

PHASER® 740 AND 740L  
LASER PRINTERS

ADVANCED FEATURES AND  
TROUBLESHOOTING MANUAL



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**Phaser<sup>®</sup> 740 and 740L Laser Printers  
Advanced Features and Troubleshooting Manual**

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PANTONE<sup>®</sup> Colors generated by the Phaser 740 and 740L Printers are four- and/or three-color process simulations and may not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate colors.

PANTONE Color simulations are only obtainable on this product when driven by qualified Pantone-licensed software packages. Contact Pantone, Inc. for a current list of qualified licensees.

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## User safety summary

**Terms in manual:** CAUTION Conditions that can result in damage to the product.  
WARNING Conditions that can result in personal injury or loss of life.

**Power source:** Do not apply more than 250 volts RMS between the supply conductors or between either supply conductor or ground. Use only the specified power cord and connector. Refer to a qualified service technician for changes to the cord or connector.

**Operation of product:** Avoid electric shock by contacting a qualified service technician to replace fuses inside the product. Do not operate without the covers and panels properly installed. Do not operate in an atmosphere of explosive gases.

**Safety instructions:** Read all installation instructions carefully before you plug the product into a power source.

**Terms on product:** CAUTION A personal injury hazard exists that may not be apparent. For example, a panel may cover the hazardous area. Also applies to a hazard to property including the product itself.  
DANGER A personal injury hazard exists in the area where you see the sign.

**Care of product:** Disconnect the power plug by pulling the plug, not the cord. Disconnect the power plug if the power cord or plug is frayed or otherwise damaged, if you spill anything into the case, if product is exposed to any excess moisture, if product is dropped or damaged, if you suspect that the product needs servicing or repair, and whenever you clean the product.

**Ground the product:** Plug the three-wire power cord (with grounding prong) into grounded AC outlets only. If necessary, contact a licensed electrician to install a properly grounded outlet.

### Symbols as marked on product:

DANGER high voltage:



Protective ground (earth) terminal:



Use caution. Refer to the manual(s) for information:



Hot surface on or in the printer.  
Use caution to avoid personal injury:



This product is certified under IEC 825 as a Class 1 Laser Product:




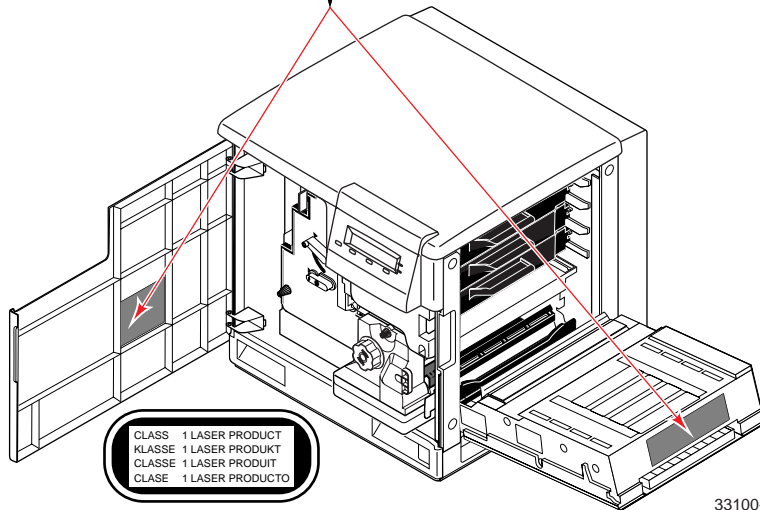
**WARNING:** If the product loses the ground connection, usage of knobs and controls (and other conductive parts) can cause an electrical shock. Electrical product may be hazardous if misused.

**WARNING:** For your protection, do not defeat any interlocks.

**CAUTION:** This product utilizes a laser. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Do not open covers and do not repair yourself. Refer servicing to qualified personnel.

When you operate this equipment, the socket outlet should be near the equipment and be easily accessible.

<b>DANGER:</b> Invisible laser radiation when open and interlock defected. <b>AVOID DIRECT EXPOSURE TO BEAM.</b>	<b>CAUTION:</b> Invisible laser radiation when open and interlocks defected. <b>AVOID DIRECT EXPOSURE TO BEAM.</b>	<b>VORSICHT:</b> Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet und Sicherheitsverriegelung überbrückt. <b>NICH DEM STRAHL AUSSETZEN.</b>	<b>ATTENTION:</b> Rayonnement laser invisible dangereux en cas d'ouverture et lorsque la sécurité est neutralisée. <b>EXPOSITION DANGEREUSE AU FAISCEAU.</b>	 Class 3B	
<b>PELIGRO:</b> Cuando se abre y se invalida el bloqueo, se producen radiaciones invisibles de láser. <b>EVITESE LA EXPOSICION DIRECTA A TALES RAYOS.</b>	<b>VARNING:</b> Öppnlig laserstrålning när denna del är öppnad och spärrar är urkopplade. <b>STRÅLEN ÄR FARLIG.</b>	<b>VARO!</b> Näkymätön avattamassa ja suojälukitus ohitettavassa osat alttiina lasersäteilylle. <b>ÄLÄ KATSO SÄTEESIÄN.</b>	<b>VARNING:</b> Öppnlig laserstrålning när denna del är öppnad och spärrar är urkopplade. <b>BETRÄKTA EJ STRÅLEN.</b>	<b>ADVARSEL:</b> Uåsynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. <b>UNDGÅ UD ÅTTELSE FOR STRÅLING.</b>	<b>ADVARSEL:</b> Uåsynlig laserstrålning når deksel åbnes og sikkerhedsåst brytes. <b>UNNGÅ EKSPONERING FOR STRÅLEN.</b>  PJT4512A



33100-45

### FOR USERS IN JAPAN

This equipment is in the 2nd Class category (information equipment to be used in a residential area or an adjacent area thereto) and conforms to the standards set by the Voluntary Control Council For Interference by Information Technology Equipment aimed at preventing radio interference in such residential area.

When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling.

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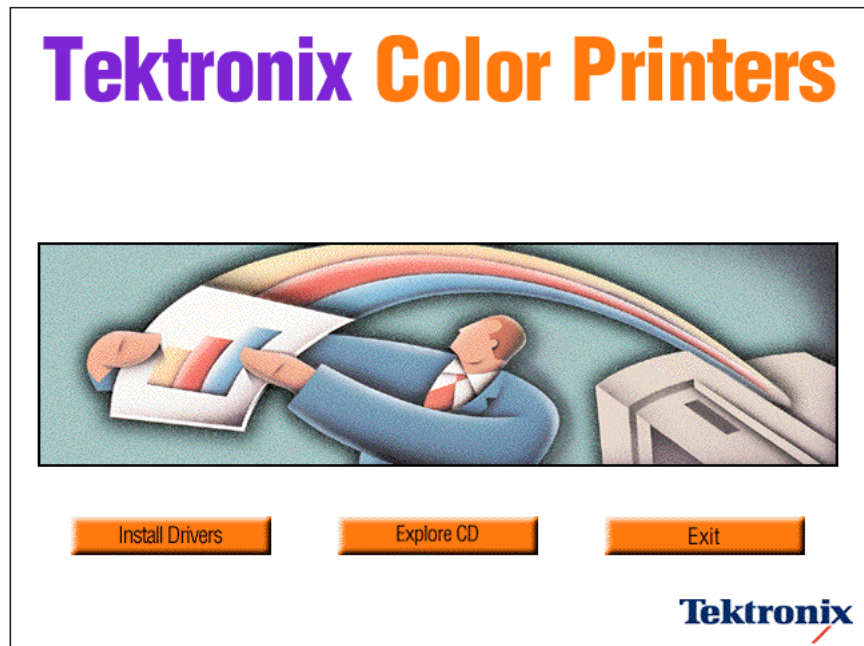
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## **Index**

## *Color Printer Resources*

Tektronix offers the following suite of books, web sites, and software tools to help you get the fullest (and most colorful) use from your printer. The books and software tools are all located on the printer's CD-ROM.



## Printed and on-line books

### Setup Guide

*Printed book is shipped with your printer.*

*Online book is included on the printer's CD-ROM in pdf (Acrobat) format.*

- Taking inventory
- Unpacking
- Setting up
- Installing printer software

### User Guide

*Printed book is shipped with your printer.*

*Online book is included on the printer's CD-ROM in pdf (Acrobat) and html formats.*

- Loading media
- Duplex printing
- Consumables information
- Troubleshooting print quality
- Front panel tutorial
- Calibrating colors

### PhaserShare Networking Setup Guide

*Printed book is shipped with your printer.*

*Online book is included on the printer's CD-ROM in pdf (Acrobat) format.*

- Connecting your printer to a network:
  - Novell NetWare
  - Ethernet
  - TCP/IP
  - Token Ring
  - AppleTalk

### Advanced Features and Troubleshooting Manual

*Online book is included on the printer's CD-ROM in pdf (Acrobat) and html formats.*

*Order a printed copy: order number 071-0236-00.*

- All about media
- Using color
- Advanced troubleshooting
- Connecting peripherals

### PhaserShare Networking Manual

*Online book is included on the printer's CD-ROM in pdf (Acrobat) and html formats.*

*Order a printed copy: order number 071-0180-001*

- System administration:
  - Setting printer parameters
  - Printer status
- Printer management:
  - Usage Profile reports
  - PhaserLink software

## Tektronix World Wide Web sites

### Tektronix home page



#### What it includes

- Product and supplies information
- Downloading printer drivers
- Finding your local reseller

#### Where to find it

[www.tek.com/Color\\_Printers](http://www.tek.com/Color_Printers)

## PhaserLink software

### What it includes

### Where to find it



Printer administration and support tool using World Wide Web technology

- Status of print jobs
- Tracking printer usage
- Configure printer settings
- Routine troubleshooting
- Set security for password-protected features

[www.tek.com/Color\\_Printers/product/phaserlink.html](http://www.tek.com/Color_Printers/product/phaserlink.html)

or

Enter your printer's Internet address in your web browser

## TekSMART™ Knowledge Base

### What it includes

### Where to find it



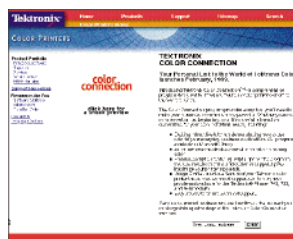
- Extensive technical troubleshooting library
- Easy search function

[www2.tek.com/merlin/tko](http://www2.tek.com/merlin/tko)

## Color Connection

### What it includes

### Where to find it



Link to the world of Tektronix color:

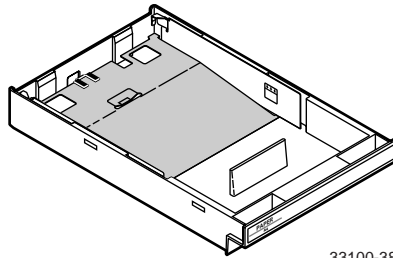
- Color education
- Printing ideas
- Personalized email subscription
- **colorize.com**

[www.colorconnection.tektronix.com](http://www.colorconnection.tektronix.com)

# Advanced Print Features

## All about media

### Paper Trays



33100-38

#### Tektronix laser paper

500 sheets per package

016-1368-00 A/Letter

016-1369-00 A4

**Use Tektronix paper for best results.**

#### Tray sizes:

436-0282-02 A/Letter

436-0283-02 A4

436-0314-02 Legal

#### Paper weight:

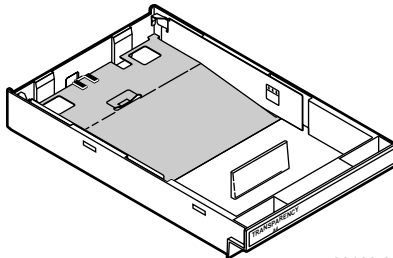
60 - 90 g/m<sup>2</sup>

16 - 24 lb.

#### Tray capacity:

250 sheets (75 g/m<sup>2</sup>, 20 lb. paper)

### Transparency Trays



33100-20

#### Tektronix Transparencies

50 sheets per package

016-1654-00 A/Letter

016-1655-00 A4

**Use only Tektronix transparencies.**

#### Tray sizes:

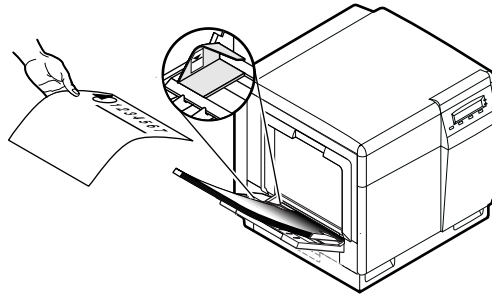
436-0284-02 A/Letter

436-0285-02 A4

#### Tray capacity:

100 sheets

## Multi-Purpose Tray



**Use the Multi-Purpose Tray for specialty media.**

**Media sizes:**

**Metric:**

88.9 x 254 mm — 216 x 355.6 mm

**U.S.:**

3.5 x 10 in. — 8.5 x 14 in.

**Tray capacity:**

up to 100 sheets, depending on media type and weight

**Media types:**

<ul style="list-style-type: none"> <li>■ Tektronix Laser Paper <i>500 sheets per package</i> 75 – 150 g/m<sup>2</sup> 20 – 40 lb.</li> </ul>	<p>016-1368-00 A/Letter 016-1369-00 A4</p>
--	--

<ul style="list-style-type: none"> <li>■ Tektronix Transparencies <i>100 sheets per package</i></li> </ul>	<p>016-1654-00 A/Letter 016-1655-00 A4</p>
--	--

<ul style="list-style-type: none"> <li>■ Tektronix Glossy Coated Paper <i>100 sheets per package</i></li> </ul>	<p>016-1704-00 A/Letter 016-1705-00 A4</p>
---	--

<ul style="list-style-type: none"> <li>■ Tektronix Fabric Transfer <i>100 sheets per package</i></li> </ul>	<p>016-1637-00 A/Letter</p>
---	-----------------------------

- Laser Labels
- #10 Envelopes
- Cover stock  
up to 163 g/m<sup>2</sup>, 60 lb.

- Card stock  
up to 163 g/m<sup>2</sup>, 40 lb.

- Index  
up to 163 g/m<sup>2</sup>, 90 lb.



## Margins and print area

The image area of a print is a bit smaller than the media size. You may need to adjust the page margins in your application software to match the print area.

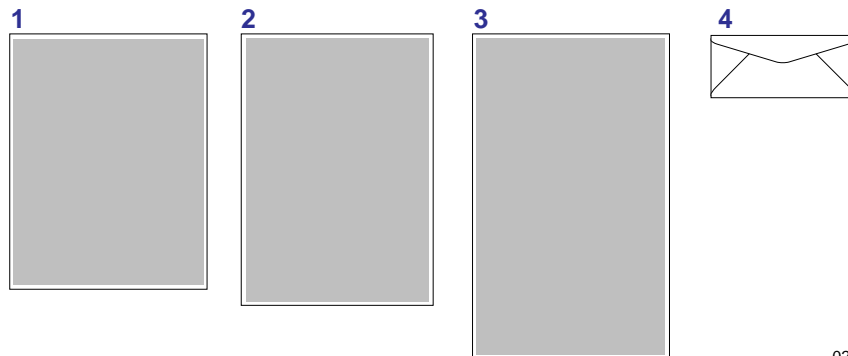
### NOTE

To assure the correct page margins, use the drivers supplied on the printer's CD-ROM.

### Supported media sizes selected in drivers and front panel

Media	Page size	Print area	Margins		
			Top	Bottom	Sides
1. Letter	8.5 x 11 in.	8.2 x 10.6 in.	.2 in.	.2 in.	.15 in.
2. A4	210 x 297 mm	200 x 287 mm	5 mm	5 mm	5 mm
3. Legal	8.5 x 14 in.	8.2 x 13.6 in.	.2 in.	.2 in.	.15 in.
4. #10 Envelope*	4.13 x 9.5 in.	3.8 x 9.2 in.	.16 in.	.16 in.	.14 in.
	104.8 x 241.3 mm	96.5 x 233.7 mm	4.1 mm	4.1 mm	3.6 mm

\* Envelope support is not intended for large-scale production printing.



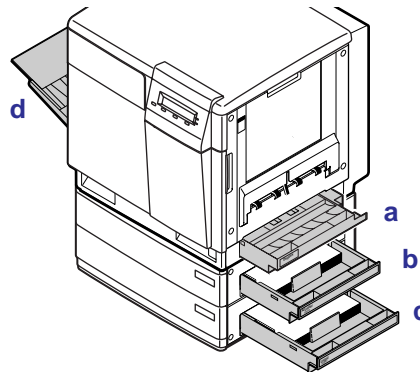
0236-03

## Media hints

### CAUTION

Do not use any media designed for inkjet printers, especially inkjet coated paper and inkjet transparencies. Inkjet media is coated with a substance that will damage the fuser; Tektronix does not furnish service for damage or malfunction caused by the use of non-Tektronix supplies or consumables. Always use Tektronix media that has been specially designed for use with Tektronix Laser Printers.

- For the best print quality, load only paper in the PAPER tray and Tektronix transparencies in the TRANSPARENCY tray.
- When printing a large number of sheets of paper or transparencies, use the media-specific trays for best reliability.
- If you have the Automatic Duplex/Lower Tray Assembly:
  - Insert the Duplex Unit *only* in the upper (a) slot.
  - Insert the TRANSPARENCY tray *only* into the middle (b) tray slot.
  - Insert the PAPER tray into the middle (b) or lower (c) slot.
- Always use the Multi-Purpose Tray (d) for specialty media.



0236-06

- When using the Multi-Purpose Tray, always select the appropriate media type in the front panel after loading the media.
- When you select a media tray by *location* (**Upper, Middle, Lower, Multi-Purpose Tray**), the printer picks from that tray, *regardless of the tray's media type or size*.
- Always keep media in a sealed package to avoid the effects of moisture and dryness, which can affect print quality.

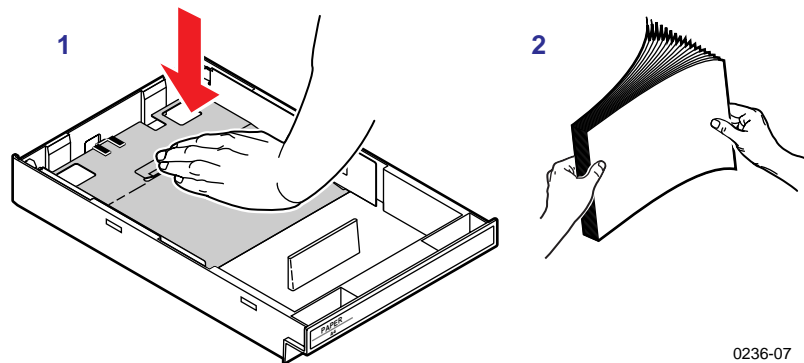
### NOTE

For details on automatic duplex printing, refer to page 26.

## Loading media trays

### Loading paper

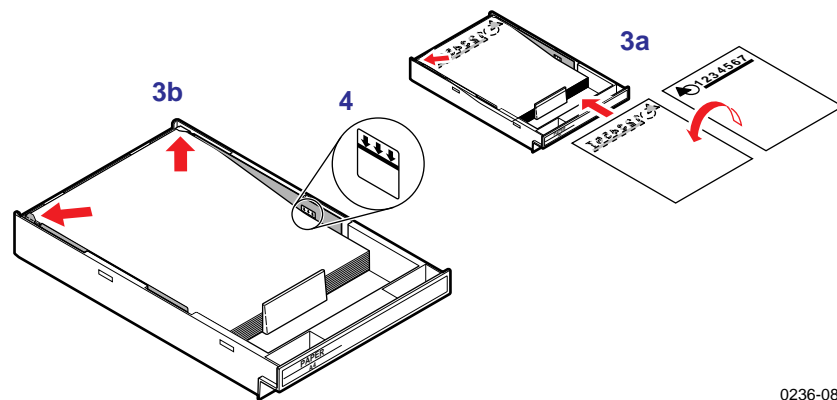
1. Push down on the PAPER tray's metal plate until it clicks, locking it in place.
2. Fan the paper.



3. Place paper in the tray under the hooks. **The side to be printed is always face-down in the tray.**

#### Loading letterhead paper

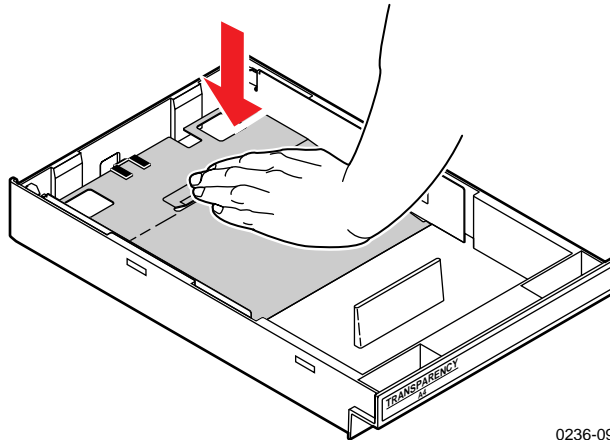
- a. Load letterhead paper with the side to be printed *face-down*.
  - b. Place the top of the page under the hooks.
4. Load up to 250 sheets of paper, depending on thickness. The label on the inside of the tray is a reference for media level.



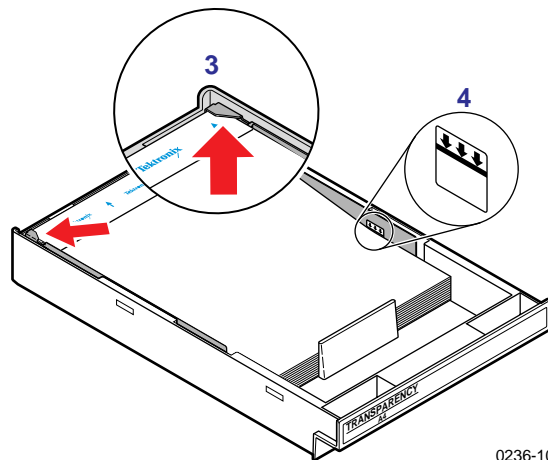
5. Insert the PAPER tray into any of the three slots on the printer.

## Loading Tektronix transparencies

1. Push down on the TRANSPARENCY tray's metal plate until it clicks, locking it in place.



2. Fan the transparencies, being careful not to leave fingerprints, which can result in a smudged print.
3. Place Tektronix transparencies in the tray so that the logo strip is under the hooks, *face-up*.
4. Load approximately 100 sheets of transparency film. Use the label on the inside of the tray as a reference for the proper amount of media.



5. Insert the TRANSPARENCY tray:
  - If you have only a single-tray slot, insert the TRANSPARENCY tray there.
  - For printers with the Automatic Duplex/Lower Tray Assembly, insert the TRANSPARENCY tray into the Middle slot.
  - For printers with only the Lower Tray Assembly (Duplex Unit is not installed), insert the TRANSPARENCY tray into the Upper or Middle slots.

## Hints for making transparencies

### CAUTION

Do not use any media designed for inkjet printers, especially inkjet coated paper and inkjet transparencies. Inkjet media is coated with a substance that will damage the fuser; Tektronix does not furnish service for damage or malfunction caused by the use of non-Tektronix supplies or consumables. Always use Tektronix media that has been specially designed for use with Tektronix Laser Printers.

- Use *only* Tektronix transparencies.
- For information on the advantage of Tektronix transparencies over other brands, visit the Tektronix web site:

[www.tek.com/Color\\_Printers/supplies/trans/index.html](http://www.tek.com/Color_Printers/supplies/trans/index.html)

### Using the Transparency tray

- For the best printing reliability, use the TRANSPARENCY tray for printing multiple transparencies.
- Always load the TRANSPARENCY tray with the *logo strip face-up*, placed under the hooks.

### Using the Multi-Purpose Tray

- Refer to page 15 for detailed instructions on loading transparencies in the Multi-Purpose Tray.
- Set the Media Thickness Switch to **Medium** for the best media-picking reliability. Refer to page 13 for details.
- Insert Tektronix transparencies with the *logo strip face-down*, entering the printer first.
- Select **Transparency** at the front panel prompt.

## Using the Multi-Purpose Tray

The Multi-Purpose Tray serves as another tray for loading any supported type of media ranging in size from 88.9 x 254 mm to 216 x 355.6 mm (3.5 x 10 in. to 8.5 x 14 in.). Load a single sheet or a stack of media, depending on the media's type and thickness.

Use the Multi-Purpose Tray to accomplish the following:

- Print on standard and specialty media

### Standard media

- Laser paper
- Tektronix transparencies

### Specialty media

- Tektronix glossy coated paper
  - Card stock
  - Laser labels
  - Tektronix fabric transfer
  - Envelopes (#10 size or larger)
- Manual duplex (two-sided) printing on laser paper, glossy paper, and card stock

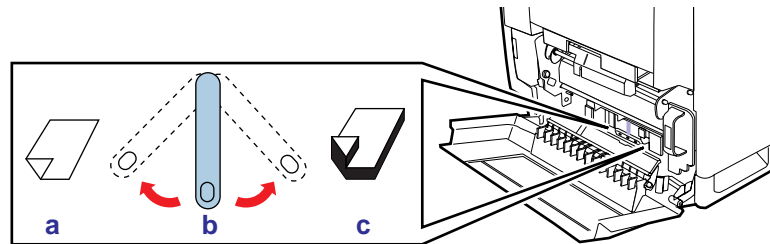
### CAUTION

Two-sided printing on specialty media can shorten printer component life. For opacity and feed reliability, use paper that is at least 90 g/m<sup>2</sup> (24 lb. bond). For best results, do not use heavy toner coverage on Side 1 of a manual duplex print.

## Setting media thickness

Because the printer accommodates varying media weights in the Multi-Purpose Tray, you can manually select a media thickness for the most reliable paper-picking. The Media Thickness Switch is only applicable for the Multi-Purpose Tray.

1. Open the left side door. The blue Media Thickness Switch is located on the paper feeder and has three settings:
  - a. Thin
  - b. Medium
  - c. Thick



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2. Move the switch to the setting for the desired media. Use the guidelines in the following table to determine which type of media requires which setting.

a Thin	b Medium	c Thick
<ul style="list-style-type: none"> <li>■ Standard laser paper 75 - 105 g/m<sup>2</sup> (20 - 28 lb.)</li> </ul>	<ul style="list-style-type: none"> <li>■ Heavy laser paper* 109 - 150 g/m<sup>2</sup> (29 - 40 lb.)</li> <li>■ Tektronix glossy coated paper</li> <li>■ Tektronix Transparencies</li> </ul>	<ul style="list-style-type: none"> <li>■ Cover stock up to 163 g/m<sup>2</sup> (60 lb. Cover)</li> <li>■ Card stock up to 163 g/m<sup>2</sup> (40 lb.)</li> <li>■ Index up to 163 g/m<sup>2</sup> (90 lb.)</li> <li>■ Tektronix Fabric Transfer media</li> <li>■ Laser Labels</li> <li>■ #10 Envelopes</li> </ul>

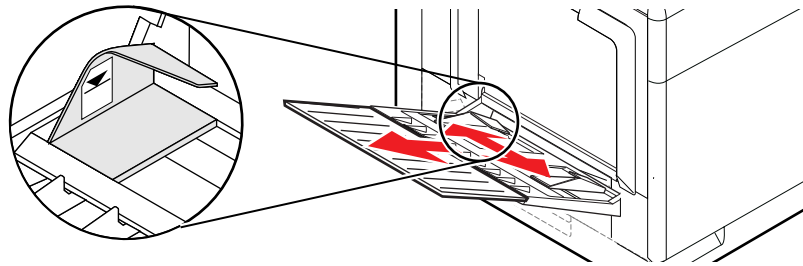
\* For the best print quality when using heavy laser paper (over 105 g/m<sup>2</sup>, 28 lb.) in the Multi-Purpose Tray, select **Card** as the media type.

### NOTE

If the printer experiences frequent media jams at the Multi-Purpose Tray, move the Media Thickness Switch to a thicker setting. If the printer experiences frequent double-feed errors at the Multi-Purpose Tray, move the Media Thickness Switch to a thinner setting.

## Inserting the media

1. Adjust the guides to the width of the media you are using.



2. Insert the media with the side to be printed *face-up* and the top of the page entering the printer *first*.
3. Do not overfill the Multi-Purpose Tray: keep the media to just below the limit indicator.

Capacity in the Multi-Purpose Tray varies, depending on media thickness. These are general guidelines:

Media type	Tray capacity
■ Laser paper:	100 sheets
■ Tektronix transparencies:	50 sheets
■ Tektronix glossy coated paper:	75 sheets
■ Card stock:	30 sheets
■ Laser labels:	30 sheets
■ Tektronix fabric transfer:	1 sheet
■ #10 Envelopes:	10 envelopes

4. Enter the appropriate media type in the front panel; the currently selected media is marked with an asterisk (\*):

```
MPT: Paper *
<--- ---> OK
```

### NOTE

The printer waits a minute for you to select a media type in the front panel. After a minute, the job prints, using the previously selected media type. Selecting the wrong media type will result in poor print quality.

5. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

### NOTE

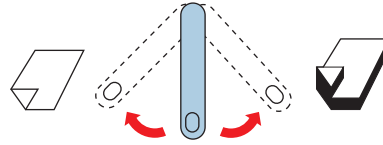
For instructions on loading specific types of media, refer to "Loading specialty media in the Multi-Purpose Tray" on page 15.



## Loading specialty media in the Multi-Purpose Tray

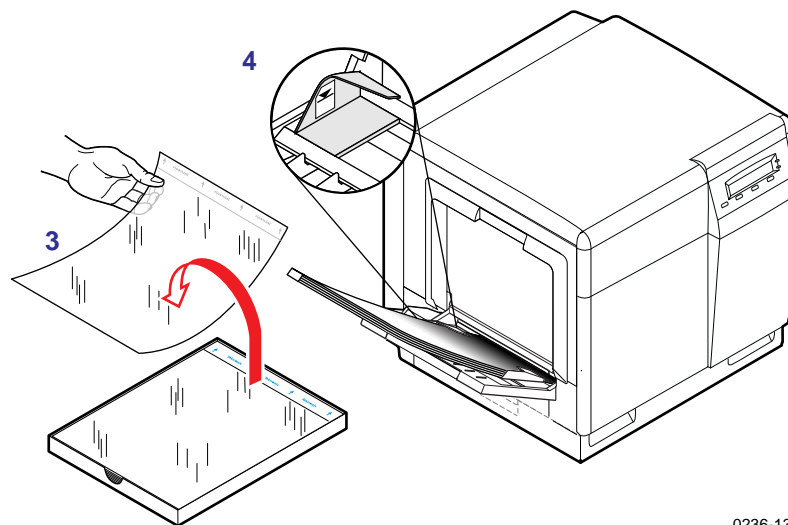
### Tektronix Transparencies

1. Set the Media Thickness Switch to **Medium**.



0236-12

2. Adjust the tray's guides for the width of your Tektronix transparencies.
3. Insert the transparency with the logo strip *face-down*, entering the printer *first*.
4. Fill the Multi-Purpose Tray to the level indicator on the guide (maximum capacity is 50 sheets).



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5. At the front panel's media type prompt, scroll to **Transparency** and press **OK**.

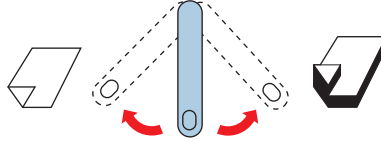
```
MPT: Transparency
<--- ---> OK
```

6. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

### Letterhead

1. For the thickness setting, treat letterhead media as you would laser paper. Adjust the Media Thickness Switch according to these guidelines:

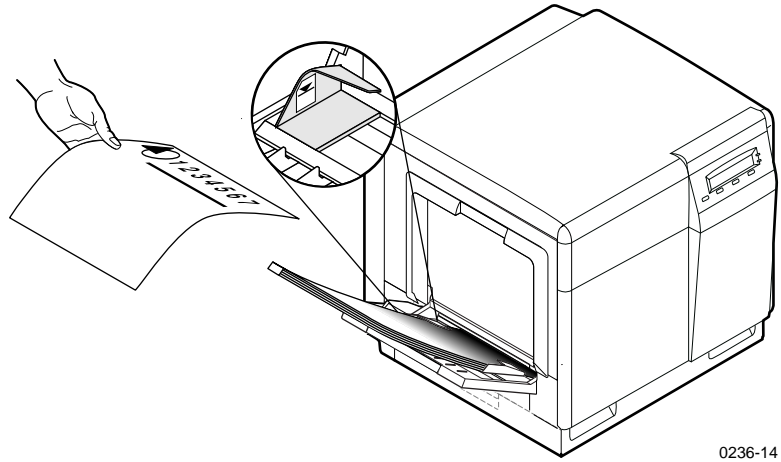
- **Thin:** 105 g/m<sup>2</sup> (28 lb.) or lighter
- **Medium:** 109 - 150 g/m<sup>2</sup> (29 - 40 lb.)
- **Thick:** heavier than 150 g/m<sup>2</sup> (40 lb.)



0236-12

2. Adjust the tray's media guides for the width of your paper.
3. Insert the letterhead paper with the side to be printed *face-up*; the top of the page enters the printer *first*.

4. Fill the Multi-Purpose Tray to the level indicator on the guide (maximum capacity is **100** sheets, depending on the media's thickness).



5. At the front panel's media type prompt, scroll to **Paper** and press **OK**.

MPT: Paper  
<--- ---> OK

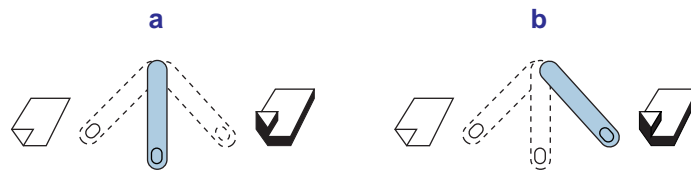
6. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

## Tektronix Glossy Coated Paper / Card Stock

### CAUTION

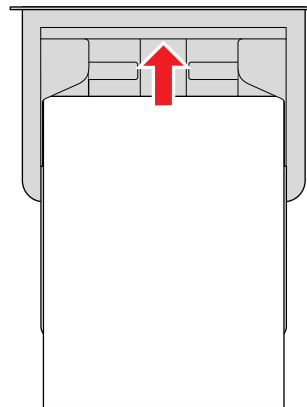
Do not use any media designed for inkjet printers, especially inkjet coated paper and inkjet transparencies. Inkjet media is coated with a substance that will damage the fuser; Tektronix does not furnish service for damage or malfunction caused by the use of non-Tektronix supplies or consumables. Always use Tektronix media that has been specially designed for use with Tektronix Laser Printers.

1. Adjust the printer's Media Thickness Switch:
  - a. **Medium:** Tektronix glossy coated paper
  - b. **Thick:** Card stock



0236-15

2. Adjust the tray's media guides for the width of your media.
3. Insert the media with the side to be printed *face-up* and the top entering the printer *first*.



9698-116

4. Fill the Multi-Purpose Tray to the level indicator on the guide (maximum capacity is 50 sheets).

5. At the front panel's media type prompt, scroll to the appropriate media type you installed and press **OK**.

```
MPT: Coated Paper
<---  --->  OK
```

**or**

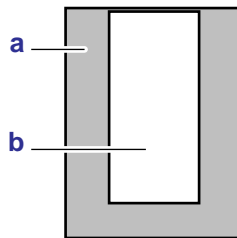
```
MPT: Card or Envelope
<---  --->  OK
```

6. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

### NOTE

If the media is a non-standard size, you must position the image correctly in the application:

- a. Select a printer page size that is larger than your media.
- b. Center the image at the **top center** of the selected size in your application.



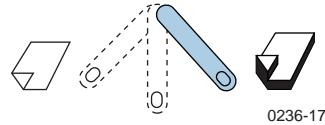
0236-16

### Printing hints

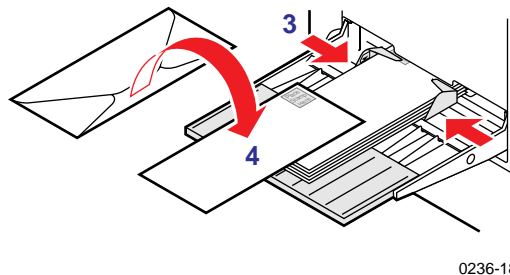
- Image quality and media feed reliability will vary depending on the weight and thickness of the media.
- Always use card stock in the recommended weight range ( up to 163 g/m<sup>2</sup>, 40 lb.).
- Do not use a card stock that is coated or has a rough surface.

## Envelopes

1. Prepare each envelope by tucking the envelope flap inside the envelope.
2. Adjust the printer's Media Thickness Switch to **Thick**.



3. Adjust the tray's media guides for the width of your envelopes.
4. Insert the envelopes with the short end entering the printer *first* and the side to be printed facing *up*; the edge where you place the stamp enters the printer *first* in some applications (make a test print before proceeding).



5. Fill the Multi-Purpose Tray to the level indicator on the guide (maximum capacity is **10-15** envelopes, depending on thickness).

### NOTE

Print only **10-15** envelopes at a time. This printer is not made to handle high-capacity production envelope printing. Envelopes may wrinkle depending on weight and stiffness of envelope media.

6. At the front panel's media type prompt, scroll to **Card or Envelope** and press **OK**.

```
MPT: Card or Envelope
<--- ---> OK
```

7. In the front panel's **Printer Defaults** menu, scroll to **Multi-Purpose Media** and select **#10 Envelope** under **Media Size**.

**8. In your application:**

- Create a document with the following measurements:
  - Width: 4.13 in. (104.8 mm)
  - Length: 9.5 in. (241.3 mm)
  - Margins: .2 in.
  
- Access the **Page Setup** menu and make these selections:
  - Paper Size: #10 Envelope
  - Orientation: Landscape

**9. In a supported printer driver:**

Select **Multi-Purpose Tray** as the paper source and send the job to the printer.

**Guidelines for printing envelopes****CAUTION**

To avoid media jams and damage to the printer components, make sure that you follow the guidelines listed here.

- Use envelopes that are at least #10-size (4.1 x 9.5 in., 104.8 x 241.3 mm).
- Do not use envelopes with a plastic window or a metal clip.
- Make sure that the envelope has no exposed gummed surfaces. The gummed flap must be closed and tucked into the envelope when inserting the envelope into the Multi-Purpose Tray.
- Do not print on the envelope's back side.
- Keep unused envelopes in their packaging to avoid the effects of moisture and dryness, which can affect print quality and cause wrinkling.

**Envelope printing hints**

- Many applications include a tool for creating an envelope document. For example, Microsoft Word includes an **Envelopes and Labels** feature under the Tools menu. Make sure that you select **Face Up**; select the feed method icon showing the stamp end entering the printer first, with the image centered; and unselect **Clockwise Rotation**.
- Check the Tektronix web site for any application- or platform-specific information for printing envelopes on this printer.

### Laser labels

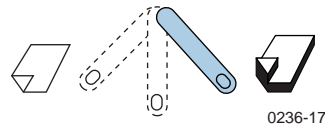
Tektronix recommends using Avery™ labels:

- A/Letter: 5160, 5164
- A4: L7162, L7165

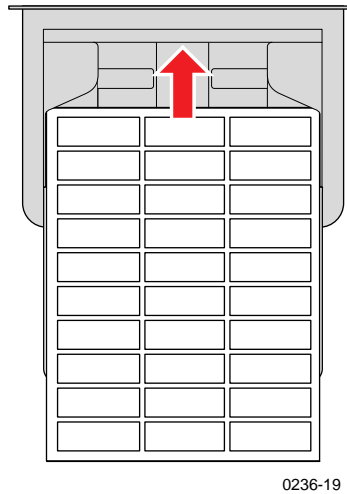
### CAUTION

Do not use any media designed for inkjet printers. Inkjet media is coated with a substance that will damage the fuser; Tektronix does not furnish service for damage or malfunction caused by the use of non-Tektronix supplies or consumables.

1. Adjust the Media Thickness Switch to **Thick**.



2. Adjust the tray's media guides for the width of your label sheets.
3. Insert the label sheets with the side to be printed *face-up*, with the top of the sheet entering the printing *first*.



4. Fill the Multi-Purpose Tray to the level indicator on the guide (maximum capacity is 30 label sheets).
5. At the front panel's media type prompt, scroll to **Label** and press **OK**.

MPT: Labels  
<--- ---> OK



6. Refer to your application's manual for information on page orientation and page margins.

If your application has a setting for Avery™ labels, use it as a template. Otherwise, set margins and spacing according to the guidelines in the instruction sheets that are included with the labels. This table shows which Avery setting to choose with each label size.

Sheet size	Label size	Avery™ label setting
A/Letter	3.33 x 4 in.	<b>5160</b>
	1 x 2.63 in.	<b>5164</b>
A4	38.1 x 99.1 mm	<b>L7163</b>
	67.7 x 99.1 mm	<b>L7165</b>

7. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

### Guidelines for printing on labels

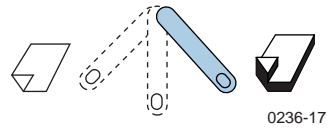
#### CAUTION

To avoid media jams and damage to the printer components, make sure that you follow these guidelines.

- Use Avery label stock.
- Each label is at least 25 x 67 mm or 1 x 2.625 in. in size. Smaller labels may peel off and damage the fuser or imaging unit.
- If any of the labels on a sheet are missing, do not use that sheet; it may damage the fuser or imaging unit.
- When selecting **Label** as the media type, the printer requires that the room temperature be cooler than 27° C (81° F). If the temperature is above 27° C (81° F), the printer reports an error and stops printing.

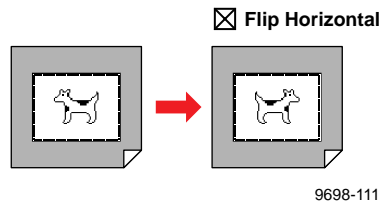
### Tektronix Fabric Transfer Media

1. Set the Media Thickness Switch to **Thick**.



2. Adjust the tray's media guides for the width of your Fabric Transfer media.
3. Insert *only* one sheet of media at a time, with the side to be printed *up* (logo side *down*) and the top of the media entering the printer *first*.

4. In the application, reverse the image horizontally (the image must print backward to transfer correctly).



5. At the front panel's media type prompt, scroll to **Fabric Transfer** and press **OK**.
6. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.

## Guidelines for printing on Fabric Transfer media

### CAUTION

To avoid media jams and damage to the printer components, make sure that you follow these guidelines.

- For best print quality and reliability, use only Tektronix Fabric Transfer media.
- Load only one sheet of Fabric Transfer media at a time; otherwise, the printer may report **Jam at Multi-Purpose Tray**.
- After printing, use a professional heat press to transfer the image. For instructions, refer to the information sheet included with the Tektronix Fabric Transfer media.

## Duplex printing

There are two ways that you can make a duplex print:

### Automatic duplex

- *Requires the Automatic Duplex/Lower Tray Assembly* (Tektronix order number ZDPLX)
- Laser paper only: 75 - 90 g/m<sup>2</sup> (20 - 24 lb.)
- Automatically prints double-sided with a single driver selection or front-panel selection. No user interaction required.

### Manual duplex

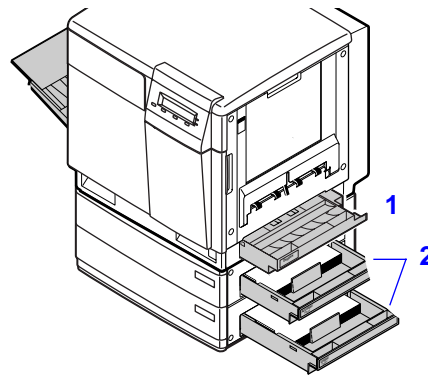
- **Multi-Purpose Tray** Laser paper, Tektronix glossy paper, and card stock.
- **Paper tray** Laser paper only: 60 - 90 g/m<sup>2</sup> (16 - 24 lb.).

## Automatic duplex

### CAUTION

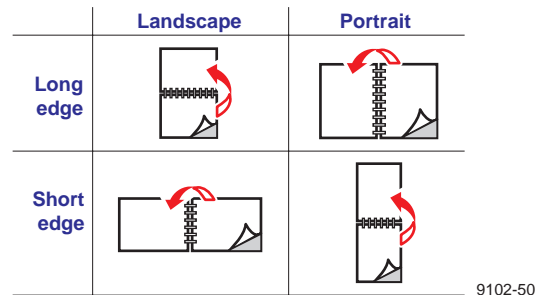
Never install media in the Duplex Unit. It is meant to be empty to automatically reverse media for double-sided printing. When the printer detects media in the Duplex Unit, it reports **Jam at Duplex Unit**.

1. Make sure that the Duplex Unit is inserted in the printer's upper slot.
2. Load 75 - 90 g/m<sup>2</sup> (20 - 24 lb.) laser paper in the PAPER tray and insert the tray into the printer's middle or lower slot.



0236-06

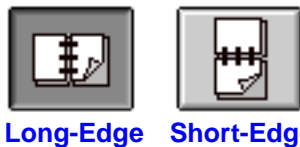
3. Decide on a binding preference (how the page turns) for Step 4:
  - a. **Long-Edge** The page turns on the long side, *regardless of orientation*.
  - b. **Short-Edge** The page turns on the short side, *regardless of orientation*.



4. In the application's **Print** screen, select the Duplex option *and* a binding preference.

#### Macintosh: LaserWriter 8.5.1

- a. From the pull-down menu, choose **Layout**.
- b. Check **Print on Both Sides**.
- c. Select the icon for your binding preference:



#### Macintosh: LaserWriter 8.3.4

- a. Click the **Options** button.
- b. Select **2-Sided Printing**.
- c. Select **Long-Edge Binding** or **Short-Edge Binding**.

#### PC: Windows 3.1x

- a. Click the **Setup** button.
- b. Click the **Features** tab.
- c. Select **2-sided printing**.
- d. Select **Long-Edge Binding** or **Short-Edge Binding**.

#### PC: Windows 95 / Windows 98

- a. Click the **Properties** button.
- b. Click the **Paper** tab.
- c. Click **More Options** button and select **Printing on Both Sides**.
- d. Select **Flip on Long-Edge** or **Flip on Short-Edge**.

#### PC: Windows NT4

- a. Click the **Properties** button.
- b. Click the **Advanced** tab.
- c. Under **Paper/Output**, select **Print on Both Sides**.
- d. Select **Short Side** or **Long Side**.

## Manual duplex

### CAUTION

Use only laser bond paper for duplexing in the paper trays; use laser paper, glossy paper, or card stock for duplexing in the Multi-Purpose Tray. Two-sided printing on specialty media can shorten component life. For opacity and feed reliability, use laser paper that is 90 g/m<sup>2</sup> (24 lb. bond). For best results, do not use heavy toner coverage on Side 1 of a manual duplex print; also, increase the top margin on Side 1.

### Multi-Purpose Tray (recommended)

- Laser (bond) paper: 90 - 150 g/m<sup>2</sup> (24 - 40 lb.)
- Tektronix glossy paper
- Card stock: up to 163 g/m<sup>2</sup> (40 lb.)
- Cover stock: up to 163 g/m<sup>2</sup> (60 lb. cover)

### Paper trays

- Laser paper only: 60 - 90 g/m<sup>2</sup> (16 - 24 lb.)
- If you do not have the Automatic Duplex/Lower Tray Assembly

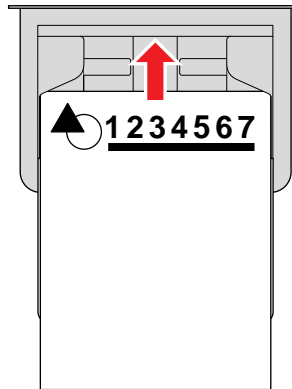
## Using the Multi-Purpose Tray

### Side 1

#### NOTE

For a multi-page document, print odd-numbered pages for Side 1. (This selection is application-specific.)

1. Place the paper in the Multi-Purpose Tray:
  - a. The side to be printed is *face-up*.
  - b. The top of the page enters the printer first.



2. Select the media type at the printer's front panel prompt.

Media type	Front panel selection
Standard paper or letterhead 90 - 105 g/m <sup>2</sup> (24 - 28 lb.)	Paper
Tektronix glossy coated paper	Coated paper
Card stock	
Heavy paper or letterhead 109 - 150 g/m <sup>2</sup> (29 - 40 lb.)	Card or envelope

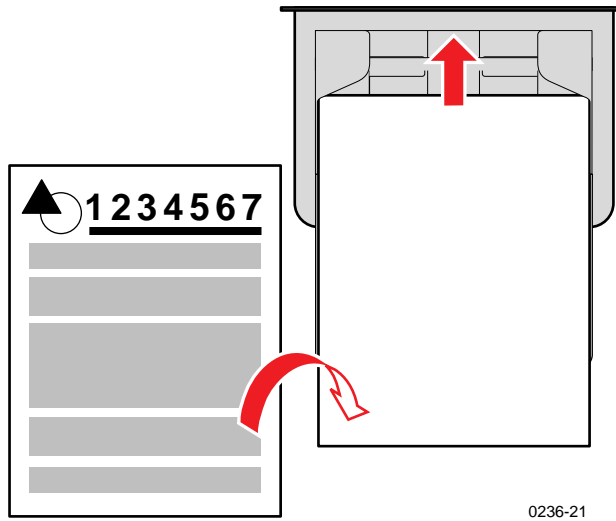
3. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.
4. Remove the printed paper from the output tray.

**Side 2**

**NOTE**

For a multi-page document, print even-numbered pages for Side 2. (This selection is application-specific.)

1. Place the paper in the Multi-Purpose Tray:
  - The blank side is *face-up* (the side that has already been printed is now *face-down*).
  - The top of the page enters the printer *first*.



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2. Select the media type at the printer's front panel prompt:

Media type	Front panel selection
Paper or Letterhead 90 - 105 g/m <sup>2</sup> (24 - 28 lb.)	Paper 2nd side
Tektronix glossy coated paper	Coated paper
Card stock	
Paper or Letterhead 109 - 150 g/m <sup>2</sup> (29 - 40 lb.)	Card or envelope

3. In the application's **Print** screen under **Tray Selection** or **Paper Source**, depending on the driver, select the **Multi-Purpose Tray** and send the job to the printer.
4. Remove the printed paper from the output tray.



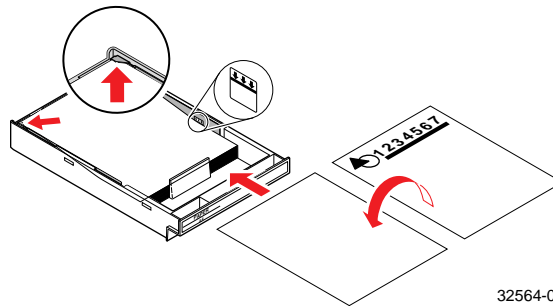
## Using a PAPER tray

### Side 1

#### NOTE

For a multi-page document, print odd-numbered pages for Side 1. (This selection is application-specific.)

1. Place the paper in the PAPER tray:
  - a. The side to be printed is *face-down*.
  - b. The top of the page is under the paper tray's hooks. This example shows letterhead paper.



32564-08

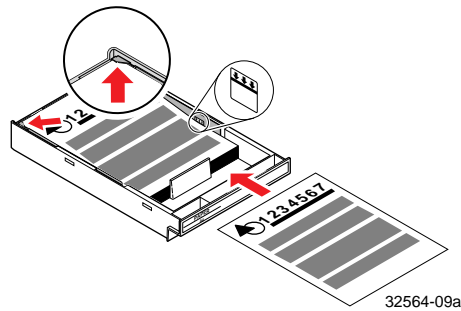
2. Insert the PAPER tray into the printer.
3. Use either the front panel or the application's **Print** screen with a supported driver to make these selections:
  - a. Select the tray by location: **Upper, Middle, or Lower**
  - b. Select output order: **Face Down**
4. Send the job to the printer.
5. Remove the printed paper from the output tray.

**Side 2**

**NOTE**

For a multi-page document, print odd-numbered pages for Side 1. (This selection is application-specific.)

1. Place the paper in the PAPER tray:
  - a. The side to be printed is *face-down* (the side that has already been printed is now *face-up*).
  - b. The top of the page is under the paper tray's hooks.



2. Insert the PAPER tray into the printer.
3. Use either the front panel or the application's **Print** screen with a supported driver to make these selections:
  - a. Select the tray by location: **Upper, Middle, or Lower**
  - b. Select output order: **Face Up**
4. Send the job to the printer.

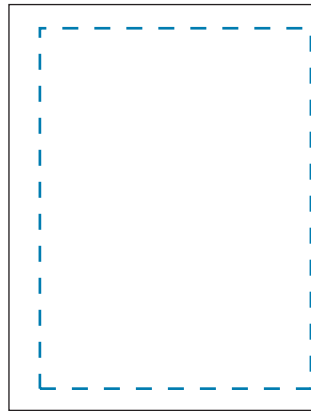
## Adjusting margins

This printer provides a front-panel interface to adjust the page margins:

<b>Single-sided print</b>	<ul style="list-style-type: none"> <li>■ Automatically prints when the printer has one tray only.</li> </ul>
<b>Duplex (Double-sided print)</b>	<ul style="list-style-type: none"> <li>■ Requires the Automatic Duplex/Lower Tray Assembly.</li> <li>■ Duplex Unit must be installed in the upper tray slot.</li> <li>■ In the front panel's <b>Printer Defaults</b> menu, <b>Duplex</b> mode must be enabled.</li> </ul>

### Adjusting margins for a single-sided print

You might want to adjust the margins on a single-sided page if the image area is not centered on the page. In other words, the margins are not even, *relative to the outside edge of the paper*.



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1. In the front panel's **Printer Defaults** menu, set the **Duplex** mode to **Disable**.
2. Print the Margin Adjust page from the front panel.
  - a. Press **Menu**.
  - b. Scroll to **Calibrate Margins**. Press **Menu**; the display reads:
 

```
Print Calibration Page
<---    --->   Print
```
  - c. Press **Print**.
3. Determine if the margins need adjustment: use the page's top- and left-margin gauges to note how much the margins are off-center.

4. Adjust the left margin:
  - a. In the **Calibrate Margins** menu, scroll to **Adjust Left Margin**. Press **Menu**.

```
Adjust Left Margin:+0  
<---    --->    OK
```

- b. Enter the amount of adjustment from Step 3 (press <--- or ---> to increase or decrease the amount); press **OK**.
5. Adjust the top margin:

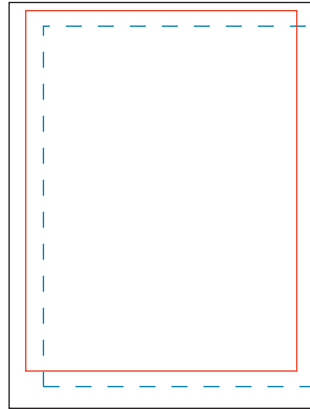
- a. Scroll to **Adjust Top Margin**. Press **Menu**.

```
Adjust Top Margin:+0  
<---    --->    OK
```

- b. Enter the amount of adjustment from Step 3 (press <--- or ---> to increase or decrease the amount); press **OK**.
6. Reprint the calibration page to confirm the adjustment.

## Adjusting margins for a duplex print

You might want to adjust the margins on a two-sided page if the image area of the front side (shown in blue) is not aligned with the image area of the second side (shown in red).



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1. Adjust the margins for a single-sided print (refer to page 33).
2. In the front panel's **Printer Defaults** menu, enable the **Duplex** mode: select **Long-Edge** or **Short-Edge**.
3. Print the Margin Adjust page from the front panel.
  - a. Press **Menu**.
  - b. Scroll to **Calibrate Margins**. Press **Menu**; the display reads:
 

```
Print Calibration Page
<---    --->   Print
```
  - c. Press **Print**.

4. To determine if the margins need adjustment:
  - a. Hold the page up to the light to see if the margin on the front and back sides align.
  - b. Use the page's top- and left-margin gauges to note how much the alignment is off.

5. Adjust the left margin:
  - a. In the **Calibrate Margins** menu, scroll to **Adjust Left Margin**. Press **Menu**.

```
Adjust Left Margin:+0  
<---    --->    OK
```

- b. Enter the amount of adjustment from Step 4 (press <--- or ---> to increase or decrease the amount); press **OK**.

6. Adjust the top margin:
  - a. Scroll to **Adjust Top Margin**. Press **Menu**.

```
Adjust Top Margin:+0  
<---    --->    OK
```

- b. Enter the amount of adjustment from Step 4 (press <--- or ---> to increase or decrease the amount); press **OK**.

7. Reprint the calibration page to confirm the adjustment.

## Using fonts

### Resident typefaces (PostScript)

The printer accepts Adobe Type 1 and Type 3 downloadable fonts, TrueType fonts, PCL5, and a variety of user-defined fonts.

To extend font capability, the printer supports a SCSI-connected external hard disk for storage of additional fonts. Refer to “Connecting Peripheral Devices” on page 143 for more information.

ATM (Adobe Type Manager) software (provided on a separate CD-ROM shipped with your printer) helps your computer to display these fonts on screen as they will appear in your prints.

All printer configurations are shipped with 136 resident fonts. To print a sample of the printer’s fonts, see page 39.

### Resident typefaces (PCL5)

For PCL5 (Printer Command Language) printing (HP LaserJet 4 emulation), the printer supports Courier, Times, and Universe typefaces in medium, bold, italic medium, and italic bold. Before the printer accepts PCL data, the printer port must be set to **AutoSelect**.

### Downloading fonts

Printer-*resident* fonts are always available for printing. Additional *downloadable* fonts can be sent from your computer and stored in the printer’s memory or on an external hard disk. Adding more printer memory expands the number of fonts that can be stored on your printer.

Downloading fonts saves print time when printing large, or several documents, that use those fonts.

