### Change History

<table>
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<th>Description</th>
<th>Date</th>
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<tr>
<td>A</td>
<td>Initial version</td>
<td>February 2008</td>
</tr>
<tr>
<td>B</td>
<td>Revised serial and USB interface description</td>
<td>March 2008</td>
</tr>
<tr>
<td>C</td>
<td>Revised standard feature and USB interface description</td>
<td>April 2008</td>
</tr>
</tbody>
</table>
Federal Communications Commission Radio
Frequency Interference Statement
The BANKjet® 2500 Printer complies with the limits for a Class B computing
device in accordance with the specifications in Part 15 of FCC rules. These
regulations are designed to minimize radio frequency interference during
installation; however, there is no guarantee that radio or television interference
will not occur during any particular installation. Interference can be determined
by turning the equipment off and on while the radio or television is on. If the
printer causes interference to radio or television reception, try to correct the
interference by one or more of the following measures:

- Reorient the radio or television receiving antenna
- Relocate the printer with respect to the receiver
- Plug the printer and receiver into different circuits

If necessary, the user should consult their dealer or an experienced
radio/television technician for additional suggestions. The user may find the
following booklet prepared by the Federal Communications Commission
helpful: How to Identify and Resolve Radio/TV Interference Problems. This
booklet is available from the US Government Printing Office, Washington, DC
20402. Ask for stock number 004-000-00345-4.

Canadian Department of Communications Radio
Interference Statement
The BANKjet® 2500 Printer does not exceed Class B limits for radio noise
emissions from digital apparatus set out in the Radio Interference Regulations
of the Canadian Department of Communications.
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Revision Level D
August 2010
Printed in USA

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Order. Built to Last" are registered trademarks and BANKjet is a trademark of
TransAct Technologies, Inc.
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Chapter 1

Introducing your BANKjet® 2500 Printer
About your TransAct® BANKjet® 2500 Printer

The TransAct® BANKjet® 2500 printer represents the very latest technology for use for inkjet receipt printing, specifically designed for the needs of banking applications. It builds upon the architecture of TransAct’s proven inkjet printers, together with a host of features specifically designed to improve the performance of your receipt printing applications, including:

- Easy drop-in paper loading with a clamshell design
- Cut-through, drop-in validation with LED feedback for forms insertion
- Adjustable form alignment stop to allow repeatable forms positioning
- Serial and USB communication
- 3.0 inch (76 mm.) wide by 3.0 inch (76 mm.) diameter receipt paper roll
- Durable metal receipt tear off
- Bitmap and scalable fonts printing from 8 to 30 characters per inch
- Flash memory for user-defined graphics

These features and more let you quickly and easily integrate the BANKjet® 2500 with your financial applications, while giving you the quality, durability and uptime you have come to expect from TransAct® printers.
Who Should Read This Guide?

This document provides information useful for end users who will install, configure, and operate the BANKjet® 2500 printer in their operations.

What Is Included in This Guide?

This Operators Guide includes information on the installation, specifications, and operation of the BANKjet® 2500 printer. It provides the following information to support your installation and operational efforts:

- Warranty and technical support information
- Specifications and functionality description
- Installation and operational procedures
- Configuration, testing, and troubleshooting procedures

We want you to have a trouble-free implementation with your TransAct® printer. For any issues not covered in this guide, quality technical support is available on-line at www.transact-tech.com, or by telephone or fax - consult the following pages for more details about our support services.
Technical and Sales Support

Your printer is backed by the resources of TransAct Technologies, a global technology firm with dedicated technical support and sales assistance. Here is how we can help you:

On-line Technical Support

Our web site at www.transact-tech.com is your on-line portal to obtaining technical assistance with your TransAct® printer. Click on the Support link to find support information for your BANKjet® 2500 printer. Our on-line support site also includes a convenient e-mail assistance request form, where you can submit support requests 24 hours a day, and receive a return contact from a TransAct support technician during regular business hours.

Telephone Technical Support

Live telephone support is available Monday through Friday from 8 AM to 5 PM local time, excluding holidays. We can provide general information about programming for your BANKjet® 2500 printer, technical support, documentation, or assistance in sending a printer for service. To obtain telephone support, contact the number below for your region and ask for Technical Support.

Eastern United States: 1.877.7ITHACA (1.877.748.4222), Fax: 607.257.3911
United Kingdom: 011-44-170-977-2500, Fax: 011-44-170-977-2505

To help us serve you faster, please have the following information ready when you call:

- The Model Number and Serial Number of the printer.
- A list of any other peripheral devices attached to the same port as the printer.
- What application software, operating system, and network (if any) you are using.
- What happened and what you were doing when the problem occurred.
- How you tried to solve the problem.

Warranty Information

TransAct’s BANKjet® 2500 Printers come with a standard 24-month warranty that commences upon shipment from factory, and covers parts and labor. An optional warranty, covering both parts and labor for an additional 12 months, may be purchased separately.
Return Materials Authorization and Return Policies

If a support technician determines that the printer should be serviced at a TransAct facility, and you want to return the printer for repair, we will issue you the Returned Materials Authorization (RMA) number that is required before returning the printer. Repairs are warranted for 90 days from the date of repair or for the balance of the original warranty period, whichever is greater. Please prepare the printer being returned for repair as follows:

- Pack the printer to be returned in the original packing material.
- Packing material may be purchased from TransAct’s Ithaca Facility.
- Do not return any accessories unless asked to do so by a support technician.
- Write the RMA number clearly on the outside of the box.

