

C O D ETM

COURIER

Portable bar code printer

Models PW422003
PT422003



User's Guide

CognitiveTM
An Axiohm Company

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FCC Notice

This equipment has been tested and been 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.

CE Notice

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.

Note:

This manual does not contain printer programming information. Printer drivers for Microsoft Windows 95, NT, or 3.1/3.11 are supplied with every Code Courier printer. The supplied drivers lets users print labels from within their favorite Windows applications, without programming. Further information on this software is on page 23.

For those who want to control their printer directly, a file called PROGGDE.HLP on the drivers disk contains printer programming information in Windows Help format. You can load and read this file using WINHELP.EXE provided with Microsoft Windows 3.1 or above. Please refer to your Windows documentation if you do not know how to do this.

If you need programming information and are not using Windows (or cannot read the Help file for any other reason), contact our Technical Support Services Organization for assistance. Contact information is on page 22.

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PRINTER SPECIFICATIONS

Print method:	PW422003: Direct thermal	Bar code rotation:	0° and 90° clockwise
	PT422003: Thermal Transfer	Power:	Internal 14.4 VDC nicad battery except fork lift models, which require external 24 to 36 VDC
Print pitch:	203 or 101 DPI, programmable	Battery capacity:	0.850 amp-hours @ 5 hour rate
Print speed:	1, 1.5, or 2.5 IPS, programmable	Battery weight:	0.64 lbs. <i>0.29 kg.</i>
Max. media width:	4.25" <i>108mm</i>	Self discharge:	Typically retains a charge for 6 months
Min. media width:	2.4" <i>61mm</i>	Battery protection:	Continuous battery monitor with automatic low power shutoff to prevent deep discharge
Max. media roll diameter:	PW422003: 2.15" <i>55mm</i>	Labels per charge:	250 4.25" x 3" labels at 30% density in standard conditions; more than 500 in many applications
	PT422003: 1.9" <i>48mm</i>	Battery charger:	<i>Input:</i> 120 VAC or 90 to 230 VAC (as ordered), 60 Hz 15 W <i>Output:</i> 18 VDC 500 mA
Max. print width:	4.1" <i>104mm</i>	Environmental:	Operating: -20° to 50°C 5-85% non-condensing relative humidity Storage: -25° to 60° C 0-85% non-condensing relative humidity
Max. print length*:	6" <i>152mm</i>	Size:	PW422003: 8.4" H x 4.75" W x 2.75" D <i>213 x 121 x 70 mm</i>
Min. form length:	0.25" <i>6.35mm</i>		PT422003: 8.4" H x 4.75" W x 4" D <i>213 x 121 x 102 mm</i>
Min. label repeat distance:	0.375" <i>9.5mm</i>	Weight:	PW422003: 3.0 lbs. <i>1.36 kg</i>
Installed RAM:	122 kB image buffer 4 kB (default) text buffer		PT422003: 3.3 lbs. <i>1.5 kg</i> (with battery, without media)
Communications:	RS232 serial		
Indexing method:	PW422003: black bar or gap		
	PT422003: black bar in DT mode; black bar or gap in TT mode		
Text fonts:	3X5, 5X7, 8X8, 9X12, 12X16, 18X23, 24X31, UltraFont A, B, and C		
Text rotation:	0°, 90°, 180°, 270°		
Graphics:	Raster		
Bar codes:	UPCA/E/E1, ADD2/5, EAN8/13/128, Code39, I2OF5, Code128A/B/C, CODABAR, Plessey, MSI, MSI1, PDF417, MaxiCode		

* Maximum print length is at maximum width and pitch with default memory settings.

SUPPLIED AND OPTIONAL ACCESSORIES

Supplied accessories

Battery*:	14.4 VDC, 850 mAh, P/N 90-12-0011	Software:	<i>Intellidriver</i> printer drivers for Windows 95, NT, and 3.1/3.11
Battery charger*:	120 VAC input, P/N 71-12-0051 <i>or</i> 90 to 240 VAC input, P/N 90-12-0070-01	Miscellaneous:	Shoulder strap
Power adapter*	24 to 36 VDC input		

* Battery and power supply are not included with fork lift printers. The power adapter is supplied *only* with fork lift printers.

Optional accessories

Cables:		Carrying strap:	P/N 71-12-0050
<i>DB9 to DB9:</i>	P/N 90-88-0079	All weather holster:	P/N 71-12-0032
<i>DB9 to DB25:</i>	P/N 90-88-0078	Spare battery holder*:	P/N 71-12-0059
<i>RJ45 to RJ45:</i>	P/N 61-00-0026	Spare paper holder*:	P/N 71-12-0060
Adapters:		Fork lift mount kit:	P/N 98-12-0000
<i>RJ45 to DB25f:</i>	P/N 90-12-0017	Five slot drop-in battery charger:	Model SC5000
<i>RJ45 to DB25m:</i>	P/N 90-12-0018	Other:	Annual service contract
<i>RJ45 to DB9f:</i>	P/N 90-12-0016		
Extra battery:	P/N 90-12-0011		
Universal carrying case:	P/N 90-12-0031		
Carrying handle:	P/N 71-12-0003		

* The spare battery holder and spare paper holder are for use with the all weather holster.

