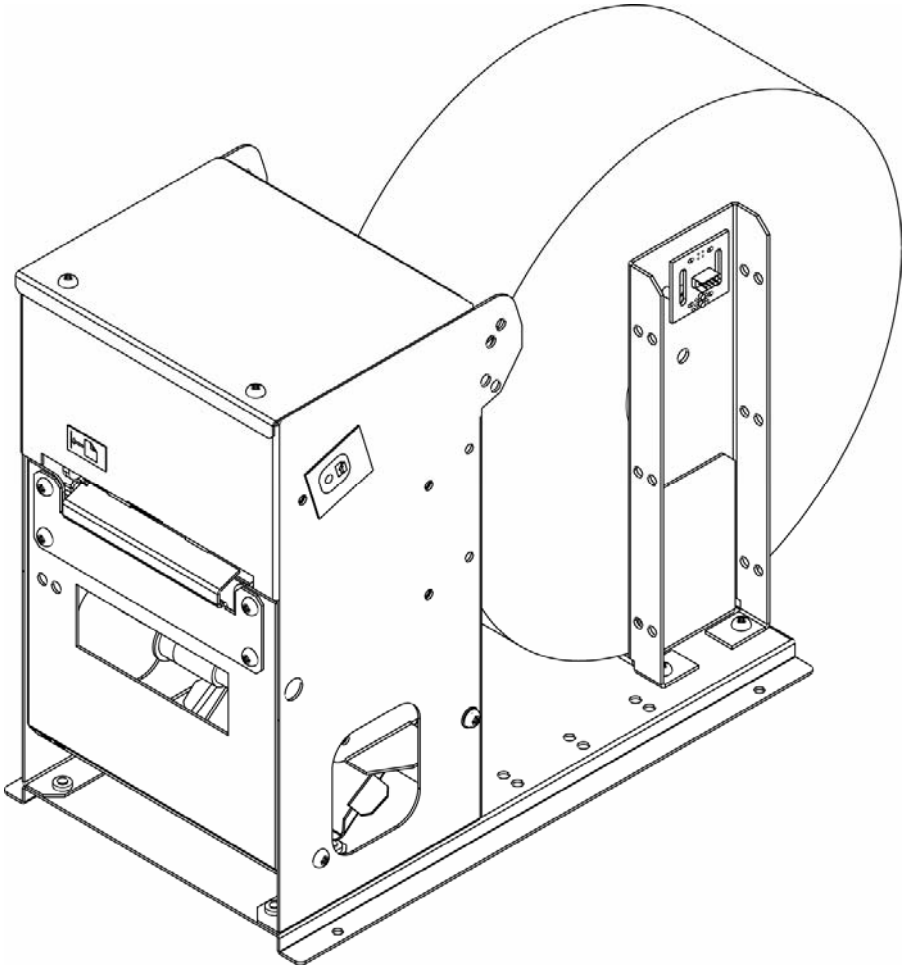
Heavy Duty Kiosk Thermal Printer

Owner's Manual



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Legal Notices

Disclaimer
Information in this document is subject to change without notice. Consult your Nanoptix Inc. sales representative for information that is applicable and current. Nanoptix Inc. reserves the right to improve products as new technology, components, software, and firmware become available.

Trademarks

Epson is registered trademark of Epson Corporation.

Windows is registered trademark of Microsoft Corporation.

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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 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.

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 A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Table of Contents

Figures

Tables

1. About the Printer

1.1 Description of Printer

The Nanoptix Heavy Duty Kiosk 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 paper roll mounting bracket is designed to be mounted on the left side or on the right side. Upon request, the bottom plate can be customized to fit your need.

