BRADY
WHEN PERFORMANCE MATTERS MOST™

Outperforming Expectations:
Brady Thermal Transfer Printers

IP Series
PRINTER™

Brady IP™ Printer
Intelligence by Design.

Stress FREE + Setup System

United States

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe A respecte toutes les exigences du Reglement sur le Matériel Brouilleur du Canada.

Taiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中使用
時，可能會造成射頻 干擾，在這種情況下，
使用者 會被要求採取某些適當的對策。

Europe

Warning — This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Welcome to Brady's Intelligent Printing System. The Brady IP Printer is a main component to the fully integrated printing system. Working together, the printer, media and software provide hassle free functionality and are optimized to print Brady's high quality specialized materials.

To gain the full benefit of the system, material and ribbons from Brady are programmed with the ability to communicate with the printer and software. Material identified with this logo will work in Brady mode on the printer.

Material marked with this logo will communicate with the printer and software by the user selection in the software.

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Please use this page for your individual notes

Brady IP™ Printer Operator/Configuration Manual

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Safety and the Environment

Please read and understand this manual before using the Brady IP Printer for the first time. This manual describes all of the main functions of the Brady IP Printer. The functions actually available depend on the version ordered.

A detailed product description with all technical data can be found online at www.bradyid.com, www.bradyeurope.com, www.bradycorp.com.

About the Printer

The Brady IP printer is designed to work with BradySoft, IdentiLab or LabelMark software. When used with one of those software packages, the printer will automatically recognize all Brady IP enabled and compatible materials up to 4 inches (101.6 mm) wide. For operation of the printer with other materials, metallized labels and other software packages, refer to *Standard Mode on page 16*.

Intended Use of the Printer

- The Brady IP Printer is designed and manufactured in accordance with applicable standards and recognized safety rules. However, danger to the life and limb of the user or third parties and/or damage to the Brady IP Printer and other tangible assets can arise during use.

- The Brady IP Printer may only be used for its intended purpose, in perfect working order and with regard to safety and dangers as stated in this manual. In particular, faults which affect safety must be rectified immediately.

- The Brady IP Printer is intended exclusively for printing suitable materials that have been approved by the manufacturer. Any other use shall be regarded as improper use. The manufacturer/supplier shall not be liable for damage resulting from unauthorized use; the user shall bear the risk alone.

- Usage for the intended purpose also includes complying with the operating manual, including the manufacturer's maintenance recommendations and specifications.

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Safety

■ The Brady IP Printer is configured for voltages of 100 to 240 V ~, 50 to 60 Hz. Connect only to a grounded power outlet.

■ The Brady IP Printer may only be used in a dry environment, do not expose it to moisture (water, mists, etc.).

■ If the Brady IP Printer is operated with the cover open, ensure that clothing, hair, jewelry etc. do not come into contact with the exposed rotating parts.

⚠ WARNING
Entanglement Hazard
• **MOVING PARTS can entangle.**
• **AVOID wearing jewelry or loose fitting clothing.**
• **ALWAYS tie back long hair.**

■ During the print process, the print assembly can become hot. Do not touch the print assembly during operation, and allow the assembly to cool down before changing material and before disassembly.

■ Perform only those actions described in this manual. Work going beyond this may only be performed by trained personnel or service technicians.

⚠ DANGER
Electric Shock Hazard
• **DO NOT open the Brady IP Printer casing.**
• **UNPLUG power cord before servicing.**
• **CONTACTING power supply can cause electrocution.**

Unpacking the Brady IP Printer

Carefully unpack and inspect the printer for possible damage incurred during shipping.

■ Check all exterior and interior surfaces for damage.

■ Check the Brady IP Printer for any possible transportation damage.

What's in the Box

■ Brady IP Printer

■ Power cable

■ Printed "Quick Start Manual"

■ Product CD including Windows printer driver, electronic "Quick Start Manual," "Brady IP™ Printer Operator/Configuration Manual" and web links.

■ Software demo CD

■ Printer cleaning film

■ USB cable

NOTE: Please keep the original packaging, including the box, in the event the printer must be returned.

Stress Free System Setup

Stress Free System Setup is available, free of charge, in North America. Brady's Stress Free System Setup helps you set up your new printer and software.

To schedule a free phone setup assistance appointment, call 1-800-643-8766 and select Menu Option 4.

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Installation

Printer Overview

VIEW A

VIEW B
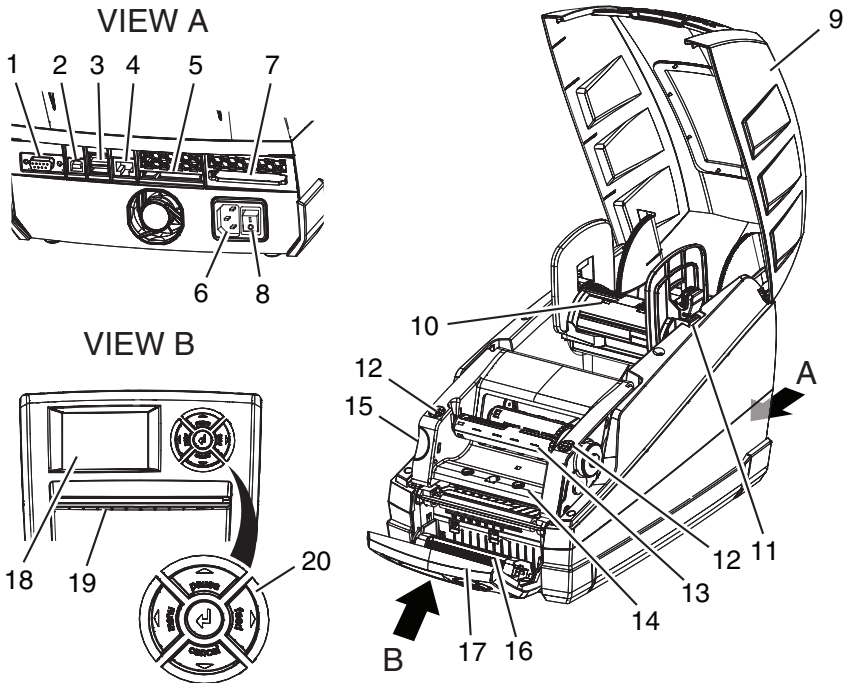
Figure 1, Overview

1. RS-232 port
2. USB port
3. Two USB master ports for keyboard or scanner
4. Ethernet port
5. CompactFlash card slot
6. Power connection socket
7. PC card slot, type II
8. Power switch
9. Printer cover
10. Material holder
11. Bracket grooves
12. Ribbon carrier close points
13. Ribbon take-up spindle
14. Printhead mounting with printhead
15. Print module release button
16. Pressure roller
17. Control panel
18. LCD display
19. Slot for label output
20. Navigator pad

Printer Location

NOTICE
The device and printing materials will be damaged by moisture and wet conditions. **Set up Brady IP printers only in dry locations protected from moisture.**

NOTICE
Ensure that the foam transportation protection has been removed from around the printhead.

- Place the printer on a level surface away from moisture.

- Open the Brady IP printer cover **(Figure 1, 9)**.

- For operation in Peel-off mode, ensure the drivers are set to Peel-off mode and place the printer in such a position that the liner can run down without hindrance. Refer to *Peel-Off Mode on page 21* for additional information about Peel-off mode.

Printer Connections

Power Supply

The printer is equipped with a universal power supply. The device can be operated with a supply voltage of 100 to 240 V~, 50 to 60 Hz without adjustment.

⚠ **CAUTION**
Switch the printer power switch (Figure 1, 8) to the off position (O) before connecting the printer to the power supply.

1. Plug the power cable into the power connection socket on the back of the printer **(Figure 1, 6)**.

2. Plug the power cable into a grounded 100 to 240 V~, 50 to 60 Hz power source.

NOTE: The Brady IP Printer senses the voltage type and automatically adjusts for the power source.

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3. Connect the printer to the computer using the supplied USB cable, an RS-232 cable or an Ethernet cable (refer to *Interface Connections on page 7*).

4. If you do not have BradySoft, LabelMark or IdentiLab software installed on your computer, refer to *Software Installation on page 13*.

5. Turn on the power switch on the back of the printer **(Figure 2, 5)**. The printer will perform a self test and then go into Ready mode.

NOTE: If a fault occurs during the system test, the symbol ☠ and the type of fault are displayed on the LCD display. Refer to *Troubleshooting Chart on page 62* for additional information.

Interface Connections

The printer has an RS-232 port **(Figure 2, 1)**, a USB port **(Figure 2, 2)** and an Ethernet port **(Figure 2, 3)**.
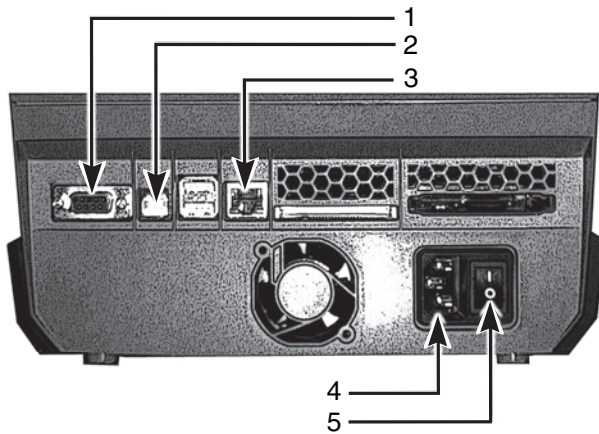

Figure 2, Interfaces and Connectors

1. RS-232 port
2. USB port
3. Ethernet port

4. Power connection socket
5. Power switch

Installation

USB Connection

1. Ensure that the Brady IP Printer is turned off.

2. Connect the printer to the computer using the supplied USB cable. The USB cable connects to the printer at the USB port **(Figure 2, 2)** and to a USB port on the computer.

RS-232 Connection

1. Ensure that the Brady IP Printer is turned off.

2. Connect the printer to the computer using an RS-232 cable (not provided). The RS-232 cable connects to the printer at the port **(Figure 2, 1)** and to the computer.

3. Secure the cable with the connection screws.

4. Configure the printer RS-232 interface to match the connected computer. Refer to *Interfaces on page 52*.

Ethernet Connection

1. Ensure that the Brady IP Printer is turned off.

2. Connect the printer to the computer using an Ethernet cable (not provided). The Ethernet cable connects to the printer at the Ethernet port **(Figure 2, 3)** and to an Ethernet port on the computer or Local Area Network (LAN).

USB Printer Driver

NOTICE
Do not install drivers if using Bradysoft. Bradysoft uses its own drivers. Follow instructions included with Bradysoft to set up your IP printer using USB, serial or Ethernet connections.

Printer Wizard

1. Insert the product CD in the CD drive on your computer. Turn the printer power on. Connect the USB cables (refer to *USB Connection on page 8*). The **Found New Hardware** dialog box appears.
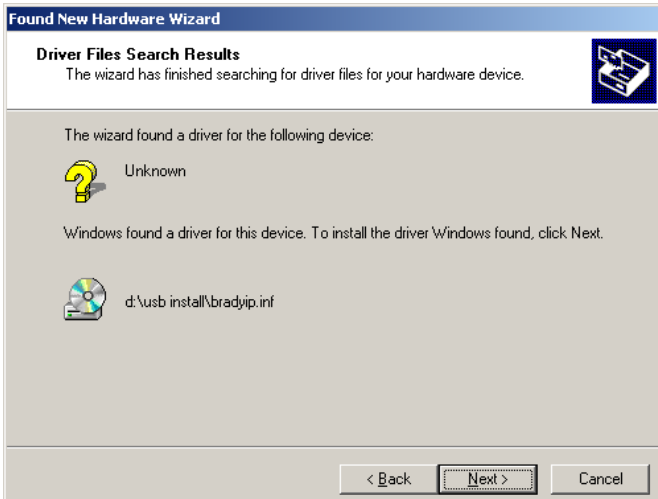
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Figure 3, Found New Hardware Wizard

2. Click **NEXT**. The driver will load automatically.

This completes the installation of the printer driver. If you have additional IP printers, using USB, to install, continue to *Multiple Printers on page 9*.

