

Printing Operation

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-brand materials are used. If materials other than Brady-brand are used, calibration is performed manually.

- Press the **feed** key to start the synchronization.
- Remove the blank labels produced during the synchronization.

Peel-Off Mode

In Peel-off mode, the labels are automatically detached from the liner material after printing and presented for removal. Refer to *Peel-Off Mode on page 17*.

NOTICE

Peel-off mode must be activated in the software.

NOTICE

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

Tear-Off Mode

In this mode, the labels print continuously with backing attached. After printing, detach the label strip manually. Refer to *Tear-Off Mode on page 17*.

Cutting Mode

Not available in current model.

Stand-Alone Operation

Not available in current model.

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 30*).
- Setting print speed, interface configuration, language and time of day (refer to *Setup Menu on page 40*).
- Starting test functions (refer to *Test on page 32*),
- Updating firmware (refer to *Firmware on page 48*).

Most adjustments should be performed through the software.

NOTICE

Whenever possible, control print jobs through the software.

Structure of the Control Panel

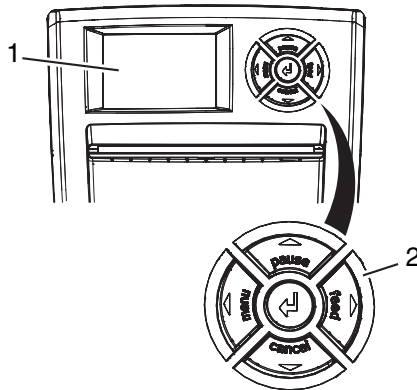


Figure 12, Control Panel

The control panel consists of a graphic display (**Figure 12, 1**) and the navigator pad (**Figure 12, 2**) with five integrated keys.

The graphic display indicates the current status of the printer, label and/or ribbon part 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 part numbers if Brady-brand materials are used.


'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		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. Short press → cancels the current print job. Longer press → cancels the current print job and deletes all print jobs.
		Print label	Print label	
		Pause	Pause	
	flashes		Correctable error	
			Irrecoverable error	
↵	lights		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 panel 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).

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 label 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 13, Test Label

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 40*)
- Current values of selected device settings (refer to *Device List on page 35*)
- Current values of selected print parameters (refer to *Print Parameters on page 43*)
- Current values of selected interface parameters (refer to *Interfaces on page 46*)
- Status of PIN activation (refer to *Security on page 47*)
- 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.

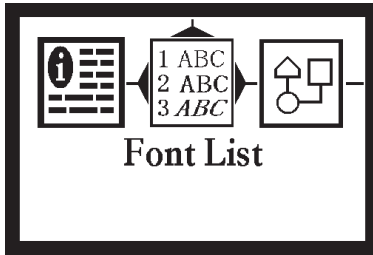


Figure 14, Font List

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.

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.

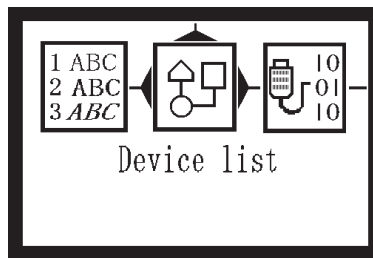


Figure 15, Device List

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.

