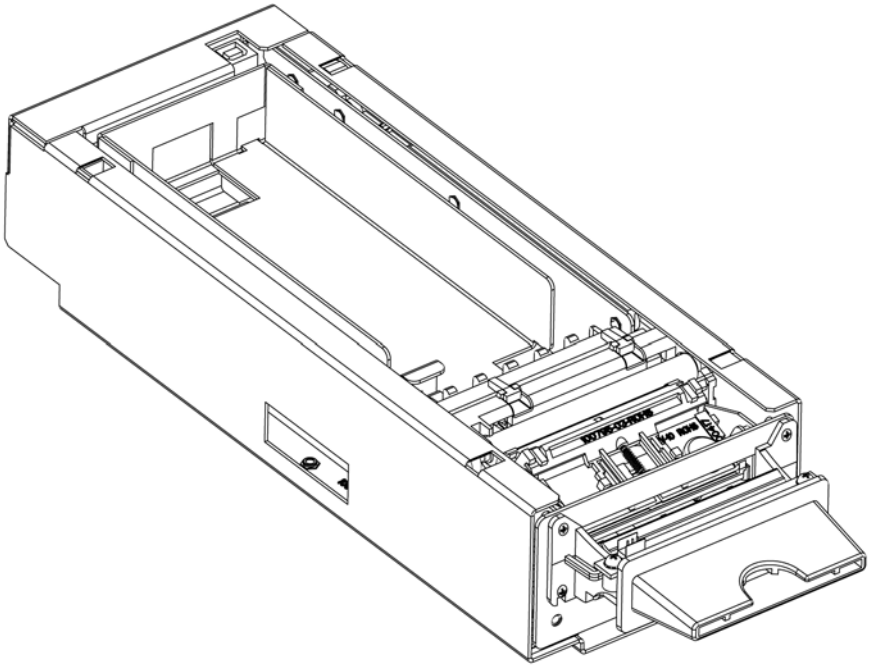
PayCheck™ ● PayCheck 2™ ● PayCheck 3™ ● PayCheck 4™

Technicians Manual



First Edition August 1, 2006
Revision March 6, 2013
Document # 720004-0000

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Federal Communications Commission (FCC)
Radio Frequency Interference Statement

Warning
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful 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.

Information to the User
This equipment must be installed and used in strict accordance with the manufacturer's instructions. However, there is no guarantee that interference to radio communications will not occur in a particular commercial installation. If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to contact Nanoptix Inc. immediately.

Nanoptix Inc. is not responsible for any radio or television interference caused by unauthorized modification of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Nanoptix Inc. The correction of interferences caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

In order to ensure compliance with the Product Safety, FCC and CE marking requirements, you must use the power supply, power cord, and interface cable, which were shipped with this product or which meet the following parameters:

Power Supply
UL Listed power supply with standard 60Hz-50Hz, 100-240VAC input and 24VDC output equipped with AC line filtering, over-current and short-circuit protection.

Use of this product with a power supply other than the Nanoptix Inc. power supply will require you to test the power supply and Nanoptix Inc. printer for FCC and CE mark certification.

Communication Interface Cable
An approved Nanoptix interface cable must be used with this product. Use of a cable other than Nanoptix approved product will require that you test the cable with the Nanoptix Inc. printer and your system for FCC and CE mark certification.

Power Cord
A UL listed, detachable power cord must be used. A power cord with Type SVT marking must be used. For applications outside the North America, power cords that meet the particular country's certification and application requirements should be used.

Use of a power cord other than described here may result in a violation of safety certifications that is in force in the country of use.

Industry Canada (IC)
Radio Frequency Interference Statement
This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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Tables

About the Printer

1.1 Description of Printer

The Nanoptix PayCheck™ printer, is extremely fast, quiet, and very reliable. With thermal printing technology, there is no ribbon cassette to change, and paper loading is extremely simple. The printer is small enough to fit almost anywhere and is easy to use with the ticket exiting from the front.

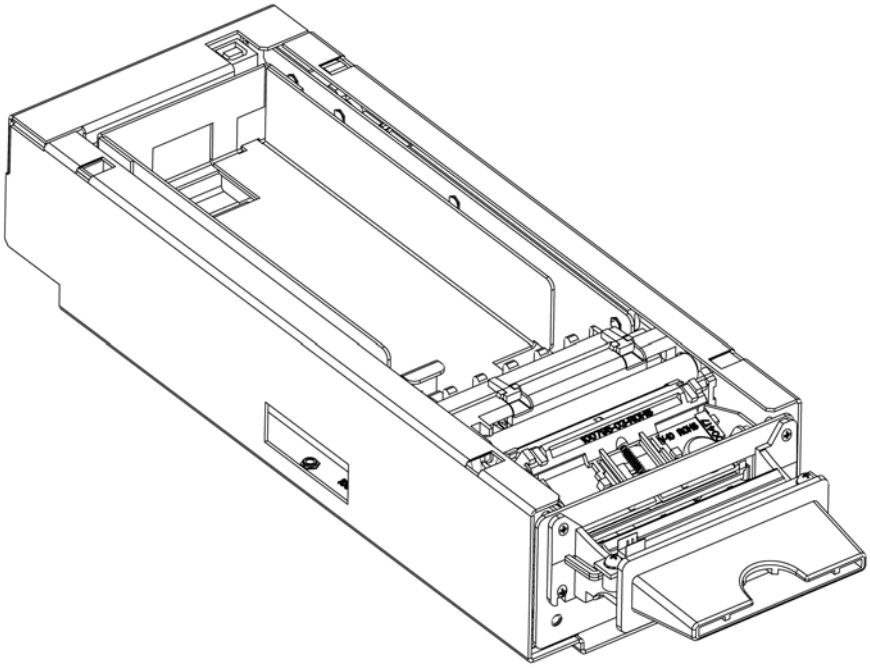


Figure 1: Nanoptix PayCheck™ Printer

1.2 General specifications

Print Method	Direct Thermal
Resolution	8 dot/mm (203 dpi)
Print Width	64mm
Paper Width	65mm
Cartridge Size	200, 400, 600, 800
Operating Temperature	0° to 50° C
Storage Temperature	-40° C to 65° C
Operating Relative Humidity	5% to 90% RH at 50C (non-condensing)
Communication Interface Options	Bidirectional RS-232C Dedicated USB Comm Dedicated USB Maintenance Port
Memory/Firmware	*PayCheck™ & PayCheck 2™:* 1 Mbit of RAM, 2 Mbit flash & 16Kbit EEPROM *PayCheck 3™ & PayCheck 4™:* 2 Mbit Flash, 1 Mbit Ram & 16 kbit EEPROM
Resident Character Sets	Support 32 fonts Approx. (16 resident 16 user defined)
Integrated Bar Codes	UPC-A, UPC-E, interleaved 2 of 5, Code 39, Code 93, Codabar, EAN 8, EAN 13, Code 128. Note: Other Bar Codes can be programmed quickly
Speed	*PayCheck™ & PayCheck 2™:* Up to 125 mm/sec. (monochrome) *PayCheck 3™ & PayCheck 4™:* Up to 200 mm (8 in.) per sec. (monochrome) Up to 125 mm (5 in.) per sec. (two-color mode)
Sensors	Paper low, paper out, ticket taken, drawer open, ticket jam, ticket in chute, black mark
Duty Cycle (max.)	5 tickets per minute
Human Interface	Drop-in paper loading, status LEDs, paper feed button
Dimensions	113mm width x 67mm height x 286mm depth
Weight	2.3 Kg
Immunity	EN 55024 Information Technology Equipment
Emission Standards	United States - FCC Part 15 Subpart A Canada - Industry Canada ICES-003 Europe – EN 55022 Class B emissions Information Technology Equipment
Safety	QPS Certified Control Number: LRE1123

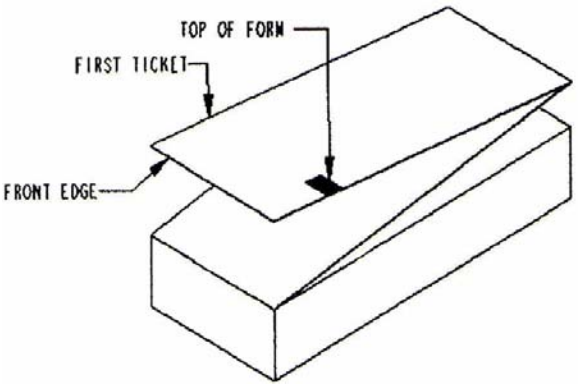
Table 1: Specifications

1.3 Paper Loading

The paper stack should be changed when it is low or out.

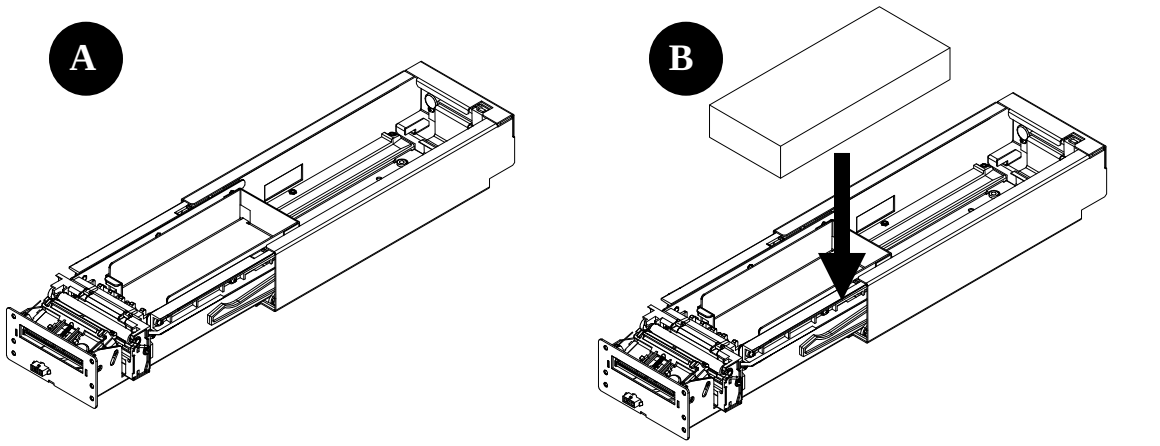
Caution: The printer will not operate without paper, but it may continue to accept data from the host computer. Since the printer cannot print any transactions, the data may be lost.

The maximum stack that will fit in the ticket cartridge is 200, 400, 600 or 800 tickets depending on the cartridge option that was purchased with the printer.



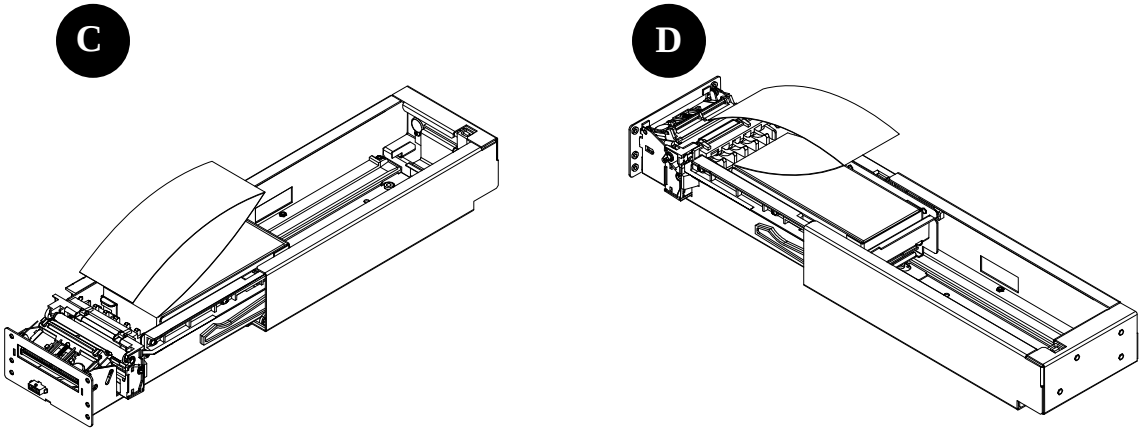
Ticket stack orientation:
The stack must be oriented so that it's top of form mark is on the leading edge of the ticket.