Multiple Printers

If you want to add an additional IP Printer to your PC, ensure the additional IP Printer is powered on, then connect to your computer

NOTICE
When connected to your PC, the Found New Hardware Wizard will appear. (At this point the Plug and Play process should have created a new USB virtual port. The Brady IP printer driver will be added in later steps.) Cancel the New Hardware wizard. If using Windows XP, skip ahead to step 1. Otherwise, with Windows 2000, a copy of your additional IP printer is automatically created but must be deleted. Go to Start | Settings | Printers and delete the last copy that was added by right clicking on the icon of the last printer created, and select delete.
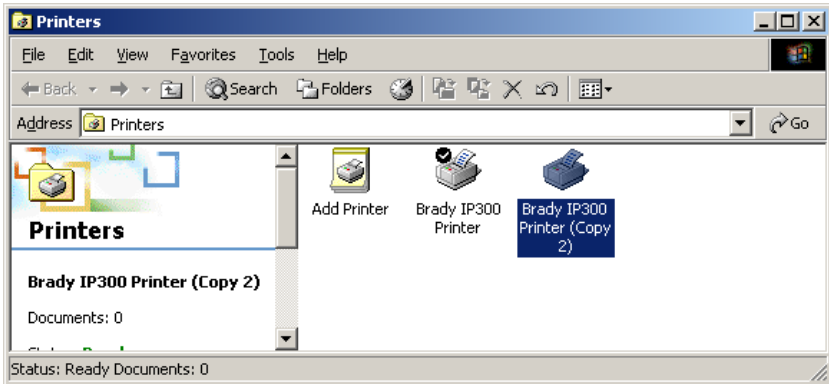
Figure 4, Printers Window

1. Ensure the Product CD is in the CD drive. Select **Run** from your computer's start menu. Choose the drive where the Product CD is located. Choose Setup\Setup.exe. Choose OK.
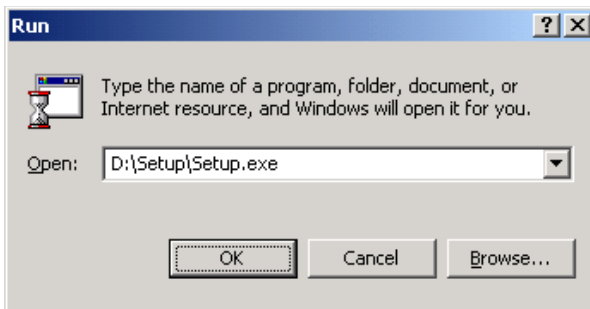
Figure 5, Run Dialog Box

2. Choose your language.

Figure 6, Choose Setup Language Dialog Box

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3. Choose the printer.

Figure 7, Choose Printer Dialog Box

4. Choose the appropriate port.
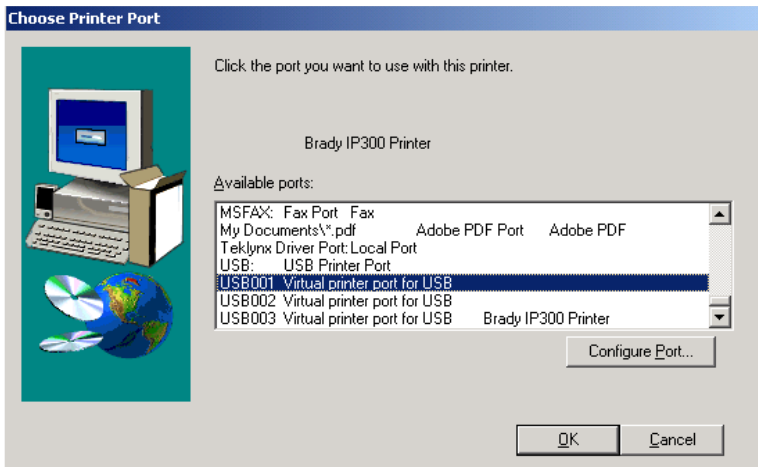
Figure 8, Choose Printer Port Dialog Box

5. Click Yes.
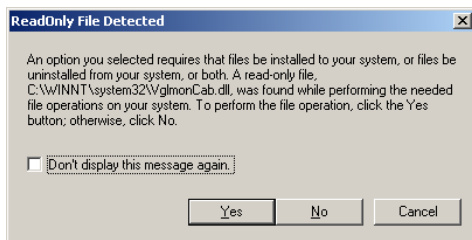
Figure 9, Read Only File Detected Dialog Box

6. Choose to restart your computer.
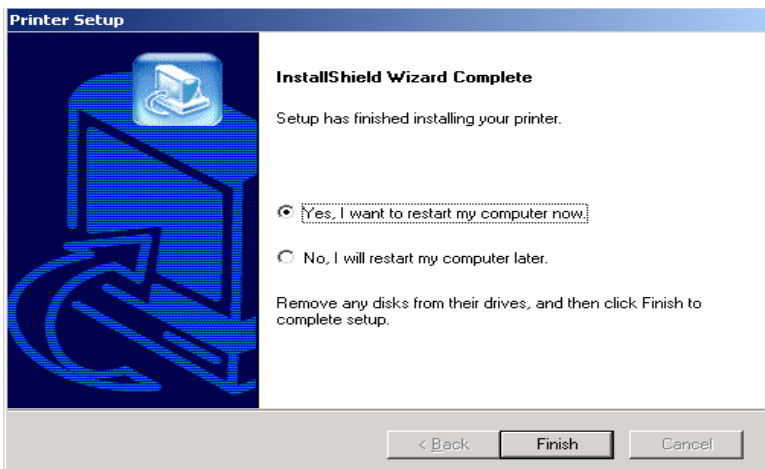
Figure 10, Restart Printer Dialog Box

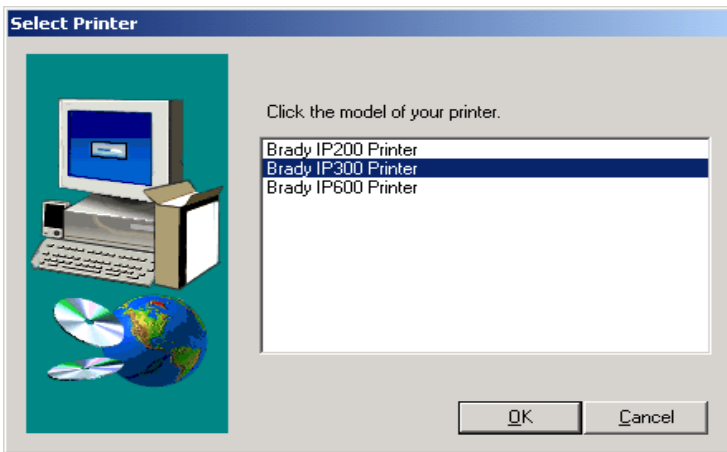7. Once your computer has restarted, ensure the added printer is powered on and connected to your computer. Check to make sure the new printer driver is not offline by choosing Start | Settings | Printers and right clicking on the printer icon.

This completes the installation. Repeat this section for any additional IP printers you will be installing on this computer.

RS-232 or Ethernet Printer Driver

To install an RS-232 or Ethernet printer driver, ensure that power is turned OFF, connect the cable (refer to *RS-232 Connection on page 8* or *Ethernet Connection on page 8* and complete steps 1 through 7 starting on *page 10*.

Software Installation

If you do not have BradySoft, LabelMark or IdentiLab software installed on your computer:

1. Insert the software CD in the CD drive on your computer.

2. Follow the autoload directions for software installation.

On-line Status Monitor

The On-line Status Monitor provides printer status information. From the Options menu, you can select **Warn if no Brady Smart Supply**, **Always on top** or **Unit of Measure** (inches or mm). The Help menu provides links to **Brady Online**.

Figure 11, On-line Status Monitor

Media Setup

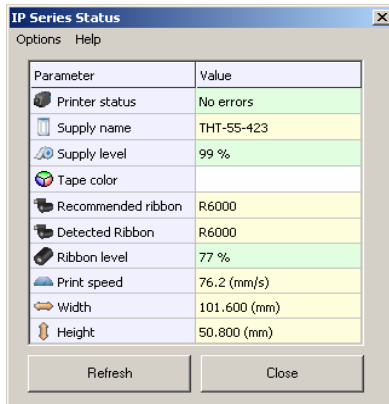Since print quality is affected by media and ribbon, printing speeds and printer operating modes, it is very important to run tests for your applications.

We STRONGLY RECOMMEND the use of Brady-brand supplies and LabelMark, IdentiLab or BradySoft labeling software for uninterrupted high-quality printing. These products will allow you to use all of the special features of the printer, especially Brady mode (hassle-free operation).

Brady Mode

The use of Brady-brand supplies and LabelMark, BradySoft or IdentiLab labeling software allow access to the full operation of Brady mode. Brady mode, or hassle-free operation, provides the following advantages:

- The printer always automatically sets up the heat setting, print speed and sensor information and verifies that the installed ribbon is approved for the installed label.

- The software recognizes what label is installed and automatically organizes the label height and width, label printable area, zone information, label and ribbon color, number of parts across the web, spacing between parts and default rotation.

- The software and printer will be properly configured whether you open an existing part or create a new one.

- The printer LCD display also shows an estimated amount of labels and ribbon remaining **(Figure 12)**.

- If the printer is operated with non-Brady software and/or non-Brady labels, the printer will function only as a standard THT printer. Refer to *Standard Mode on page 16*.

The LCD display shows:

- The Brady logo in the top, left corner which indicates that the printer is operating in Brady mode.

- The online status of the printer.

- The material number and estimated amount remaining.
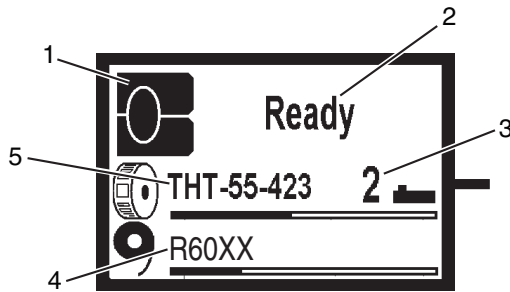
- The ribbon type and estimated amount remaining.

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Figure 12, Typical Ready Display

1. Designates printer in Brady mode
2. Online printer status
3. Sensor position
4. Ribbon number and estimated amount remaining
5. Material part number and estimated amount remaining

These functions are fully enabled with Brady IP enabled or compatible materials and Brady preferred software. For metallized Brady label material, refer to *Metallized Material on page 15*.

Metallized Material

Hassle-Free Mode

If you are using Brady-brand supplies and LabelMark, IdentiLab or BradySoft labeling software, the software will request selection of a part number prior to operation. Once the part number is selected, Hassle-free mode is completely operational.

Standard Mode

If you are not using Brady-brand supplies but LabelMark, IdentiLab or BradySoft labeling software, the software will ask if metallized material is installed when the printer cannot read a Brady IP enabled Supply. If you answer "yes," the software will request selection of a part number from a list prior to operation. The Brady IP Printer will operate in Standard mode. Refer to *Standard Mode on page 16*.