Shipping Printers

Never ship a printer by any means with any ink cartridge installed. Be sure to save the packing materials in the event that you need to send the printer in for servicing. TransAct Technologies is not responsible for damaged return items that are not packaged in original shipping material.

Service Programs

TransAct Technologies Incorporated has a full service organization to meet your printer service and repair requirements. If your printer needs service, please contact your service provider first. If any problems still persist, you can directly contact the Technical Support department at the numbers listed above for a return authorization. Customers outside the United States and United Kingdom should contact your distributor for services. TransAct offers the following service programs to meet your needs.

- Extended Warranty
- Depot Repair
- Maintenance Contract
- Internet Support

Sales Support

To order supplies, receive information about other Ithaca products, or obtain information about your warranty, contact our Sales Department at the contact telephone or fax numbers listed below. To receive information on International distribution, visit our web site at www.transact-tech.com.
Contact Information

TransAct Technologies Incorporated
Ithaca Facility
20 Bomax Drive
Ithaca, NY 14850 USA

Telephone 877.7ithaca or 607.257.8901
Main fax 607.257.8922
Sales fax 607.257.3868
Technical Support fax 607.257.3911
Web site www.transact-tech.com

United Kingdom: 011-44-170-977-2500, Fax: 011-44-170-977-2505
Chapter 2

Step-by-Step Installation Procedures
Unpack the Printer

Be sure to save the box and packing materials in case you need to send the printer in for service. TransAct Technologies is not responsible for damaged return items that are not packaged in original shipping material. Refer to “Return Materials Authorization and Return Policies”, on page 5 for information on what to do if you have to return your printer for repair.

Figure 1 Unpacking Instructions

1. Open the box and remove the printer and all items. Check to make sure that all items are present.
   - BANKjet® 2500 printer
   - Ink cartridge (optional)
   - USB, power and serial cables (optional)
   - Paper roll (optional)
   - Power supply (optional)
   - Configuration summary receipt (in printer paper bucket)

2. Separate the printer from the packing material. Reverse steps when repacking for return shipment.

3. Check the printer for any signs of damage. If the printer or any parts are damaged, report it to your supplier and shipper immediately.
Connect Power and Communications

Installation Overview

Two cables are required to be connected to the printer

- Power
- Communications
Connecting the Communication Cable
The BANKjet® 2500 is equipped with two interfaces on the main printed circuit board (PCB). These interfaces are:

- RS-232 serial with 9-pin connector
- USB

Connect the appropriate communications cable to the printer as shown in the following figures. Cables are provided by your dealer, the system installer or are available through TransAct.

Connecting Serial Cables

1. Disconnect all power from the printer and host system or personal computer.
2. Connect the 9-pin serial interface cable to the connector located on the back of the printer.
3. Tighten the two mounting screws on each side of the cable connector.

Figure 3 Connecting the Serial Cable
Connecting USB Cables

Note: The USB connector can be “hot plugged”. The power does not need to be disconnected.

Connect the USB cable to the connector located on the back of the printer, as shown in Figure 4.

Figure 4 Connecting the USB Cable
Connecting the Power Cable

1. Orientate the printer upside-down and find the power socket.
2. Locate the power cable and connect it to the power socket.
3. Orient the flat side of the power cable connector towards the bottom of the printer.
4. Slide the power cable connector jacket back to assist installation/removal.
5. Turn the printer ON, using the on/off switch on the left side of the printer.
Installing Ink Cartridge

Use the power switch to turn the printer on before you install the ink cartridges. Confirm that the printer is on by checking that the power indicator light is illuminated.

**CAUTION:** Do not touch the ink cartridge’s metallic connector surface.

1. Remove the new ink cartridge from its sealed pouch, and then remove the Mylar tape from the face of the new ink cartridge. Holding the cartridge by the tab will ensure a clean installation.

2. Open the front cover.
3. Pull down Blue Cartridge latch and remove old cartridge.

5. Close the front cover.

**Caution:** The Hewlett-Packard inkjet print cartridges used by the BANKjet® 2500 Printer must have periodic usage to maintain its functionality. The printer does this by cleaning the excess ink from the face of the cartridge ("wiping") and firing ink into a reservoir to clean the print jets ("spitting"). The printer performs these functions as transparently to the host application as possible.

Because the printer cannot perform these basic maintenance procedures if the power to the printer is removed, **do not unplug the printer from its power source** for long periods of time while an ink cartridge is installed.
Loading Paper

The BANKjet® 2500 printer uses a continuous roll of POS grade paper, with specifications outlined in the chapter BANKjet® 2500 Specifications and Requirements.

1. Before loading paper, ensure printer is powered on.
2. Open Paper Cover by pressing the blue Paper Cover Button and grasping the sides of the cover, rotating it towards the back of the printer.
3. Place a new roll of paper in the paper bucket, with the end of the paper unloading from the bottom to the front of the printer.
4. Close the cover by rotating it back into position until it securely clicks into place. Paper will feed automatically if power switch is on.
Matching Printer Configuration Settings to your System
If you are experiencing inconsistent printing operation, or if the printer appears to be non-responsive, several of the printer configuration settings need to be set to match the requirements of your system.

