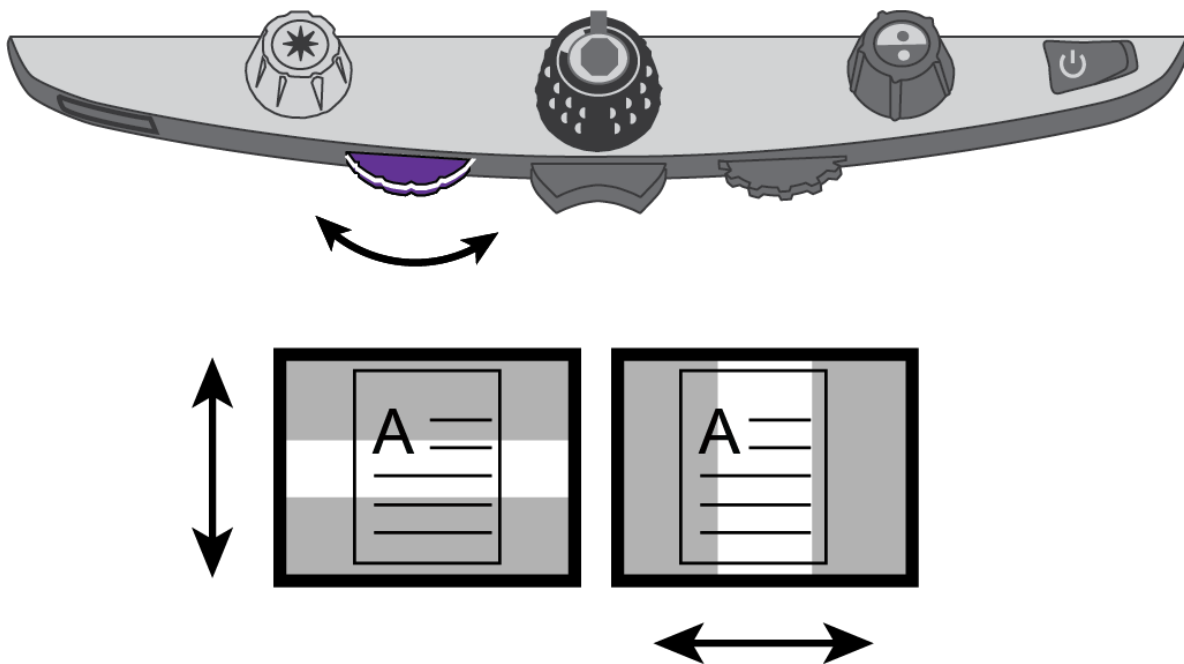
Vertical  
Shades



None

## Moving Lines, Masks, or Shades – Left Wheel

Turn the **left purple Adjustment wheel** to the left or right to move lines, masks, or shades up and down or left and right on the screen.



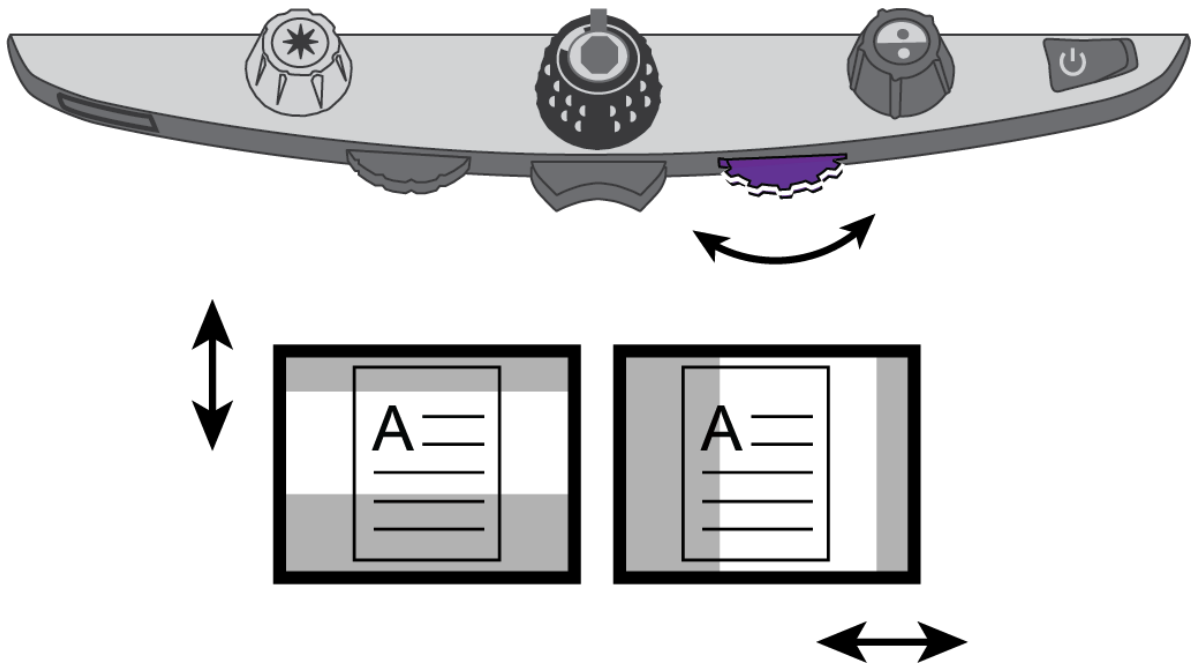
## Moving a Single Line, Mask, or Shade – Right Wheel

### For horizontal lines, masks, or shades:

- Turn the **right purple Width wheel** to the left or right, which moves the top line, mask, or shade up or down. This increases or decreases the distance between horizontal lines, masks, or shades.

### For vertical lines, masks, or shades:

- Turn the **right purple Width wheel** to the left or right, which moves the right line, mask, or shade to the left or right. This increases or decreases the distance between vertical lines, masks, or shades.



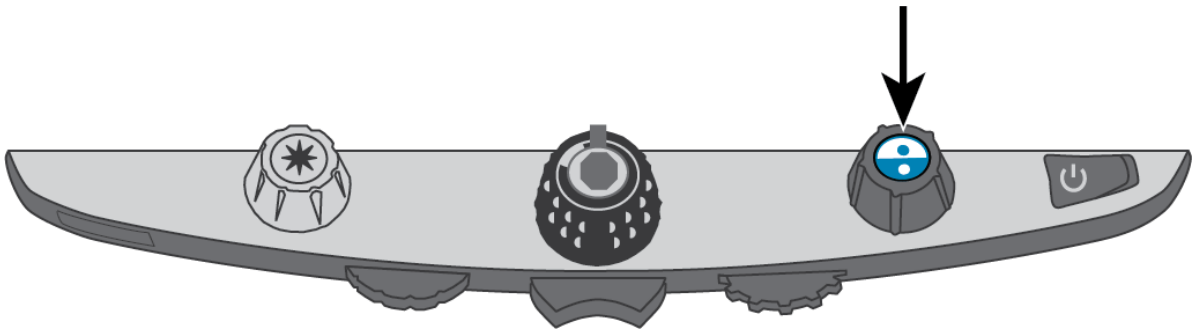


## Using the Reading Line

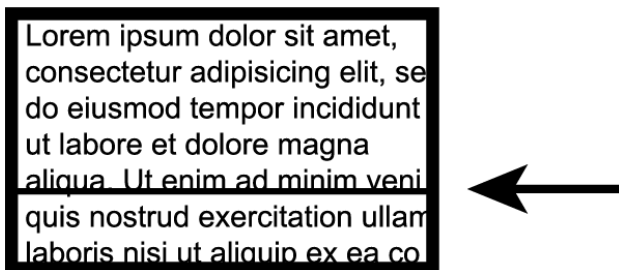
The reading line is a single horizontal line that displays on the screen to help you maintain your place while reading a document. It is useful when using the XY table to scroll your document across the screen.


To use the reading line, do the following:

1. Press the center of the **blue Color Select dial** to place a horizontal line across the screen.



The line displays approximately one third of the way up from the bottom of the screen.



2. Next, move the XY table to the right to continue reading text. To read the next line, move the reading table away from you so that the reading line displays under the next line of text. You can then slide the XY table to the left side of the document to continue reading.
3. To remove the reading line from the screen, press the center of the **blue Color Select dial**  again.

**Note:** This feature is not available when TOPAZ OCR is connected to your computer via the VGA connector. When connected this way, the center of the dial becomes the Computer View Toggle button and switches between computer view and the TOPAZ camera view.

## Color Modes

There are five factory default color modes and 28 additional color modes that you can activate and use. Select the color modes that best suit your visual needs, for example, yellow text against a black background.