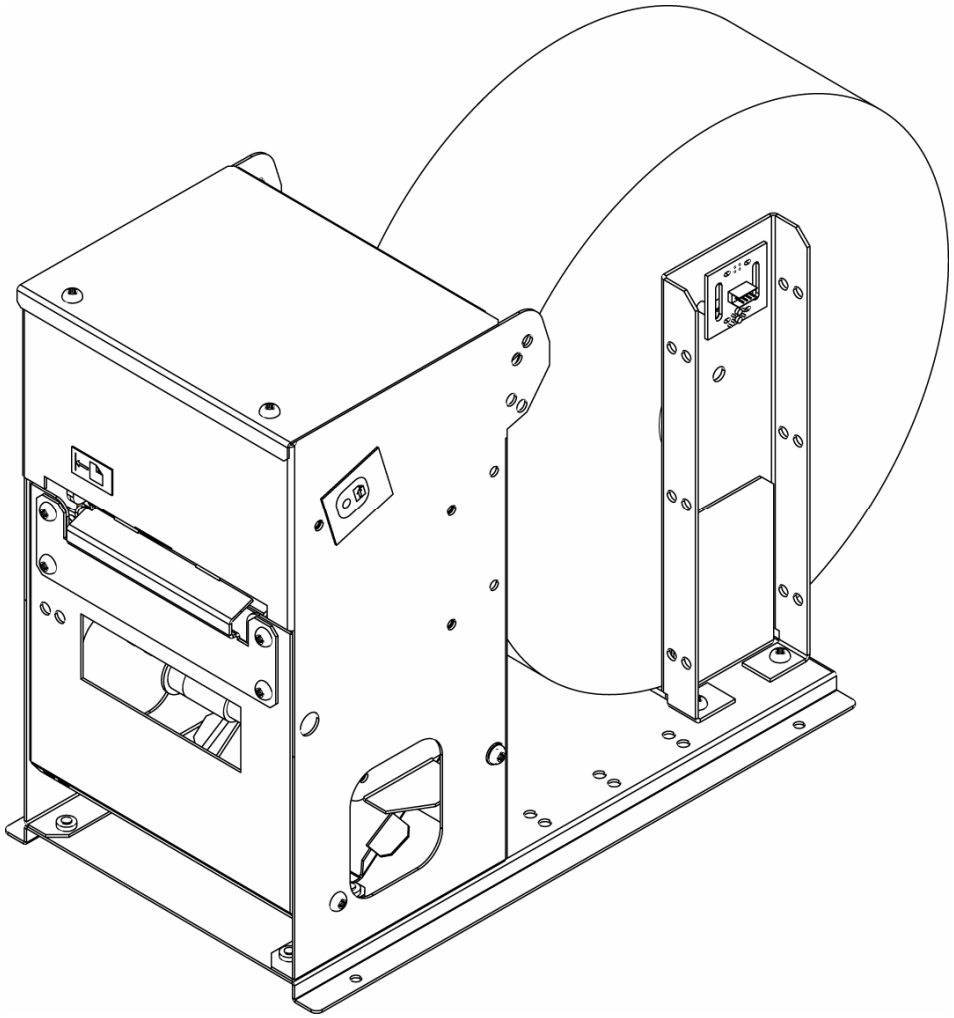

Figure 1: Nanoptix Heavy Duty Kiosk Printer

1.2 Options Available

There are several options available for the Nanoptix Heavy Duty Kiosk. Please call your representative for the most recent information at 1-888-983-3030 (Toll-free North America) or 506-384-3388 or by e-mail at info@nanoptix.com.

1.3 General specifications

Print Method	Direct Thermal
Resolution	8 dot/mm (203 dpi)
Print Width	80mm
Paper Width	82.5 mm
Max Roll Diameter	250 mm, recommended core size is 52mm inner diameter, plastic or cardboard, paper must not glued or taped
Operating Temperature	0 to 50 C
Storage Temperature	-40 C to +65 C
Operating Relative Humidity	20% to 85% RH at 50C (non-condensing)
Communication Interface Options	USB, RS-232C, RS-485, IEEE1284
Memory/Firmware	1 Mbit of SRAM, 2 Mbit of flash and16Kbit of EEPROM
Resident Character Sets	Arial Bold (6 sizes) Note: Other Character sets can be programmed quickly
Integrated Bar Codes	UPC-A, UPC-E, interleaved 2 of 5, 3 of 9, Code 128, EAN 8, EAN 13. Note: Other Bar Codes can be programmed quickly
Speed	Up to 130 mm/second
Sensors	• Paper out • Door open • Paper low • Cutter not homed • Top of form (optional)
Human Interface	Drop-in paper loading, status LED, paper feed button
Dimensions	170mm width x 265mm height x 295mm depth
Weight	3.7 Kg
Emission Standards	United States - FCC Part 15 Subpart B Canada - Industry Canada ICES-003 Europe – EN 55022 Class A emissions

Table 1: Specification

1.4 Printer Controls

To reset Printer

Simply plug and unplug the printer to reset the printer in case of a fault condition. Once the printer is re-plugged, the printer goes through a startup routine and resets itself.