**Serial Printer**
Emulation
RS-232 Serial Interface (baud rate)
Carriage Return Options
TransAct recommends that *only the above settings be altered*, and that these re-configurations only be made by a trained service technician who has successfully completed training on the BANKjet® 2500. Please remember that these settings are only a few of the possible configurable options. If you continue to experience incompatibility issues after changing these settings to match your system, contact TransAct's Technical Support department for assistance.
Chapter 3

BANKjet® 2500 Specifications and Requirements
BANKjet® 2500 Specifications and Requirements

Standard Features

The following features are standard for BANKjet® 2500 printers:

- Print speed for receipt text of 6 lines per second @ 40 columns, 12 LPS @ 10 columns
- 5.0 inches per second receipt paper and validation form feed speed
- 2.83 inch print zone (inserted form)
- 2.67 inch print zone (receipt)
- 3.0 inch (76 mm.) wide by 3.0 inch (76 mm.) diameter receipt paper roll
- Independent validation
- Receipt drive
- Clam-shell receipt paper loading
- Cut-through, drop-in validation
- Adjustable form alignment stop to allow repeatable forms positioning
- Form insertion LED to provide feedback to operator for proper form insertion
- Metal receipt tear off
- Monochrome print utilizing HP 6602 Tablerock inkjet print head
- USB and RS-232 interfaces
- Configurable receiver buffer
- Self diagnostics
- Set up and configuration utility program
- CPI selections from 8 to 30 CPI
- Print resolution: Max. 208 dpi. Horizontal, 96 dpi. Vertical
  - Bitmap fonts always print in 208x96 half dot mode
  - Scalable fonts may be configured to print in the following modes:
    - 208x96 half dot
    - 208x96 full dot (Half speed)
    - 208x192 full resolution (1/4 speed)
- Selectable printing features of Emphasized, Double Wide, Double High, Double wide/Double High, Underline, Italics, Subscript, Superscript, and Rotated (Four 90 degree rotations)
- Emulations: Ithaca, Epson ESC/POS, and Addmaster 6080
- Maximum 8K buffer (adjustable)
- Flash memory for user defined graphics
- APA and Epson graphics
- Bar Codes: Code 39, Code 93, Interleaved 2 of 5, UPC-A, UPC-E, EAN8 and EAN13, Code 128
- Code page or Unicode support
- WGL4 stroke based fonts
- Paper out sensor
- Addressable graphics area for images
- Black cabinet set
- Recessed cable routing and strain relief
- Configurable electronic journal
- Operator interface features including:
  - Power LED
  - Paper status LED
  - Form status LED
  - Error LED
  - ON/OFF switch
  - Form Feed button
  - Receipt Feed button

## Optional Features

The following options are available:

- Ink cartridge
- Power supply
- Paper roll
Physical Printer Specifications

Figure 10 Printer Dimensions

<table>
<thead>
<tr>
<th>Max Dimensions</th>
<th>W</th>
<th>D</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions in inches</td>
<td>6.50</td>
<td>8.5</td>
<td>4.22</td>
</tr>
</tbody>
</table>

Weight: approx. 4.2 lbs. (1.9 kg)
Shipping: approx. 5 lbs. (2.3 kg)

Interface
- Serial RS-232C
- USB Version 1.1
Environmental Conditions

The BANKjet® 2500 is designed to be placed on point-of-sale terminals, counter tops, or any other flat, stable surface that can support the weight of the printer (about 4.2 lbs. or 1.9 kg). Be aware that the environmental conditions of the location where you place the printer will have an effect on the printer’s performance and longevity. The printer will run its best when stored and operated in an environment that meets the temperature and humidity conditions shown in Figure 11.

![Figure 11 Environmental Conditions: Typical Operating Range](image)

**Typical operating range:**
- 10°C to 40°C / 50°F to 104°F

* **Extended operating range:**
- 0°C to 45°C / 32°F to 113°F+

**Storage:**
- -10°C to 60°C / 14°F to 140°F

**Shipping:**
- -40°C to 70°C / -40°F to 158°F

* Exposure to high or low temperatures for periods of greater than 48 hours will lead to significantly reduced cartridge life. The Typical Operating Range provides full printer reliability. The Extended Operating Range may degrade the reliability of the printer and life of the cartridge.

**Relative Humidity**

- **Operating:** 10% to 90% RH *(non-condensing)*
- **Storage:** 10% to 90% RH *(non-condensing)*
- **Shipping:** 5% to 90% RH *(non-condensing)*

**Reliability**

- **Printer life:** 10,000,000 print lines
- **Mean time between failures: (without cartridge):** 50,000,000 print lines
- **Average cartridge life (Average 16 dots/character):** 7.0 million characters
- **Mean time to repair:** 15 minutes
- **Validation cycles:** 1 million cycles
Media Specifications

Receipt Paper

- Paper feed method: Friction feed
- Paper feed pitch: Default - 1/8 inch
- Paper width: 76.0 +/- .5 mm. (3.0 +/- .02 inches)
- Roll diameter: 3.0 inches max.
- Paper thickness: 0.003 - 0.0035 inches
- Roll paper core: Inside diameter 7/16 inch or more
- Roll footage: 165 - 192 feet (.003 to .0035 thick paper)

Paper Grades

<table>
<thead>
<tr>
<th>Paper Type</th>
<th>Tablet Bond</th>
<th>TMP</th>
<th>60% Recycled</th>
<th>100% Recycled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis Weight</td>
<td>15 lbs.</td>
<td>13.8 lbs.</td>
<td>15 lbs.</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>Caliper</td>
<td>.0035 inches</td>
<td>.0037 inches</td>
<td>.0030 inches</td>
<td>.0032 inches</td>
</tr>
<tr>
<td>Sizing</td>
<td>4%</td>
<td>0%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Brightness</td>
<td>82</td>
<td>80</td>
<td>75</td>
<td>65</td>
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<tr>
<td>Opacity</td>
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<td>Smoothness</td>
<td>300</td>
<td>200</td>
<td>150</td>
<td>170</td>
</tr>
<tr>
<td>Moisture</td>
<td>5.0%</td>
<td>7.1%</td>
<td>5.7%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Table 1 Paper Grades

Note: All Ithaca life testing has been performed with TMP paper.
Receipt Printable Area

Receipt Printing Tear off Position
The paper tear off is positioned 1.06 inches from the last line of print.