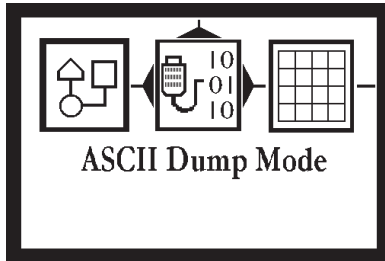


Figure 16, ASCII Dump Mode

Figure 17 is an illustration of a sample ASCII Dump printout.

```

q y CLRF
e PCX;*CLRF
e IMG;*CLRF
dIMG;53AC865ECR

CLRF
dIMG;8FFDAA78CR

CLRF
dIMG;4B2CE8E6CR

CLRF
dIMG;5CADAF94CR

CLRF
mmCRF
z0CRF

CLRF
O R,CLRF
H75,0,CLRF
D 0.0,0.0,CLRF
S11;0.0,0.0,50.8,53.9,101.6,101.6,CLRF
T4.7,7.4,0,3,4.34,q100;Brady Soft
est LabelCLRF
B73.8,36.1,0,UPCA,12.0,0.17;012345
7890CRF

I:GraphX03;6.7,23.1,0;8FFDAA78CLRF
T8.8,19.7,0,5,5.68,q100;ABCDEFGH IJ
LMNOPQRSTUCLRF
T8.6,42.3,0,5,0.83,q100;ABCDEFGH IJ
LMNOPQRSTUCLRF
VWXYZ1234567890 abcdef
hijkImnopqrstuvwxyZ0123456789 AaB
CcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSs
tUuVvWwXxYyZzCLRF
I:GraphX06;36.5,25.7,0;4B2CE8E6CLRF
T:GraphX06;36.5,25.7,0;4B2CE8E6CLRF

A 2CLRF

```

Figure 17, 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.
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.

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.

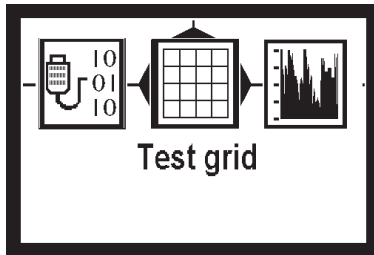


Figure 18, Example Test Grid

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.

NOTE: Continuous media is most suitable for this function.

1. Select the label sensor to be tested in **Setup > Print param.** Refer to *Print Parameters on page 43*.
2. Load the label medium to be tested into the printer.
3. Press the **menu** key.
4. Select **Test > Label profile** menu.
5. Call up the last few lines of a label description with the **feed** key.
6. Press the **↵** key to start the printout. 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.

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

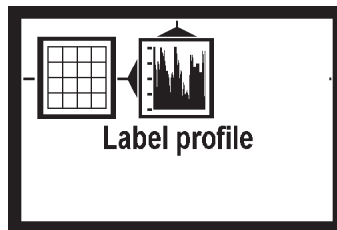


Figure 19, Label Profile






	Description
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

Setup Menu

Local Settings

Press the **menu** key.



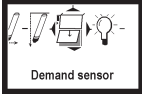

Select **Setup > Local settings**.

Parameter	Meaning	Default
Country 	Sets the display language and the country-specific date and time formats.	USA
Timezone 	Adapts the time display on the printer to the time zone in relation to UTC (Universal Time Coordinated).	UTC
Daylight saving 	Selects daylight savings time applicable for the region. The time changes automatically when daylight savings time begins and ends.	USA
Set date 	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 	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. The time can also be synchronized automatically via the internet using the Ethernet interface. The print output of the time occurs in the format set via the country parameter.	—

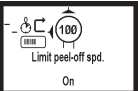


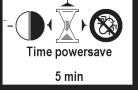

Machine Parameters

Press the **menu** key.

Select **Setup > Machine param.**

Parameter	Meaning	Default
Printhead pos. X  <p>Printhead pos. X +00.0mm</p>	<p>Shifting of the entire print image perpendicular to the direction of paper flow.</p> <p>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.</p> <p>You can also set the Printhead pos. X via software. The offset values from the Machine param. menu and the software are added together.</p>	0.0 mm
Printhead pos. Y  <p>Printhead pos. Y +00.0mm</p>	<p>Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow.</p> <p>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.</p> <p>You can also set the Printhead pos. Y via software. The offset values from the Machine param. menu and the software are added together.</p>	0.0 mm
Demand sensor  <p>Demand sensor</p>	<p>Configuration of the Peel-off parameters for devices with Peel-off function.</p>	
> Peel position	<p>[BRADY: we need information about this function]</p>	
>Backfeed delay  <p>Backfeed Delay 250 ms</p>	<p>Delay time between removing the label from the peel position and the backfeed of the label.</p>	250 ms

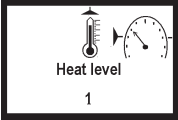
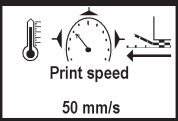
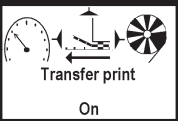

Control Panel

Parameter	Meaning	Default
> 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

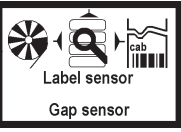
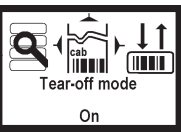
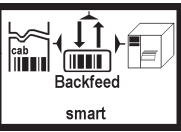
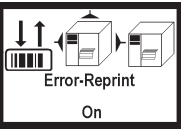
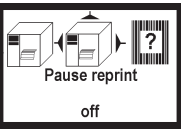
Print Parameters

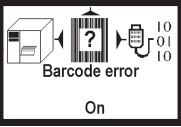
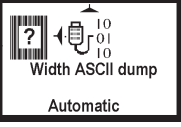
Press the **menu** key.