The printer accepts these (and other) downloadable fonts:

- Type 1
- Type 3
  - Adobe
  - Agfa
  - Bitstream
  - Microsoft
  - Apple
- TrueType (scalable to any point size; look the same on-screen and printed).

Before printing, make sure that the fonts specified in your document are installed in the printer or are set up correctly. If you request a font in an application that is not resident in the printer, or is not correctly installed, the text is printed in *Courier* typeface.

Refer to “Connecting Peripheral Devices” on page 143 for more information on external SCSI disks for font storage.

### Downloading fonts from a Macintosh

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**. Select *Printer Utilities*.
2. From the *PhaserTools* folder on your computer's hard disk, double-click *Apple Printer Utility*. Select your printer's zone (**AppleTalk Zones**) and your printer (**Printers**).
3. Click **Open Printer**; a dialog box appears.
4. Click the arrow next to **Printer Preferences**.
5. Click the arrow next to **Fonts** for a list of installed fonts and locations.
6. Click **Add**.
7. Select your font folder, then select the font you want to download.
8. Under **Destination**, select the download location: either the printer's memory or an attached hard disk.
9. Click **Add** for one font or click **Add All** for all fonts in the folder.
10. Click **Send**; the font(s) appear in the list.

#### NOTE

To remove downloaded fonts, click **Remove**.

### Downloading fonts with Windows 95 / Windows 98 (parallel connection only)

To download fonts to a SCSI hard drive, download the DOS-based utility *PCSEND.EXE* (developed by Adobe Systems Inc. for downloading Adobe fonts) from the Tektronix ftp server using the following address:

```
ftp://ftp.tek.com/Color_Printers/bbs/pcs/misc_utilities/PCSEND.EXE
```

See "Downloading files from the Tektronix ftp server" on page 141 for more information.

#### NOTE

*PCSEND.EXE* will support downloading of fonts to a printer directly connected to a parallel port on the computer. The file does not support printers connected via Ethernet.



## Printing a list of resident fonts

### From a Macintosh

1. From the printer's CD-ROM, run the Installer application. Select **Easy Install**.
2. From the *PhaserTools* folder on your computer's hard disk, double-click *Apple Printer Utility*. Select your printer's zone (**AppleTalk Zones**) and your printer (**Printers**).
3. Click **Open Printer**; a dialog box appears.
4. From the **File** menu, select **Print Font Samples**.

### From a PC or workstation

1. From the printer's CD-ROM, run *setup.exe*. Select **Easy Install**.
2. Open the *PHSRTOOL* directory. Open the *SAMPLERS* subdirectory.
3. Use one of these methods to send to the printer the *FONTS.PS* file:
  - **PC users:** Use the DOS **COPY** command.
  - **Windows NT users:** Send the file to the printer by typing the following at the DOS prompt:  

```
lpr -S <IPaddress> -P PS FONTS.PS
```
  - **Workstation users:** Send the file to the printer as you would any PostScript file.

## Using Quick Collate

### Requirements

- Plus Features (Option FP, order number Z740FP)
- SCSI external hard disk

Quick Collate speeds the collation and printing of large print jobs and multiple sets of documents. The collate function in some software applications repeatedly sends each page to the printer in sequence until the requested number of copies is printed. With the **Quick Collate** option, the job is sent only once and then multiple collated sets are produced by the printer, allowing much faster processing time.

The number of pages that can be collated at one time depends on the size of the hard disk attached to the printer.

Select **Quick Collate** through a supported driver, generally through the **Properties** (Windows 95/Windows 98) or **Printer Specific Options** (Macintosh) menus.

### Quick Collate hints

**Output order.** Depending on your driver, select **Output Face Down** or uncheck the **Output Face Up** box.

**Increasing the collation capacity.** To increase the number of pages that the printer can collate at once, purchase a larger hard disk.

**Quick Collate and Check Print.** When you use the printer's **Quick Collate** option with **Check Print**, only the first page of the first set is printed before pausing for review.

### NOTE

Make sure that you disable the collate function in your application, because the printer's **Quick Collate** option is faster than the collate function in software applications.

## Using Slip Sheets

You can have the printer insert a slip sheet, or a divider page, to separate print jobs, multiple copies of a single print job, or individual pages of a print job.

There are two selections to make in your printer driver.

1. In a supported driver, locate the **Slip Sheet** options:

- **LaserWriter 8.3.4 driver:**

In the **Print** dialog box, click **Options**.

- **LaserWriter 8.5.1 driver:**

In the **Print** dialog box, use the **Printer-Specific Options** pull-down menu.

- **Windows 95 / Windows 98 PostScript driver:**

In the **Device Options** tab, select **Printer Features**.

- **Windows NT driver:**

From the **Properties** tab, select the **Advanced** tab. From the **Document Options** tab, select **Printer Features**

- **Adobe PS3 driver for Windows 3.1:**

Select the **Features** tab options.

2. Select one of the following for **Slip Sheet**:

<b>Off</b>	Turns off the slip sheet feature.
<b>End of Job</b>	Inserts a slip sheet between individual print jobs.
<b>End of Set</b>	Inserts a slip sheet between copies, or sets, of a multi-copy print job.
<b>End of Page</b>	Inserts a slip sheet between every page of a print job.

3. Select one of the following for **Slip Sheet Source**:

<b>Upper Tray</b>	Takes paper for the slip sheet from the upper media tray.
<b>Middle Tray</b>	Takes paper for the slip sheet from the middle media tray, if you have a Lower Tray Assembly installed.
<b>Lower Tray</b>	Takes paper for the slip sheet from the lower media tray, if you have a Lower Tray Assembly installed.
<b>Multi-Purpose Tray</b>	Takes paper for the slip sheet from the Multi-Purpose Tray.

## Previewing with Check Print

### Requirements

- Plus Features (Option FP, order number Z740FP)
- Enable the feature in the printer's front panel

When printing multiple pages through the driver (either multiple copies of a single page or a multiple-page file), select **Check Print** to preview the first page of the job before proceeding with the remainder of the job; this feature is useful when printing a large job.

Access to **Check Print** from the driver is enabled and disabled in the printer's front panel. You can also set the timeout in the front panel (timeout is the amount of time the printer waits after sending the first page of a file before it continues with the remainder of the job).

The factory default for **Check Print** is "disabled"; the default timeout is 5 minutes. Follow these instructions to enable **Check Print** in the front panel, reset the default timeout, and select the option in the printer driver.

### Enable Check Print and reset the timeout

1. In the front panel, press **Menu**. Press <--- or ---> until the display reads **Printer Defaults**.
1. Press **Menu**. Scroll to **Check Print**.
2. Press **Menu**; the following message appears:

```
Check Print:disabled *
<--- ---> OK
```

The asterisk (\*) indicates the current setting.

3. Scroll to **enabled** and press **OK**.
4. Change the timeout (the amount of time the printer pauses before completing the print job):
  - a. Scroll to **Check Print Timeout**. Press **Menu**.
  - b. Scroll the pre-set timeouts, then press **OK** to activate your selection.

### NOTE

You can also enable **Check Print** and control the default timeout through PhaserLink Printer Management software. For details on PhaserLink Printer Management software, refer to the *PhaserShare Networking Manual* on the printer's CD-ROM or Tektronix web site.

## Use Check Print

1. In a supported driver, select **Check Print**:
  - **LaserWriter 8.3.4 driver:**  
In the **Print** dialog box, click **Options**.
  - **LaserWriter 8.5.1 driver:**  
In the **Print** dialog box, use the **Printer-Specific Options** pull-down menu.
  - **Windows 95 / Windows 98 PostScript driver:**  
**Printer features** field in the **Device Options** tab options.
  - **Windows NT driver:**  
Select the **Advanced** tab under the **Properties** tab; select **Printer features** field in the **Document Options** tab.
  - **Adobe PS3 driver for Windows 3.1:**  
**Features** tab options.
2. Check your first print. At the front panel's **Check Print** message, press one of these buttons:

<b>Reprint</b>	Reprints the first page, pauses for the duration of <i>timeout</i> or until you press a button.
<b>Cancel</b>	Cancels the print job.
<b>Continue</b>	Prints the entire print job.

## Using Image Smoothing

Image Smoothing blends adjacent colors in low-resolution images for smoother color transitions. For example, use Image Smoothing to improve the appearance of a 72-dpi image downloaded from the World Wide Web. Image Smoothing is not recommended for 300-dpi or higher images.

There are four ways of selecting Image Smoothing (driver selections override all other settings):

- Through the printer's front panel in the **Printer Defaults** menu.
- In a supported printer driver; check the **Image Smoothing** box *on*.
- Through PhaserLink Printer Management software under **Configure Printer Defaults**.
- Through one of the following PostScript utility files (see "Using Printer Utilities" on page 135):

### Macintosh

- *Image Smoothing On*
- *Image Smoothing Off*

### PC

- *SMOOTHON.PS*
- *SMOOTHOFF.PS*

## Automatic tray switching

When your printer has a Lower Tray Assembly, you can easily run large jobs without having to replace media often.

1. For automatic tray switching to work properly, load the same *type* and *size* media in all of the printer's media trays. The media trays must also be of the same type (e.g., PAPER). You can also use the Multi-Purpose Tray for automatic tray switching; fill it with the same media type as the paper trays.
2. Install a tray in each of the printer's tray slots. If you have the Duplex Unit installed in the printer's upper slot, install the media trays in the middle and lower tray slots.

## Output Order

This option lets you specify whether your document prints face-up or face-down in the printer's output tray. Select the option in one of three ways (driver selections override all other settings):

- Through the printer's front panel in the **Printer Defaults** menu.
- In a supported printer driver; **Output Order** option or **Output Face Up** option.
- Through PhaserLink Printer Management software under **Configure Printer Defaults**.

### NOTE

The driver or PhaserLink selections override the front panel setting.

### Output Order: Face Up

- Pages are output so that the *first* page is on the bottom.
- Depending on the driver you are using, check the **Output Face Up** box **on**, or select **Face Up**.

### Output Order: Face Down

- Pages are output *face-down in numerical order*.
- Depending on the driver you are using, uncheck the **Output Face Up** box, or select **Face Down**.

### Output Order hints

- When printing on transparencies, the printer always prints your document *face-up*.
- For prints from the Multi-Purpose Tray, output order is always *face-up*.
- If you are using the **Quick Collate** option — depending on the driver you are using — select **Output Face Down**, or uncheck the **Output Face Up** box.

## PhaserLink PDF Direct Printing

PhaserLink PDF Direct Printing provides drag-and-drop printing of PDF and PostScript files from your web browser in Windows 95 and Windows 98 environments. Just drag any hyperlink for a PDF or PostScript file from the browser to the PDF Direct Printing icon on the desktop to print the file on your Tektronix printer. There is no need to open the file.

To install PhaserLink PDF Direct Printing, use the installer on your printer's CD-ROM. Choose **Custom Install** and check the box for PhaserLink PDF Direct Printing. Detailed instructions are provided in the README file and in the on-line help.

## PhaserPrint Plug-in for Photoshop

The PhaserPrint™ plug-in, included on the printer's CD-ROM, operates within the Photoshop application. With PhaserPrint, users can improve image transfer time and gain easy access to Tektronix printer features and other media features.

PhaserPrint software produces correct output only on supported Tektronix printers.

### NOTE

If you use this plug-in with a printer not listed in the PhaserPrint dialog box, the image may be placed incorrectly on the page, or colors may look incorrect, or your file may not print.

## Installing the plug-in: Macintosh

### NOTE

The PhaserPrint Plug-in is automatically installed with the software installation option **Easy Install**.

### Compatibility requirements

- Photoshop 2.5.1 and higher
- System 7.0 and higher

### Installing the plug-in

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**.
2. Select **PhaserPrint plug-in for Photoshop**. Click **Install**; the file is installed in the Photoshop application's *Plug-ins* folder on your computer's hard disk.



## Installing the plug-in: Windows

### Compatibility requirements

- Photoshop 3.0 and higher
- Windows 95/Windows 98 and Windows NT
- (optional) TCP/IP support requires proper installation of IP networking software and cards

### Installing the plug-in

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**.
2. Select **PhaserPrint plug-in for Photoshop**; the file is installed in the Photoshop application's *Plug-ins* directory on your computer's hard disk.

## Using the plug-in

1. If you don't already have a default printer selected, do the following:
  - **Macintosh:** Open the **Chooser**. Select a PostScript driver (such as the Apple LaserWriter 8); select your printer. PhaserPrint software works like a printer driver, and prints to the printer you selected in the **Chooser**.
  - **Windows:** Within the PhaserPrint software, select your printer and port, as described in "Print using (Windows)" on page 49.
2. Open Photoshop. Open an image file.
3. From the **File** menu, select **Export**. Select **PhaserPrint**; the **PhaserPrint** dialog box appears.
4. In the **Printer Model** field, select your printer.
5. PhaserPrint software supports the following image modes selected from Photoshop's **Mode** menu. If you select a mode not listed here, an error message appears and your image is not printed.
  - Bitmap
  - Grayscale
  - Indexed Color
  - RGB Color
  - CMYK Color
  - Lab Color

## Selecting options in the PhaserPrint dialog box

Settings you make in the PhaserPrint plug-in remain in effect until you change them. The exception is *Number of Copies*, which defaults to 1 each time you start the plug-in.

### NOTE

You can get information on any of the plug-in's features or printer-specific options with the online **Help** function.

### Number of copies

Enter the number of copies to print, from 1 to 1000.

### Print using (Macintosh)

The **Print using** pop-up menu lets you choose between printing an image or saving the image to disk.

- **AppleTalk** Prints the image to the printer currently selected in the Chooser; the currently selected printer name is displayed in the Printer model field. If the selected printer is not a PostScript printer, this option is unavailable (grayed-out).
- **PostScript file** Saves an image to disk as a PostScript file. Click **Save**; a dialog box lets you choose a new or existing file for saving the PostScript code.

When selected, the **File format** pop-up menu becomes available. This pop-up menu has two options: *ASCII base-85* and *Binary*.

- **ASCII base-85** Image data is encoded using an ASCII base-85 filter during file output, making the resulting PostScript file portable, and downloadable through interface ports that don't support binary data.
- **Binary** Image data is output in binary format.

### Print using (Windows)

The **Print using** pop-up menu lets you choose between printing an image or saving the image to disk. It has two to four options, depending on your system configuration:

- **TCP/IP** Available if a TCP/IP stack is installed and running. From **Printer model**, choose a printer. Add and delete printers in the list, and edit the printer configurations.

#### NOTE

TCP/IP is the fastest printing method; it prints jobs in much less time than the Parallel Port or Printer Driver methods, and is the recommended method if it is available for the printer you are using.

- **Local Port** Available if you have local ports installed in your PC. From the **Port Name**, choose the desired printer port.
- **Printer Driver** Prints the image through the selected printer driver. From **Driver name**, choose a printer.
- **PostScript file** Saves an image to disk as a PostScript file. Click **Save**; a dialog box lets you choose a new or existing file for saving the PostScript code.

When selected, the **File format** pop-up menu becomes available. This pop-up menu has two options: *ASCII base-85* and *Binary*.

- **ASCII base-85** Image data is encoded using an ASCII base-85 filter during file output, making the resulting PostScript file portable so that it can be downloaded through interface ports that don't support binary data. Note that the file may be up to 25% larger.
- **Binary** Image data is output in binary format. Recommended for network printing only (not for the parallel port).

### Printer name

Displays the currently selected printer.

### Printer model

- Lists all printers supported by PhaserPrint software.
- When you select your printer model, PhaserPrint displays the correct options for your printer.

### Media size (selection)

- Paper sizes are printer-specific; refer to the online Help for your printer's options. Select your printer in the **Printer model** field before selecting a paper size.

### Color Correction

- The setting remains in effect until you change it.
- Color Corrections are not available if the Photoshop Mode is **Lab**.
- If **RGB** is the selected **Mode** in Photoshop, the **Calibrated RGB** option is also available.

### Media

- The setting remains in effect until you change it.

### Quality

- The setting remains in effect until you change it.

### Rendering Intent

- Available in the following cases:
  - If the **Mode** in Photoshop is **RGB**, and you select **Calibrated RGB** as the **Color Correction** in PhaserPrint.
  - If the **Mode** in Photoshop is **Lab**.
- Calibrated RGB and Lab modes take longer to print than other modes because the printer must convert for printing CIE colors to RGB or CMYK colors.

### Compress Image Data

- Compresses image data so that less data is sent to the printer or stored in a file.
- Useful if your network connection is slow, for example, if you are connected to a busy network or if you are using LocalTalk or a parallel port. **For fast networks, printing may be faster without using this option.**
- The setting remains in effect until you change it.
- Default is **on**.

### Fast preview

- Quick print of your image with slightly reduced image quality.
- Reflects the printer color correction you selected.
- For the fastest printing, use the **None** color correction option.
- Default is **off**.

### Output face up

- Print a document face-up, stacking pages so that the first page is on the bottom: Check this option **on**.
- Print a document face-down, stacking the pages face-down in the order they are printed. Check this option **off**.
- The setting remains in effect until you change it.
- Default is **on**.
- Transparencies and prints made from the Multi-Purpose Tray stack face-up only.

### Check Print

- Available only with the printer's Plus Features option.
- **Check Print** must be enabled in the printer's front panel.
- When sending a multiple-copy print job to the printer through the driver, you can select **Check Print** to preview the first page of the job, and determine if the job is printing as expected before proceeding with the remainder of the job. This option is especially useful when printing many copies.
  1. Click the **Check Print** check box.
  2. Check your first print. At the **Check Print** message on the printer's front panel, press one of the buttons:
    - **Reprint** Reprints the first page, the printer pauses again for the duration of the selected timeout, or until you press one of the buttons.
    - **Cancel** Cancels the print job.
    - **Continue** Continues printing the entire job.
- At the printer's front panel, set the **Check Print** timeout.
- Default is **off**.

### Image Smoothing

- Blends adjacent colors so that color transitions are less noticeable.
- Use this option when the image being printed was scanned at a lower resolution than the printer's output resolution. For example, printing an image scanned at 72 dpi using the printer's Standard print quality mode (300 dpi).
- Images printed using **Image Smoothing** appear with less sharp detail but with smoother color transitions.
- Default is **off**.

### Stylized representation of the page

- The lower left area of the dialog box displays a stylized representation of the page as it would look when printed using the current selections in the **Scale**, **Scale to fit**, **Printer model**, **Media size (selection)**, **Landscape orientation**, **Replicate images**, **Center images**, and **Image separation** options. When you change any of these selections, the representation of the page is redrawn to reflect the new selection.
- If **Show color preview of image** is on, an approximate color image is displayed.

### Scaling an image

- **Scale to fit**
  - Scales an image to the largest size that fits the image area of the currently selected page size or orientation.
  - Automatically updates the **Scale** field value.
- **Scale**
  - Type the percentage the image should be scaled, from 10 percent to 2000 percent.
  - Use with the **Replicate images** option to produce multiple copies of an image on a single page.
- **Alert message** `Image clipping will occur.`

This message appears in the PhaserPrint dialog box whenever a scaled image will not fit within the image area of the currently selected page size or orientation option.

### Landscape orientation

- Prints the image horizontally (landscape) on the page. Leave this box unchecked to print the image vertically (portrait) on the page.
- Refer to the **Stylized representation of the page**, in the lower left corner of the dialog box, to see how your selection will look when printed.

### Center images

- Centers the image in the page's image area.
- If this box is not checked, the lower left corner of the image is aligned with the lower left corner of the printable area of the page.
- If the **Center images** box is checked *and* the Replicate images box is checked, the set of replicated images are centered in the image area of the page.

### Replicate images

- Fills the page's image area with as many copies of the image as will fit.
- The size of each replicated image is determined by the setting in the **Scale** text box.
- If the size of each replicated image (shown as black rectangles in the stylized representation of the page) is too small to display, the total image area of the printed page is shown as a single gray rectangle.

### Image size

- Reflects the dimensions, in inches or millimeters, of the image.
- If the value in the **Scale** box is out-of-range, the image dimensions are displayed with question marks.

### Image separation

- Only available if the **Replicate images** box is checked.
- Type an amount, in inches or millimeters (depending on your system's measurement standard), to specify the amount of separation between each replicated image.
  - A larger amount reduces the number of images that can be printed at one time.
  - Minimum allowed separation value is **0**.
  - Maximum separation value is **100 mm (4 inches)**.
  - Default separation value is **3.175 mm (0.125/one-eighth inches)**.
  - Valid characters for this field are **0 to 9** and a period (or decimal point).
  - As you type a value, the stylized representation of the page, and **Number of images** and **Image layout** values are dynamically updated. If the value entered in the **Image separation** field is out-of-range, the values in these other fields are replaced by question marks, and no images are shown in the stylized representation of the page. If the value is out-of-range, and you click **Print** or **Save**, the following alert is displayed:

The value for Image separation is out of range. It will be replaced with the closest allowed value.

### Number of images

- Displays the number of scaled images that will fit in the image area of the currently selected **Media size (selection)** and **Landscape** orientation options.
- **Number of images** reflects the current **Image separation** value.
- If the **Replicate images** box is not checked, this number is set to **1**.
- If either **Scale** or **Image separation** values are out-of-range, a question mark is displayed.



**Image layout**

- Shows how the scaled images will fit horizontally and vertically in the image area of the currently selected **Media** and **Landscape orientation** options.
- **Image layout** reflects the current **Image separation** value.
- If the **Replicate images** box is not checked, this number is set to **1 x 1**.
- If either **Scale** or **Image separation** values are out-of-range, question marks are displayed.

**Media size (display)**

Reflects the dimensions, in inches or millimeters, of the selected media size.

**Show color preview of image**

Displays an approximate color image, rather than a black box, in the **Stylized representation of the page** field.



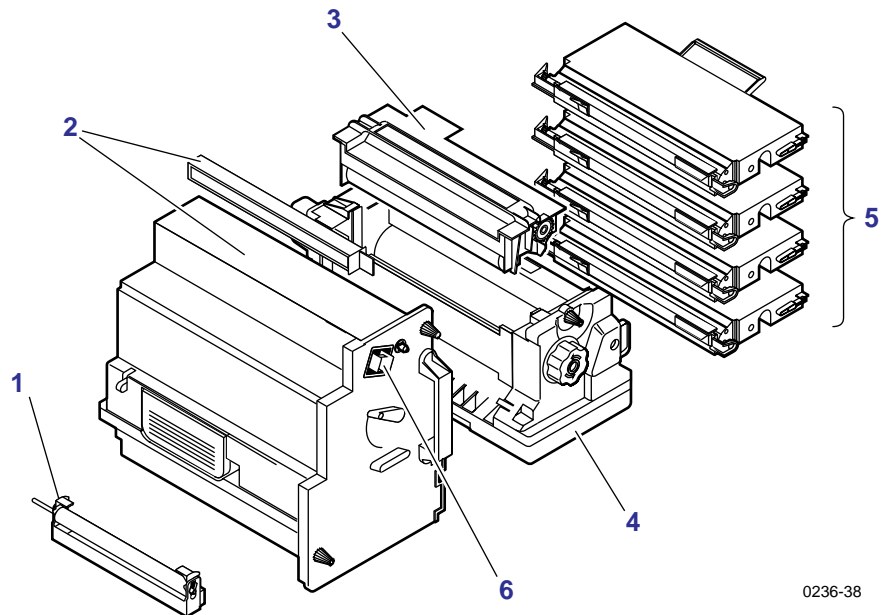
# Consumables

## User-replaceable components

This printer is designed modularly so that it is easy to maintain: several of the components are replaceable.

These are the replaceable components for the printer:

1. Transfer Kit (transfer roller/waste bin)
2. Imaging Unit and filter
3. Fuser Roll
4. Fuser
5. Toner Cartridges
6. Main Charge Grid



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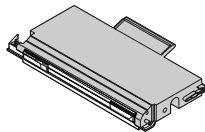
## When to replace components

When the front panel prompts you to replace a component, make sure that you have replacements on hand. The printer may continue to print until the component is depleted; the printer stops until you replace the toner, Imaging Unit, and Fuser Roll; the Fuser allows printing to continue.

### NOTE

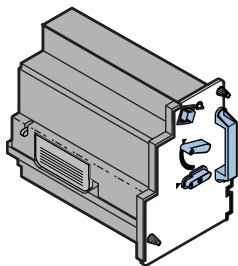
**Average life** is based on an average of 5% coverage of the printable area for any one color using laser paper. The frequency of replacement varies, depending on the complexity of the prints, the percentage of coverage, and the type of media. Transparencies, glossy coated paper, and other specialty media results in shortened consumable life.

## Toner Cartridges



Order numbers		Average life (% of coverage)	
<b>Standard Toner Cartridges</b>			
		<b>5%</b>	6,000 pages (Black)
Black	016-1684-00		5,000 pages (CMY)
Cyan	016-1685-00		
Magenta	016-1686-00	<b>10%</b>	3,000 pages (Black)
Yellow	016-1687-00		2,500 pages (CMY)
		<b>20%</b>	1,500 pages (Black)
			1,250 pages (CMY)
<b>Hi-Capacity Toner Cartridges</b>			
		<b>5%</b>	12,000 pages (Black)
Black	016-1656-00		10,000 pages (CMY)
Cyan	016-1657-00		
Magenta	016-1658-00	<b>10%</b>	6,000 pages (Black)
Yellow	016-1659-00		5,000 pages (CMY)
		<b>20%</b>	3,000 pages (Black)
			2,500 pages (CMY)
<b>Front panel messages</b>			
<color> low		■ Change the toner soon.	
Stopped: Replace <color>		■ Change the color toner <b>now</b> .	

## Imaging Unit



### Order numbers

016-1662-00

### Average life (% of coverage)

**5%** 60,000 images  
15,000 color pages

**10%** 30,000 images  
7,500 color pages

**20%** 15,000 images  
3,750 color pages

### Front panel messages

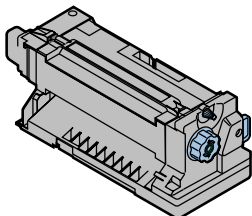
Imaging Unit:replace

- Change the imaging unit soon.

Imaging Unit expired

- Change the imaging unit **now**.

## Fuser



### Order numbers

016-1660-00 110 volt

016-1661-00 220 volt

### Average life (% of coverage)

**5%** 60,000 pages

**10%** 30,000 pages

**20%** 15,000 pages

### Front panel messages

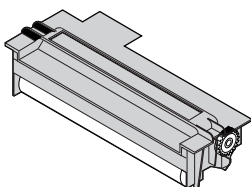
Fuser:replace

- Change the fuser soon.

Fuser expired

- Change the fuser **now**.

## Fuser Roll



### Order numbers

016-1663-00

### Average life

14,500 pages (warning)

15,000 pages (expired)

### Front panel messages

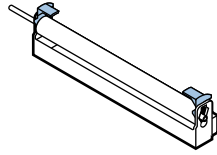
Fuser Roll:replace

- Change the fuser roll soon.

Stopped: Fuser Roll:replace

- Change the fuser roll **now**.

### Transfer Kit



**Order numbers**

016-1533-00

**Average life**

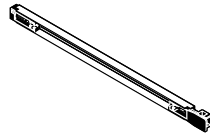
80,000 pages

**Front panel messages**

Transfer Kit:replace

- Change the transfer kit **now**.

### Main Charge Grid



**Order numbers**

016-1665-00

**Average life**

30,000 images

**Front panel messages**

Main Charge Grid:replace

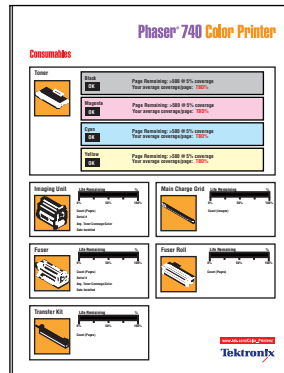
- Change the main charge grid **now**.

## Consumable life information

This printer provides several convenient methods for accessing the information you need on the life of the user-replaceable components. Refer to “Using the information on the Consumables Page” on page 62 and “Diagnostic tools” on page 66 for more detailed information on accessing and using these tools.

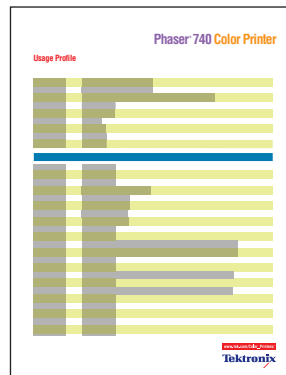
### Consumables Page

Print from the **Help Pages** menu in the front panel.



### Usage Profile Report

Print from the **Help Pages** menu in the front panel or set up automatic email notification.



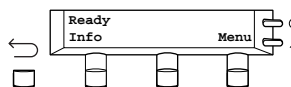
### PhaserLink software

TCP/IP required. Enter the printer's Internet address in a web browser.