Validation Forms
Number of plies: 1
Single ply paper: .003 in to .0047 in (.076 mm. to .119 mm.)
Form Size (Min): 2.75 in high x 5.5 in long (69.8 mm. x 139.7 mm.)
Form Size (Max): 4.0 in high x 8.75 in long (101.6 mm. x 222 mm.)
Validation Type: Independent
# Validation lines: Max. 9 lines (@ 6 lines/inch)

Figure 12 Inserted Form (Validation) Dimensions
Electrical Specifications

External Powered DC

Optionally, the BANKjet® 2500 Printer can be operated with an external 24-volt DC power supply.

<table>
<thead>
<tr>
<th>Supply Voltage Rating (VDC)</th>
<th>Supply Voltage Range (VDC)</th>
<th>Frequency (Hz)</th>
<th>Power (watts)</th>
<th>Idle Current (amps)</th>
<th>Current (amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-5+10%</td>
<td>22.8 -26.4</td>
<td>DC</td>
<td>25W Avg. (Printing)</td>
<td>0.125</td>
<td>1.0 (Printing)</td>
</tr>
</tbody>
</table>

Table 2 Power Input Requirements Optional 24-volt DC Supplied from Host
Power and Communication Specifications

**Power Requirements**

![Power Source Diagram]

**DC Powered Versions**

Supply voltage: 24 Vdc ± 10%
Supply Current: 1.0Amps

**RS-232 Serial Interface**

There is an RS-232 Serial 9-pin, D-shell connector provided on the Main Controller PCB. The pin-out is such that the printer interfaces to a standard IBM PC serial printer interface with a serial null modem cable. The tables below lists interface signals and pin definitions.

**Serial Port Features**

| Baud Rates   | 300, 600, 1200, 2400, 4800, 9600, 19.2K, 38.4K, and 57.6K |
| Bit Patterns | 8-bit no parity; 8-bit odd; 8-bit even; 7-bit no parity; 7-bit odd; 7-bit even |
| Flow Control | DTR and XON/XOFF |

**Serial Pin Assignments**

<table>
<thead>
<tr>
<th>9-pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>N/C</td>
<td>No Connection</td>
</tr>
<tr>
<td>Pin 2</td>
<td>RX</td>
<td>Receive Data</td>
</tr>
<tr>
<td>Pin 3</td>
<td>TX</td>
<td>Transmit Data</td>
</tr>
<tr>
<td>Pin 4</td>
<td>DTR</td>
<td>Data Terminal Ready</td>
</tr>
<tr>
<td>Pin 5</td>
<td>GND</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>Pin 6</td>
<td>DSR</td>
<td>Data Set Ready</td>
</tr>
<tr>
<td>Pin 7</td>
<td>RTS</td>
<td>Request to Send</td>
</tr>
<tr>
<td>Pin 8</td>
<td>CTS</td>
<td>Clear to Send</td>
</tr>
<tr>
<td>Pin 9</td>
<td>N/C</td>
<td>No Connection</td>
</tr>
</tbody>
</table>

Table 3 Serial Interface Pin Assignments
**RS-232 Serial Interface Signal Voltage and Current levels**

<table>
<thead>
<tr>
<th>Voltage Levels</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark = Off</td>
<td>-3 to -15 Volts</td>
<td>+3 to +15 Volts</td>
</tr>
<tr>
<td>Space = On</td>
<td>-3 to -15 Volts</td>
<td>+3 to +15 Volts</td>
</tr>
</tbody>
</table>

Both the host and printer use the same serial port pin-outs, as both are DTE's (Data Terminal Equipment). As a result, if the cable that is used to connect the host to the printer is a pin-to-pin inter-connect, it will not work; therefore, a null modem or turn-around cable must be used to interconnect the host and the printer.

**USB Interface**

The USB interface is a Version 1.1 interface that is Version 2.0 compliant. The standard USB interface card is implemented through a standard Series "B" receptacle as defined in the USB Specification. The printer is self-powered and does not draw power from the standard Type B USB interface cable.

The standard USB Type B connector has the following pin functions:

**Pin Signal**

1. Vbus (+5 V dc) (Not used in the BANKjet® 2500)
2. Minus data
3. Plus data
4. Ground

**Note:** The standard USB interface does not have sufficient power to run the printer.
Printer Block Diagram
Chapter 4

How to Operate the BANKjet® 2500 Printer
Overview of Printer Controls

Operating the Keypad Controls
The keypad contains 2 buttons and 4 indicator lights.

Button Function Descriptions:
The primary functions of each of the buttons are described below. These buttons may also have alternate functions when the printer is in self-test and configuration modes.

Power Switch
The power switch is located on the left side of the printer.

PAPER feed button
The PAPER feed button is used to advance paper. If an inserted form is present in the printer, the PAPER feed button will move the form in an upward direction. If no form is present, the receipt paper will be advanced.
Pressing the PAPER feed button momentarily will feed one line at a time.
Pressing and holding the PAPER feed button will feed paper continuously until it is released.

FORM Button
The FORM button is used for inserted form operations. Pressing the FORM button with no form inserted in the printer activates the automatic form loading function. The printer will flash the form indicator light and wait for a form to be
placed in the validation slot. If a form is already present in the printer, pressing the FORM button will release the form.