**Note:** To change color modes, see steps 1-3 in **Changing Configuration Menu Settings** on page 21.

- |  |                    |                              |
|--|--------------------|------------------------------|
| 1. Full Color <sup>1</sup>                                 | 12. Blue on White  | 23. Violet on White          |
| 2. Black on White <sup>1</sup><br>(high-contrast positive) | 13. Green on Black | 24. White on Violet          |
| 3. White on Black <sup>1</sup><br>(high-contrast negative) | 14. Black on Green | 25. Orange on Black          |
| 4. Yellow on Blue <sup>2</sup>                             | 15. Red on White   | 26. Black on Orange          |
| 5. Yellow on Black <sup>2</sup>                            | 16. White on Red   | 27. Green on Yellow          |
| 6. Grayscale   | 17. White on Green | 28. Yellow on Green          |
| 7. Blue on Yellow  | 18. Green on White | 29. Amber on White           |
| 8. Black on Yellow   | 19. Black on Blue  | 30. White on Amber           |
| 9. Violet on Black   | 20. Blue on Black  | 31. Black on Amber           |
| 10. Black on Violet  | 21. Black on Red   | 32. Amber on Black           |
| 11. White on Blue  | 22. Red on Black   | 33. High-Contrast Full Color |

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<sup>1</sup> Default color modes for positions 1 through 3; cannot be changed or deleted.

<sup>2</sup> Default color modes for positions 4 and 5; can be changed or deleted. A maximum of 12 positions can be active.

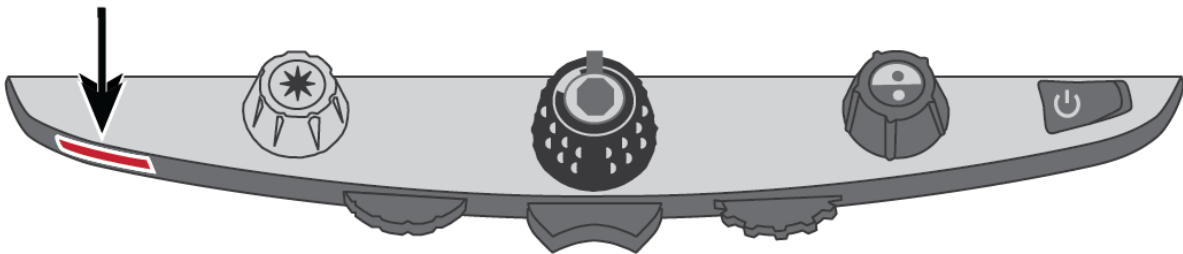
## Changing Configuration Menu Settings

You can change factory settings using the Configuration menu as described in this section.

**Note:** When configuring color modes, it is best to have both a page of text and a color photo to place under the camera to select settings best suited for you.


1. Press and **hold** the **red Focus Lock button** for approximately 10 seconds to open the Configuration menu. Release the button when the color mode settings display.

10 Sec.




The color mode setting (T) displays in the lower left corner of the screen.





- The hollow outline T displays for positions 1-3 and indicates that color settings cannot be changed or disabled
  - The solid outline T displays for positions 4-12 and indicates that color settings can be edited
2. Turn the **blue Color Select dial**  to scroll through positions 4-12.

The color combination currently displayed on the screen is assigned to that position number.

To select and enable (✓) a position with its current color mode:









- Press the center of the **black Magnification dial** .
- If you press it again, the position is cleared (✗) and disabled.

To select a position and choose a different color mode:

- Turn the **yellow Brightness dial**  to view the 33 color modes.
- When you find a color mode that you want to use, press the center of the **black Magnification dial**  to select (✓) the color combination and enable the current position.


Repeat this step as necessary to configure other positions.

3. Press the **red Focus Lock button** to move to other settings, which are listed below. For more information about these settings, see page 29.

Icon	Description	Default Setting
	Freeze Frame	✓
	Focus Lock	✓
	Home <sup>1</sup>	✗
	Find	✓
	Single Reading Line	✓
	LED Reading Light Brightness	3 (High)
	Magnification Tables <sup>2</sup>	1
	Magnification Display Number <sup>2</sup>	“88”

<sup>1</sup> See **Restore User Settings When Powering On TOPAZ** on page 25 for more details.

<sup>2</sup> See **Adjusting Magnification Settings** on page 34 for more details.


4. When an item that you want to change displays, press the center of the **black Magnification dial**  to:
  - Select and enable (✓) a setting
  - Clear and disable (✗) a setting
  - Cycle through the different options available for a setting
5. When finished, press and **hold** the **red Focus Lock button** for at least 10 seconds to save your new default setting and exit the Configuration menu.

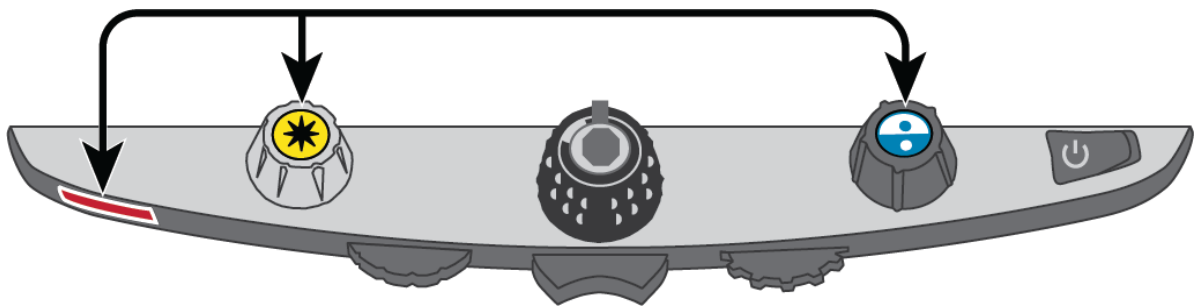
**Note:** To restore factory default settings, refer to page 27 for more information.

## Saving and Restoring User Settings

After enabling or disabling color modes and other settings in the Configuration menu, you can select your favorite color combination and screen brightness settings, and then save all changes as your default user settings. Being able to recall these settings is useful if you decide to experiment with other colors and settings, but are not satisfied with the changes.

### Save User Settings

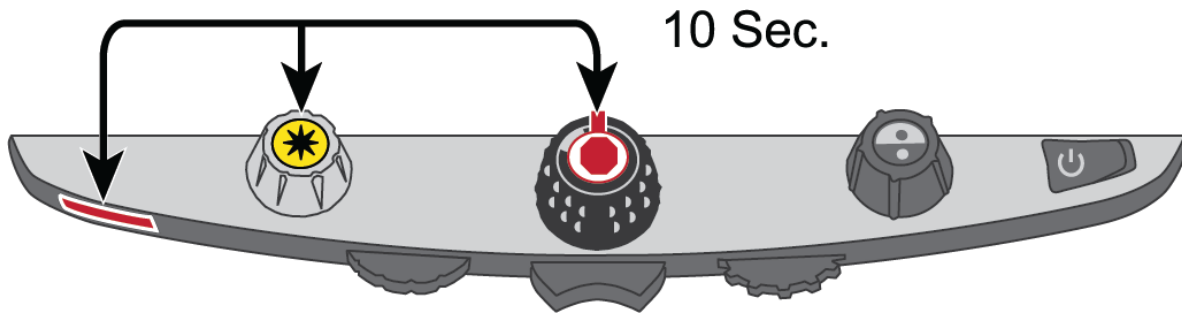
Press and **hold** these control panel buttons simultaneously until the Save icon  displays.



- Red Focus Lock button
- Center of yellow Brightness dial
- Center of blue Color Select dial

## Restore User Settings


If it is necessary to restore user settings, press and **hold** these control panel buttons simultaneously for at least **10 seconds**.



- Red Focus Lock button
- Center of yellow Brightness dial
- Center of black Magnification dial

## Restore User Settings When Powering On TOPAZ

By default, TOPAZ always powers on with the same settings as the previous session, to include color mode, brightness adjustments, and any lines, masks, or shades used.

If you want TOPAZ to always start in a specific color mode and brightness, while also resetting all adjustments made in the prior session, select **Home**  in the Configuration menu. (Home is disabled by default.)

To open the Configuration menu and select **Home**, refer to **Changing Configuration Menu Settings** on page 21.

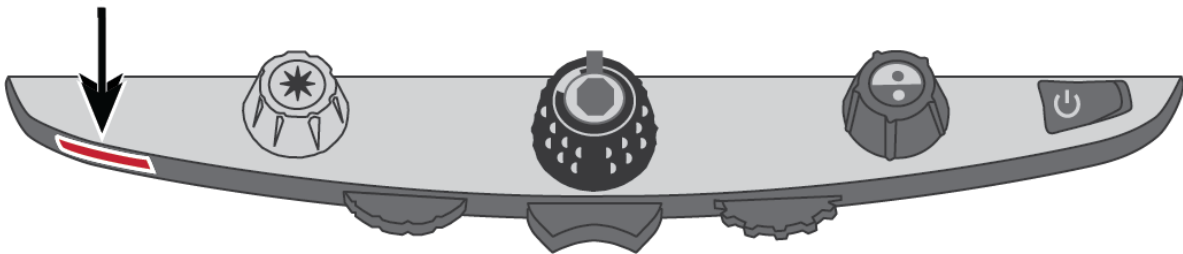
After exiting the Configuration menu, save your changes as described earlier.

## Disabling Center Push Buttons on the Control Panel

To simplify operation, you can disable the center push buttons on the control panel that operate the Freeze Frame **||**, Find **+**, and Single Reading Line **□** features. To do this,

1. Press and **hold** the **red Focus Lock button** (bottom left side of the control panel) for at least **10 seconds** to open the Configuration menu.