Installation

Sleeving Material

Sleeving material is processed the same way as labels. If the material is Brady-brand IP enabled, the printer will display the gap sensor switch setting on the LCD display. This is true for only IP-enabled material (not compatible). Refer to *Gap Sensors on page 17*. Set the gap sensor switch to the setting displayed and the printer will operate in Brady mode. Refer to *Brady Mode on page 14*.

If the material is not Brady-brand, the printer will operate in Standard mode. Refer to *Standard Mode on page 16*.

Custom Material

Custom Brady material is processed in Hassle-free mode.

Standard Mode

If the printer is operated in Standard mode or with non-Brady software and the user inserts Brady non-metallized label material, the printer will automatically execute the basic functions of detecting heat setting, print speed and sensor information. There is no way for the printer to determine label size. The user will need to manually enter media print settings.

The LCD display shows:

- The letter *s* in the top, left corner which indicates that the printer is operating in Standard mode.

- The online status of the printer.

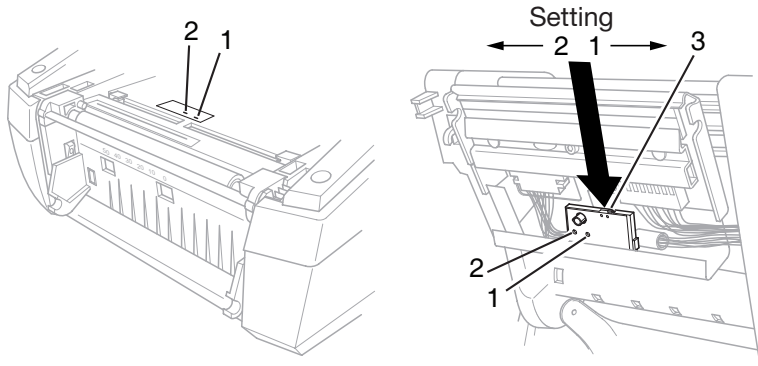Whenever possible, manually apply media print settings through the software.

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Label Sensors

Gap Sensors

Figure 13, Selecting the Gap Sensor

1. Gap sensor 1
2. Gap sensor 2
3. Switch

The printer has gap sensors **(Figure 13, 1** and **2,** receivers in the left picture, transmitters in the right picture**)** which can detect the start and end of a label. These sensors are controlled by a switch setting **(Figure 13, 3)**. The switch can be set to the left or to the right. All Brady IP enabled material will instruct the user, via the front LCD display, which position to set the switch. For non-standard material, set the sensor to position 2. Non-standard notched material is dependent on specific supply criteria.

1. Open the cover **(Figure 1, 9)** lower the control panel **(Figure 1, 17)** , and press the green print module release button**(Figure 1, 15)** .

2. Move the switch **(Figure 13, 3)** to the left or right as required.

3. Lower the print module. Press firmly on the close points **(Figure 1, 12)** on both sides on the module until the printhead clicks firmly into position.

4. Lift the control panel **(Figure 1, 17)** and press firmly until the panel clicks into position.

5. Close the cover **(Figure 1, 9)**.

NOTE: This switch cannot be made by the software.

Reflective Sensor

The reflective sensor is used to detect notched material as well as to detect black marks on the back of label stock. There is a clear label covering the reflective sensor. (When operating in Brady mode, the LCD display will show sensor placement information **(Figure 14, 2)**.)

Brady Mode

1. The LCD will indicate Brady mode **(Figure 14, 1)** and show sensor placement information **(Figure 14, 2)**.

2. Open the cover **(Figure 1, 9)** lower the control panel **(Figure 1, 17)** , and press the green print module release button **(Figure 1, 15)**.

3. Adjust the sensor knob **(Figure 14, 4)** with a pointed tool to the position displayed on the LCD **(Figure 14, 2)**.

4. Lower the Print Module **(Figure 1, 14)**. Lift the control panel **(Figure 1, 17)** and press firmly until the panel clicks into position.

5. Close the cover **(Figure 1, 9)**.

Standard Mode

1. Open the cover **(Figure 1, 9)** lower the control panel **(Figure 1, 17)** , and press the green print module release button **(Figure 1, 15)**.

2. Adjust the sensor knob **(Figure 14, 4)** with a pointed tool until the sensor inside the sensor window **(Figure 14, 3)** is aligned with the edge of the labels. If the label material is notched, the sensor must be aligned with the notch.

3. Lower the print module **(Figure 1, 14)**. Lift the control panel **(Figure 1, 17)** and press firmly until the panel clicks into position.

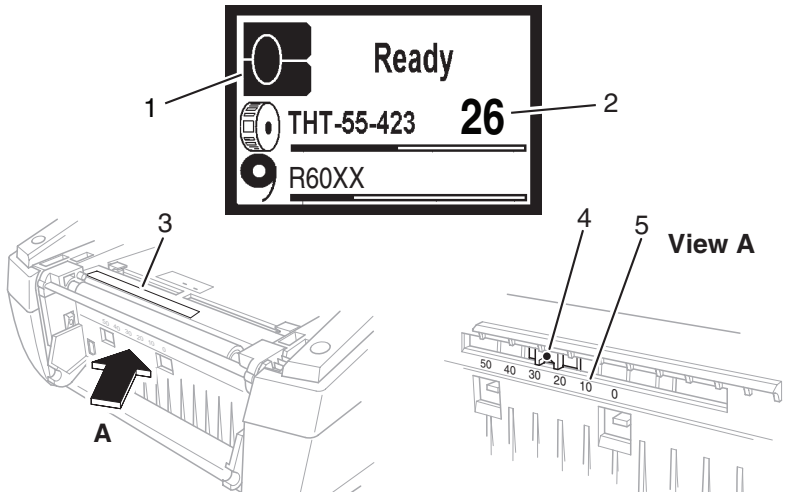4. Close the cover **(Figure 1, 9)**.

Figure 14, Adjusting the Reflective Sensor

1. Designates printer in Brady mode
2. Sensor position
3. Sensor window
4. Sensor knob
5. Scale

Figure 15, Reflective Sensor Label

Device Types

The Brady IP Printer has a Peel-off function and a Tear-off function.

Driver Settings

1. When in Start | Settings | Printers, right click on the IP printer. Choose Properties, then Printing preferences. Then choose Paper/ Output; paper size. Then Properties:
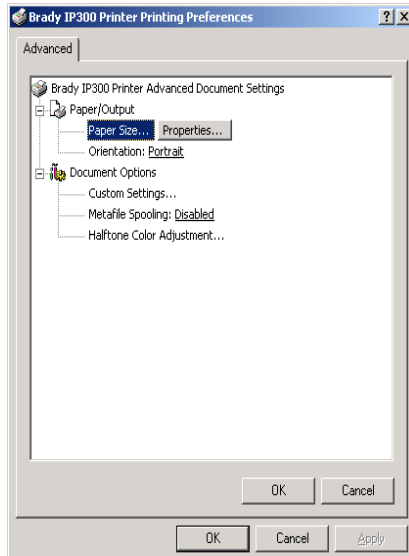
Figure 16, Printing Preferences Dialog Box

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2. You can now choose the print mode: Tear-off, Peel-off (on or off) or none.
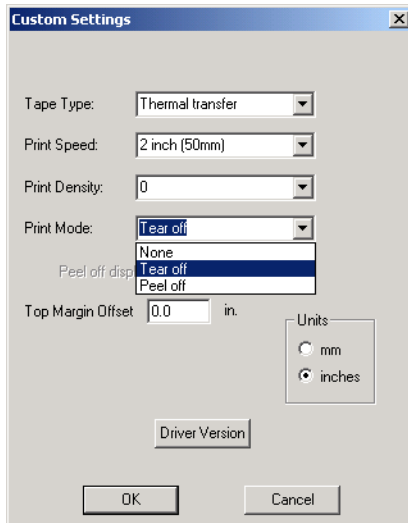
Figure 17, Custom Settings Dialog Box

Peel-Off Mode

The Brady IP Printer enables label output in Peel-off mode. In this mode, a label is printed, separated from the liner and presented to the user. The printer pauses until the label is removed. After the label is removed, the printer prints the next label and the cycle continues.

NOTICE
A sensor prevents further printing until the printed label has been removed from the Peel-off position.

Label stock is loaded as described in *Feeding the Label — Peel-Off Mode on page 28*.

Tear-Off Mode

The Brady IP Printer enables label output in Tear-off mode. Tear-off mode is when the last label is presented to the user so they can tear it off. After printing, detach the label strip manually. Tear-off mode is selected in the printer setup menu of the software package.

Label stock is loaded as described in *Feeding the Label — Tear-Off Mode on page 29*.

After printing, the strip label is detached by hand. The Brady IP Printer is equipped with a tear bar for this purpose.

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Loading the Ribbon and Material

Loading the Ribbon

NOTICE
Do not use a ribbon for direct thermal printing.

NOTICE
When inserting a ribbon, ensure that the coated side faces the labels, otherwise the printhead can become dirty.

1. Open the cover **(Figure 1, 9)** lower the control panel **(Figure 1, 17)** , and press the green print module release button **(Figure 1, 15)**.
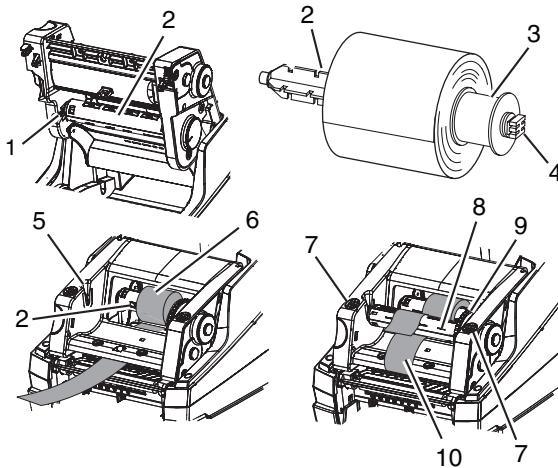

Figure 18, Loading the Ribbon

1. Guide slot
2. Transfer ribbon spindle
3. Spacer
4. Square end
5. Guide slot
6. Coated side of ribbon
7. Close points
8. Ribbon take-up spindle
9. Adjustment wheel
10. Ribbon path

2. Push the old ribbon spindle **(Figure 18, 2)** slightly to the right to release tension on the spindle and pull the left side of the spindle **(Figure 18, 1)** toward you. Discard used ribbon.

3. Position the square end of the new ribbon spindle in the square notch on the right side of the printer, push the spindle slightly to the right and slide the other end of the spindle into the notch on the left side of the printer.

4. Thread the ribbon end forward, under the printhead and back over the printhead **(Figure 18, 10)** to the ribbon take-up spindle **(Figure 18, 8)**.
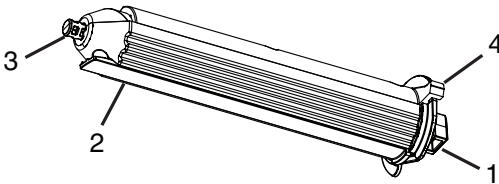

Figure 19, Ribbon Take-up Spindle

1. Square end	3. Round end
2. Ribbon hold-down tab	4. Thumb lever

NOTE: If you need to remove the ribbon take-up spindle, push the spindle slightly to the right and slide the other end of the spindle out of the notch on the left side of the printer. Remove the ribbon take-up spindle.

To replace the ribbon take-up spindle, position the square end **(Figure 19, 1)** of the spindle in the square notch on the right side of the printer, push the spindle slightly to the right and slide the other end of the spindle into the notch on the left side of the printer.

5. Slide the end of the ribbon under the ribbon hold-down tab **(Figure 19, 2)** so that about 2 inches (50.8 mm) protrude past the tab.