**Indicator Light Descriptions**

<table>
<thead>
<tr>
<th>Indicator Light</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POWER INDICATOR LIGHT</strong></td>
<td>Indicates printer activity and non-recoverable errors.</td>
</tr>
<tr>
<td><strong>FAULT INDICATOR LIGHT</strong></td>
<td>Indicates problems and probability of recovery.</td>
</tr>
<tr>
<td><strong>PAPER INDICATOR LIGHT</strong></td>
<td>Indicates paper status (paper out).</td>
</tr>
<tr>
<td><strong>FORM INDICATOR LIGHT</strong></td>
<td>Indicates validation/inserted form status</td>
</tr>
</tbody>
</table>

The descriptions below reflect the normal uses of the keypad indicator lights. These indicators are also used during self-test and errors modes to convey additional information.

**POWER Indicator Light (LED)**
The power indicator light becomes active when the printer is ON.

**FAULT Indicator Light (LED)**
The fault indicator light becomes active when a problem is detected by the printer. The fault indicator light, along with the other indicators, may be used to determine the cause of the problem.

**PAPER Indicator Light (LED)**
The paper indicator light is used to communicate the amount of paper remaining in the printer. When the paper supply has been exhausted, the printer will stop, and the paper and fault indicator lights will illuminate. When paper is reloaded, the indicator lights will be extinguished and the printer will resume operation.

**FORM Indicator Light (LED)**
The form indicator light is used during form validation operations. The form indicator light blinks to alert the operator that the printer is waiting for a form to be inserted/removed in the printer. The form indicator light will change to a steady ON condition when a form is present in the printer.
Validation Form Insertion

Inserting Validation Forms
The BANKjet® 2500 is designed to run validation either by using application software, or manually.

- Send appropriate control commands from your system to initiate the validation process or press the FORM Button to enter validation mode.
- When the form indicator light starts blinking, insert the validation paper into the validation slot.
- The printer will automatically detect the form and clamp on it.

![Validation Slot](image)

Figure 14 Validation Slot.

Using the Validation Stop

A validation stop is provided that allows precise positioning of documents in the validation slot. This stop is adjustable on the left and right sides of the pen cover.

For stop positioning, use a screwdriver to loosen the stop. Once the stop is set to the desired position, tighten the screw.
Printable Side of Form
Insert forms so that the side of the form that you want the printing to occur on is facing forward.
Preventing and Clearing Validation Jams

Inserted forms should not be touched during the printing, or ejection process. Pressing or pulling the paper during ejection may cause the validation process to jam. If a jam condition occurs, clear it by opening the cartridge cover and removing the form.
Printer Self Testing and Diagnostics

Printer Self-Testing
The BANKjet® 2500 has been designed to perform several self-tests and will also allow a technician to access the printer’s configuration settings. It is important to insure that the printer will perform a self-test. This isolates printing problems to something other than the operation of the printer itself. The BANKjet® has a total of ten self-test options with four designed to be useful when performing on-site evaluations. These four tests are the only options that should be used to test your printer. The other six testing options are used for printer demonstrations and factory setup by TransAct. Use the following four test options when trying to correct a printing problem.

Use the following testing options when beginning to troubleshoot and repair the BANKjet® 2500.

TEST-Receipt
The receipt test is the primary test option to use when determining if the printer is functioning correctly. The receipt test is mostly used during the early stages of troubleshooting to eliminate the possibility that the problem is occurring with the printer. If the printer experiences a failure, and the fault indicator light is activated, call TransAct’s Ithaca Facility’s Technical Support Department.

TEST-Print Configuration
The print configuration test is a quick and easy way for you to see how your printer has been configured at the factory without actually having to enter into configuration mode. A large percentage of initial installation and setup problems can be attributed to the printer’s configuration not matching the user’s system settings. Using this test will show you the current configuration settings of the printer.

TEST-Validation
Validation test will validate the back of a check or inserted form. Nine lines of validation information will be printed.

TEST-Sensor Calibration
The validation operation requires several sensors that detect the presence and alignment of the form being validated. These sensors may be recalibrated in the field to compensate for sensor drift and/or debris in the sensor path. To calibrate the sensors, remove any form that may be in the printer validation path and select this test. This test will automatically adjust the sensors and print a calibration report. The calibration will be from 0-3. If the calibration results are 3 on any sensor and the printer does not function correctly, the printer must be returned for service.
Disregard the following options when cycling through the menu: The following six self-test options are only extended functionality tests and do not need to be run in order to determine if the printer is running properly. These test options are only used for printer demonstrations and factory setup.

TEST-Graphics
TEST-Print Specs
TEST-Print Configuration
TEST-Validation
TEST-Sensor Calibration
TEST-Pyramid
TEST-Burn in
TEST-Bar Codes
TEST-Rolling ASCII
Placing the Printer in Self-Test Mode
The PAPER feed button in conjunction with the power switch is used to enter the BANKjet’s self-test mode. To place the BANKjet® in self-test mode, be sure that a paper roll and ink-jet cartridge is loaded. The power indicator light should not be illuminated when trying to place the printer in self-test mode.

1. If necessary toggle the power switch to turn the printer OFF. (The power indicator light will be not be illuminated.)
2. Press and hold the PAPER feed button.
3. While holding the PAPER feed button, toggle the power switch ON.
4. When the fault indicator light blinks, release the PAPER feed button.
5. Read the directions on top of the printed receipt to cycle through the menu options.