10 Sec.



2. Press the **red Focus Lock button** until Freeze Frame **||** displays. It is selected (✓) by default.

Press the center of the **black Magnification dial**  to clear (✗) Freeze Frame.




3. Press the **red Focus Lock button** again to move to the Find **+** setting. It is selected (✓) by default.

Press the center of the **black Magnification dial**  to clear (✗) Find.

4. Press the **red Focus Lock button** again to move to the Single Reading Line **□** setting. The option is selected (✓) by default.

Press the center of the **black Magnification dial**  to clear (✗) the Single Reading Line.

5. When finished, press and **hold** the **red Focus Lock button** for at least 10 seconds to save and exit the Configuration menu.

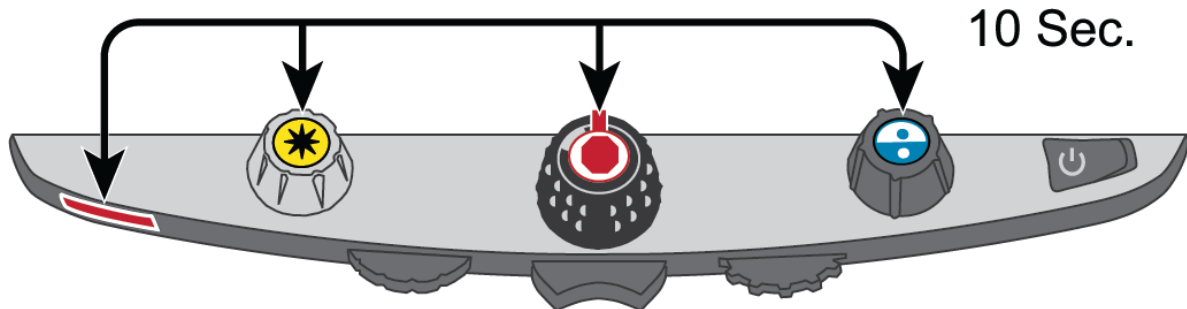
With the buttons disabled, nothing will happen when you press the center of the **yellow Brightness dial** , the **black Magnification dial** , or the **blue Color Select dial** .

When you restore your user settings or the factory default settings, the buttons and features are enabled again.



## Resetting Factory Default Settings

To reset TOPAZ to its default factory settings, press and **hold** the following dials and buttons simultaneously for **10 seconds**. Release the dials and buttons when the screen goes blank.

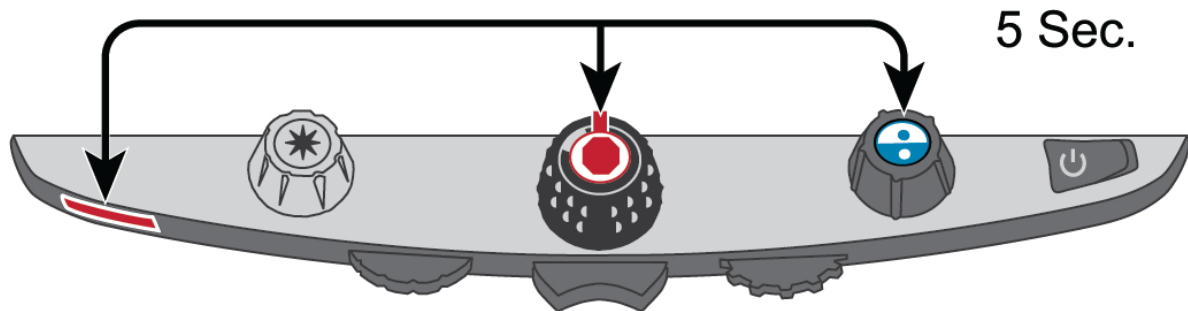


- Red Focus Lock button
- Center of yellow Brightness dial
- Center of black Magnification dial
- Center of blue Color Select dial

## Displaying Firmware Version Number







Press and **hold** the following dials and buttons simultaneously for **five seconds** to display the firmware version number. The word **Ver.** followed by several sets of numbers flash one at a time on the screen. The first three sets indicate the unit's firmware version.



If you need technical assistance, please have this information available before contacting Technical Support.







- Red Focus Lock button
- Center of black Magnification dial
- Center of blue Color Select dial




## Video Magnifier Configuration Menu Settings

Setting	Description
<p data-bbox="250 321 456 352">Color Select</p> <p data-bbox="250 390 513 464"> </p>	<p data-bbox="659 321 1414 485">Adds more color positions so that additional color combinations are available when you turn the <b>blue Color Select dial</b> during normal operation.</p> <p data-bbox="659 527 1321 646">By default, positions 1 through 5 are available. Positions 6 through 12 can be added using this setting.</p> <p data-bbox="659 684 938 726"><b>Hollow icon - </b></p> <p data-bbox="659 764 1354 842">Positions 1 through 3 are always available and cannot be changed.</p> <p data-bbox="659 879 1354 957">Position 1 is always full color. Position 2 is black on white (high-contrast positive).</p> <p data-bbox="659 968 1354 1045">Position 3 is white on black (high-contrast negative).</p> <p data-bbox="659 1083 906 1125"><b>Solid icon - </b></p> <p data-bbox="659 1163 1393 1367">Displays for positions 4 through 12. These positions can be added to or removed from normal operation. In addition, you can select one of 33 different color combinations for each position.</p> <p data-bbox="659 1409 1373 1528">By default, position 4 is yellow on blue, and position 5 is yellow on black. Both positions can be changed using this setting.</p> <p data-bbox="659 1566 1276 1608"><b>Adding and removing Color Modes</b></p> <p data-bbox="659 1646 1382 1724">To add a position, select () it by pressing the center of the <b>black Magnification dial</b>.</p> <p data-bbox="659 1734 1414 1812">To remove a position, clear () it by pressing the center of the dial again.</p>

Setting	Description
<p data-bbox="250 228 488 264">Freeze Frame</p> 	<p data-bbox="659 228 1344 317">Disables or enables freeze frame functionality. It is enabled (✓) by default.</p> <p data-bbox="659 354 1409 520">If you disable (✗) it, Freeze Frame is no longer available when you press the center of the <b>black Magnification dial</b> during normal operation.</p>
<p data-bbox="250 562 444 598">Focus Lock</p> 	<p data-bbox="659 562 1403 856">This setting disables or enables focus lock functionality. If you disable (✗) the setting, you completely disable focus lock so that it is not available when you press the <b>red Focus Lock button</b> during normal operation. In this case, only the red position locator beam is available when the button is pressed.</p> <p data-bbox="659 894 1365 982">The Focus Lock setting is selected (✓) by default.</p> <p data-bbox="659 1020 1414 1486">When using TOPAZ, the camera automatically focuses on the closest object in view. However, if you want focus to remain on a specific object such as a document on the XY table, you can turn on Focus Lock by pressing the <b>red Focus Lock button</b>. This prevents the camera from accidentally focusing on your hand or any other item that moves in front of the camera. During normal operation, it is recommended that you leave Focus Lock off.</p>

Setting	Description
<p>Home</p> 	<p>This setting is cleared (✘) by default. When cleared, TOPAZ will always turn on using the same color, brightness, and reading lines or mask settings as in your last session.</p> <p>When selected (✓), the Home setting resets TOPAZ to your default user settings every time you turn on TOPAZ. Your default settings can be what you choose in the Configuration menu, or what you set and save later during normal operation.</p>
<p>Find</p> 	<p>During normal operation, Find displays a set of crosshairs on the screen and zooms out so that you can see more of the item displayed on the screen.</p> <p>This setting is enabled (✓) by default. If you disable (✘) it, Find is no longer available when you press the center of the <b>yellow Brightness button</b> during normal operation.</p>
<p>Single Reading Line</p> 	<p>This setting is selected (✓) by default. It allows you to display a horizontal line across the bottom third of the screen during normal operation. Use it to help you maintain your place when reading a document.</p> <p>When cleared (✘), the line does not display when you press the center of the <b>blue Color Select dial</b> during normal operation.</p>
<p>LED Reading Lights</p> 	<p>The reading lights can be set to one of three brightness levels: low (1), medium (2), or high (3). By default, the brightness level is set to high (3).</p> <p>Press the center of the <b>black Magnification dial</b> to select a brightness level.</p>

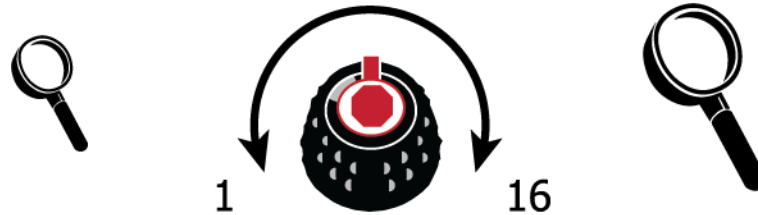
Setting	Description
<p data-bbox="250 233 472 310">Magnification Levels</p> <p data-bbox="250 344 380 401"><b>AAA</b></p>	<p data-bbox="659 233 1409 359">TOPAZ can display 16 levels of magnification when you turn the <b>black Magnification dial</b> (positions 1 to 16).</p> <p data-bbox="659 394 1370 562">Three separate magnification tables are available for use. Each table offers slightly different values so that you can choose the best magnification power for you.</p> <p data-bbox="659 598 1406 676"><b>Table 1</b> is the default magnification table and is ideal for most users.</p> <p data-bbox="659 714 1377 840"><b>Table 2</b> is best if you are comfortable with lower magnification. It provides finer adjustments between positions 1 through 5.</p> <p data-bbox="659 877 1414 1045"><b>Table 3</b> provides finer adjustments in the middle magnification range available between positions 6 through 10. This table is good if you need greater magnification.</p> <p data-bbox="659 1083 1393 1161">Press the center of the <b>black Magnification dial</b> to select table 1, 2, or 3.</p>