NOTE: Install the ribbon so the ribbon path is *under* the take-up spindle, NOT over the spindle.

Fold the end of the ribbon back on top of itself over the tab.

6. Turn the adjustment wheel **(Figure 18, 9)** a few complete revolutions, to ensure that the ribbon will not pull out from under the ribbon hold-down tab. The ribbon should now be snug and smoothed out against the printhead.

NOTE: The spindle is self-adjusting and will smooth the ribbon out and position it correctly as the adjustment wheel is turned.

NOTE: To remove ribbon from the ribbon take-up spindle, press and hold the thumb lever **(Figure 19, 4)** to compress the spindle and slide the ribbon off the spindle.

Loading the Material

Label rolls are supplied with different diameters. The material supply holder can hold label rolls with a minimum core diameter of 3 inches (76 mm).
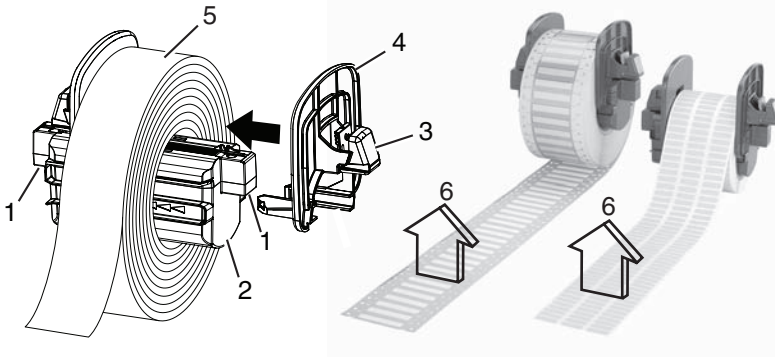

Figure 20, Material Supply Holder

1. Electrical contacts
2. Material supply holder
3. Green tab
4. End piece
5. Labels
6. Printable side up

1. Open the cover **(Figure 1, 9)**, lower the control panel **(Figure 1, 17)** and press the green print module release button **(Figure 1, 15)**.

2. Remove the material supply holder **(Figure 20, 2)** from the printer by lifting it up and out of the frame.

NOTICE

There are electrical contacts located under the side tabs (Figure 20, 1) on both sides of the material supply holder. Be careful not to damage these electrical contacts or the Brady IP Printer will be unable to read the material identification tag on the labels.

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3. Press and hold the green tab **(Figure 20, 3)** on the material supply holder and slide the end piece **(Figure 20, 4)** outward.

4. Slide the Brady labeling material roll onto the material supply holder. Make sure material roll is installed with label printable side (up) towards printhead **(Figure 20, 6)**. Reinstall the end piece **(Figure 20, 4)**, which will automatically center the roll on the holder.

5. Reinsert the material supply holder onto the bracket grooves on the frame. Ensure the electrical contacts under the side tabs **(Figure 20, 1)** are properly seated in the frame so the printer will correctly read the material identification tag.
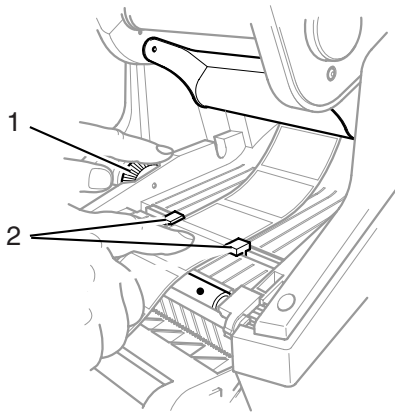

Figure 21, Alignment Guides

1. Green dial   2. Material guides

6. Thread the material under the print module, under the guides **(Figure 21, 2)** and forward through the slot in the control panel.

7. Turn the green dial on the left **(Figure 21, 1)** to adjust the guides so they just snug up against the labels. Do not tighten the guides enough to crimp the labels.

8. Apply thumb pressure to the close points **(Figure 18, 7)** on both sides of the print module until it latches securely in place. Once the print module is latched in place, raise the front panel and snap it into the closed position.

9. Close the printer cover **(Figure 1, 9)**.

Reading the LCD Display

The use of Brady-brand supplies and LabelMark, BradySoft or IdentiLab labeling software allows access to the full operation of Brady mode. For detailed information about Brady mode, refer to *Brady Mode on page 14.*

The LCD display should read Ready and display the type of material loaded into the printer as well as the type of ribbon loaded. **Figure 22** is an example of a typical display.
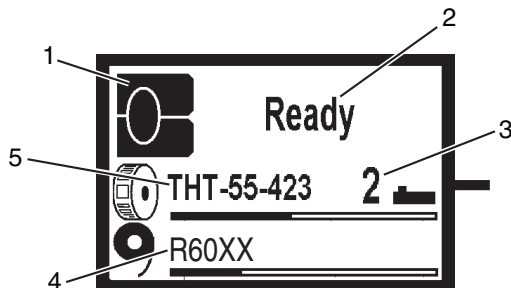

Figure 22, Typical Ready Display

1. Designates printer in Brady mode
2. Online printer status
3. Sensor position
4. Ribbon number and estimated amount remaining
5. Material part number and estimated amount remaining

If the printer is in a state other than **Ready**, refer to the "*Basic Troubleshooting Guide on page 62* to determine what the problem might be.

If the printer is operated with non-Brady software and/or non-Brady labels, the printer will function only as a standard THT printer. Refer to *Standard Mode on page 16* for additional information.
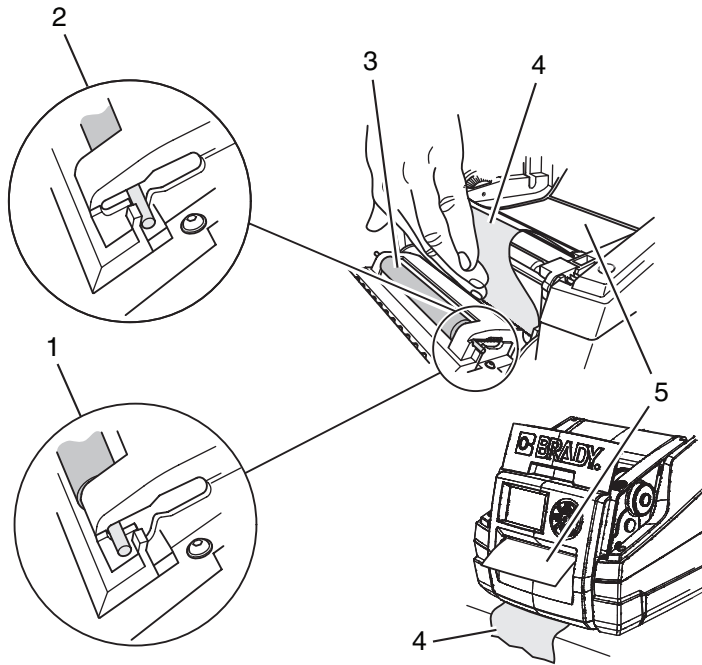
Feeding the Label — Peel-Off Mode

Figure 23, Peel-Off Mode

1. Pressure roller (engaged)
2. Pressure roller (disengaged)
3. Pressure roller
4. Label backing
5. Label

1. Load the labels on the material supply holder. Refer to *Loading the Material on page 25*.

2. Position the label strip between the label guides **(Figure 21, 2)** and turn the adjustment wheel **(Figure 21, 1)** to snug the guides just up against the label strip. Be careful not to tighten the guides against the label strip enough to crimp the label strip.

3. Press on the metal pins at each end of the pressure roller **(Figure 23, 3)** and slide the roller from the disengaged position **(Figure 23, 2)** into the engaged position **(Figure 23, 1)**.

4. Remove the labels **(Figure 23, 5)** from about the first 6 inches (152.4 mm) of the label backing **(Figure 23, 4)**.

5. Feed the label backing **(Figure 23, 4)** out between the control panel and the printer.

6. Make sure that there is enough slack in the label strip so the printer can be closed without pulling the label strip backward.

7. Close the printer cover **(Figure 1, 9)**.

Feeding the Label — Tear-Off Mode
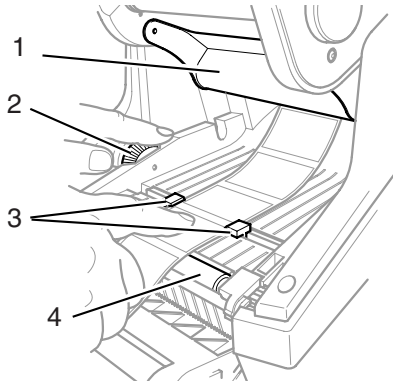
Figure 24, Tear-Off Mode

1. Deflector
2. Adjustment Wheel
3. Label Guides
4. Print Roller

1. Load the labels on the material supply holder. Refer to *Loading the Material on page 25*.

2. Position the label strip between the label guides **(Figure 24, 3)** and turn the adjustment wheel **(Figure 24, 2)** to snug the guides just up against the label strip. Be careful not to tighten the guides against the label strip enough to crimp the label strip.

3. Close the printer cover **(Figure 1, 9)**.

> ## ⚠ CAUTION
>
> **Printhead damage caused by improper handling!**
>
> - **Do not touch the bottom of the printhead with fingers or sharp objects.**
> - **Ensure that the labels are clean.**
> - **Ensure that the label surfaces are smooth. Rough labels act like emery paper and reduce the service life of the printhead.**
>
> **Print with the lowest possible printhead temperature.**

The printer is ready for operation when all connections are made and labels and ribbon are loaded.

Synchronizing the Paper Feed

After the label stock has been inserted, the printer will calibrate automatically if Brady IP enabled materials are used. If materials other than Brady IP enabled are used, calibration is performed manually.

- ■ Select the material type in the software.

- ■ Press the **feed** key to start the synchronization.

- ■ Remove the blank labels produced during the synchronization.

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Control Panel

The user can control many printer operations with the control panel. These options include:

- Starting, interrupting, continuing and cancelling print jobs (refer to *Key Functions on page 36*).

- Setting print speed, interface configuration, language and time of day (refer to *Setup Menu on page 47*).