Exiting Self-Test Mode
Exit Self-Test mode at anytime by turning the power switch OFF.

Self-Test Hints and Suggestions
- If the printer fails to complete or enter into self-test mode, disconnect it from the application system.
- Contact TransAct’s Technical Support department if self-test mode fails in any way.
Chapter 5

Troubleshooting
Indicator Lights (LED)

The four BANKjet® 2500 indicator lights are:

- **Power LED**  Indicates printer activity and non-recoverable errors
- **Fault LED**  Indicates problems and probability of recovery
- **Paper LED**  Indicates paper status (paper out)
- **Form LED**  Indicates the validation form needs attention.

**Power Indicator (LED)**

The power indicator lets the user know that the printer is ON. If the power indicator blinks in conjunction with the fault indicator, the printer is experiencing a non-recoverable error. See the fault indicators below. If the power indicator blinks, and there is no fault indicator blinking, the printer is being held in reset by the host.

**Fault Indicator (LED)**

The fault indicator lets the user know that the printer is experiencing a problem. If the power indicator is lit (not blinking), the error is generally recoverable without data loss. If the power indicator is blinking, a non-recoverable error has occurred. See fault indicators below. If the error is not operator recoverable, a power cycle may correct the problem. If a power cycle does not correct the fault, the printer must be serviced.

**Paper Indicator (LED)**

The paper indicator signals the paper status. If the paper indicator is lit with the fault indicator, the printer is out of paper. The printer stops printing and waits for the paper to be changed.

**Form Indicator (LED)**

The FORM indicator signals that the form is active, should be inserted, or should be removed. If the indicator is blinking the form should be inserted or removed. If the indicator is on steadily, the printer is in validation mode.

**Status and Error Indications**

The Power, Form, Paper and Fault indicators will operate in various combinations to indicate printer status, operator requests and errors. The following is a brief summary of the status indications displayed by the indicators.
## Status and Error Indications

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Paper</th>
<th>Fault</th>
<th>Power</th>
<th>Form</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>Power On (Idle)</td>
<td>Off</td>
<td>Off</td>
<td>On</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>Request a Form</td>
<td>Off</td>
<td>Off</td>
<td>On</td>
<td>Blink</td>
<td>Inserting a form will automatically switch the printer to Validation mode.</td>
</tr>
<tr>
<td>Validation Mode</td>
<td>Off</td>
<td>Off</td>
<td>On</td>
<td>On</td>
<td></td>
</tr>
<tr>
<td>Paper Out</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Install paper and close the cover to recover.</td>
</tr>
<tr>
<td>Cartridge Out</td>
<td>Blink</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Install or reinstall the print cartridge</td>
</tr>
<tr>
<td>Carriage Jam</td>
<td>Off</td>
<td>On</td>
<td>Blink</td>
<td>Off</td>
<td>Remove what is blocking the print carriage and close the covers to restart.</td>
</tr>
<tr>
<td>Cartridge Cover Open</td>
<td>Off</td>
<td>On</td>
<td>On</td>
<td>--</td>
<td>Close the cartridge cover</td>
</tr>
<tr>
<td>Paper Cover Open</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>--</td>
<td>Install paper and close the paper cover.</td>
</tr>
</tbody>
</table>

## Blink Error Chart
The following are error blink codes for faults that will stop the printer and require a Power cycle to clear.

<table>
<thead>
<tr>
<th>Fault</th>
<th>Error Code</th>
<th>Fault</th>
<th>Error Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carriage Motor</td>
<td>1</td>
<td>Flash Write Fault</td>
<td>9</td>
</tr>
<tr>
<td>Configuration Read</td>
<td>2</td>
<td>Dynamic Memory Allocation Fault</td>
<td>10</td>
</tr>
<tr>
<td>Configuration Write</td>
<td>3</td>
<td>Font Generation Fault or No Fonts Found</td>
<td>11</td>
</tr>
<tr>
<td>System Error trap</td>
<td>4</td>
<td>Memory Overlay Fault</td>
<td>12</td>
</tr>
<tr>
<td>Validation Path/Compensation</td>
<td>6</td>
<td>Kernel Fault</td>
<td>15</td>
</tr>
<tr>
<td>User Store fault</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Journal</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Startup Troubleshooting
This troubleshooting section provides solutions to problems that may occur with your printer during installation.

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printer is OFF</td>
<td>Toggle the power switch</td>
</tr>
<tr>
<td>No Power</td>
<td>Confirm that power is available, and that the power cord is fully seated in the power supply's power socket.</td>
</tr>
<tr>
<td>No DC Power</td>
<td>Check the connection of the power supply output cable to the printer.</td>
</tr>
</tbody>
</table>

## Printer Will Not Communicate (prints illegible receipts)

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect Cable Configuration</td>
<td>Turn printer OFF and reconnect communication cables.</td>
</tr>
</tbody>
</table>
| Incorrect Printer Configuration | Compare configuration settings with application requirements. Use Self-Test to print out the printer's configuration settings, or compare to the configuration receipt that shipped with your printer. Most Frequent Configuration Incompatibilities
  Serial Printer
  Emulation
  RS-232 Serial Interface (baud rate)
  Carriage Return Options |
Keypad Indicator Troubleshooting Chart: General Problems

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Power LED</th>
<th>Fault LED</th>
<th>Paper LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Open</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Out of Paper</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>Cartridge Removed</td>
<td>ON</td>
<td>ON</td>
<td>BLINKING</td>
</tr>
</tbody>
</table>

Table 5 Keypad Indicators: General Problems

Correcting Common Operating Problems

This troubleshooting section provides solutions to problems that may occur with your printer. Use the following series of tables to determine printing problems. It is highly recommended that you maintain a history of reported problems and the actions you took to identify or resolve problems. This information can help you isolate later problems and anticipate or avoid others. In particular, you should record the problem description, including a brief explanation of the symptoms.