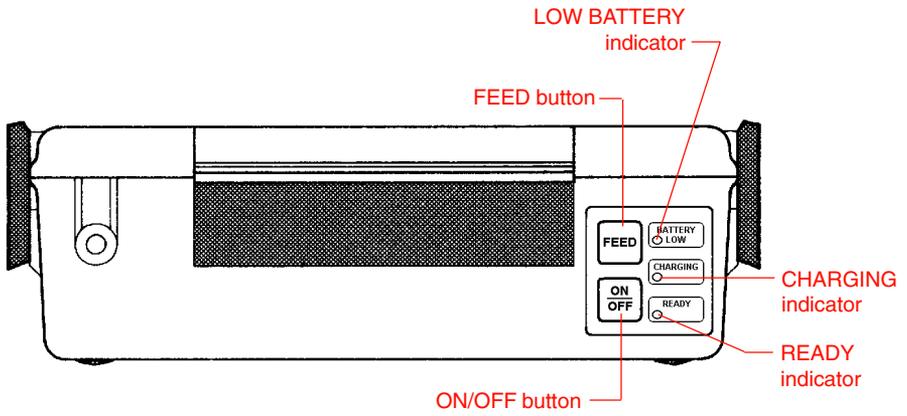


Figure 1. Code Courier front view

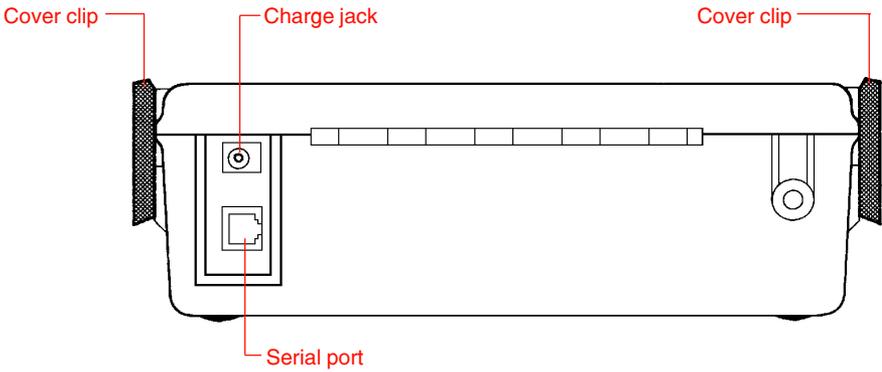


Figure 2. Code Courier rear view

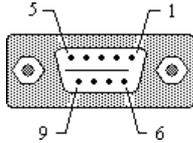
CONTROLS, INDICATORS, AND CONNECTIONS

Device name	Primary function	Use
ON/OFF button	Controls printer power	PRESS - turns printer ON/OFF
FEED button	Advances print media	PRESS - to advance media PRESS and HOLD while turning unit ON - prints test label and activates hex dump mode - cycle power to resume normal printing PRESS - to pause or resume batch mode printing
LOW BATTERY indicator	Shows battery status	OFF - normal condition, battery adequately charged for use RED - battery needs recharging; printer will shut off in 30 seconds
CHARGING indicator	Shows battery is charging	OFF - normal status - no charger connected or battery fully charged YELLOW - charger connected and battery charging
READY indicator	Indicates printer is ready to print labels	GREEN flashing - printer on and ready OFF - low battery, battery charging, or printer turned off
Speaker (internal)	Signals printer status	1 BEEP - power on/battery OK 2 BEEPS - power off 3 BEEPS - out of paper 7 BEEPS - low battery LONG or LOW TONE - error
Charge jack	Connects to battery charger with printer	Connect to battery charger supplied
Serial port (RS232)	Data input	DB9 or RJ45 female connector for connection to host controller
Cover clips	Hold printer cover closed	PULL bottom of clips away from printer body to release cover

COMMUNICATION PORT

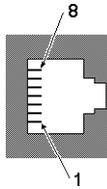
Code Courier printer has an RS232 serial communication port, wired as shown below. (The RJ45 connector is standard; DB9 connectors are installed on some custom printers.)

Serial input connector (DB9S)



<u>Pin #</u>	<u>Description</u>
2	RXD (printer data input)
3	TXD (printer data output)
4, 6	Connected internally
5	Ground (-)
7	RTS (printer busy)
8	CTS
1, 9	No connection

Serial input connector (RJ45)



<u>Pin #</u>	<u>Description</u>
1	CTS
2	RXD (printer data input)
3	TXD (printer data output)
4, 6	Connected internally
5	Ground (-)
7	RTS (printer busy)
8	Shield

See “Optional Accessories” on page 3 for standard cable part numbers and descriptions.

