

Lemur-Z, Lemur-X Manual

Lemur-Z/Lemur-X Kiosk Ticket Printers Operator's Manual

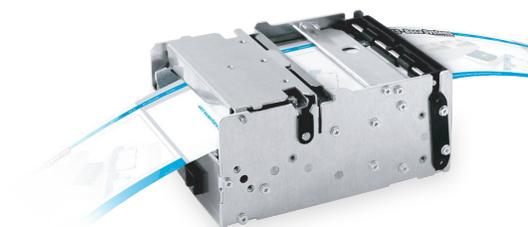


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FCC NOTICE

NOTE: The 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 the user's expense.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance.

WARRANTY INFORMATION

All warranty work is to be performed either by BOCA or by an [authorized BOCA service center](#). Shipping charges to the repair center are the customer's responsibility. BOCA will pay for the equipment's return via ground service. Parts damaged by negligence or misuse (bad ticket stock, improper operating conditions, etc.) are excluded from this warranty. (NOTE: The print head is a consumable part and is warranted for ninety days.)

New Equipment - BOCA warrants the equipment manufactured and sold by it to be free from defects in material and workmanship under normal use and service for one year from the date of shipment.

Repairs - A factory repaired printer is warranted for ninety days after being received by the customer. The repair warranty covers only the specific repair work performed and does not cover subsequent failures unrelated to the repaired components.

Parts - Spare parts carry a ninety day warranty.

Tickets - Tickets are warranted, under proper storage conditions, for a period of three years.

Please go to the link below if you have any reported issues with your new BOCA printer.
www.bocasystems.com/onlinesupportform.html

Equipment damaged in shipping should be reported immediately both to BOCA and to the shipper.

EXTENDED WARRANTY PLAN - BOCA offers [extended warranty plans](#) for all printer models. These plans cover all parts and labor. All labor is to be performed at the BOCA facility. Equipment damaged by misuse or negligence, including damage to print heads caused by defective ticket stock, is excluded from this extended warranty. The customer, at its option, may request BOCA to ship individual parts to expedite simple repair procedures. In certain cases where the customer is unable to wait for the normal repair cycle, BOCA will ship an exchange printer within one business day after notification by the customer. All freight charges are the responsibility of the customer.

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1.0 Unpacking the Printer

The printer is shipped in a ruggedized container. **Please save packing material for future use.** Remove the printer and accessories from the box and inspect for obvious damage. If damage is noticed, please report it immediately to BOCA.

Email: cathy@bocasystems.com Tel: (561) 998-9600 Fax: (561) 998-9609

The following items should be in the box:

- A) Lemur-Z or X Printer
- B) 24VDC power supply
- C) AC cord
- D) May come with one or both of the below listed items (depending on what was ordered):
 - Input paper guide (P/N 424050) **for Lemur-Z printers only**
 - or
 - Receipt roll holder (P/N 424051)
- E) Interface cable (optional)
- F) Optional low paper sensor (see [4.2.1 Receipt Roll Holder with Optional Low Paper Sensor](#))



Above shows printer with Input paper guide.



Above shows printer with receipt roll holder.

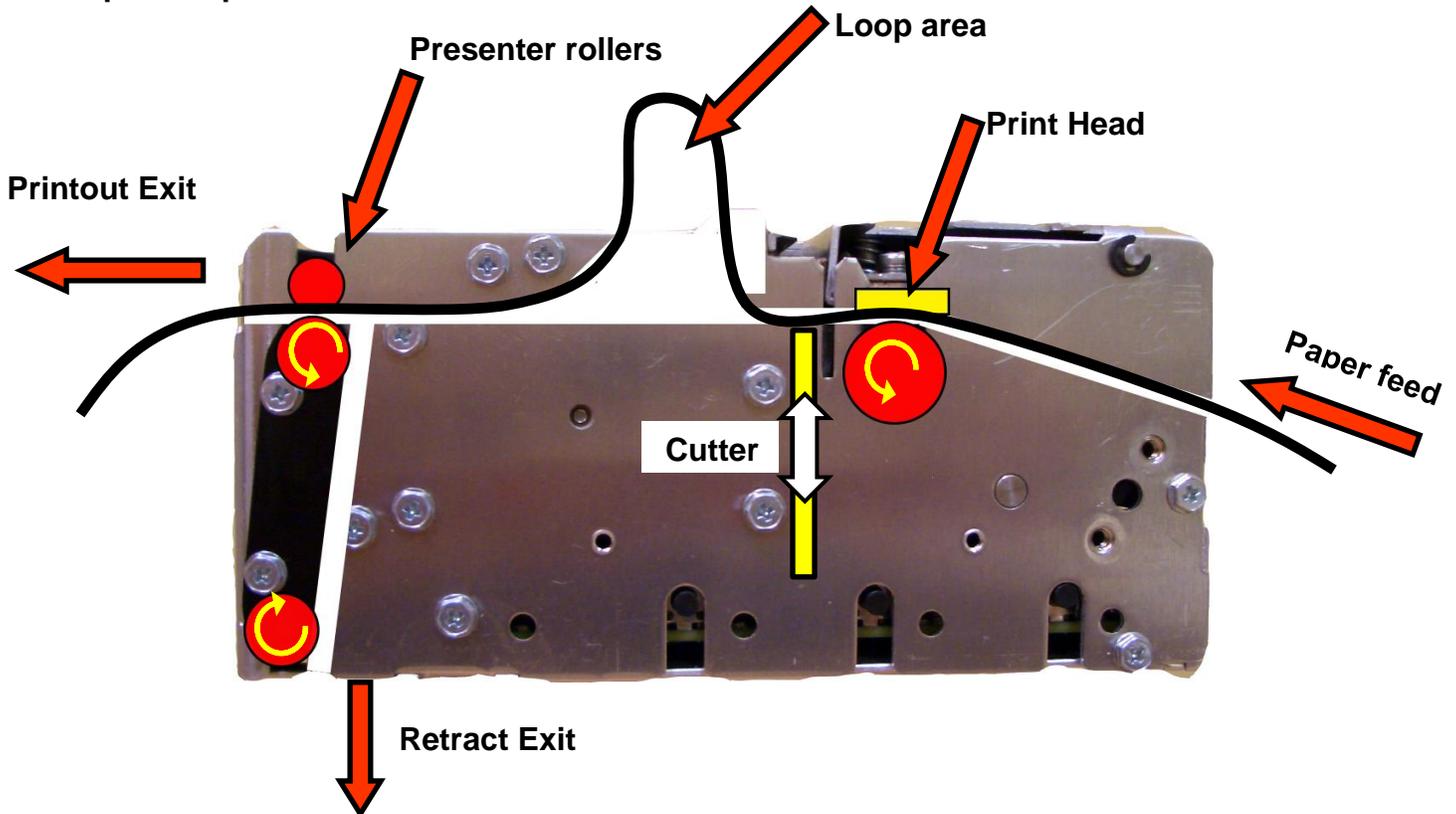
2.0 Introduction for Lemur-Z

The Lemur-Z is a direct thermal ticket printer with integrated cutting mechanism. This manual will provide the user with general information regarding printer set-up, configuration and troubleshooting. Please read the important safety information section before installation is conducted. Review the [programming guide](#) for additional details.

The Lemur-Z series are kiosk printers designed for use with 2" (50.8mm) to 3.25" (82.5mm) rolled receipt stock or fan folded stock with black timing mark using direct thermal printing. The following is a link to the black timing mark specs www.bocasystems.com/ticket_specs10.html. The printer features intergraded auto cut mechanism, easily adjustable paper guide (if equipped) and presenter with built in retract and retain function.

The print head may be easily opened to give the operator easy access to the paper path and print head for routine maintenance.

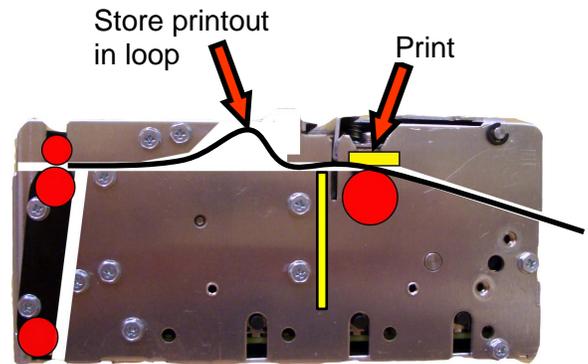
Principle of Operation



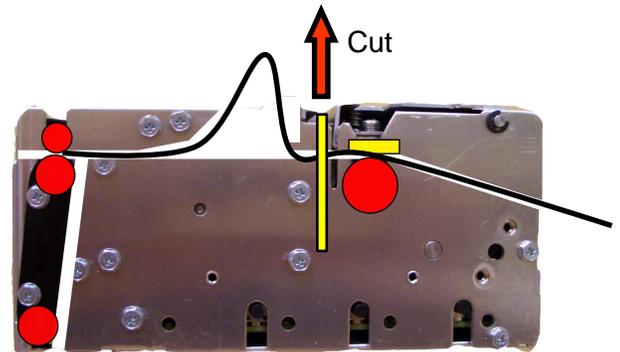
PRESENTER

The Lemur-Z printer features a presenter mechanism with a built in retract and retain function. The following illustrations provide an overview of the functionality of the various stages of printer operation.

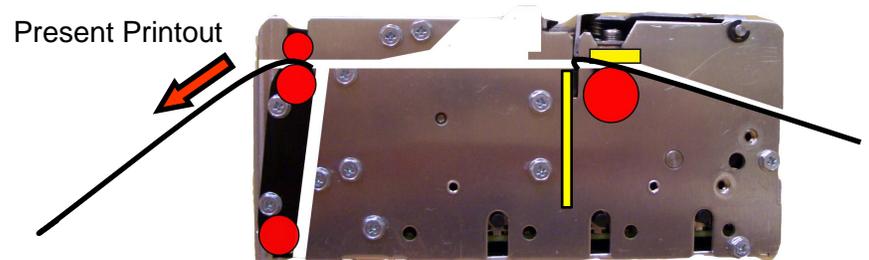
- **PRINT**– It handles documents of various lengths by storing the printed paper in a loop.



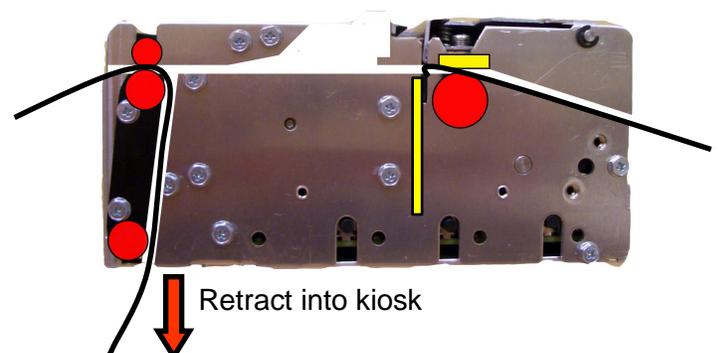
- **CUT** – It holds the printout until fully printed and cut before presenting the completed printout to the customer.



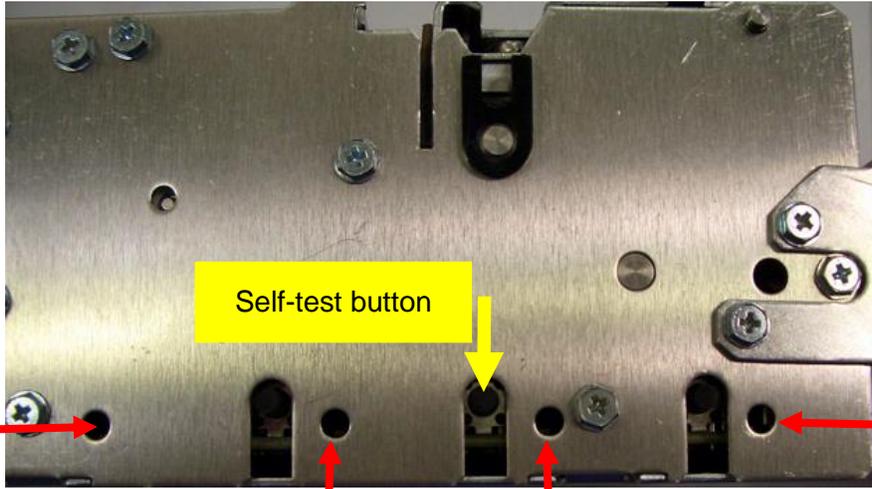
- **PRESENT** – The printout is presented to the customer.



- **RETRACT** – The retract and retain function can retract uncollected printouts and drop them back inside the kiosk.



Controls & Sensors



DATA

- No data received
- Data received

READY

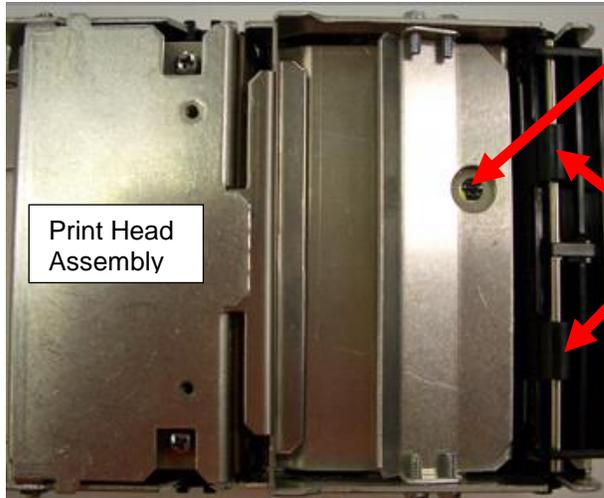
- Not ready
- Ready

CHECK PAPER

- Has paper
- No paper

PAPER JAM

- No paper jam
- Paper jam

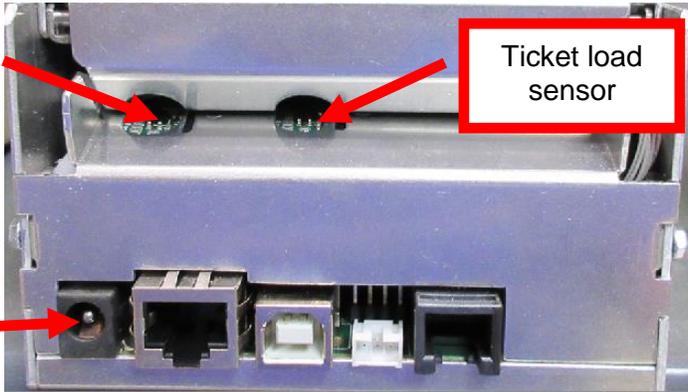


Top View

Black timing mark sensor

Ticket load sensor

DC IN



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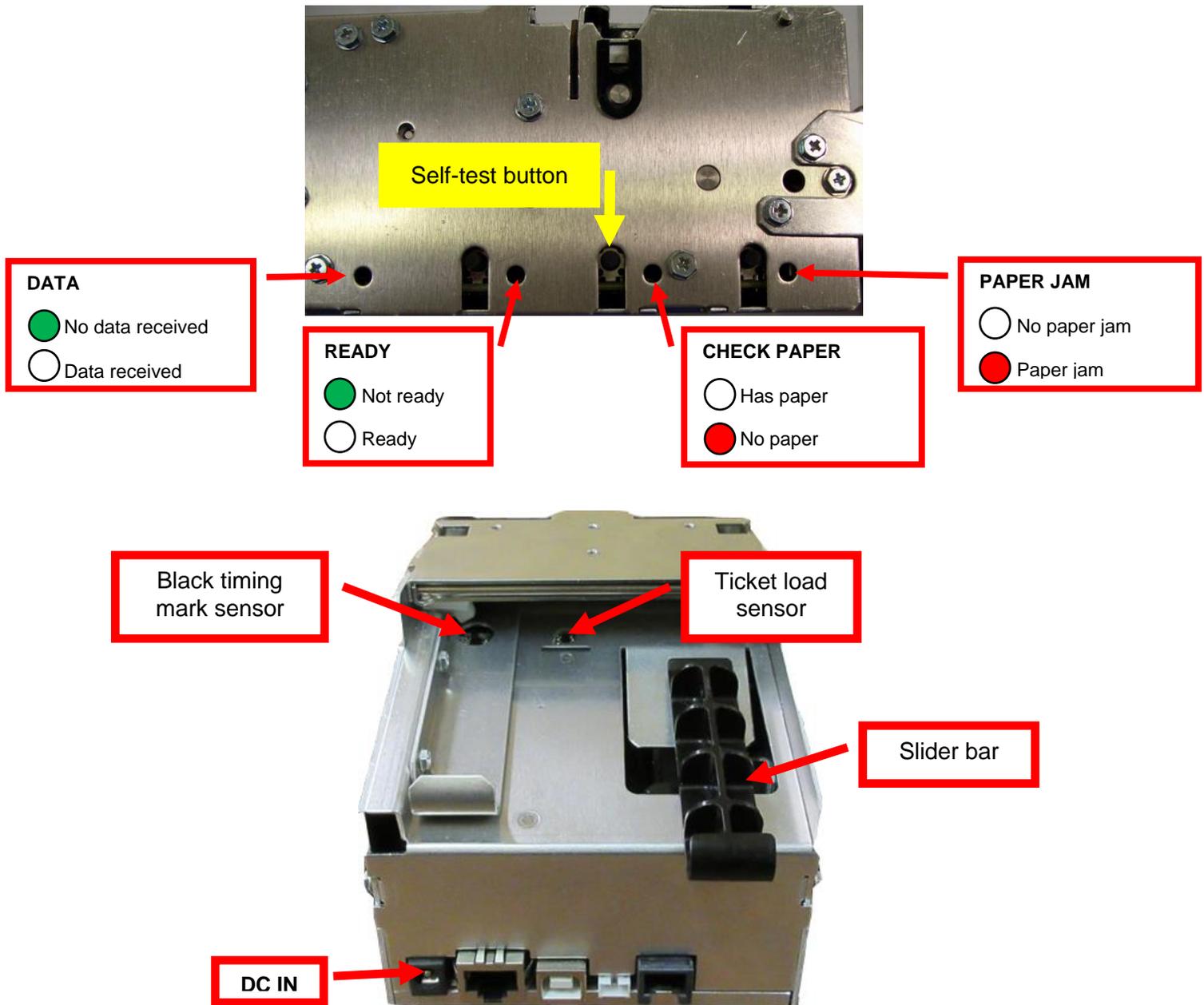
2.1 Introduction Lemur-X

The Lemur-X is a direct thermal ticket printer with integrated cutting mechanism. This manual will provide the user with general information regarding printer set-up, configuration and troubleshooting. Please read the important safety information section before installation is conducted. Review the [programming guide](#) for additional details.