Select **Setup > Print param.**

Parameter	Meaning	Default
Heat level 	<p>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.</p> <p>The heat level setting also affects the test printouts.</p>	0
Print speed 	<p>Basic print speed setting. You can specify the print speed for each print job via software.</p> <p>The print speed setting also affects the test printouts.</p>	100 mm/s
Transfer print 	<p>On for thermal transfer printing: Sensor for monitoring the transfer ribbon is activated.</p> <p>Off for thermal direct printing: Sensor for monitoring the transfer ribbon is not activated.</p> <p>You can overwrite the setting for each print job via software.</p>	On
Warn level ribbon 	<p>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).</p>	Off

Control Panel

Parameter	Meaning	Default
Label sensor 	<p>Method for detecting the starting end of the label.</p> <p>Gap sensor: Detection using changes in the transparency between the label and label gap.</p> <p>Bottom-Reflect: Detection using reflex marks on the bottom of the medium.</p>	Gap Sensor
Tear-off mode 	<p>Positioning the label medium for tearing off at the Tear-off plate.</p> <p>On: Additional advancement of the label medium which positions the label gap after the last printed label at the dispense plate.</p> <p>Off: Label advance stops once the last label has fully passed the print line.</p>	Off
Backfeed 	<p>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.</p> <p>always: Backfeeding occurs independently of label contents.</p> <p>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.</p>	smart
Error-Reprint 	<p>On: With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated.</p> <p>Off: Print job is continued with the next label.</p>	On
Pause reprint 	<p>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.</p>	Off

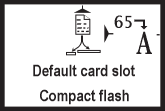

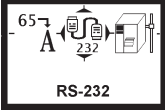

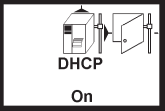
Parameter	Meaning	Default
<p>Barcode error</p> 	<p>On: With faulty barcode contents or size specifications, printing is interrupted.</p> <p>Off: Printing is not interrupted if an error occurs. If barcode contents are faulty, the printer attempts to replace the incorrect data with valid characters (e.g. zeros). If barcode size specifications are faulty, a gray area is printed instead of the barcode.</p>	<p>On</p>
<p>Width ASCII dump</p> 	<p>Width of the printing area in the Monitor mode test function.</p> <p>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).</p>	<p>Automatic</p>



Control Panel

Interfaces

Press the **menu** key.


Select **Setup > Interfaces**.

Parameter	Meaning	Default
Default card slot 	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 	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 	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 Handshake
Ethernet 	Configures parameters for the Ethernet interface card. You can access additional configuration parameters for the Ethernet interface card via the printer website (refer to <i>Setup Menu on page 40</i>).	
> DHCP 	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 label printer. Only valid with DHCP = Off .	
> Mask	Subnet mask (classification and address range) of the local network. Only valid with DHCP = Off .	

Parameter	Meaning	Default
> 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

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 label printer. Refer to *Firmware Update via Interface on page 48*.
- **Firmw. fr. card**: Copy a firmware file from a memory card. Refer to *Firmware Update from Memory Card on page 49*.
- FTP firmware update via printer management [BRADY: is this function available on the IP printer? If so, we need more information].

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. **oX** 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 [BRADY: is this function available on the IP printer? Is it the same as the CAB manual?].

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 the 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.

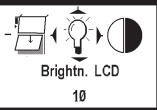
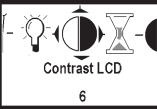
Remaining Material Display

Need New Art



Figure 20, Remaining Material

Adjust Screen Brightness

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

Calibration

[NEED INFORMATION FROM BRADY.]

Heat Settings for Print Darkness

With the use of none-standard 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 destroying the print head. 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.