Serial port parameters

Code Courier printers are configured as DTE equipment, and use RTS/CTS handshaking or XON/XOFF protocol (control characters are DC1 and DC3). The serial port supports the following parameters:

Speed:	600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600
Parity:	Odd, Even, or None
Word length:	7 or 8 bits
Stop bits:	1 or 2 bits
Default parameters:	9600 baud, no parity, 8 data bits, 1 stop bit

Note:

Code Courier printers require a “null modem” when connected to another DTE device (i.e., a personal computer). The serial cables listed as accessories on page 3 are wired in a null modem configuration. Other cables may require an external null modem adapter.

SETUP

Opening and closing the printer

You must open the printer to change the battery or media. Two cover clips hold the cover closed. To open the printer:

1. Place the printer on a flat surface, with the top cover facing up.
2. While holding the printer, pull the bottom of each cover clip away from the printer body and upward.
3. Pull the top of each clip clear of the printer cover.
4. Swing the printer cover all the way open.

To close the printer:

1. Place the printer on a flat surface, with the open cover facing up.
2. Position the label stock over the paper door edge.

Note:

If you are using the optional peel-back accessory, thread the label stock through the printer as shown in Figure 5 on page 9.

3. Lower the printer cover and hold it closed.
4. Engage the top of each cover clip on the mating lips on the printer cover, then press the bottom of each clip against the printer body. The clips will snap into position.

Installing the battery

(Not applicable to externally-powered printers)

Code Courier uses an internal rechargeable battery, and is shipped with the battery discharged and uninstalled. To install the battery:

1. Open the printer.
2. The battery tray is located to the left of the paper holder. Place the battery in the tray with the battery contacts down and toward the back of the tray.
3. If you need to load label media, do that now. Otherwise, close the printer.

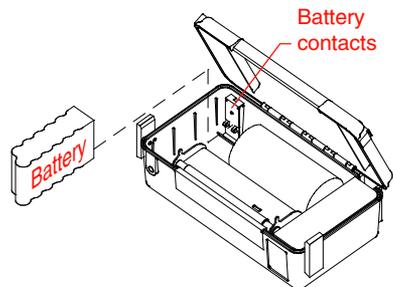


Figure 3. Battery installation

Charging the battery

(Not applicable to externally powered printers)

The low battery indicator glows red when the battery needs recharging. The printer automatically shuts off 30 seconds after the low battery indication. To recharge the battery:

1. Confirm that the battery is installed in the printer.
2. Plug the charge adapter output connector into the printer charge jack located next to the serial input connector.
3. Plug the charge adapter AC input into a live AC outlet. Connecting the charger automatically turns the printer on. The CHARGING indicator glows yellow during battery charging.

Note:

Labels can print during charging, provided the battery does not become completely discharged. The printer will not accept data if the battery is too depleted to print labels.

4. Charge the battery for 2 to 6 hours. The CHARGING indicator will go dark and the READY light will begin flashing when charging is done.

Battery charging will stop automatically after six hours. If the battery has not achieved an adequate charge after six hours, the CHARGING indicator will shut off and the LOW BATTERY indicator will begin flashing. This indicates that the battery is probably defective.

Loading labels or tags

Media is supplied on rolls having an outside diameter of about 2". Two support arms hold the label roll in place. One arm is spring loaded to allow the use of different roll widths. To load label stock:

1. Confirm that the printer is off.

Note:

This is a safety measure, to assure that the printer will not print while it is open. You may leave the printer on during loading, but take care that you do not touch the printhead. It may get hot if printing begins.

2. Open the printer.
3. Unwrap the new label roll.
4. Push the spring loaded support arm all the way to the left and hold it there.

5. Position the label roll between the support arms. Load the labels with their imaging surface facing the printhead.
6. Allow the spring loaded support arm to slide back against the label roll. The roll will turn on the supports with slight resistance when the paper is loaded correctly.
7. Pull the free end of the label stock until a few inches of stock extend from the roll.

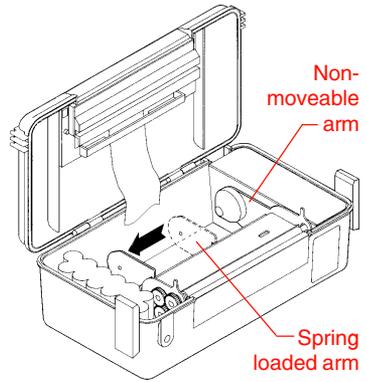


Figure 4. Loading label stock

8. The labels feed through the printer differently, depending on the label presentation mode. Thread the label stock through the printer as follows:
 - For **batch mode** presentation: Position the label stock over the paper door. Close the printer while pulling the free end of the stock. Turn the printer on and press the FEED button to index the first label.
 - For **peel-back mode** presentation (requires optional peel-back attachment): Raise the peel-back locking bar until it is horizontal. Pass the label stock over the drive roller, then down and behind the white peel-back roller. The label stock should extend about ½" beyond the peel-back roller. Tear off any excess. Snap the locking bar down tight against the printer body, then close the printer. Turn the printer on and press the FEED button a few times to confirm that labels feed properly.