The Lemur-X series are kiosk printers designed for use with 2" (50.8mm) to 3.25" (82.5mm) rolled receipt stock or fan folded stock with black timing mark using direct thermal printing. The following is a link to the black timing mark specs www.bocasystems.com/ticket_specs10.html. The printer features intergrated auto cut mechanism and easily adjustable paper guide.

The print head may be easily opened to give the operator easy access to the paper path and print head for routine maintenance.

Controls & Sensors



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3.0 Important Safety Information



WARNING: The appearance of this symbol indicates the proximity of an exposed high voltage area. Please follow all directions carefully for your personal safety. You must read the following safety information carefully before working on the printer.

As a safety precaution, all service to the printer should be done by **qualified persons** with power off and the AC cord unplugged from the printer. Following any procedure requiring the removal of covers and/or doors, please verify that they have been properly attached and fastened prior to operating the printer.

WARNING: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."

WARNING: Power Cord Set: This must be approved for the country where it is used:

U.S.A. and Canada

- The cord set must be UL-approved and CSA certified.
- The minimum specification for the flexible cord is:
 - No. 18 AWG
 - Type SV or SJ
 - 3-conductor
- The cord set must have a rated current capacity of at least 10A.
- The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.

United Kingdom only

- The supply plug must comply with BS1363 (3-pin 13 amp) and be fitted with a 5A fuse which complies with BS1362.
- The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).

Europe only:

- The supply plug must comply with CEE 7/7 ("SCHUKO").
- The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).

Denmark: The supply plug must comply with section 107-2-D1, standard DK2-1a or DK2-5a.

Switzerland: The supply plug must comply with SEV/ASE 1011.

WARNING: The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN60320/IEC320 appliance inlet.

WARNING: The socket outlet must be near to the unit and easily accessible.

WARNING: France and Peru only:

This unit cannot be powered from IT† supplies. If your supplies are of IT type, this unit must be powered by 230V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground).

WARNING: RJ-45 Ports. These are shielded RJ-45 data sockets. They cannot be used as standard traditional telephone sockets, or to connect the unit to a traditional PBX or public telephone network. Only connect RJ-45 data connectors. Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.

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4.0 Installation

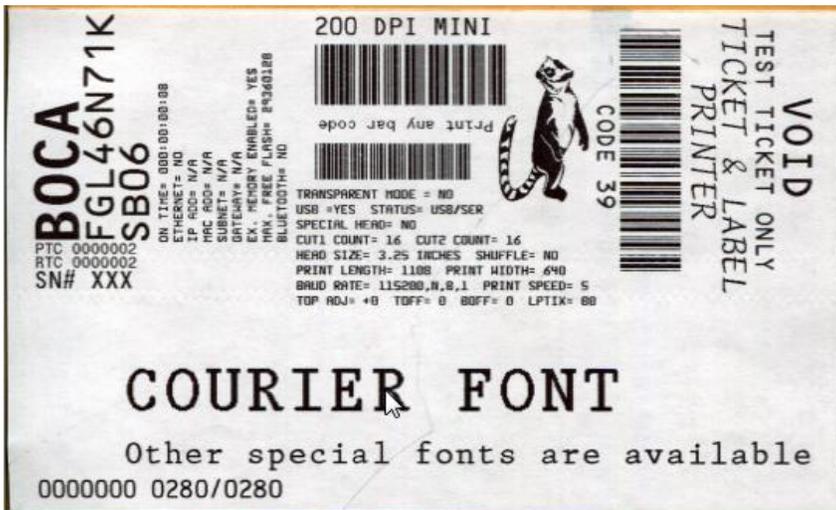
The Lemur-X and Lemur-Z are designed to be mounted in a kiosk. [Appendix I](#) shows the mounting hole locations.

Prior to site preparation and installation, the printer should be powered up and run in the self-test mode.

- Lay the printer flat on a counter top.
- For a Lemur-Z Install the input paper guide (see [page 8](#)) or receipt roll holder (see [page 9](#)) onto the printer.
- Attach the round DC connector of the 24VDC power supply into the printer.
- Plug the AC cord into the 24VDC power supply. The printer will automatically power up once the AC cord is plugged into its AC source
- Wait five seconds after power up, during this time you will hear the cutter knife cycle. Begin loading tickets through the entrance slot with a smooth motion until the printer automatically positions the ticket. See section [5.0 Ticket Load Procedure](#).
- After the ticket is automatically positioned (the green READY led will be illuminated), press the center TEST button located on the control panel to print a test ticket.
- **When the Lemur-Z leaves the factory it is configured for use with receipt rolled stock (stock with no black timing mark). If you will use the printer with stock that has a black timing mark then it will need to be taken out of paper mode. See [Appendix C – DOWNLOADING SOFTWARE COMMANDS](#) to download the appropriate software command.**
 - **<pmd>** this will configure the printer for use with ticket stock with a black timing mark.
 - **<pmr>** this will configure the printer for use with receipt stock without a black timing mark.
- Verify that the printer properly works with your system by issuing a ticket through your computer system. You may also use our customer based program to test the printer independently of your ticketing system (see [Appendix B](#))

You may now install the printer in its permanent location. Adequate room should be provided behind the printer for the smooth feeding of ticket stock.

Below is a typical self-test printout



Your printout may vary depending on printer configuration and ticket stock used.

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4.1 Paper Guide Installation for Lemur-Z

(P/N 424050)

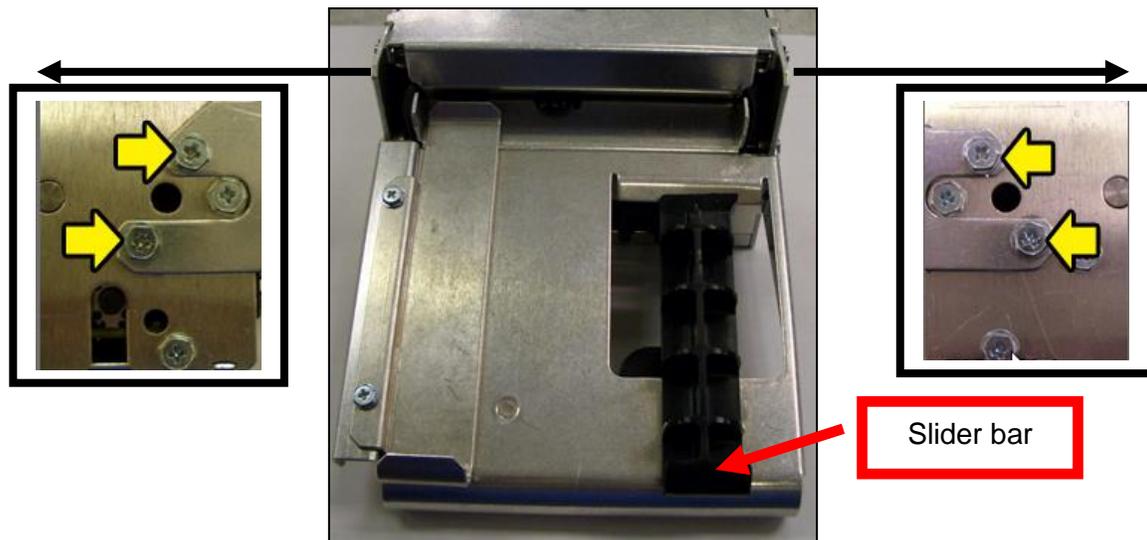
Kit will include paper guide and four mounting screws.



1. The paper guide is installed onto the Lemur-Z via four mounting locations.



2. Install the paper guide on the back of the printer and align the mounting holes to the above referenced installation location. Install the four Philip 3/16" Hex head screws that were included with the paper guide and tighten.



3. The black slider bar may be adjusted to accommodate ticket stock widths from 2" to up to 3.25". See [5.1 Ticket Width Adjustment](#).

4.2 Receipt Roll Holder Installation for Lemur-X & Z (P/N 424089)

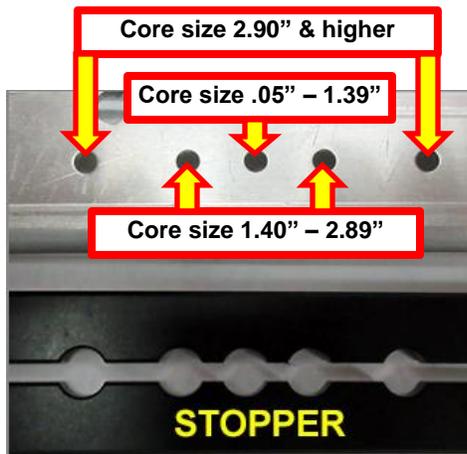
Kit will include mounting plate, roll holder arm, spindle, adjustable stopper and various mounting screws.



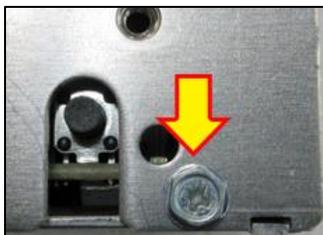
1. Attach the spindles onto the roll holder arm using the two Philip $\frac{1}{4}$ " Hex head screws included with kit. Spacing of the spindles will be based upon the core side of the roll. Below photo shows the arm configured for a 3" core.



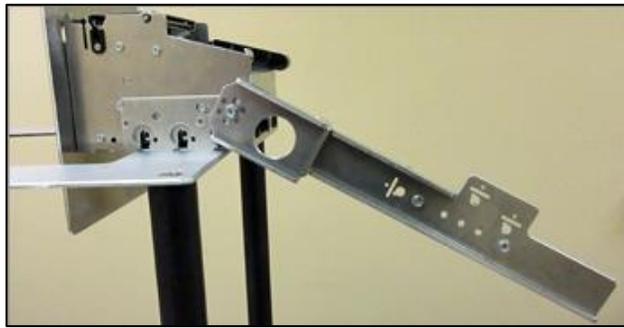
The spacing of the spindle arms may be adjusted to accommodate different roll paper core sizes. The holes on the stopper match the spacing of the spindle arms.



2. If your printer does not already have the mounting plate installed then the Philip $\frac{3}{16}$ " Hex head screw shown in the photo below will need to be removed. Install the mounting plate onto the printer using three Philip screws and two $\frac{3}{32}$ " Allen head screws.

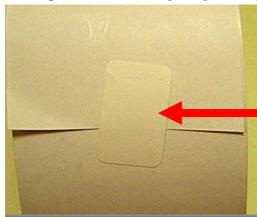


3. Install the roll holder arm onto the mounting plate and secure it in place with a Philip ¼” hex head screw. [Appendix J](#) shows the different positions the arm may be placed in.



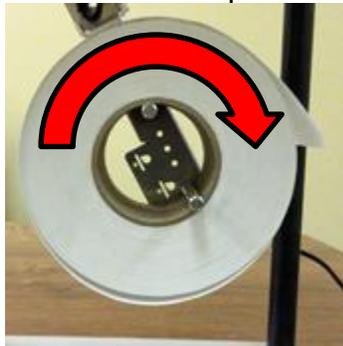
Above photo shows arm attached to a Lemur-X printer

4. Prior to installing the receipt roll onto the roll holder arm the printer needs to be secured in place.
5. Tear off a full turn of the paper from the new paper roll. **Caution:** *This is important as the outer end of the paper is usually secured to the roll with glue or other adhesive substance that may cause paper jam or damage the print head.*



Must be completely removed

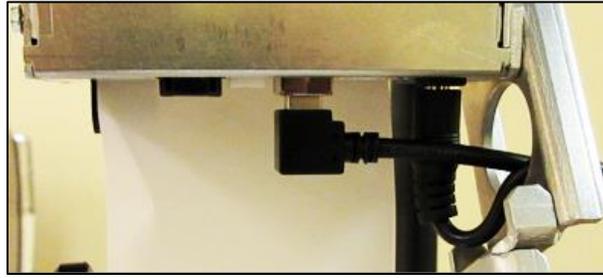
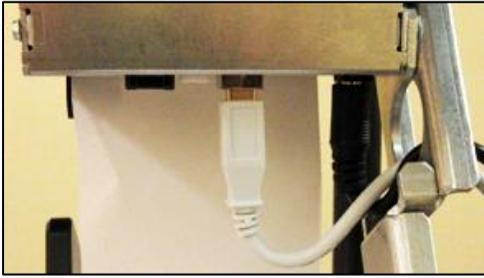
6. Place the Receipt roll onto the spindles. Photo shows spindles configured for 3” core.



7. Install the adjustable stopper onto the spindle and slide into place. You will need to support the back of the roll holder arm while sliding the stopper in place. Push in the middle of the adjustable stopper with your thumb. The stopper should not be binding against the roller to prevent it from moving freely.



8. Below shows routing of the cables.

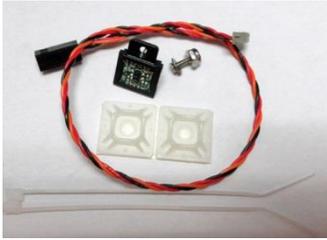


9. See section [5.0 Ticket Load Procedure](#) to review how to load paper.

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4.2.1 Receipt Roll Holder with Optional Low Paper Sensor

An optional low paper sensor (P/N 424078) may be installed onto the receipt roll holder. This sensor will alert the printer when the paper roll physically goes below the sensor eye. When this happens the printer will send a low paper status message (0F hex or 15 decimal) to the host computer.

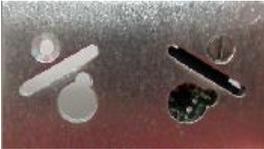


The P/N 424078 Kit contains the above items.

The sensor is installed onto the roll holder arm in the following manner.

1. Choose the sensor location that will work best with the position the roll holder arm will be installed at (see [Appendix K](#) for the different positions).

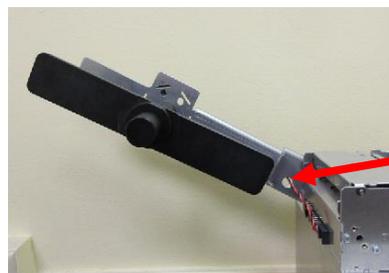
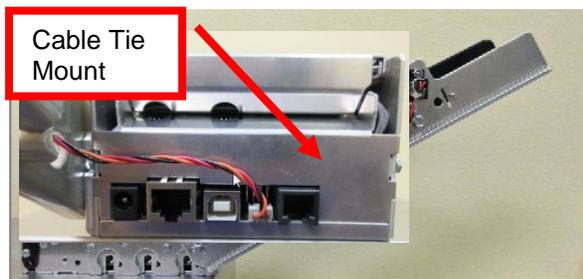
2. Insert the screw into the countersink side of the arm.



3. Attach the sensor, flat washer and 1/4" nut onto the screw. Make sure the tab on the sensor aligns with the slot in the roll holder arm and tighten the nut.



4. Attach the cable tie mount to the roll holder arm, similar to what is shown in the below photo. Connect the AMP connector to the sensor and route the wire through the hole in the arm. Zip-tie the cable onto the cable tie mount.



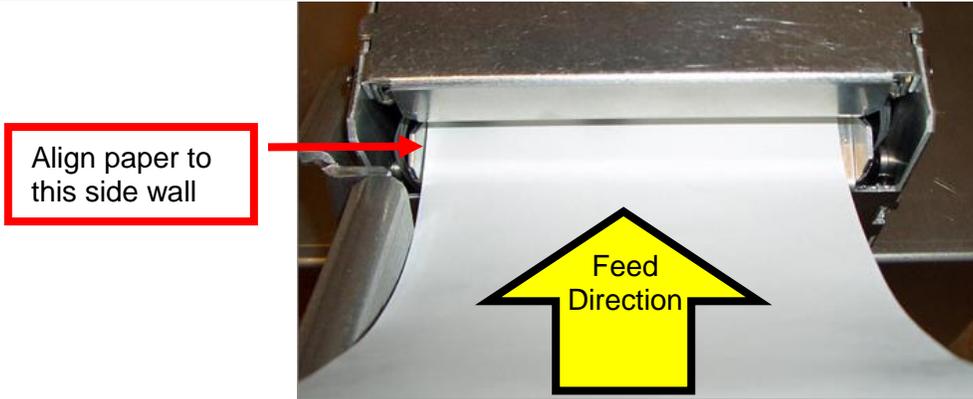
5. Once installed, you may plug the sensor connector into the low paper connector on the printer.