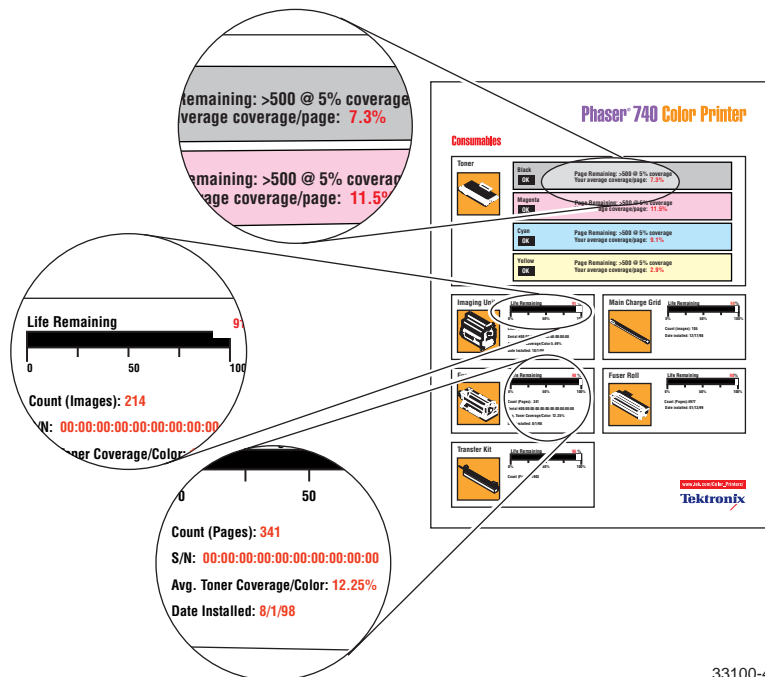
### Status of each consumable

Access the **Consumables Status** menu in the front panel.



### Using the information on the Consumables Page

- OK** Toner Cartridge has more than 500 pages left (average 5% coverage).
- LOW** Toner Cartridge has less than 500 pages left (average 5% coverage).
- % Remaining** Indicates the approximate percentage of the remaining life of the consumable.
- Count** The number of pages or images printed since the consumable was installed.
- S/N** Consumable serial number.
- Average Toner Coverage/Page** For the Fuser and Imaging Unit, an accounting of the average amount of toner coverage per page since the consumable was installed in the printer.
- Date Installed** The date the consumable was installed in the printer.



33100-44



# Troubleshooting

## On-line support

Visit Tektronix' color printer web site for the most up-to-date information about your printer. View updated user documentation, download utility files, get answers to frequently asked questions, find a list of Tektronix dealers in your area, or contact customer support.

Tektronix Color Printer web site	<a href="http://www.tek.com/Color_Printers/">www.tek.com/Color_Printers/</a>
Documentation	<a href="http://www.tek.com/Color_Printers/userdoc/introduction.html">www.tek.com/Color_Printers/userdoc/introduction.html</a>
Technical support	<a href="http://www.tek.com/Color_Printers/support/colcare.html">www.tek.com/Color_Printers/support/colcare.html</a>
Color use tips for novices and experts	<a href="http://www.colorize.com">www.colorize.com</a>
PhaserLink Printer Management software	<a href="http://www.tek.com/Color_Printers/products/phaserlink.html">www.tek.com/Color_Printers/products/phaserlink.html</a>
TekSMART™ Knowledge Base	<a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a>
Anonymous FTP server	<a href="ftp://ftp.tek.com/Color_Printers/">ftp.tek.com/Color_Printers/</a>
email update notices	<a href="http://www.tek.com/Color_Printers/support/subscribe.html">www.tek.com/Color_Printers/support/subscribe.html</a>

## Customer Support Centers

For more information or for getting help with troubleshooting or servicing your printer, contact your local Tektronix dealer or sales representative or the following resources worldwide:

### Customer Support Centers

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<b>Australia</b> 1-800-811-177	<b>France</b> 01 69 86 8137	<b>New Zealand</b> +61 2 9888 0100
<b>Austria</b> 0660 5804	<b>Germany</b> 0180 525 3535	<b>Norway</b> (22) 723 801
<b>Belgium</b> 02 720 9602	<b>Hong Kong</b> 2585-6655	<b>Singapore (ASEAN)</b> 1-800-356-5565
<b>Brazil</b> 0800 16 0220	<b>India (South Asia)</b> (91) 80-227-5577	<b>Spain</b> 902 239 272
<b>Canada</b> 1-800-835-6100	<b>Italy</b> 02 45 287 000	<b>Sweden</b> (08) 299 071
<b>China</b> 10-6235-1230	<b>Japan</b> 81 3 3448 4872	<b>Switzerland</b> 155 9493
<b>Denmark</b> (44) 533 444	<b>Korea</b> 2-528-5299	<b>Taiwan</b> (02) 2757-1571
<b>Eastern Europe and the Middle East</b> +44 1908 68187	<b>Luxembourg</b> 400 847	<b>Thailand</b> 2-645-4407
<b>Finland</b> 0203 206 30	<b>Netherlands</b> (040) 267 0440	<b>U.K.</b> (01) 908 681 707
		<b>U.S.</b> 1-800-835-6100

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All other locations: Contact local Tektronix dealers or Tektronix offices.  
For a list of dealers in your area, visit [www.tek.com/Color\\_Printers/contacts](http://www.tek.com/Color_Printers/contacts).

## Getting information by fax

Another Tektronix resource for up-to-date information is HAL (Highly Automated Library). If you have a fax machine and a touch-tone telephone, you can quickly receive the latest technical hints and tips, solutions to common technical problems, and application notes for software such as CorelDRAW! and QuarkXPress.

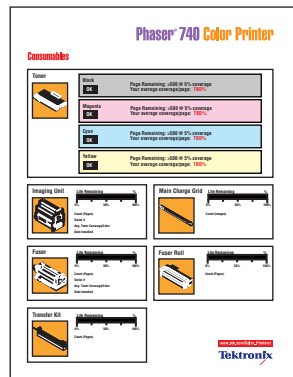
Call HAL from anywhere in the world; the fax library is available 24 hours a day, seven days a week. For a catalog listing HAL documents, call one of the following numbers.

Country	Numbers
Austria	
Belgium	
Denmark	
Finland	00 44 1908 681839
Holland	
Italy	
Norway	
Switzerland	
France	0800 90 81 86
Germany	0130 819 220
Spain	07 44 1908 681839
Sweden	009 44 1908 681839
UK	01908 681839
Other countries	+44 1908 681839 (where + is your country's International Access Code)

## Diagnostic tools

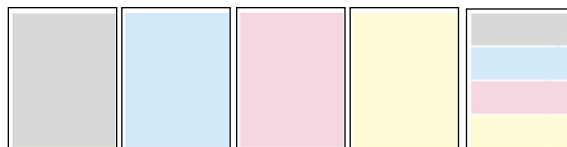
The printer provides several tools for diagnosing and solving various types of problems; these tools include the following:

### Consumables Page



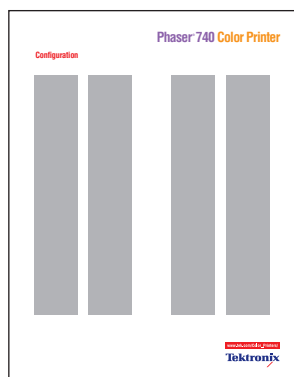
Found in the front panel's **Help Pages** menu. Included is status for each Toner Cartridge (**OK** or **LOW**) and the **% Remaining** gauges, showing the approximate remaining life for the Imaging Unit, Fuser, Fuser Roll, Transfer Kit, and Main Charge Grid.

### Service Print 1



Found in the **Help Pages** menu; five separate pages help you diagnose print quality problems (for example, if a user-replaceable component needs to be replaced).

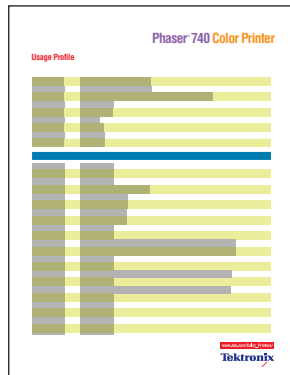
### Configuration Page



Found in the **Help Pages** menu; provides useful information for installation and troubleshooting:

- Printer's name and Internet address
- Firmware version
- Feature set (one of three printer configurations: Standard, Plus, or Extended)
- Printer serial number
- Network information
- Printer feature status (for example, Check Print enabled)

### Usage Profile Report



Found in the **Help Pages** menu; provides detailed information on consumables used, tray and media selections, printer interventions, as well as an analysis of usage rates. Useful for planning your consumables ordering and tracking the average use of consumables on a per-job basis.

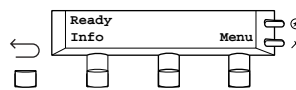
### PhaserLink™ Printer Management Software



Use a standard web browser to view printer status, control printer configuration, view consumable information, and link to online documentation via the World Wide Web.

**Note:** To use PhaserLink Printer Management software, the printer must be connected to a network running TCP/IP. Refer to the *PhaserShare Networking Manual* for complete details.

### Front panel



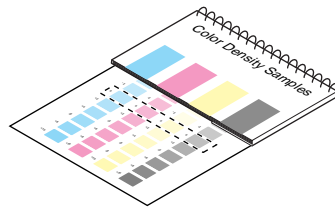
#### Status messages

Automatically reflects a condition requiring user intervention.

#### Info button

Provides useful diagnostic information (suggestions and brief explanations) if the printer experiences a problem.

### Color Density Samples and Color Reference Page



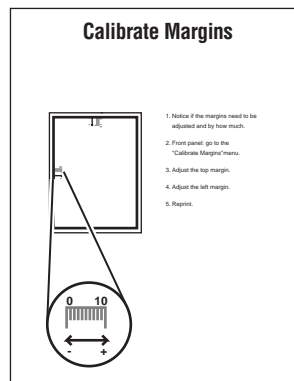
#### Color Density Samples

Included in the *User Guide*. Provides samples of standard color density, used to compare to the printer's current settings that appear on the Color Reference Page.

#### Color Reference Page

Found in the front panel's **Calibrate Colors** menu. Shows the printer's current density settings and the ranges for adjustment. Refer to "Controlling color density" on page 119 for details.

### Margin Adjust Pages



Found in the front panel's **Calibrate Margins** menu. Provides a tool for adjusting the margins for a duplex print and a one-sided print. Refer to "Adjusting margins" on page 33.

### PS Error Handler



Enabled in the front panel's **Printer Defaults** menu. Used to diagnose PostScript problems. When a PostScript error occurs, an error page prints out if the error handler is enabled.

## Maintaining print quality

If you notice a problem with the quality of your prints, the probable solution is replacing one of the consumable components (Toner Cartridges, Imaging Unit, Fuser, Fuser Roll, Transfer Kit, or Main Charge Grid).

- If the printer’s front panel message indicates replacing one or more consumables, replace it if necessary.
- To help you diagnose the problem (in the absence of a front panel message), print the Consumables Page and Service Print 1 from the front panel’s **Help Pages** menu. Refer to “Symptoms and solutions” on page 70 for examples of symptoms, probable causes, and solutions.

### Basic rules for troubleshooting

Where does the symptom appear?	Solution
<p style="text-align: center;"><b>One color only:</b></p> 	<p>Replace the color Toner Cartridge.</p>
<p style="text-align: center;"><b>All four colors:</b></p> 	<p>Replace one of these consumables:</p> <ul style="list-style-type: none"> <li>■ Imaging Unit</li> <li>■ Fuser</li> <li>■ Fuser Roll</li> <li>■ Main Charge Grid</li> <li>■ Transfer Kit</li> </ul>

Refer to “Symptoms and solutions” on page 70 for more detailed symptoms and solutions.

## Symptoms and solutions

### Front Panel Messages

Symptom	Possible Causes	Solution
<b>Power</b> indicator is blinking	The printer is receiving, processing or printing a job.	Wait for the job to be completed or cancel the job.
	You have entered the menu in the front panel.	Exit the menu.
<b>Power</b> indicator is off	The printer is turned off, is not ready, is disabled, or has detected an error.	Make sure that the printer is turned on. Read the front panel message to determine the printer's status.
<b>Error</b> indicator is on	Attention is required, but not immediately. For example, when the front panel reads <code>&lt;color&gt;:low</code> .	Correct the condition reported by the front panel.
<b>Error</b> indicator is blinking	The printer is stopped because it detected a user-correctable error such as an open door or a media jam.	Correct the condition reported by the front panel (for example, close the door or clear the media jam).
	Error occurred that may be user-correctable.	Press the <b>Info/More</b> button to access information on the error condition.
	Error occurred that is not user-correctable.	Read the front panel message. If the message includes an error number, find that number listed in "Error codes" on page 94 and follow any directions there for recovery.
The front panel menu exits and returns to <b>Ready</b> without anyone pressing the button.	Front-panel timeout: If no activity occurs in 5 minutes, the front panel returns to <b>Ready</b> .	Press <b>Menu</b> to re-enter the menu.
Front panel reports: <b>Jam at &lt;Location&gt;</b>	Media jam.	<ul style="list-style-type: none"> <li>■ <b>To find the jam:</b> See the front panel message. Also, refer to the illustration on the inside front door.</li> <li>■ <b>To clear the jam:</b> Refer to "Clearing a media jam" on page 97.</li> <li>■ Make sure that paper or transparencies are installed correctly and in the media-specific tray. See page 9 for details on loading media.</li> <li>■ <b>To prevent a jam:</b> Clean the rollers. See page 109 for details on printing the cleaning instructions.</li> </ul>
	Too much media is loaded in the media tray.	Reduce the amount of media to below the media level indicator on the media tray label.
	Media is wrinkled or curled.	Change the media.
	Media is too thick or too thin.	Use recommended media; refer to page 5. For media loaded in the Multi-Purpose Tray, make sure that you have set the Media Thickness Switch on the printer to accommodate thick, medium, or thin media.
Front panel reports: <b>MPT: &lt;media&gt;</b>	The printer detects media in the Multi-Purpose Tray and is waiting for information on the type of media.	<ul style="list-style-type: none"> <li>■ Scroll through the selections to choose the media type you have loaded in the Multi-Purpose Tray.</li> </ul>
Front panel reports: <code>&lt;color&gt;:low</code>	The indicated color Toner Cartridge is almost empty.	<ul style="list-style-type: none"> <li>■ Change the Toner Cartridge soon.</li> </ul>
Front panel reports: <b>stopped:</b> <b>replace &lt;color&gt;</b>	Indicated color Toner Cartridge is empty.	Replace the indicated color Toner Cartridge <b>now</b> ; the printer stops until you replace the cartridge.



**Front Panel Messages (cont'd.)**

<b>Symptom</b>	<b>Possible Causes</b>	<b>Solution</b>
Front panel reports: <b>&lt;color&gt; missing</b>	A Toner Cartridge is missing.	Install the indicated color Toner Cartridge.
Front panel reports: <b>Imaging unit:replace</b>	The Imaging Unit is wearing out.	Replace the Imaging Unit soon.
Front panel reports: <b>Imaging unit expired</b>	The Imaging Unit is worn out.	Replace the Imaging Unit <b>now</b> .
Front panel reports: <b>Fuser:replace</b>	The Fuser is wearing out.	Replace the Fuser soon.
Front panel reports: <b>Fuser expired</b>	The Fuser is worn out.	Replace the Fuser <b>now</b> ; although it continues to function, the print quality is affected.
Front panel reports: <b>Fuser Roll:replace</b>	The Fuser Roll is wearing out.	Replace the Fuser Roll soon.
Front panel reports: <b>Transfer Kit:replace</b>	The Transfer Kit is worn out.	Replace the Transfer Kit.
Front panel reports: <b>Error ##</b>	An error occurred that may be user-correctable.	<ul style="list-style-type: none"> <li>■ Press the front panel's <b>Info</b> button for more information on the problem. Press the button labeled <b>More</b> for suggestions on correcting the problem.</li> <li>■ Use the information in "Error codes" on page 94 to correct the problem.</li> <li>■ If the error persists, call Service. See page 64.</li> </ul>

Print quality problems

Black-and-white prints instead of color

In the front panel's **Printer Defaults** menu, check the default setting for **Print Mode**. If it is set to **Black Only**, change the setting to **Color**.

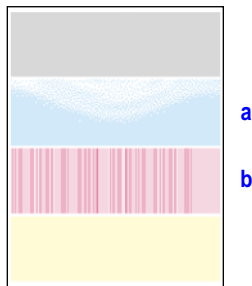
If your printer is a Phaser 740L printer (check the nameplate on the front of the printer), it will only print in black and white until you add color with the 740LCS Color Kit.

Print shows a single color (a) that is not uniform

Replace the color Toner Cartridge.

or

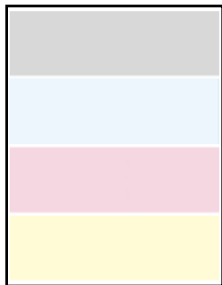
Print shows a single color (b) with many vertical streaks (both light and dark) of slightly different density and non-uniform color.



Print appears faded in a single color.

Check the density setting: From the front panel, access the **Calibrate Colors** menu and print the Color Reference Page. Compare the settings to the examples on the *Color Density Samples* and, if necessary, adjust the density in the front panel. Refer to page 119.

Replace the color Toner Cartridge soon (depending on the complexity of your prints, you can continue to print up to 100 more pages).



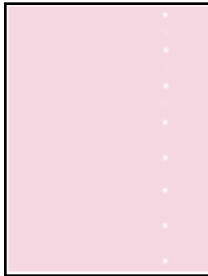
A single color has a wide, light, vertical streak.

Replace the color Toner Cartridge.

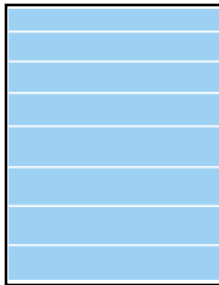


**Print quality problems (cont'd.)**

Print shows small, repeating light or dark spots in a single color. Replace the color Toner Cartridge.



A single color shows a light, repeating horizontal line.



**To fix the problem:**

- Run 20-30 prints. The impression will disappear with continued time and use.

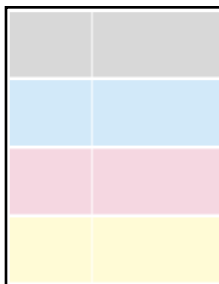
**To avoid the problem:**

- Occasionally, or a day or two before installing a new Toner Cartridge, rotate the gear on the end of the cartridge by at least a quarter turn.

Prints are missing fine-line detail. Replace the Imaging Unit.

Dark color spots and dark or light streaks appear in all colors. Replace the Imaging Unit.

Print shows a straight, thin and even, light vertical line in all colors. Replace the Imaging Unit.

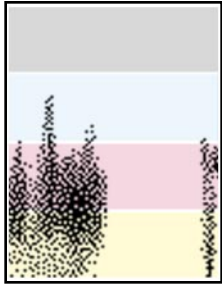


**Print quality problems (cont'd.)**

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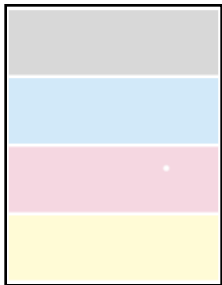
Each color “bleeds” into the color band below it (the most visible is magenta in the yellow band).

Replace the Imaging Unit.



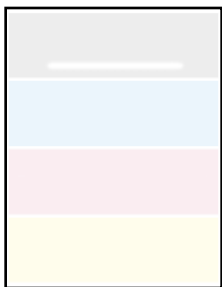
A single white spot appears in approximately the same vertical place on the page.

Run 20-30 blank pages of paper. If the problem persists, replace the Imaging Unit.



A single, wide, light horizontal band appears in one place on the page (near the top) **or** all colors are faded.

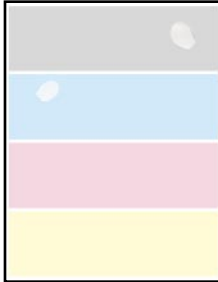
Wait overnight and print the Service Print 1. If print quality hasn't changed, replace the Imaging Unit.



**Print quality problems (cont'd.)**

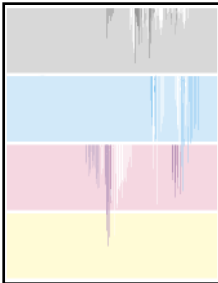
Large light spot(s) appear randomly in the print, approximately on the same horizontal and vertical place **or** they move vertically from one print to another.

Print several pages until the artifacts fade.



A smear in the image repeats at the same location on the page.

Replace the Imaging Unit.



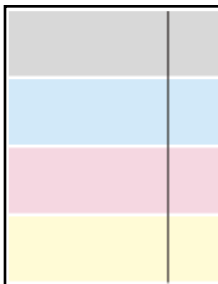
One or more vertical, dark and even fine lines appear on the print through all colors.

Replace the Imaging Unit; make sure that the old Imaging Unit is not exposed to light for more than 3 minutes.

If a new Imaging Unit does not correct the problem:

- Put the old Imaging Unit back into the printer.
- Repack the new Imaging Unit.
- Replace the Fuser.

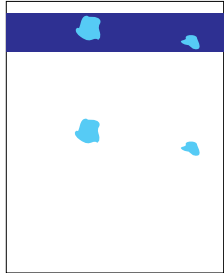
Fuser order numbers:  
 110 Volt: **016-1660-00**  
 220 Volt: **016-1661-00**



**Print quality problems (cont'd.)**

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A piece of the printed image is missing and reappears out of place, approximately 129 mm (5 in.) down the page.



- Print 20 pages of blank pages to clean the roller.

If you still see the problem:

- Replace the Fuser Roll.

If you still see the problem:

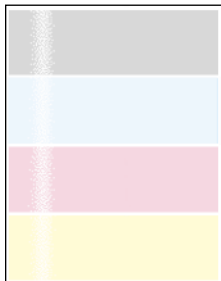
- Replace the Fuser.

The surface of the printed image appears to have vertical scratches (visible by holding the print at an angle and observing the “shine” of the image).

At first, the scratches appear only on the printed image; eventually, dark vertical scratches appear on the unprinted portion of the page.

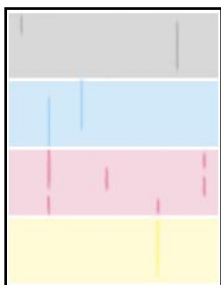
Replace the Fuser (depending on your quality needs, you can continue to print until the dark vertical lines appear).

Light vertical streaks appear in all colors (most easily visible in yellow).



Replace the Main Charge Grid. Complete instructions are packaged with the Main Charge Grid.

Dark and wavy vertical streaks appear in all colors.

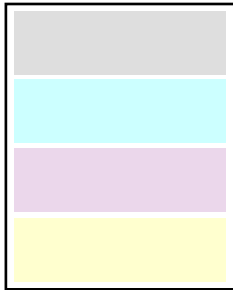


The solution is one of the following:

- Remove and reinsert the Main Charge Grid.
- Replace the Main Charge Grid.
- Replace the Imaging Unit.

**Print quality problems (cont'd.)**

The print is extremely light with a "washed out" look.



The solution is one of the following:

- If using a paper tray or transparency tray, make sure you have loaded the correct media in the tray you are using.
- If using the Multi-Purpose Tray, make sure you have selected the correct media type at the front panel prompt.
- Remove and reinsert the Main Charge Grid.
- Replace the Main Charge Grid.
- Replace the Imaging Unit.
- Replace the Transfer Kit.

The entire page prints in black, including the borders.



The solution is one of the following:

- Re-insert the Main Charge Grid.
- Replace the Main Charge Grid.
- Replace the Imaging Unit.
- Call Service. See page 64.

Toner spots appear on the back of the media.

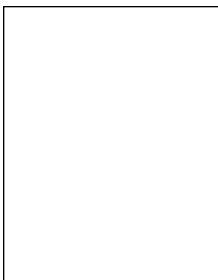
Replace the Transfer Kit.

The page prints in black in the image area only (the borders are white).

Turn the printer off and back on again. If the problem persists, call Service. See page 64.



The page is blank.



- Remove and re-insert the Imaging Unit.
- Turn the printer off and back on again.
- If the problem persists, call Service. See page 64.

Print quality problems (cont'd.)

Thin horizontal stripes or a "weave" pattern appears in a complex image.	Increase the amount of memory. or Print the image at a lower resolution.
Prints have dull, faded colors	<ul style="list-style-type: none"> <li>■ If you are using a media tray, make sure that you have loaded the correct media in the PAPER tray or TRANSPARENCY tray.</li> <li>■ If you are using the Multi-Purpose Tray, make sure that you have selected the correct media type in the printer's front panel.</li> </ul> <p>Print the Color Reference Page from the front panel's <b>Calibrate Colors</b> menu. Check the density settings for each color and compare them to the examples on the <i>Color Density Samples</i> card. (in the User Guide).</p> <p>Print the Consumables Page and Service Print 1 from the front panel's <b>Help Pages</b>.</p> <ul style="list-style-type: none"> <li>■ If all colors are faded on the Test Print, the Imaging Unit may need to be replaced. Refer to the <b>% Remaining</b> gauge for the Imaging Unit on the Consumables Page.</li> <li>■ If one color is faded (and you have checked and/or adjusted the density setting for that color), replace the Toner Cartridge.</li> </ul> <p>Make sure that the Imaging Unit stays covered until immediately before installing it in the printer. Exposure to light can damage the Imaging Unit and will produce light streaks or faded prints.</p> <p>Make sure that the Toner Cartridges are installed correctly.</p> <p>Make sure that you use a high-quality laser paper: 60 - 90 g/m<sup>2</sup> (16 - 24 lb.) paper in the media trays and 75 - 150 g/m<sup>2</sup> (20 - 39 lb.) paper with the Multi-Purpose Tray. Refer to "All about media" on page 5 for more information.</p> <p>Use only Tektronix transparencies. Tektronix does not guarantee the results of non-Tektronix transparencies in Tektronix printers.</p> <p>Try a different color correction mode.</p>
Image is very faded or pieces of the image are missing; toner on the page is loose.	When using the Multi-Purpose Tray, make sure that you have selected the correct media type in the printer's front panel menu.
Photographic images appear grainy	Check the front panel's <b>Print Quality</b> menu. If the selected mode is <b>Presentation</b> , change it to <b>Standard</b> .
Streaks or spots	<p>Most spots are caused by fingerprints or dust introduced into the printer while installing the Imaging Unit or loading media.</p> <p>Make sure that the surface where you unpack the Imaging Unit, paper, and transparencies is free of dust. Keep supplies in a covered area or a closed box.</p> <p>Make sure that the Imaging Unit stays covered until immediately before installing it in the printer. Exposure to light for more than 3 minutes can damage the Imaging Unit.</p> <p>Do not touch the right side or underside of the Imaging Unit; fingerprints affect print quality.</p> <p>Make sure that the media is clean.</p> <p>Make sure that you handle the media on the outside edges to avoid fingerprints.</p> <p>To get rid of fingerprint spots, print a few prints (you can print any of the Help Pages in the front panel menu).</p>
The back of the printed page appears dirty.	Toner particles have contaminated the transfer roller. This can happen if the printed image is larger than the media (for example, when printing on envelopes). Run 10-20 prints to clean the transfer roller.