Figure 2: Ticket Stack Orientation



Open drawer.
(if necessary)

Drop ticket stack into ticket cartridge.



Feed ticket into printer mechanism until resistance is felt.

Once paper has been aligned ticket is ready to print.

Figure 3: Loading Paper

1.4 Printer Interface Ports

Port Identification	Connector Type	Function
A	14 pin “Molex type”	RS-232 Communication
B	USB type B	USB Communication
C	USB type B	USB Maintenance
D	3 pin “Molex type”	Bezel LED

Table 2: Interface Ports

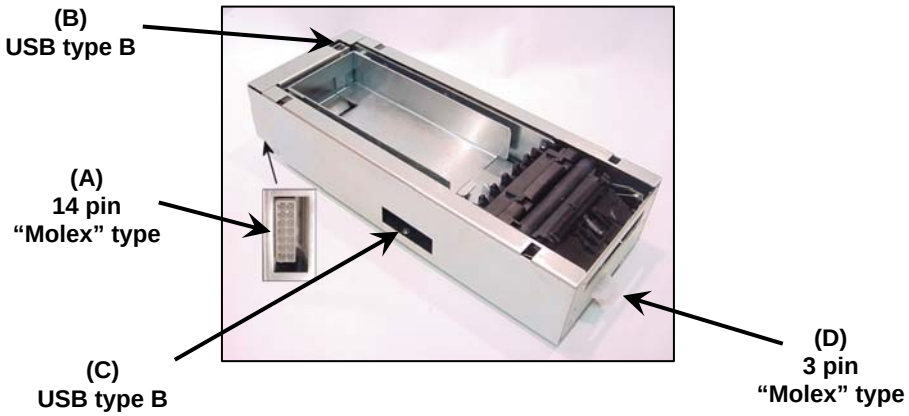


Figure 4: Interface Ports

1.5 Printer Controls

1.5.1 Printer Reset (Service use only)

The printer is reset by disconnecting and reconnecting the power/communication cable. Once connected, the printer goes through a startup routine and resets itself.

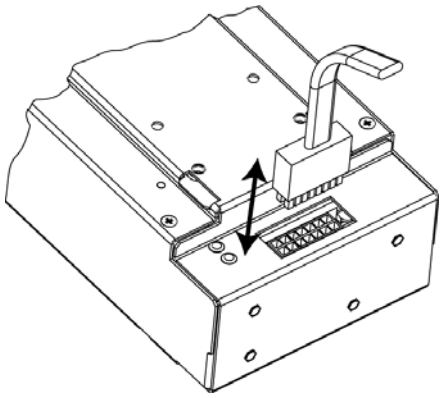


Figure 5: Printer Reset

1.5.2 Paper Feed Button

The paper feed button is used to advance the paper. Once the ticket removed, the printer will realign the paper to the ready position.

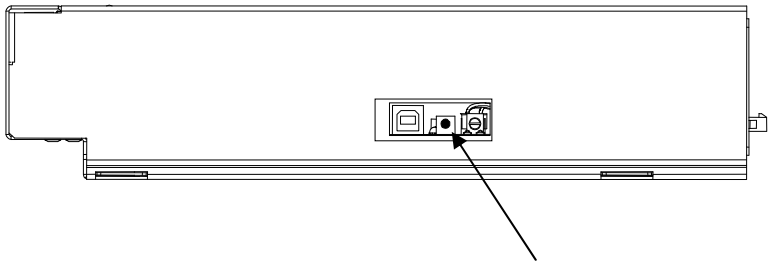


Figure 6: Paper Feed Button

1.5.3 Firmware Selector DIP switches

PayCheck 3™: Remove the ticket tray to access the firmware selector DIP switches.

PayCheck 4™: DIP switch is available through access hole in paper tray.
Various firmware and setting configurations are available by selecting the 16 different DIP switch combinations. (Applies to PayCheck 3™ & PayCheck 4™ only)

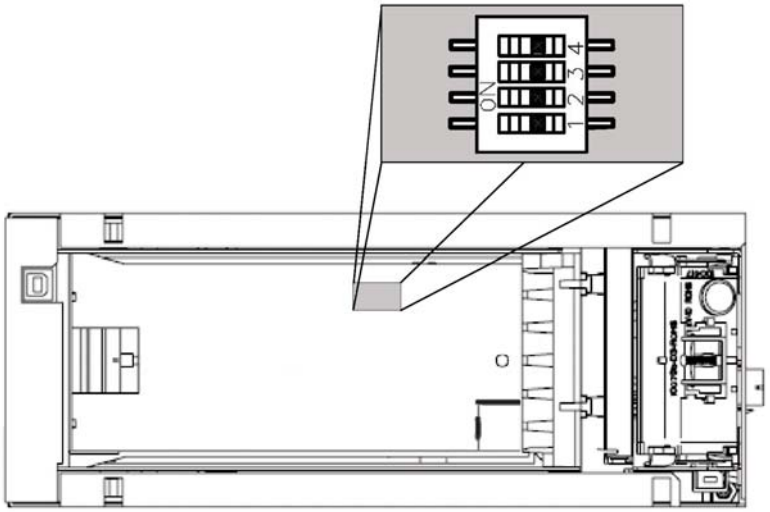


Figure 7: F/W DIP Switch

DIP switch functions vary in different firmware versions

1.5.4 Boot mode Selector DIP switches

PayCheck 3™: Remove ticket tray and plate to access the boot mode selector DIP switches.

PayCheck 4™: Remove ticket tray plate to access the boot mode selector DIP switches. Different boot options are available by selecting the 4 different DIP switch combinations.

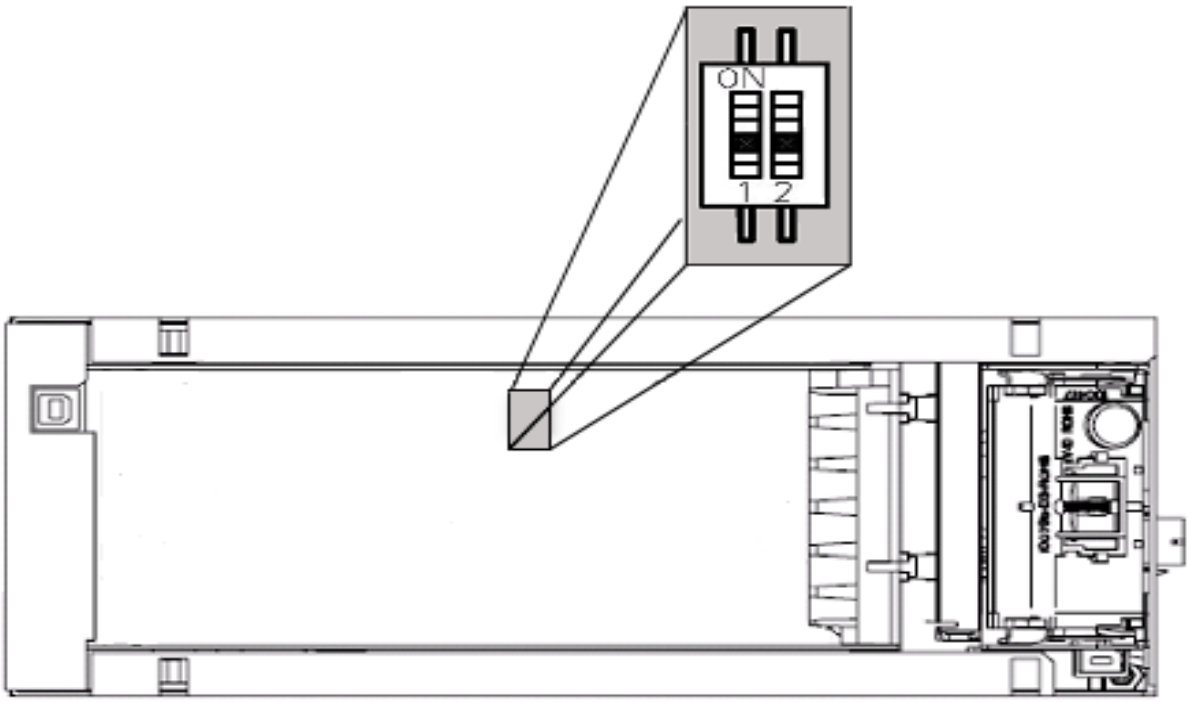


Figure 8: Boot Selector

DIP switch settings	Function
OFF-OFF	Run mode (default setting)
OFF-ON	None
ON-OFF	None
ON-ON	Recovery mode (Corrupted firmware)

Table 3: Boot Selector

1.5.5 Watch Dog jumper

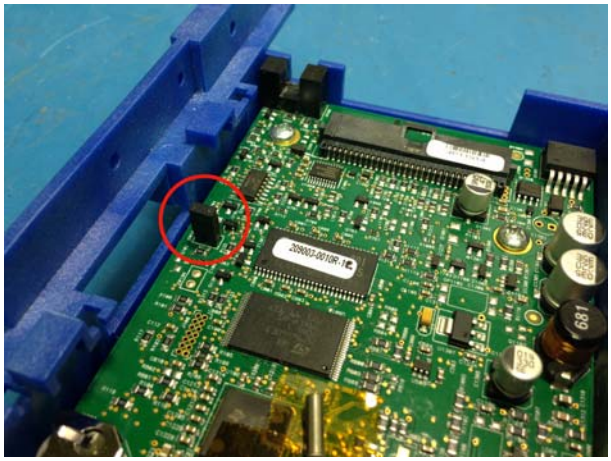


Figure 9: Watch Dog (PayCheck 3™ & PayCheck 4™ only)

Jumper setting	Function
ON	Run mode (default setting)
OFF	Recovery mode (disable watch dog)

Table 4: Watch Dog jumper

1.5.6 Bezel illumination control jumper

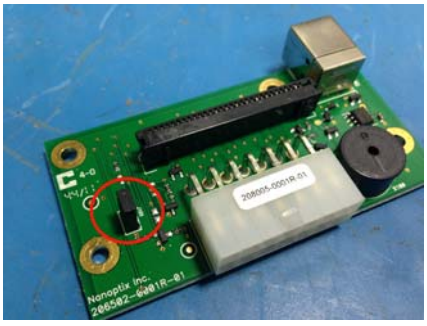


Figure 10: Bezel Control

Jumper setting	Function
ON	Bezel illumination control connected to pin 9 of host I/O
OFF	Bezel illumination control not available on Pin 9 of host I/O

Table 5: Bezel Control

1.5.7 LED

Note: An external LED bezel can be connected through the front 3-pin “Molex” type connector. (Pin-out is described in section 2.2.3)

Error LED (Red)	Status LED (Green)	Voltage LED (Red) (PayCheck 2™ only)	Condition
OFF	ON	OFF	Printer Ready
ON	OFF	OFF	Paper Out
MED BLINK	OFF	OFF	Temperature Error
SLOW BLINK	OFF	ON (Bright)	Voltage Error (Over 26.2 VDC)
FAST BLINK	ON	OFF	Print Head Error
FAST BLINK	ON	OFF	Missing Black Index Mark
FAST BLINK	ON	OFF	Paper Jam

Table 6: LED Information

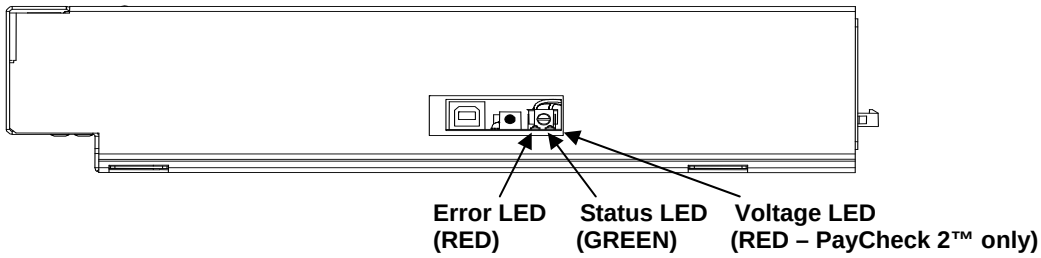


Figure 11: LED Positions

1.6 Testing the Printer

This test can be used to verify the correct operation of the printer. The test prints a resident ticket listing the current printer settings. This ticket can also be used to verify the printing quality.