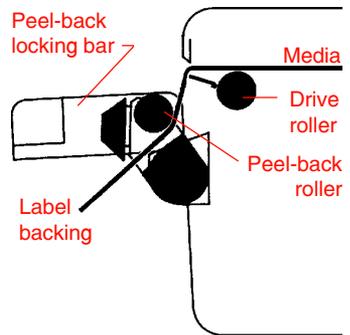


Figure 5. Peel-back mode label feed path

Note:

If you do not feed one blank label after loading new media, the first label may not print completely. After the printer has indexed the paper once it will print the first label again.

Installing thermal transfer ribbon

(PT422003 only)

The PT422003 must have a ribbon installed when printing thermal transfer labels or tags. To install or replace the ribbon:

1. Confirm that the printer is off.
2. Press down on the ribbon door's back edge and pull it forward, then swing the door open to expose the ribbon take-up roll.
3. Open the printer.
4. Remove any exhausted ribbon by pressing each roll to the left to release it and then lifting it out.
5. Unwrap the new ribbon roll. The ribbon is attached to the new ribbon take-up roll. Do not detach it from the take-up roll.

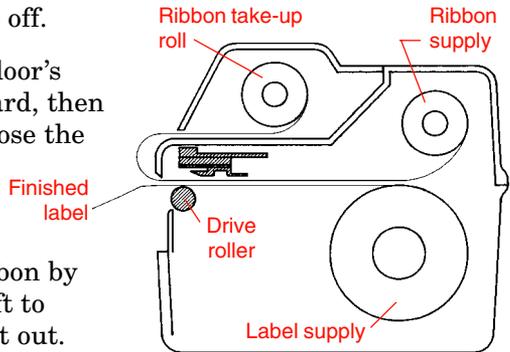


Figure 6. Thermal transfer ribbon path

6. Position the new ribbon supply roll in the printer such that the ribbon unwinds from the bottom of the roll towards the front of the printer. Snap the new ribbon roll into place by pressing it to the left as you push it onto the ribbon hubs.
7. Pull the ribbon over the printhead. Notice that the ribbon's shiny side faces the printhead and the dull side faces the drive roller.
8. Position the new ribbon take-up roll under the ribbon door. Snap the ribbon take-up roll into place by pressing it to the left and pushing it onto the take-up roll hubs.
9. Turn the ribbon take-up roll until the ribbon slack is taken up.
10. Close the ribbon door and the printer.

Selecting the print mode and index method

The printer supports both black bar and gap indexing. The PT422003 can print in direct thermal or thermal transfer mode. If you are using label printing software, it should provide a means to set the print mode and index method.

If you are writing your own software or controlling the printer using direct commands, you must use printer commands to set the print mode and index method. Refer to the programming information in the PROGGDE.HLP file for more information.

Note:

The PT422003 cannot use gap indexing in direct thermal mode. Only use gap indexing when using thermal transfer mode.

Printing a self-test label

Printing a self-test label checks the printer's overall operability. To run a self-test, verify that the printer is ready to print labels (label media installed, and battery installed and charged). Then:

1. Confirm that the printer is off.
2. Press and hold in the FEED button, then turn the printer on. Release the FEED button after the printer begins printing.
3. After a few seconds the printer will print a self-test label. Printing a self-test label places the printer in hex dump mode. Turn the printer off and back on again to return it to normal operation.

Important!

Printing a self-test label places the printer in hex dump mode. **The printer will not print labels while in hex dump mode.** Turn the printer off and back on again to resume normal label printing.

USING THE PRINTER

Note:

New batteries are delivered uncharged. Install and charge the battery for 6 to 8 hours before using the printer for the first time.

Turning the printer on and off

The printer uses a pushbutton switch for manual power control. Press and release the ON/OFF button to turn the printer on or off.

The internal speaker will beep once when the printer is turned on and twice when the printer is turned off. The READY light flashes continuously about once per second while the printer is on, unless the battery is charging.

The printer is automatically on if the battery charger is connected. The READY light is off during charging, and the CHARGING indicator is on.

Feeding blank labels

To feed blank labels:

1. Confirm that the READY indicator is flashing green.
2. Press the FEED button to feed a blank label. Each time you press the FEED button, the printer will feed an additional label.

Sending data to the printer

To print labels using data sent from a host computer or terminal, perform the following steps:

1. Connect the host and printer serial ports together.
2. Confirm that the host and printer are using the same communications parameters.
3. Confirm that the printer READY indicator is flashing green.
4. Send your data to the printer.