If you can't make a print

Symptom	Solution
Printer not operating	<p>Make sure that you plugged in the printer and turned it on.</p> <p>Make sure that you connected the interface cable(s) properly.</p> <p>Print Service Print 1 from the front panel to verify that the controller board is functional.</p> <p>Verify that your print engine is functional by pressing the Test Print button (the blue pushbutton in the center of the back of the printer), and holding it down for 3 seconds. If the print engine is functional, it will print a composite-gray page.</p> <p>Verify that your printer can communicate:</p> <p><b>If you have a Macintosh</b>            Make sure that you have the correct PPD file installed and selected and that you have selected the printer in the <b>Chooser</b>. If the printer's name does not appear in the <b>Chooser</b>, your network connection may be faulty.</p> <p>In the <b>Finder</b>, you can use the <b>Print Window</b> command to send a file to the printer without using an application. If the communication link between your computer and the printer is working, the printer produces a directory listing of the active window on the desktop.</p> <p><b>If you have a PC</b>            Type this DOS command:</p> <pre>echo %! &gt; port echo showpage [Ctrl-D] &gt; port</pre> <p>Where <b>[CTRL-D]</b> indicates pressing the <b>D</b> key while holding down the <b>CTRL</b> key. Substitute the name of the printer port (for example <b>LPT1:</b>, <b>LPT2:</b>) for the variable <i>port</i> in this command. For example, if you are testing a parallel connection on <b>LPT1</b>, type:</p> <pre>echo %! &gt; lpt1: echo showpage [Ctrl-D] &gt; lpt1:</pre> <p>If the communication link between your computer and the printer is working, the printer ejects a blank page. If this occurs, but you cannot print from your application or through Windows, make sure that the appropriate driver is installed and that you have selected the printer correctly.</p>
Printer doesn't appear in the <b>Chooser</b> (Macintosh)	<p>Make sure that the printer is turned on and the cables are correctly attached.</p> <p>Check the termination (refer to the documentation for your network adapter or connector for information on termination).</p> <p>If you have changed the printer's name, make sure that you have given it a unique name (not the same as any other printer in the zone or on the network).</p> <p>Make sure that the correct network is selected in either the <b>Network</b> or <b>AppleTalk</b> Control Panel.</p>

**Problems with jams**

Symptom	Solution
Frequent paper-picking errors	<p>Make sure that the Media Thickness Switch is set correctly for the media installed in the Multi-Purpose Tray. Refer to page 13 for details on setting media thickness. If the printer picks multiple sheets of paper at once, set the Media Thickness Switch to a thinner setting.</p> <p>Fan the paper or transparencies before installing them in their respective trays; this is especially important for transparencies because they tend to stick together.</p> <p>Make sure that the media is installed under the hooks at the front of the media tray.</p> <p>If printing on transparencies and your printer has the Automatic Duplex/Lower Tray Assembly, make sure that the TRANSPARENCY tray is installed in the <i>middle</i> tray slot.</p> <p>Clean the paper-feed rollers and paper-pick rollers. Print the instructions from the <b>Cleaning</b> menu in the front panel.</p>
Frequent media jams	<p>Make sure that you use a high-quality laser paper: 60 - 90 g/m<sup>2</sup> (16 - 24 lb.) paper in the media trays and 75 - 150 g/m<sup>2</sup> (20 - 39 lb.) paper with the Multi-Purpose Tray. Refer to "All about media" on page 5 for more information.</p> <p>Make sure that the Media Thickness Switch is set correctly for the media installed in the Multi-Purpose Tray. If the printer has frequent paper jams, set the Media Thickness Switch to a thicker setting. Refer to page 13 for more information.</p> <p>If you are using media that is 105 g/m<sup>2</sup> (28 lb.), check if the <b>Face Down</b> media output setting is selected in the driver. If it is, change the setting to <b>Face Up</b>. If the problem persists, use the Multi-Purpose Tray rather than a media tray.</p> <p>Use only Tektronix transparencies. Tektronix does not guarantee the results of non-Tektronix transparencies in Tektronix printers.</p> <p>Make sure that the media is installed under the hooks at the front of the media tray.</p> <p>Do not overfill the media tray, as indicated by the red line on the right side of the tray.</p> <p>Clean the paper-feed rollers and paper-pick rollers. Print the instructions from the <b>Cleaning</b> menu in the front panel.</p>
Media frequently wraps around the Fuser.	Replace the Fuser Roll.

**Problems with image size and position**

Symptom	Solution
Off-set images	Check your application for correct image sizing.
Cut-off images	<p>Check your application for image sizing.</p> <p>Make sure that you are using the correct PPD file and have selected the correct page size.</p> <p>Make sure that the correct size media is in the media tray.</p>
Image shifts or margins are incorrect (Macintosh)	<p>Make sure that you have installed the driver for this printer, or the correct PPD file onto your Macintosh so that you can select the correct page sizes from the driver.</p> <p>If printing on transparencies and your printer has the Automatic Duplex/Lower Tray Assembly, make sure that the TRANSPARENCY tray is installed in the <i>middle</i> tray slot.</p>

## Problems with automatic duplexing

Symptom	Solution
Output is single-sided	<p>Make sure that you have installed the Lower Tray Assembly and that the Duplex Unit is inserted in the <i>upper</i> slot of the printer.</p> <p>Make sure that you have loaded the paper tray with paper and installed it in the <i>middle</i> or <i>lower</i> slot of the printer.</p> <p>Make sure that you have configured your printer driver to recognize the Lower Tray Assembly and Duplex Unit. Refer to the printer's <i>Setup Guide</i> for instructions.</p> <p>Make sure that you have made the selection for duplex printing, using one of these methods (driver selections override other settings):</p> <ul style="list-style-type: none"> <li>■ <b>Front Panel:</b> Under <b>Duplex</b> in the <b>Printer Defaults</b> menu.</li> <li>■ <b>Print screen:</b> Using a supported driver, select <b>Print on Both Sides</b> or <b>2-Sided Printing</b>.</li> </ul>
Frequent jams at the Duplex Unit	<p>Use only laser paper.</p> <p>Laser paper must be between 75 - 90 g/m<sup>2</sup> (20 - 24 lb.) in weight.</p> <p>Clean the rollers inside the Duplex Unit with 90% isopropyl alcohol. Print the Cleaning Instructions from the front panel's <b>Cleaning</b> menu.</p>
Margins on the first side and second side of a duplex print are not aligned	<p>Adjust the margins using the front panel <b>Margin Adjust</b> menu. Instructions are included in this menu. For more details, see page 33.</p>
Second side of a duplex print is upside-down	<p>Select the correct method for binding preference in the front panel or the <b>Print</b> screen.</p> <ul style="list-style-type: none"> <li>■ <b>Long-edge binding:</b> Page turns on the long side, regardless of image orientation.</li> <li>■ <b>Short-edge binding:</b> Page turns on the short side, regardless of image orientation.</li> </ul> <p>Refer to "Automatic duplex" on page 26 for detailed instructions.</p>

## Printed colors are not what you expected

Symptom	Solution
Prints have dull, faded colors	<ul style="list-style-type: none"> <li>■ If you are using a media tray, make sure that you have loaded the correct media in the PAPER tray or TRANSPARENCY tray.</li> <li>■ If you are using the Multi-Purpose Tray, make sure that you have selected the correct media type in the printer's front panel.</li> </ul> <p>Print the Color Reference Page from the front panel's <b>Calibrate Colors</b> menu. Check the density settings for each color and compare them to the examples on the <i>Color Density Samples</i> card (in the User Guide).</p> <p>Print the Consumables Page and Service Print 1 from the front panel's <b>Help Pages</b>.</p> <ul style="list-style-type: none"> <li>■ If all colors are faded on the Test Print, the Imaging Unit may need to be replaced. Refer to the <b>% Remaining</b> gauge for the Imaging Unit on the Consumables Page.</li> <li>■ If one color is faded (and you have checked and/or adjusted the density setting for that color), replace the Toner Cartridge.</li> </ul> <p>Make sure that the Imaging Unit stays covered until immediately before installing it in the printer. Exposure to light can damage the Imaging Unit and will produce light streaks or faded prints.</p> <p>Make sure that the Toner Cartridges are installed correctly.</p> <p>Make sure that you use a high-quality laser paper: 60 - 90 g/m<sup>2</sup> (16 - 24 lb.) paper in the media trays and 75 - 150 g/m<sup>2</sup> (20 - 39 lb.) paper with the Multi-Purpose Tray. Refer to "All about media" on page 5 for more information.</p> <p>Use only Tektronix transparencies. Tektronix does not guarantee the results of non-Tektronix transparencies in Tektronix printers.</p> <p>Try a different color correction mode.</p>

## Printed colors are not what you expected (cont'd.)

Symptom	Solution
Image is very faded or pieces of the image are missing; toner on the page is loose.	When using the Multi-Purpose Tray, make sure that you have selected the correct media type in the printer's front panel menu.
Photographic images appear grainy	Check the front panel's <b>Print Quality</b> menu. If the selected mode is <b>Presentation</b> , change it to <b>Standard</b> . The <b>Presentation</b> print-quality selection in the front panel substitutes <b>Presentation</b> mode rendering when <b>Standard</b> mode is selected in the driver.
Streaks or spots	Most spots are caused by fingerprints or dust introduced into the printer while installing the Imaging Unit or loading media. Make sure that the surface where you unpack the Imaging Unit, paper, and transparencies is free of dust. Keep supplies in a covered area or a closed box. Make sure that the Imaging Unit stays covered until immediately before installing it in the printer. Exposure to light for more than 90 seconds can damage the Imaging Unit. Do not touch the right side or underside of the Imaging Unit; fingerprints affect print quality. Make sure that the media is clean. Make sure that you handle the media on the outside edges to avoid fingerprints. To get rid of fingerprint spots, print a few prints (you can print any of the Help Pages in the front panel menu).
The back of the printed page appears dirty.	Toner particles have contaminated the transfer roller. This can happen if the printed image is larger than the media (for example, when printing on envelopes). Run 10-20 prints to clean the transfer roller.
Black-and-white prints instead of color	In the front panel's <b>Printer Defaults</b> menu, check the default setting for <b>Print Mode</b> . If it is set to <b>Black Only</b> , change the setting to <b>Color</b> . If your printer is a Phaser 740L printer (check the nameplate on the front of the printer), it will only print in black and white until you add color with the 740LCS Color Kit.
Black-and-white prints instead of color	<b>Macintosh users</b> Make sure that you are using the correct PPD file with the latest Apple LaserWriter printer driver (version 8.3.4 or higher), which supports color PostScript. Make sure that <b>Color/Grayscale</b> is selected in the <b>Print</b> dialog box. Some applications require special files to print in color. Make sure that these files are properly installed. For information, refer to the topics on the printer's CD-ROM or the Tektronix World Wide Web site. Make sure that you have not selected <b>Fast Monochrome</b> or <b>Premium Monochrome</b> in the <b>Print Quality</b> dialog box.
	<b>PC users</b> Be sure to use a driver that supports color PostScript. If you are using Windows, make sure that the <b>Color</b> box in the <b>Options</b> dialog box is checked. For information on the drivers, refer to the printer's CD-ROM or World Wide Web topics. Make sure that you have not selected <b>Fast Monochrome</b> or <b>Premium Monochrome</b> in the <b>Tektronix Printer Features</b> dialog box. If you are not using a driver, make sure that you have not set the monochrome mode selection code; make sure that the front panel is not set for <b>Fast Monochrome</b> or <b>Premium Monochrome</b> .
Blue colors look too purple	If printed blue colors look too purple, print your document with the <b>Vivid Color</b> color correction. Refer to page 118 for information on color corrections.

## Print quality hints

To ensure the best print quality and the most reliable printer operation, follow these simple guidelines:

- Use high-quality paper and *only* Tektronix transparencies and glossy coated paper.
- Do not use any media designed for inkjet printers, especially inkjet coated paper and inkjet transparencies. Inkjet media are coated with a substance that may damage the Fuser; Tektronix does not furnish service for damage or malfunction caused by the use of non-Tektronix supplies or consumables. Tektronix coated paper and transparencies have been specially designed for use with Tektronix Color Laser Printers.
- Double-sided printing and specialty media will require more frequent cleaning of the rollers and will reduce the average life of the consumables.
- Auto-duplex only with laser bond paper that is 75 - 90 g/m<sup>2</sup> (20 - 24 lb.). Do not use paper that is lighter than 75 g/m<sup>2</sup> (20 lb.); it is not opaque enough for acceptable duplex prints.
- Use only laser paper for automatic double-sided printing with the Duplex Unit.
- Keep the Imaging Unit's light exposure to a minimum — less than 90 seconds of artificial light and no exposure to sunlight — or you may damage the unit:
  - When installing a new Imaging Unit, keep the protective plastic sheet on until immediately before inserting the unit.
  - If, when installing the Imaging Unit, you also need to install other components, install the Imaging Unit *last* to minimize its light exposure.
  - When changing a Toner Cartridge or clearing a media jam, make sure that you close the printer's right side door quickly to avoid any light exposure to the Imaging Unit.
  - Do not leave the printer's front door open for extended periods of time (for example, several hours).
  - Do not touch the underside or the right side of the Imaging Unit; fingerprints may appear on your output.
  - If your printer is a Phaser 740L printer (check the nameplate above the front panel display), make sure that you keep the light shield in place to protect the Imaging Unit. Only remove the light shield when adding color to your printer.

## Media hints

Use high-grade media. For best reliability and image-quality, always use Tektronix media. Refer to the printer's *User Guide* for ordering information. Do not use media designed for inkjet printers; it may damage the Fuser.

## Media handling

- Make sure that the media is dust-free. Dust and dirt can result in poor print quality.
- Handle media with both hands at the edges to avoid creases and fingerprints.
- Store media in the original, dust-free package in the same environmental conditions as the printer.

## Double-sided printing

- **Automatic Duplex.** Use laser paper that is between 75 - 90 g/m<sup>2</sup> (20 - 24 lb. bond) for opacity and feed reliability.
- **Manual Duplex with the Multi-Purpose tray.** Depending on the stiffness and smoothness of your laser paper, the printer handles paper up to 105 g/m<sup>2</sup> (28 lb. bond). Buy a small amount first and try it.
- **Manual Duplex with specialty media.** For two-sided printing on specialty media (card stock and Tektronix glossy coated paper), only use the Multi-Purpose Tray.
- Duplex printing can reduce the life of the printer's components and may require more frequent printer cleaning.

## If your printer has an Automatic Duplex/Lower Tray Assembly installed

- Always place the Duplex Unit into the printer's *upper* slot.
- Insert the TRANSPARENCY tray in the printer's *middle* tray slot.
- Place the most frequently used paper in the PAPER tray and insert the tray in the printer's *lower* tray slot.

## Specialty media

- Always load specialty media (envelopes, laser labels, Tektronix glossy coated paper, card stock) in the Multi-Purpose Tray.
- Always set the Media Thickness Switch according to the media being used.
- When printing labels or envelopes, make sure that you use only the recommended types; refer to "Loading specialty media in the Multi-Purpose Tray" on page 15 for details.
- Printing on specialty media can reduce the life of the printer's components and may require more frequent printer cleaning.

## Improving print speed

### Relative port speed

Ethernet and Token Ring are the fastest ports, followed by the parallel port, then the LocalTalk port.

### Fastest print time

The total print time depends on the following:

- Image complexity
- Image size
- Type of port used and network traffic
- Printer's memory configuration
- Print quality mode selected
- Color correction mode selected
- If **Image Smoothing** is activated
- Number of non-resident fonts used

## Printed colors are not what you expected

- Select another **Color Correction** option in a supported driver and print your image again; refer to page 118 for more information on color correction.
- If you are not using a supported driver and are sharing the printer with other users on a network, another user may have changed the printer's default color correction.
- If you use the driver's **Use Printer Setting** option and printed colors are not what you expected, check the following:
  - Check the printer's color density settings in the front panel **Calibrate Colors** menu. You may need to adjust one or all of the colors. Refer to "Controlling color density" on page 119 for details.
  - A selection may have been made in the front panel's **TekColor Correction** menu.
  - A color correction utility file may have been downloaded to the printer.

Refer to "Color corrections" on page 118 for details on how these settings affect prints made from a driver.



## Printing PANTONE Colors

If printer-specific PANTONE Colors are not printing as expected, make sure that you are printing without any color corrections selected. Refer to “PANTONE® Color Files” on page 130 for more information.

There are many variables in process reproduction of colors generated by your printer, any one of which may affect the quality of the PANTONE Color simulation, including:

- Type of media used
- Print quality mode selected
- Effective final resolution
- Dot structure/halftones
- Density of the toner colors

## Using the Tektronix halftone screens

Tektronix halftone screens are designed for Tektronix printers, and improve print quality over application-set halftone screens. The *Setscreen Off (SCRENOFF.PS)* utility file redefines some PostScript operators, such as the *setscreen*, *setcolorscreen* and *sethalftone*. When downloaded to the printer, this file prevents applications from overriding the Tektronix proprietary halftone screens.

Macintosh file names	PC file names
<i>Setscreen On</i>	<i>SCREENON.PS</i>
<i>Setscreen Off</i>	<i>SCRENOFF.PS</i>
<i>Apple Printer Utility</i>	

Refer to “Using the files on the printer’s CD-ROM” on page 135 for instructions on using these files.

## Selecting page sizes in Windows applications

In some Windows applications, you can select printer page sizes in a **Print Setup** dialog box accessed from the **File** menu. If you use a **Print Setup** dialog box to select the printer from your application, some page sizes may not be visible in the list.

If the printer page size you want to use is not visible in the list, do the following:

### Windows 3.1

1. From the **Main** window, open the **Control Panel** and double-click the **Printers** icon.
2. In the **Printers** dialog box, select your printer in the list.
3. Click the **Setup** button.
4. In the **Setup** dialog box, select the page size you want and click **OK**.
5. Return to your application. If you open the **Print Setup** dialog box again from within your application, the page size selection may be blank. The page size you just selected in the driver is still selected, it is just not visible in the list.
6. Print as usual.

### NOTE

If you open the **Print Setup** dialog box from within an application, and the page size selection is blank, the blank represents the page size last selected from the printer driver through the Control Panel. You can leave the page size selection blank and print as usual, or you can select a page size from the list.

### Windows 95

1. In the taskbar on your screen, click the **Start** icon; a menu appears.
2. Move the cursor over **Settings**; another menu appears.
3. In the menu, click **Printers**; the **Printers** window appears.
4. In the **Printers** window, select your printer's icon. From the **File** menu, select **Properties**.
5. Click the **Paper** tab.
6. Choose a page size, and click **OK**.
7. Return to your application.

## Fonts printing incorrectly from Windows

If fonts are printing incorrectly from Windows, make sure that you installed the correct printer with the supported driver and PostScript printer description file (ppd).

If you are not sure which printer configuration you have, print the Configuration Page from the front panel's **Help Pages** menu; it lists whether your printer has the Standard, Plus, or Extended feature set, as well as the amount of memory installed and other useful information.

Feature set	PostScript printer description file (ppd)
Standard*	<i>Tektronix Phaser 740</i>
Plus	<i>Tektronix Phaser 740 with Plus Features</i>
Extended	<i>Tektronix Phaser 740 with Extended Features</i>

\* The **Standard** feature set refers to two printer models: Phaser 740L printer and Phaser 740 printer.

## Sharing the printer on a network

### Driver, utility files, and front panel interactions

If your printer is shared on a network, you can affect prints made by others when you download a utility file or change the printer's default settings using the printer's front panel menus or PhaserLink Printer Management software.

- When you print from a supported driver with any print feature selection *except Use Printer Setting*, the driver selection *overrides* front panel selections or downloaded utility files *for prints made from the driver*.
- When you print from a supported driver with the **Use Printer Setting** option, your images are printed with either a previously downloaded utility file or the default front panel menu selections.
- When you print from a non-supported driver, your images are printed with either a previously downloaded utility file or the default front panel menu selections.
- If the colors on your prints are not what you expected, and your system administrator has disabled some of the printer's front panel menus, use one of these methods to determine what settings are in effect:
  - Ask your system administrator whether a utility file has been downloaded to the printer.
  - Print the Configuration Page from the front panel **Help Pages** menu to see the current color correction selection.
  - Use PhaserLink Printer Management software to view the current printer defaults.

### If the Apple Printer Utility does not work (AppleTalk)

If your printer is connected through a print server, you can only use the *Apple Printer Utility* to download PostScript utility files.

## Startup page prints even though it is disabled

If the printer detects a *non-fatal* error at power-up (for example, faulty printer ports and some memory failures), the Startup Page prints, even if you have disabled it. In this case, the page contains one or more of the error messages listed in the following table. Depending on your needs, you may not need to call for service immediately.

### Error messages on the Startup Page

Message	Description
Parallel Port failed I/O Card failed SCSI Port failed	The named port is not working. The other ports can still be used.
DRAM SIMM <i>x</i> failed	One of the memory SIMMs is not working. In this message, <i>x</i> indicates the number of the SIMM that failed. Since the printer's base memory is still working, the printer can still be used, but throughput may suffer.

## PostScript printing errors

If your printer reports a PostScript error when printing from Adobe PageMaker, Adobe FreeHand, QuarkXPress, or Canvas, you may be using an older or incorrect version of the PostScript Printer Description File (PPD). Refer to the printer's *Setup Guide* for instructions on installing printer description files.

1. Use the most current printer description file. To determine the **date** of the file you are using, do the following:
  - Macintosh users:**
    - Select a printer description file.
    - From the **File** menu, choose **Get Info**. Make a note of the file's version date.
  - Windows 3.1 users:**
    - In the **File Manager**, check a printer description file's creation date.
    - Make a note of the file's version date.
  - Windows 95 users:**
    - In the **Windows Explorer**, check a printer description file's creation date.
    - Make a note of the file's version date.
2. Check the Tektronix web site ([www.tek.com/Color\\_Printers](http://www.tek.com/Color_Printers)) to see if the printer description files you have are the most recent. If they are not, you can download the newer files from the web. Refer to "On-line support" on page 63.

## Enabling the PostScript error handler

The error handling utility helps diagnose problems when a job doesn't print; it provides a PostScript error-handling function to help determine the cause of some PostScript printing problems. When the error handler is enabled, PostScript errors and other status information are printed. This utility is useful for debugging PostScript code.

1. In the printer's front panel, press **Menu**.
2. Press <---- or ----> until the front panel displays this message:

```
Printer Defaults
<----  ---->      Menu
```

3. Press **Menu**.
4. Scroll to this message:

```
Error Handler
<----  ---->      Menu
```

5. Press **Menu**; this message appears:

```
Error Handler: disabled *
<----  ---->      Menu
```

The \* indicates the current selection; *disabled* is the factory default.

6. Press <---- or ----> until the front panel displays this message:

```
Error Handler: enabled
<----  ---->      OK
```

7. Press **OK**.
8. Press ↵ until the front panel reads **Ready**.

After turning on the error handler, resend the print job; the printer produces an error page.

### NOTE

**Windows users:** The Windows error handler overrides the front panel error handler. To use the front panel error handler, you must disable the Windows error handler as well as enable the front panel error handler. Go to the Windows **PostScript** tab and uncheck the box **Print PS Error Info**.

## Error codes

If the printer's front panel displays a message **Error XX**, find the error code in this table and follow the instructions for resolving the problem.

Error	User Corrective Action
Error 01	<ul style="list-style-type: none"> <li>■ Remove and re-install black Toner Cartridge, then turn the printer off and on.</li> <li>■ Replace black Toner Cartridge, then turn the printer off and on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 02	<ul style="list-style-type: none"> <li>■ Remove and re-install cyan Toner Cartridge, then turn the printer off and on.</li> <li>■ Replace cyan Toner Cartridge, then turn the printer off and on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 03	<ul style="list-style-type: none"> <li>■ Remove and re-install magenta Toner Cartridge, then turn the printer off and on.</li> <li>■ Replace magenta Toner Cartridge, then turn the printer off and on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 04	<ul style="list-style-type: none"> <li>■ Remove and re-install yellow Toner Cartridge, then turn the printer off and on.</li> <li>■ Replace yellow Toner Cartridge, then turn the printer off and on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 05, 10, 11, 12, and 13	<ul style="list-style-type: none"> <li>■ Turn the printer power off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 20	<ul style="list-style-type: none"> <li>■ Remove and re-install Imaging Unit (make sure that Imaging Unit is locked in place). Turn the printer off, then on.</li> <li>■ Remove and re-install Main Charge Grid. Turn the printer off, then on.</li> <li>■ Remove and re-install Transfer Kit. Turn the printer off, then on.</li> <li>■ Remove and re-install each of the Toner Cartridges. Turn the printer off, then on.</li> <li>■ Replace Main Charge Grid. Turn the printer off, then on.</li> <li>■ Replace Imaging Unit (make sure that Imaging Unit is locked in place). Turn the printer off, then on.</li> <li>■ Replace Transfer Kit. Turn the printer off, then on.</li> <li>■ Replace the Toner Cartridges. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>



Error	User Corrective Action
Error 21, 22, 30, and 32	<ul style="list-style-type: none"> <li>■ Remove and re-install Imaging Unit (make sure that Imaging Unit is locked in place). Turn the printer off, then on.</li> <li>■ Replace Imaging Unit (make sure that Imaging Unit is locked in place). Turn the printer off, then on.</li> <li>■ If problem persists for Error 30, clean the sensor. See page 110.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 33	<ul style="list-style-type: none"> <li>■ Check for jammed paper throughout the paper path (especially in paper feeder).</li> <li>■ Remove and re-install paper feeder and Transfer Kit. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 40, 41, 42, and 43	<ul style="list-style-type: none"> <li>■ Check for jammed paper in the Fuser. Re-install Fuser. Turn the printer off, then on.</li> <li>■ Make sure that you have the correct Fuser for your local printer power supply:                             <ul style="list-style-type: none"> <li>■ 110-Volt Fuser P/N 016-1660-00</li> <li>■ 220-Volt Fuser P/N 016-1661-00</li> </ul> </li> <li>■ Replace Fuser. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 50, 51	<ul style="list-style-type: none"> <li>■ Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 60	<ul style="list-style-type: none"> <li>■ Remove the media from the Multi-Purpose Tray. Turn the printer off, then on.</li> <li>■ Reinstall the media. Make sure you do not overfill the tray.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 61	<ul style="list-style-type: none"> <li>■ Remove and re-install each Toner Cartridge. Turn the printer off, then on.</li> <li>■ Replace each Toner Cartridge. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 62	<ul style="list-style-type: none"> <li>■ Check for jammed paper throughout the paper path (especially in paper feeder and Fuser).</li> <li>■ Remove and re-install Fuser. Turn the printer off, then on.</li> <li>■ Slide out and re-insert paper feeder. Turn the printer off, then on.</li> <li>■ Replace the Fuser. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>
Error 63	<ul style="list-style-type: none"> <li>■ Remove and re-install Imaging Unit. Turn the printer off, then on.</li> <li>■ Replace Imaging Unit. Turn the printer off, then on.</li> <li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li> </ul>

<b>Error</b>	<b>User Corrective Action</b>
<b>Error 70, 71, and 72</b>	<ul style="list-style-type: none"><li>■ Turn the printer off, then on.</li><li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li></ul>
<b>Error 73</b>	<ul style="list-style-type: none"><li>■ Remove and re-install Imaging Unit. Turn the printer off, then on.</li><li>■ Replace Imaging Unit. Turn the printer off, then on.</li><li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li></ul>
<b>Error 74</b>	<ul style="list-style-type: none"><li>■ Remove and re-install Fuser. Turn the printer off, then on.</li><li>■ Replace Fuser. Turn the printer off, then on.</li><li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li></ul>
<b>Error 80, 81, 82, 83, and 84</b>	<ul style="list-style-type: none"><li>■ Turn the printer off, then on.</li><li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li></ul>
<b>Error 01p through Error 47p</b>	<ul style="list-style-type: none"><li>■ Make sure that installed memory DIMM(s) are compatible with printer's image processor board and that they are installed in the proper slot(s).</li><li>■ If problem persists, check <a href="http://www2.tek.com/merlin/tko">www2.tek.com/merlin/tko</a> and/or contact Service.</li></ul>

## Clearing a media jam

If the printer has frequent media jams, make sure that you follow these guidelines:

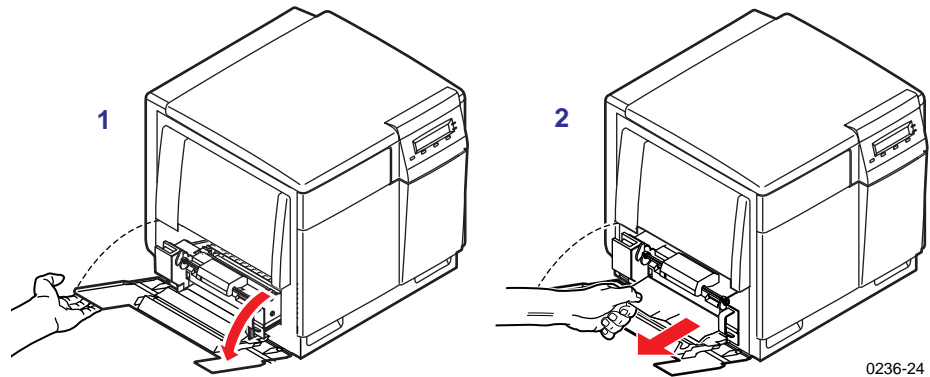
- Always use high-quality laser paper, recommended labels, and Tektronix transparencies, glossy paper, and fabric transfer media.
- Make sure that you load specialty media *only* in the Multi-Purpose Tray and that you set the Media Thickness Switch to the correct setting for the media used.
- To prevent jams, clean the printer's rollers. See "Occasional cleaning" on page 107 for details.

If a media jam occurs, the front panel reports **Jam at <Location>** on the display's first line. The **<Locations>** are the various sensors throughout the paper path, listed as **A** through **E**. The second line of the display directs you to the location; for example, **Open left side door**. Inside the printer's front door is a label showing the location for each jam.

## Jam at A

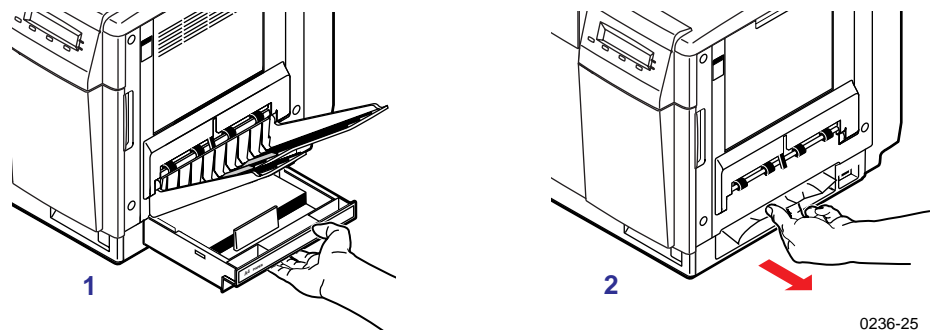
### Solution 1

1. Open the left side door (if your printer has a Lower Tray Assembly installed, open the *upper* left side door).
2. Remove the complete piece of jammed media.