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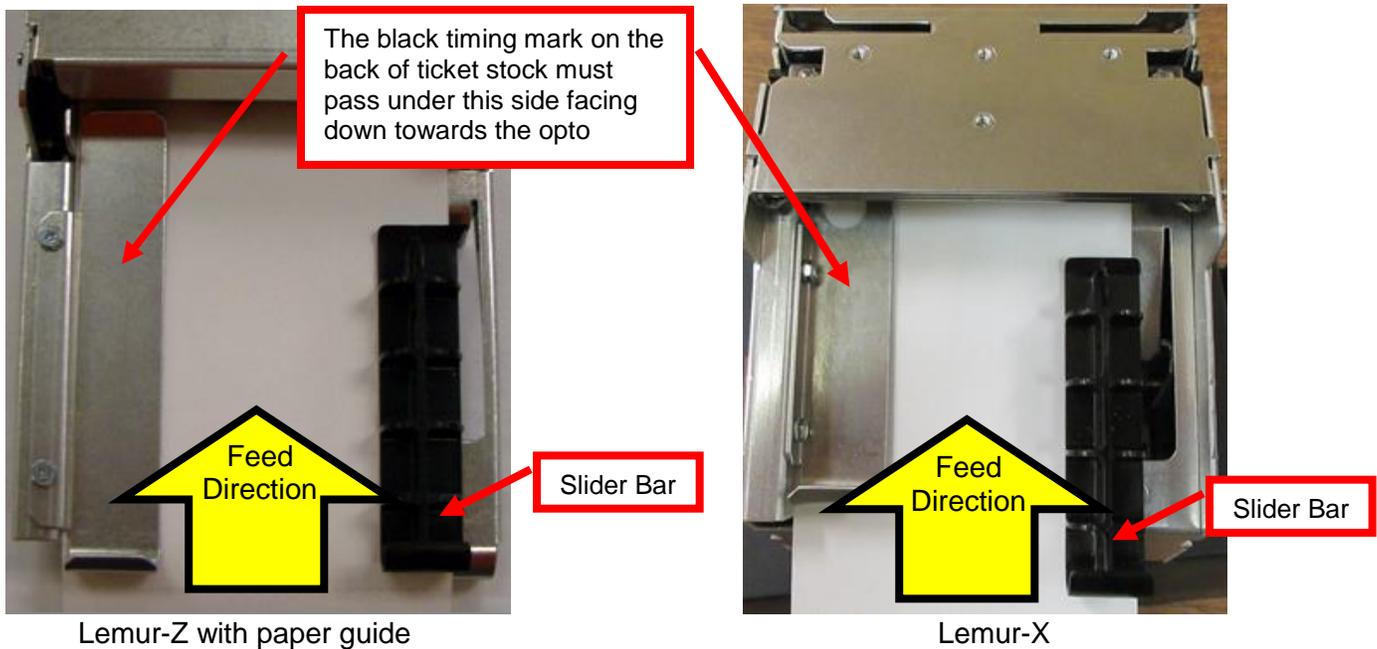
5.0 Ticket Load Procedure

1. Plug the printer into an AC source and it will automatically turn on. The red **CHECK PAPER** led will be illuminated. You will also hear the cutter knife cycle during this time.
2. Begin loading the tickets through the entrance slot with a smooth motion until the ticket stock comes to a stop (at this point the stock is between the thermal head and platen). Keep pressure against the stock and the printer will automatically feed the ticket stock.

Receipt stock with Lemur-Z (with roll holder)



Fan folded stock (with paper guide)



3. The printer will feed the stock forward toward the front of the printer and then reverse it back to the print (idle) position. For use with fan folded stock with black timing mark the stock will loop upwards.

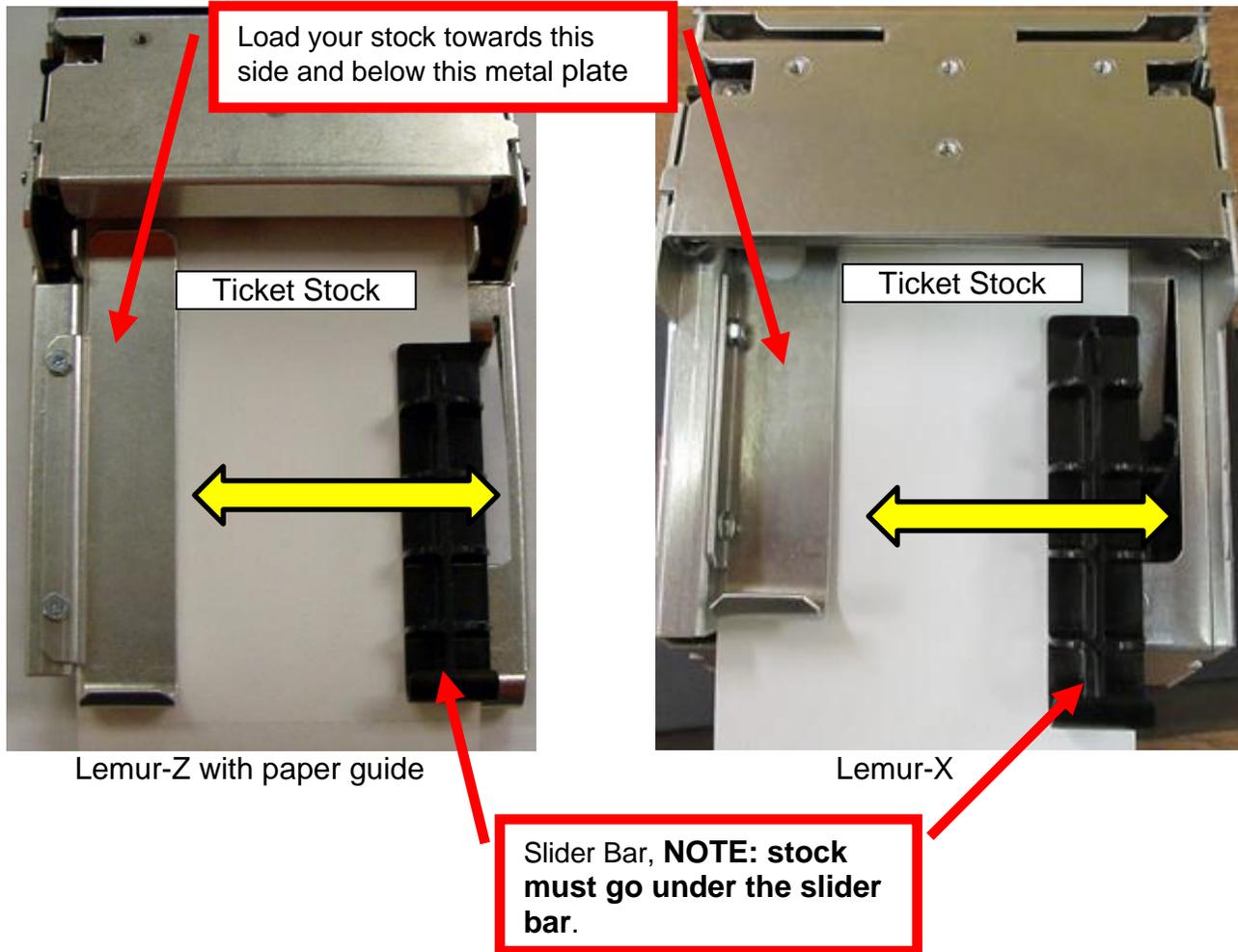
When using ticket stock with a black timing mark the black mark must meet the specifications found on the following link www.bocasystems.com/ticket_specs10.html

If you have any ticket load or jamming issues then make sure the paper guide slider bar is properly adjusted (see [5.1 Ticket Width Adjustment](#)).

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5.1 Ticket Width Adjustment

To adjust the paper path for use with a different ticket width, adjust the slider bar to the fully open position. Insert your ticket stock into the paper guide. Adjust the slider bar down to the proper ticket width, making sure the bar is not too tight against the ticket. The ticket should move freely in the paper guide.



CAUTION:

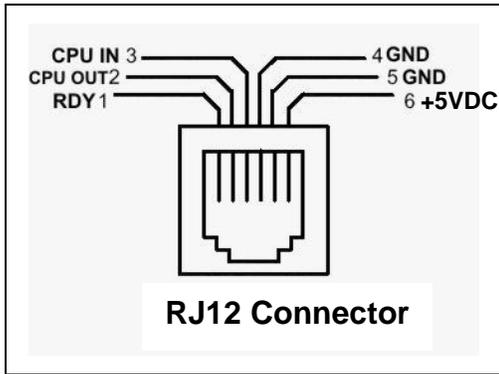
If the slider bar is adjusted too tightly against the ticket stock then this may lead to feed or ticket jam issues. If there is a feed or jamming issue then move the slider bar away from the media a little (no more than 1/16”).

If the slider bar is adjusted too wide then the stock may have too much free play side to side. This will cause the printout to move around on the ticket. If the printer is configured for black timing mark use then it may not allow the black timing mark to pass over the cut sensor, which will lead to miss feeding of the printer.

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6.0 Standard Interface Pinouts

RJ12 Serial Connection



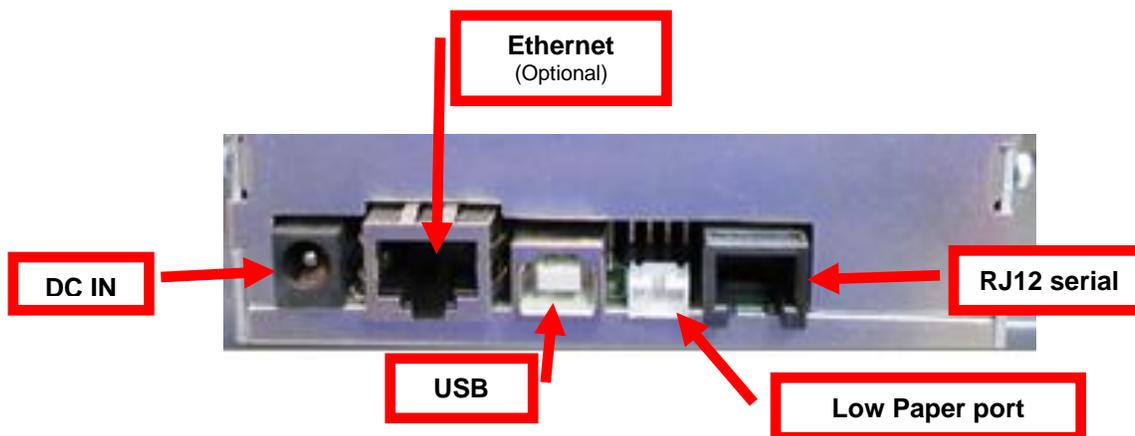
TYPICAL DB9 to RJ12 PIN CONNECTIONS

9 pin host	BOCA RJ12	
2	2	Transmit
3	3	Receive
5	4	GND
6	1	RDY
8	6	CTS

USB USB 2.0 compliant devices.

ETHERNET (Optional) is a standard RJ45 Ethernet cable connection.

Low Paper Port used in conjunction with the roll holder with low paper sensor. See section [4.2.1 Receipt Roll Holder with Optional Low Paper Sensor](#).



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7.0 Thermal Paper - Theory & Specification

Refer to the BOCA Systems website at www.bocasystems.com, [THERMAL TICKETS](#) section for the most current [paper specifications](#).

The print head's life expectancy is composed of both a mechanical and an electrical component. Both of these factors are strongly influenced by the quality of the thermal paper used.

MECHANICAL

The print head has a theoretical rating of 60 kilometers. This number is based upon the assumption that the head will be used with a good quality, top coated thermal paper. Uncoated and poorly top coated thermal papers are abrasive to the print head and have been found to wear through the head after less than one kilometer.

Other factors which may contribute to premature mechanical wear are the use of non-thermal inks and stray metallic particles stuck in ticket perforations. Certain ink colors such as opaque white (which contains titanium dioxide) are also highly abrasive.

Unfortunately, there are no available devices for quantitatively measuring the abrasiveness of a given ticket. Fortunately, we have developed a slightly subjective, but effective method of weeding out overly abrasive ticket stock.

ELECTRICAL

Each heat element, dot, on the print head has a theoretical life expectancy of 100 million activations. This is based on the assumption that each activation will cause the dot temperature to approach the dot's maximum recommended temperature. Running at lower temperatures will increase the theoretical life expectancy, while slight temperature increases will seriously (exponentially) degrade the head life.

The thermal paper can affect the electrical head life in two ways. Insensitive, slow papers will typically encourage the user to increase the voltage to darken the printed image. This will directly increase the head temperature resulting in reduced head life. Additionally, the higher temperatures will frequently cause the ink to peel off the ticket and deposit onto the print head. The ink debris will disrupt the normal transfer of heat from the head to the paper. This further increases the head temperature above the desired level. The use of non-thermal inks and/or non-top coated papers also will cause the ink to release and deposit on the print head.

SPECIFICATION

Based upon the above technical information, BOCA has always tried to encourage our customers to use the proper thermal papers to maximize the life of their print heads. BOCA provides an extensive series of papers which meet the above criteria for low abrasion and high sensitivity. We have also tested and approved a number of Ricoh thermal papers which meet our criteria. While we have not had the opportunity to test other manufacturers' thermal papers, we feel confident that other papers manufactured with the above goals in mind should be acceptable for use in our printers. The following list of papers have been approved by BOCA.

200 dpi usage

Lemur-X and Lemur-Z T4, T5, BS7, SKI7 & T7

Besides the above mentioned stock the Lemur-X is also able to support thicker stock like M10 & SKI-10

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8.0 Maintenance

Your ticket printer is solidly constructed and requires minimal care to provide maximum service.



WARNING: The appearance of this symbol indicates the proximity of an exposed high voltage area. Please follow all directions carefully for your personal safety. You must read the following safety information carefully before working on the printer.

This section provides an overview of printer maintenance.

For discussion purposes, the printer consists of three major modules or assemblies:

- Paper path and print head assembly
- Cutter
- Logic board

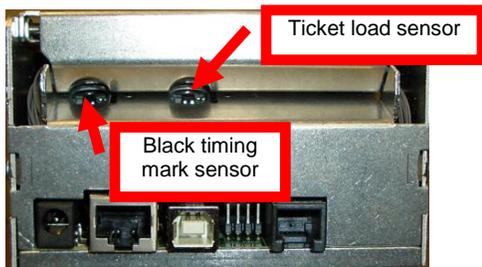
As a safety precaution, all service to the printer should be done by **qualified persons with power off and the AC cord unplugged from the printer. Following any procedure requiring the removal of covers and/or doors, please verify that they have been properly attached and fastened prior to operating the printer.**

Routine maintenance should normally be done at least once a year. Maintenance will need to be done more often in higher usage or dirty environments. The following review those components that require maintenance:

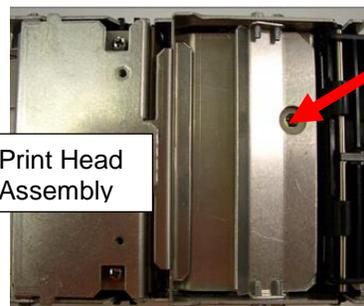
8.1 SQ Optical Sensors

There are three optical sensors (opto) which are responsible for detecting where the ticket stock is as all times.

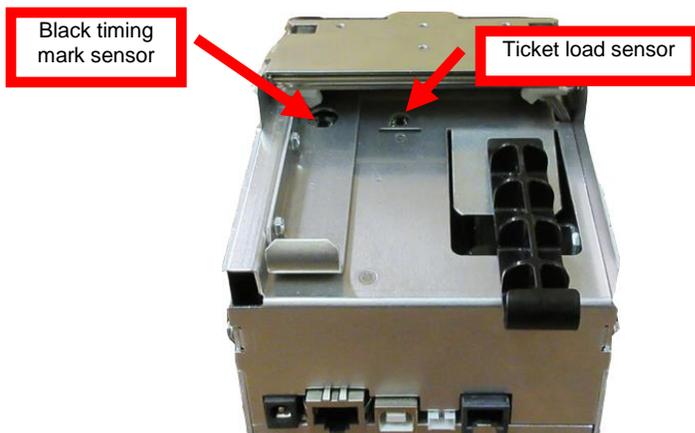
Once a year the sensors should be blown off with air. This interval will vary depending upon the environment and the quality of the ticket stock.



LEMUR-Z



LEMUR-Z TOP VIEW



LEMUR-X

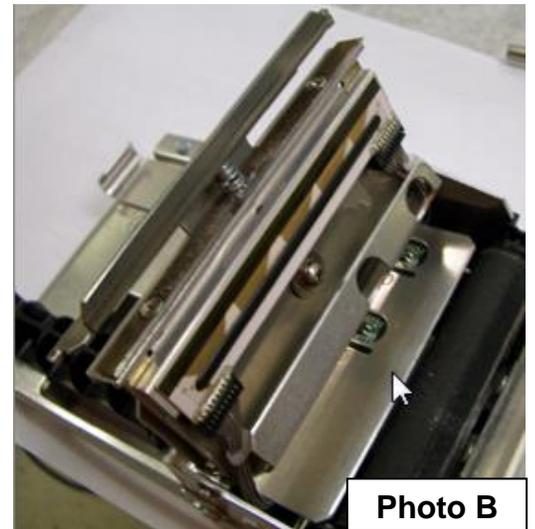
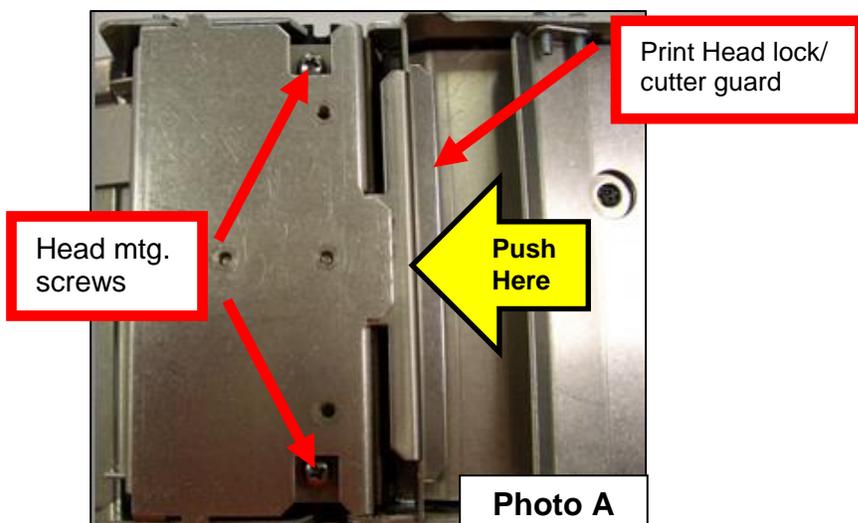
Click here to return to > [Table of Contents](#)

8.2 THERMAL PRINT HEAD

The print head should be cleaned periodically to prevent debris from building up on the print element. The required cleaning interval varies greatly depending on the quality of the ticket stock and the amount of dust entering the print area. Excessive dirt build up on the print head will result in reduced quality. Continuing to run the print head in a dirty condition will reduce its life expectancy, as it is unable to diffuse heat properly.