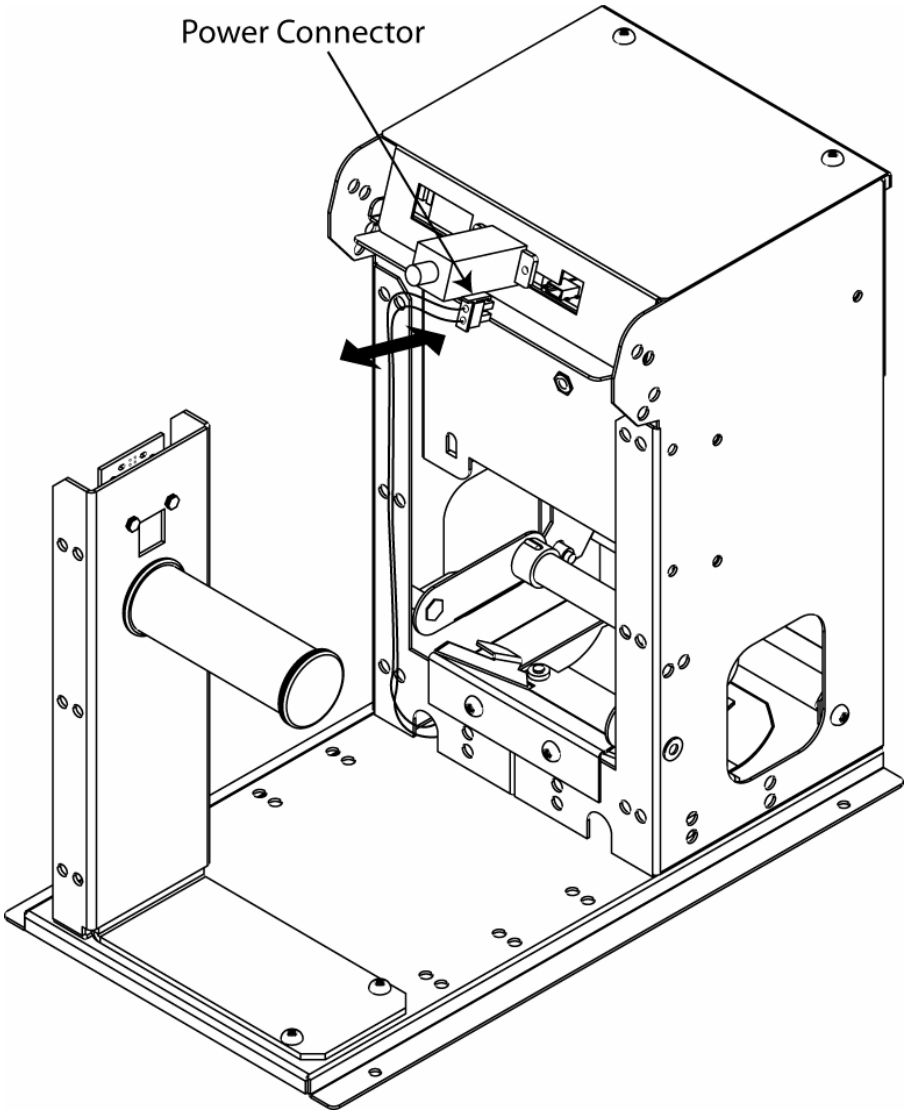

Figure 2: Resetting Printer

Paper Feed Button

Use the Paper Feed Button to advance the paper.

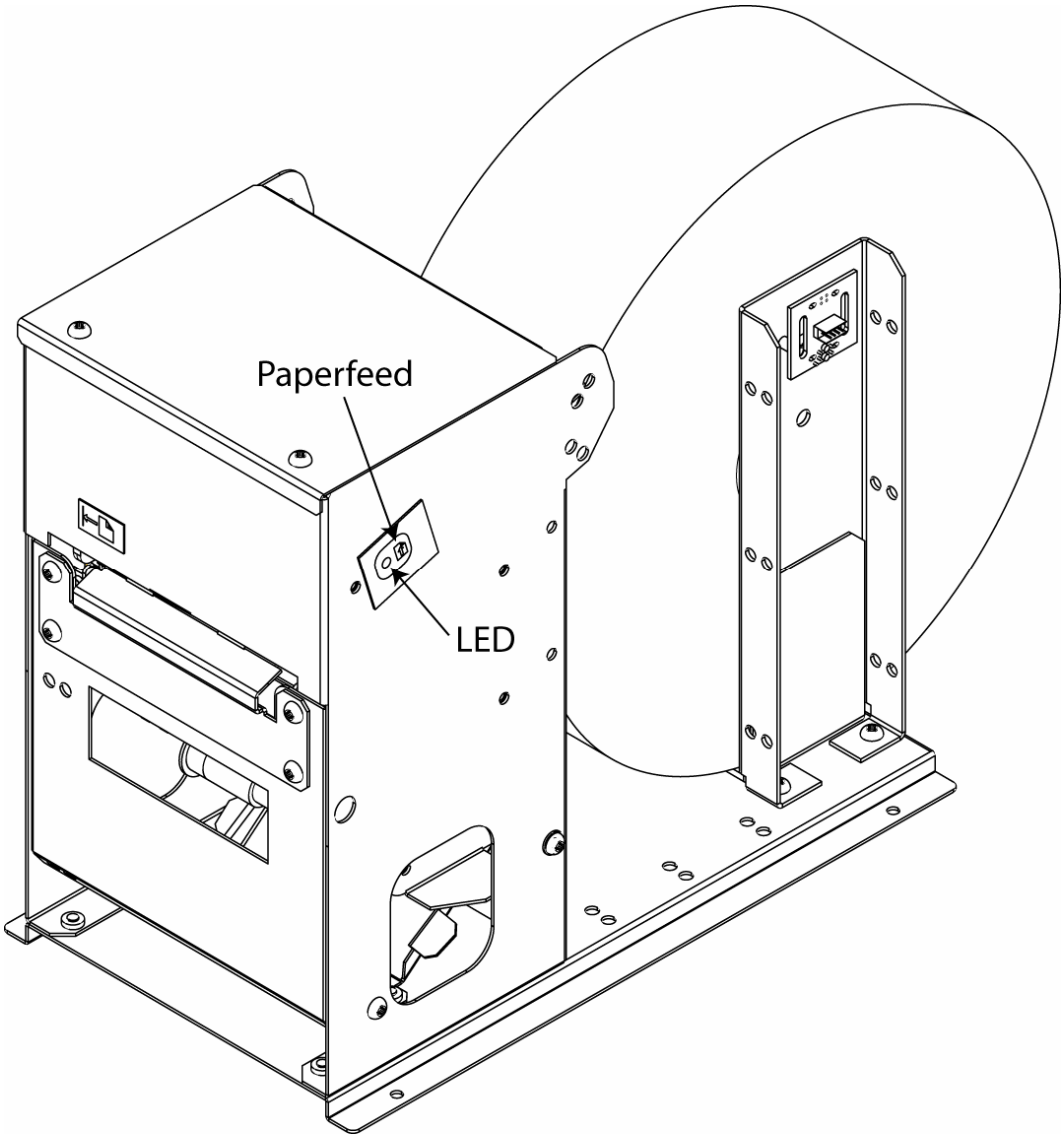

Figure 3: Paper Feed Button

1.5 Changing Paper

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

1. Remove the used roll.

2. Tear off the end of the new roll so that the edge is loose and place the new roll onto the spindle at the back of the printer. Make sure that the paper unrolls from the top of the roll.