Setting	Description
<p data-bbox="250 233 521 310">Magnification Display Number</p> <div data-bbox="362 512 474 674">  </div> <div data-bbox="362 707 474 869">  </div> <div data-bbox="362 909 474 1071">  </div>	<p data-bbox="659 233 1398 359">Sets the type of magnification value that displays on the screen as you turn the <b>black Magnification dial</b>.</p> <p data-bbox="659 396 1393 474">Press the center of the <b>black Magnification dial</b> to select a value.</p> <p data-bbox="659 512 1360 638">Select the icon with “88” to display the magnification in use relative to the 16 dial positions, for example, 1, 2, 3...14, 15, 16.</p> <p data-bbox="659 707 1360 869">Select the icon with the clear magnifying glass if you do not want to see a magnification value display as you turn the dial.</p> <p data-bbox="659 909 1409 1035">Select the icon with “X” to display the actual magnification value, for example, 3.7, 6.4, 13, and so on.</p>

## Adjusting Video Magnification Settings

**Note:** The following advanced feature is intended for sales and support personnel. It is accessed in the Configuration mode.

TOPAZ can display 16 levels of magnification. To increase magnification, turn the **black Magnification dial** clockwise. To decrease magnification, turn it counterclockwise.




To get the most out of TOPAZ, there are three magnification tables from which you can choose the best magnification power for you.

- **Table 1** is the default magnification table and is ideal for most users. Turn the **black Magnification dial** to step through positions 1-16.
- **Table 2** is ideal if you are comfortable with lower magnification. It provides finer adjustments between positions 1-8.
- **Table 3** provides finer adjustments for midrange magnification available between positions 8-14. This table is good if you need greater magnification.

Experiment with the different magnification tables and use the one that is best for you. You can always revert to table 1 at any time if you are not comfortable with the magnification available in tables 2 and 3. The following describes how to select and edit your viewing preferences.

### Selecting a Magnification Table

1. Press and hold the **red Focus Lock button** for approximately 10 seconds until the letter **T** displays in the lower left corner of the screen.
2. Continue to press the **red Focus Lock button** until the video magnification icon **AAA** displays on the screen.
3. Press the center of the **black Magnification dial**  to select one of the three magnification tables.




4. Do one of the following:

- To save the change and exit configuration mode, press and hold the **red Focus Lock button** for approximately 10 seconds until the on-screen display at the bottom of the screen closes.
- To customize how magnification values display on the screen, perform the steps in the next section.

### Changing the Magnification Display Number

Once you have selected a magnification table, you can choose if the current magnification value displays on the screen as you turn the **black Magnification dial**. To set your preference, do the following:

1. Press the **red Focus Lock button** until the magnifying glass icon displays on the screen.
2. Press the center of the **black Magnification dial**  to select how magnification values display. This is represented by the magnifying glass icon.



Select to display the magnification in use relative to the 16 positions of the **black Magnification dial**, for example, 1, 2, 3...14, 15, 16.



Select if you do not want any magnification value to display as you turn the **black Magnification dial**.



Select to display the actual magnification value, for example, 3.7, 6.4, 13, and so on.

3. To save changes and exit configuration mode, press and hold the **red Focus Lock button** for approximately 10 seconds until the on-screen display at the bottom of the screen closes.

To discard any changes made while configuration mode is open, do not touch any control panel dials, buttons, switches, or wheels for approximately 30 seconds. This closes configuration mode without saving changes.

## Troubleshooting Video Magnification

Problem	Solution
The screen is blank.	<p>Press the unit's power button.</p> <p>Make sure the power cable is correctly connected to TOPAZ and a power outlet.</p> <p>Reduce magnification.</p> <p>Adjust brightness.</p> <p>Switch to a different color mode.</p>
TOPAZ does not power on.	<p>Press the unit's power button.</p> <p>Make sure the power cable is correctly connected to TOPAZ and a power outlet.</p> <p>Ensure that the power outlets have power and are not malfunctioning. If the outlets are connected to a wall switch, make sure that the switch is on.</p>
The image on the screen is not changing.	<p>Press the red Freeze Frame button to return to live view.</p>
The image on the screen is too bright, or there is a glare from the screen that makes it difficult to see.	<p>Reduce brightness.</p> <p>Switch to a different color mode.</p>
The image on the screen is too dark.	<p>Increase brightness.</p> <p>Switch to a different color mode.</p>
TOPAZ does not power on with my user settings.	<p>Ensure that the Home setting is enabled.</p>
There are smudges or blemishes on the screen.	<p>Clean the screen using a damp, soft, lint-free cloth.</p>

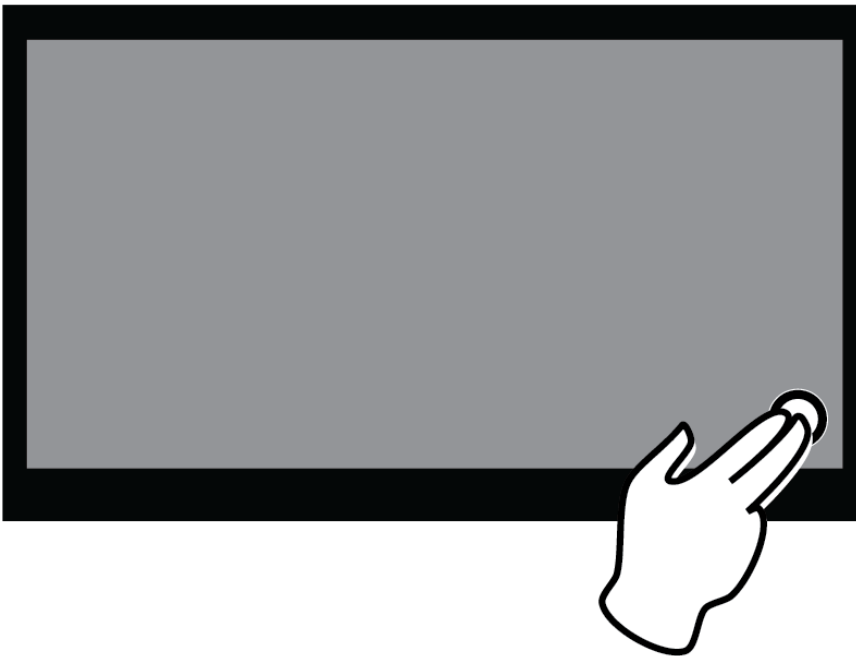
# OCR AND SPEECH

## OCR and Speech Quick Start

To quickly capture and process a document, do the following:

1. Tap the screen once in the bottom right corner to start OCR mode.

The screen goes dark for a moment as TOPAZ switches from the video magnification camera to the OCR camera.

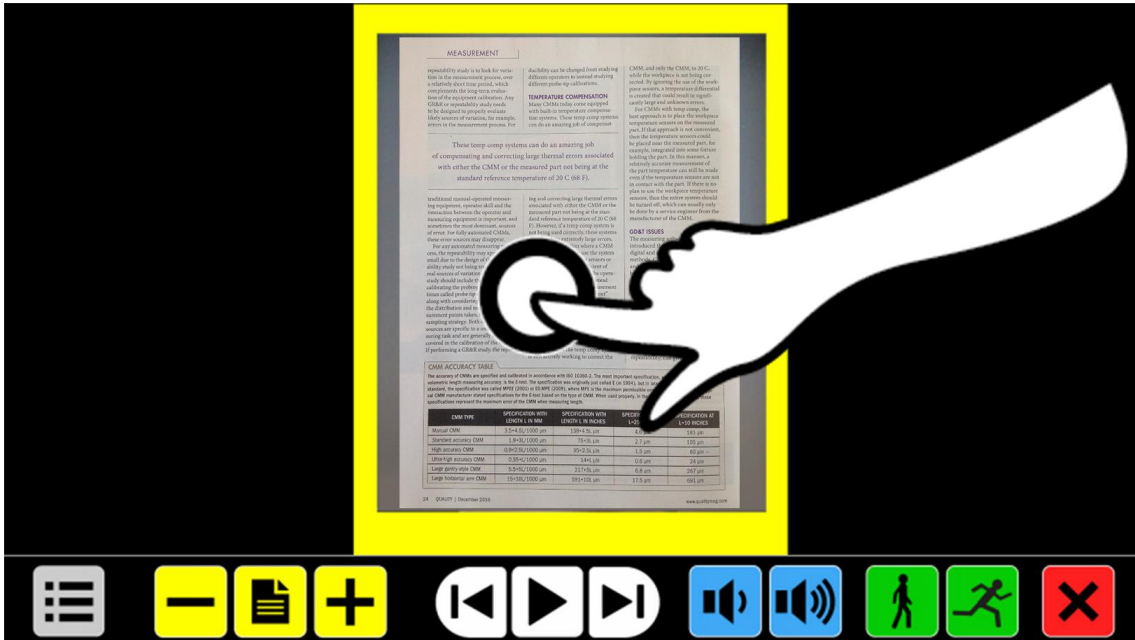


**Note:** To switch to OCR mode, the default method is to tap the screen in the lower right corner. This can be changed so that any tap on the screen while in video magnifier mode will automatically launch OCR mode. For more information, refer to **Activate Speech (Starting OCR Mode)** on page 55.