The following is a list of possible problem areas. These categories have been established to assist you with preliminary troubleshooting information.

- Keypad Lights Are Not Working
- Printer Will Not Print (fault indicator light ON)
- Printer Will Not Print (fault indicator light OFF)
- Printer Prints With Missing Dots In Characters
- Printer Sounds Like It’s Printing But Nothing Prints
- Printer Will Not Feed Paper

### Keypad Lights Are Not Working

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Connections/No Power</td>
<td>Check to see if the power cord is plugged into wall outlet.</td>
</tr>
<tr>
<td></td>
<td>Check the power cord connection on back of the printer.</td>
</tr>
<tr>
<td></td>
<td>Check to see if printer is turned ON.</td>
</tr>
</tbody>
</table>

Table 6 Troubleshooting: Keypad Lights Will Not Work
### Troubleshooting: Printer Will Not Print (Fault Light ON)

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ink Cartridge Not Installed</td>
<td>Install new ink cartridge. See “Installing Ink Cartridge” on page 14.</td>
</tr>
<tr>
<td>Paper Cover or Pen Cover Open</td>
<td>Close the printer’s front cover, making sure that the left and right corners of the rear paper cover are locked into place.</td>
</tr>
<tr>
<td></td>
<td>Check the paper path for debris and/or jammed paper which might cause the covers not to close fully.</td>
</tr>
<tr>
<td>Carriage Jammed</td>
<td>Open the printer’s cover and clear any paper or debris from around the carriage.</td>
</tr>
<tr>
<td>Non-recoverable Printer Fault</td>
<td>If the Fault light is ON and Power indicator is OFF or BLINKING, the printer has experienced a non-recoverable error. Refer to the error indications section to decode this error.</td>
</tr>
</tbody>
</table>

Table 7 Troubleshooting: Printer Will Not Print (Fault Light ON)

### Troubleshooting: Printer Will Not Print (Fault Light OFF)

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printer Is Not Responding To Any Input</td>
<td>Check to see if the Printer is in Self-Test or configuration mode. See “Printer Self-Testing” on page 39.</td>
</tr>
<tr>
<td><strong>If Self-Test prints</strong></td>
<td>Check communication cable connection, and verify the printer’s communication configuration settings.</td>
</tr>
<tr>
<td><strong>If Self-Test does not print</strong></td>
<td>Contact TransAct’s Ithaca Facility. See “Contact Information”, on page 6.</td>
</tr>
</tbody>
</table>

Table 8 Troubleshooting: Printer Will Not Print (Fault Light OFF)
## Troubleshooting: Printer Prints With Missing Dots in Characters

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ink Buildup On Ink Cartridge</td>
<td>Power cycle the printer a few times. This will attempt to clean the print cartridge</td>
</tr>
</tbody>
</table>

Table 9 Troubleshooting: Printer Prints With Missing Dots in Characters

## Troubleshooting: Printer Sounds Like It’s Printing But Nothing Prints

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Path Jammed</td>
<td>Open printer’s covers and check to see if there is any debris in the paper path that may cause paper not to feed correctly.</td>
</tr>
<tr>
<td><strong>If You See Debris:</strong></td>
<td>Clear the debris and close the cover</td>
</tr>
<tr>
<td><strong>If There Is No Debris:</strong></td>
<td>Close the cover and Try printing again. If the problem still exists, contact TransAct’s Ithaca Facility.</td>
</tr>
<tr>
<td>Ink Buildup On Ink Cartridges or has deprimed.</td>
<td>Power cycle the printer a few times. This will attempt to clean the print cartridge</td>
</tr>
<tr>
<td><strong>If the problem still exists, contact TransAct’s Ithaca Facility. See Contact Information on page 6.</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 10 Troubleshooting: Printer Sounds like It Is Printing But Nothing Prints

## Troubleshooting: Printer Will Not Load or Feed Paper

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covers Open</td>
<td>Close the printer’s covers making sure that they are fully snapped into place.</td>
</tr>
<tr>
<td></td>
<td>Check the paper path for debris and/or jammed paper which might cause the covers not to fully close.</td>
</tr>
<tr>
<td>Paper Path Jammed</td>
<td>Open printer’s covers and check to see if there is any debris in the paper path that may cause paper not to feed correctly.</td>
</tr>
<tr>
<td><strong>If You See Debris:</strong></td>
<td>Clear the debris and close the cover</td>
</tr>
<tr>
<td><strong>If You See Debris:</strong></td>
<td>Clear the debris and close the cover</td>
</tr>
<tr>
<td>Paper Not Installed Correctly</td>
<td>Remove all paper from the printer. Then, reload the paper roll.</td>
</tr>
<tr>
<td>Validation Sensors Need calibration</td>
<td>Enter self test mode and perform the Sensor calibration test. See the self test section for instructions for entering self test and performing Sensor calibration.</td>
</tr>
</tbody>
</table>

Table 11 Troubleshooting: Printer Will Not Load or Feed Paper
Appendix A: Ordering Genuine Ithaca Supplies

BANKjet® 2500 supplies can be ordered easily direct from the TransAct website (www.Transact-tech.com) or our telephone number within the US toll free: (877) 7ITHACA(877 748 4222). (other inquires: (607) 257-8901). When calling by phone, please ask for the Sales Department.