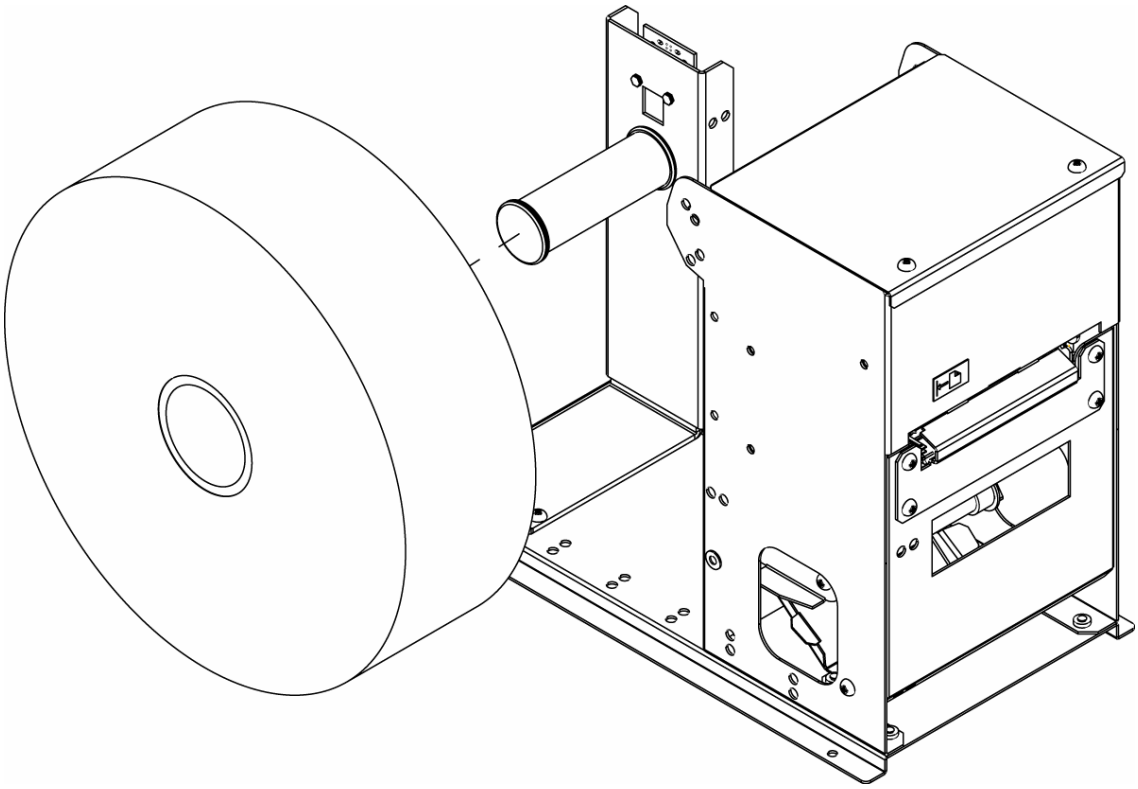

Figure 4: Loading Paper

Caution: Be sure the paper unrolls from the top of the roll. Otherwise, the printer will not print or the paper will jam.

3. Open the front door of the printer by pulling on the handle.

4. Pull up on the paper tensioner (arrow 1 in figure below). Then pull the paper underneath the tensioner then up (arrow 2 in figure below).