2. When "Speech on" is announced, position the document so that it displays inside the yellow document outline box that appears on the screen.



3. Tap the screen, and the OCR camera captures and processes the document and starts reading within several seconds.



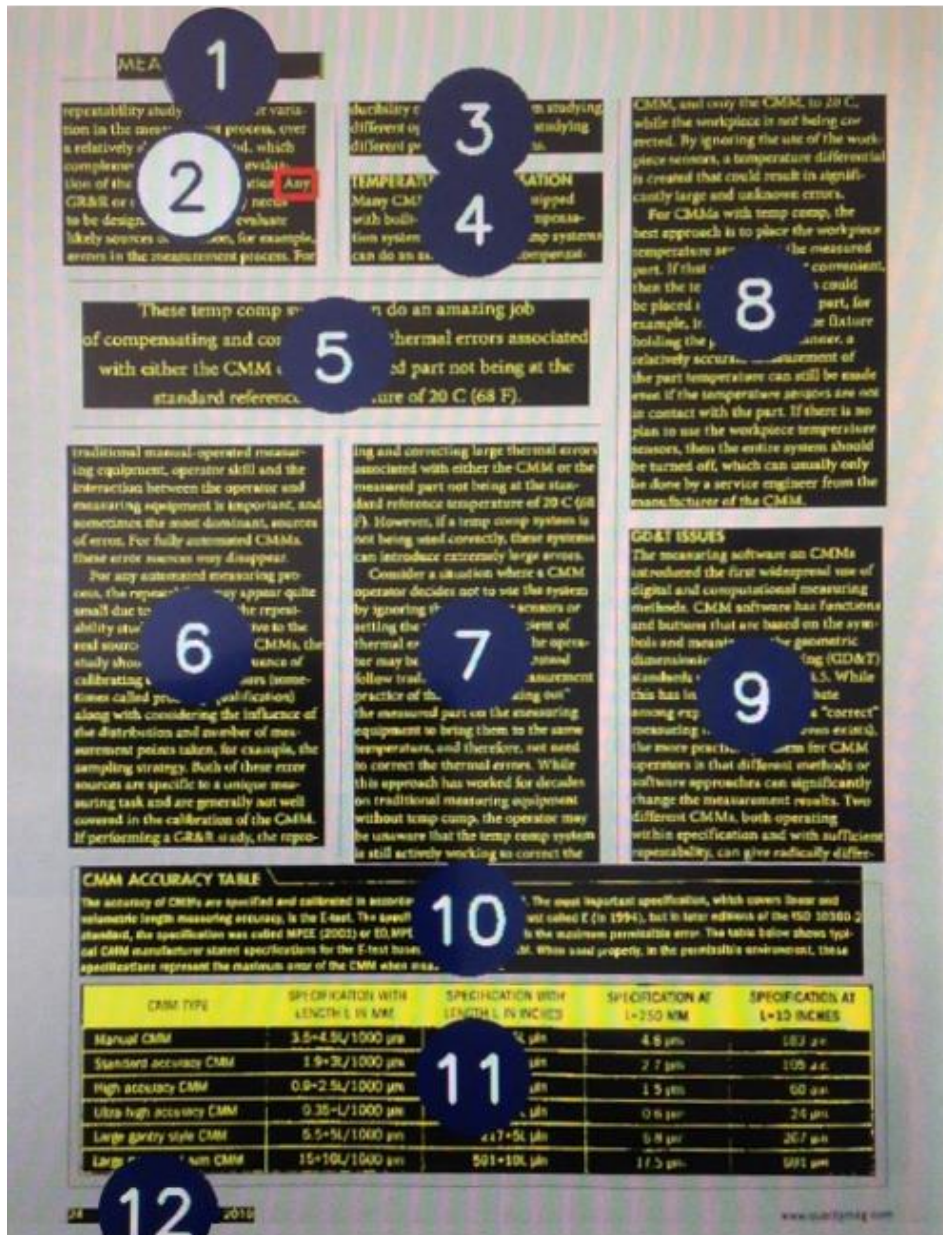
4. The document displays on the screen with each reading zone marked with large blue numbers:



These numbers represent the most likely order of the text in the document.


You can tap any number and TOPAZ starts reading from the selected zone.

The white number is the zone that is being read.




**Note:** Photos display in their original colors. To magnify a photo, tap it once. To return to the full-page view, tap the photo again.

5. To read multiple pages in the same document, or pages in a new document, do the following:

- Touch and hold the **red Close button**  until the yellow document outline box appears
- Place a new page inside the yellow outline box, and tap the screen

To pause speech:

- Tap the **white Play/Pause Speech button**  located in the center of the button bar




To exit OCR mode and return to video magnifier mode:

- Tap the **red Close button**  on the right side of the button bar

## Changing Text and Background Colors

To enhance the contrast of the text, a text foreground and background color can be selected. If no high contrast color is needed, the text can be displayed in its original colors.

To quickly change color settings, do the following:




- Tap 
- Tap 
- Tap 

Refer to **Color (View menu)** on page 52 for more information about color settings.

**Note:** This will not influence the representation of pictures. Pictures always display in their original colors.

## Magnifying a Document

After capturing and processing a document, it displays on the screen in Overview mode with large numbers marking each reading zone. Overview is the minimum magnification.

- To magnify your document, tap the **yellow Plus button**  in the button bar.
- To decrease magnification, tap the **yellow Minus button**  in the button bar.
- To quickly switch between Overview and the last used magnification level, tap the **yellow Overview button**  .
- To magnify a specific area of the document displayed on the screen, press and hold your finger on the text you want to magnify. Touch the screen as long as you like to zoom in.
- To scroll up, down, left or right within the magnified document, touch the screen with one finger and swipe up, down, left, or right.

## Reading a Document

To start reading, tap the **white Play/Pause Speech button**  in the middle of the button bar.

To pause reading, tap the button again. TOPAZ marks your reading position in the document with a highlight.

To start reading at another position in the document:

- Tap a **blue number** that marks a reading zone in page overview, or
- Magnify the text and tap a word where you would like to continue reading









## OCR Button Bar

Use the OCR button bar to start and pause speech, adjust magnification, adjust volume, adjust reading speed, activate the Main menu, and exit OCR mode and return to video magnifier mode.



The button bar displays across the bottom of the screen when in OCR mode.

OCR Button	Description
	<p><b>Menu (Gray)</b></p> <p>Tap to enter the menu.</p>
	<p><b>Magnification (Yellow)</b></p> <p>Tap the Minus button “–” to decrease magnification.</p> <p>Tap the Plus button “+” to increase magnification.</p> <p>Tap the center Overview button to switch between Overview and the last used magnification level.</p>
	<p><b>Play / Pause Speech (White)</b></p> <p>Tap the center button to toggle between starting and pausing speech.</p> <p>Tap the left Previous button to move to the previous page in a multipage file.</p> <p>Tap the left Next button to move to the next page in a multipage file.</p>

OCR Button	Description
	<p><b>Speech Volume (Blue)</b></p> <p>Tap the left blue speaker button to decrease speech volume.</p> <p>Tap the right blue speaker button to increase speech volume.</p>
	<p><b>Reading Speed (Green)</b></p> <p>Tap the left green button to decrease reading speed.</p> <p>Tap the right green button to increase reading speed.</p>
	<p><b>Close (Red)</b></p> <p>Tap the red button with the “X” to switch to video magnifier mode.</p> <p>Press and hold to take a new picture.</p>

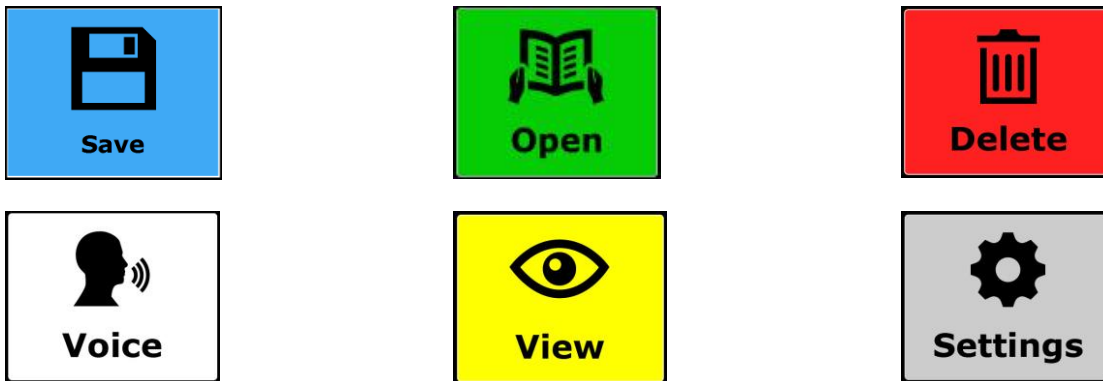
Use the OCR Main menu to save, open, and delete files; select different languages and voices; choose how to format and display text on the screen; and configure various speech options.