PayCheck™ & PayCheck 2™:
To print the test ticket, *the printer must be powered "ON" while holding the paper feed button for approximately 5 seconds*. Once repetitive beeping is heard, release the paper feed button. A test ticket similar to the one below will be printed. Pressing the button again will result in blank tickets.

PayCheck 3™ & PayCheck 4™:
To print the test ticket, *the printer must be powered "ON" while holding the paper feed button for approximately 5 seconds*. A status ticket similar to below will be printed. Pressing the button again will result in blank tickets.

Model:	PAYCHECK 4
Firmware:	PAY-4.82H (0x1CB1)
User Version:	S R.2.4.0
Protocol:	NTL
COMMUNICATION	
Interface:	Serial
Baud Rate:	38400,8,NONE
Handshaking:	PRT+RTS
Print mode:	NTL
Back USB :	Fw Controlled
PRINT CONTROL	
Speed:	100 mm/sec
Black Bar Index:	Right
No HPQ Burn Time:	250 us
Motor Current:	2
Real-Time Command:	Enabled
Auto Reset Status:	Disabled
Validation Bit:	Smart TOF
Save Valid Bit:	Enabled
PRINTER ENVIRONMENT CONDITIONS	
Voltage:	24.7 Volts
Temperature:	25 Celcius
SYSTEM RESOURCES	
FLASH Used=00000 RAM: Used=00000	
Free=65535 Free=65535	
LIBRARY INVENTORY (CUSTOM)	
Templates: 6	
Regions:	
	1,2,3,4,5,6,7,8,h,9,A,B,C,D ,E,F,G,I,J,K,L,N,O,P,Q,R, S,T,U,Z,X,a,b,c,d,e,f,g,i,j,k, l,m,n,o,p,q,s,t,u,v,w
Fonts :	0,1,2,3,4,5,6,7,8,9,A,B
Graphics:	
MANUFACTURING INFORMATION	
Printer ID:	P312681
Date Code:	20100215
A to D: 03d8, 021a, 0231, 03c6	
Dip Switch Config (1234): 0000	
Status: *S|0|PAY-4.82H|@|@|@|I|@|P|*	

Figure 12: Sample Test Ticket

1.7 Clearing Jams

The Nanoptix PayCheck™ printer's paper guide and printing mechanism roller are easily removed, giving full access to the paper path.

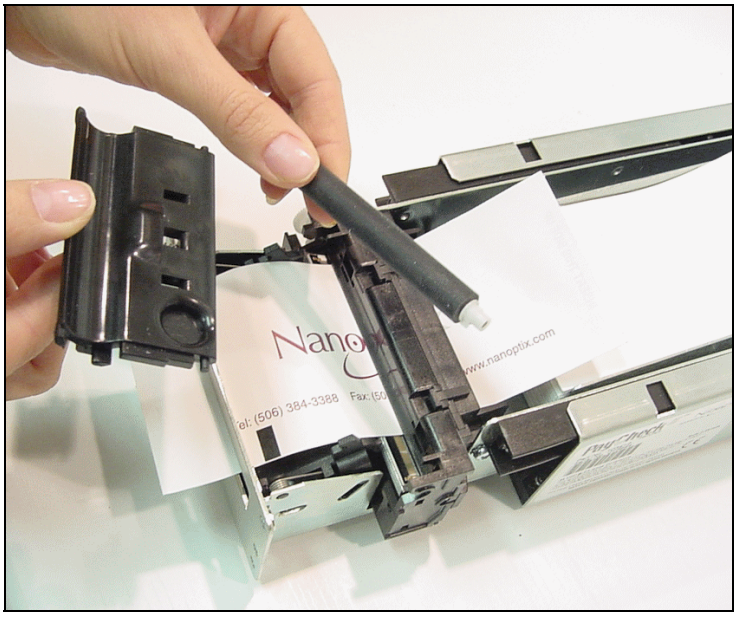


Figure 13: Clearing Jams – PayCheck™ 1, 2 & 3

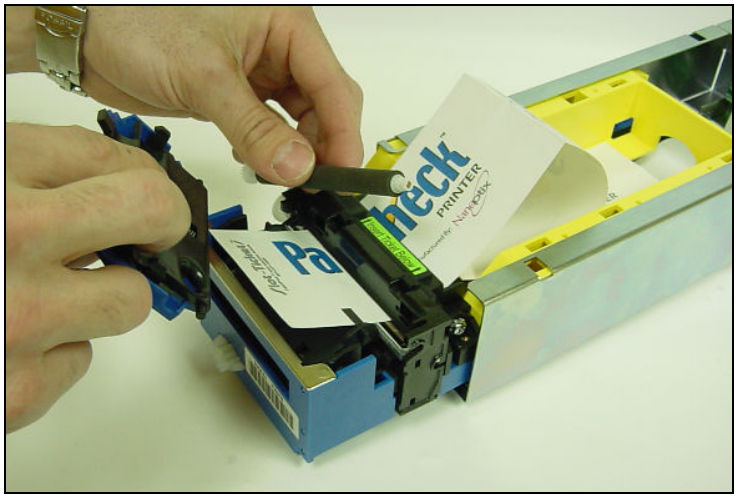


Figure 14: Clearing Jams – PayCheck 4™

2 Troubleshooting the Printer

2.1 Basic Printer Operation

Although the Nanoptix PayCheck™ printer is a complex device, its operation is quite simple. The printer requires two consumables to operate, (1) a regulated 24 VDC power source and (2) thermal paper. The printer is equipped with three communication interface ports: one power/communication port situated at the bottom rear of the unit, one USB port at the top rear of the unit and one maintenance USB port situated on the side of the printer. A 3-pin I/O connector situated at the front of the unit can be used to control an external illuminated bezel.

The two main components of the printer, the base assembly and the main bracket are connected together via a white flat cable. A photo-interruptible sensor is used to detect the main bracket's open/close status. A reflective optical sensor situated at the front of the ticket tray is used to detect a low paper condition. A third optical sensor is used in the printing mechanism assembly to detect the presence of paper and start the feeder motor when loading paper. This sensor also works in conjunction with a fourth optical sensor situated in the paper chute to realign paper back to its "ready" position.

When the sensors are not reporting any errors and a recognized data stream is sent to the printer, a printed ticket will result.

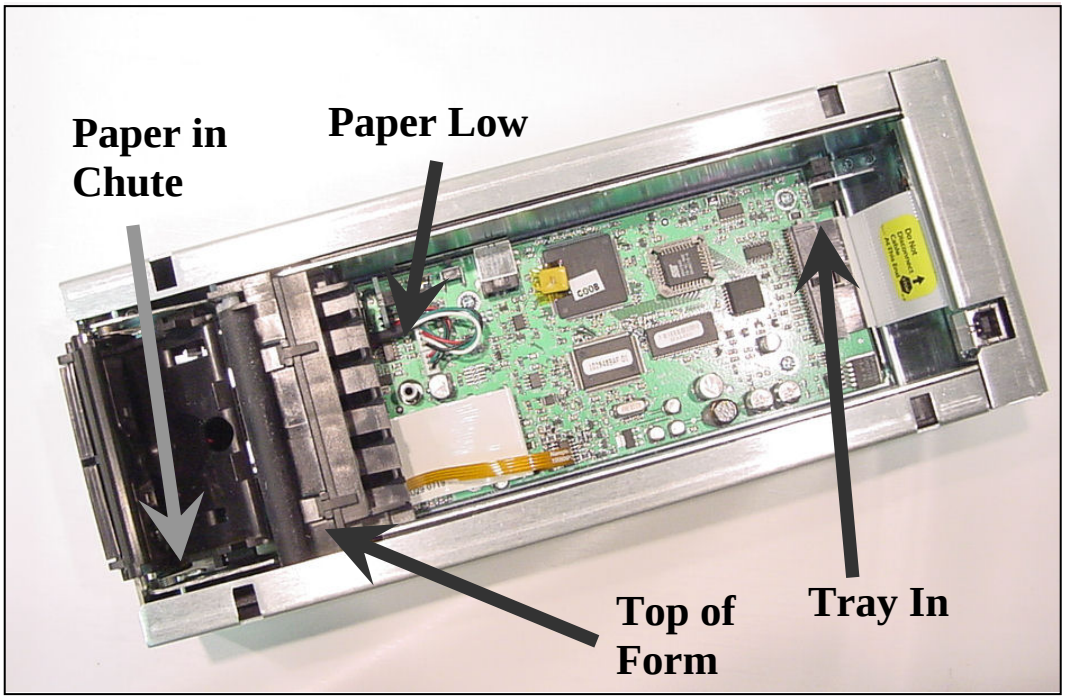


Figure 15: Sensors

2.2 Communication Cables Pin-Out

2.2.1 Universal Communication interface

The table below describes the connection pin-out for the Universal Interface (14-pin “Molex” type)

Pin	Signal Name	Printer I/O	Host I/O	Printer Function
1	Reset	Input	Output	Resets Printer
2	PRT_AUX_RXD	Input	Output	Auxiliary Receive
3	VAUX	Input	Output	Auxiliary Power
4	PRT_AUX_TXD	Output	Input	Auxiliary Transmit
5	Signal / Frame Ground	Signal / Frame Ground	Signal / Frame Ground	Signal / Frame Ground
6	24V	Power Input	n/a	Power Input
7	Signal / Frame Ground	Signal / Frame Ground	Signal / Frame Ground	Signal / Frame Ground
8	24V	Power Input	n/a	Power Input
9	Bezel_pwm	24V Output	n/a	Bezel Driver
10	Signal / Frame Ground	Signal / Frame Ground	Signal/ Frame Ground	Signal/ Frame Ground
11	PRT_RS232_RXD	Input	Output	Data Receive
12	PRT_RS232_TXD	Output	Input	Data Transmit
13	PRT_Status	Output	Input	Pinter Ready
14	PRT_RS232_RTS	Output	Input	Handshake

Note: Bezel illumination control jumper must be present for Bezel modulation to be present on pin 9

Table 7: 14 Pin RS232 Serial Interface

2.2.2 Serial Interface Connection pin-out

The table below describes the connection pin-out for the Serial interface (12-pin: “Molex” type), (Applies to PayCheck™ & PayCheck 2™ only)

Pin	Signal Name	Printer I/O	Host I/O	Printer Function
1	24V	Power Input	n/a	Power Input
2	PRT_RS232_TXD	Output	Input	Data transmit
3	PRT_RS232_RXD	Input	Output	Data receive
4	n/a	No connect	n/a	None
5	Signal Ground	Signal Ground	Signal Ground	Signal Ground
6	RS232_DSR	4K7 pull up to 24V	Input	Printer Ready
7	n/a	No connect	n/a	none
8	PRT_RS232_RTS (host CTS)	Output	Input	Handshake
9	Bezel pwm	24V Output	n/a	Bezel driver
10	Signal Ground	Signal Ground	Signal Ground	Signal Ground
11	Signal Ground	Signal Ground	Signal Ground	Signal Ground
12	24V	Power Input	n/a	Power Input
Shell	Frame Ground	Frame Ground	Frame Ground	Shield

Note: Bezel illumination control jumper must be present for Bezel modulation to be present on pin 9

Table 8: RS-232 Serial Interface Pin-Out

2.2.3 Illuminated bezel interface

The table below describes the connection pin-out for the front Bezel Connector (3-pin “Molex” type).

Pin	Signal	Printer I/O
1	Bezel PWM	Output
2	24VDC	Output
3	GND	GND

Table 9: Bezel Interface

2.3 Printing Problems

The table below can be used to determine the cause and resolution of the most common problems that may occur. If the information in this section does not correct the problem, contact a Nanoptix service representative.