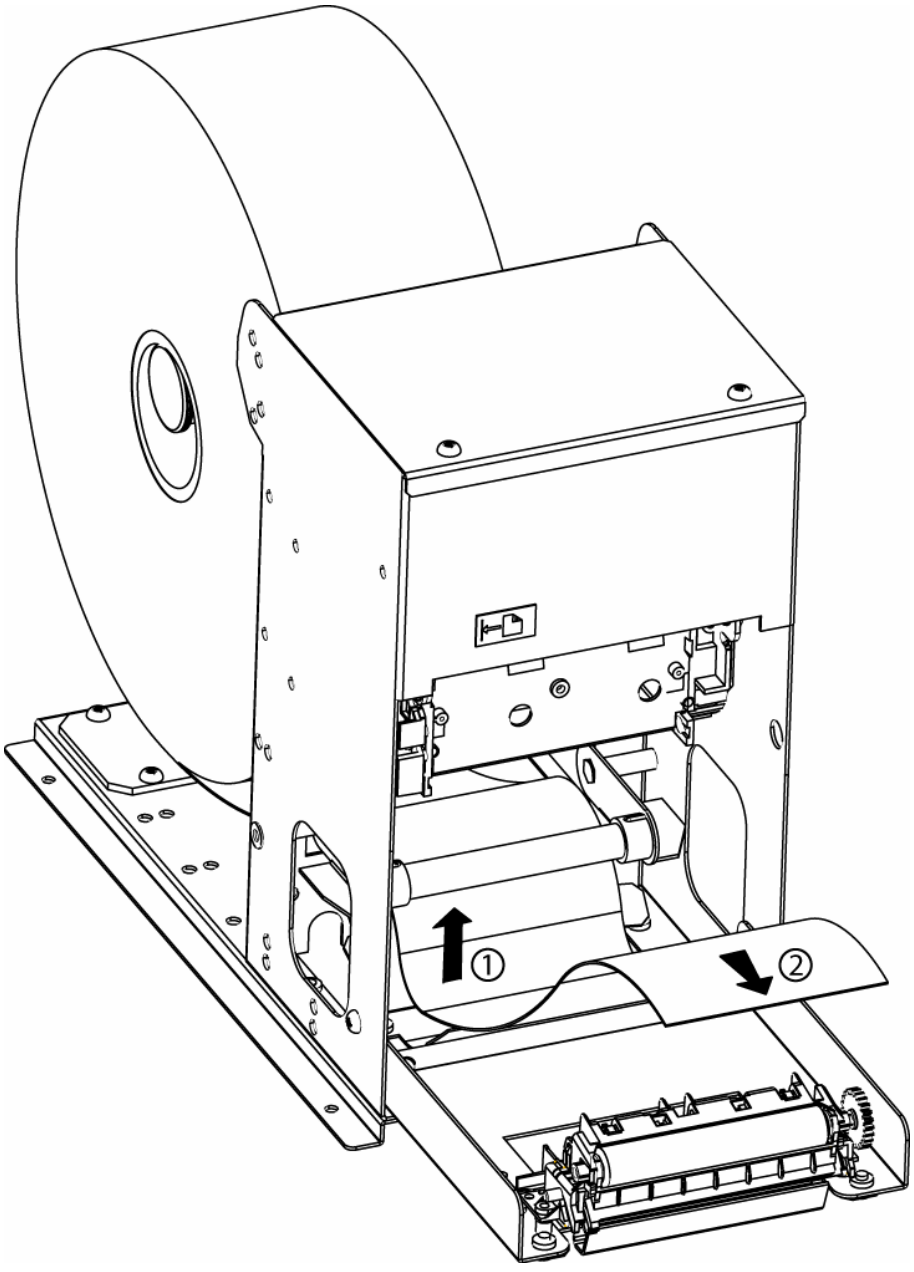

Figure 5: Inserting the paper

5. Align the left edge of the paper to the line on the label as shown in figure below.

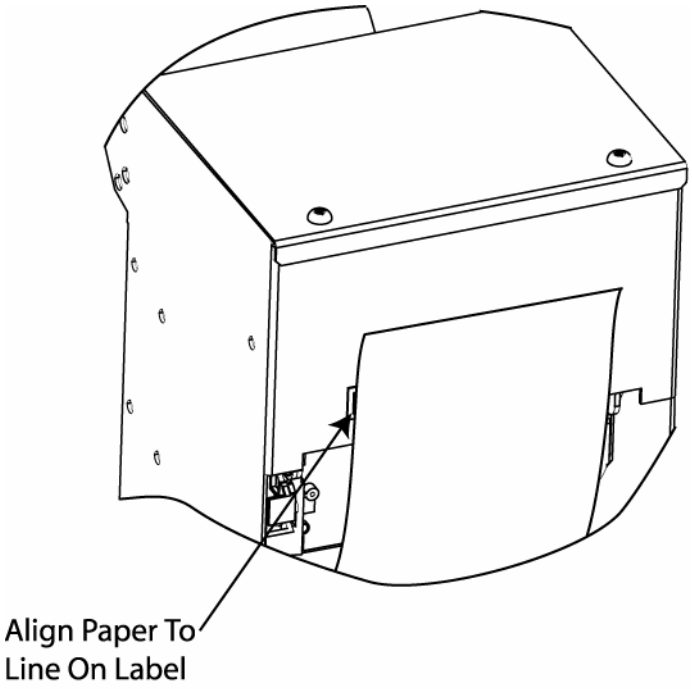

Figure 6: Aligning the paper

6. Close the door as illustrated.

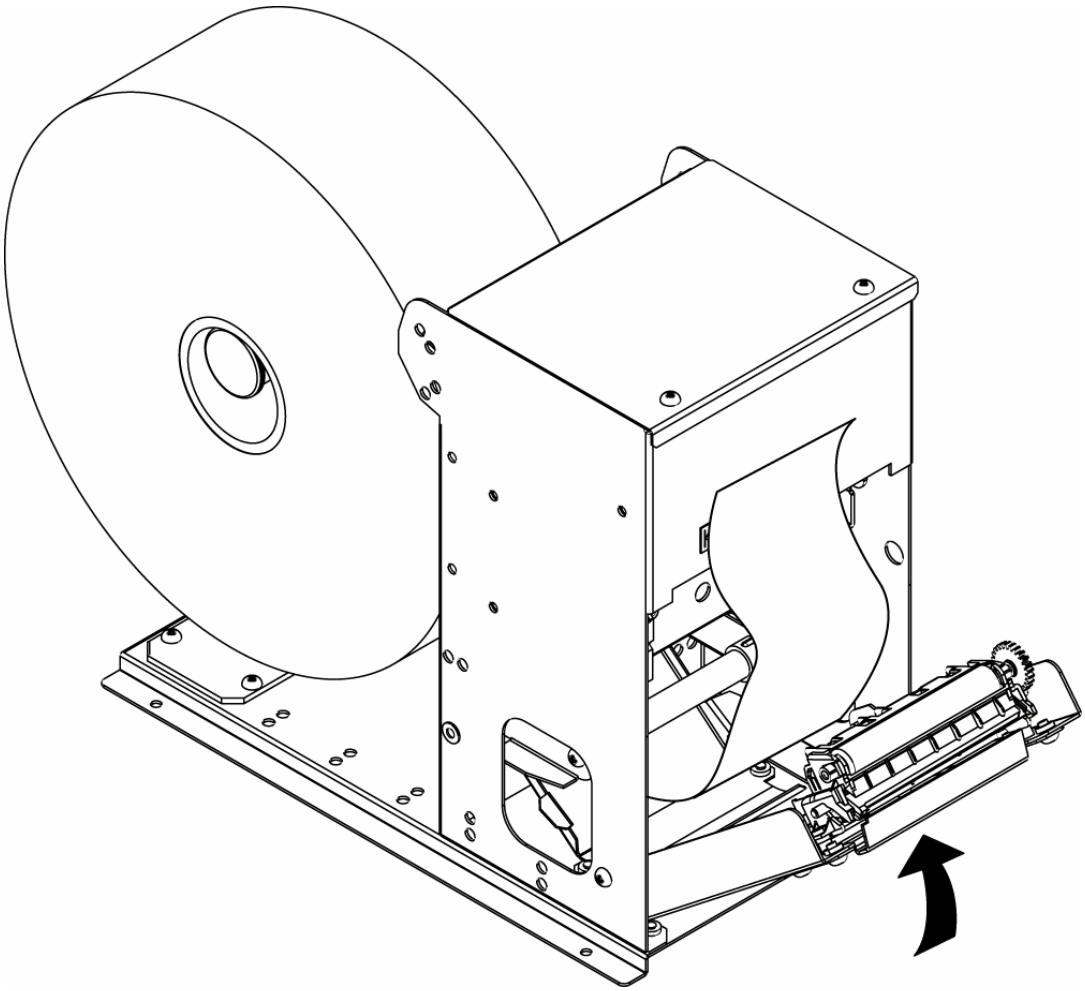

Figure 7: Closing door

7. Press the paper feed button. The paper will advance and the paper will be cut, leaving a clean edge for the next printed ticket.

Note: In the event of a paper jam, open the door, pull paper past the crumpled part, tear a new edge, and follow above instructions on inserting and aligning the paper.

1.6 Testing the Printer

Run this test to check the printer. The test prints and cuts a resident test ticket. Verify this ticket to judge the printing quality.

Model:		TITANIA
Firmware:		TIT-2.41G-61UCS
COMMUNICATION		
Interface:		IEEE1284 (0) or Serial
Baud:		9600
Data Bits:		8
Parity:		NONE
Handshaking:		NONE
Print Mode:		NTL
Aux Port:		Disabled
PRINT CONTROL		
Darkness Control:		-1%
Voltage:		24.2 Volts
Temperature:		26 Celcius
Speed:		4 IPS
Black Bar Index:		Disabled
SYSTEM RESOURCES		
FLASH	-Used:	0
	-Free:	24576
LIBRARY INVENTORY		
Templates:		0,1,2
Print 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,
Graphics:		None
Fonts:		0,3,5,7,8
MANUFACTURING INFORMATION		
Printer ID:		5465789
Date Code:		20184
PWM Setting:		7F7F7F7FFFFFFF
A to D:		DE7AA400FD000000
Resets:		9
Tickets:		00001336
Status: TIT-2.41G-40-40-40-40-40-P		

Figure 8: Test Ticket

To print the test ticket, power-on the printer while pressing and holding the Paper Feed Button for approximately 3 seconds. A test ticket similar to above will be printed approximately 5 seconds after. Press the paper feed button once more and the ticket will feed. Pressing the button again will result in blank tickets.

1.7 Troubleshooting the Printer

The printer is simple and generally trouble-free, but from time to time minor problems may occur. Follow these procedures to determine the cause and resolution of any problems the printer may be having. If the procedures in this section do not correct the problem, contact a service representative.

Printer LED