Print Sample Label

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



Figure 21, Sample Label

Print Setting Label

[NEED INFORMATION FROM BRADY.]

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 paper fluff from the print area with a soft brush, vacuum cleaner or compressed air.
- Clean the cover of the printer with a standard cleanser.

Cleaning the Media Feed Rollers

Remove any accumulated dirt and lint 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 print head be cleaned on a regular bases. If dirt builds up on the print head 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 bake this dirt into the print head and eventually destroy the quality capabilities of your print head.

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 print head and/or media feed rollers:

1. Turn off the printer power.
2. Open the cover, press the release button, lower the control panel and lift the print module up (refer to *Loading the Ribbon on page 18*).
3. Remove the transfer ribbon and the label stock (refer to *Loading the Material on page 18*).
4. Use a cotton swab and a solvent of 90% isopropyl alcohol or Preventative Maintenance Kit PCK-4 to carefully rub the surface of the printhead (**Figure 22, 2**) and the media feed rollers (**Figure 22, 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.

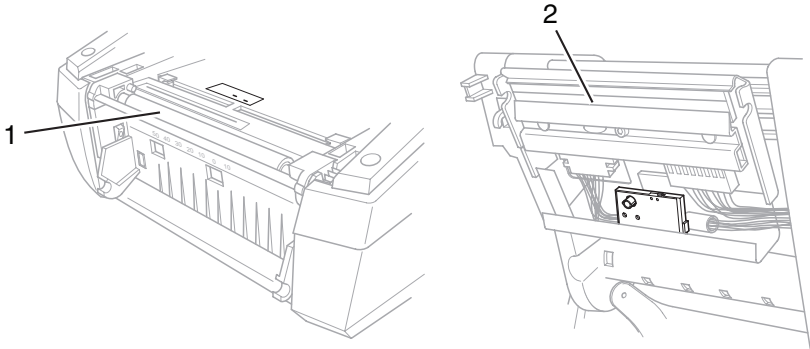


Figure 22, Printhead and Media Feed Rollers

If the vertical lines still appear after cleaning the printhead, the printhead probably has dirt baked into it and will need to be replaced.

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 <i>Cleaning the Printhead and Media Feed Rollers on page 54</i>
	Temperature is too high.	Decrease temperature via 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 <i>Cleaning the Printhead and Media Feed Rollers on page 54</i> .
	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 <i>Setup Menu on page 40</i> .
Print image is irregular, one side is lighter.	Printhead is dirty.	Refer to <i>Cleaning the Printhead and Media Feed Rollers on page 54</i> .

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	TBD	TBD
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 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.	<ul style="list-style-type: none"> • Check that the ethernet server is available and connected, then recycle power to the printer. or • Go to the settings menu and turn the ethernet connection off, then recycle power to the printer.

Basic Troubleshooting Guide

Error messages	Cause	Remedy
No label size	The size of the label is not defined in the software.	Check the software programming.
No SMTP server	Printer is configured to send error messages to the server but the IP address of the recipient can not be found.	<ul style="list-style-type: none"> • 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.
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.	<ul style="list-style-type: none"> • Cancel the current print job. • Change the heat level via the software. • Clean the printhead (refer to <i>Cleaning the Printhead and Media Feed Rollers on page 54</i>). • Load the transfer ribbon (refer to <i>Loading the Ribbon on page 18</i>). • Restart the print job.
	The ribbon is improperly installed.	<ul style="list-style-type: none"> • Cancel the current print job. • Reinstall the ribbon (refer to <i>Loading the Ribbon on page 18</i>). • Restart the print job.
Protocol error	Printer has received an unknown or invalid command from the computer.	<ul style="list-style-type: none"> • Press the pause key to skip the command. or • Press the cancel key to cancel the print job.
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.

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

Warranty Information

Effective December 30, 2002

All new Brady Corporation products are warranted by the manufacturer to be free from defect in material and workmanship.

Printers and Related Hardware Products

Proof of purchase or shipment date is required to validate the warranty period. The warranty becomes void if the equipment is modified, improperly installed or used, damaged by accident or neglect or if any parts are improperly installed or replaced by the user.