### Solution 2

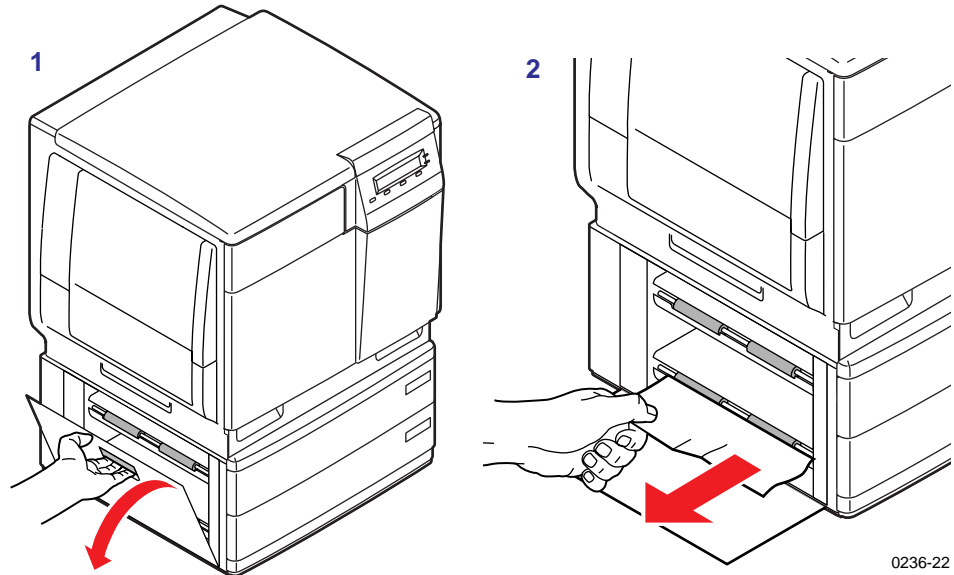
1. Remove the media tray (if your printer has a Lower Tray Assembly installed, remove the *upper* media tray).
2. Remove the complete piece of jammed media from inside the printer.



## Jam at B

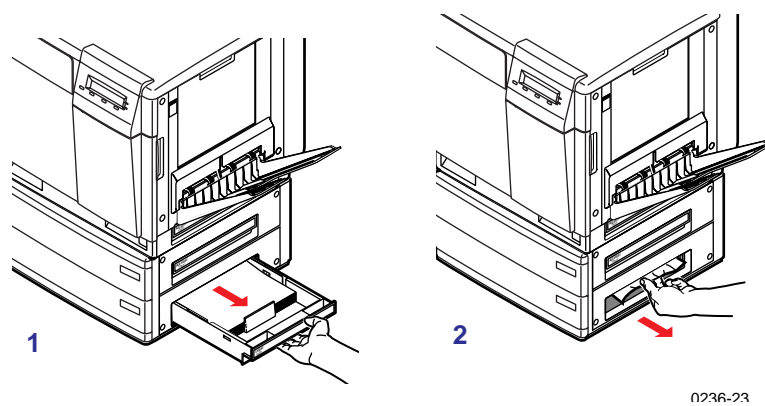
### Solution 1

1. Open the *lower* left side door.
2. Remove the complete piece of jammed media.



### Solution 2

1. Remove the selected media tray (*middle* or *lower* media tray).
2. Remove the complete piece of jammed media from inside the printer.

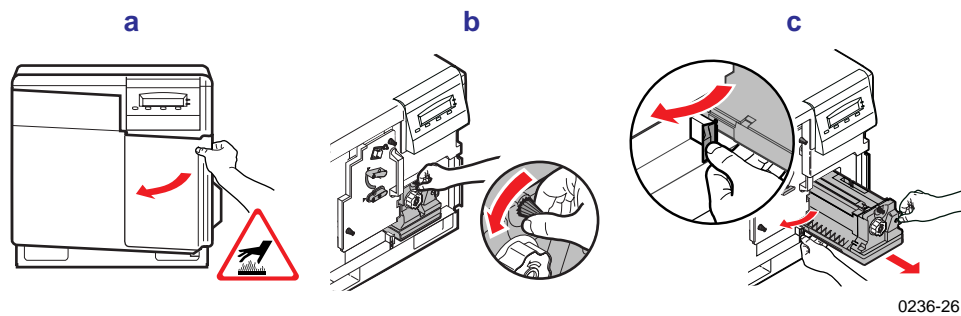


## Jam at C

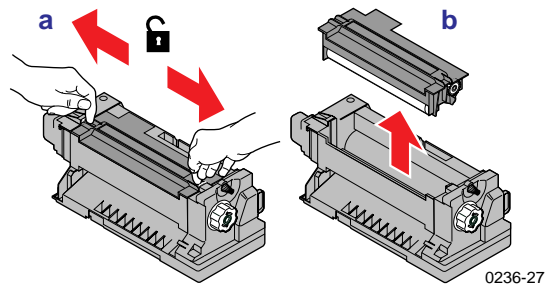
### CAUTION

The Fuser is hot; to avoid personal injury, handle only the areas marked in blue. If desired, open the front door and wait for the Fuser to cool before touching it.

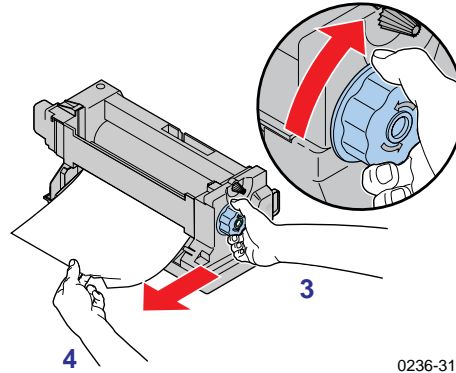
1. Remove the Fuser:
  - a. Open the printer's front door.
  - b. Turn the small blue thumbscrew *counterclockwise* to unlock the Fuser.
  - c. Slide the Fuser out of the printer.



2. Remove the Fuser Roll:
  - a. Press *out* on the two tabs to unlock the Fuser Roll.
  - b. Lift the Fuser Roll out of the Fuser and set it aside.



3. Turn the Fuser's large blue knob *clockwise* or *counterclockwise* to release the jammed media.
4. Remove the complete piece of jammed media from the Fuser.



0236-31

5. Re-insert the Fuser Roll into the Fuser (press **firmly** to snap it into place); re-install the Fuser.

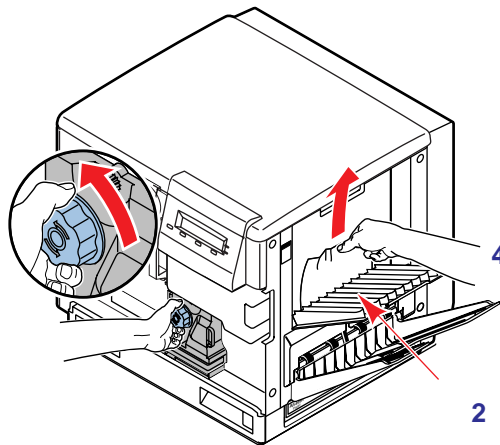
## Jam at D

### Solution 1

#### CAUTION

The Fuser is hot; to avoid personal injury, handle only the areas marked in blue. If desired, open the front door and wait for the Fuser to cool before touching it.

1. Check the exit opening for media that has jammed and folded like an accordion. It is especially difficult to see if the media is transparency film.
2. Open the front door to access the Fuser.
3. Pull open the access door (above the plastic output tray); the media is visible.
4. On the Fuser, turn the large blue knob *counterclockwise*.
5. Remove the media from inside the access door.



0236-32

#### CAUTION

If the Fuser knob will not turn, do not force it or you may damage the Fuser. Instead, remove the Fuser and Fuser Roll; turn the Fuser's large blue knob to release the jammed media.

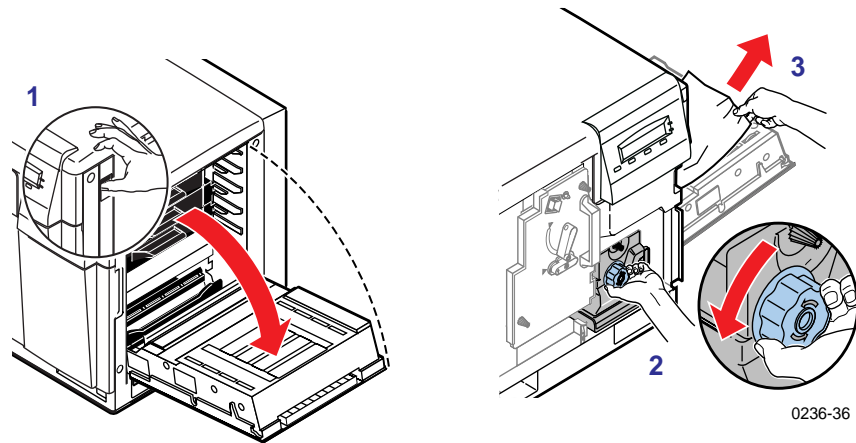


## Solution 2

### CAUTION

The Fuser is hot; to avoid personal injury, handle only the areas marked in blue. If desired, open the front door and wait for the Fuser to cool before touching it.

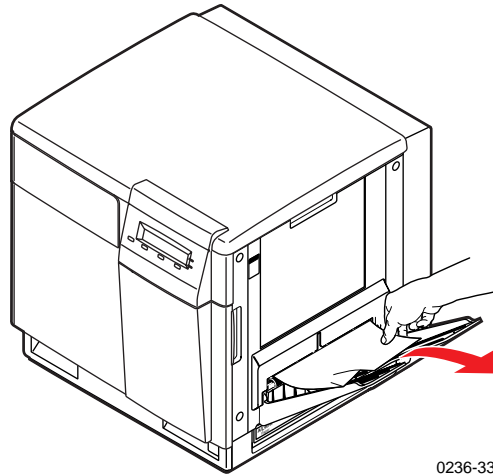
1. Open the front door *and* the right side door.
2. Turn the Fuser's large blue knob *counterclockwise* to release the jammed media.
3. Remove the jammed media from the right side of the printer.



## Jam at E

### Solution 1

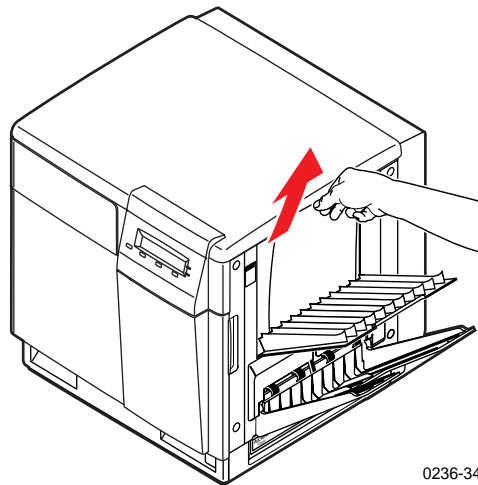
1. Remove the jammed media from the output tray.
2. Open and close the printer's front door to clear the error message in the front panel.



0236-33

### Solution 2

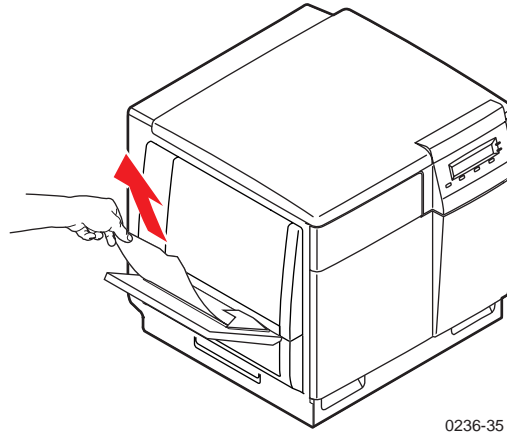
1. Pull open the access door (above the plastic output tray) and remove the media.
2. Open and close the printer's front door to clear the error message in the front panel.



0236-34

## Jam at Multi-Purpose

1. Remove all media in the Multi-Purpose Tray.
2. Remove the complete piece of jammed media from the Multi-Purpose Tray.



0236-35

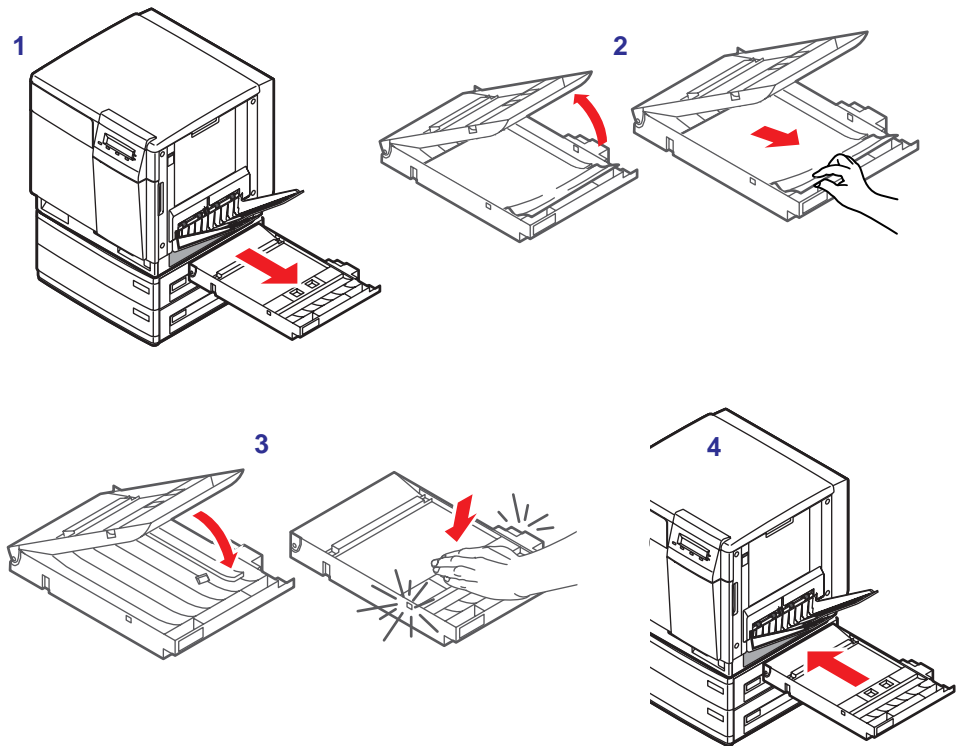
3. Make sure that you set the Media Thickness Switch for the media that you are using.
4. Re-insert the media in the Multi-Purpose Tray.
5. Open and close the printer's front door to clear the error message in the front panel.

## Jam at Duplex Unit

1. Remove the Duplex Unit.
2. Open the Duplex Unit and remove the jammed media.

If paper is not in the Duplex Unit, open the right side door; paper may be jammed there.

3. Close the Duplex Unit; press down to make sure that it snaps shut.
4. Reinsert the Duplex Unit into the printer's *upper* slot.



0236-40

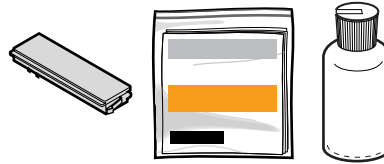
## Occasional cleaning

### CAUTION

When using isopropyl alcohol for cleaning, make sure that the alcohol is at least 90% pure, obtainable from your local pharmacy. (Never use rubbing alcohol or alcohol with additives; it can damage the printer.) You can also use pre-soaked alcohol wipes (order number 006-7824-01).

The printer's cleaning kit consists of these items:

- Cleaning tray
- Alcohol wipes
- Plastic bottle for isopropyl alcohol
- Instructions for printing the cleaning procedure



33100-49

Regularly scheduled cleaning is not necessary for this printer. However, if your printer experiences frequent media jams, clean these printer parts:

### Paper-pick rollers (a)

- Use the cleaning tray with 90% pure isopropyl alcohol.
- Refer to the front panel's Cleaning Instructions page.

### Paper-feed rollers (b) on the Lower Tray Assembly

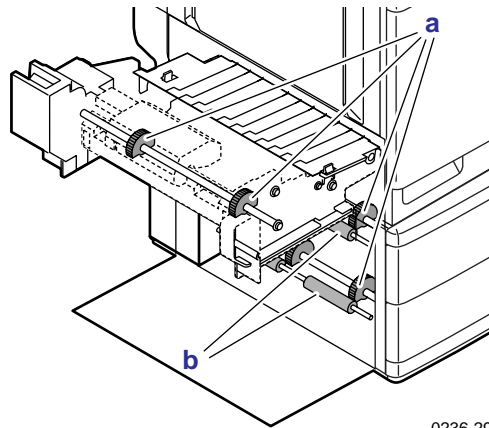
- Use a lint-free cloth with 90% pure isopropyl alcohol.
- Refer to the front panel's Cleaning Instructions page.

### Duplex Unit

- Use a lint-free cloth with 90% pure isopropyl alcohol.
- Refer to the front panel's Cleaning Instructions page.

### Sensor

- Use a *dry* lint-free cloth.
- Refer to the instructions on page 110.



0236-29

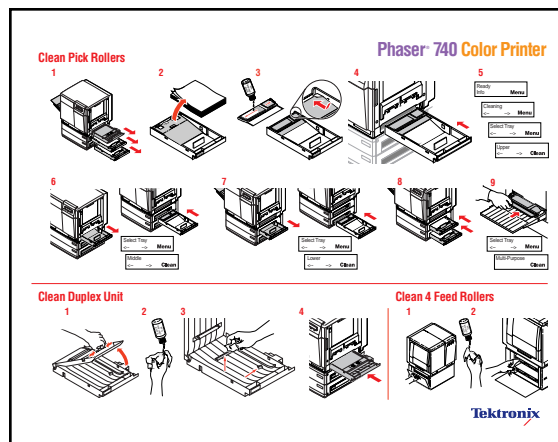
## Printing the cleaning page

The printer contains instructions for cleaning the rollers and Duplex Unit.

1. At the printer's front panel, press **Menu**.
2. Scroll to **Cleaning**. Press **Menu**; this message appears:

```
Print Instructions
<---  ---> Print
```

3. Press **Print**.

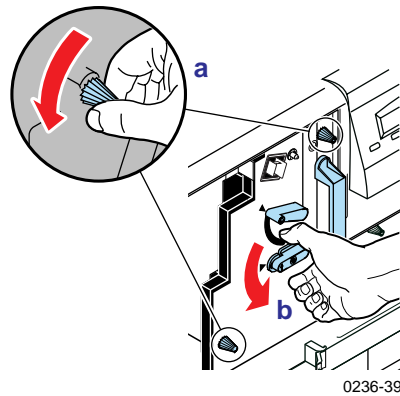


Follow the instructions on the cleaning page to clean the pick rollers, the feed rollers, and the Duplex Unit rollers.

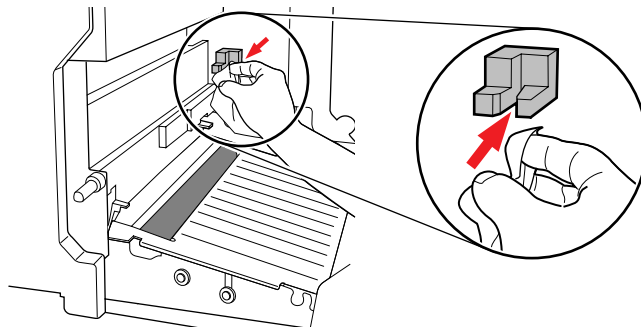
## Cleaning the sensor

If your printer's front panel displays **Error 30**, clean the sensor inside the printer.

1. Turn the printer *off* and open the printer's front door.
2. Remove the Imaging Unit:
  - a. Loosen the two thumbscrews by turning them *counterclockwise*.
  - b. Turn the lower lever 180° *counterclockwise*.
  - c. Slide the Imaging Unit out of the printer and cover it to protect it from light exposure.



3. Use a *dry*, lint-free cloth to wipe the sensor (*inside the slot*).



4. Re-insert the Imaging Unit.
5. Close the printer's front door and turn on the printer.

## Cleaning other rollers

When you clean any of the other rollers in the printer, always use a lint-free cloth.

### CAUTION

Do not clean the transfer roller; alcohol and pressing on the roller can damage the roller and cause print-quality problems.



# Printer Management

## PhaserLink™ Printer Management software

PhaserLink Printer Management software is a printer management tool that uses World Wide Web technology to provide printer information and functionality:

- Job status
- Printer usage
- Routine troubleshooting
- Configuration of printer settings

PhaserLink requires a TCP/IP connection. To access PhaserLink information, enter your printer's Internet address in a web browser. The PhaserLink interface appears on your computer's screen.

**Tektronix** PhaserLink™ Software for the Phaser® 740 Color Printer

Current Status for printer named: Phaser 740 / TEK0851D1

Printer Status:	Energy Star
Print Quality Mode:	Standard
TekColor Correction:	Automatic
Media Source:	Lower Tray
Upper Tray:	
Middle Tray:	Letter, Paper
Lower Tray:	Letter, Paper
Multi-Purpose Feeder:	Letter, Unknown Media type
Output Order:	Face Up
Pages Printed:	4194243

[Start status update](#)

[Consumables Status](#)

Copyright (c) Tektronix, Inc.

For detailed information on PhaserLink Printer Management software, refer to "Printer Management" on the printer's CD or web site. Or enter this address in your web browser:

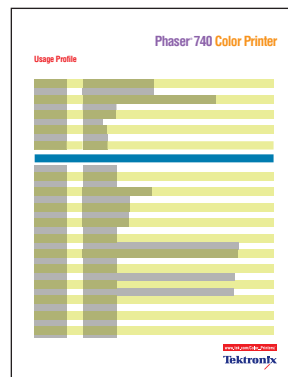
[www.tek.com/Color\\_Printers/products/phaserlink.html](http://www.tek.com/Color_Printers/products/phaserlink.html)

## Usage Profile

Usage Profile provides a proactive strategy for service, maintenance, and administration of your printer. You can keep track of most printer parameters in more detail than even PhaserLink provides.

Information in the Usage Profile Report includes:

- Remaining life of consumables
- Paper versus transparency usage
- Percent coverage by job or printer history
- Number and location of media jams
- Media tray usage
- Number of pages printed



Print the Usage Profile report from your printer's front panel; it is located in the **Help Pages** menu.

In addition, you can easily arrange electronic mail notification so that your system administrator or supplies ordering agent receives timely information on error conditions or supplies status. This feature allows you to predict consumable ordering for remote locations. Three types of error conditions are reported:

- **For the designated operator, system administrator or service provider**
  - Toner low
  - Toner out
  - Empty media tray
  - Percentage of toner coverage by job or printer history
- **For the system administrator**
  - Printer configuration
- **For the service provider**
  - Error conditions requiring hardware service repair

For detailed information on Usage Profile Reports and email notification, refer to "Printer Management" on the printer's CD or web site.

## Job Accounting

The printer stores a log file containing information about jobs printed. The file is a list of job accounting records. Each record contains fields such as user name, job name, pages printed, job times, and ink used. Job accounting is available through the PhaserShare Administrator and PhaserLink Printer Management software.

For more information on Job Accounting, see the *PhaserShare Networking Manual* on the printer's CD-ROM or web site.

## Enabling and disabling the Startup Page

You can choose to have a Startup Page print each time the printer is turned on or reset, or you can disable the Startup Page. There are three methods for enabling/disabling the Startup Page:

### From PhaserLink Printer Management software

Refer to the *PhaserShare Networking Manual* for information on using your World Wide Web browser to access the printer.

### From utility files

Download one of the following files from the printer's CD-ROM or diskettes:

- **Macintosh** Use the Apple Printer Utility (refer to page 135 for instructions).
- **PC** Use utility files *STARTPG.PS* (enables), *NOSTRTPG.PS* (disables); refer to page 138 for downloading instructions.

### From the printer's front panel

1. Press **Menu**; the printer displays the following message:

```
Help Pages
<---- <----> Menu
```

2. Scroll to the following message:

```
Printer Defaults
<---- <----> Menu
```

3. Press **Menu**.
4. Scroll to the following message:

```
Startup Page
<---- <----> Menu
```

5. Press **Menu**.
6. Scroll to the following message:

```
Startup Page:Disabled
<---- <----> OK
```

7. Press **OK**.
8. Press **↶** until **Ready** appears.

## Changing the Energy Star timeout

- When the printer is idle for the time set in the Energy Star front panel menu, the printer cools down completely. When the printer exits the Energy Star mode, it is ready to print in about 90 seconds.
- The Energy Star default is set to 1 hour. After an hour of inactivity, the printer begins a cool-down cycle that requires a 90-second warm-up period before being ready to use again.
- Increasing the Energy Star value from 1 hour keeps the printer ready for printing and eliminates the warm-up period. For typical office environments, set the value to 3 hours.
- For optimum printing performance and best toner economy, leave the printer turned on overnight and during weekends.

To increase the timeout value :

1. Press **Menu** on the front panel; the following message appears:

```
Help Pages
<----  ----> Menu
```

2. Scroll to the **Printer Defaults** and press **Menu**; the printer displays the following message:

```
Startup Page
<----  ----> Menu
```

3. Scroll to **Energy Star Timeout** and press **Menu**; the printer displays the following message:

```
Timeout:1 hrs
<----  ----> OK
```

4. Scroll until the desired setting is reached.

Change the Energy Star Timeout from its default value (1 hour) to a maximum value: Press <----.

5. Press **OK**.
6. Press ↶ until **Ready** appears.

## Protected mode for the front panel menu

System administrators can control user access to the front panel menus with the following utility files (refer to page 135 for instructions on downloading utility files):

### Macintosh utility files:

- *Menu Short* (limits menu access)
- *Menu Long* (expands menus)

### PC utility files:

- *MENUSHRT.PS* (limits menu access)
- *MENULONG.PS* (expands menus)

The “short” utility files limit the menu items displayed on the front panel thus preventing users from changing front panel settings that may affect the prints of other users. Users instead select printing features — such as color corrections — through their applications only. In the protected mode, users can still print the Consumables Page, Configuration Page, Startup Page, and Demonstration Page. The “long” utility files reset the front panel to display full menus and allow full access to the settings.

If you used the *Menu Short* or *MENUSHRT.PS* file to limit the front panel menus, you can temporarily restore the full menus:

- Press and hold **Menu**; press ↵.
- Scroll the menus: Press <----- or ----->.
- When you press ↵ again, the front panel returns to the shortened form.

# Using Color

## Print-quality modes

Mode	Resolution (dots-per-inch)	Printing speed on laser paper (pages-per-minute)	Description
<b>Fast Monochrome</b>	600 x 600 dpi	16 ppm	<ul style="list-style-type: none"> <li>■ Fastest gray scale printing.</li> <li>■ Recommended for documents containing large amounts of black text.</li> </ul>
<b>Fast Color</b>	600 x 600 dpi	5.3 ppm	<ul style="list-style-type: none"> <li>■ Fastest full-color output.</li> <li>■ When printing raster image data or color graphics, this mode provides excellent output using CMY toners.</li> <li>■ Not recommended for documents containing large amounts of black text, which can have a brownish hue.</li> </ul>
<b>Presentation</b>	600 x 600 dpi	<b>Color</b> 4 ppm <b>Monochrome</b> 16 ppm	<ul style="list-style-type: none"> <li>■ Smoothest and brightest large-area fills.</li> <li>■ Useful for printing paper copies of overhead presentations.</li> </ul>
<b>Standard</b>	600 x 600 dpi	<b>Color</b> 4 ppm <b>Monochrome</b> 16 ppm	<ul style="list-style-type: none"> <li>■ General-purpose mode for full-color printing.</li> </ul>
<b>Premium Monochrome</b>	1200 x 1200 dpi	<b>Monochrome</b> 8 ppm	<ul style="list-style-type: none"> <li>■ Highest quality monochrome (gray scale).</li> </ul>
<b>Premium</b>	1200 x 1200 dpi	<b>Color</b> 2 ppm <b>Monochrome</b> 8 ppm	<ul style="list-style-type: none"> <li>■ Requires the Plus Features set (option FP, order number Z740FP).</li> <li>■ Highest-quality color prints.</li> <li>■ Near-photographic detail.</li> <li>■ If you select <b>Premium</b> mode but the printer does not have the Plus Features set and sufficient memory installed, prints are made in <b>Standard</b> mode.</li> </ul>

## Color corrections

The printer provides TekColor Dynamic Correction, which consists of the following color correction modes:

Color correction mode		Description
Front panel selection	Driver selection	
Automatic	Automatic	Default setting. Automatically selects the optimum color correction for speed, vividness, and saturation.
SWOP	SWOP Press	Specification for Web Offset Publications. Typically used to match U.S. press standards.
Euroscale	Euroscale Press	Used to match equivalent Imation Matchprint® proofs.
Commercial	Commercial Press	Used to match commercial Imation Matchprint® proofs.
Toyo	Toyo	Used to match commercial Toyo printing inks on coated paper.
DIC	DIC	Used to match Dai Nippon printing inks on coated paper.
None	None	No correction made to colors.
Vivid Color	Vivid Color	Produces the brightest possible colors.
sRGB Display	sRGB Display	Adjusts color to closely approximate the colors on a standard display screen.
—	Use Printer Setting	Uses the color correction mode specified in the printer's front panel setting rather than any printer driver setting.
Monochrome*	—	Leaves gray as is; converts RGB and CMYK to pure gray.
Raw RGB*	—	Leaves RGB as is; converts CMYK and gray to RGB.
Raw CMYK*	—	Leaves CMYK as is; converts RGB and gray to CMYK.