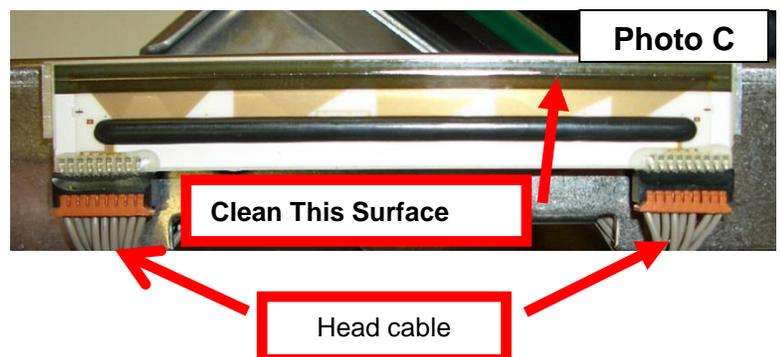
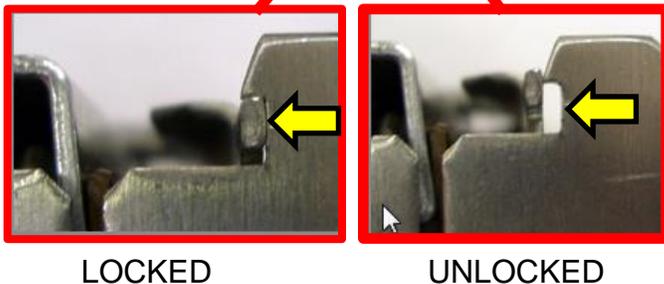
The thermal print head can easily be accessed for cleaning or replacement, as follows:

1. Make sure power is off and the AC cord is disconnected from the power pack.
2. **DO NOT UNPLUG CABLE FROM PRINT HEAD.**
3. Open the print head by push back on the Print Head lock/ cutter guard to unlock the print head. **Photo A**
4. Lift up on the head mounting assembly/ thermal head and tilt back. **Photo B**
5. Clean the thermal print head surface (the side that makes contact with the paper) with isopropyl alcohol. **Photo C**
6. Gently lower the head mounting assembly/ thermal head and push down to center to lock in place.
7. The printer is now ready for operation. If the print quality is still poor then the thermal head needs to be replaced.
8. To replace print head (part number 200C3), gently remove the two head cable connector from print head and then remove print head from mounting plate by removing two Philip head screws.



Above photo shows head assembly open

Side View

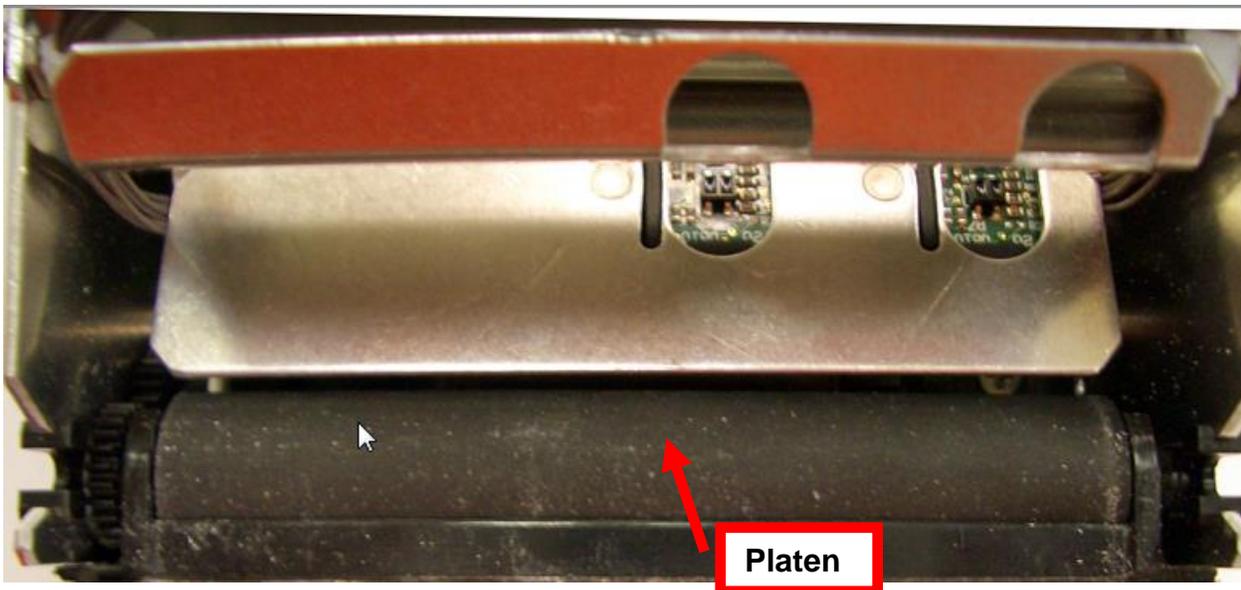


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8.3 Platen (Rubber Driver Roller)

The Platen (rubber drive roller) should be cleaned once a year to prevent paper dust from building up on the roller. (NOTE: The platen may require more frequent cleaning in dusty environments or when using inferior ticket stock.)

1. Make sure power is off and the AC cord is disconnected from the printer.
2. Unlock the cam lock lever and remove head mounting assembly/thermal head. (Refer to section [8.1.2 Thermal Print Head](#)).
3. Apply a small amount of Isopropyl alcohol onto a paper towel to clean the rubber roller.
4. Clean only the part of the rubber roller where the ticket stock makes contact.
5. Rotate the rubber roller clockwise a little and repeat step 4; continue in the same manner for one full revolution of the rubber roller.
6. Lock the head mounting assembly/thermal head back in place. Printer is now ready for normal operation.



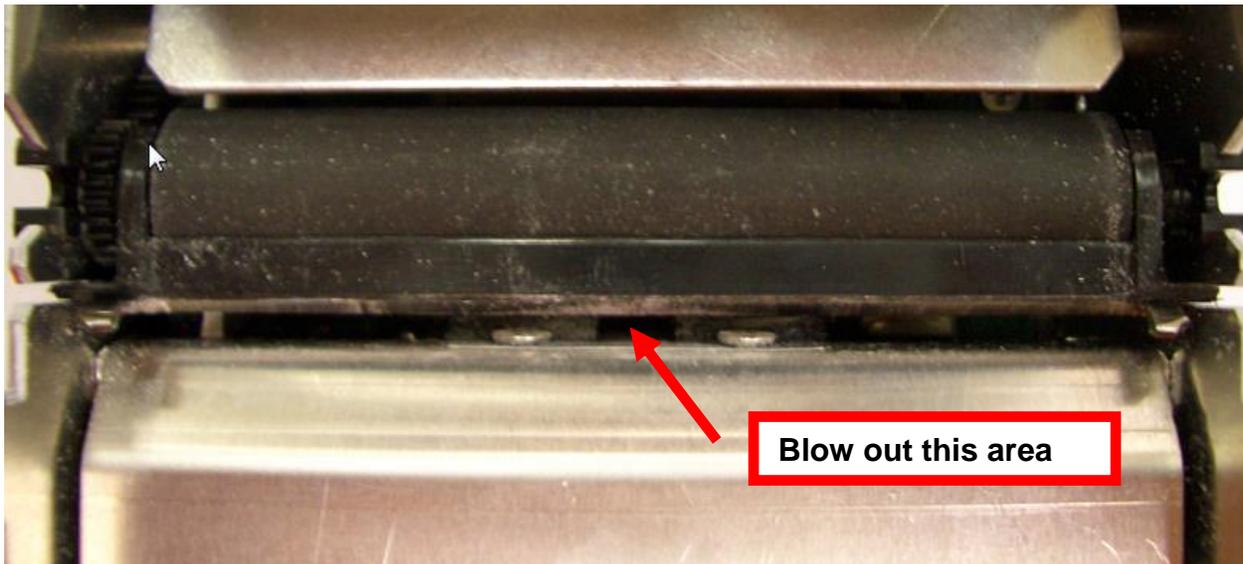
Click here to return to > [Table of Contents](#)

8.4 Cutter Assembly

The BOCA cutter system is a fully integrated cutter knife mechanism powered by a stepper motor. The cutter requires no adjustments and is rated for approximately 750,000 cuts. Please be aware of the following:

Wait five seconds before feeding ticket stock into the printer after power up. During this time the cutter knife will move up and down. If ticket stock is fed into the printer before five seconds, a ticket jam could occur.

The cutter area should be blown out with air periodically to prevent debris from building up inside the cutter area. The required cleaning interval varies greatly depending on the quality of the ticket stock and the amount of paper dust entering the cutter area.



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9.0 Troubleshooting Guide

This is a simplified troubleshooting guide listing some of the typical problems. It is not intended to provide technical details or repair methods, but can serve as a guide to fault isolation in the field. **As a safety precaution, all service to the printer should be done by qualified persons with power off and the AC cord unplugged from the printer. Following any procedure requiring the removal of covers and/or doors, please verify that they have been properly attached and fastened prior to operating the printer.** If you need additional help, please visit the link below www.bocasystems.com/onlinesupportform.html

1. NO OPERATION, LED'S DON'T LIGHT UP UPON POWER UP
 - a. Unplug the AC cord from the power source and wait 30 seconds then plug it back in.
 - b. Check the power cord for proper installation at both ends.
 - c. Check that there is power at the AC outlet.
 - d. Replace the 24 VDC power supply.
 - e. Contact your system provider or [BOCA](#) for further assistance.
2. POWER IS ON BUT NO OPERATION
 - a. Make sure the stock is being loaded properly into the printer. Consult section [5.0 Ticket Load Procedure](#).
 - b. Perform routine maintenance on the printer. Consult section [8.0 Maintenance](#)
 - c. If cutter knife does not go up and down after power up, See # 6.
 - d. Default the printer settings. With the printer powered off, hold down the center TEST button and then power up the printer. Keep the TEST button held down for 10 seconds and release (printer will reset).
 - e. Contact your system provider or [BOCA](#) for further assistance.
3. POWER IS ON BUT TICKET WILL NOT LOAD
 - a. See # 2
 - b. Make sure the print head/cam lock assembly is fully locked in the closed position. Consult [Thermal Print Head](#) section.
 - c. Check that the ticket stock is being loaded correctly. Consult [5.0 Ticket Load Procedure](#) section.
 - d. If using the paper guide then make sure the slider bar is properly adjusted for the width stock being used. Consult [5.1 Ticket Width Adjustment](#) section
 - e. Contact your system provider or [BOCA](#) for further assistance.
4. ERRATIC CUT POSITION
 - a. Clean off the opto sensors. Consult [8.1.1 SQ Optical Sensors](#) section.
 - b. If using the paper guide then make sure the slider bar is properly adjusted for the width stock being used. Consult "[5.1 Ticket Width Adjustment](#)" section
 - c. Check that the platen is clean. Consult "[8.1.3 Platen \(Rubber Driver Roller\)](#)" section.
 - e. Contact your system provider or [BOCA](#) for further assistance.
5. ERRATIC PRINT POSITION
 - a. See # 4
6. CUTTER KNIFE DOES NOT MOVE (if equipped)
 - a. Check for blockage in the cutter area.
 - b. Default printer settings. With the printer powered off hold down the TEST button and then power up the printer. Keep the TEST button held down for ten seconds and release.
 - c. Contact your system provider or [BOCA](#) for further assistance.
7. POOR PRINT OUT (light print out)
 - a. Try a different stack of ticket stock.
 - b. Make sure the print head/cam lock assembly is fully locked in the closed position. Consult [Thermal Print Head](#) section.
 - c. Clean print head. Consult "[Thermal Print Head](#)" section.
 - d. Replace thermal head.
 - e. Contact your system provider or [BOCA](#) for further assistance.

8. POOR PRINT OUT (white voids in print out)
 - a. Clean print head. Consult "[Thermal Print Head](#)" section. For Lemur-R see "[Thermal Print Head](#)"
 - b. Replace thermal head.
 - c. Contact your system provider or [BOCA](#) for further assistance.

9. NO PRINT OUT
 - a. Try a different stack of ticket stock.
 - b. Check head cable for electrical connection at both sides of print head.
 - c. Check to make sure head cable is plugged in properly into the thermal head. Consult "[Thermal Print Head](#)" section
 - d. Replace the thermal head.
 - e. Contact your system provider or [BOCA](#) for further assistance.

10. PRINTER SKIPS TICKETS WHILE PRINTING
 - a. Check position and quality of black mark on the ticket stock.
 - b. If using the paper guide then make sure the slider bar is properly adjusted for the width stock being used. Consult "[5.1 Ticket Width Adjustment](#)" section.
 - c. Clean off SQ optical sensors (see see [8.1.1 SQ Optical Sensors](#)) with air.
 - d. Check that the platen is clean. Consult "[8.1.3 Platen \(Rubber Driver Roller\)](#)" section.
 - e. Contact your system provider or [BOCA](#) for further assistance.

11. PRINTER SKIPS TICKETS AND DIES
 - a. See # 10.

12. TICKET JAM ENTERING THE CUTTER AREA
 - a. Make sure the entrance to the cutter area is not blocked.
 - b. If using the paper guide then make sure the slider bar is properly adjusted for the width stock being used. Consult "[5.1 Ticket Width Adjustment](#)" section.
 - c. If using receipt roll media make sure the roll is properly aligned with the printer's entrance.
 - d. Contact your system provider or [BOCA](#) for further assistance.

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APPENDIX A –ETHERNET PARAMETERS

General

Each Boca Ethernet Printer is assigned a unique MAC address based in part on the printer's serial number. All Boca printers are factory configured in DHCP enabled mode. (Exceptions may be made by special request.) If the printer is unable to get a dynamic IP address from the customer's network in the allotted time period (about one minute), it will default to the 10.0.0.192 address. You can select a different fixed IP address either via a Web Browser (see below) or the printer's control panel if your printer has an optional LCD display.

ETHERNET – Quick Installation Guide

- Connect the printer to your network (the IP address will be automatically assigned by your DHCP server)
- Load tickets into the printer
- Wait one minute to allow assignment of IP address
- Print a test ticket to identify the printer's IP address
- Ping the printer
- Open your web browser and type the printer's IP address to review its configuration page (see below image).
- If you are going to set a static IP address then you will need to change the ETHERNET setting to YES.
- If you experience any problems, please refer to the Ethernet section of our [FGL Programming Guide](#).

Boca Systems' Printer Configuration Page

Firmware :	FGL-26F13 / COM-26F13 / SB02
Serial number :	208377
On Time :	000:00:02:25 d/h/m/s
MAC ID :	00.0D.71.03.2D.F9

FACTORY MENU : items with an * should not be changed or selected without first consulting Boca Systems.

BAUD RATE=	9600,N,8,1	MINI/MICRO=	MICRO	PRINT SPEED=	3	DIAGNOSTIC MODE=	NO
TICKET TYPE=	SPECIAL TICKE	STATUS ENABLED=	USB/SER	TRANSPARENT MODE=	NO	PAPER MODE=	NO
*HEAD DPI=	200	SPECIAL HEAD=	NO	PATH TYPE=	PATH1	BUFFER MODE=	MULTIPLE MOD
CLEAR DOWNLOAD=	NO	DEFAULT SETTINGS=	YES	CUT1 COUNT=	16 (1-200)	CUT2 COUNT=	16 (1-200)
*2-SIDED PRINTER=	NO	PARK TICKET=	NO	TICKET MODE=	MULTIPLE	PRINT MODE=	THERMAL
PRINT INTENSITY=	NORMAL	SKI MODE=	NO	FLASH ACK MODE=	NO	SOFTWARE BUSY=	NO
BI-DIRECTIONAL=	NO	TEST TICKET=	STANDARD	BASEBALL MODE=	NO	USB=	YES
FONT ENCODING=	NONE	ACKNOWLEDGE=	NORMAL	*HIGH SPEED MODE=	NO	BUZZER=	DISABLE
*SHUFFLE MODE=	NO	*CUTTER TYPE=	SILENT	*CUTTER SPEED=	NORMAL	ORIENTATION=	NORMAL
ETHERNET=	YES	IP ADDRESS=	010.000.000.192 (Enter 12 digits)	SUBNET MASK=	0.0.0.0	DEFAULT GATEWAY=	010.000.000.192 (Enter 12 digits)
SPEED/DUPLEX=	AUTO-NEGOTIATE	RFID=	NO	USB DEVICE TYPE=	PRINTEF	BLUETOOTH=	NO
MAGNETICS=	NO						

SAVECHANGES
(Press Save button to store)

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APPENDIX B – TESTING A LEMUR

WINDOWS BASED SYSTEM

Boca Systems, Inc. has developed a Windows based program that allows customers to communicate from a host computer to the printer over any interface (parallel, serial, USB, Ethernet) and print drivers too. The below program link is found on our [website](#) under the “[TECH SUPPORT/ REPAIRS](#)” section. For Apple/ Mac based systems see [APPLE/ MAC BASED SYSTEM](#).