Note:

Transient noise or incorrect serial port parameters can cause a data transmission error. If an error occurs, the printer will emit one long beep. Re-send your data to resume normal printing.

Automatic power management features

Timed power shutoff

Code Courier features a power shutoff timer to save battery power when it is idle. When running on battery power and inactive for longer than a specified period, the printer automatically turns itself off. Pressing the ON/OFF button will turn the printer on again.

Any printer activity that occurs before the specified time period has elapsed will reset the power shutoff timer. The timer restarts when the printer finishes the activity. The timer will not run while the printer is processing labels, even if printing is paused. This avoids data loss if you manually pause the printer during a batch mode operation. The timer is also disabled whenever the battery charger is connected.

This is a programmable feature, and is not activated when the printer is first shipped. Your printer software may provide control over this feature, or you can activate it using direct commands. Refer to the PROGDE.HLP file for more information.

Low battery power shutoff

Code Courier continuously checks its battery. When the battery is almost completely discharged, the low battery indicator glows red and the READY light shuts off. The printer will beep seven times and turn itself off 30 seconds later. It will not turn on if the battery is completely discharged or not connected. Replace or recharge the battery if the printer delivers a low battery warning or refuses to turn on.

Automatic speed control

You can control Code Courier's print speed via software, but under some conditions the printer may limit the print speed to maintain good print quality. The printer will automatically reduce speed if the battery becomes too depleted to print good labels at the selected speed.

Printhead temperature also affects the print speed. Code Courier automatically adjusts print speed to maintain high-quality printing over its specified operating temperature range.

Low speed (1 inch per second) provides satisfactory printing at any ambient temperature within the printer's operating range. If you have selected low speed, the print speed will not change in response to temperature or battery condition.

Normal speed (1.5 inches per second) provides satisfactory printing down to about 5° C. If the printhead temperature falls below 5° C, the printer automatically switches to low speed to maintain print quality.

High speed (2.5 inches per second) provides satisfactory printing in most applications at temperatures above 15° C. The printer will switch to normal speed below this temperature.

Print speed may increase with increasing ambient temperature. Normal print speed resumes if the printhead temperature reaches 5° C and battery condition permits. High speed resumes if the printhead temperature reaches 15° C and battery condition permits. However, automatic speed switching will never raise the print speed over that set by your label printing software.

Automatic speed control does not require any special operator action. Be aware, though, that a reduction in printer speed may indicate that the battery needs recharging.

Sleep mode power saver

Sleep mode conserves power by turning off some printer circuitry when there is no incoming data and no labels are in process. The printer goes to sleep automatically when inactive and “wakes up” (reactivates all of its internal circuitry) automatically when there is incoming data or whenever the FEED button is pressed. It goes to sleep again right after finishing the requested operation. You do not have to perform any manual operations to control the sleep mode.

If you are programming the printer or controlling it using direct commands, you will need to wake the printer up when sending data. Refer to the PROGGDE.HLP file for more information.

Buffer reset timer

Unforeseen events, such as a break in communications between the host and printer, can leave the printer in an indeterminate state. Code Courier uses a memory reset timer to avoid this problem.

The reset timer resets the printer if it starts an operation and does not receive expected data for a preset period of time. Resetting the printer allows the printer to go to sleep and clears any graphics data or label format in process.

The reset timer is an automatic feature and does not require any special attention from the user. If you use the printer in an RF linked data transmission system, however, you may want to change the timer duration. This is a software controlled feature. Please refer to the PROGGDE.HLP file for more information.

ROUTINE MAINTENANCE

Cognitive printers need very little maintenance other than occasional cleaning. Clean the outside of the printer as required, using a soft cloth dampened with a mild detergent cleaner.

Clean the printhead if it appears dirty or if print quality is poor. Printhead cleaning is easy and fast:

1. Confirm that the printer is off.
2. Open the printer.
3. *PT422003*: Remove any installed ribbon.
4. If label media is installed, pull it clear of the drive roller.
5. Using a cloth moistened with alcohol 99% pure isopropyl alcohol, clean all dirt and label residue from the printhead, paying particular attention to the “burn line” (this is the thin black line near the front edge of the printhead).

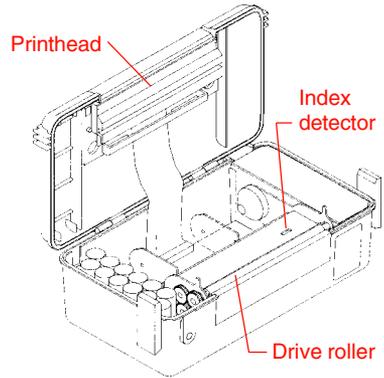


Figure 7. Printer opened for cleaning

CAUTION

Do not use any type of abrasive or metallic objects on the printhead as this may seriously damage it.