- Starting test functions (refer to *Test on page 38*),

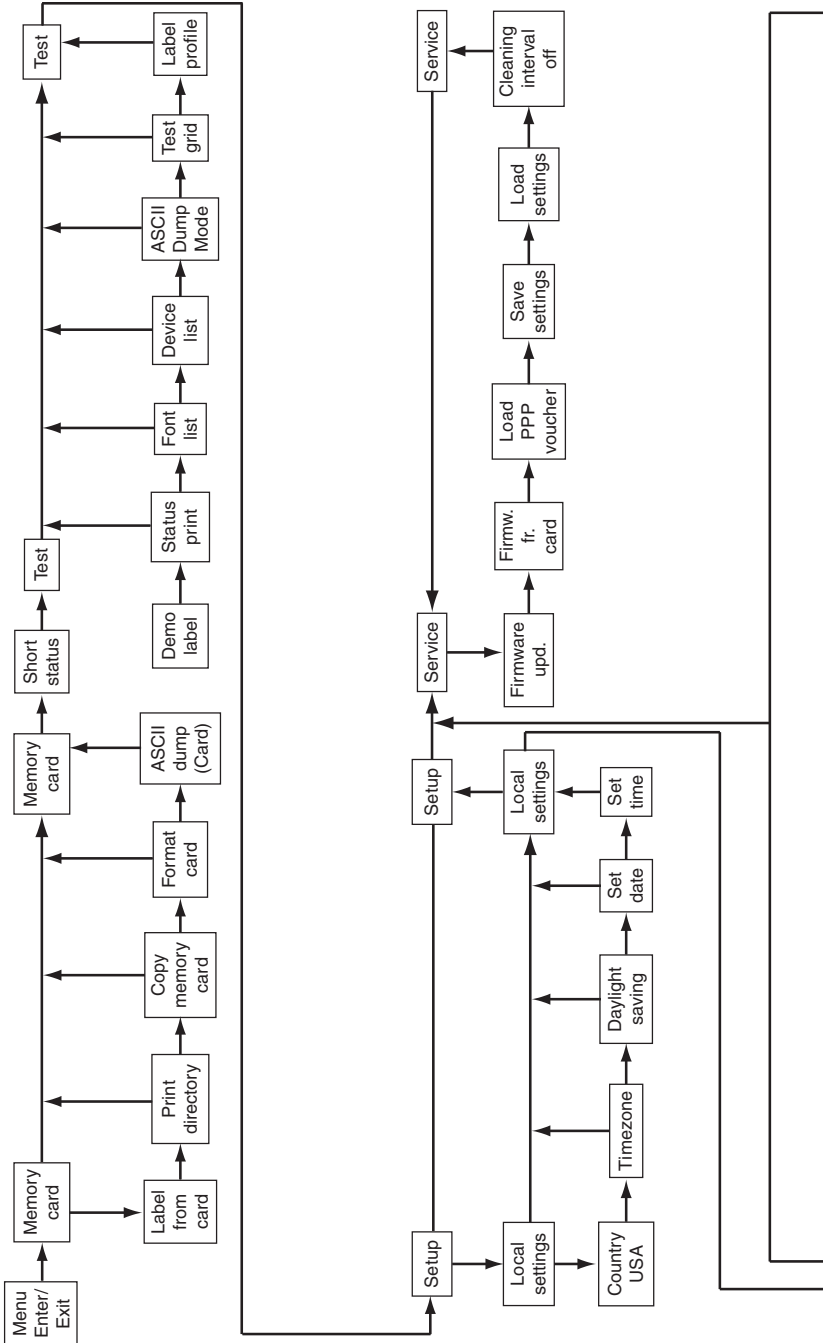- Updating firmware (refer to *Firmware on page 54*).

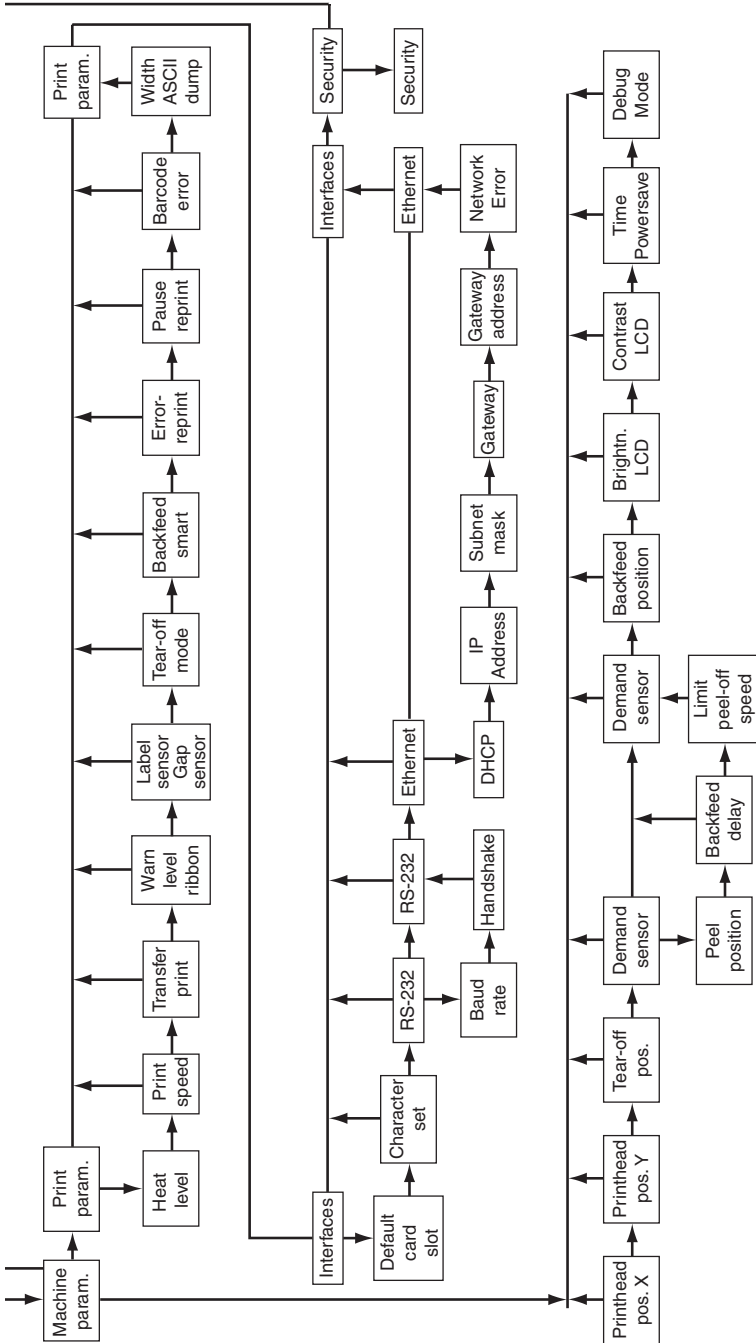Most adjustments should be performed through the software.

NOTICE
Whenever possible, control print jobs through the software.

LCD Panel Menu Diagram

The control panel menu structure flowchart:

First column (Test menu):
Menu Enter/Exit → Memory card → Short status → Test

Memory card branch:
- Label from card → Print directory → Copy memory card → Format card → ASCII dump (Card) → Memory card

Test branch (Short status):
- Demo label → Status print → Font list → Device list → ASCII Dump Mode → Test grid → Label profile → Test

Second column (Service/Setup menu):
Setup → Service → Service

Service branch:
- Firmware upd. → Firmw. fr. card → Load PPP voucher → Load settings → Save settings → Load settings → Cleaning interval off → Service

Setup branch:
- Setup → Local settings → Country USA → Timezone → Daylight saving → Set date → Set time → Local settings
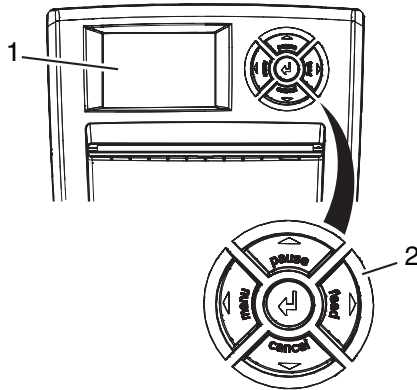
Control Panel Structure

Figure 25, Control Panel

The control panel consists of a graphic display **(Figure 25, 1)** and the navigator pad **(Figure 25, 2)** with five integrated keys.

The graphic display indicates the current status of the printer, label and/or ribbon numbers, if Brady-brand materials are used, the print job, faults and the printer settings in the menu.

The key functions depend on the current printer status. The key pads (for example, **menu** or **feed**) light up white in Print mode.

Functions in Print Mode

Powersave Mode

If the printer is not used for a lengthy period, it automatically switches to Powersave mode.

The graphic appears in the display, and key lighting is switched off.

Press any key on the navigator pad to exit Powersave mode.

Printer States

'Ready' state

The printer is ready and can receive data.

The display shows the text `Ready` and label and/or ribbon numbers if Brady-brand materials are used.

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'Printing label' state

The printer is currently processing an active print job. Data can be transmitted for a new print job. The new print job will start when the previous one has finished.

The display shows the message **Printing label** and the number of the printed label in the print job.

'Pause' state

The printing process has been interrupted by the operator.

The display shows the text **Pause** and the symbol ☕.

'Correctable error' state

An error has occurred that can be rectified by the operator without interrupting the print job. The print job can be continued after the error has been rectified.

The display shows the symbol 🛑, the type of error and the number of labels still to be printed.

'Irrecoverable error' state

An error has occurred that cannot be rectified without interrupting the print job.

The display shows the symbol 🛑, the type of error and the number of labels still to be printed.

'System fault' state

If a fault occurs during the system test, the symbol ☠ and type of error are displayed.

■ Switch the printer off and then on again at the power switch.

    or

■ Press the **cancel** key.

Call Service if the error occurs persistently.

Key Functions

- The up, down, left and right arrows are used for navigating in the menu.

- The ↵ key corresponds to the Enter key on a computer keyboard. It confirms:
  - Selection of a menu item.
  - Entry of a parameter.
  - Help information in the event of a fault.

Key		Display	State	Function
menu	lights	Ready	Ready	Enter the offline menu.
feed	lights	Ready	Ready	Feed a blank label.
pause	lights	Ready	Ready	Stop printer after the end of a print job. Reprint the last label.
		Print label	Print label	Interrupt print job. Printer goes into **Pause** state.
		Pause	Pause	Continue print job. Printer goes into **Print label** state.
	flashes	(STOP)	Correctable error	Continue the print job after rectifying the fault. Printer goes into **Print label** state.
cancel	lights	Ready	Ready	Delete internal memory. The last label can no longer be reprinted.
		Print label	Print label	Short press → cancels the current print job. Longer press → cancels the current print job and deletes all print jobs.
		Pause	Pause	
		(STOP)	Correctable error	
	flashes	(STOP)	Irrecoverable error	
↵	lights	(STOP)	Error	Call help. Concise information for rectifying the fault is displayed.

LCD/Menu Options

Parameters for configuring the printer are found in the **setup** menu on the printer. Your printer is mainly configured via the operating LCD display during initial start-up and when making major changes to the operating conditions. Changes required for processing different print jobs should be implemented via software settings.

You can protect the **setup** menu from unauthorized access with a code number (PIN). Refer to *Security on page 53* for additional information.

Short Status

The **Short status** menu provides an overview of important status information in the display of the printer.

1. Press the **menu** key.

2. Select **Short status** menu.

3. Scroll through the individual lines with the ▲ and ▼ keys.

4. Use the ↵ key to exit the menu.

The following configuration parameters are displayed in the **Short status** menu:

Line	Meaning	Example
1	Printer type	IP/300
2	Version number of the printer operating system (firmware)	Firmware V1.00
3	Creation date of firmware	(Aug 11 2006)
4	Version number of the system loader (bootloader)	Bootloader V1.14
5	Creation date of the bootloader	(Jul 24 2006)
6	Revision of the CPU PCB	PCB Rev. 05
7	Revision of the CPU	CPU Rev. 3
8	Serial number of the PCB CPU	CPU #132062821190
9	Resolution of the installed thermal printhead	TPH 300dpi,1248dots
10	Previously printed paper lengths	Transfer 181.44 m
11	Previously printed paper length (thermal print)	Thermal 13.17 m
12	IP address of the Brady IP Printer when connected to a network	192.168.9.14

Test

Overview

The printer is equipped with different test functions providing information about:

■ The most important configuration parameters.

■ The fonts available in the printer.

■ The hardware components and connected peripheral devices.

■ The print image quality and state of the thermal printhead.

■ The function of label detection in conjunction with the optical properties of the label medium.

■ The label data sent from the computer or memory card.

The test functions are found in the **Test** menu:

1. Press the **menu** key.

2. Select **Test** menu.

3. Switch to the test function level with the ▼ key.

4. Select the desired test function with the ▶ and ◀ keys.
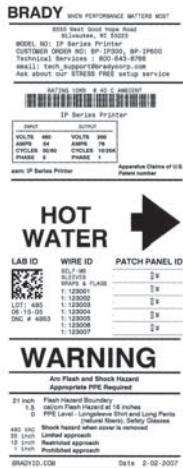
5. Start the selected test function with the ↵ key.