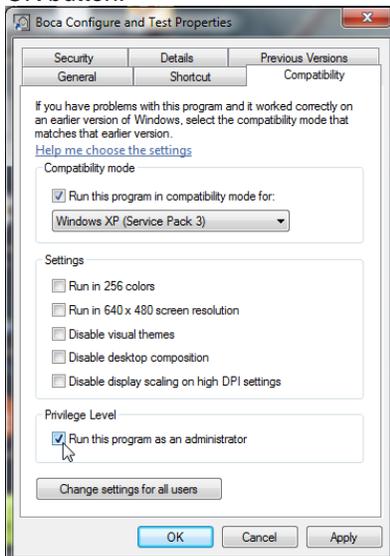
www.bocasystems.com/documents/configure_boca.exe

Once the program has installed it will place a shortcut icon on your desktop.

FOR WINDOWS 7, 8 AND WINDOWS 10 SYSTEM THE FOLLOWING WILL NEED TO BE DONE.



- Right click on the Boca Configure icon on your desk top. Then click on Properties.
- Click on the Compatibility tab. Click on the “Run this program in compatibility mode for” box so it is checked off. Set the compatibility for “Windows XP (Service Pack 3)” and check off “Run the program as an administrator box. Click on the OK button.



The following steps will guide you through using this program once it has been installed on your host computer.

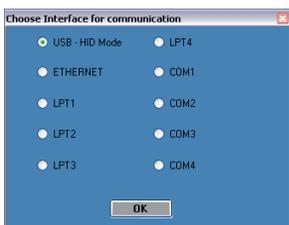
1. Hook the BOCA printer to the host computer that you have the Configure program loaded onto. Make sure that the printer has stock loaded and is ready to go. A printer is ready to print when it is able to print out a self-test ticket by depressing the TEST button. If you are not able to get a self-test ticket, refer to the user’s manual to make sure you have the printer properly setup.
2. On your Window’s desktop click on the Boca Configure icon.  When the program opens for the first time it will ask you to update the program. Proceed with updating the program to level 6.3.1.0 or higher.
3. Once the program is running, click on the “Select A Printer” drop-down arrow and you have two choices.

Printer Interface - if you are connecting through a Parallel, Serial, Ethernet or USB-HID mode (go to [step# 4](#))

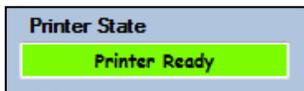
Print Driver - if you’re connecting via a print driver (go to [step # 6](#)).

- 4. PRINTER INTERFACE:** You will need to choose the interface connection that you have the BOCA printer hooked up to then click the OK button. Please note that USB-HID mode is only for a printer that is configured for USB HID mode.

If you are connecting via the Ethernet port or Wi-Fi then in the IP Address box type in the printer's current IP address. The printer's current IP address is printed on the self-test ticket (when the test button is pressed). When typing in the address don't include the leading zeros (If IP=189.010.000.002 then type in 189.10.0.2). Click on the Connect button



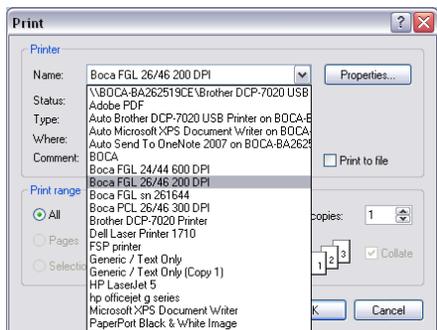
- 5.** Once connected the Printer State will show Printer Ready. Go to [step #9](#).



- 6. PRINT DRIVER:** You will need to select the FGL Driver mode you want (default is Spool-Uni). If you are not sure then leave in the default mode. If your ticketing application is not designed for this configuration then please go to [PAGE 26](#) to see more detailed information on driver settings modes. The drivers will permanently stay in the selected mode. You may use this program to change the driver mode setting.

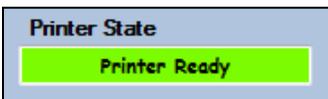


- 7.** Choose the driver you are using for the BOCA printer. Once the driver is chosen click the OK button.

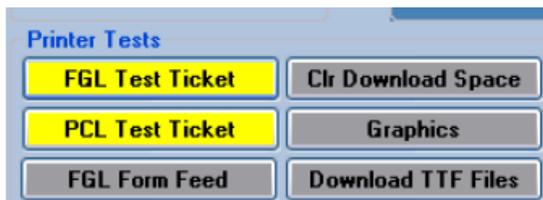


Your selection of drivers will vary from what is shown in above image

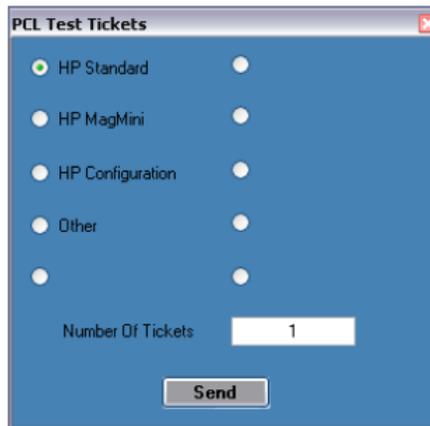
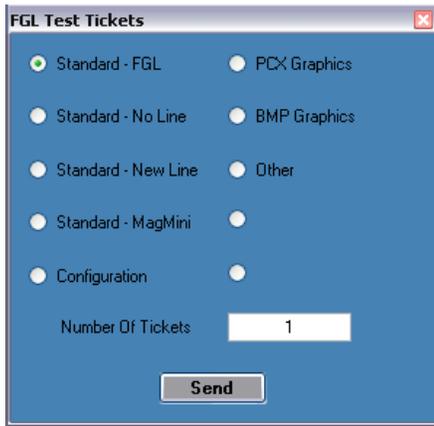
- 8.** Once connected the Printer State will show Printer Ready



- 9.** If your printer has FGL protocol (self-test will show FGL...) then click on the yellow "FGL Test Ticket" button or if your printer has PCL protocol (self-test will show HP...) then click on the yellow "PCL Test Ticket" button.



10. Once the Test Ticket selection box comes up, click on the Send button to print out a ticket.



11. You may also print more than one ticket by changing the number of tickets you want to print.

Below are sample printouts. Your sample printout may vary due to ticket width and length.



Boca Systems FGL Printer Driver Modes

There are adjustments that can be made to driver options available to accommodate the various ticketing systems. As described below, there are three modes in which the Boca Systems FGL printer drivers will operate.

1. **Spool-Uni – Unidirectional mode:** BIDI support is OFF and Spooler is ON. The printer monitor is turned off so no status is returned from the printer to the application. In this mode the current bidirectional drivers (version 3.0.6.0) will operate just as the version 2.0.2.0 standard drivers released in 2010. In this mode a printer can be set up as a shared network and be reached from web applications. This is the default mode the configure and test program will come up in.
2. **Direct-BiDi – Bidirectional Direct mode:** BIDI support is ON and Spooler is OFF. This mode is used by ticketing systems that want to read all status generated by the FGL printer. With constant monitoring of the status, a ticketing system can always know the state of the printer before sending the next ticket. In this mode, a printer can be used locally by the PC only.
3. **Spool-BiDi – Bidirectional Spool mode:** BIDI support is ON and Spooler is ON. This is the default mode for the newest Boca Systems drivers come up in if no changes are made. In this mode the spooler is used to write to the printer. This mode is required for applications that use a print monitor. A printer/port monitor is used to read status back from the printer and maintain some of the operating systems variables contained within the PRINTER_INFO_2 & PRINTER_INFO_6 structures. Ticketing systems can now read these variables to see when the printer is Ready, Jammed, Out of stock or Offline. In this mode a printer can be set up as a shared network printer and reached from web applications.

APPLE/ MAC BASED SYSTEM

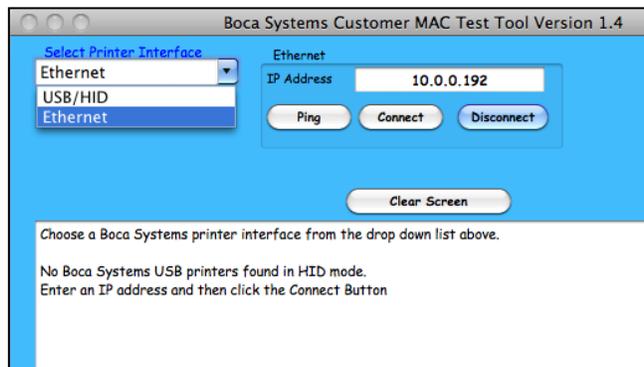
Boca Systems, Inc. has developed two programs that allow customer to the printer. One operates over USB/HID & Ethernet interfaces and the other if a print driver is used. The below programs are found on our [website](#) under the “[TECH SUPPORT/ REPAIRS](#)” section.

[For Mac use without printer driver](#) (www.bocasystems.com/documents/boca_customer_mac.zip) customer program is used with **USB/HID & Ethernet interfaces**.

[For Mac use with printer drivers](#) (www.bocasystems.com/documents/boca_customer_driver_mac.zip) customer program is used with **print drivers or USB connection**.

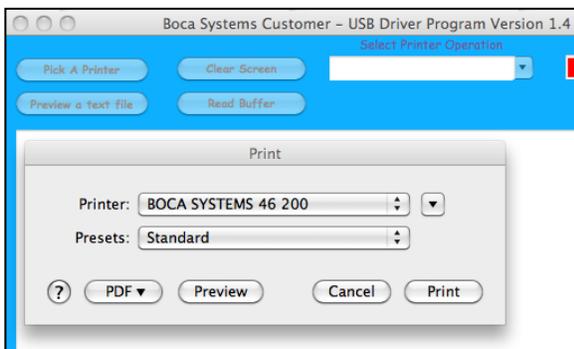
You may download the program that fits your needs. To use these programs you will need to download the zip file to your Apple/Mac based host computer. The following steps will guide you through using these programs once they have been installed on your host computer.

1. Hook the BOCA printer to the host computer that you have the Customer program loaded onto. Make sure that the printer has stock loaded and is ready to go. A printer is ready to print when it is able to print out a self test ticket by depressing the TEST button. If you are not able to print a self test ticket, refer to the user’s manual to make sure you have the printer properly setup.
2. Go to your download folder and you will see the customer program you chose. Click on this folder to expand it to see all the files.
3. You will need to click on the appropriate application file to run the program.
customer_mac for the USB/HID & Ethernet based program.
cust_driver_mac for the print driver based. Proceed to [step #5](#)
4. Once the Customer MAC Test Tool is running, click on the “Select Printer Interface” drop-down arrow. You will want to choose the interface connection that you have the BOCA printer hooked up to then go to [step #6](#). If you are connecting via the Ethernet port then in the IP Address box type in the printer’s current IP address. The printer’s current IP address is printed on the self-test ticket (when the test button is pressed). When typing in the address don’t include the leading zeros (If IP=189.010.000.002 then type in 189.10.0.2). Click on the



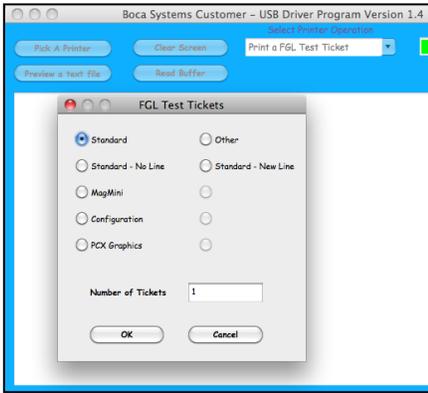
Connect button. The Message section will indicate that connection has been made. Go to [step #6](#)

5. Once the Customer USB Drivers program is running, click on the “Pick A Printer” button. You will want to choose the driver you’re using for the BOCA printer.

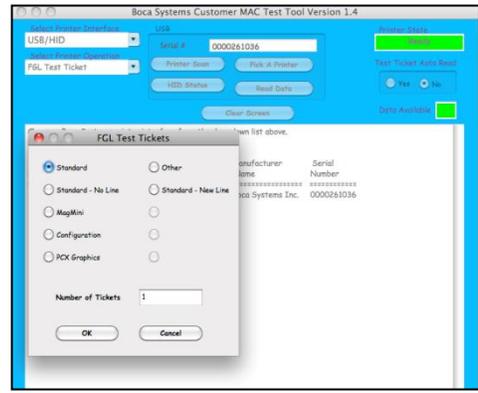


Your selection of drivers will vary from what is shown in above image

6. Now click on the “Select Printer Operation” drop-down arrow and chose “Print a FGL Test Ticket”.



Driver program



Without Driver program

7. You may also print more than one ticket by changing the number of tickets you want to printer. See next page for sample printouts.



Your sample printout may vary due to ticket width and length.

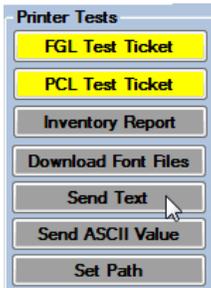
Click here to return to > [Table of Contents](#)

APPENDIX C – DOWNLOADING SOFTWARE COMMANDS

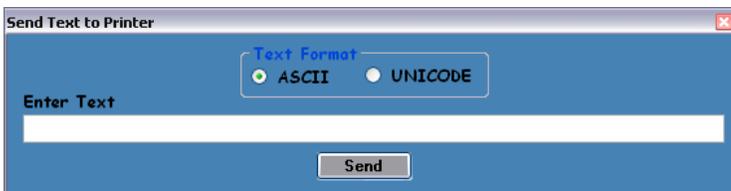
Menu setting changes may be done by utilizing the software commands listed below. This is best done using configure and test program for Windows (see [Appendix B](#)) or *our customer program for MAC* (see [APPLE/ MAC BASED SYSTEM](#)).

If needed, the printer may be defaulted back to its original factory settings as follows. With the printer powered off hold down the TEST button and then power up the printer. Keep the TEST button held down for 10 seconds and release (the printer will reset at this time).

Once the customer program is running and is connected to the printer, click on the “Send Text” button. *For the MAC customer program under the Select Printer Operation choose “Send Text Commands”.*



Once the Text Data box comes up you type the text command in the Data input box. Then click on the OK button and the text data will be sent to the printer.



You may click on the HELP button at any time to open up the help window.

Lemur Kiosk Printer Information:

Lemur-Z

- Eject mechanism (Presenter)
- Can be run in Ticket mode (will auto load and measure ticket size)
- Can be run in Paper mode (will auto load paper to top of form)
- Can be run in Receipt mode (will auto load paper to top of form). Note: there is a minimum ticket length of 2.75” needed to reach the eject mechanism. Therefore, in receipt mode if the ticket will be shorter than 2.75” an <RC0,600> followed by a blank character should be included in the text.

Lemur-X

- Designed to work with thicker stock as compared to the Lemur-Z
- No Eject mechanism (No Presenter)
- Can be run in Ticket mode (will auto load and measure ticket size)
- Can be run in Paper mode (must be manually loaded to top of form)
- Can be run in Receipt mode (will auto load ~ 2.5” past top of form and then cut)

The following command is available for both the Lemur-Z and Lemur-X printers:

<km#> Kiosk Mode (This command is set at the factory and normally should not be changed.

- 0 - No
- 1 - Lemur-Z (uses [kiosk black](#) mark position)
- 2 - Lemur-X (uses [kiosk black](#) mark position)
- 3 - Lemur-XBM (same as Lemur-X except uses ticket stock with black mark at the leading edge of ticket)

Note: The [kiosk black](#) mark is at 1.5” for both the Lemur-X and Lemur-Z (www.bocasystems.com/ticket_specs10.html).

When the Lemur-Z leaves the factory it is configured for use with receipt rolled stock (stock with no black timing mark). If you are using the printer with stock that has a black timing mark then it will need to be taken out of paper mode. See [Appendix C – DOWNLOADING SOFTWARE COMMANDS](#) to download the appropriate software command.

- **<pmd>** this will configure the printer for use with ticket stock with a black timing mark.
- **<pmr>** this will configure the printer for use with receipt stock without a black timing mark.

The printer will reset upon receipt of one of the two above mentioned software commands.

The below commands are available for the Lemur-Z configuration ONLY.

<kec#> Kiosk eject count. The default value is 80. This is the number of steps taken to move the ticket to eject point where it will retract if not removed within the timeout period. Usually, this number should not be modified but if the ticket does not retract properly then it may need to be adjusted to ensure proper retraction.

<ket#> Kiosk eject timeout command. The # represent the timeout in seconds that the ticket will be presented before being retracted. The default value is 3 seconds. Range is 1 - 255 seconds.
 Note: a value of zero will present the ticket indefinitely until it is removed.

<kem#> Kiosk eject mode configuration command. Each bit represents a different configuration option.

LOOP		= Loop ticket inside		= no loop
NAK		= no NAK		= NAK on trashed ticket
MOTOR		= small platen motor		= large platen motor *
EJECT		= present ticket to be pulled out		= eject ticket immediately

***Printer would need optional larger stepper motor**

LOOP																
Nak																
Motor																
Eject																
Value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

The default value is zero. This configures the printer as follows: Internal ticket loop, no NAK on trashed ticket, small platen motor and ticket is presented to be pulled out by customer. Note: if ticket is not removed within the 'kiosk eject timeout' period it will be retracted into the trash bin (trashed). Another example: a value of 15 configures the printer for no Internal ticket loop, NAK on trashed ticket, large platen motor and eject ticket immediately.

As an example, if you wanted the ticket to not loop inside before ejecting immediately you would send **<kem9>** command to the printer.

Failsafe mode for both Lemur-X and Lemur-Z:

To enter Failsafe mode, hold the 'CHOICE' button in for at least 5 seconds while powering on the printer. If the USB port is connected you should hear the normal USB port detected sound on the computer. Failsafe mode is for cases where we need to reconfigure the printer before it proceeds to initializing. Note: the Ethernet interface does not work in this mode.