<table>
<thead>
<tr>
<th>Receipt Paper</th>
<th>Type</th>
<th>Dimensions</th>
<th>Stock Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Roll</td>
<td>(Standard Grade)</td>
<td>3.0 inch roll See page 27</td>
<td>100-08097</td>
</tr>
<tr>
<td>1 Roll</td>
<td>(Premium Grade)</td>
<td>3.0 inch roll See page 27</td>
<td>100-08098</td>
</tr>
<tr>
<td>24 Roll Case</td>
<td>(Standard Grade)</td>
<td>3.0 inch roll See page 27</td>
<td>100-08099</td>
</tr>
<tr>
<td>24 Roll Case</td>
<td>(Premium Grade)</td>
<td>3.0 inch roll See page 27</td>
<td>100-08100</td>
</tr>
</tbody>
</table>

Table 12 Paper Ordering Information

NOTE: This printer does not support Color printing, however any color cartridge may be installed in the printer.

<table>
<thead>
<tr>
<th>Ink Cartridges: 3 Pack</th>
<th>Supplier</th>
<th>Stock Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Pack Black</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02347</td>
</tr>
<tr>
<td>3 Pack Red</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02349</td>
</tr>
<tr>
<td>3 Pack Blue</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02353</td>
</tr>
<tr>
<td>3 Pack Green</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02351</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ink Cartridges: 6 Pack</th>
<th>Supplier</th>
<th>Stock Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Pack Black</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02348</td>
</tr>
<tr>
<td>6 Pack Red</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02350</td>
</tr>
<tr>
<td>6 Pack Blue</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02354</td>
</tr>
<tr>
<td>6 Pack Green</td>
<td>TransAct’s Ithaca Facility</td>
<td>100-02352</td>
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</tbody>
</table>

Table 13 Ink Cartridge Ordering Information

<table>
<thead>
<tr>
<th>Cables</th>
<th>Stock Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial Communication Cable</td>
<td>10-2020</td>
</tr>
<tr>
<td>9-pin Female to 9-pin Female</td>
<td></td>
</tr>
<tr>
<td>USB Cable</td>
<td>98-04301</td>
</tr>
</tbody>
</table>

Table 14 Cables Ordering Information

Domestic and International power cables available. Call for more information

Drivers Available

Software Developer’s Toolkit (CD-ROM) 100-02440
# Appendix B: Frequently Asked Questions

## Task | Approach
--- | ---
Change Paper Rolls | Open the printer’s paper cover. Insert the new paper roll so that it unwinds from the bottom and rests on the top of the front cover. Close the paper cover. The paper will load automatically.

Feeds Paper | **Press and release** the PAPER feed button for a single line.  
**Press and hold** the PAPER feed button for continuous feed.

Change Ink Cartridges | Open the printer’s front cover. Take the ink cartridge out of the carriage system and replace with new cartridge. See "Installing Ink Cartridge", on page 14.

Clean Ink Cartridges | Power cycle the printer 2-3 times. If the cartridge still is not working correctly, replace the cartridge.

Cycle Through Configuration Menu | Follow the directions that print on the configuration summary receipt after entering configuration mode.

Save Configuration Settings | Toggle the power switch at any time.

Exit Self-Test Mode | Toggle the power switch at any time.

Exit Configuration Mode | Toggle the power switch at any time.

Turning Printer ON | Toggle the power switch On.

Turning Printer OFF | Toggle the power switch Off.

Placing Printer Into Self-Test Mode | 1. **Toggle the power switch** to place the printer into STANDBY/OFF mode.  
(The **POWER INDICATOR LIGHT** will be off.)  
2. **Press and hold** the PAPER feed button.  
3. **While holding** the PAPER feed button, **Toggle the power switch**.  
4. When the red, **FAULT INDICATOR LIGHT** blinks, **release** the PAPER feed button.  
5. Follow the directions printed on the receipt to select the desired TEST option.

Entering Configuration Mode | 1. **Toggle the Power Switch** to place the printer into STANDBY/OFF mode.  
(The **POWER INDICATOR LIGHT** will be off.)  
2. **Press and hold** both the FEED and FORM Button.  
3. **While holding** the FEED and FORM Button, **Toggle the Power Switch**.  
4. Continue to **hold** the FEED and FORM Button until the **FAULT INDICATOR LIGHT** begins to blink.  
5. **Release** the both Buttons. A receipt will print. This Configuration Summary Receipt shows how your printer is configured. Follow the directions at the bottom of the receipt to change and save settings.

Entering HEX Dump mode. | 1. **Toggle the power switch** to place the printer into STANDBY/OFF mode.  
(The **POWER INDICATOR LIGHT** will be off.)  
2. **Press and hold** both the PAPER feed button  
3. **While holding** the PAPER feed button, **Toggle the power switch**.  
4. Continue to **hold** the PAPER feed button while the **FAULT INDICATOR LIGHT** begins to blink.  
5. After several seconds, the fault indicator will start to blink slower.  
6. **Release** the PAPER feed button and the printer will enter hex dump mode.

Journal Maintenance Mode. | 6. **Toggle the power switch** to place the printer into STANDBY/OFF mode.  
(The **POWER INDICATOR LIGHT** will be off.)  
7. **Press and hold** the FORM button.  
8. **While holding** the FORM button, **Toggle the power switch**.  
9. When the red, **FAULT INDICATOR LIGHT** blinks, **release** the FORM button.  
1. Follow the directions printed on the receipt to select the desired option.

Table 15 Common Operator’s Questions (FAQ’s)
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