Figure 26, Sample Test Label

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Status Print

The **status print** function prints a test image containing information on the configuration and status of the printer. The printout occurs using the heat level and print speed specified in the **Setup > Print param.** menu.

NOTE: Continuous media is most suitable for this function.

1. Press the **menu** key.

2. Select **Test > Status print** menu.

3. Press the ↵ key.

You can cancel the printout with the **cancel** key.

The printout contains the following information:

■ Device type

■ Version and creation date of the firmware

■ Version and creation date of the system loader (bootloader)

■ Current values of selected local settings (refer to *Local Settings on page 47*)

■ Current values of selected device settings (refer to *Device List on page 41*)

■ Current values of selected print parameters (refer to *Print Parameters on page 50*)

■ Current values of selected interface parameters (refer to *Interfaces on page 52*)

■ Status of PIN activation (refer to *Security on page 53*)

■ Operation time

■ Number of labels printed

■ Printed length with thermal transfer printing and thermal direct printing

■ Current measured values of the printhead temperature and heat voltage

■ Information about the label sensor

■ Lines used to evaluate the print quality

Font List

The **Font list** function prints the most important parameters of the fonts available in the printer. The table contains both the original fonts and user-loaded fonts.

NOTE: Continuous media is most suitable for this function.

1. Press the **menu** key.

2. Select **Test > Font list** menu.

3. Press the ↵ key.
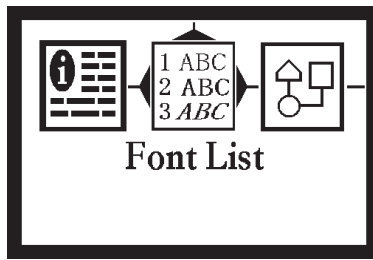
You can cancel the printout with the **cancel** key.

Figure 27, Font List

The font parameters have the following meanings:

Column	Meaning
No.	ID number of the font required for programming (command T).
Name	Name with which the font is saved internally.
Type	Type of font generation. This provides information on the variability of the font and is important when programming (command T).
Description	Explanations of the font: size, font family. The printout occurs in the appropriate font.

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Device List

The **Device list** function prints out the most important information on hardware components of the printer and connected devices.

NOTE: Continuous media is most suitable for this function.

1. Press the **menu** key.

2. Select **Test** > **Device list** menu.

3. Press the ↵ key.

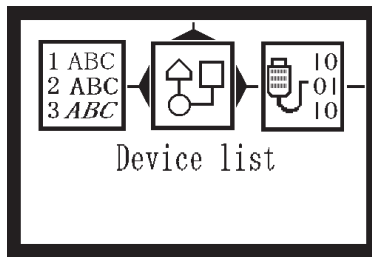You can cancel the printout with the **cancel** key.

Figure 28, Device List

Name	Information
CPU	Type and serial number of the CPU PCB Revision of CPU PCB and FPGA
TPH	Resolution and heating point number of the installed thermal printhead.
I/F [x]	Type of interfaces installed **x**: Number of interface

ASCII Dump Mode

ASCII Dump mode offers the option of checking incoming control sequences at the interface when working with direct programming. The incoming commands at the printer are printed out as text. In addition, a corresponding error message is printed out immediately after an error occurs.

The printout is started after four lines have been received.

NOTE: Continuous media is most suitable for this function.

NOTE: You can adjust the width of the printout down to 2 inches (50 mm) with the **Width ASCII dump** parameter.

1. Press the **menu** key.

2. Select **Test > ASCII Dump Mode** menu.

3. Press the ↵ key to switch to Monitor mode.

4. Use the **feed** key to call up the last few lines of a label description.

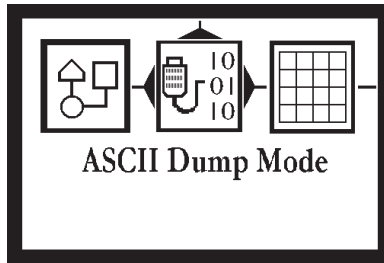You can cancel the printout with the **cancel** key.

Figure 29, ASCII Dump Mode

Figure 30 is an illustration of a sample ASCII Dump printout.