Problem	Possible Causes	What to Do
Printer Does Not Function When Turned On	Printer not plugged in	Check that printer cables are properly connected at both ends
		Check that the host and power supply are getting power
	Tray not fully closed	Close the tray
	Flat cable incorrectly or not fully inserted into receptacle	Fully insert flat cable in the into receptacle at both ends
Paper jam	Paper width out of specification	Test paper width for compliance
	Debris or partial ticket stuck in paper path	Open paper guide and detach roller, remove debris
	Paper's perforation burst strength out of spec	Test paper perforation for compliance
Noisy Feeder Motor (paper disengaged)	Printer is meant to be operated with paper engaged in the printing mechanism, failing to do so will cause gears to grind and slip, noise may result	Do not operate printer without any paper engaged in the printing mechanism Note: Never lubricate gears or any other part of the printer
Paper does not realign itself when a ticket is printed	Paper's alignment mark, (which is the black dot printed on the non-sensitive side of thermal paper) may be out of specification	The maximum reflectance of the alignment mark is 15% (infrared). Simply put, this means that the alignment mark's color should be an even/crisp black. If any white or gray is visible, it is an indication that the reflectance could be more than 15%
Line of print or section missing lengthwise on entire ticket	Paper's thermal coating inconsistent	Change the paper stack to make sure the thermal coating is not the source
	Thermal printing mechanism damaged	Contact customer service representative
Print is light or spotty	Thermal print head is dirty	Clean print head by following recommended procedure (Section 6)
	Paper's thermal coating inconsistent	Change the paper stack to make sure the thermal coating is not the source

Table 10: Troubleshooting Printing Problems

2.3.1 Main Controller PCB Connector Layout

J100	USB
J101	Future
J200	Bezel
J300	Thermal Print Head
J301	TPH Grounding Tab
J400	Paper In
J700	Motor
J800	Top Of Form
J1000	Daughter PCB I/O

Table 11: Connector Functions

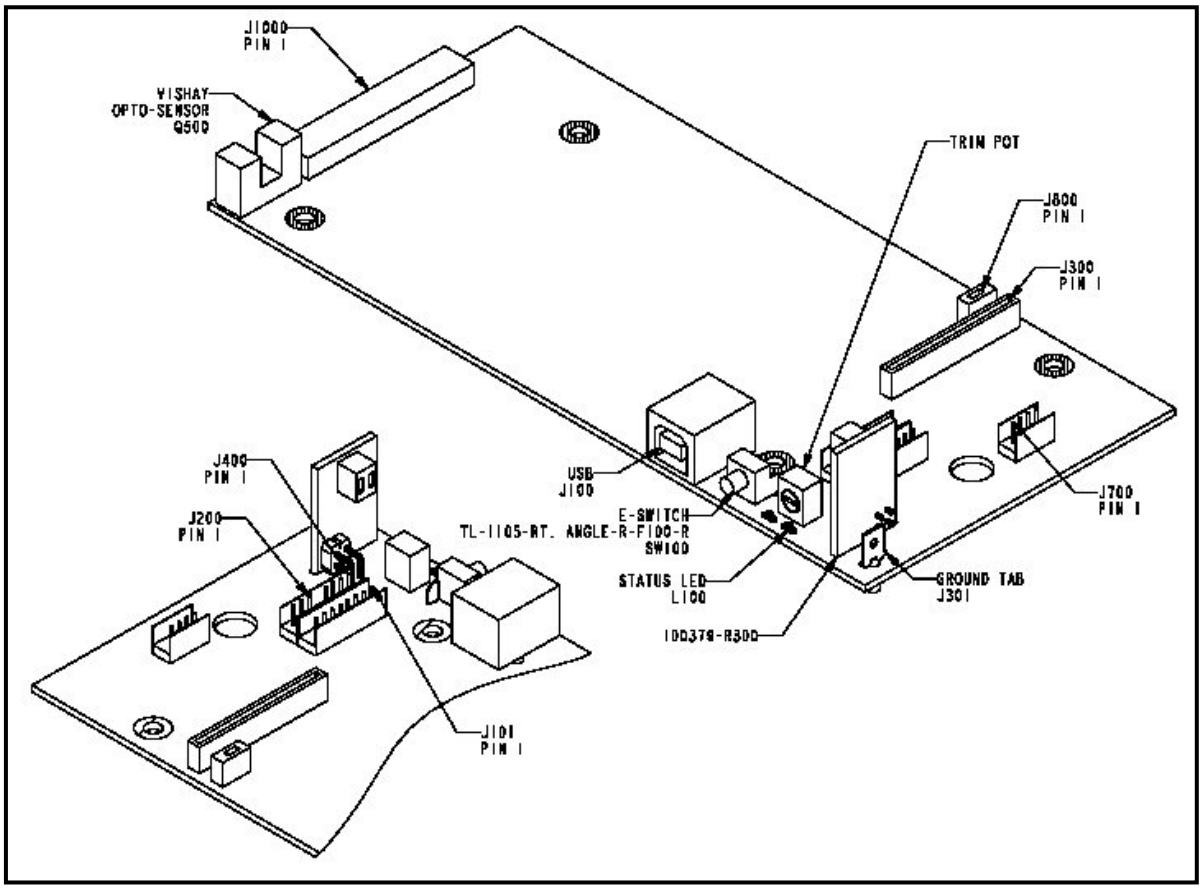


Figure 16: Connector Layout (PayCheck™ shown)

3 Media and Supplies Guide

3.1 Thermal Paper Specifications

NOTE: Qualified thermal paper with the following specifications is required for proper operation.

Width	65 mm +/-1 (2.56 IN)
Length	156 mm +/- 1 (6.14 IN)
Thickness	4.5 +0.1 -0.3 mil
Brightness	89%
Smoothness	2000 sec Avg.
Perforation burst strength	1.3 +/- 0.4 LBS (0.59 +/- 0.18 Kg.
Alignment Mark (TOF)	Optical Density 1.10 min.

Table 12: Paper Specifications

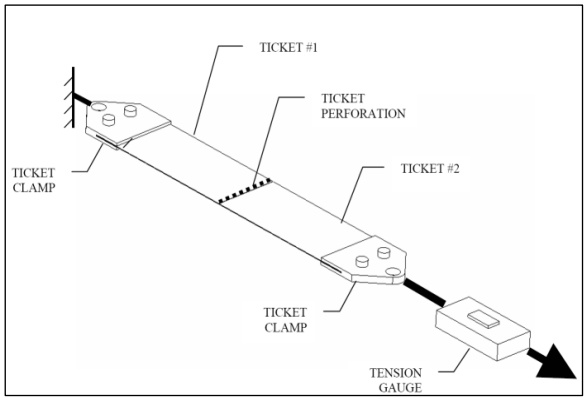


Figure 17: Perforation Test

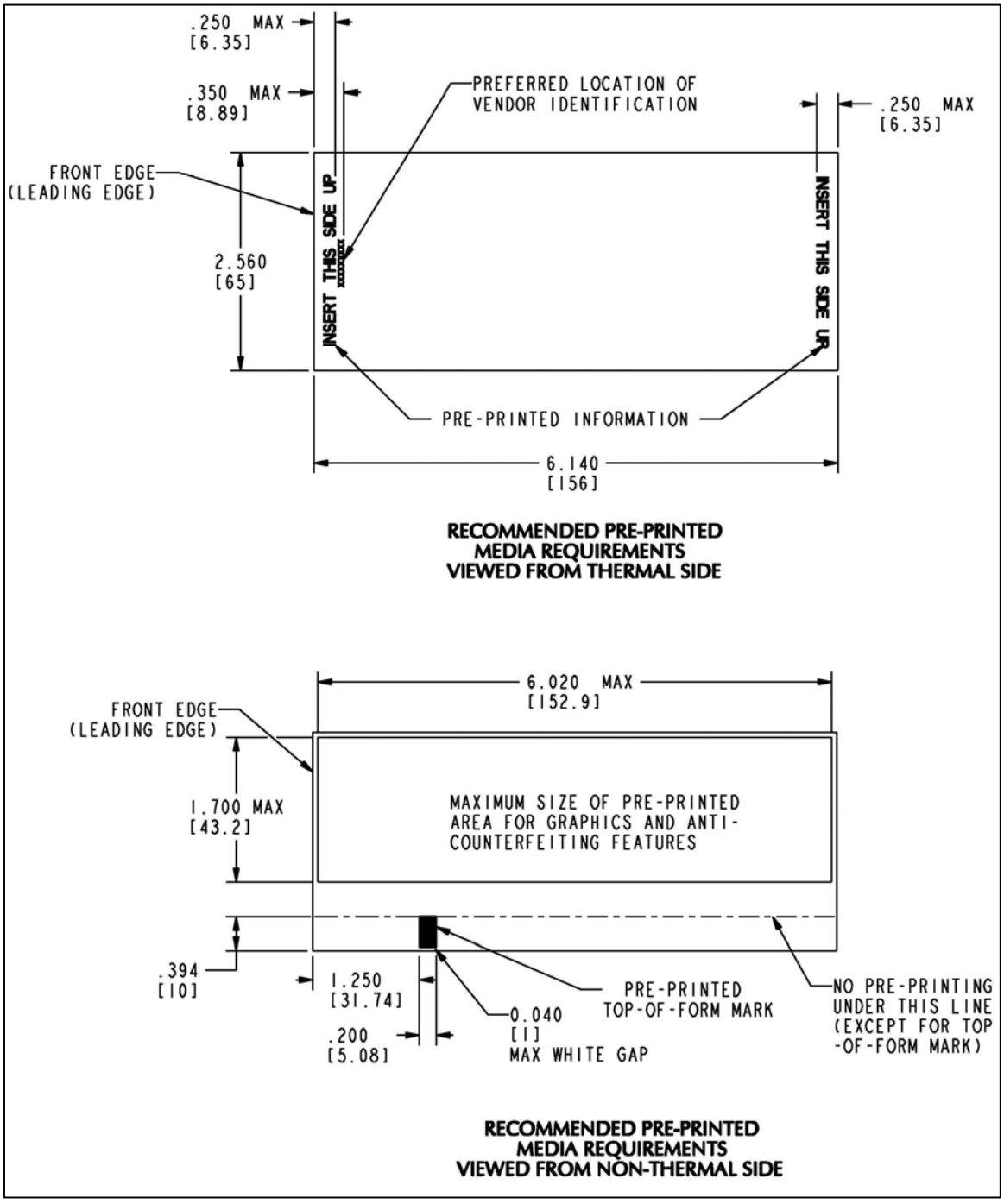


Figure 18: Ticket Specifications

3.2 Ordering Thermal Paper

The following paper grade produced by Appleton and Kanzaki Specialty Papers are recommended by Nanoptix. There are a number of paper converters qualified to supply this paper, provided the stacks are from these recommended grades.

Paper qualification services are offered by Nanoptix for additional grades not listed below.