Click here to return to > [Table of Contents](#)

APPENDIX D – WINDOWS USB DRIVER INSTALLATION GUIDE

Do not connect the printer to your computer's USB port until instructed.

Please contact your software provider to confirm if the use of our driver is required for their ticketing software. We recommend that the print driver is installed by either your system administrator or IT support staff.

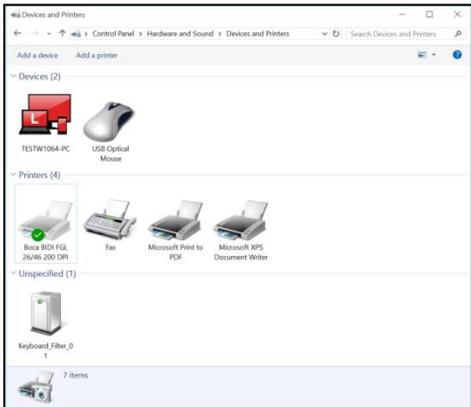
These print drivers are intended to be installed on Windows PC platforms X86, AMD64 or IA64. This includes Windows 7, 8.1, 10 and Server 2012 R2.

To properly install the Boca Systems printer drivers, version 4.0.0.0, follow the steps outlined below. **If you currently have another version of a BOCA print driver installed, start at step #1 to uninstall it first. If this is the first time installing the BOCA driver onto the host computer then start at [step #4](#).**

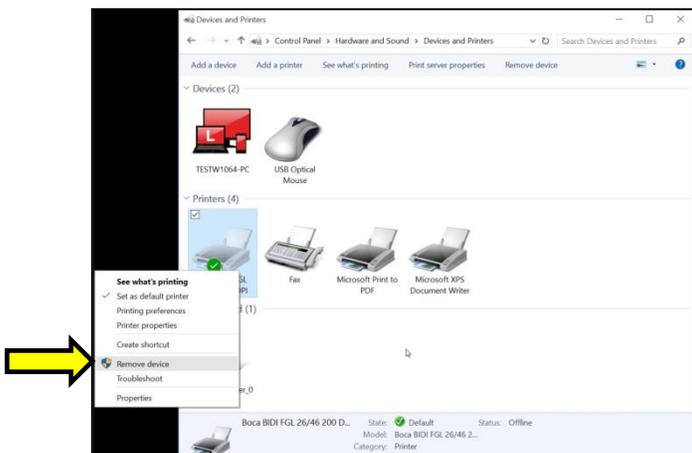
On the host computer you are installing the drivers, you will want to make sure you have the following:

- Administrative privileges as most Windows systems require this to download drivers.
- Access to the internet as the host computer will need to gain access to the Microsoft website to download the necessary drivers.

1. Turn off the BOCA printer.
2. Go to the Devices and Printers window. In the below image there is one BOCA driver currently installed via its default name.



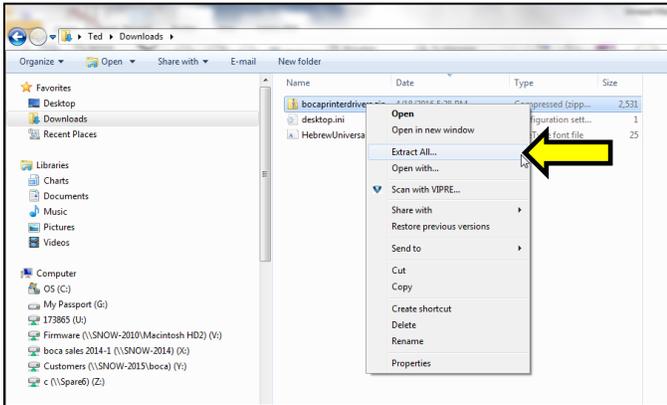
3. Right click on the driver icon, then click on "Remove Devices". You will be prompted with "Are You Sure", select Yes. If there is more than one BOCA print driver icon then repeat this step until all are removed.



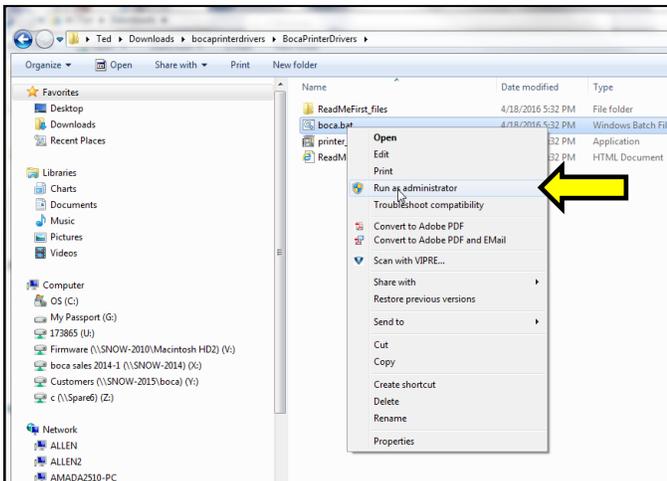
- Click on the link below to download the zip file to your host computer. You will be prompted if you want to Open, Save or Save as. Click on **Save as** and save the file to your hard drive. You will need to denote what file folder you saved the file to.

www.bocasystems.com/bocaprinterdrivers.zip

- Go to the file folder you saved the zip file to and right click on bocaprinterdrivers.zip. Click on Extract All... It will ask you to select a Destination and Extract Files, click on the Extract button.



- The file folder that was extracted will automatically pop up. Double click on the BocaPrintDrivers folder to open it up. Right click on boca.bat and click on Run as administrator.

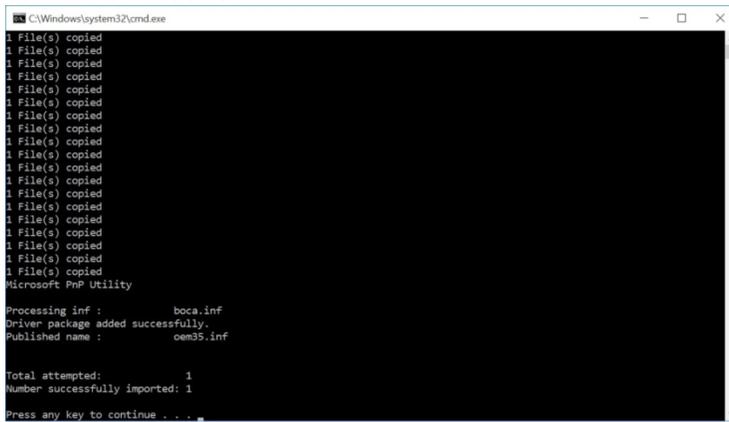


- You will see two DOS command windows open. The first will be looking for an older version of ddkfglmon.dll file to delete so it may be replaced with new ones once the complete install process is done. The spooler will be stopped while the file is being deleted and will restart. If the PC does not have this file, a message will be displayed "File not found". This is nothing to worry about as said file did not reside on the PC.

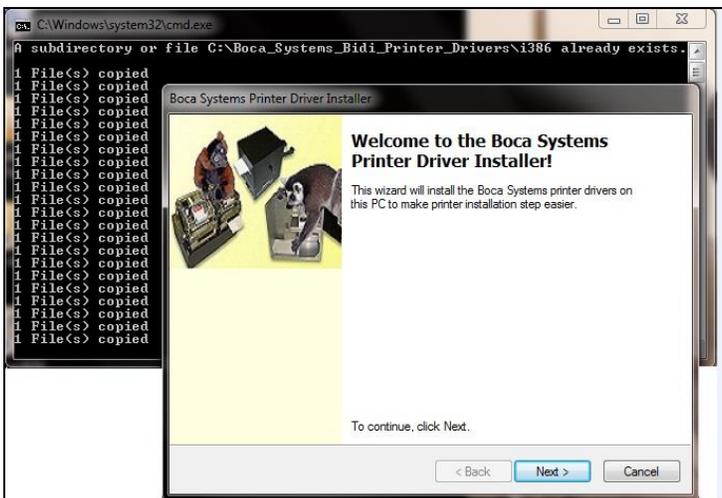
```
C:\Windows\System32\cmd.exe
The Print Spooler service is stopping.
The Print Spooler service was stopped successfully.

The Print Spooler service is starting.
The Print Spooler service was started successfully.
```

- The second DOS command window will open to install the printer files as shown below. Notice the message “Driver Package added successfully”. This is how it is displayed on a 64 bit Windows PC. Press “Enter” key to close DOS command windows.



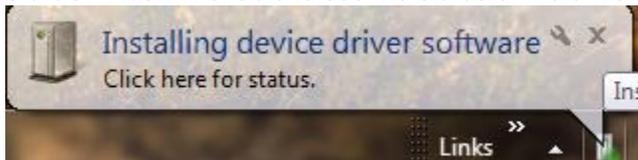
On a 32 bit Windows PC it will look more like the below. Click the “Next” button and “Finish” button when prompted to complete the install of the driver package onto the PC.



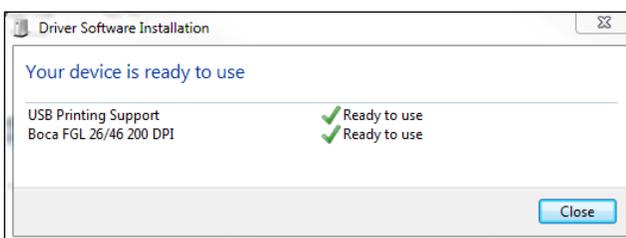
NOTE: IF INSTALLING ON WINDOWS 8 OR 10 GO TO [PAGE 38](#).

The below steps are for Windows 7 operating system only.

- Connect the USB cable to the host computer and power on the printer. If you are connecting to the printer via Ethernet or Wi-Fi then skip to [step # 4](#).
- Depending on your system, a notice box similar to the following picture should appear. Click on the **Click here for status**. This will enable to see the status of the driver software installation.

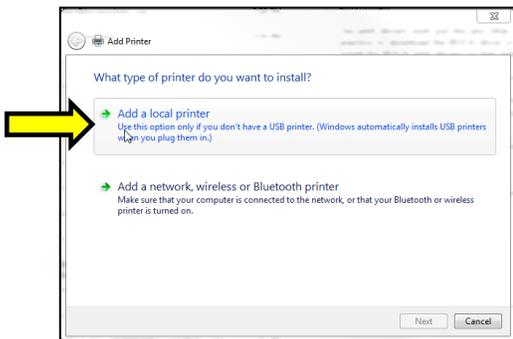


- The correct USB Printing Support and drivers will automatically install. The image below is of a 200dpi driver being installed on a Windows 7 system. The driver name will vary due to the printer’s DPI and logic board level. [Go to Page 36](#).

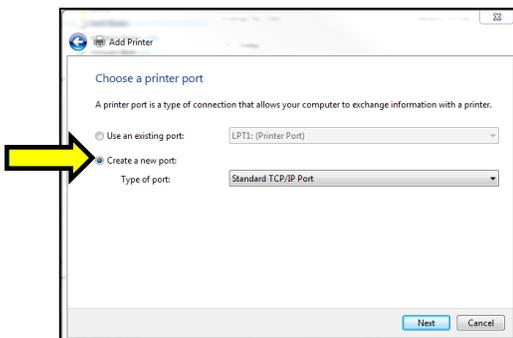


STEPS 4 THROUGH 15 ARE FOR ETHERNET OR WI-FI CONNECTION ONLY

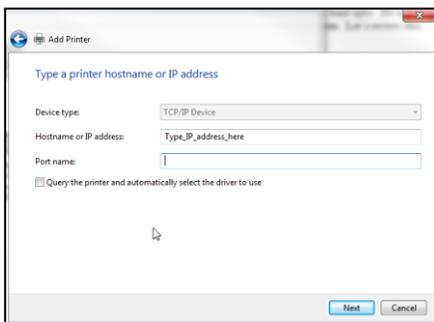
4. The self-test ticket that is printed when the TEST button will show the IP address that the printer has.
5. Open up the “Devices and Printer” Menu.
6. Click on “Add a Printer”. When Add Printer Wizard shows up, click on the Next button. Click on “Add a local printer”.



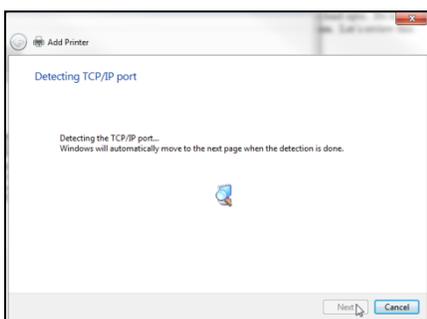
7. When the printer port menu comes up. Click on “Create a new port:” choose “Standard TCP/IP Port”. Click on the Next button.



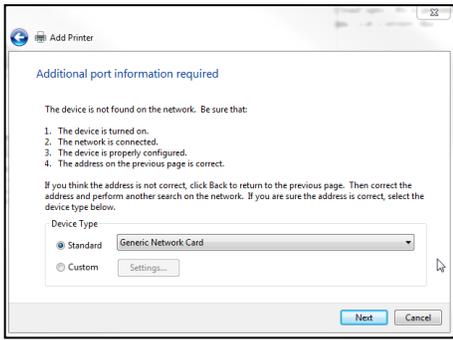
8. Type in the IP address that is shown on the self-test ticket in the “Hostname or IP address:” field. When typing in the address don't include the leading zeroes (If IP=189.010.000.002 then type in 189.10.0.2). You also have the option of typing in a specific Port name or leave as the IP address. Click on the Next button.



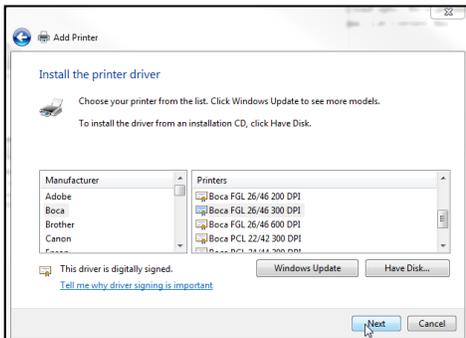
The below screen may be seen (no action is needed). It may take a few minutes for the system to move on to the next screen. This will vary depending on system and Network speeds.



9. When the Additional Port information menu comes up click on the Next button.



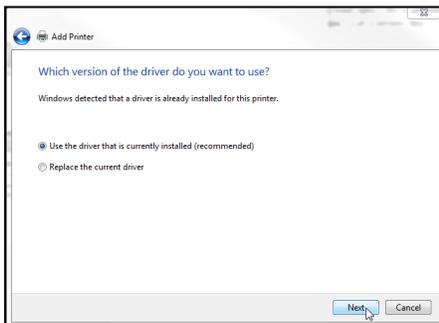
10. When the Install print driver menu comes up: Under Manufacturer select "Boca". Under Printers select the driver that matches your printer's protocol (FGL or PCL) and DPI. Click on the Next button.



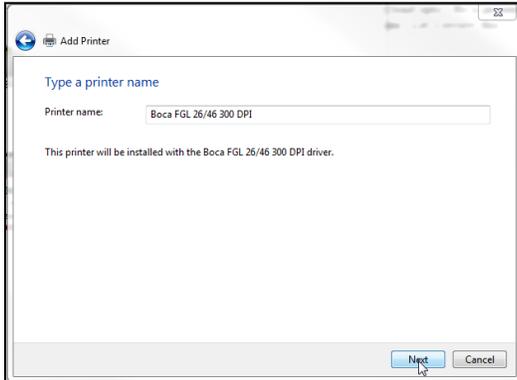
Taking a look at the printer's serial number tag the below chart should aid in determining the correct driver to select.

Driver	DPI	Firmware	PCL listed
Boca BIDI FGL 22/42 200 DPI	200	22 or 42	NO
Boca BIDI FGL 24/44 200 DPI	200	24 or 44	NO
Boca BIDI FGL 26/46 200 DPI	200, 2C, 2L	26 or 46	NO
Boca BIDI FGL 22/42 300 DPI	300	22 or 42	NO
Boca BIDI FGL 24/44 300 DPI	300	24 or 44	NO
Boca BIDI FGL 26/46 300 DPI	300, 3L	26 or 46	NO
Boca PCL 22/42 300 DPI	300	22 or 42	YES
Boca PCL 24/44 300 DPI	300	24 or 44	YES
Boca PCL 26/46 300 DPI	300, 3L	26 or 46	YES

11. When the version driver menu comes up click on the Next button.

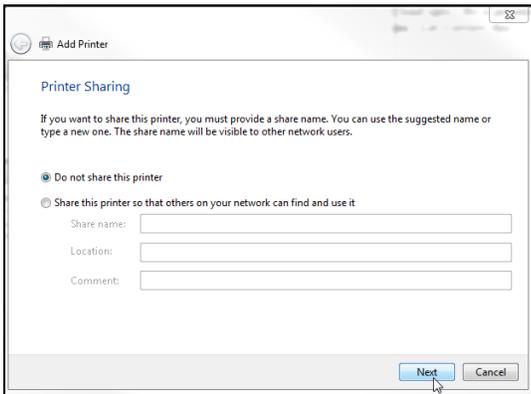


12. When the printer name menu comes up you may keep the default name or type in a different name. We recommend you keep the default name. Click on the Next button.

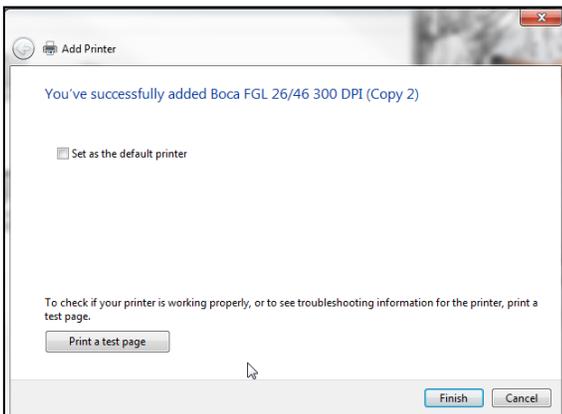


Your driver name will vary from what is shown in the above image

13. When the Printer Sharing menu comes up you may choose to share this printer or not. Click on the Next button.



14. On the last menu you have the option to choose if you want to make the BOCA your default printer. **Do not click on Print a test page.** Click on the Finish button.