\* Available only with a downloadable utility file.

### NOTE

If your printer is on a network and you have changed the front panel settings, tell other users on the network. The front panel printer settings affect all prints made with non-Tektronix drivers.

For information on color education, printing ideas, personalized email subscription, and access to colorize.com, visit the Color Connection web site:

[www.colorconnection.tektronix.com](http://www.colorconnection.tektronix.com)



## Controlling color density

The printer's front panel lets you adjust the density of toner applied to media, compensating for the changes in color intensity that occur as components age. Follow these steps to adjust the color density.

### Print the Color Reference Page

1. On the front panel, press **Menu**. Scroll through the selections until the display reads:

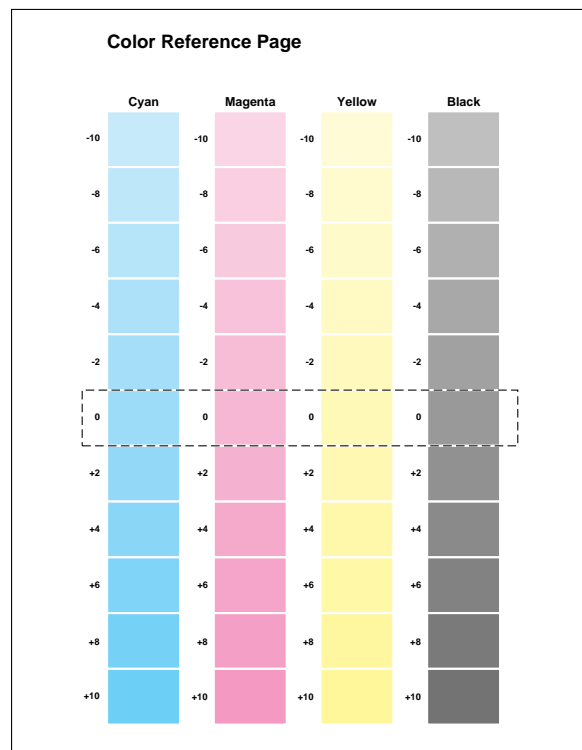
```
Calibrate Colors
<--- ---> Menu
```

2. Press **Menu**. Scroll to **Adjust each color**. Press **Menu** again; the display reads:

```
Reference Page
<--- ---> Print
```

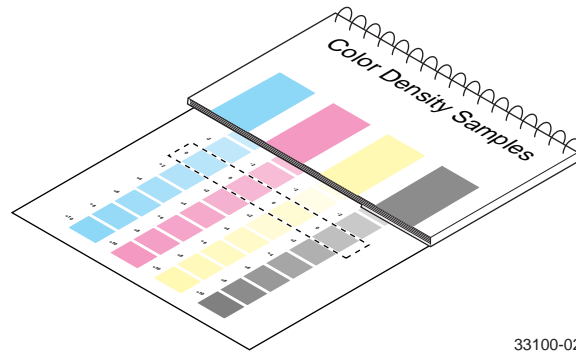
3. Press **Print**.

The Color Reference Page shows the current density setting for each color, indicated by the dashed line and the numeric value (–10 to +10) next to each color. The page also shows the ranges that you can select in the front panel. In this example, the density setting for each color is the default, 0.



9698-17.color

4. Compare the printer's current density on the Color Reference Page with the Color Density Samples (found in the printer's *User Guide*).
  - a. Place the Color Reference Page on at least two sheets of clean white paper in a well-lighted area.
  - b. Align the Color Density Samples over the Color Reference Page.



33100-02

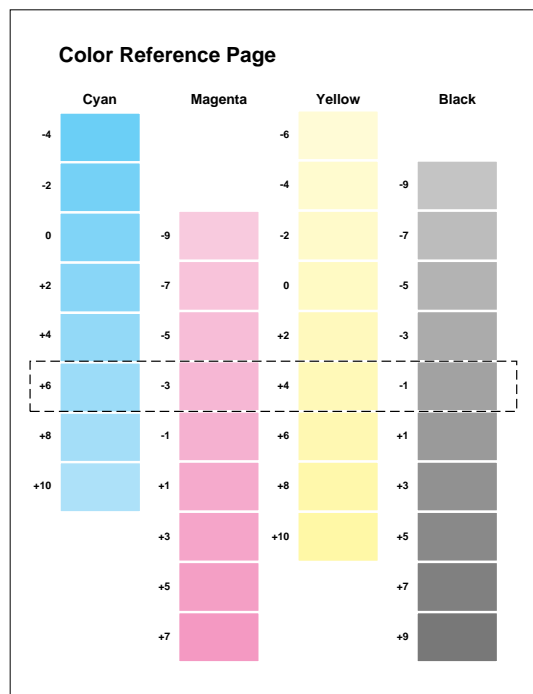
- c. Decide which blocks on the Color Reference Page most closely matches the density of each color sample. Make a note of the value (-10 to +10) for each color; you will need this to adjust the colors in the next procedure.

## Adjust the colors

1. Use the **Calibrate Colors** menu in the printer's front panel to adjust the density according to the values you recording in the previous procedure. Scroll to **Adjust Each Color** and press **Menu**.

```
Adjust cyan:+1 *
<---- <----> OK
```

- The current setting for each color is indicated by an asterisk.
  - To change the setting, press <--- to decrease or ---> to increase the color adjustment. Refer to the table on the next page for information on these settings.
2. After changing the density setting for any or all colors, reprint the Color Reference Page:
    - The dashed line reflects the new settings.
    - In this example, the density for each color is set to a different value.



This table shows the selections available in the **Calibrate Colors** menu.

### Calibrate Colors menu selections

Menu item*	What it does	How it works
Adjust light/dark <---- ----> Menu	Lightens or darkens all toner colors.	■ Press <b>Menu</b> .
Lighter/Darker:+0 * <---- ----> OK	Lightens or darkens all toner colors.  The current Light/Dark setting reflects the <i>average value</i> of the four separate density settings. Each increase adjusts all four density values up or down the same amount. The available adjustment range is limited so that no single color exceeds the $\pm 10$ value limit.	■ To lighten colors, press <-- (the number decreases in 1-point steps); then press <b>OK</b> . ■ To darken colors, press --> (the number increases in 1-point steps); then press <b>OK</b> .
Adjust each color <---- ----> Menu	Controls the color density for each color independently.	■ Press <b>Menu</b> .
Color Reference Page <---- ----> Print	Prints a sample of the current density settings and a range of settings for each color.	■ Press <b>Print</b> .
Adjust <color>: <---- ----> Menu	Enters the menu to calibrate a single color.	■ Press <b>Menu</b> .
Adjust <color>:+0 * <---- ----> OK	Calibrates the indicated color.	■ To lighten this color toner, press <-- (the number decreases in 1-point steps); then press <b>OK</b> . ■ To darken this color toner, press --> (the number increases in 1-point steps); then press <b>OK</b> .
Reset adjustments <---- ----> Menu	Resets the color calibration to the default settings.	■ Press <b>Menu</b> ; then press <b>Confirm</b> .

\* An asterisk (\*) indicates the current setting.

## Printing the Color Sampler Charts

### Overview

Color sampler charts are colored rectangles with each color's component values; they help you select colors in an application that can be reproduced on your printer.

Component values are percentages of each color — CMYK (Cyan, Magenta, Yellow, Black), RGB (Red, Green, Blue), or HSB (Hue, Saturation, Brightness) — that combine to make a particular color.



### Color charts

- Which color chart you print and use depends on how your application selects color. For information on color selection, refer to the application's documentation, then print one or more of the color sampler charts.
- Each color sampler chart is several pages long; print them in panels and connect them to form a wall chart or place in a binder for easy reference.

### Color sampler chart descriptions

Color sampler chart		Number of pages	Utility file	Front panel selection
CMYK Sampler	Cyan, magenta, yellow, and black color model	18	X	X
RGB Sampler	Red, green, and blue color model	12	X	X
HSB Sampler	Hue, saturation, and brightness color model	12	X	

### NOTE

To print the PANTONE Color sampler chart, refer to "Printing the PANTONE® Color Chart" on page 133.

## Printing samplers from a Macintosh

### NOTE

Use the same color correction to print the chart and to print from your application. Any other color correction selection in the driver causes colors to print differently than expected.

### Installing color correction files

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**.
2. In the dialog box, select *Printer Utilities* and *Samplers*; click **Install**. Go to the next topic, "Downloading a color correction file".

### Selecting a color correction file

Select a color correction file in one of three ways: the front panel, PhaserLink Software, or download a PostScript utility file. Color correction files include:

- Automatic
- Simulate Display
- Vivid Color
- Commercial Press
- Euroscale Press
- SWOP Press
- No Color Correction
- DIC
- Toyo

### Downloading a color correction file

1. From your computer's hard disk, open the *PhaserTools* folder.
2. Double-click *Apple Printer Utility*; a Printer Selector dialog box appears:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your printer.
  - Click **Open Printer**.
3. From the **File** menu, select **Send PostScript File**.
4. Open the *Printer Utilities* folder and select a color correction file.
5. Click **Add**.
6. Click **Send**.

### Printing a color sampler chart

1. From your computer's hard disk, open the *PhaserTools* folder.
2. Double-click *Apple Printer Utility*; a Printer Selector dialog box appears:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your printer.
  - Click **Open Printer**.
3. From the **Utilities** menu, select **Send PostScript File**.
4. Open the *PhaserTools* folder. Open the *Samplers* folder; select a color sampler chart; click **Add**.
5. Click **Send**.
6. For future reference, write the name of the color correction that you used on the first page of the chart.

### Printing the desired color from an application

1. Using the color sampler chart that you printed earlier, select the desired colors.
2. From your application, apply the desired colors in your document.
3. Print your document; select the same color correction that you used to print the color sampler chart.



## Printing samplers from a PC

### NOTE

Use the same color correction to print the chart and to print from your application. Any other color correction selection in the driver causes colors to print differently than expected.

### Installing color correction files

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**.
2. In the dialog box, select *Printer Utilities*, select a printer driver, select *Samplers*; click **Install**. Go to the next topic, "Downloading a color correction file".

### Downloading a color correction file

1. From the computer's hard disk, open the *PHSRTOOL* directory. Open the *PHSR740* subdirectory; select a color correction file:
  - *AUTOMATC.PS*
  - *DISPLAY.PS*
  - *VIVDCOLR.PS*
  - *COMRCIAL.PS*
  - *EUROSCAL.PS*
  - *SWOPRESS.PS*
  - *NOCORECT.PS*
  - *DIC.PS*
  - *TOYO.PS*
2. Send to the printer the desired color correction file:
  - **PC users:** Use the DOS **COPY** command.
  - **Workstation users:** Send a color correction file to the printer as you would any PostScript file.

### Printing a color sampler chart

1. Open the *PHSRTOOL* directory. Open the *SAMPLERS* subdirectory.
2. Send to the printer the desired color sampler chart:
  - **PC users:** Use the DOS **COPY** command.
  - **Workstation users:** Send the file to the printer as you would any PostScript file.
3. For future reference, write the name of the color correction that you used on the first page of the chart.

### Selecting a color correction in an application

1. Using the color sampler chart that you printed earlier, select the desired colors.
2. From your application, apply the desired colors in your document.
3. Print your document; select the same color correction that you used to print the color sampler chart.

## Printing a color sampler chart from the front panel

### NOTE

The HSB (Hue, Saturation, Brightness) color sampler chart and the PANTONE Color sampler chart cannot be printed from the front panel. To print a PANTONE Color chart, refer to “Printing the PANTONE® Color Chart” on page 133.

1. Decide which color correction to use; refer to the topic, “Color corrections” on page 118.
2. When the **Ready** message appears in the printer’s front panel, press **Menu**; this message appears:

```
Help Pages
<----- > Menu
```

3. Press **<-----** or **----->**; scroll to the following message:

```
TekColor Correction
<----- > Menu
```

4. Press **Menu**; this message appears:

```
TekColor:None *
<----- > OK
```

The asterisk (\*) indicates the current selection.

5. Scroll to the desired color correction, then press **OK**.
6. Press **↩** until **Ready** appears.
7. Press **Menu** twice; this message appears:

```
Menu Map
<----- > Print
```

8. Scroll to **RGB Color Sampler** or **CMYK Color Sampler**.
9. Press **Print**.
10. For future reference, write the name of the color correction that you used on the first page of the chart.

### Selecting a color correction in an application

1. In an application — using the colors on the sampler chart — select the desired colors; apply the colors in your document.
2. Print your document; select the same color correction that you used to print the color sampler chart.

## PANTONE® Color Files

For the latest information on color libraries, visit the Tektronix web site at [www.tek.com/Color\\_Printers/](http://www.tek.com/Color_Printers/) or contact your local Tektronix reseller.

PANTONE Color files for your printer include color library files for specific applications and a PANTONE Color sampler chart.

## Methods of printing PANTONE® Colors

<b>If you are printing:</b>	<b>See the following instructions:</b>
Proofs with no spot colors for a 4-color press	"PANTONE® Colors from color selection books" on page 131.
Proofs with one or more spot colors and black (no process colors)	"Printer-specific PANTONE® Colors" on page 130.
Proofs using spot and process colors for output on a 5+ color press	"Printer-specific PANTONE® Colors" on page 130. "PANTONE® Colors from color selection books" on page 131.
Proofs; final work to be printed on a Phaser printer	"Printer-specific PANTONE® Colors" on page 130.

### Printer-specific PANTONE® Colors

Your printer can produce *process color simulations* of PANTONE Spot Colors.

Use the following instructions when printing proofs for these types of print jobs:

- One or more spot colors and black (no process colors) for final output on a printing press.
  - Spot colors and process colors for final output on a 5+ color printing press.
  - Spot colors for final output on your Phaser printer.
1. Print a copy of the PANTONE Color chart; see "Printing the PANTONE® Color Chart" on page 133.
  2. Within an application, apply process colors in your document; use the individual color reference numbers on the sampler chart.
  3. Print your document; select these printer settings in a driver, *or* from the front panel, *or* with a downloadable utility file (driver settings override all other selections):
    - Color correction: **None**
    - Print quality: **Standard**
    - Media: **Paper**

### For final output on a color printing press

For colors to be printed as a process color (no spot colors), follow these steps:

1. Open the application.
2. Before separating the file for printing press plates, replace the printer's PANTONE process Colors with standard PANTONE Colors.

### PANTONE® Colors from color selection books

In some applications, you can select colors from PANTONE Color selection books. These colors can be proofed on your Phaser printer before final output on a printing press.

Use the following instructions when printing proofs for print jobs with these specifications:

- Final output on a 4-color printing press (no spot colors).
  - Spot colors and process colors for final output on a 5+ color printing press.
1. From an application, select PANTONE Colors; use individual color values from a PANTONE Colors selection book.
  2. Print your document; select the **Commercial Press** color correction. (Proof colors may not be completely accurate, but PANTONE Colors will be printed correctly on a printing press.)
  3. When you are satisfied with the proof, the file can be separated for printing press plates without adjustment to the file.

## Installing the PANTONE® Color files

### Macintosh

1. From the printer's CD-ROM, use the Installer application.
2. From the **Custom Install** window, install the following:
  - *PANTONE® Color Files*
  - *Printer Utilities*

### PC

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**.
2. From the **Custom Install** window, install the following:
  - *PANTONE® Color Files*
  - *Printer Utilities*

## Printing the PANTONE® Color Chart

### Macintosh

#### Printing individual pages from Acrobat Reader

1. You will need to install Acrobat Reader if you want to print individual pages from the PANTONE® Color chart. Insert the CD-ROM in your computer's drive, go to the *Manuals* folder, and install Acrobat Reader onto your computer's hard disk; follow on-screen instructions.
2. After Acrobat Reader is installed, open the *PhaserTools* folder on your hard disk. Open the *Pantone Files* folder. Double-click the *PANTONE® Phaser 740.pdf* file.
3. View and print pages from the color sampler chart file. For best results, print on paper.
  - **From a supported driver (such as LaserWriter 8):** Print your document with the following selections.
  - **From a nonsupported driver:** Print your document with the following front panel selections *or* downloadable utility files.
    - Color correction:                   **None**
    - Print quality:                       **Standard**
    - Media:                                 **Paper**

#### NOTE

Print only with the selections listed above; other selections cause PANTONE Colors to print differently than expected.

#### Printing the entire chart

- Use the *Apple Printer Utility* to download to the printer the *PANTONE® Phaser 740.ps* file. This PostScript file contains necessary color correction and print quality information.
- For best results, print the chart on paper.

**PC****Printing individual pages from Acrobat Reader**

1. You will need to install Acrobat Reader if you want to print individual pages from the PANTONE® Color chart. Insert the CD-ROM in your computer's drive, go to the *Manuals* directory, and install Acrobat Reader onto your computer's hard disk; follow on-screen instructions.
2. After Acrobat Reader is installed, open the *PANTONE* directory on your hard disk. Double-click the *PANT740.pdf* file.
3. View and print pages from the color sampler chart file.
  - **From a supported driver (such as the Tektronix driver for Windows 3.1 or the AdobePS 4 driver for Windows 95):**  
Print your document with the following selections.
  - **From a nonsupported driver:**  
Print your document with the following front panel selections *or* downloadable utility files.
    - Color correction:               **None**
    - Print quality:                   **Standard**
    - Media:                           **Paper**

**NOTE**

Print only with the selections listed above; any other selections cause PANTONE Colors to print differently than expected.

Within an application, using the colors on the chart, select PANTONE Colors in your document.

**Printing the entire chart**

1. Print the PANTONE Color chart by sending the *PANT740.PS* file to the printer; use one of the following methods:
  - **PC users:** Use the DOS **COPY** command.
  - **Workstation users:** Send the file to the printer as you would any PostScript file.
2. For best results, print the chart on paper.
3. For future reference, write the name of the color correction that you used on the first page of the chart.

Within an application, using the colors on the chart, create PANTONE Colors in your document.



# Using Printer Utilities

In addition to using the printer's front panel or the options in a supported driver, the printer's utility files offer another method for changing the way the printer operates. In some cases, a selection can only be made with a utility file.

Utility files control print features such as color correction and enabling or disabling the Startup Page. However, printer features that are selected from a driver override utility file settings and front panel settings.

There are three ways to install utility files:

- From the printer's CD-ROM
- From Tektronix' ftp site
- From Tektronix' World Wide Web site

## Using the files on the printer's CD-ROM

### Downloading files from a Macintosh

#### Using the Apple Printer Utility to download files

All PostScript utility files and fonts on the printer's CD-ROM can be downloaded to the printer with the *Apple Printer Utility*.



#### NOTE

If your printer is connected through a print server, you can only use the Apple Printer Utility to download PostScript utility files.

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**. Select *Printer Utilities*.
2. From your computer's hard disk, open the *PhaserTools* folder. Open the *Printer Utilities* folder.
3. From the *PhaserTools* folder, double-click *Apple Printer Utility*.
4. In the **Printer Selector** dialog box, make the following selections:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your Phaser printer.
  - Click **Open Printer**.
5. From the **File** menu, select **Send PostScript File**; the **Select the PostScript files to download** dialog box appears.
6. Select the folder location of the PostScript file(s) that you want to download.
7. Select a utility file. Click **Add**.
8. Click **Send**.
9. At the prompt **Save PostScript output as**, you are asked for a file name for saving printer output. Use the default name given in the edit box or type a new name. (Printer output includes status messages generated by the printer reporting such conditions as *out of paper*.)
10. Click **Save**.
11. If no output is returned by the printer, the *Apple Printer Utility* displays a dialog box; click **Continue**. If output is returned by the printer, you won't see this dialog box.

Check your computer's hard disk for the message file created by the utility.

## Using the *Apple Printer Utility* to perform other tasks

In addition to downloading PostScript files and fonts, you can use the *Apple Printer Utility* to perform the following specialized tasks:

### Turning on/off the Startup Page

1. From the *PhaserTools* folder, double-click *Apple Printer Utility*.
2. In the **Printer Selector** dialog box, make the following selections:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your Phaser printer.
  - Click **Open Printer**.
3. Click the arrow next to **Printer Preferences**; a list of options appears.
4. Click the arrow next to **Startup Page**.
5. Click one of the following:
  - **On:** Prints a Startup Page each time the printer is turned on or reset.
  - **Off:** Stops the Startup Page from automatically printing.
6. Click **Send**.

### Changing the printer's AppleTalk name

1. From the *PhaserTools* folder, double-click *Apple Printer Utility*.
2. In the **Printer Selector** dialog box, make the following selections:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your Phaser printer.
  - Click **Open Printer**.
3. Click the arrow next to **Printer Preferences**; a list of options appears.
4. Click the arrow next to **Name**.
5. In the text box, type the new printer name.
6. Click **Send**.

## Downloading files from a PC

### Windows 3.1

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**. Select *Printer Utilities*.
2. From your computer's hard disk, open the *PHSRTOOL* directory. Open the *PHSR740* subdirectory.
3. Select the utility file you want to send to the printer, for example *RESET.PS*.
4. From the **File** menu, select **Copy**; the **Copy** dialog box appears with the utility file you selected listed in the **From** field.
5. In the **To** field, type the port your printer is connected to. For example, type **LPT1:** for a parallel port connection. Click **OK**.
6. If the **Confirm File Replace** dialog box appears, click **Yes** to continue; the file is downloaded to the printer.

If your printer is connected to an optional Novell NetWare or TCP/IP network, follow the instructions provided with your network software.

### Windows 95 / Windows 98

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**. Select *Printer Utilities*.
2. Select the utility file you want to send to the printer, for example *RESET.PS*.
3. In the taskbar on your screen, click **Start**.
4. In the menu that appears, select **Programs**.
5. Select **MS-DOS Prompt**.
  - Change directory to the *PHSRTOOL* directory.
  - If your printer is connected to the parallel (LPT) port, type the following command (where *x* is 1, 2, or 3):  
**COPY RESET.PS LPTx:**
  - If your printer is connected to an optional Novell NetWare or TCP/IP network, follow the instructions provided with your network software.

## Windows NT

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**. Select **Printer Utilities**.
2. Select the utility file you want to send to the printer, for example *RESET.PS*.
3. In the taskbar on your screen, click **Start**.
4. In the menu that appears, select **Programs**.
5. Select **MS-DOS Prompt**.
  - Change directory to the *PHSRTOOL* directory.
  - If your printer is connected to a network, type the following command:  
**lpr -S <IP Address> -P PS RESET.PS**
  - If your printer is connected to an optional Novell NetWare or TCP/IP network, follow the instructions provided with your network software.

## Downloading files from the Tektronix World Wide Web site

Tektronix has a site on the World Wide Web that you can reach from a web browser, at the following address:

[www.tek.com/Color\\_Printers/](http://www.tek.com/Color_Printers/)



At the Tektronix Color Printer home page, explore options such as customer support documents and new product information. New and updated information is always being added, so check the web site frequently.

Use a web browser such as Netscape Navigator, and follow these steps.

1. Start your web browser and enter the following address:

[www.tek.com/Color\\_Printers/support/software.html](http://www.tek.com/Color_Printers/support/software.html)

2. From the pull-down menus, select your printer, computer, and type of file.
3. Select the files you need; they are downloaded to your computer.

## Downloading files from the Tektronix ftp server

Utility files included on the printer's CD-ROM let you set up the printer from UNIX and VMS workstations to select between media trays, print quality modes, color correction modes and other features. If you don't have the means to transfer these files from the CD-ROM, you can request files from the Tektronix anonymous ftp server.

If you can exchange electronic mail with other Internet sites, you can access the Tektronix ftp server. From this server you can retrieve driver and utility files and color printer information.

Log onto the Tektronix ftp server and download utility files:

1. At the system prompt, type the following:

```
ftp ftp.tek.com
```

The system responds:

```
Name (ftp.tek.com:<login name>) :
```

2. Type: **anonymous**

Press **Return**.

The system responds:

```
Guest login ok, send your complete e-mail address as
password.
```

3. Enter your e-mail address. Press **Return**.
4. Change directories to your printer-specific directory:

```
cd Color_Printers/UNIX/Phaser_740/utilities
```

5. Download the utility files; type:

```
mget *
```

The system prompts you for each file in the directory, to which you respond **y** (yes) or **n** (no).

6. Exit the ftp session: type **quit** or **bye**; press **Return**.





# Connecting Peripheral Devices

Your printer's optional SCSI (Small Computer System Interface) port is used for connecting external hard disk drives and scanners — all are *SCSI devices*.

The Plus, Duplex, and Extended configurations of the printer include support for SCSI devices; Standard configurations of the printer require the Plus Features option (option FP, order number Z740FP).

The printer supports up to seven SCSI devices, as long as each has a unique SCSI ID number (any number between 0 – 6) and the final device in the “daisy chain” is appropriately terminated. Devices can be connected in any combination of model and storage capacity.

## SCSI peripheral devices

Device	Uses
Tektronix external SCSI hard disk drives ZDISK	<ul style="list-style-type: none"> <li>■ Storing downloaded fonts, data, and programs.</li> <li>■ Temporary storage during job collation.</li> <li>■ SCSI hard disk is included on the Extended configuration of the printer.</li> </ul>
Scanners	<ul style="list-style-type: none"> <li>■ Turns your printer into a convenient color copier.</li> <li>■ For a list of supported scanners, contact your local Tektronix reseller or visit the Tektronix web site: <b><a href="http://www.tek.com/Color_Printers/">www.tek.com/Color_Printers/</a></b></li> </ul>

## Connecting SCSI devices

### Required items

- A SCSI peripheral cable for each SCSI device.
- The printer uses a SCSI-2, 50-pin connector.
- One SCSI cable terminator, unless one of the SCSI devices has an internal terminator.

To order supplies and accessories, contact your local dealer or visit the Tektronix web site at [www.tek.com/Color\\_Printers/supplies](http://www.tek.com/Color_Printers/supplies).

012-1465-00	SCSI-2 HD to SCSI-1 LD cable	50-pin high-density plug to 50-pin low-density plug; 2.0 meters (6.56 feet)
	Connects the printer's SCSI port to a hard disk drive or a scanner SCSI port.	
012-1299-00	SCSI-1 LD to Macintosh SCSI cable	50-pin low-density plug to Macintosh SCSI 25-pin plug
	Combine with 013-0297-00 to connect the printer's SCSI port to a hard disk drive with Macintosh SCSI 25-pin plug.	
013-0297-00	SCSI-1 LD to SCSI-2 HD adapter	SCSI adapter: converts 50-pin low-density plug to 50-pin high-density plug
	Use with either 012-1465-00 or 012-1299-00 to convert a low-density SCSI connection to a high-density SCSI connection.	

### Connection overview

- Determine which SCSI device has which SCSI ID number:
  - The printer is SCSI ID 7.
  - For the SCSI devices, select SCSI ID numbers 0 – 6.
- Turn off the printer.
- Turn off the SCSI device.
- Connect SCSI cables.
- Check termination.
- Connect a SCSI device:
  - **Tektronix hard disk**
  - **Recommended scanner**
- Turn on the SCSI device.
- Turn on the printer.
- Initialize the hard disk drive.

## Connecting one SCSI device

### CAUTION

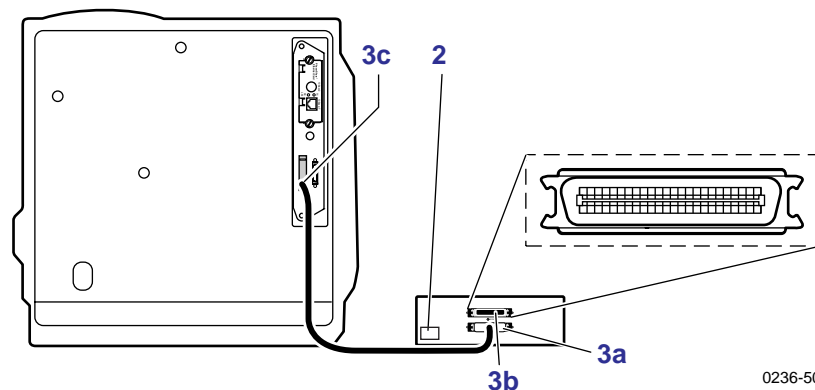
To avoid damaging components, *before* you connect or disconnect a SCSI cable, turn off the printer, then turn off the SCSI device.

1. Turn off the printer and the SCSI device.
2. On the SCSI device, set a unique SCSI ID number (0 – 6; the printer is 7).
3. Connect the SCSI device to the printer:
  - a. Connect the SCSI cable to the SCSI device; you will need a high-density SCSI connector.
  - b. Check termination (not required if the SCSI device has a built-in terminator).
    - The printer has an internal terminator.
    - The printer must always be at one end of the chain with a terminator (or a device with an internal terminator) at the other end.
    - Most SCSI hard disks are shipped with an internal terminator that is active.
    - If the SCSI device does not have an internal terminator, add one.