6. Wipe the drive roller with the cleaning cloth. You can reach all portions of the drive roller by turning the printer on, tapping the FEED button, and turning the printer off before continuing cleaning.

CAUTION

Keep all objects clear of the printhead and drive roller any time the printer is turned on.

7. Confirm that the slotted index detector hole (located just behind and to the right of the drive roller) is unobstructed. Clean away any obstruction with a soft brush if necessary.
8. *PT422003*: Install the thermal transfer ribbon.
9. Close the printer and resume normal operation.

Extending the life of the battery

The battery supplied with your printer should charge and discharge satisfactorily many times. Observe the following guidelines to obtain the best performance from your rechargeable battery:

- Only charge the battery using the charge adapter supplied with your Code Courier, or use the optional SC5000 drop-in battery charger.
- If you must store the battery for an extended period, discharge and recharge it every six months or so. The battery can lose some of its capacity if it is not exercised periodically.
- Do not recharge the battery prematurely. If you plan to print several small batches of labels, it is best to print all the labels and then recharge the battery, rather than to recharge it between batches.
- Recharge or replace the battery after the first indication of a low battery condition.

Users who rely heavily on rechargeable batteries should consider purchasing the model SC5000 drop-in battery charger. The SC5000 is designed especially for use with Code Courier, and can simultaneously charge up to five battery packs. It also features a battery conditioning function to help maintain peak battery performance.

WHAT TO DO IF...

Cognitive printers are very reliable, so printing problems are unlikely. If you do think you have a printer problem, proceed as follows:

1. Confirm that the printer is turned off.
2. Confirm that the printer is connected directly to the host computer. If there are any switches or other devices between the host and printer, remove them for troubleshooting purposes. You can reconnect them later after you resolve the problem.
3. Open the printer. Confirm that it has the right media installed, and that it is loaded correctly. See page 8 for media loading instructions.
4. Confirm that the printer has a battery installed and that the battery is fully charged. If its condition is questionable, recharge it or replace it with a fully charged, known good battery.
5. Inspect the media path. Remove any obstructions and clean the printhead, index detector, and drive roller according to the instructions on page 15.
6. Close the printer, taking care that the media threads through the printer according to the media loading instructions on page 9.
7. Turn the printer on. Confirm that the printer READY indicator flashes green.
8. Print a self-test label as described on page 11. The test label will report important printer setup parameters, such as serial port settings and the current index setting and print mode. Keep the test label for future reference.
9. Turn the printer off and then back on again. Confirm that the READY indicator flashes green.
10. Press FEED to confirm that the printer will feed a label.
11. Review the common problems described in the following section.
12. If these steps do not correct the problem, contact your Cognitive dealer or our Technical Services Department. You will find Technical support contact information on page 22.

Note:

The information here assumes you are using label printing software. If you are programming the printer, please review the troubleshooting information in the PROGGDE.HLP file.

Common problems and their solutions

Printer will not turn on

Pressing the ON/OFF switch once or plugging in the battery charger should turn the printer on. The printer READY light will flash about once per second while the printer is on, unless the battery is charging, in which case the CHARGING indicator should be lit. If the printer does not seem to power up properly:

1. Check the battery connections for dirt or corrosion. Clean them if necessary.
2. Check that the printer's battery connector is plugged into the main circuit board.
3. If the printer emits a low frequency tone when you try to turn it on, a memory checksum error has occurred. Contact our Technical Support Services Department for assistance.

Printer will not turn off

1. You cannot turn the printer off if the battery charger is connected. Disconnect the battery charger if you must turn the printer off.
2. If you try to turn the printer off and the READY indicator does not stop flashing and the charger is not connected, the battery is probably very depleted. The printer may make a ticking sound for a short while. Recharge or replace the battery immediately.

Printer shuts off by itself

1. If the printer beeps seven times and then shuts itself off, the battery is exhausted. Recharge the battery or replace it with a fully charged one.
2. If the printer beeps twice and shuts itself off, it is probably shutting down in response to the "timed power shutoff" feature. See page 13 for further information.

Printing stops

If the printer stops printing in the middle of a batch and it has not indicated a low battery condition, the printhead may have overheated. This is uncommon, but can occur in extreme conditions. Printing will resume after the printhead has cooled sufficiently (typically within about five minutes). This is normal printer behavior and does not indicate a printer malfunction.

Printer will not feed a label

The printer should feed a label when the FEED button is pressed. If the printer does not respond properly to the feed button:

1. Confirm that the print media is loaded correctly.
2. Reset the printer by turning it off, waiting a few seconds, then turning it then back on. Press the FEED button.
3. Turn the printer off, remove the communications cable, then turn the printer back on. Press the FEED button. If the printer will feed labels with the communication cable removed, suspect a problem with the cable or the host system.
4. If the printer begins to feed a label and then stops when the feed button is released, the index detector may have been disabled. This is a software controlled feature. Check your software setup. If you are programming the printer yourself, refer to the PROGGDE.HLP file for more information.