Your driver name will vary from what is shown in the above image

15. The next page reviews how to print a windows test page to confirm the driver is communicating with the printer.

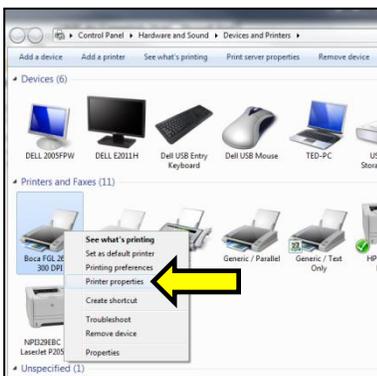
Windows 7 Test Page

The following will guide you through doing a Windows test page to confirm the driver is communicating with the printer. You will want to make sure the printer has stock loaded and is able to print a self-test ticket when the TEST button is pressed. The printing of this ticket confirms that the printer is working properly mechanically. If the printer is not able to print a self-test ticket, then consult the “4.0 Installation” section of the user manual (www.bocasystems.com/documents/lemur_manual.pdf).

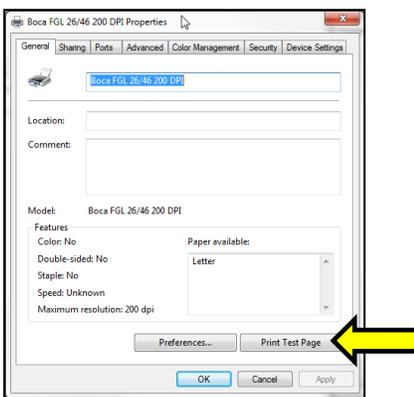
1. Go to the **Devices and Printers** page.



2. When the Devices and Printers page comes up, right-click on the BOCA driver that is being used. When the drop down window pops up, left click on **Printer properties**. *Your selection of driver will vary from what is shown in the below images.*



3. Once the driver's properties menu comes up click on the **Print Test Page** button. *Your drive properties will vary from what is shown in the below.*

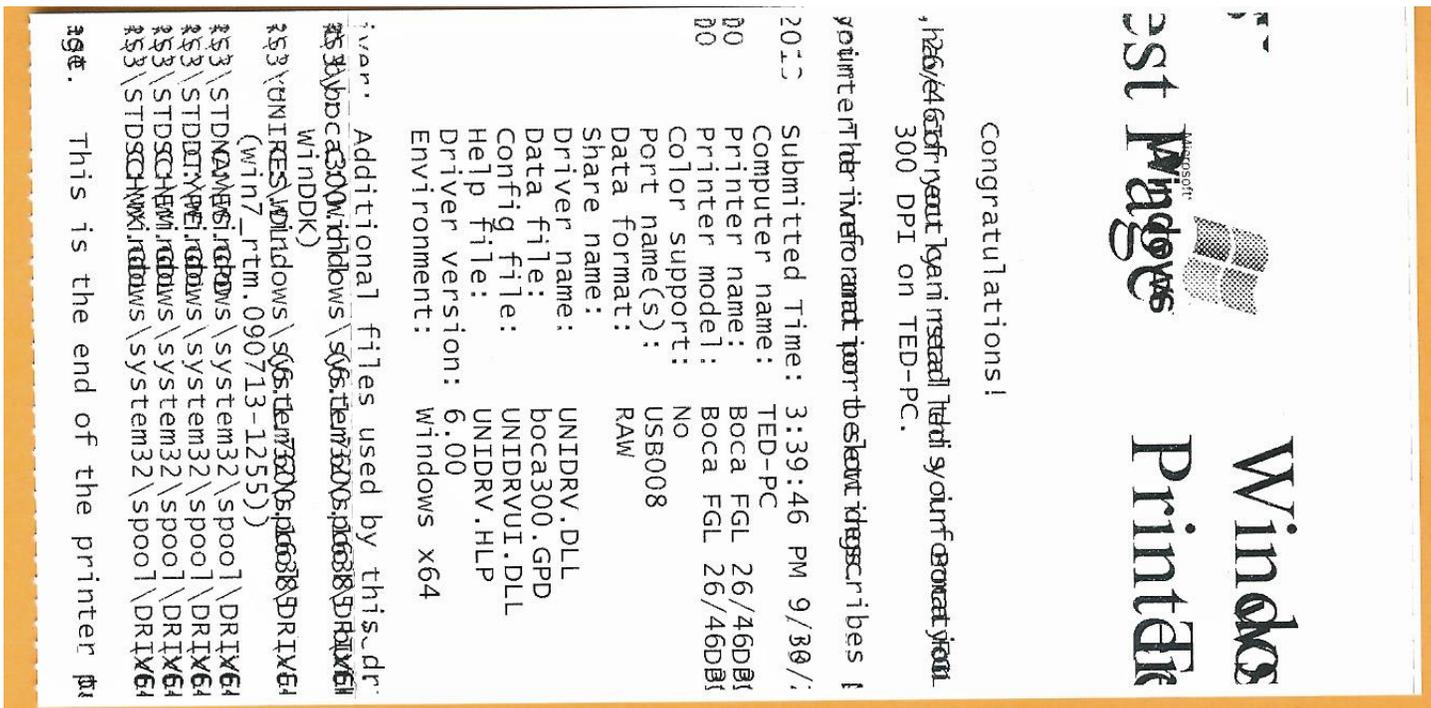


- The printer should proceed with printing out a Windows Test page. The printing of this ticket confirms the print driver is communicating with the printer.

Below are some sample printouts for reference only; your test page may look different.



Above is from a 200DPI FGL printer with 2" x 5.5" stock



Above is from a 300DPI FGL printer with 3.25" x 6.5" stock

If you were not able to install the BOCA print driver using the above steps, please take a screenshot of the "printers and drivers" dialog and attach it to the support form located at www.bocasystems.com/onlinesupportform.html

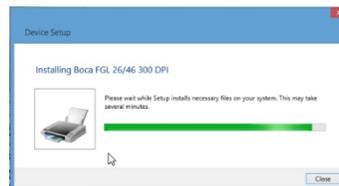
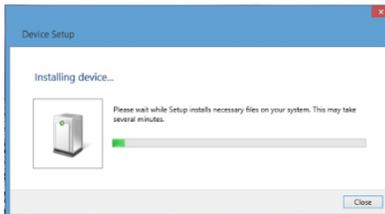
Windows 8 and 10 Install Guide

Do not connect the printer to your computer's USB port until advised to.

1. Connect the USB cable to the host computer and power on the printer. If you are connecting to the printer via Ethernet or Wi-Fi then skip to [step # 4](#).
2. Depending on your system, a notice box similar to the below picture may appear. Click on the **Click here for status** (for Windows 7) or the icon (for Windows 8 or 10). This will enable to see the status of the driver software installation.



3. The correct USB Printing Support and drivers will automatically install. The image below is of a 300dpi driver being installed. The driver name may vary due to the printer's DPI and logic board level. Go to [page 41](#) to print a Windows test page.



STEPS 4 THROUGH 13 ARE FOR ETHRENT OR WI-FI CONNECTION ONLY.

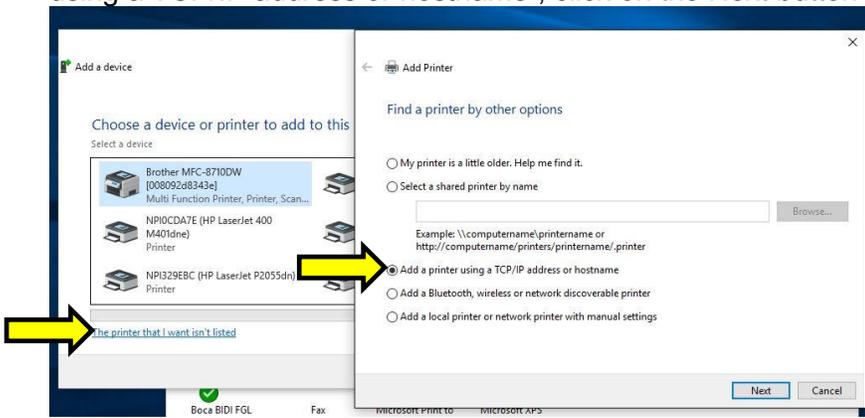
4. The self-test ticket that is printed when the printer's TEST button is pressed will show the IP address that the printer has.
5. Below is one of many ways to get to the devices and printers menu. **1-** Right-click the bottom corner of the Start screen. **2-** Click **All apps** icon. **3-** Click **Control Panel**.



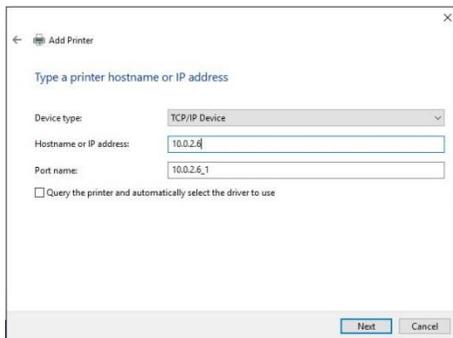
6. When the Control Panel menu comes up, click on **View devices and printers** located under **Hardware and Sound**.



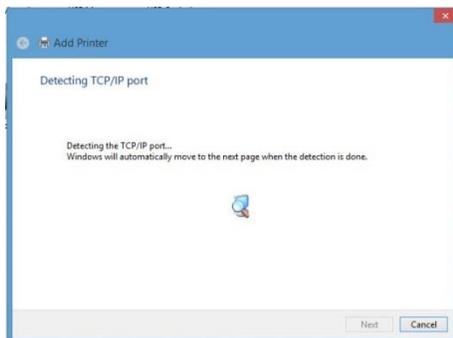
7. Open up the “Devices and Printer” Menu. Click on “Add a Printer” to run the install wizard. Click on “The Printer I want isn’t listed”. When the find a printer by other option menu comes up. Click on “Add a printer using a TCP/IP address or hostname”, click on the Next button



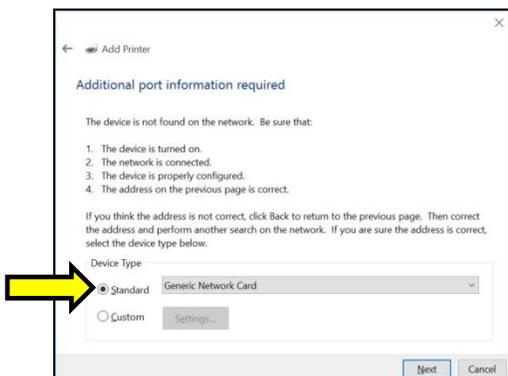
8. Type in the IP address that is shown on the self-test ticket in the “Hostname or IP address:” field. When typing in the address don’t include the leading zeroes (If IP=189.010.000.002 then type in 189.10.0.2). You also have the option of typing in a specific Port name or leave as the IP address. Uncheck the “Query the printer and.....” Box, click on the Next button.



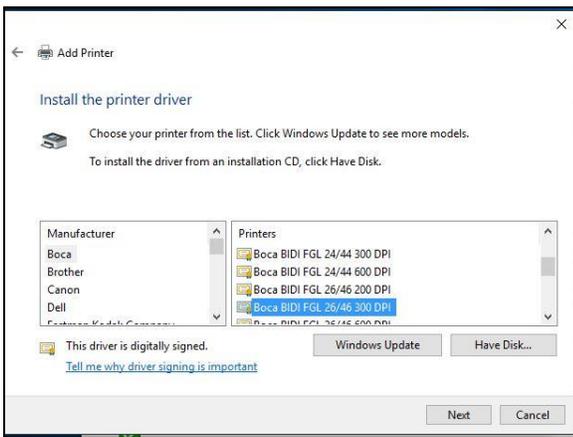
9. The below screen will be displayed (no action is needed). It may take a few minutes for the system to move on to the next screen. This will vary depending on system and Network speeds.



10. The host computer will move forward with detecting the IP address. Once detected the below menu will come up. Select standard network card and click next.



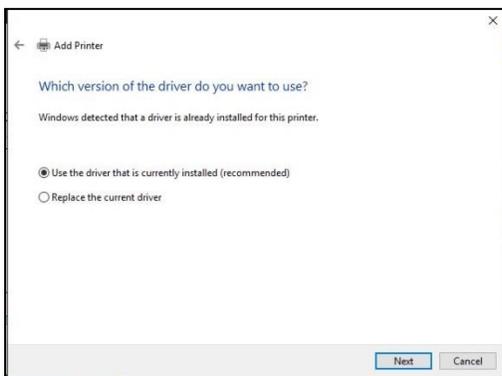
11. When the Install the print driver menu comes up select “Boca” under and the appropriate driver for your printer. Once done click on the next button.



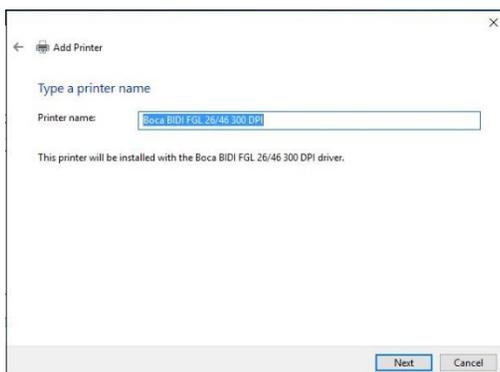
Taking a look at the printer’s serial number tag the below chart should aid in determining the correct driver to select.

Driver	DPI	Firmware	PCL listed
Boca BIDI FGL 22/42 200 DPI	200	22 or 42	NO
Boca BIDI FGL 24/44 200 DPI	200	24 or 44	NO
Boca BIDI FGL 26/46 200 DPI	200, 2C, 2L	26 or 46	NO
Boca BIDI FGL 22/42 300 DPI	300	22 or 42	NO
Boca BIDI FGL 24/44 300 DPI	300	24 or 44	NO
Boca BIDI FGL 26/46 300 DPI	300, 3L	26 or 46	NO
Boca PCL 22/42 300 DPI	300	22 or 42	YES
Boca PCL 24/44 300 DPI	300	24 or 44	YES
Boca PCL 26/46 300 DPI	300, 3L	26 or 46	YES

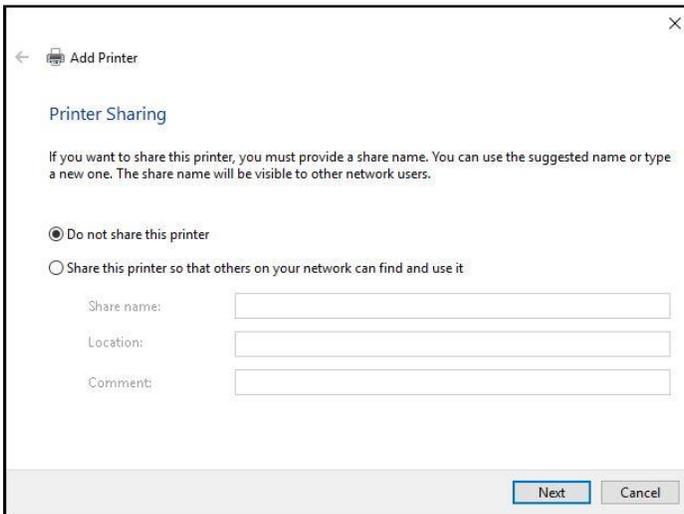
12. When the below menu comes up click on next.



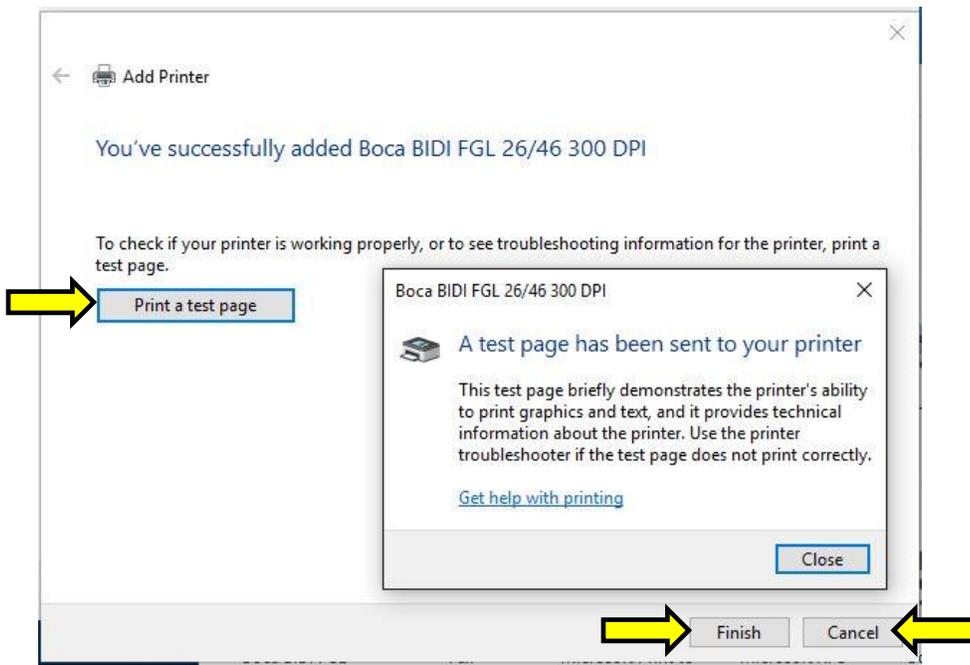
13. When the below menu comes up click on next. *Your name may vary from what is shown below.*



14. At this menu screen you have the option to share or not share the printer. Click on the next button.



13. On the last page click on the “Print a test page” button and a windows test page should be printed by the printer. This indicates the driver is communicating with the printer. Click on the Close button and then the Finish button. [Page 14](#) shows typical printout.