To open the OCR Main menu, do the following:

1. Tap the **gray Menu button** in the button bar. It is in the lower left corner when the button bar appears on the screen.



The OCR Main menu now appears on the screen. It contains two rows of three large buttons and a Close button:



2. To open a menu item, tap its button. Tapping a button changes a setting, or opens a submenu or list. Any changes made while in the menu are automatically saved.

If a button appears dimmed, the option is unavailable.

3. To close the Main menu, tap the **red Close button** . It is in the bottom right corner of the Main menu.

## Saving a Document (Main menu)



There are several steps to saving a document. You must:

- Choose a file format. When saving as an MP3, you must select a reading voice.
- Decide if you want to add a voice label to the document, and if you want to append more pages to the document
- The document is automatically saved to the SD card installed in TOPAZ. To save to a USB drive, connect a drive to the USB port on TOPAZ.
- Once the document is saved, it appears on the screen. You can read it by tapping the **white Play/Pause button** on the Button bar.

To save a document, do the following:

1. Tap the **gray Menu button**  to open the OCR Main menu.



The Main menu appears on the screen.

2. Tap the **blue Save button**  on the Main menu screen.
3. Select a file format in which to save the document:

- **Document.** Save the document using the standard file format. You can view it as plain text or as the original document. To change the view, refer to **Mode (View menu)** on page 53.

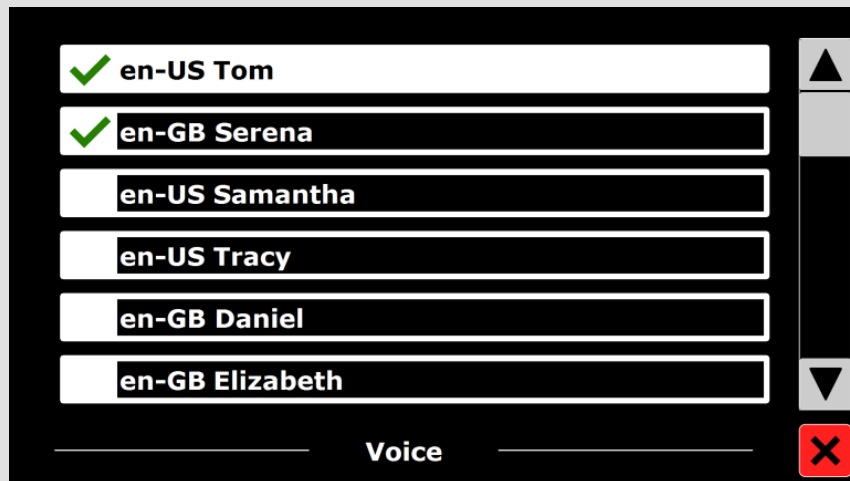
- **e-PUB.** Save the document as an e-reader file or DAISY compatible file
- **DOCX.** Save the document on your computer for editing with Microsoft Word
- **MP3.** Save the document as an MP3 audio file

Saving in MP3, DOCX, or e-PUB format takes longer than the standard Document format. Saving a multipage document in MP3 format could take several minutes.


**Note:** When saving a document as an audio MP3 file, you must select a reading voice. The list of voices to choose from are the Nuance® voices of the selected language, or the voices of the languages detected if automatic language detection is on.

Not all voices can be used to save as an MP3 audio file. The available voices are limited to only the Nuance voices. In case no Nuance voice is installed, the MP3 button is dimmed and this option is not available for the selected language.

Only one voice will be used for the entire MP3 file. Automatically switching between languages within an MP3 audio file is not supported.



4. After selecting a file format, tap **Yes** or **No** to save the document with a voice label. A voice label is a brief, spoken message you can record and save with the document. The voice label is heard as you scroll through the list of documents when opening or deleting files.

- If you tap **Yes**,
    - (1) You have approximately five seconds to record a voice label.
    - (2) Speak into the built-in microphone on the bottom front edge of the touchscreen display.
    - (3) After you finish speaking, the document and voice label are saved.
    - (4) The document is saved using the first line of the document as the file name.
  - If you tap **No**, the document is saved using the first line of the document as the file name.
5. After deciding to save with or without a voice label, a message to append more pages appears on the screen. Tap **Yes** or **No**.
- If you tap **Yes**,
    - (1) The yellow document outline box appears on the screen.
    - (2) Place the next page inside the box and tap the screen to capture the new page.
    - (3) Repeat this process to continue adding pages.
    - (4) When you are finished, tap the **red Close button**  to return to the document on the screen. It is now saved.
  - If you tap **No**, the menu closes and returns to the document on the screen. It is now saved.

**Note:** By default, documents are saved on the SD card delivered with the TOPAZ.

You can also save documents on a USB drive. To do this, connect a USB drive to the TOPAZ USB port. It is located on the right side of the TOPAZ just behind the touchscreen display.


When a USB drive is connected, documents are automatically saved to this drive.

6. After deciding to add more pages, a message to begin processing the captured pages appears on the screen.
  - If you tap **Yes**, all pages are processed before returning to the document. This process may take several minutes, depending on the number of pages of the document.
  - If you tap **No**, the conversion to text is done while reading the document.

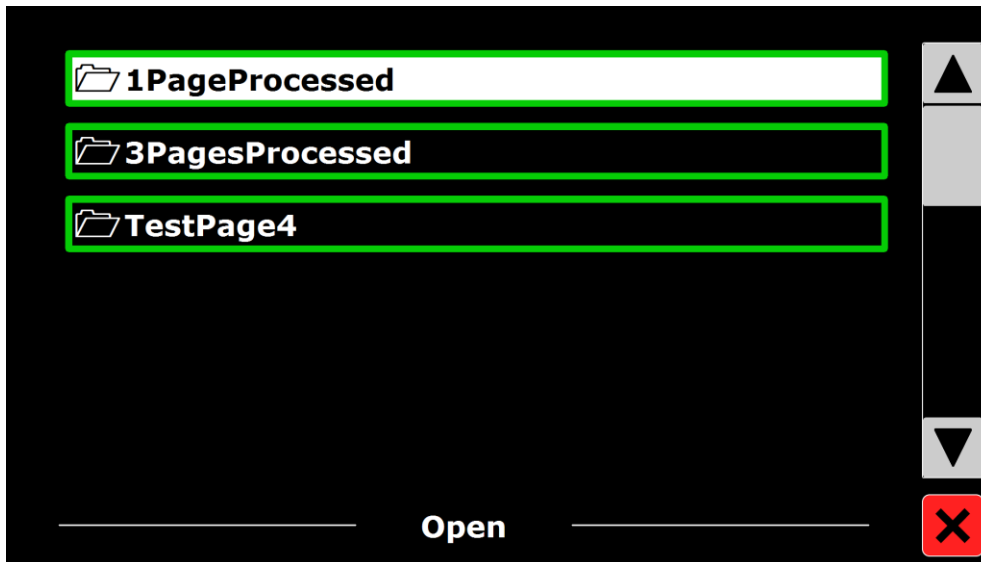
## Open (Main menu)



To open a document or view pictures, do the following:

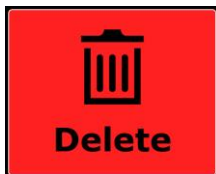
1. In the **Main** menu tap the **green Open button** .
  - Select the Document button to see the list of saved documents. The most recently saved document appears first.
  - Select the Pictures button to open and view pictures
2. Scroll the list of documents or pictures using the scroll bar on the right side of the screen.

If you touch the screen and slowly move your finger over the documents, the title of the document is read aloud.



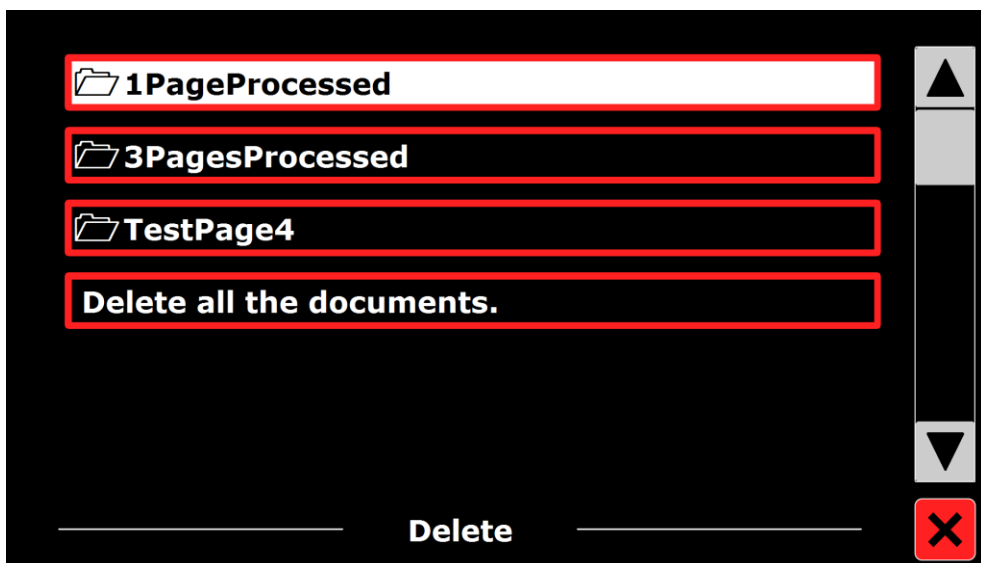
3. In the list, tap the document or picture you want to read or view. The menu closes and the document or picture opens. Pictures can be magnified. It is also possible to open text documents in TXT format or photos from a USB drive. To open documents in TXT format, the document should be in the root of the USB drive or SD card.