Products returned must be packaged in the original or comparable packing and shipping container. In the event equipment is not so packaged, or if shipping damage is evident, it will not be accepted for service under warranty. Surface transportation charges for return to customers in the continental United States is paid by Brady Corporation. Otherwise, Brady Corporation pays CPT (carriage paid to) nearest airport; customer pays customs, duties, taxes, and freight from airport to destination. If Brady Corporation determines that the product returned for warranty service or replacement is not defective as herein defined, the customer will pay all handling and transportation costs.

Printers

All printers (excluding printheads) are warranted against defect in material or workmanship for twelve (12) months from the purchase date.

Additional Support

Printheads

Since printhead wear is part of normal operation, the original printhead is covered by a limited warranty as indicated below. The warranty period begins on the purchase date.

To qualify for this warranty, the printhead must be returned to the factory or to an authorized service center. Customers are not required to purchase Genuine Brady Corporation supplies (media and/or ribbons) for warranty qualification.

However, if it is determined that the use of inappropriate or inferior supplies has caused any defect in the printhead for which a warranty claim is made, the user is responsible for Brady Corporation's labor and material charges required to repair the defect. The warranty becomes void if the printhead is physically worn or damaged; also if it is determined that failure to follow the preventive maintenance schedule listed in this manual has caused defect in the thermal printhead for which a warranty claim is made.

Printhead Warranty Period

Bar code label and receipt printer printheads are warranted for a period of six (6) months.

Related Hardware Items

Products are warranted to be free of defects in material and workmanship from the date of purchase according to this chart:

Product	Warranty Period
Accessories	One (1) month
Cables	One (1) month
Keyboard Display Units	Six (6) months
Parts	Three (3) months
BradyConnect® Print Servers	Three (3) years

Defective products must be returned to Brady Corporation for evaluation. In the event of notification of defect within the warranty period, Brady Corporation will replace the defective item provided there has not been damage resulting from user abuse, modification, improper installation or use, or damage in shipping or by accident or neglect.

Supplies

Supplies are warranted to be free from defect in material and workmanship for a period of twelve (12) months for media and twelve (12) months for ribbon from the date of shipment by Brady Corporation. This is provided the user has complied with storage guidelines, handling and usage of the supplies in Brady Corporation printers.

Brady Corporation's sole obligation under these warranties is to furnish parts and labor for the repair or possible replacement of products found to be defective in material or workmanship during the warranty period. Brady Corporation may in its discretion issue a credit for any such defective products in such amount as it deems reasonable.

Repair Services

Brady Corporation repairs are warranted against defects in material and workmanship for 90 days from the date of repair by Brady Corporation. This excludes printheads, which are warranted separately. This warranty does not cover normal wear and tear.

This warranty becomes void if the item is modified, improperly installed or used, or damaged by accident, neglect or abuse.

Warranty Exclusions & Conditions Statement

The warranties given above are the only warranties given to you. No other warranties, express or implied, are given. Brady Corporation does not make any *implied warranty of merchantability or fitness for a particular purpose* in connection with its sale of products or services. While Brady Corporation's desire is to be responsive to your specific needs and questions, Brady Corporation does not assume responsibility for any specific application to which any products are applied, including, but not limited to, compatibility with other equipment. All statements, technical information, or recommendations relating to Brady Corporation products are based on tests believed to be reliable, but do not constitute a guaranty or warranty.

Additional Support

Brady Corporation's maximum liability for warranty claims is limited to the invoice price of the product claimed defective. Brady Corporation does not assume responsibility for delays in replacement or repair of products. Brady Corporation shall not under any circumstances whatsoever be liable to you or any other party for loss or profits, lost data, diminution of goodwill, or any other special or consequential damages whatsoever with respect to any warranty claim made by you. Specifically for software, Brady Corporation is not liable for any incidental or consequential damages caused by abuse or misapplication of the software or by its use in violation of the U.S. copyright law or international treaty. No salesperson, representative, or agent of Brady Corporation is authorized to make any guaranty, warranty, or representation that contradicts the foregoing. Any waiver, alteration, addition, or modification to the foregoing warranties must be in writing and signed by an executive officer of Brady Corporation to be valid.

Repair and Replacement Parts

[NEED INFORMATION FROM BRADY.]

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

Y#

Bar Code Label