Condition	LED Status
Unit ready	ON
Unit is in Reset or Booting	OFF
Unit in standby (powered off)	OFF
Paper Out	Slow Blink
Door Open	Fast Blink
Paper Jam	Fast Blink
Missing Black Index Mark	Fast Blink
Temperature Error	Med Blink
Voltage Error	Med Blink
Print Head Error	Med Blink

Table 2: Troubleshooting with the status LED

Printing Problems

Problem	Possible Causes	What to Do
Receipt does not come out all the way.	Paper is jammed.	Open the printer door, inspect the cutter, and clear any jammed paper.
Printer starts to print, but stops while the receipt is being printed.	Paper is jammed.	Open the printer door, inspect the cutter, and clear any jammed paper.
Receipt is not cut.	Paper is jammed.	Open the printer door, inspect the cutter, and clear any jammed paper.
	The printer is not configured for a cutter.	Contact your authorized service representative.
Print is light or spotty.	Paper roll loaded incorrectly.	Check that the paper is loaded properly.
	Thermal printhead is dirty.	Use recommended thermal receipt paper.
Vertical column of print is missing.	This indicates a serious problem with the printer electronics.	Contact your authorized service representative.
One side of receipt is missing.	This indicates a serious problem with the printer electronics.	Contact your authorized service representative.

Table 3: Troubleshooting Printing Problems

Printer Does Not Work

Problem	Possible Causes	What to Do
Printer Does Not Function When Turned On.	Printer not plugged in.	Check that printer cables are properly connected on both ends.
		Check that the host or power supply is getting power.
	Door not fully closed.	Close the door.

Table 4: Printer Does Not Work

2. Media and Supplies Guide

2.1 Thermal Paper Specifications

The printer requires qualified thermal paper with the following dimensions:

Width	Diameter	Recommended Inside Core Diameter
82.5 mm ± .2 mm (3.25 in. ± .008 in.)	250 mm max. (10 in.)	50mm (2 inches) - Plastic

Table 5: Thermal Paper Dimensions

The paper should not be attached to the core. If Top of Form Option is installed, paper with a colored stripe at the end can be used to indicate that the paper is running low.