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```
q y  C L
         R F
e PCX;*C L
          R F
e IMG;*C L
          R F
dIMG;53AC865EC
                R
        C L
         R F
dTMG:8FFDAA78C
                R
        C L
         R F
dIMG;4B2CE8E6C
                R
        C L
         R F
dIMG;5CADAF94C
                R
        C L
         R F
mmC L
    R F
z0C L
    R F
  R F
O R,PC L
        R F
H75,0,TC L
          R F
D 0.0,0.0C L
            R F
S11;0.0,0.0,50.8,53.9,101.6,101.6,
C L
 R F
T4.7,7.4,0,3,4.34,q100;Brady Soft
est LabelC L
           R F
B73.8,36.1,0,UPCA,12.0,0.17;012345
7890C L
     R F
I:GraphX03;6.7,23.1,0;8FFDAA78C L
                                 R F
T8.8,19.7,0,5,5.68,q100;ABCDEFGHIJ
LMNOPQRSTUVC L
             R F
T8.6,42.3,0,5,0.83,q100;ABCDEFGHIJ
LMNOPQRSTUVWXYZ1234567890  abcdef
hijklmnopqrstuvwxyz0123456789  AaB
CcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSs
tUuVvWwXxYyZzC L
              R F
I:GraphX06;36.5,25.7,0;4B2CE8E6C L
                                 R F
A 2C L
    R F
```

Figure 30, Sample ASCII Dump Mode

Test Grid

The **Test grid** function prints out the geometric pattern on a background grid. This allows you to assess the evenness of the print quality.

NOTE: Continuous media is most suitable for this function.

1. Press the **menu** key.

2. Select **Test > Test grid** menu.

3. Press the ↵ key to start the printout.

The geometric pattern is printed every five seconds once the **Test grid** function is started. You can adjust the printer during the pauses between the printouts.

You can cancel the printout with the **cancel** key.

Figure 31, Test Grid

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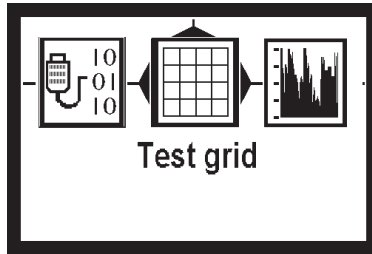
Label Profile

The `Label profile` function carries out a longer label advance. It saves the values measured by the label sensor here and then prints them out in two diagrams. The printout is used to check label detection in conjunction with the optical properties of the label medium.

1. Select the label sensor to be tested in `Setup > Print param.` Refer to *Print Parameters on page 50*.

2. Load the label medium to be tested into the printer.

3. Press the **menu** key.

4. Select `Test > Label profile` menu.

5. Press the ↵ key. The printer performs a longer label advance. The label sensor measures the transparency/reflection capacity of the label material. The message `Test print OK` appears in the display once the advance is complete.

6. Load printable material which extends across the entire printing width.

7. Press the ↵ key to start the diagram printout.

You can cancel the printout with the **cancel** key.
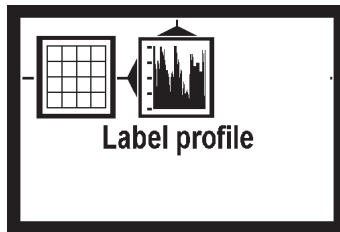
Figure 32, Label Profile
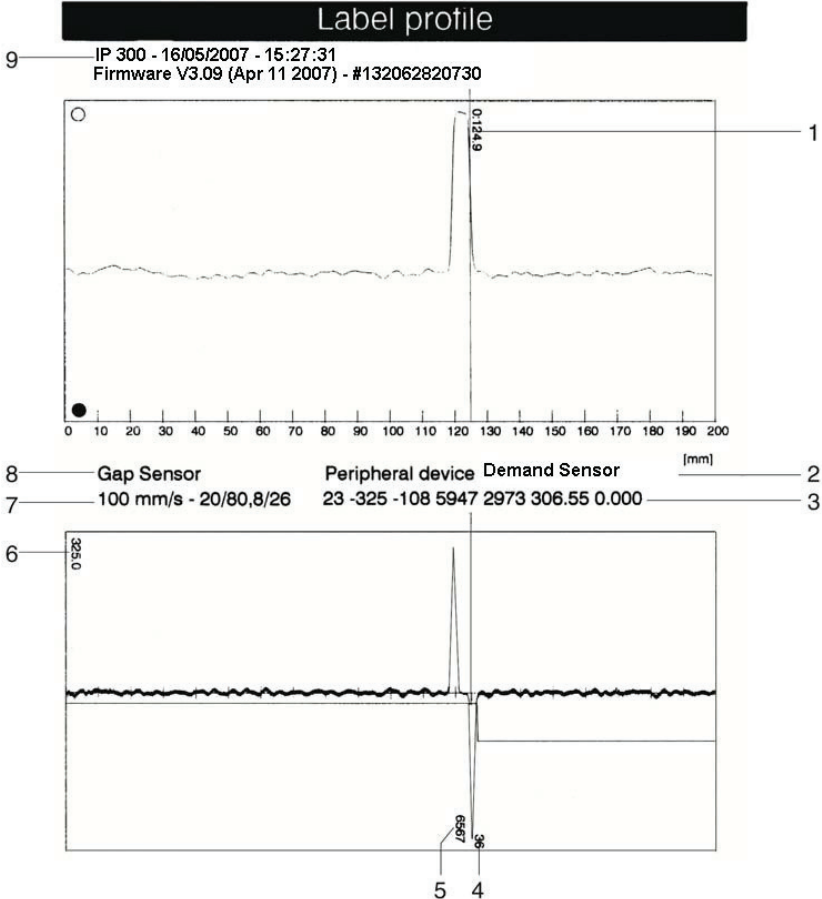
Figure 33, Typical Label Profile Graph
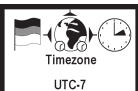
	Description of Label Profile Graph
1	Direction of paper flow at which the label start was detected
2	Type of peripheral device connected
3	Information for the firmware developer
4	Width of the negative derivative in motor increments
5	Stroke between start and end of the negative derivative
6	Scale factor for the derivative diagram
7	Service information for adjusting the label sensor
8	Method of label detection (transmitted light/reflex bottom)
9	Device name and current firmware version

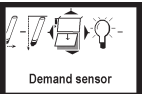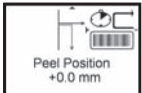WHEN PERFORMANCE MATTERS MOST™ BRADY®

Setup Menu

Local Settings

Press the **menu** key.

Select **Setup > Local settings**.
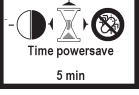
Parameter	Meaning	Default
Country Country USA	Sets the display language and the country-specific date and time formats.	USA
Timezone Timezone UTC-7	Adapts the time display on the printer to the time zone in relation to UTC (Universal Time Coordinated).	UTC
Daylight saving Daylight saving USA	Selects daylight savings time applicable for the region. The time changes automatically when daylight savings time begins and ends.	USA
Set date Set date 09-17-2006	Sets the system date in the format DD.MM.YYYY (DD: day, MM: month, YYYY: year). The print output of the date varies depending on the format set via the country parameter.	–
Set time Set time 20:29	Sets the system time in HH:MM:SS format. When changing the time, ensure that the timezone, daylight saving and set date parameters are set correctly.	–

Control Panel

Machine Parameters

Press the **menu** key.

Select `Setup > Machine param.`

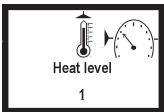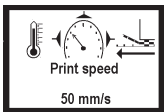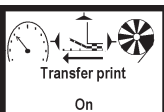| Parameter	Meaning	Default
`Printhead pos. X` Printhead pos. X +00.0mm	Shifting of the entire print image perpendicular to the direction of paper flow. The absolute shifting is limited by the margins of the print zone. Those are determined by the width of the printing line on the printhead. You can also set the `Printhead pos. X` via software. The offset values from the `Machine param.` menu and the software are added together.	0.0 mm
`Printhead pos. Y` Printhead pos. Y +00.0mm	Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow. Shifting of the print image in the direction of paper flow also influences the peel and tear positions. Correct the peel position and tear position parameters by the same value in the opposite direction. You can also set the `Printhead pos. Y` via software. The offset values from the `Machine param.` menu and the software are added together.	0.0 mm
`Demand sensor` Demand sensor	Configuration of the Peel-off parameters for devices with Peel-off function.	
`> Peel position` Peel Position +0.0 mm	In the peel position or individual label tear-off position, the label may not advance enough for the operator to get a grip on the label and remove it. Increasing this value from zero advances the printed label the selected distance until it is removed. After the label is removed, the next label automatically moves to the correct printing position. The maximum recommended setting for the peel position is 6.0 mm.	0.0 mm

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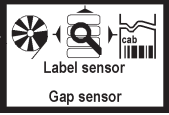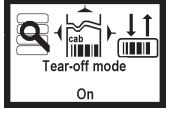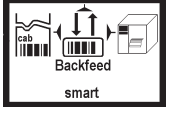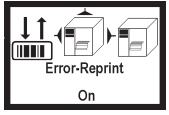| Parameter	Meaning	Default
>Backfeed delay 	Delay time between removing the label from the peel position and the backfeed of the label.	250 ms
> Limit peel-off spd. 	Limitation of the print speed in the Peel-off mode to 100 mm/s.	On
Brightn. LCD 	Brightness of the LCD display from 1 to 10.	10
Contrast LCD 	Contrast of the LCD display from 4 to 8.	6
Time Powersave 	Time between the last operation and the activation of Powersave mode.	5 min.
Debug mode 	Operating mode which supports the firmware programmer when localizing errors.	Off
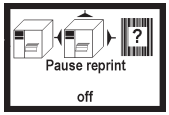
Control Panel

Print Parameters

Press the **menu** key.

Select `Setup > Print param.`

Parameter	Meaning	Default
`Heat level` Heat level 1	Heating value to compensate for different thermal behavior of printheads. Changing this value is necessary if the printing intensity has changed after replacing the printhead. To adapt the printing intensity when using different media, print speeds or printing contents, you should change the heat level in the software. The settings from the `Print param.` menu and the software are added together. The heat level setting also affects the test printouts.	0
`Print speed` Print speed 50 mm/s	Basic print speed setting. You can specify the print speed for each print job via software. The print speed setting also affects the test printouts.	100 mm/s
`Transfer print` Transfer print On	`On` for thermal transfer printing: Sensor for monitoring the transfer ribbon is activated. `Off` for thermal direct printing: Sensor for monitoring the transfer ribbon is not activated. You can overwrite the setting for each print job via software.	On
`Warn level ribbon` Warn level ribbon On	Warning sent via the Ethernet interface by way of an SNMP message or e-mail sent when the remaining diameter of the ribbon supply roll undershoots the set value 1.2–3 inches (32–74 mm).	Off

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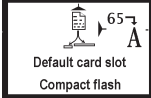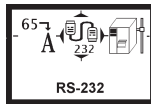| Parameter	Meaning	Default
`Label sensor` Label sensor Gap sensor	Method for detecting the starting end of the label. `Gap sensor`: Detection using changes in the transparency between the label and label gap. `Bottom-Reflect`: Detection using reflex marks on the bottom of the material and notched material.	Gap Sensor
`Tear-off mode` Tear-off mode On	Positioning the label medium for tearing off at the Tear-off plate. `On`: Additional advancement of the label medium which positions the label gap after the last printed label at the dispense plate. `Off`: Label advance stops once the last label has fully passed the print line.	Off
`Backfeed` Backfeed smart	Method for backfeeding the label medium. Backfeeding is necessary in the Tear-off and Peel-off modes since a label is pushed out past the front edge of the next label above the print line when peeling or tearing. `always`: Backfeeding occurs independently of label contents. `smart`: Backfeeding only occurs when the next label is not yet fully prepared when peeling or tearing the current label. Otherwise, the second label is pushed on and completed after removal of the first label without backfeeding.	smart
`Error-Reprint` Error-Reprint On	`On`: With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated. `Off:` Print job is continued with the next label.	On
`Pause reprint` Pause reprint off	Printing another label with the information of the previous print job by pressing the **pause** key. This function can be executed until the print buffer is cleared with the **cancel** key.	Off

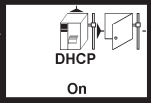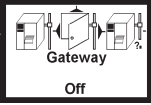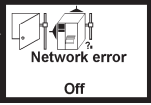| Parameter	Meaning	Default
Barcode error Barcode error On	**On**: With faulty barcode contents or size specifications, printing is interrupted. **Off**: Printing is not interrupted if an error occurs. If barcode contents are faulty, the printer attempts to replace the incorrect data with valid characters (e.g. zeros). If barcode size specifications are faulty, a gray area is printed instead of the barcode.	On
Width ASCII dump Width ASCII dump Automatic	Width of the printing area in the Monitor mode test function. With the Automatic setting, the printout of the control sequences arriving at the printer occurs over the maximum printing width. You can reduce the printing area width down to 2 inches (50.8 mm).	Automatic

Interfaces

Press the **menu** key.

Select **Setup > Interfaces**.

Parameter	Meaning	Default
Default card slot Default card slot Compact flash	Selects the primary card slot. Select one of the card slots on the back of the printer (CompactFlash, PC Card or Ext. CompactFlash)	Compact Flash
Character set Character set DOS 857	Selects the character set table. Switching the character set via software is not possible. You can access characters not available in the selected character set by using the Unicode table.	Windows 1252
RS-232 RS-232	Sets the interface parameters Baud rate and Handshake for data transfer via the serial RS-232 interface. Recommended settings are 115200 and hardware handshake.	115200 RTS/CTS

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Parameter	Meaning	Default
> DHCP DHCP On	Method of issuing IP address **On**: Dynamic issuing of IP address by the DHCP server **Off**: Direct issuing of the IP address by the operator	On
> IP	IP address of the Brady IP Printer. Only valid with **DHCP = Off**.	
> Mask	Subnet mask (classification and address range) of the local network. Only valid with **DHCP = Off.**	
> Gateway Gateway Off	Connection address between the local network and other networks. The IP address of the computer (router) on the network. The address of the router can also be issued via DHCP.	Off
> Network error Network error Off	Printer switches to Error mode when problems with the network connection occur.	Off

Security

By activating a PIN, you can protect the **setup** menu, certain memory card functions and the firmware update from unauthorized access. The protected menu items are marked with the 🔒 symbol and are only accessible after the PIN is entered.

1. Press the **menu** key.

2. Select **Setup > Security > Security** menu.

3. Select **On** with the ▶ and ◀ keys.

4. Accept the setting with the ↵ key.

5. Select **On** with the ▶ and ◀ keys.

6. Select **PIN** with the ▶ key.

7. Select the digit of the PIN to be changed with the ▶ and ◀ keys.

8. Assign the selected digit a number with the ▲ and ▼ keys.

9. Repeat these two steps for the remaining digits of the PIN.

10. Accept the setting with the ↵ key.

Firmware

NOTICE
Do not power down or remove the memory card during a firmware upgrade.

The printer firmware is saved in a Flash EPROM. You can update the firmware using the following functions:

- **`Firmware upd.`**: Copy a firmware file from a computer connected to one of the interfaces of the Brady IP Printer. Refer to *Firmware Update via Interface on page 54*. Brady Support can provide additional information about current firmware available on the Brady website.

- **`Firmw. fr. card`**: Copy a firmware file from a memory card. Refer to *Firmware Update from Memory Card on page 55*.

Firmware Update via Interface

1. Press the **menu** key.

2. Select **`Service > Firmware upd.`** menu.

3. Press the ↵ key.

4. The **`Firmware-Upd`** message appears in the display.

5. Press the ↵ key.

6. If **`Firmware upd.`** is protected via a PIN, use the ▲, ▼, ▶ and ◀ keys to enter the code number and confirm with the ↵ key.

7. Open the DOS input window on the PC.

8. Configure the serial interface of the PC with the mode command. Enter the command **mode com1: baud=115200 parity=n data=8 stop=1**, for example.

9. Send the firmware file (e.g. 304_6811.x2) to the printer. Enter the command **copy /b 304_6811.x2 com1:**, for example.

10. A progress indicator is displayed while the firmware is being copied. **`OK`** appears in the display once copying is successfully completed.

11. Press the ↵ key.

Firmware Update from Memory Card

1. Format CompactFlash memory card in printer.