Printer feeds too many labels

1. Verify correct label loading (index bars, if any, facing down, imaging surface facing the printhead).
2. Confirm that the index setting (black bar or gap) in your software setup matches the print media. The self-test label reports the current index setting.

Host stops responding or displays “printer not ready” message

1. Review your software setup, following the instructions provided with the software.
2. Confirm that the communications cable between the host and the printer has the correct pinout and is undamaged. If the printer is connected to a personal computer or other DTE device, confirm that you are using a null modem cable or adapter.
3. Confirm that the printer and host computer are using the same serial port parameters.
4. Reset the printer by turning it off and back on again and pressing the FEED button once. Then reset the host computer, and resume normal operation.

Poor print quality

1. Examine the printhead and drive roller for physical damage.
2. Check your software's print darkness and speed settings. These settings may need adjustment for optimum results. Also, confirm that the label stock has adequate sensitivity. Ricoh 120, 130, and 140 sensitivities are recommended. Refer to Appendix B for media recommendations.
3. Check your label stock. If the label stock is old, dirty, or pitted, its condition can adversely affect print quality.

Labels do not peel from backing in peel back mode

1. Confirm that the label peel back attachment is installed. Peel back capability is an option.
2. Confirm that the label stock is loaded properly for peel back operation, following the instructions on page 9.
3. Some label adhesives adhere too tightly to their backing to work reliably in peel back mode. When ordering label stock, inform your Cognitive dealer that you are planning to use peel back mode. If you use another manufacturer's label stock, check with your dealer to confirm that the stock you plan to use will work properly in peel back mode.

Low battery indicator flashes continuously during charging

The LOW BATTERY indicator should be dark during battery charging. A flashing low battery indicator indicates that the battery is probably defective. Replace it with a known good one.

Battery does not charge properly or will not hold a charge

Check your label design. Label designs that turn on more than 80% of the printhead elements at once place a heavy load on the battery and will substantially reduce the number of labels per charge. For optimum battery life, try to use less than half of the printhead dots in each dot row. If you are certain that the battery performance has degraded, check the following:

1. Confirm that the battery is fully discharged (printer beeps seven times and shuts itself off when you try to turn it on).
2. Confirm that you are using the proper battery charger for your line voltage. For 110 VAC service, use P/N 71-12-0051. For 220 VAC service, use P/N 90-12-0070-01.

3. Remove the battery from the printer. While the battery is removed, check the battery contacts (on the battery and in the printer) for dirt or corrosion.
4. Reinstall the battery and set the printer up for battery charging as described on page 8. Confirm that the CHARGING indicator glows yellow while the battery is charging.
5. Allow the battery to charge completely. If the LOW BATTERY indicator flashes continuously at the end of the charge cycle, the battery is probably defective. Replace it with a known good one.
6. Test the battery again when charging is finished. If the problem persists, the battery and/or charger may need replacement.

Note:

If you have access to a model SC5000 drop-in battery charger, use its battery test and conditioning function to test your Code Courier battery pack. The SC5000 can often improve the performance of a marginal battery. Refer to the SC5000 operating instructions for more information.

Printer prints an error label

If the printer encounters an unrecoverable error, it will shut itself off and print an error label. This should rarely happen, but if the printer does print an error label:

1. Unplug the battery charger if it is connected.
2. Turn the printer off.
3. Reset the host computer.
4. Check your software setup. In particular, confirm that the host and printer are using the same serial port parameters.
5. Reconnect the battery charger if necessary, turn the printer on, and resume normal operation.

Contact our Technical Support Services Department for assistance if the problem persists.

Printer speaker beeps continuously

If the printer beeps continuously, there may be an EEROM failure. Try turning the printer off and back on again to clear the error. If the error reoccurs, contact your Cognitive dealer or the factory for assistance. This problem may indicate a need for factory service.

TECHNICAL SUPPORT

Please contact your local dealer first for technical support. Your dealer is knowledgeable about Cognitive printers, printing software, and your unique system. Contact our Technical Support Services Department if you still need technical assistance after talking to your dealer.

If you must return any products to the factory, first obtain a returned material authorization number (RMA) from our Technical Support Services Department. When calling, *please* have your printer model number and serial number handy.

Contact information

General

If you aren't sure which department you need, contact us by mail or through one of our general numbers:

Mailing address Cognitive
691 Corporate Circle
Golden, CO 80401
USA

Telephone (303) 273-1400

Toll free (800) 525-2785

Fax (303) 273-1414

E-mail Info@cogsol.com

You can get immediate information on Cognitive products via the Internet:

Internet URL: www.cogsol.com

Sales Department

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E-mail Sales@cogsol.com

Technical Support Services Department

Toll free (888) 715-7190

Fax (303) 590-0518

E-mail: techsup@cogsol.com

Hours of operation

We are open from 8 AM to 5 PM Mountain Time, Monday through Friday. Our Technical Support Services and Sales departments are open from 7 AM to 5 PM. For the fastest response, contact us during our normal working hours.