Manufacturer	Numbers	Nanoptix part no.	Paper Grade
Appleton Papers	Tel:920-991-8438	100505-3024 (200 stack) 100505-3025 (400 stack) 100505-3026 (600 stack) 100505-3027 (800 stack)	Royale 700-4.5
Kanzaki Specialty Papers (USA)	Tel:888-526-9254 Fax: 413-731-8864	100505-3012 (200 stack) 100505-3013 (400 stack) 100505-3014 (600 stack) 100505-3015 (800 stack)	TO-381-N

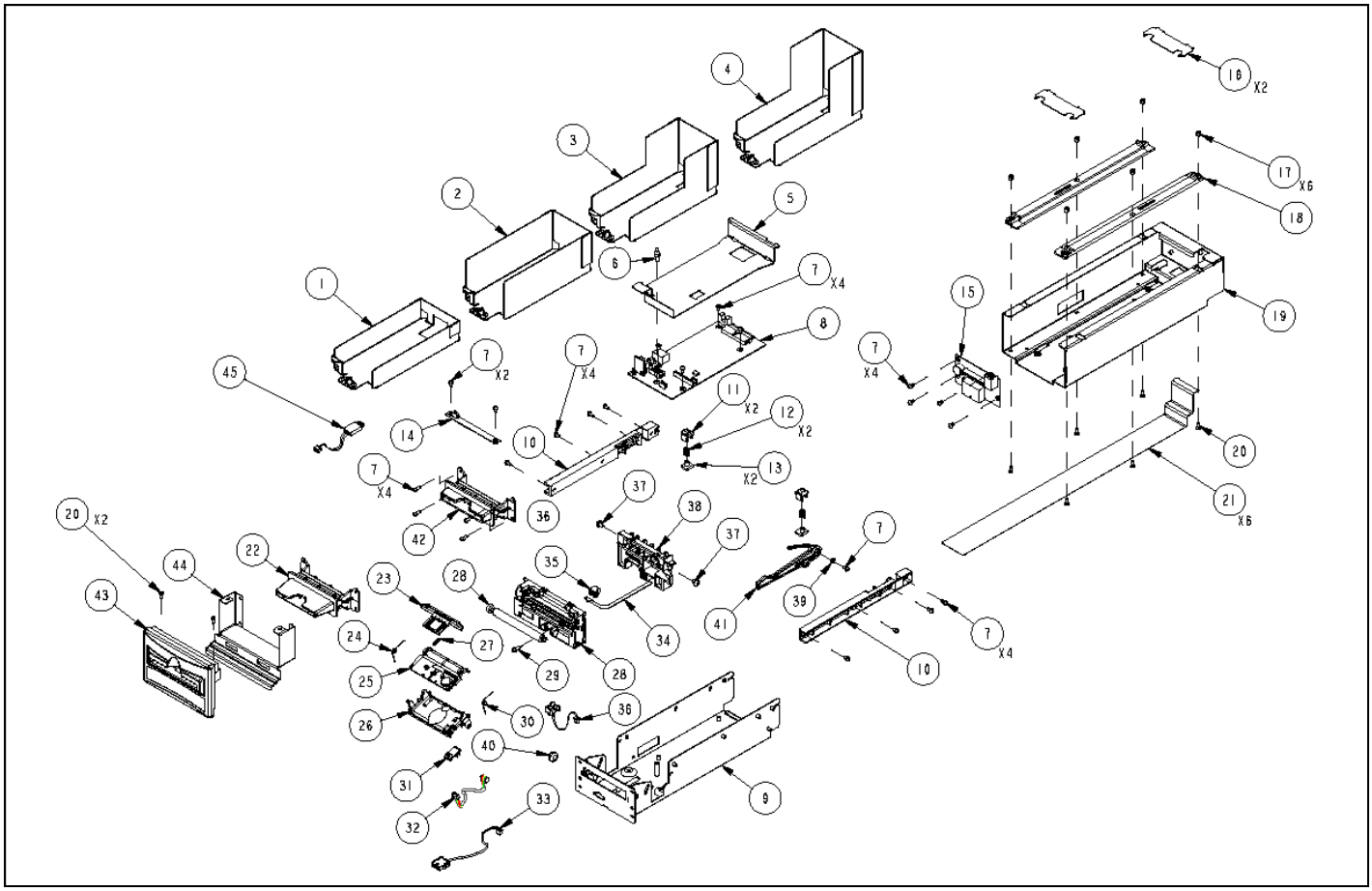
Table 13: Ordering Thermal Paper

3.3 Ordering Communication Cables

Contact your sales representative to order the communication cables listed in the table. The numbers are for reference only. Suppliers may use other numbers.

Part	Part Number
RS232 communication cable (14-Pin “Molex” type to DB-9)	210036-0004R
OneCheck In-Line Cable	210036-0003R
USB Cable 2M (A to B)	100390-0001R

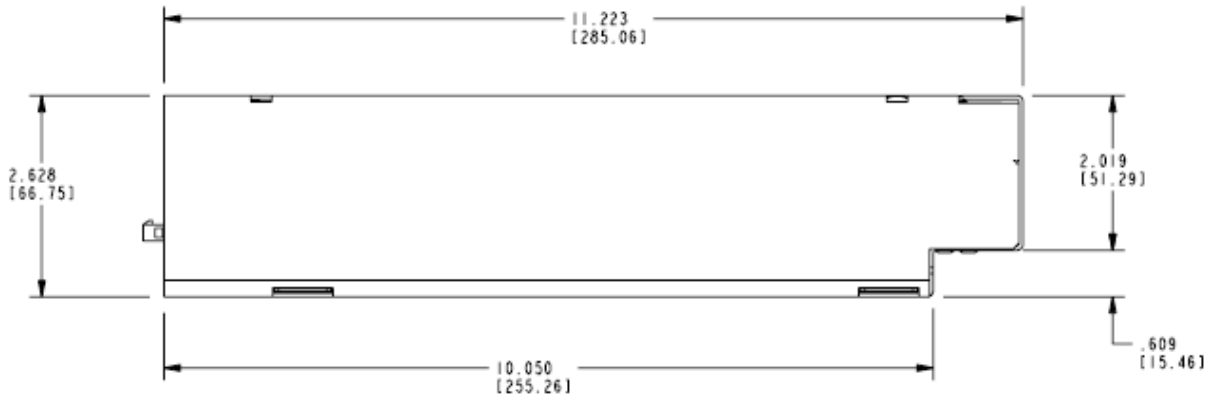
3.4 Parts List



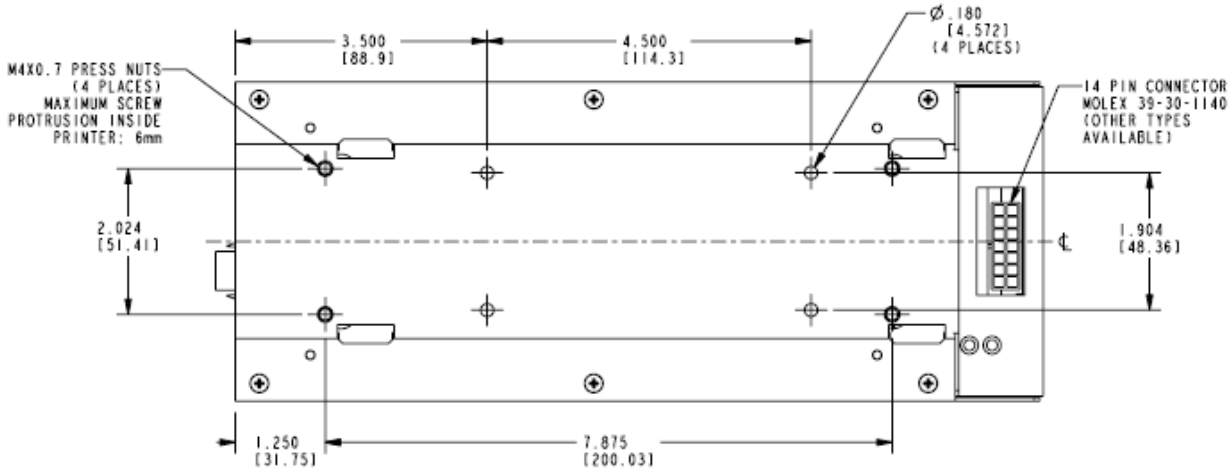
Item #	Part #	Description
1	102952-0001	Ticket Tray 200 Version II
2	102952-0002	Ticket Tray 400 Version II
3	103027-0001	Ticket Tray 600 Version II with Notches
4	103027-0002	Ticket Tray 800 Version II with Notches
5	102953-0000	Baseplate Version II
6	100351-0002	Ball Stud
7	100041-1164	M3 x 6mm, SEMS Screw, (Daughter Boards) Note:Use Thread Lock
8	103554-0000	Main Board DSP, Ticket Printer III
9	103561-0000	Main Bracket w Paperfeed Switch
10	102590-0000	Upper Slide with Custom Plunger
11	102398-0000	Plunger
12	100069-2005	Compression Spring 0.563" Long
13	102399-0000	Plunger Retainer
14	100378-0000	LED Bezel board - Indirect light - 285 mcd BRIGHTNESS
15	103433-0000	Universal Interconnect - RoHS
15	103483-0000	Ticket, Universal, 14Pin Plug (Power Only) to 14Pin Receptalce and DB9 Female
16	100414-0000	Cable Retainer
17	100050-0103	M3 Nylon Lock Nut
18	100880-0000	Lower Slide
19	103560-0000	Frame Assembly with Paperfeed Switch
20	100041-0683	M3 x 8mm, Flat Head Screw (Lower Slides)
21	102971-0000	Flat flex; 528mm; connects main board and interconnect (reorder #: 102971-02-01)
22	103490-0001	Bezel, 65mm, Long, Green
22	103490-0002	Bezel, 65mm, Long, Blue
23	100795-0000	Ticket Chute Lock
24	100069-1001	Torsion Spring Left
25	100417-0000	Upper Paper Chute
26	100612-0000	Lower Ticket Chute
27	100069-2003	Compression Spring 0.625" Long
28	100350-0001	Axiohm MHTP Mechanism; FS24; 80mm (Default)
29	100041-1166	M3 x 10mm, SEMS Screw, (Mech)
30	100069-1002	Torsion Spring Right
31	100420-0000	Paper In; Rohs
32	100413-0000	Paper In Harness
33	100416-0000	Bezel Harness (connects main boad to a panel mount 3pin)
34	100781-0000	Top of form flex circuit (125mm straight)
35	100878-0000	TOF Sensor Clip
36	103596-0000	Front paper feed harness
37	100041-1244	M4 x 8mm, SEMS Screw, (Mech Mount)
38	100352-0000	Mech Mount
39	100051-0107	M3 Flat Washer
40	100063-1005	Black Vinyl Grommet, 5/16" hole
41	100881-0000	Latch
42	103491-0001	Bezel, 65mm, Short, Green
42	103491-0002	Bezel, 65mm, Short, Blue
43	103622-0001	External Bezel (Plastic, label and foam)
44	103621-0000	External Bezel Bracket
45	102904-0000	102904 - (Ticket Printer, LED Bezel Harness; connects LED board to panel mount 3pin)

NOTE: Part numbers listed are for the PayCheck 3™ printer only. Should parts for either PayCheck™, PayCheck 2™ or PayCheck 4™ printers be required, please contact your Nanoptix service representative.