2.2 Ordering Thermal Paper

We recommend the following paper grades produced by their respective manufacturers. There are a number of paper converters qualified to supply this paper, provided the POS rolls are from these recommended grades.

Manufacturer	Paper Grade	Paper Thickness
Kanzaki Specialty Papers (USA)	P-350 F380 Lotto 480 KT300 (thick cutter only) TO381N (thick cutter only)	61 µm / 2.4mil 60 µm / 2.4 mil 83 µm/ 3.3 mil 183 µm/7.2 mil 115 µm/ 4.5mil
Kanzan Spezialpapiere GMBH (Germany)	KLS 36 KLS 46 KT415s+ (thick cutter only)	80 µm / 3.2 mil 80 µm / 3.2 mil 183 µm / 7.2 mil
Appleton Papers, Inc. (USA)	Optima T-886 B Royale 4.5 or 5.3 (thick cutter only)	82 µm / 3.2 mil 135µm / 5.3 mil
Blumberg GMBH	T49-32	88 µm/ 3.4 mil
Mitsubishi	TP8065	80 µm/ 3.2 mil

Table 6: Thermal Paper Part Numbers

Additional grades can be qualified and made available. Contact your sales representative for more information.

2.3 Ordering Miscellaneous Supplies

Power Supply and Power Cords

Contact your sales representative to order the power supply and power cords listed in the table. The numbers are for reference only. Suppliers may use other numbers.

Part	Part Number
Power Supply (24VDC, 2.5A max., 60W)	102048
Power Cord – North American	102080
Power Cord – Continental Europe	102086

Table 7: Power Supply and Power Cord Part Numbers

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
Standard RS232 communication cable (Host Cable) *(DB9 male plug, DB9 female receptacle)*	102082
Standard RS232 communication cable (Host Cable) *(DB9 female receptacle, DB25 male plug)*	102106
Serial RS232 communication harness (Adapter Harness) (DB9 male plug to DB25 female receptacle)	102042
Parallel communication cable (Host Cable) *(IEEE 1284 Type A to B - Large Centronics to DB25)*	102083
USB communication cable (Host Cable) *(Type A to mini B)*	102085

Table 8: Communication Cables Part Numbers

Communication Cables Pin-Out

The tables below detail the connection pin-out for the RS-232 interface (Female DB-9).

Pin	Signal Name	Printer I/O	Host I/O	Printer Function
1	n/a	51R pull up to 5V	Input	Aux Power (low current)
2	PRT_RS232_TXD	Output	Input	Data transmit
3	PRT_RS232_RXD	Input	Output	Data receive
4	n/a	No connect	Output	None
5	Signal Ground	Signal Ground	Signal Ground	Signal Ground
6	RS232_DSR	4K7 pull up to 5V	Input	Printer Ready
7	PRT_RS232_CTS (host RTS)	Input	Output	Handshake
8	PRT_RS232_RTS (host CTS)	Output	Input	Handshake
9	n/a	100k pull up to 5V	Input	None
Shell	Frame Ground	Frame Ground	Frame Ground	Shield

Table 9: RS-232 Interface Pin-Out

3. Communicating with the Printer

Over the years, Nanoptix has developed emulations for compatibility with the most popular printers in the market. At the time of printing this manual, the following emulations are available:

i. Epson LQ570+ / Nanoptix Command set (default from factory)
ii. Epson TM-T88III
iii. Star TUP-400
iv. Axiohm A722
v. Ithaca P70
vi. Ithaca P170
vii. Citizen 3551

Please contact your sales representative if you require other emulations. If we do not have the emulation you need, we can provide most emulations in a short timeframe. If you are not required to emulate other printer, please ask your sales representative for the latest Nanoptix Windows Driver or the "Nanoptix Programming Guide" which will list the Nanoptix ESC/P commands.