### NOTE

Devices that require power from another device (TERMPWR pin 38) may not terminate properly.

- For scanner's termination, refer to its documentation.
- c. Connect the SCSI cable to the printer.



4. Turn on the SCSI device first, and then turn on the printer.
5. If you have a SCSI hard disk, see “Initializing a formatted SCSI device” on page 147, and “Enabling and disabling SysStart Job execution” on page 148.

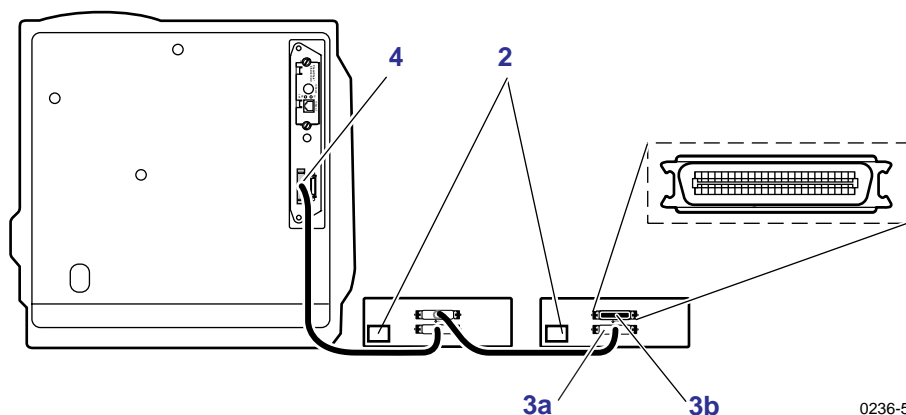
## Connecting multiple SCSI devices

### CAUTION

To avoid damaging components, *before* you connect or disconnect a SCSI cable, turn off the printer and all SCSI devices.

*Before* you turn on the printer, turn on the SCSI devices.

1. Turn off the printer first, then turn off the SCSI devices.
2. For each SCSI device, set a unique SCSI ID number (0 – 6; the printer is 7).
3. Connect the SCSI devices to the printer:
  - a. Connect the SCSI cables to the SCSI devices; you will need a high-density SCSI connector.
  - b. Check termination:
    - The printer has an internal terminator.
    - The printer must always be at one end of the chain with a terminator (or a device with an internal terminator) at the other end.
    - Most SCSI hard disks are shipped with an internal terminator that is active.
    - Place SCSI devices at the end of the SCSI chain, making sure that no other SCSI devices are terminated (only the last device on the daisy chain). If you are connecting multiple hard disks and most hard disks are internal terminated, you will need to de-activate the terminators in all devices except for the last device on the daisy chain.
    - For scanner's termination, refer to its documentation.
4. Connect the SCSI cables to the printer.



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5. If you have a SCSI hard disk, download the *Enable/Disable* utility file to it; refer to “Using Printer Utilities” on page 135.

## Initializing a formatted SCSI device

Most external hard disks are formatted at the factory and only need to be initialized.

### Macintosh users

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**. Select *Printer Utilities*. From your computer's hard disk, open the *PhaserTools* folder. Open *Printer Utilities*.
2. In the **Chooser**, select your printer.
3. From the *PhaserTools* folder, double-click *Apple Printer Utility*. Download to the printer the *Initialize Printer Disks* file.

### PC and workstation users

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**. Select *Printer Utilities*. From your computer's hard disk, open the *PHSRTOOL* directory. Open the *PHSR740* subdirectory.
2. Use one of the following methods to send to the printer the *INITDISK.PS* file:
  - **PC users:** Use the DOS **COPY** command.
  - Windows NT users: Send the *INITDISK.PS* file to the printer by typing the following at the DOS prompt:  

```
lpr -S <IPaddress> -P PS INITDISK.PS
```
  - **Workstation users:** Send the file to the printer as you would any PostScript file.

## Enabling and disabling SysStart Job execution

- You may load a startup (*Sys/Start*) file onto an external hard disk. The *Sys/Start* job file is similar to an *init* file: When you turn on the printer, the file executes — providing that *Sys/Start* has been enabled through a control file downloaded to the printer.

- With multiple disks, only *one* disk can contain a *Sys/Start* file.

If the *Sys/Start* file contains an error, the printer ignores the remainder of the file and may not start up as expected.

You can also control SysStart Job execution from the printer's front panel **Printer Defaults** menu, using the **SCSI Startup Mode** option.

### Macintosh users

1. From the printer's CD-ROM, run the Installer application. Select **Custom Install**. Select *Printer Utilities*. From your computer's hard disk, open the *PhaserTools* folder.
2. From the *PhaserTools* folder, double-click *Apple Printer Utility*.
3. Double-click *Apple Printer Utility*; a Printer Selector dialog box appears:
  - Under **AppleTalk Zones**, select your printer's zone.
  - Under **Printers**, select your printer.
  - Click **Open Printer**.
4. From the **Utilities** menu, select **Send PostScript File**.
5. Open the *PhaserTools* folder. Open the *Printer Utilities* folder; select *SysStartJob*; click **Add**.
6. Click **Send**.

### PC and workstation users

1. From the printer's CD-ROM, run *setup.exe*. Select **Custom Install**. Select *Printer Utilities*. From your computer's hard disk, open the *PHSR740* directory. Open the *PHSR740* subdirectory.
2. Select one of the following files:
 

<ul style="list-style-type: none"> <li>■ <i>SYSTART.PS</i></li> <li>■ <i>NOSYSTRT.PS</i></li> </ul>	<p>Enables automatic execution of the SysStart job.</p> <p>Disables automatic execution of the SysStart job.</p>
---	--
3. Use one of the following methods to send to the printer the desired file:
  - **PC users:** Use the DOS **COPY**.
  - **Windows 3.1 users:** In the **File Manager**, use the **Copy** command.
  - **Workstation users:** Send a file to the printer as you would any PostScript file.

## *Using Your Printer with a Scanner*

### Overview

By attaching a recommended scanner to your printer, you can use the printer as a color copier. Settings for copies are made at the printer's front panel. For example, you can specify the number of copies, reduce or enlarge prints, adjust the color saturation, and select color, gray scale, or black-and-white copying.

For more information, refer to the following topics:

- "Connecting Peripheral Devices" on page 143.
- "Making copies" on page 150.
- "Using the front panel Copier Menu" on page 152.
- "Placing and scaling images" on page 154.

#### **NOTE**

For a list of supported scanners, contact your local Tektronix reseller, or visit the Tektronix web site.

## Making copies

### Copying a single page



Making a copy with your scanner and printer is similar to making a copy with a photocopier:

1. Raise the scanner's document cover.
2. Place the original image *face-down* on the scanner's glass; position the image in your scanner according to your scanner's instructions.
3. At the printer's front panel, press **Copier**; the printer displays the following message:

```
# of Copies
Menu      ---->   Copy
```

Press **Copy** to make a print of your original or, if you have other settings to change, go on to the next step.

4. Scroll to the following menus as needed by pressing the arrow button.
  - Color Mode
  - Lighten/Darken
  - Color Saturation
  - Zoom
  - Scan Area
  - Select Tray

Refer to "Using the front panel Copier Menu" on page 152 for details on each of these menus.
5. To enter the individual submenus, press **Menu**. Scroll to the appropriate selections within those menus.
6. Press **Copy**.
7. To return to the previous submenu, press  once. To return to the **Ready** message, press  twice.

#### NOTE

If you return to the top level of the printer menu without saving your settings as default settings, you will lose your copier settings.

8. After making the appropriate selections, press **Copy**.

The image is transferred to the printer. The first copy normally takes 30 to 60 seconds. The subsequent copies are output at the printer's rated speed.



## Copying multiple pages with an Auto-Document Feeder

If your scanner is equipped with an Auto-Document Feeder (ADF), you can copy an entire set of originals at one time and produce multiple, collated copies.

1. Make sure that no originals are on the scanner bed.
2. Insert the stack of originals in the ADF (refer to your scanner's documentation).
3. At the printer's front panel, press **Copier**; the printer displays the following message:

```
# of Copies
Menu  ---->  Copy
```

Press **Copy** to make a print of your original or, if you have other settings to change, go on to the next step.

4. Scroll to the following menus as needed by pressing the arrow button.
  - Color Mode
  - Lighten/Darken
  - Color Saturation
  - Zoom
  - Scan Area
  - Select Tray

Refer to "Using the front panel Copier Menu" on page 152 for details on each of these menus.

5. To enter the individual submenus, press **Menu**. Scroll to the appropriate selections within those menus.
6. Press **Copy**.
7. To return to the previous submenu, press **↶** once. To return to the **Ready** message, press **↶** twice.

### NOTE

If you return to the top level of the printer menu without saving your settings as default settings, you will lose your copier settings.

8. Press **Copy**.

Pages are loaded and copied one at a time, and output the number of times you requested in Step 3.

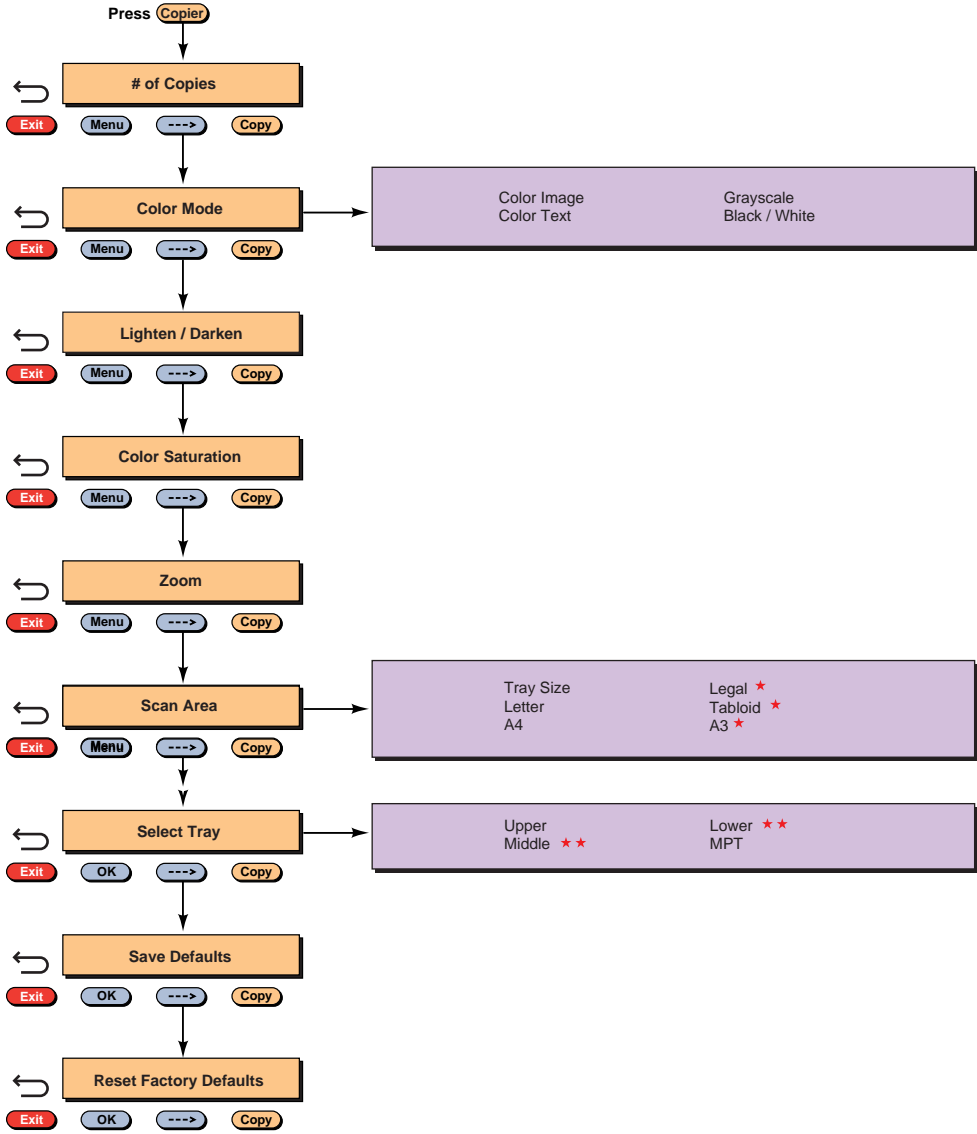
If your printer has Quick Collate capability (requires Plus Features; order number Z740FP), the copies are automatically collated when output.

## Using the front panel Copier Menu

The printer allows you to control the settings listed in the table below. From the printer's **Help Pages** menu, select **Menu Map** to print a Copier Menu.

Copier menu setting	Purpose
<b># of Copies</b>	<p>Selects up to 999 copies. To change the desired number, press &lt;--- or ---&gt;.</p> <p>Press down and hold &lt;--- or ---&gt; to auto-increment the value. Release the button when the desired number of copies is displayed.</p>
<b>Color Mode</b>	<p>Selects the type of color reproduction from the following:</p> <ul style="list-style-type: none"> <li>■ <b>Color Image:</b> For full-color images. The image is reproduced with as accurate as possible color matching.</li> <li>■ <b>Color Text:</b> For images with colored text, line art or charts. The image is reproduced in full color, but text colors are accentuated and scanning occurs at a higher resolution to maintain text definition.</li> <li>■ <b>Gray Scale:</b> For copying or creating monochrome images. The image is reproduced in shades of gray.</li> <li>■ <b>Black and White:</b> The image is reproduced in full white and full black only. Especially suitable for copying line drawings.</li> </ul>
<b>Lighten/Darken</b>	<p>Lightens or darkens your prints on a scale of –10 (lightest) to +10 (darkest).</p>
<b>Color Saturation</b>	<p>Brightens or increases the saturation of all colors or reduces the saturation (add black) on a scale of –10 (blackest) to +10 (most saturated, brightest). Zero, the default, is neutral.</p>
<b>Zoom</b>	<p>Enlarges or reduces the size of the copy image from approximately <b>25%</b> to <b>1000%</b> of the original's image size, depending on your scanner. The default setting is <b>100%</b>. To change the scale value, press &lt;--- or ---&gt;.</p> <p>Press down and hold &lt;--- or ---&gt; to auto-increment the value. Release the button when the desired number of copies is displayed.</p> <p>For additional information on using the scaling function to enlarge and reduce copies, refer to "Placing and scaling images" on page 154.</p>
<b>Scan Area</b>	<p>Selects the size of your original image or input.</p> <ul style="list-style-type: none"> <li>■ The options available (for example, Letter, Legal, Tabloid, A3) will depend on the scan area of your scanner.</li> <li>■ <b>Tray Size</b>, the default selection, copies an area equal to the size of the media in the selected tray. If the media in the tray is larger than the area the scanner can image, it will scan the largest possible area and scale the image up to fit the media, without distortion.</li> </ul>
<b>Select Tray</b>	<p>Selects the media tray from which your copy or output will be printed.</p> <ul style="list-style-type: none"> <li>■ The options available will depend on the number of media trays in your printer.</li> </ul>
<b>Save Default</b>	<ul style="list-style-type: none"> <li>■ Changes the printer's copier menu default settings and saves your own settings for the kinds of copies you typically make.</li> </ul>
<b>Reset Factory Defaults</b>	<ul style="list-style-type: none"> <li>■ Sets the defaults to the printer's original selections.</li> </ul>

# Copier Menu



\* Scanner-specific      \*\* Requires Lower Tray Assembly

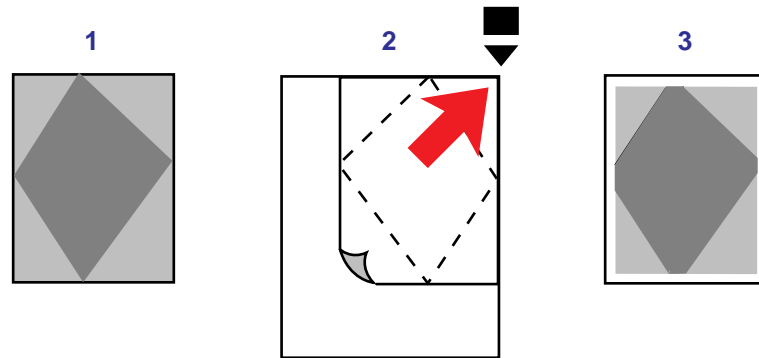
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## Placing and scaling images

### Copying at 100% scale

When you copy originals at 100% scale, the copy image is the same size as the original. Note however, that printers are typically unable to print to the extreme edges of the print media; the area in which a printer can print is called its “printable area.” When you make a copy at 100% scale, if any part of the original image extends beyond the printer’s printable area it is cropped. You can see this effect by performing the following experiment:

1. **Original print** Find an original that has information extending to its edges.
2. **Original on the scanner’s glass** Place the original face-down on the glass in your scanner. Lower the document cover. At the printer’s front panel, press **Copy**. Refer to “Making copies” on page 150 for instructions on using the printer’s front panel to make copies.
3. **Copy print** Note that the image is not printed at the copy’s edges.



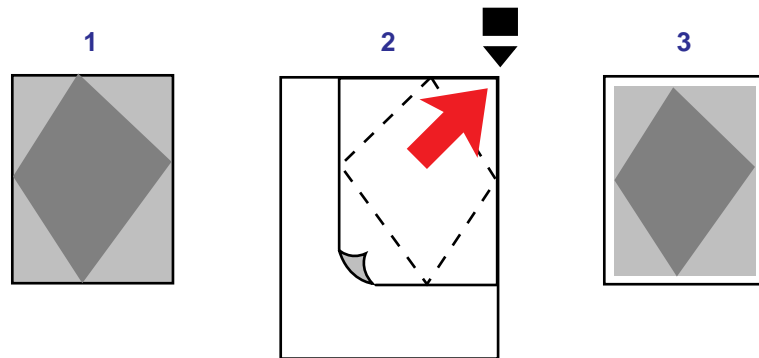
0236-58

The next example, “Copying to fit full-bleed images,” shows how you can work around this problem.

## Copying to fit full-bleed images

If your original's image extends to its outer edges — often called a full-bleed image — and you wish to copy the entire image, set **Zoom** to approximately 95%. The full image will be printed, at a slightly reduced scale, within the printer's maximum printable area.

1. **Original print** Find a full-bleed original.
2. **Original on the scanner's glass** Place the original on the scanner glass. Using the front panel controls, set **Zoom** to approximately 95% (you will need to experiment to determine the scaling value that works best with your printer). Lower the document cover. At the printer's front panel, press **Copy**. Refer to "Making copies" on page 150 for instructions on using the printer's front panel to make copies.
3. **Copy print** Note that the entire image now fits, at a slightly reduced scale, entirely within the printer's printable area.

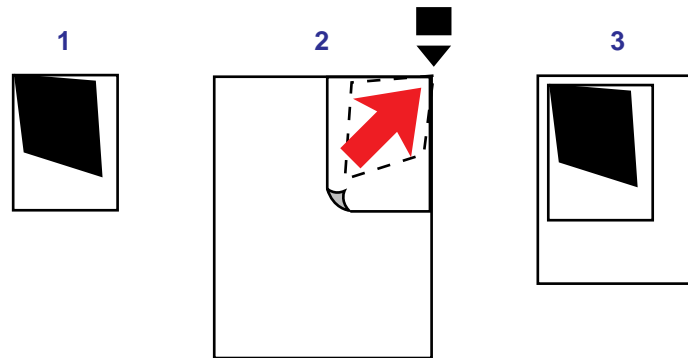


0236-57

## Scaling images using Zoom

You can reduce or enlarge an original image using the **Zoom** function.

1. **Original print** Find a small, full-bleed original image.
2. **Original on scanner's glass** Place the original face-down in your scanner. Use the front panel menu to set the **Zoom** to a value such as **200%**. Lower the document cover. At the printer's front panel, press **Copy**.
3. **Copy print** The image is enlarged on the copy print and it is shifted slightly into the printer's printable area. The right side of the image did not fit within the printable area.



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## Scaling images using Scan Area

If your original is a standard size (Letter, A4, etc.), you can use the **Scan Area** function to automatically scale the image up or down to fit the media in the selected tray.

1. Place the original face-down in your scanner. Lower the document cover.
2. In the front panel **Copier** menu, set the **Scan Area** equal to the size of your original.
3. Under **Select Tray**, select the tray that has the media size on which you want to print.
4. Press **Copy**. The image will be scaled to fit the selected media as closely as possible without distorting the image.

## *Regulatory Information and Specifications*

### **Canadian EMC (Electromagnetic Compatibility) regulatory standards**

- This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.
- Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## Declaration of conformity for 220-230 VAC equipment

Tektronix, Inc.  
Color Printing and Imaging Division  
P.O. Box 1000  
Wilsonville, Oregon 97070-1000 U.S.A.

declares, under our sole responsibility, that the products

Phaser 740 printer (Z740) and Phaser 740L (Z740L)

to which this declaration relates, is in conformity with the following standard(s) or other normative document(s):

For the EC EN60950:1992	Safety of Information Technology Equipment including Electrical Business Equipment
For the EC EN55022:1992	Limits and methods of measurement of radio Interference characteristics of Information Technology Equipment
For the EC EN50082-1:1992	The Generic Immunity Standard Residential, Commercial, and Light Industry.

Environmental Phenomena	Test Specification	Basic Standard
Radio-Frequency Electromagnetic Field	27 - 500 MHz	IEC801-3:1984
Electrostatic Discharge	8kV (charge Voltage)	IEC801-2:1984
Fast Transients common mode on Signal lines	0.5 kV (peak) 5/50 Tr/Th ns 5 kHz Rep. Frequency	IEC801-4:1988 Capacitive Clamp
AC mains ports	1 kV	

following the provision of the  
Low Voltage Directive 73/23/EEC, the Electromagnetic Compatibility Directive  
89/336/EEC, Machinery Directive 89/392/EEC.



## FCC Class B device

### for 220-230 VAC equipment

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly in strict accordance with Tektronix' instructions, it may cause interference with radio and television reception.

This equipment has been tested and verified 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 interferences 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 of 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/TV technician for help.

#### **WARNING**

Changes or modifications not expressly approved by Tektronix can affect emission compliance and could void the user's authority to operate this product. To ensure emission compliance, use shielded interface cables.

## **Material Safety Data Sheets**

Proper management of environmental resources protects the well-being of our employees, customers, shareholders, and the communities we are a part of worldwide.

Tektronix establishes and maintains sound environmental management practices to accomplish this goal and to assure compliance with the laws, regulations, and orders of the responsible governmental authorities wherever Tektronix and its subsidiaries operate.

Tektronix, Incorporated is complying with government regulations by providing Material Safety Data Sheets for this product.

Color Printing and Imaging Division  
Tektronix, Incorporated

## MSDS for Toner

### Section 1 – Product Identification

<b>Trade Names:</b>	<b>Tektronix Part Number:</b>
Black Toner Cartridge	016-1656-00, 016-1684-00
Cyan Toner Cartridge	016-1657-00, 016-1685-00
Magenta Toner Cartridge	016-1658-00, 016-1686-00
Yellow Toner Cartridge	016-1659-00, 016-1687-00

**Product Use:** Tektronix Phaser® 740 and 740L printers

### Section 2 – Information On Ingredients

#### Ingredients

Toners are a proprietary blend of pigments and resins, encased in a sturdy housing.

### Section 3 – Hazards Identification

**ROUTES OF EXPOSURE:** Toner powders are encased in a cartridge housing and are not accessible, unless the cartridge is forcibly broken.

**POTENTIAL HEALTH EFFECTS:** Health effects from this product are expected to be very low, when product is used as intended.

#### Immediate Effects:

**Inhalation:** Minimum irritation to respiratory tract, as for any non-toxic dust.

**Skin:** Expected to be low hazard to skin, when used as intended.

**Eye:** May cause mild irritation.

**Ingestion:** Not an expected route of exposure.

**Chronic Effects:** None known or expected.

### Section 4 – First Aid Measures

**Inhalation:** Unlikely route of exposure. In the event of exposure, remove person to fresh air. Seek medical attention if symptoms occur.

**Eyes:** Contact unlikely. If any particles get into eye, flush thoroughly with water. Seek medical attention if symptoms occur.

**Skin:** Wash thoroughly with water. Seek medical attention if symptoms of irritation occur.

**Ingestion.:** Seek medical attention immediately.

### Section 5 – Fire Fighting Measures

#### Flammable Properties:

**Flash Point:** Not applicable.

**Fire & Explosion Hazards:** These toners will burn. No unusual hazards are expected.

**Extinguishing media:** CO<sub>2</sub>, dry chemical, foam, or water.

### Section 6 – Accidental Release Measures

**Spill Or Leak:** Toners are encased in a sturdy housing. However, in case of breakage, toner powders may be cleaned up with a broom or vacuum. Clean up residue if necessary with soap and water.

### Section 7 – Handling And Storage

**Handling:** None.

**Storage:** Avoid high temperatures.

### Section 8 – Exposure Control – Personal Protection

No special protection indicated when used as intended.

**TLV/PEL:** Black toner contains carbon black, which has an OSHA Permissible Exposure Limit (PEL) of 3.5 mg/m<sup>3</sup> (milligrams per cubic meter of air), as an 8-hour time-weighted average. The ACGIH Threshold Limit Value (TLV) is also 3.5 mg/m<sup>3</sup>.

#### Section 9 – Physical And Chemical Properties

**Appearance:** Black, blue, red, or yellow powders.

**Odor:** None.

**Solubility:** Not water-soluble.

#### Section 10 – Stability And Reactivity

**Stability:** Stable.

**Incompatibility With Other Materials:** Strong acid or alkaline materials.

**Hazardous Polymerization:** Will not occur.

#### Section 11 – Toxicological Information

**Toxicity:** Expected to be not toxic, as determined by standard laboratory tests for acute, oral toxicity performed on very similar toners.

**Carcinogenicity:** Not listed by NTP or OSHA. Black toner contains carbon black, which has been classified by the International Agency for Research on Cancer (IARC) as a class 2B carcinogen, possibly carcinogenic to humans. However, toners very similar to these have been tested in bacterial assays for mutagenicity (Ames Test) and were found to be non-mutagenic.

#### Section 12 – Ecological Information

No known impact.

#### Section 13 – Disposal Considerations

These products are not a hazardous waste as specified in 40CFR 261. Dispose in accordance with all federal, state, and local regulations.

#### Section 14 – Transport Information

**DOT:** Not regulated.

#### Section 15 – Regulatory Information

**TSCA:** All components of these toners are listed in the Toxic Substances Control Act inventory as verified by our suppliers.

**RCRA:** TCLP below hazardous waste levels set by EPA.

**California Proposition 65:** Not listed

**CERCLA:** Not listed

**SARA Extremely Hazardous Substances:** Not listed

**SARA 313:** Not listed

#### Section 16 – Other Information

Original preparation date: May 22, 1998. JMP

Tektronix, Incorporated

P.O. Box 500

Chemical Documentation

Mail Stop 46-825

Beaverton, Oregon 97077

Printer information: 1-800-835-6100

MSDS information: (503) 627-7255

## Specifications

### Operating range: temperature and humidity

The operating range is contained within the temperature/humidity space defined by the following points:

#### Celsius:

15.5° C, 10% RH  
 32.2° C / 10% RH  
 32.2° C / 60% RH  
 25.5° C / 80% RH  
 15.5° C / 80% RH

#### Fahrenheit:

60° F, 10% RH  
 90° F / 10% RH  
 90° F / 60% RH  
 78° F / 80% RH  
 60° F / 80% RH

The best print quality is obtained within these limits:  
 15.5° to 25.5° C (60° to 78° F), and 20% to 65% relative humidity

### Temperature

*Non-operating:* 0° C to 40° C (32° F to 104° F)

*Storage:* (without paper, transparencies, or consumables): -20° C to +60° C  
 (-4° F to +140° F)

### Humidity

*Non-operating:* 10% to 90% relative humidity, non-condensing

### Altitude

*Operating:* 0 to 2,500 m (8,000 ft.).

*Non-operating:* 0 to 4000 m (13,125 ft.)

### Primary voltage ranges

90 - 132 VAC, 110 VAC nominal

198 - 264 VAC, 220 VAC nominal

### Frequency range

50 to 60 Hz

### Primary fusing

125 VAC, 10 Amps and 8 Amps

250 VAC, 5 Amps and 4 Amps

(Not user-accessible)

### Power Consumption

Meets Energy Star power conservation requirements.

State	Average power
Continuous printing	380 W
Idle	115 W
Energy Star	45 W or under

### Dimensions of standard unit (without Lower Tray Assembly)

*Height:* 464 mm (18.3 in.)

*Depth:* 501 mm (19.7 in.)

*Width:* 507 mm (20\* in.)

\*782 mm (30.8 in.) with the output tray

### Dimensions of Lower Tray Assembly

*Height:* 249 mm (9.8 in.)

*Depth:* 405 mm (16.0 in.)

*Width:* 447 mm (17.6 in.)

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