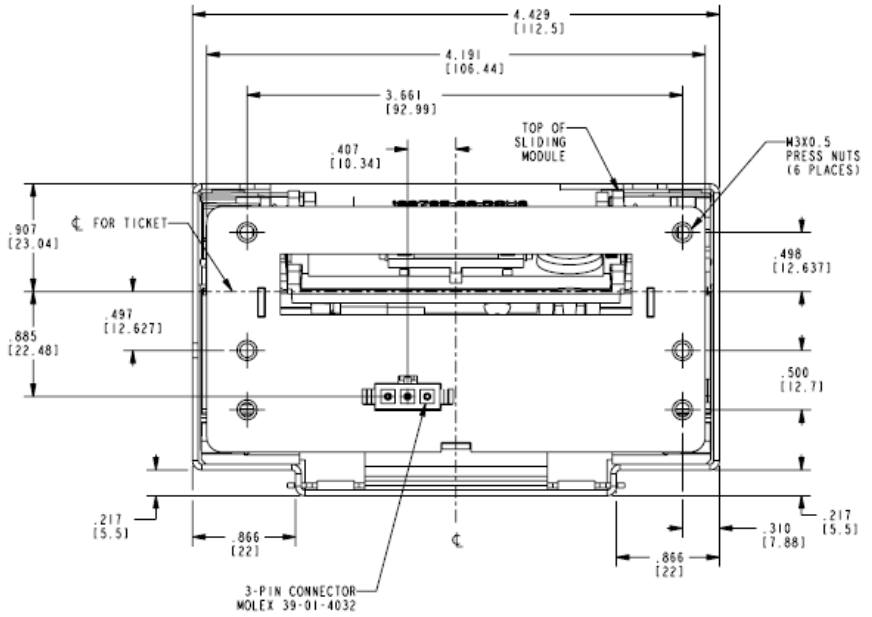
4 Mechanical Drawings



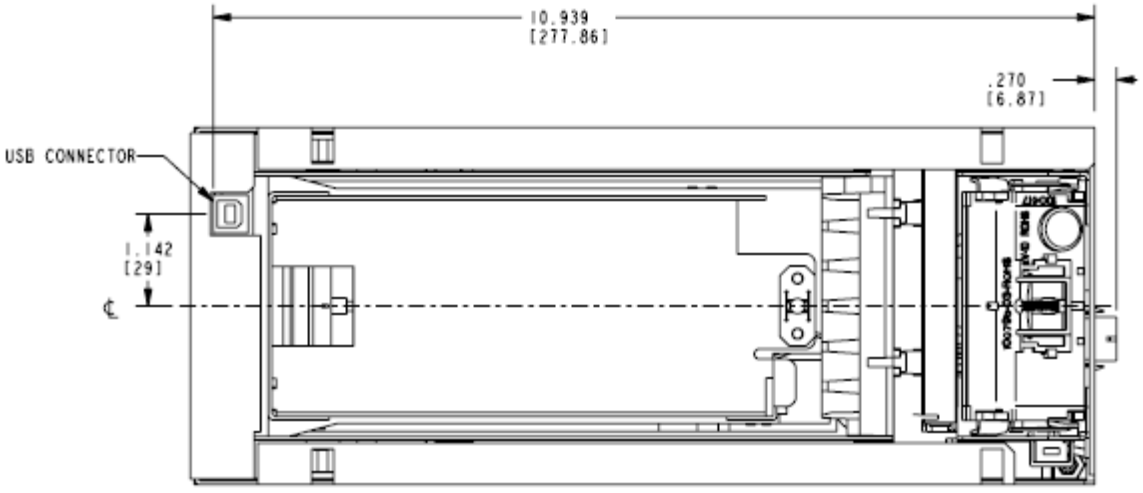
Right Side View



Bottom View



Front View



Top View

Figure 19: Mechanical Dimensions

5 Spare parts replacement instructions

Use ESD protection (such as a wrist strap) anytime a PCB is exposed

Instruction A: Removal of the main bracket

1. Lift latch, slide bracket forward and out
2. Disconnect flat cable

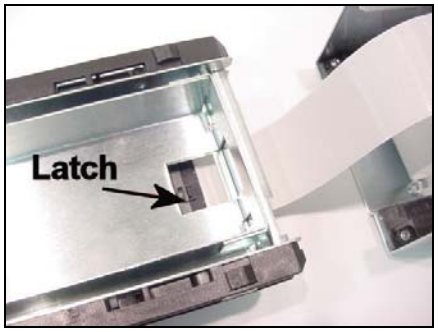
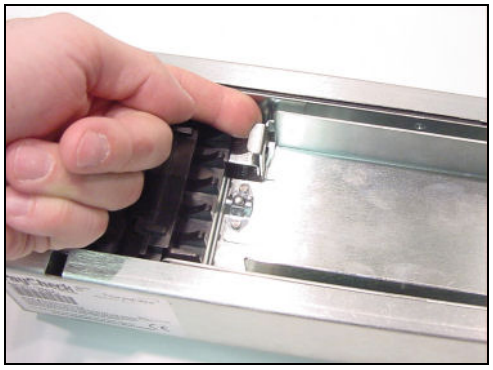


Figure 20: Main Bracket

Instruction B: Removal of the ticket tray

PayCheck™ 1, 2 & 3: Lift on access tab, Remove ticket tray
PayCheck 4™: Remove mounting screw and slide tray to the right



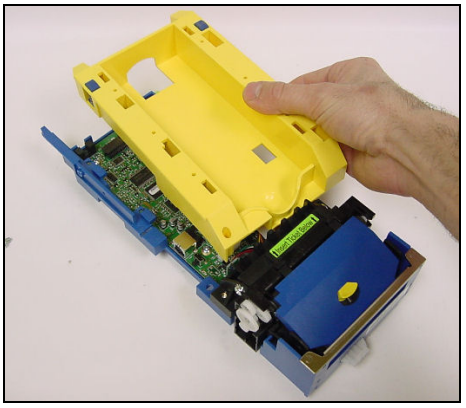


Figure 21: Ticket Tray

Instruction C: Removal of the base plate (PayCheck™ 1, 2 & 3 only)

Remove Tinnerman screw (using ¼ inch nut driver) and slide base plate back

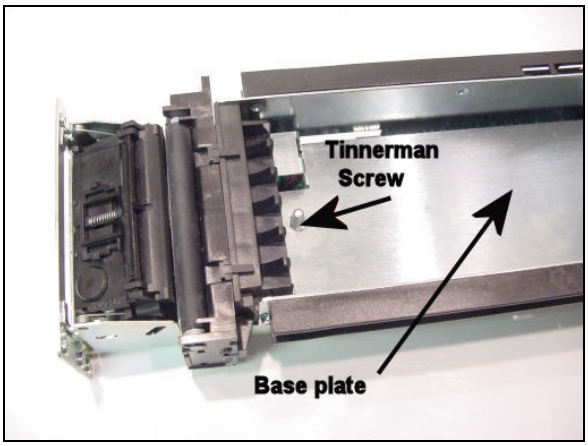


Figure 22: Base Plate

Instruction D: Removal of flat cable

1. Disconnect the main controller PCB end of the cable by following **Instruction A**

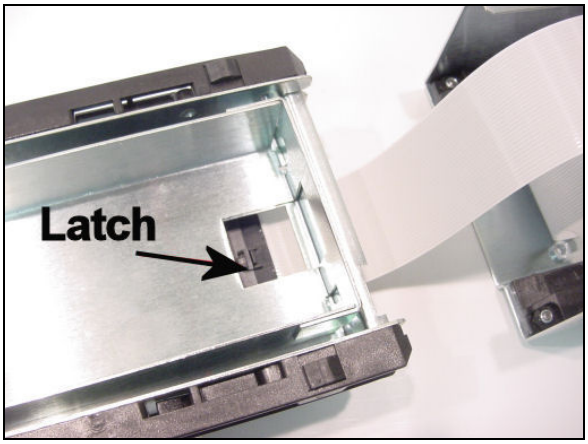
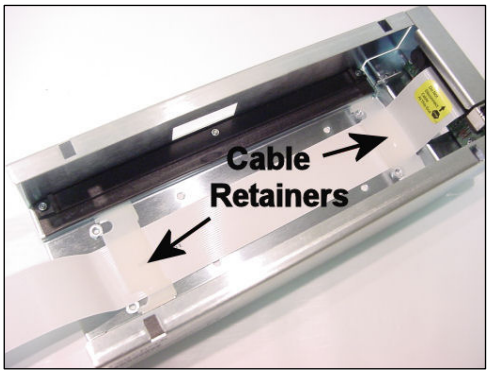
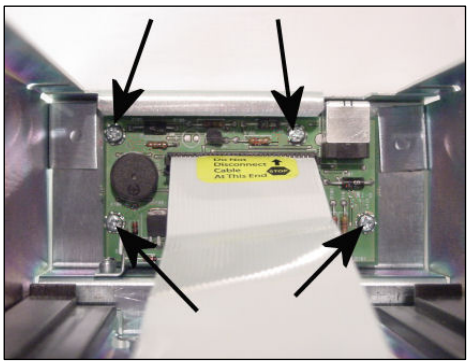


Figure 23: Flat Cable A

2. Disconnect daughter PCB end of the cable:
    1. Remove the two cable retainers
    2. Remove the universal daughter PCB by removing the four mounting screws
    3. Unlatch cable by lifting the two side connector tabs





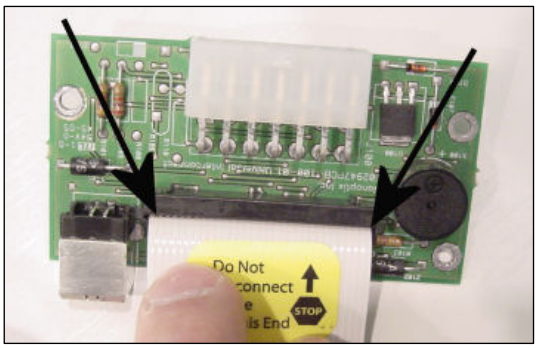


Figure 24: Flat Cable B

Instruction E: Removal of the universal daughter PCB

1. Remove the main bracket by following **Instruction A**
2. Remove the universal daughter board by removing the 4 mounting screws
3. Remove cable by unlatching the two side tabs of the connector

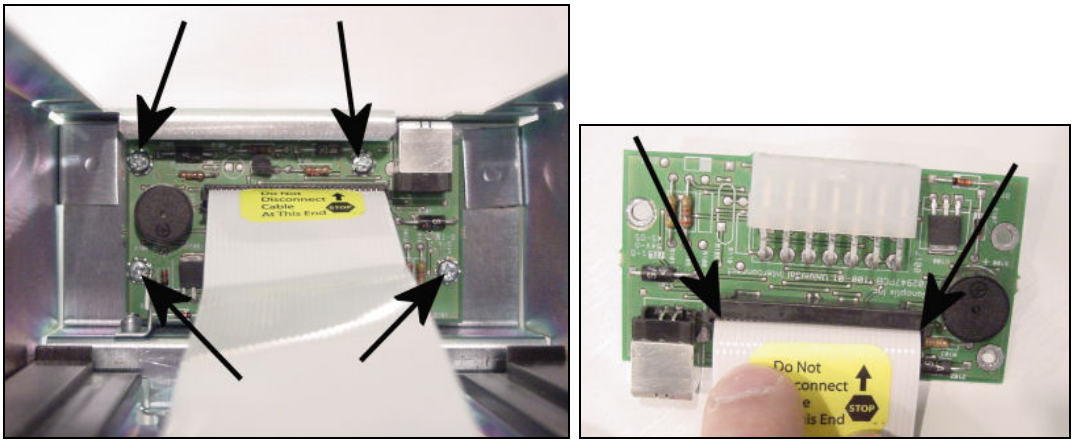
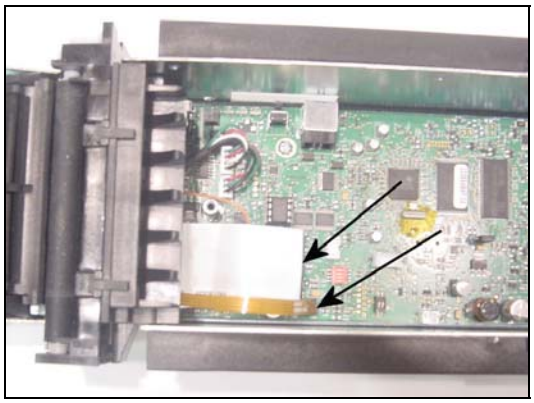


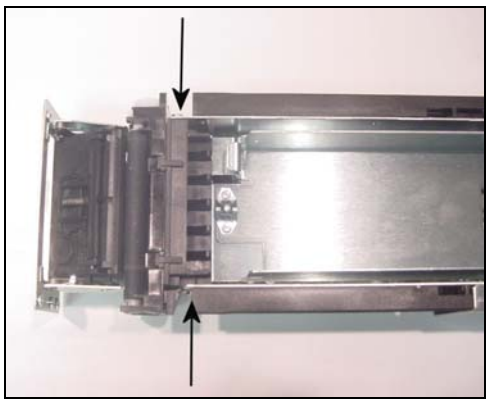
Figure 25: Daughter PCB

Instruction F: Removal of the printing mechanism Kit

For PayCheck™ 1, 2 & 3

1. Remove ticket tray by following **Instruction B**
2. Remove base plate by following **Instruction C**
3. Disconnect the TOF flex circuit and printing mechanism flat cable
4. Remove the 2 mounting screws
5. Lift printing mechanism straight up
6. Disconnect motor connector
7. Disconnect mech grounding tab using “long nose” pliers