APPENDIX A: Mechanical Drawings

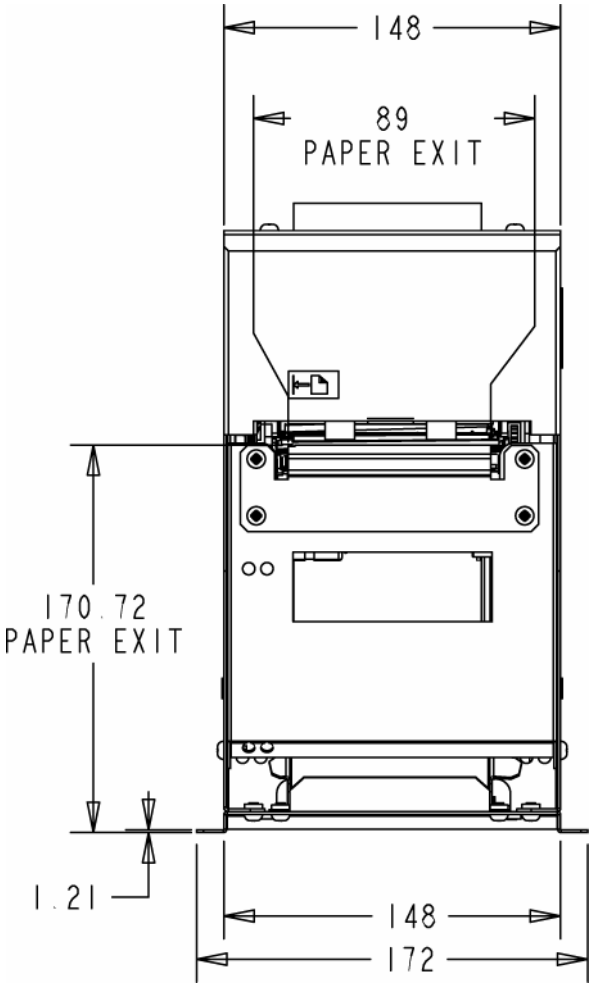

Figure 9: Mechanical Dimensions Front

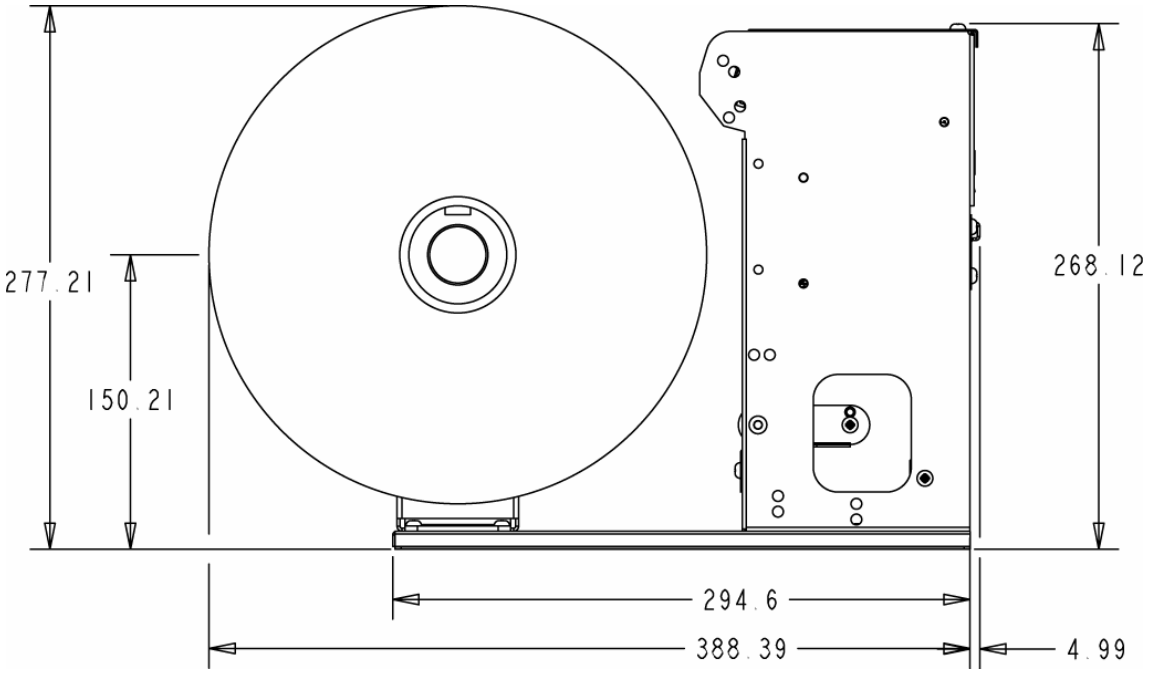

Figure 10: Mechanical Dimensions Side

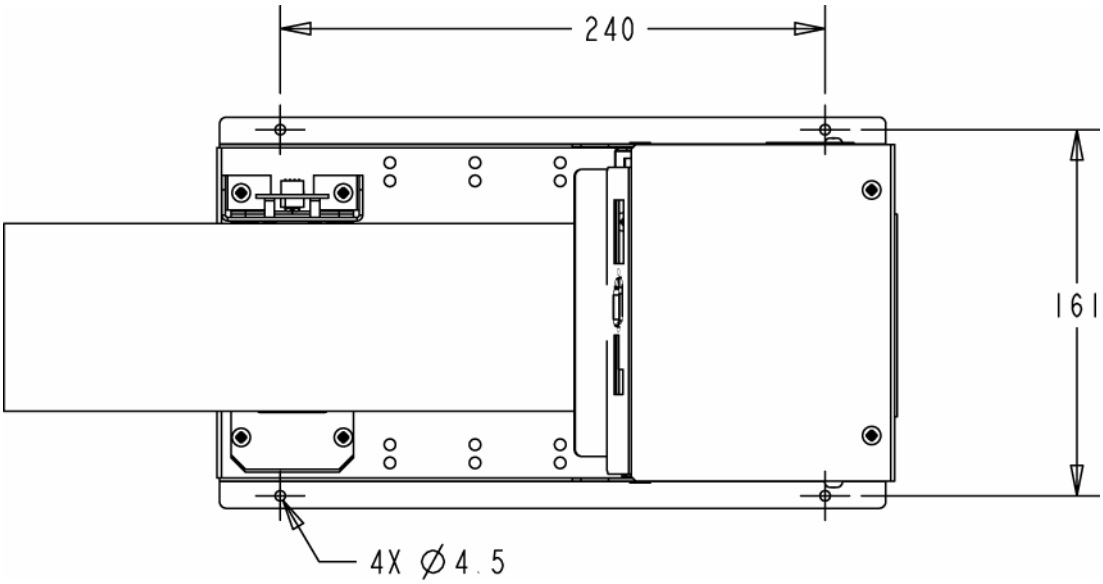

Figure 11: Mechanical Dimensions Top