APPENDIX A: SUPPLIED SOFTWARE

Software is included with every Code Courier printer for use with Microsoft Windows 95, Windows NT, Windows for Workgroups, or Windows 3.1/3.11. Two basic packages are provided:

- The Cognitive *Intellidriver*™ lets you print labels with your printer using virtually any Windows application.
- *LabelMagic*™ is a full-featured WYSIWYG label layout and printing package specifically designed for use with Cognitive printers.

These software packages and a Cognitive printer give Windows users an easy to use label printing solution with nothing else to buy.

Intellidriver installation and use

An automatic setup program, `SETUP.EXE`, is provided with the Intellidriver. Install the desired printer drivers by running `SETUP.EXE` from within Windows and following the displayed instructions. Restart your system after installing the Intellidriver.

After the drivers are installed, you can send data to your label printer just like any other printer on your system: simply specify Code Courier in the print dialog box of your Windows application. To print bar codes, enter bar code data using any text font, then highlight the information you want to print as a bar code and select the desired bar code font from your application's font menu. The driver will convert the text to an on-screen representation of a generic bar code.

On-line help for the Intellidriver is available from the printer setup window, which is accessible from the print dialog box of most Windows applications. Please refer to the on-line help and the `README.TXT` file on the Intellidriver disk for detailed operating instructions.

LabelMagic installation and use

An automatic installation program, `SETUP.EXE`, is provided on the LabelMagic installation disk. Install LabelMagic by running `SETUP.EXE` and following the displayed instructions. The installation program will copy the program files to your system and install program icons on your desktop and/or system Start Menu.

LabelMagic has a complete context-sensitive help system that describes all aspects of the program's use. You can access the help system by selecting **Help** from the program's main menu. Please refer to the help system and the `README.TXT` file on the LabelMagic installation disk for detailed operating instructions.

APPENDIX B: RECOMMENDED PRINT MEDIA

Media for your Code Courier printer is available from many sources; however, you can expect the most reliable performance and highest quality printing when you use labels and tags manufactured by Cognitive.

The print media listed below was designed especially for use with Code Courier printers and is in stock for immediate delivery. We also have other media for specialized applications and can manufacture custom media as well. Contact your Cognitive dealer or our Sales Department for complete media information, or to find the perfect media for your unique application.

Direct thermal media

Part number	Dimensions	Material/description	units/roll
03-02-1890	2.4 x 1	Paper gap-cut labels, permanent adhesive	400
03-02-1391	4.25 x 1	Paper gap-cut labels, permanent adhesive	400
03-02-1392	4.25 x 3	Paper gap-cut labels, permanent adhesive	150
03-02-1393	4.25 x 6	Paper gap-cut labels, permanent adhesive	75
03-02-1394	4.25 x 6.5	Vinyl receipts, edge perforation	115
03-02-1891	4.25 x 6.5	Paper receipts, edge perforation	115

Thermal transfer media

Part number	Dimensions	Material/description	units/roll
03-02-1892	2.4 x 1	Paper gap-cut labels, permanent adhesive	352
03-02-1494	4.25 x 1	Paper gap-cut labels, permanent adhesive	352
03-02-1495	4.25 x 3	Paper gap-cut labels, permanent adhesive	130
03-02-1496	4.25 x 6	Paper gap-cut labels, permanent adhesive	68
03-02-1894	4.25 x 6.5	Vinyl receipts, edge perforation	115
03-02-1893	4.25 x 6.5	Paper receipts, edge perforation	115
04-00-0029-01	4.25 x 1000	Black thermal transfer ribbon	n/a

Notes:

1. All dimensions are in inches.
2. Receipts have square corners and index bars printed on the back of the label liner. Gap-cut labels have rounded corners and do not have index bars.



LIMITED WARRANTY

Cognitive will repair Code Courier[®] printers free of charge if found defective in material or workmanship within one year of date of purchase. This limited warranty does not include cleaning, or any damage caused by accident, neglect, or misuse.

The printhead is also covered under this limited warranty; however, the printhead warranty extends to electrical failure only. Code Courier[®] printheads are warranted for six months or 500,000 inches of printing, whichever comes first. Physical damage (scratches or abrasion) is not covered under this warranty.

A return merchandise authorization number (RMA#) must be obtained from Cognitive before any merchandise can be accepted for repair. An RMA# must be visibly displayed on all merchandise returned. Cognitive always maintains the right to repair or replace any component at its option. The printer must be delivered or shipped freight prepaid with your copy of the warranty and/or proof of purchase in the form of a sales slip.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

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