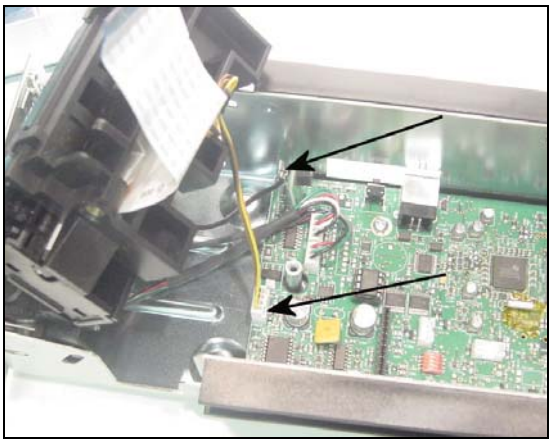
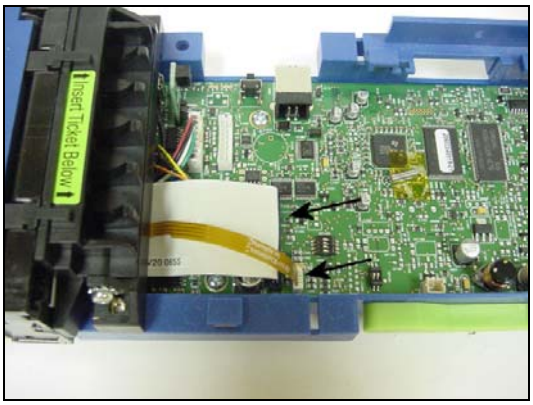
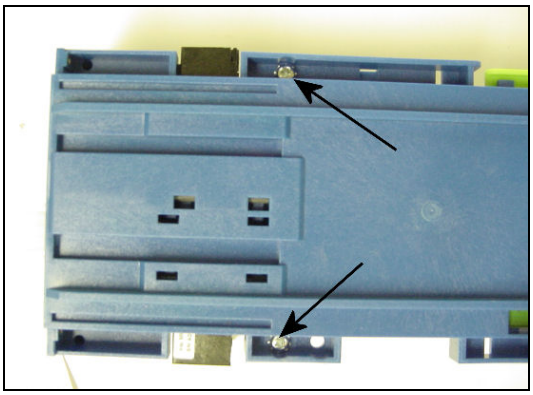


Figure 26: Printing Mechanism – PayCheck™ 1, 2 & 3

For PayCheck 4™

1. Remove ticket tray by following **Instruction B**
2. Disconnect the TOF flex circuit and printing mechanism flat cable
3. Remove the blue top paper guide (not shown)
4. Remove the 2 mounting screws
5. Lift printing mechanism straight up
6. Disconnect motor and paper guide connector
7. Disconnect mech grounding tab using “long nose” pliers





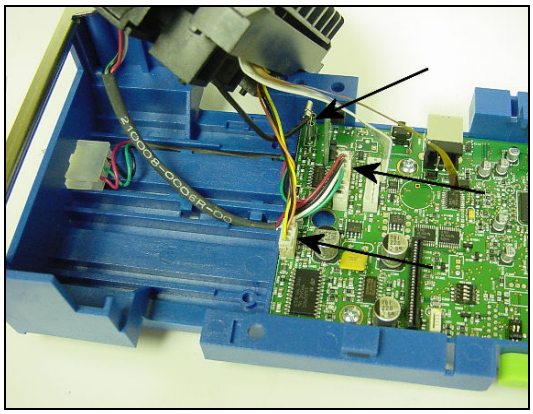
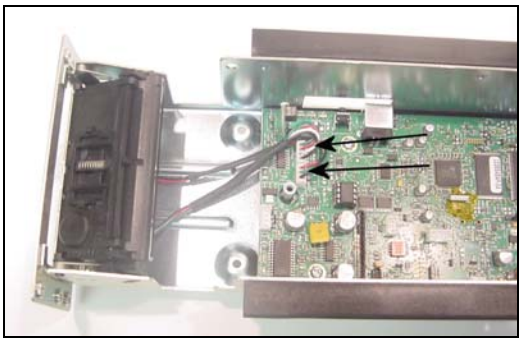
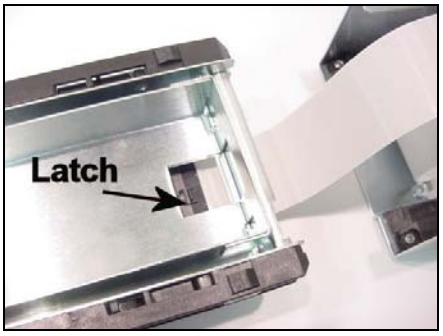


Figure 27: Printing Mechanism PayCheck 4™

Instruction G: Removal of the main controller PCB

1. Remove the printing mechanism kit by following **Instruction F**
2. Disconnect bezel & paper guide harnesses
3. Disconnect flat cable
4. Remove 4 mounting screws





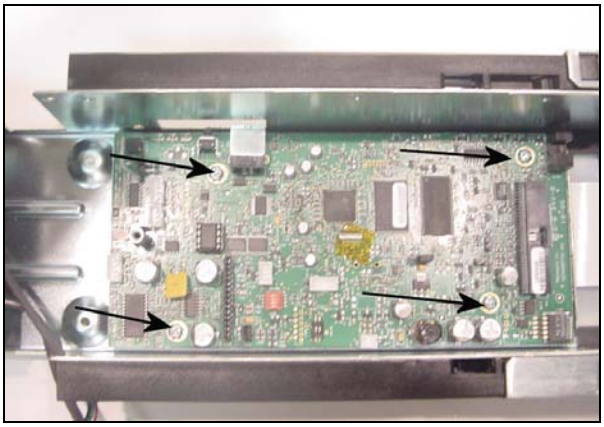


Figure 28: Main PCB

Instruction H: Removal of paper guide kit (PayCheck™ 1, 2 & 3 only)

1. Remove the printing mechanism kit by following **Instruction F**
2. Pry one side and hold
3. Keeping an upwards pressure, push on the other side's tab
4. Then remove by unlatching the final 2 tabs
   Note: during reassembly, make sure to install the right spring on the right side and the left spring on the left side.

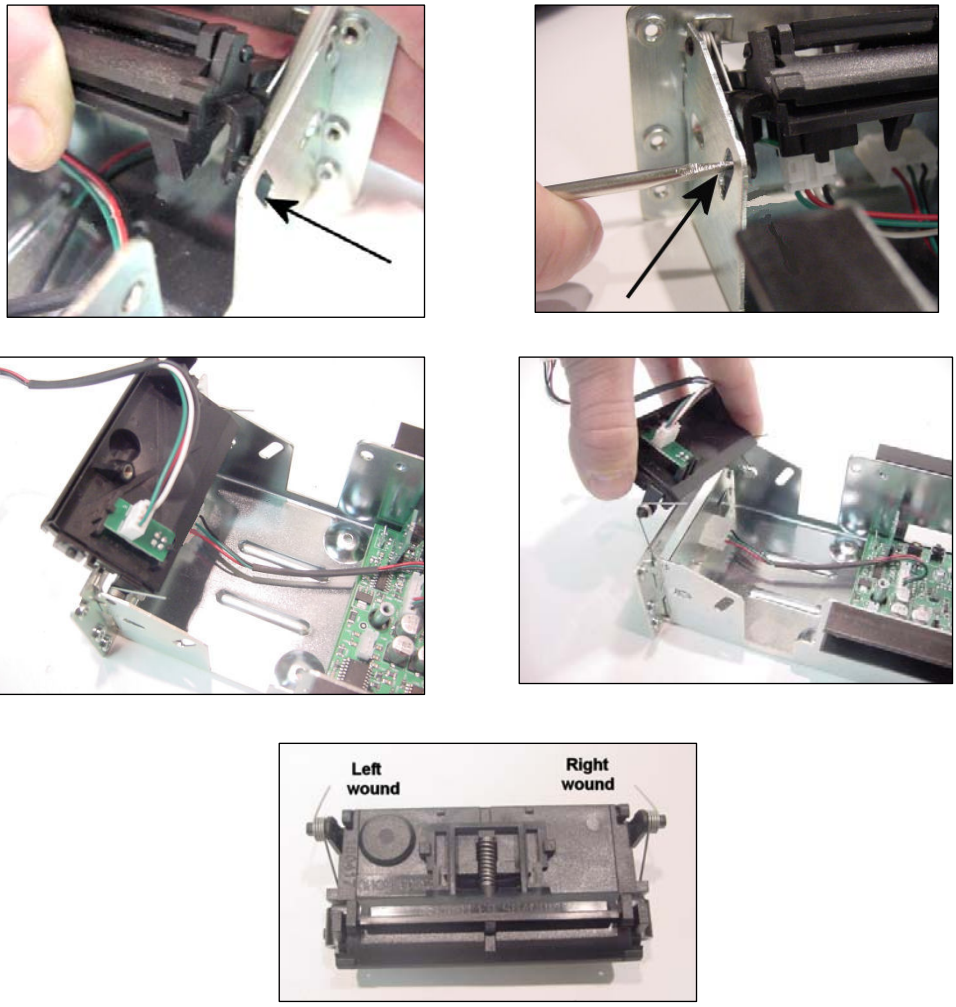


Figure 29: Paper Guide

Instruction I: Removal of the paper guide sensor

For PayCheck 1, 2 & 3

1. Remove paper guide kit by following **Instruction H**
2. Remove PCB by carefully prying latch

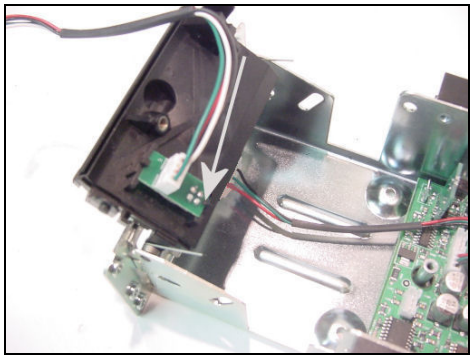


Figure 30: Paper Guide Sensor – PayCheck™ 1, 2 & 3

For PayCheck 4™

1. Remove print mechanism kit by following **Instruction F**
2. Remove top paper guide (blue)
3. Remove bottom paper guide (black)
4. Remove PCB by carefully prying latch

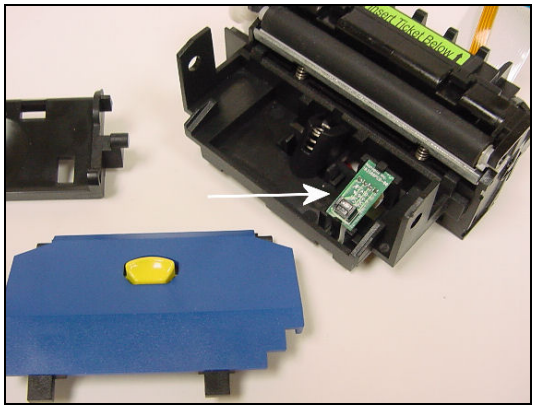


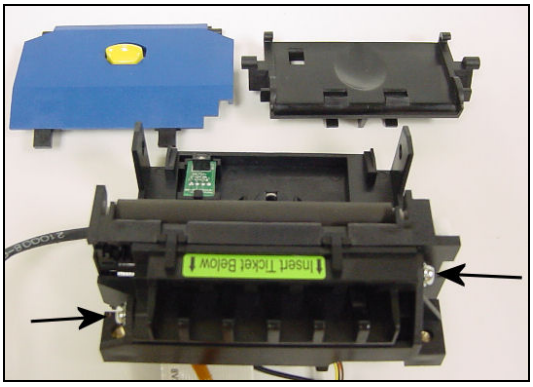
Figure 31: Paper Guide Sensor – PayCheck 4™

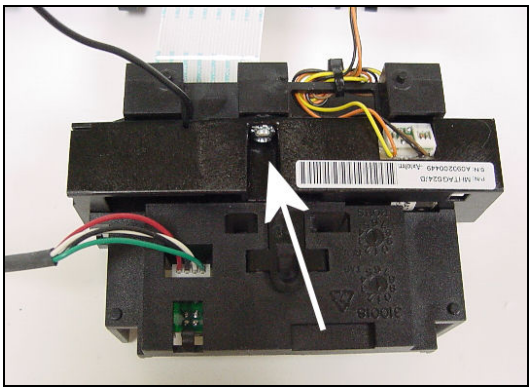
Instruction J: Disassembly of printing mechanism kit