### Delete (Main menu)



To delete a document, do the following:

1. In the **Main** menu tap the **red Delete button** to see the list of documents.





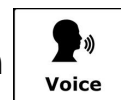
2. Select the document you want to delete. A confirmation message appears.

- Tap **Yes** to delete the document and return to the document list
- Tap **No**, to cancel and return to the document list

## Voice (Main menu)



To select a reading voice and language, tap the **Voice button**



To select another reading voice, tap the **Voice button** again to switch to the next configured voice.

If changing the reading voice results in a change of language, the menus automatically change to the same language.

To add or delete voices and languages from the voice selection, refer to **Voice (Settings)** on page 54.

**Note:** When automatic language detection is enabled (refer to **Options (Settings menu)** on page 55), this button only changes between voices of the detected language. For instance, if the detected language is English this button will only change between the different English voices. With automatic language detection enabled, you will not be able to change the language of the menu.

To change the menu language, either:

- (1) Disable automatic language detection, or
- (2) Scan a document in your preferred menu language and change the voice once in the menu, or
- (3) Close and restart OCR mode. Open the Main menu followed by Settings. Select Voice settings to choose your menu language.

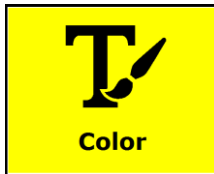
## View (Main menu)



The View menu contains three buttons:

- **Color.** Choose a pre-defined color combination (for example, yellow text on a black background) to reduce glare and provide contrast. This makes it easier to read text on the screen.
- **Mode.** Choose different ways to format text on the screen, for example, column or line format
- **Highlight.** Choose how you want text to be highlighted on the screen as it is spoken. For example, the highlight can appear around words or lines of text.

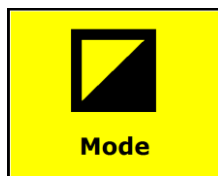
## Color (View menu)



This option is not available when viewing a photo or other document with no text. Tap the **yellow Color button** to cycle through the available high contrast text foreground and background color combinations. The colors that can be selected are:

Black – White	White – Black	Yellow – Black	Black – Yellow
Yellow – Blue	Blue – Yellow	Black – Red	Red – Black
Black – Green	Green – Black	Black – Purple	Purple – Black
Blue – White	White – Blue	Black – Amber	Amber – Black

## Mode (View menu)



Tap the **yellow Mode button** to select the default viewing mode. The viewing modes that can be selected are Column, Line, Page high contrast and Page full color.

- **Column mode.** Text is reformatted and displayed in a column to fit the width of the screen regardless of the text size. Pictures are not shown in this mode.
- **Line mode.** Text is reformatted and displayed in one continuous line, and the highlighted word is always displayed at the center of the screen. Pictures are not shown in this mode.
- **Page Mode.** Shows a photograph of the document in its original layout, including the pictures. There are two Page modes, the high contrast Page mode and full color Page mode. In the high contrast Page mode, the text is displayed in the selected high contrast colors.

## Highlight (View menu)



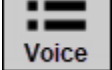
This option lets you choose a word highlight, line highlight or no highlight. Both the color of the word and line highlight can be changed from red to yellow. The red word highlight is the default.

## Settings (Main menu)



Tap the **gray Settings button** to enter the Settings menu. It contains four buttons: **Voice**, **Options**, **Restore Defaults**, and **About**.

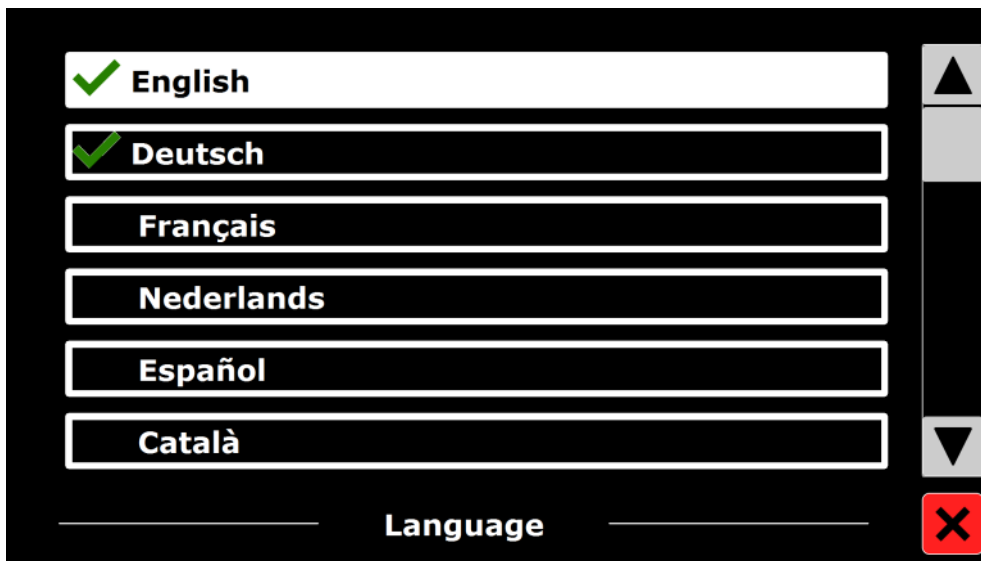
## Voice (Settings menu)

The **gray Voice button**  in the **Settings** menu opens a list with all available reading voices and languages.

To select languages and add or remove reading voices, do the following:

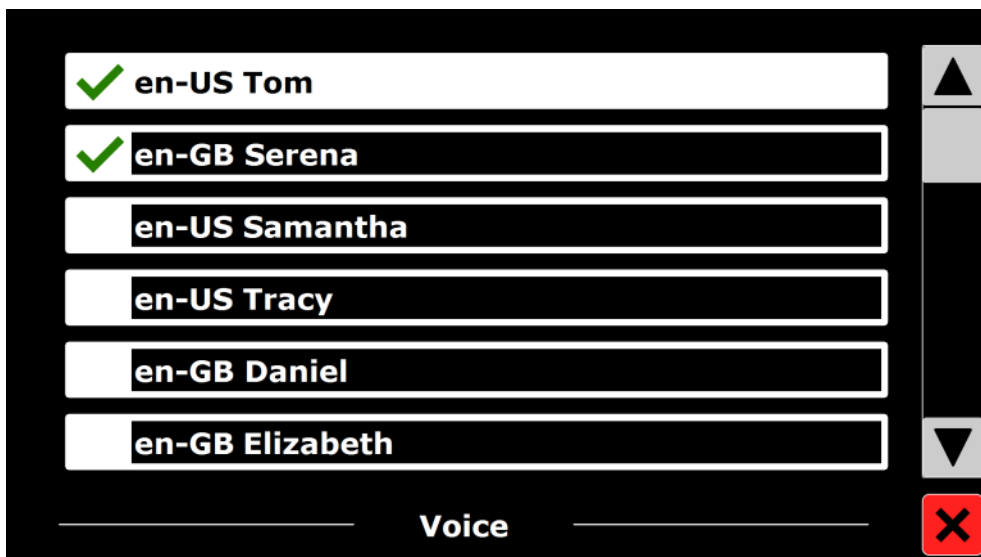
1. Tap the **gray Voice button**.

A list of languages appears on the screen.



2. Tap a language in the list.

A list of voices available for that language appear on the screen.



3. Tap any voice to make it available or unavailable for reading.

- A **check mark** in front of the voice name means it can be used as a reading voice. You can now select it when you tap the **Voice button**



in the **Main** menu.

- **No check mark** in front of the voice name means it is not be available as a reading voice. The voice is not included in the list or reading

voices when you tap the **Voice button**



in the **Main** menu.

## Options (Settings menu)

The Options menu contains the following configuration settings:

- Text Recognition Quality
- Automatic Language Detection
- Activate Speech
- Column Filter

### ***Text Recognition Quality***

Use this option to set the recognition quality.

- **Optimal.** This is the recommended mode and offers the best text recognition quality.
- **Fast.** Use for simple documents without columns and pictures. Fast mode is up to 30 percent faster than Optimal mode.

### ***Activate Speech (Starting OCR Mode)***

Use this option to configure how to start OCR mode by tapping either in the bottom right corner (default) or anywhere on the screen.