    The directories "fonts," "images," "labels" and "misc" are created on the memory card.

2. Copy the firmware file to the "misc" directory in a CompactFlash drive.

3. Insert the prepared memory card into the printer.

4. Press the **menu** button.

5. Select `Service > Firmw. fr. card` menu.

6. Press the ↵ key.

7. If the function `Firmw. fr. card` is protected via a PIN, use the ▲, ▼, ▶ and ◀ keys to enter the code number and confirm with the ↵ key.

    The names of the firmware files found on the memory card are shown in the display.

8. If several firmware files are found on the memory card, select the desired file with the ▲ and ▼ keys.

9. Press the ↵ key.

    The selected firmware file is copied. A progress indicator is displayed while the firmware is being copied. `OK` appears in the display once copying is successfully completed.
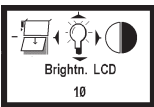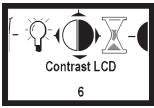
10. Press the ↵ key.

Error Messages During Firmware Update

If an error occurs during the update, one of the following error codes is shown in the display:

Error code	Meaning
C	Checksum error. /b may have been forgotten in the COPY command or the file is defective.
H	Header error. /b may have been forgotten in the COPY command or the file is defective.
E	EPROM could not be cleared.
V	Programming voltage is too low.
P	Programming error.

NOTE: If an error occurs with a firmware update, the old firmware version is no longer usable. Restart programming.

Adjust Screen Brightness

Brightn. LCD Brightn. LCD 10	Adjust the LCD display brightness (1 to 10).	10
Contrast LCD Contrast LCD 6	Adjust the LCD display contrast (4 to 8).	6

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Calibration for Standard Material

Heat Settings for Print Darkness

With the use of Brady material, the heat settings in the setup print parameters menu may vary greatly. Setting the heat excessively high can result in not only melting the ribbon but also damaging the printhead. If your material does not have a recommended heat setting, it is recommended that you set the heat at -20, which is the lowest possible value. At this point print a label and evaluate it for quality. If the label is too light, change the heat setting by one or two values in the positive direction and retry printing a label. Keep repeating this process until you get a quality label. Once you have determined the heat setting for this particular material, record it so that the next time you use this material you will know where to set the heat settings.

Heat settings can also be adjusted in your Brady software.

Speed Settings for Registration

Recommended speed is one or two inches per second.

Print Sample Label

A sample label is imbedded in the firmware and can be printed through the test menu.

Figure 34, Sample Print Label

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Print Setting Label

To validate the settings, print the configuration label.

Figure 35, Configuration Label

Cleaning and Simple Maintenance

> ### ⚠ DANGER
> **Electric Shock Hazard**
> **Disconnect power to the printer before starting any maintenance work.**

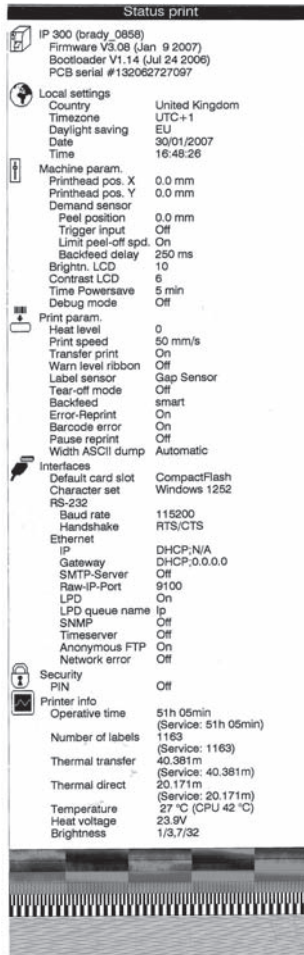It is important to clean the thermal printhead regularly. This guarantees a consistently good printed image and will prevent premature wear of the printhead.

Other maintenance is limited to occasional cleaning of the printer.

General Cleaning

> ### *NOTICE*
> **Do not use abrasive cleaners or solvents for cleaning external surfaces or modules. Do not use lubricating agents of any kind.**
>
> **The printer can be damaged by abrasive cleansers. Lubricating agents can damage the finish and mechanical parts inside the printer.**

- Remove dust and particles from the print area with a soft brush, vacuum cleaner or compressed air.

- Clean the cover of the printer.

- Remove any dust and debris from the interior of the printer using a soft bristle brush or vacuum cleaner. Inspect this area after every four rolls of media.

Cleaning the Printhead and Media Feed Rollers

It is important that the printhead be cleaned on a regular bases. If debris builds up on the printhead you will see vertical un-printed lines appearing in the labels. Continuing to print under these conditions can cause the heat from the printhead to damage the printhead.

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> **⚠ CAUTION**
>
> **Printhead Damage**
> - **Do not use sharp objects to clean the printhead.**
> - **Do not touch the protective glass layer on the printhead.**

> **⚠ CAUTION**
>
> **Risk of injury from the hot printhead.**
>
> **Ensure that the printhead has cooled down before starting cleaning.**

To clean the printhead and/or media feed rollers:

1. Turn off the printer power.

2. Open the cover, lower the control panel and push the green print module release button (refer to *Loading the Ribbon on page 23*).

3. Remove the transfer ribbon and the label stock (refer to *Loading the Ribbon and Material on page 23*).

4. Use a cotton swab and a solvent of 90% isopropyl alcohol or a Preventative Maintenance Kit to carefully rub the surface of the printhead **(Figure 36, 2)** and the media feed rollers **(Figure 36, 1)** being careful not to scratch the printhead.

5. Allow the printhead and media feed rollers to dry for about two to three minutes before restarting the printer.
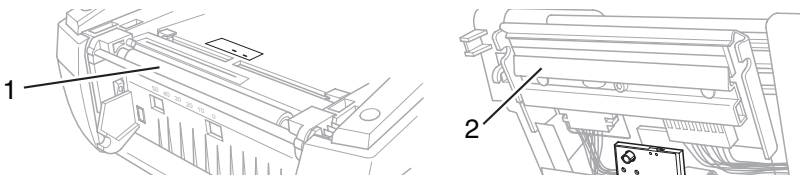

Figure 36, Printhead and Media Feed Rollers

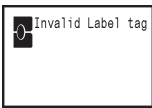If the vertical lines still appear after cleaning the printhead, the printhead may be damaged.

> **NOTICE**
>
> **Printhead replacement should always be performed by a qualified and properly trained technician.**

Basic Troubleshooting Guide

Troubleshooting Chart
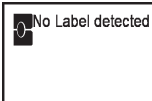
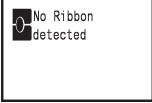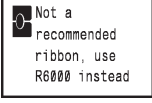| Problem	Cause	Remedy
Transfer ribbon creases.	Transfer ribbon is too wide.	Use a transfer ribbon slightly wider than the width of label.
Print image has smears or voids.	Printhead is dirty.	Refer to *Cleaning the Printhead and Media Feed Rollers on page 60*.
	Temperature is too high.	Decrease temperature through the software.
	Combination of labels and transfer ribbon is incorrect.	Use a different type of ribbon.
Printer does not stop after transfer ribbon runs out.	Thermal printing is chosen in the software.	Change to thermal transfer printing.
Printer prints a sequence of characters instead of the label format.	Printer is in ASCII Dump mode.	Cancel the ASCII Dump mode.
Printer transports label media, but transfer ribbon does not move.	Transfer ribbon incorrectly inserted.	Check and, if necessary, correct the transfer ribbon web and the orientation of the label.
	Combination of labels and transfer ribbon is incorrect.	Use a different type of ribbon.
Printer only prints every second label.	Size setting in the software is too large.	Change the size in the software.
Vertical white lines appear in the print image.	Printhead is dirty.	Refer to *Cleaning the Printhead and Media Feed Rollers on page 60*.
	Printhead is defective (heat element failure).	Call for service. The printhead should always be replaced by a qualified and properly trained technician.
Horizontal white lines appear in the print image.	Printer is used with **backfeed > smart** in the Tear-off or Peel-off mode.	Always set **backfeed >** in the **setup** menu. Refer to *Setup Menu on page 47*.
Print image is irregular, one side is lighter.	Printhead is dirty.	Refer to *Cleaning the Printhead and Media Feed Rollers on page 60*.

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Error Messages with Corrective Actions

Error messages	Cause	Remedy
`ADC malfunction`	Possible hardware issue.	Recycle power to the printer. If the error does not clear, call service.
`Barcode error`	Barcode content is invalid, for example alphanumeric characters in a numerical barcode.	Press **cancel** key to return printer to **Ready** mode. Correct the barcode content.
`Barcode too big`	The barcode is too big for the allocated area of the label.	Press **cancel** key to return printer to **Ready** mode. Reduce the size of the barcode or move it.
`Battery low`	Clock battery power is low.	Replace the clock battery.
`Buffer overflow`	Handshake mode is not on.	Access the printer **setup** menu, **handshake** mode and select **RTS/CTS**.
`FPGA malfunction`	Possible hardware issue.	Recycle power to the printer. If the error does not clear, call service.
`Head error`	Printhead may need to be replaced.	Recycle power to the printer several times. If fault does not clear, replace the printhead.
`Head open`	Printhead may not be completely closed.	Close the printhead completely and press the **pause** key.
`Head too hot`	The printhead temperature is too high.	If in Standard mode, check that the heat setting is not set too high for the material you are using. Allow the printer to cool for several minutes before resuming the print job. If the error continues to repeat, contact customer service to determine other possible causes.
`Invalid Label Tag` Invalid Label tag	RFID Tag is unable to be read or is missing information.	Reboot the printer, if error reoccurs select Enter and use printer in Standard mode.
`Invalid Ribbon Tag` Invalid ribbon tag	RFID Tag is unable to be read or is missing information.	Reboot the printer, if error reoccurs select Enter and the printer will load primary ribbon settings for Hassle Free mode.

Basic Troubleshooting Guide

Error messages	Cause	Remedy
`Invalid setup`	The Setup menu is incorrectly configured.	Cancel the current job. Recheck all configuration settings.
`Memory overflow`	Handshake mode is not on.	Access the printer **setup** menu, **handshake** mode and select **RTS/CTS**.
`Multiple Label Tags Found, Remove Extras` Multiple label tags found	Multiple tags on core of material or printer did not clear from last tag read.	Reboot printer to get a fresh read of supply, if error reoccurs select Enter to bypass and use Standard mode.
`Multiple Ribbon Tags Found, Remove Extras` Multiple ribbon tags detected	Multiple tags on core of material or printer did not clear from last tag read.	Reboot printer to get a fresh read of supply, if error reoccurs select Enter to bypass and the printer will load primary ribbon settings for Hassle Free mode.
`Multiple Tags Read Remove Extra Tags`	Label tags read incorrectly.	Remove and reinstall the label spool and/or the ribbon spool. If the error does not clear, recycle power to the printer.
`Network Error, No Link`	Ethernet is selected in the setup menu but no Ethernet connection.	• Check that the Ethernet server is available and connected, then recycle power to the printer. or • Go to the **settings** menu and turn off Network Error reporting, then recycle power to the printer.
`No Label Detected` No Label detected	Missing RFID Tag	Select Enter to bypass error and used in Standard mode.
`No label size`	The size of the label is not defined in the software.	Check the software programming.

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Error messages	Cause	Remedy
`No Ribbon Detected` No Ribbon detected	Supply missing RFID tag.	Verify compatible supply has been loaded, if supply is correct select enter to bypass the error and the printer will load primary ribbon settings for Hassle Free mode.
`No SMTP server`	Printer is configured to send error messages to the server but the IP address of the recipient can not be found.	• Check that the IP address is correct and if the recipient is available. or • Go to the `settings` menu and turn `SMTP` off, then recycle power to the printer.
`Not a Recommended Ribbon, Use XXXX instead` Not a recommended ribbon, use R6000 instead	Ribbon does not match Primary ribbon compatibility selection.	Install recommended ribbon or if supply loaded is secondary option select enter to bypass the error and the Printer will load Primary Ribbon settings for Hassle Free mode.
`Out of paper`	Labels missing on the label material.	Replace label material or press the **pause** key to continue printing.
`Out of ribbon`	Out of transfer ribbon.	Insert new transfer ribbon.
	Transfer ribbon melted during printing.	• Cancel the current print job. • Change the heat level through the software. • Clean the printhead (refer to *Cleaning the Printhead and Media Feed Rollers on page 60*). • Load the transfer ribbon (refer to *Loading the Ribbon on page 23*). • Restart the print job.
	The ribbon is improperly installed.	• Cancel the current print job. • Reinstall the ribbon (refer to *Loading the Ribbon on page 23*). • Restart the print job.

Basic Troubleshooting Guide

Error messages	Cause	Remedy
`Protocol error`	Printer has received an unknown or invalid command from the computer.	• Press the **pause** key to skip the command. or • Press the **cancel** key to cancel the print job.
`Ribbon too Narrow for Label` Ribbon too narrow for label	Ribbon is smaller than the width of the installed supply.	Install recommended larger ribbon or select Enter to bypass the error and the printer will load primary ribbon settings for Hassle Free mode and will allow printing.
`Voltage error`	An incorrect voltage is detected.	Note the details reported on this error, then recycle power to the printer. If the error does not clear, call service.
`Wrong revision`	The firmware that is loaded or is being loaded into the printer is not compatible with the hardware configuration.	Obtain the correct firmware for this printer and load it.

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Additional Support

Technical Support Numbers/Online Help

For Repair or Technical Assistance, find your regional Brady Tech Support office by going to:

■ In the Americas: www.bradyid.com

■ In Europe: www.bradyeurope.com

■ In Asia: www.bradycorp.com

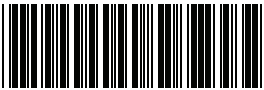## Repair and Replacement Parts

Brady Corporation offers Repair and Replacement Services. Contact Brady Technical Support for repair and replacement information.

Product Registration

Register your Brady IP Printer online at www.bradycorp.com/register and receive free product support and updates!

For Repair or Technical Assistance, find your regional
Brady Tech Support office by going to:

- In the Americas: www.bradyid.com

- In Europe: www.bradyeurope.com

- In Asia: www.bradycorp.com

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