1. Remove print mechanism kit by following **Instruction F**

Additional steps for PayCheck 4™ only

2. Remove top paper guide (blue)
3. Remove bottom paper guide (black)
4. Remove the Axiohm mount by remove the 2 mounting screws
5. Remove the mech mount by removing the mounting screw
6. Remove Front Axiohm module by removing mounting screw





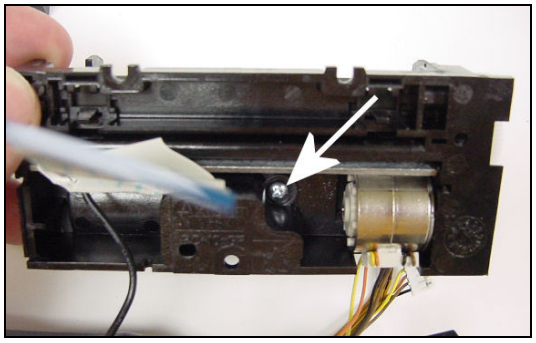


Figure 32: Mech Kit – PayCheck 4™

For PayCheck™ 1, 2, 3 & 4

7. Cut tie wrap
8. Remove mech mount mounting screw (PayCheck™ 1, 2 & 3 only)
9. Separate mechanism by sliding mount upwards (PayCheck™ 1, 2 & 3 only)
10. Push sensor out using a screw driver
11. Remove print head by prying with a small screw driver
    (Make sure not to apply any pressure to the print head white flat cable)
12. Remove head by pushing down and back
    (Attention: springs may pop out of position)

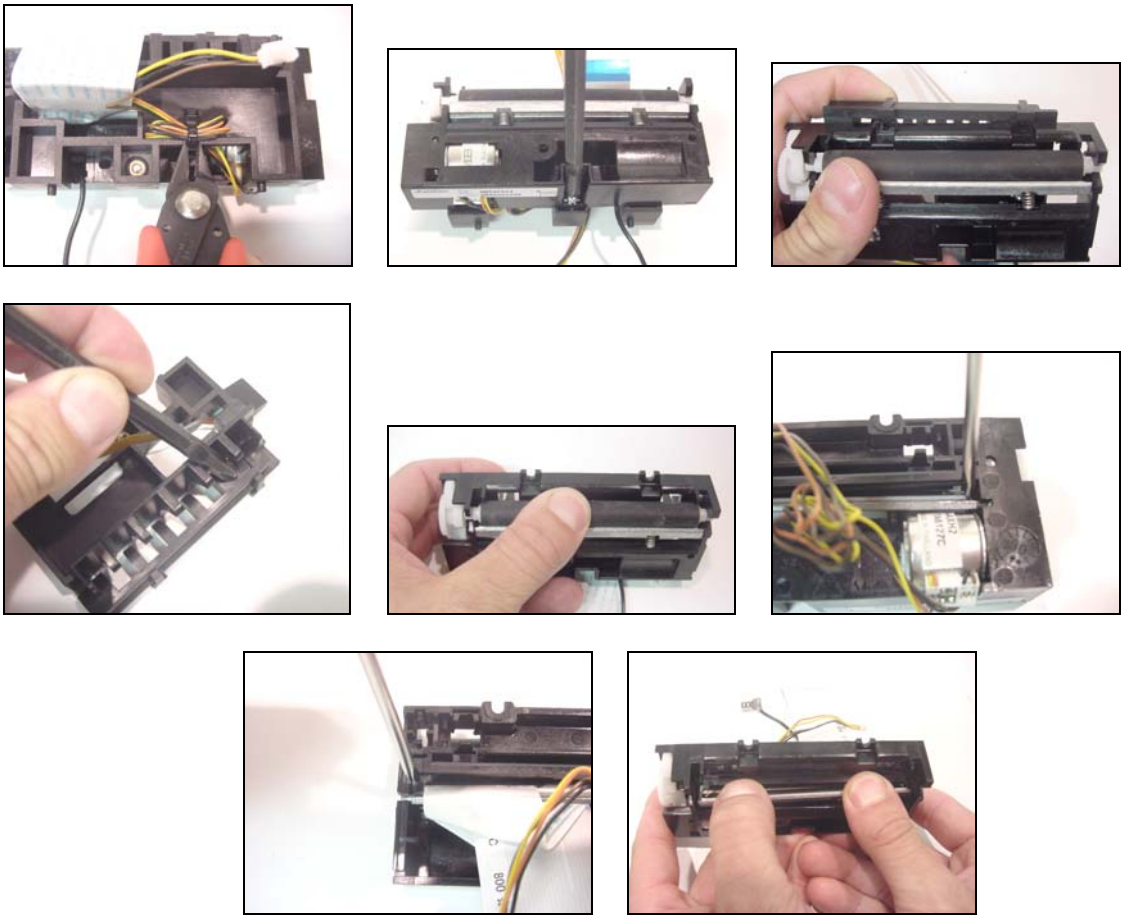


Figure 33: Disassembly

6 Printer Maintenance Instructions

Note: Under normal operating conditions, the minimum interval for cleaning the Nanoptix PayCheck™ printer is *3 months* or *5 km* of paper printed, which ever comes first.

1. Slide printer drawer open and remove ticket tray

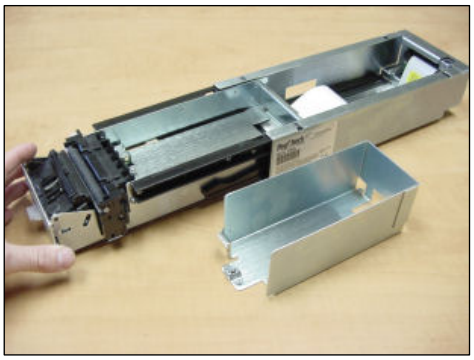


Figure 34: Remove Ticket Tray

2. Remove excess dust using a portable vacuum cleaner or wipe clean with a damp cloth

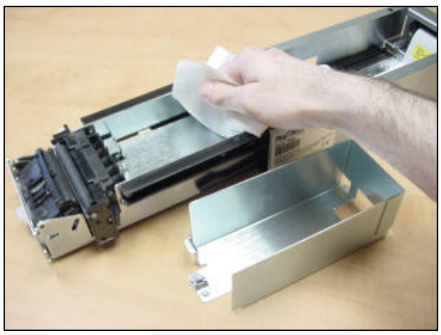


Figure 35: Remove excess dust

3. **Remove paper guide cover (when in use) & top paper guide. Then press down on bottom paper guide**

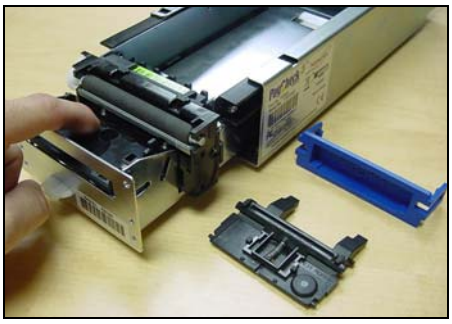


Figure 36: Remove top paper guide

4. **Remove roller by pressing down and rolling out towards front of printer**

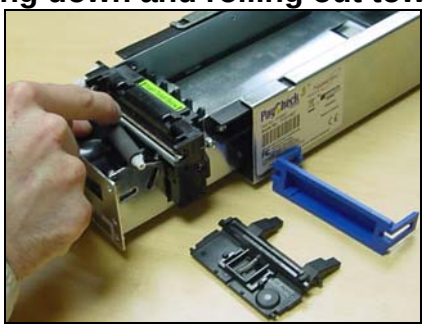


Figure 37: Remove Roller

5. **Clean the roller with a cotton swab and a mild soap solution.**

Figure 38: Clean Roller

6. **Clean paper guide sensor using cotton swab**

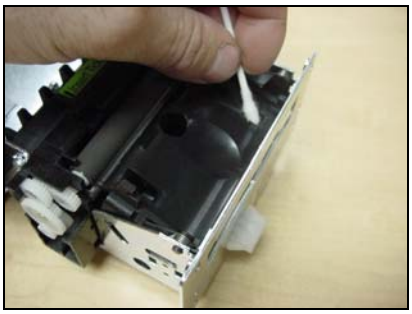


Figure 39: Clean paper guide sensor using cotton swab

7. **Make sure that bottom paper guide can move up and down freely. Ensure that the gaps pointed by the arrows are equal and measures approximately ½ a millimeter (20 mils or the thickness of 5 sheets of TITO paper). If not, readjust the frame to ensure proper alignment.**

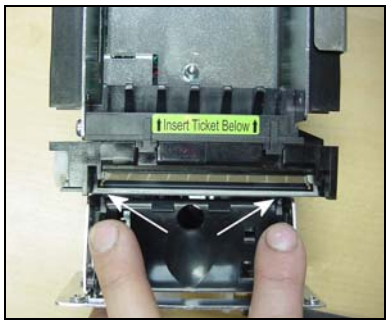
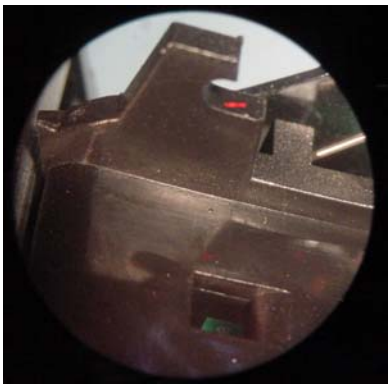
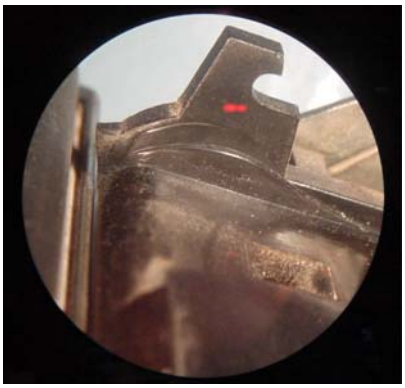


Figure 40: Bottom paper guide inspection

8. **Visually inspect the two inner sides of the bottom paper guide. If excessive wear is visible (deep grooves caused by paper), bottom paper guide should be replaced**



Good



Replace

9. **Clear dust off gears using light brush**

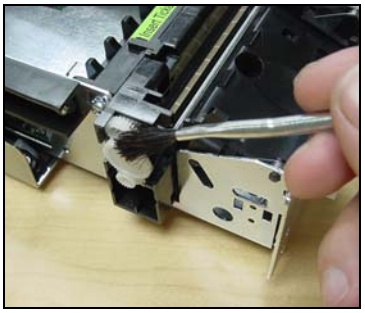


Figure 41: Clear dust off gears using light brush

10. **Clean the print line (black line on the print head) with a cotton swab and isopropyl alcohol.**

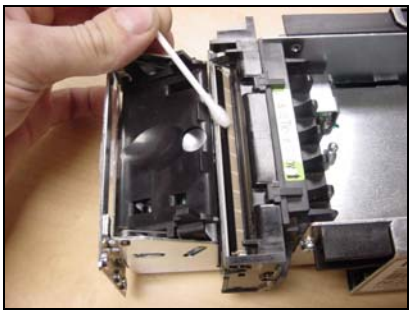


Figure 42: Clean Print Line

7 Service & Support

7.1 Returning printers back to Nanoptix for repairs (RMA)

- Send repair approval request to Nanoptix Inc. which should include:
  - Printer model #
  - Serial #
  - Brief problem description
- Ship defective products to Nanoptix Inc.
- Ensure that each package being sent is identified by the specified RMA number

NOTE: Make sure to place a blank ticket or a piece of paper between thermal print head and roller for shipping and storage.

United States of America
RMA # XXXXXX
Nanoptix Inc.
C/o Brunswick Brokers
48 Customs Loop
Houlton, ME, USA
04730

Canada and International
RMA # XXXXXX
Nanoptix Inc.
699 Champlain St.
Dieppe, NB, Canada
E1A 1P6

NOTE: It is imperative to have every package clearly identified by an RMA number.

7.2 Technical Support Contact Information

Service department
Nanoptix Inc.
699 Champlain St.
Dieppe, NB, Canada
E1A 1P6
Tel: 506.384.3388
Fax: 506.384.3588
E-mail: service@nanoptix.com
Web site: www.nanoptix.com