### ***Automatic Language Detection***

When Automatic Language Detection is on, TOPAZ detects the language of the text reading zone or paragraph, and automatically selects the correct reading voice. TOPAZ can detect multiple languages on one page.

To use language detection, you must have several languages available for use (no more than five). To do this, do the following:

1. Open **Voice (Settings menu)** as described on page 54.
2. Select a language and then select at least one voice.
3. Continue to add languages and at least one voice per language. You can do this for up to five languages.
4. When finished, return to the Options menu and make sure to select On as the setting for **Automatic Language Detection**.

**Note:** In case the TOPAZ is not able to detect the language, the language of the menu is being used. If English is one of the selected languages, the TOPAZ will use an English voice and will ignore the menu language.

### ***Column Filter***

This option contains two settings:

- **Ignore incomplete columns.** This is the default (and recommended) setting and offers the most comprehensive text recognition. The OCR algorithms try to detect if text columns are cut off at the left or right margins of the picture.
- **Include incomplete columns.** TOPAZ will include partial columns and try to detect all text on the page. This may result in unclear text at the beginning or end of the document.

### **Restore Defaults (Setting menu)**

To restore the default settings, tap this button. Select **Yes** to continue, or **No** to cancel restoring default settings.

The default settings are:


- **View.** High contrast on
- **Color.** Black on white
- **Highlight.** Word

### **About (Settings menu)**

The About screen shows the version of the Application interface, camera interface, OCR interface and the mains frequency.

# CONNECTING TOPAZ OCR TO YOUR COMPUTER

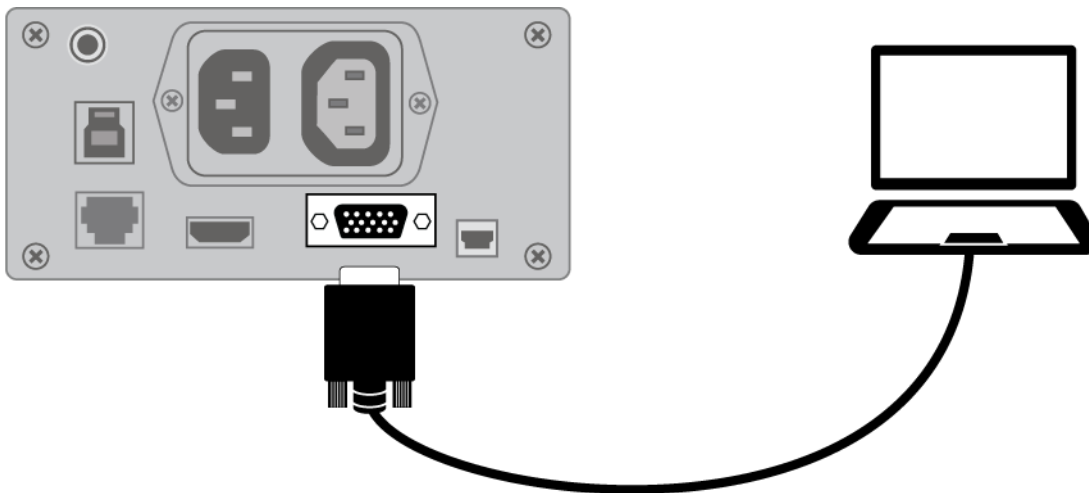
## Using TOPAZ OCR as a Computer Monitor

You can connect TOPAZ directly to your computer and use it as your primary monitor. When connected, you can always switch back to camera view by pressing the center of the **blue Color Select dial** . This feature is available in video magnifier mode only.

### Important:

Connecting TOPAZ to a computer requires a 15-pin VGA video cable. Count the number of pins, and make sure the video cable has all 15 pins. Anything less will not work.


1. Power off both TOPAZ and your computer.
2. Connect one end of a 15-pin VGA (video) cable to the video port on your computer. Refer to your computer documentation for the location of this port. Connect the other end of the cable to the VGA connector on TOPAZ.



3. Power on TOPAZ and then your computer.  
The video signal from your computer now goes to TOPAZ making it your computer monitor.
4. When using a laptop computer, make sure to turn on the laptop's VGA port. This is typically done by pressing and holding the **Fn** key along with one of the function keys ranging from **F1** to **F12**. Refer to your computer documentation for the correct function key.

Pressing this key combination usually cycles between seeing what appears on the laptop screen only, the TOPAZ screen only, and both screens simultaneously.



5. Press the center of the **blue Color Select dial**  to cycle the view between your computer and the TOPAZ camera. The computer view displays what you are running on your computer. The camera view displays items that are on the XY table.

When the camera view displays on the TOPAZ monitor, you can use all TOPAZ video magnifier functionality. This includes changing magnification, selecting different color modes, changing brightness, and so on.

When the computer view displays on the TOPAZ monitor, TOPAZ video magnifier functionality is disabled.

**Note:** If the image on your monitor is distorted in some way, for example, the screen is compressed horizontally or is skewed, or the screen is wavy, dull, or flickering, you may need to change the current screen resolution set on your computer as described in the next section.

The 24-inch touchscreen display supports these screen resolutions.

- 640 x 480p at 60Hz
- 800 x 600p at 60Hz
- 1024 x 768p at 60Hz
- 1024 x 768p at 70Hz
- 1152 x 864 at 70 Hz
- **1280 x 800p at 60Hz (default)**
- 1280 x 1024p at 60Hz
- 1440 x 900p at 60Hz
- 1920 x 1080p at 60Hz

## USB Connection to a Computer

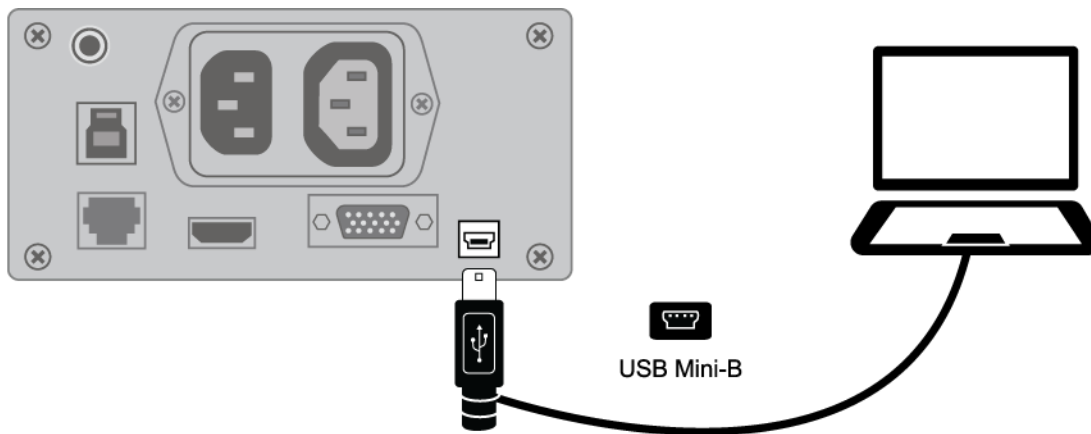
GEM® image management software lets you view, capture, and save magnified images from TOPAZ to your computer. You can quickly and easily step through or jump to multiple images captured by the software. To use the GEM, refer to the software documentation.

**Note:** GEM software can be used only in video magnifier mode and not OCR mode.

Connecting TOPAZ to a computer requires a cable with a USB Mini-B plug. This cable is not provided with TOPAZ.

1. To connect TOPAZ to a computer, connect the USB Mini-B plug into the USB connector on the back of TOPAZ.

The video signal and camera image from TOPAZ goes directly to your computer. The TOPAZ view is visible using the GEM software



2. To use the software, refer to the GEM user documentation for more information.

You can contact Technical Support to receive technical assistance. Before contacting Technical Support, it is recommended that you refer to **Troubleshooting** on page 36 to try to resolve your problem quickly.

**Note:** This device has no user-serviceable components. Any unauthorized attempt to service or replace internal components will void the product warranty.

To contact by web, visit **[www.FreedomScientific.com/Forms/TechSupport](http://www.FreedomScientific.com/Forms/TechSupport)**, and complete the form to submit questions.

To contact by e-mail, send questions to **[support@vfogroup.com](mailto:support@vfogroup.com)**.

To contact by telephone, U.S. customers can call **(727) 803-8600**, Monday through Friday, from 8:30 AM to 7:00 PM (Eastern Time).

When you call, please have your questions ready and be prepared to provide the following information:

- Product name
- Product serial number
- What you were doing when the problem occurred
- How you tried to solve the problem

### Warranty Information and Product Registration

The TOPAZ OCR and its accessories have a two-year warranty against manufacturing defects.

**Note:** These devices have no user-serviceable components. Any unauthorized attempt to service or replace internal components will void the product warranty.

Please call Technical Support at (727) 803-8600 for assistance in troubleshooting any problems. If necessary, the technical support specialist will issue a Return Materials Authorization (RMA) number that must be referenced on the outside of the package containing your returned unit. The unit or its accessories will then be exchanged or repaired as needed.

Visit **[www.FreedomScientific.com/Forms/ProductRegistration](http://www.FreedomScientific.com/Forms/ProductRegistration)** to register your product and validate your warranty.

## Notes