Your driver name may vary from what is shown above

Windows 8 or 10 Test Page

The following will guide you through doing a Windows test page to confirm the driver is communicating with the printer. You will want to make sure the printer has stock loaded and is able to print a self-test ticket when the TEST button is pressed. The printing of this ticket confirms that the printer is working properly mechanically. If the printer is not able to print a self-test ticket, then consult the “4.0 Installation section of the user manual (www.bocasystems.com/documents/lemur_manual.pdf).

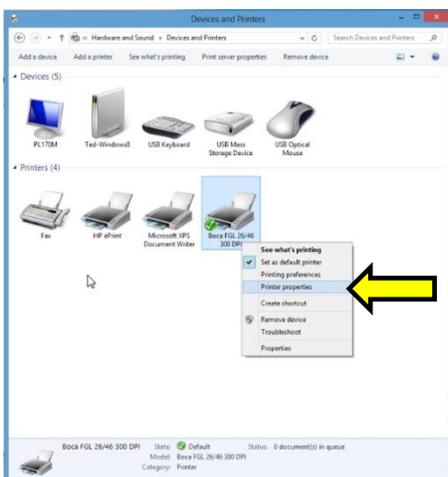
14. Below is one of many ways to get to the devices and printers menu. **1**- Right-click the bottom corner of the Start screen. **2**- Click **All apps** icon. **3** – Click **Control Panel**.



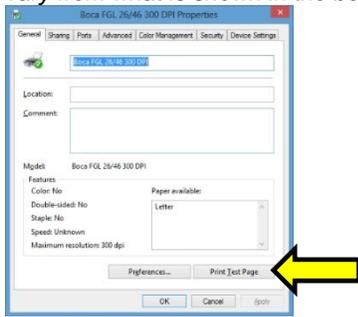
15. When the Control Panel menu comes up, click on **View devices and printers** located under **Hardware and Sound**.



16. When the Devices and Printers page comes up, right-click on the BOCA driver that is being used. When the drop down window pops up, click on **Printer properties**. *Your selection of driver will vary from what is shown in the below images.*

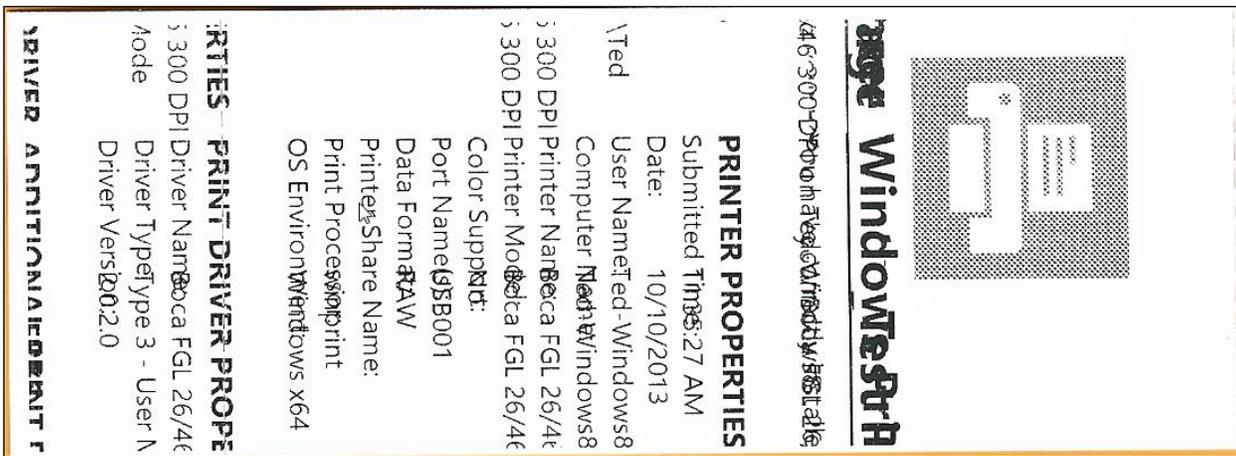


17. Once the driver's properties menu comes up click on the **Print Test Page** button. *Your drive properties may vary from what is shown in the below images.*

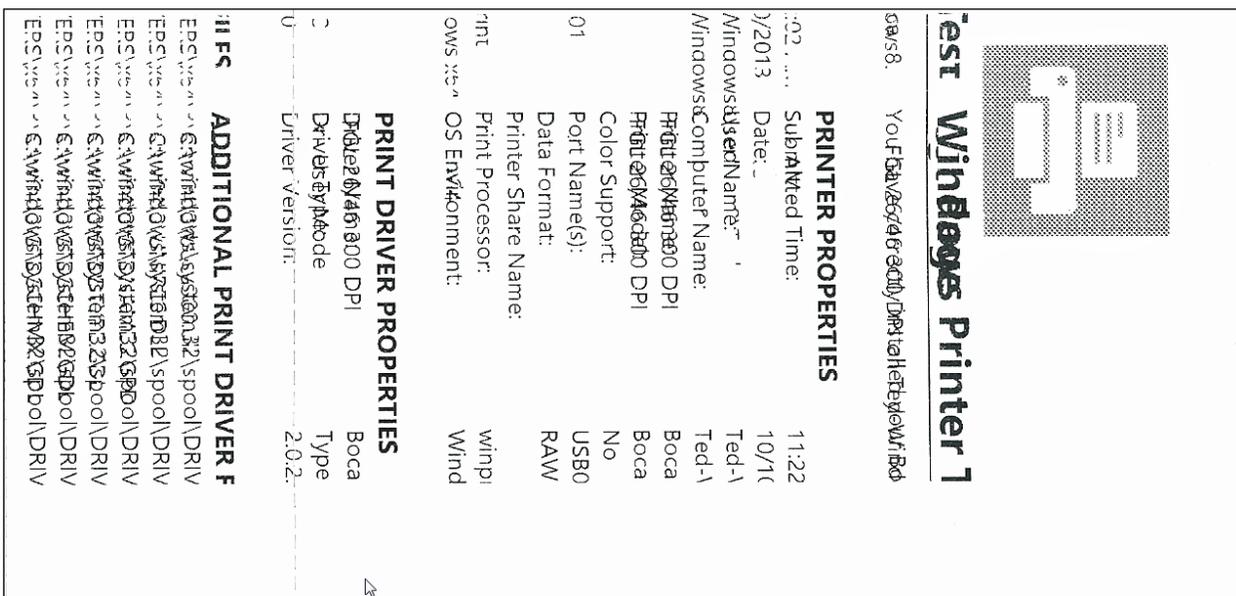


18. The printer should proceed with printing out a Windows Test page. The printing of this ticket confirms the print driver is communicating with the printer.

Below are some samples printouts for reference only and your test page may look different.



Above is from a 200DPI FGL printer with 2" x 5.5" stock



Above is from a 300DPI FGL printer with 3.25" x 6.5" stock

If you were not able to install the BOCA print driver using the above steps, please take a screenshot of the "printers and drivers" dialog and attach it to the support form located at www.bocasystems.com/online-support-form.html

APPENDIX E – MAC DRIVER INSTALLATION GUIDE

Do not connect the printer to your computer's USB port until step #13

Please contact your software provider to confirm if the use of our driver is required for their ticketing software. We recommend that the print driver is installed by either your system administrator or IT support staff. **If you previously connected the printer or tried to install the print driver, take a screenshot of the “printers and drivers” dialog and attach it to the support form located at www.bocasystems.com/onlinesupportform.html.**

1. The BOCA MAC print drivers are designed only for FGL protocol printers. They will not work with PCL protocol printers. The self-test ticket that is printed when the TEST button is pressed will indicate the printer's protocol. **FGL** = FGL protocol and **HP** = PCL protocol
2. Click on the link below MAC drive link.
[boca_driver \(mountain lion compatible\)](#)
3. Click on the below ICON when it shows up on your taskbar. Then click on **boca_mountainlion.pkg**.



4. Click on the **Continue** button.



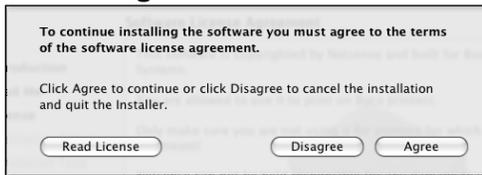
5. Click on the **Continue** button.



6. Click on **Continue** button.



7. Click on **Agree** button.



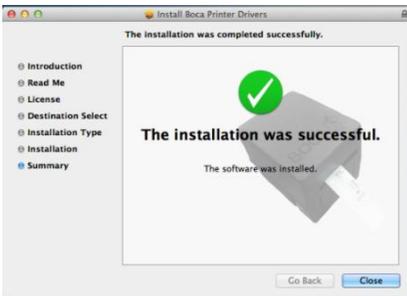
8. Click on **Install** button.



9. If your system is administrator password protected then the below dialog box will appear. Enter in the appropriate Name and Password, click on **OK** button.



10. Click on the **Close** button.



11. Click on the **System Preferences** icon that is located on your taskbar.



12. Click on **Print & Scan** icon.

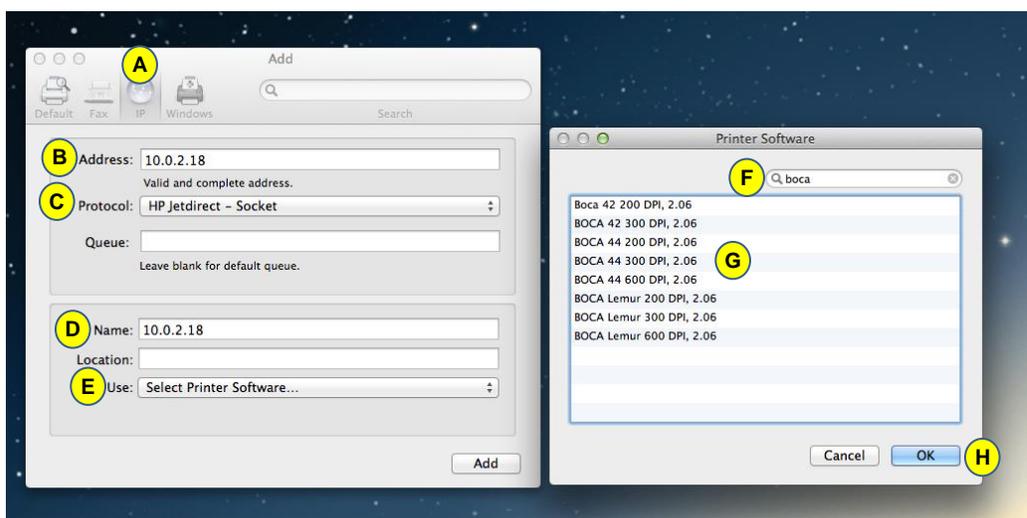


+ BUTTON



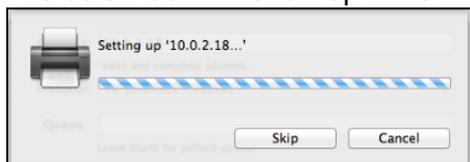
Your Print & Scan may vary from what is shown in above image

13. Connect the USB cable to the host computer; power on the printer; and go to [step 20](#). If you are not connecting to the printer via a USB cable but via an IP address (Ethernet or Wi-Fi), go to the next step.
14. The IP address of the printer is found on the self-test ticket that is printed when the TEST button is pressed.
15. Click on the **+** button in the Printer & Scan menu that was shown in step #11 to manually add a printer.
16. When the add printer menu comes up, do the following.
 - a. Click on the **IP** icon.
 - b. **Address:** type in the IP address that is shown on the self-test ticket.
 - c. **Protocol:** choose **HP Jetdirect-Socket**
 - d. **Name:** you may keep the default name or change it.
 - e. **Use:** choose **Select Printer Software....**
 - f. In the Printer Software menu type **boca** in the search area.
 - g. Choose the driver that matches your printer. The serial number tag will indicate Software (42, 44 or 46) and DPI (200, 300 or 600).
 - h. Click on the **OK** button



Your IP address will be different than what is show in the above image.

17. Click on **Add** icon.
18. The below box will show up while the driver is being installed, no action is needed.



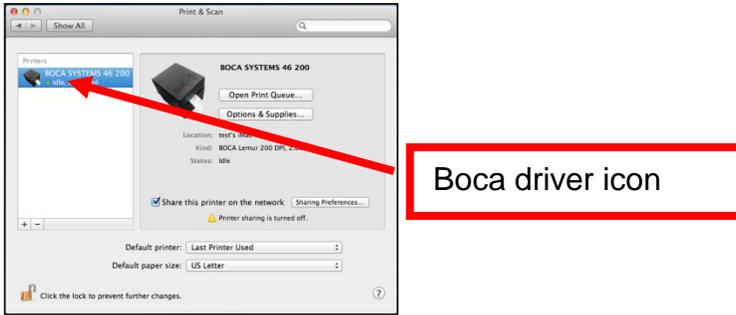
Your IP address will be different than what is show in the above image.

19. Under **Output Quality:** choose **Supercell**. Click on the **OK** button. The driver will finish installing, Go to [step 20](#).



Your IP address will be different than what is show in the above image.

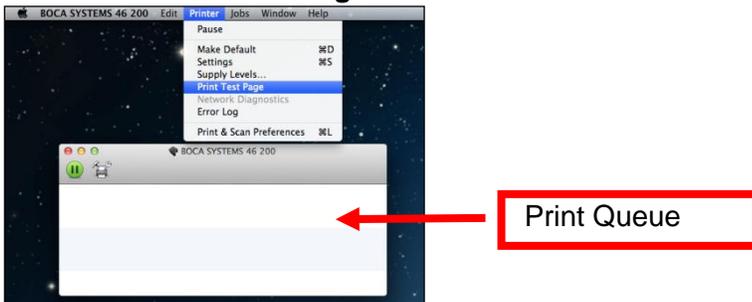
20. The correct print driver would have automatically installed if connected via a USB cable. If manually installed, the name entered in step 16 will show up. The image below is of a 200dpi driver. *The driver name will vary due to the printer's DPI and software level.*



Your selection of drivers may vary from what is shown in above image

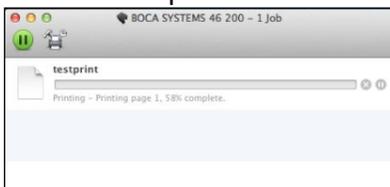
The following will guide you through doing a Windows test page to confirm the driver is communicating with the printer. You will want to make sure the printer has stock loaded and is able to print a self-test ticket when the TEST button is pressed. The printing of this ticket confirms that the printer is working properly mechanically. If the printer is not able to print a self-test ticket, then consult the "4.0 Installation section of the user manual (www.bocasystems.com/documents/lemur_manual.pdf).

21. Double Click on the BOCA print driver icon to open up the print queue. On the very top of the desktop screen click on the **Printer** and then click on **Print Test Page**. Once the driver's properties menu comes up click on the **Print Test Page** button.



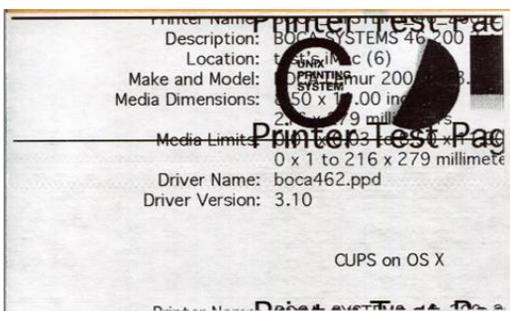
Your driver type may vary from what is shown in above image

22. The below box may show up on your screen prior to the printing of the Test page. The printing of this ticket confirms the print driver is communicating with the printer.



Your driver type may vary from what is shown in above image

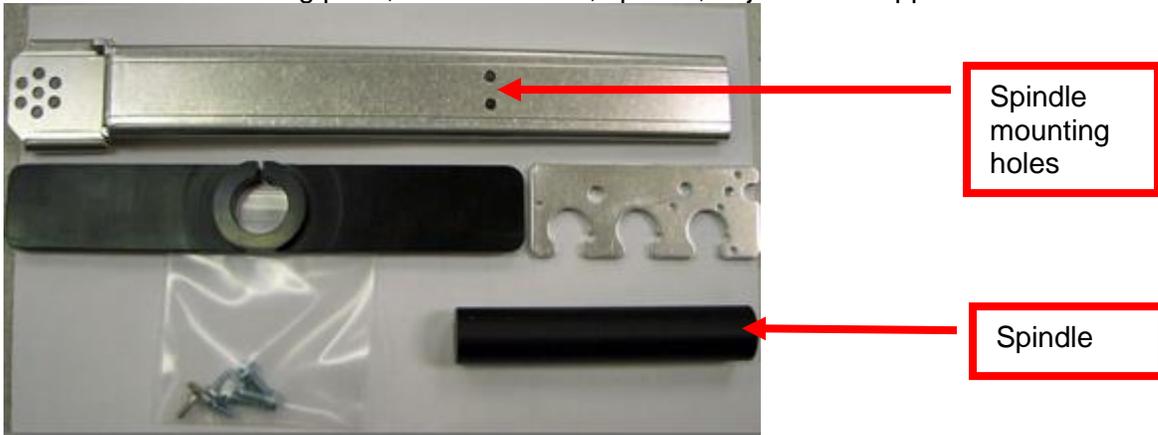
Below is a sample printout for reference only and your test page may look different.



If you were not able to install the BOCA print driver using the above steps, please take a screenshot of the "printers and drivers" dialog and attach it to the support form located at www.bocasystems.com/onlinesupportform.html
Click here to return to > [Table of Contents](#)

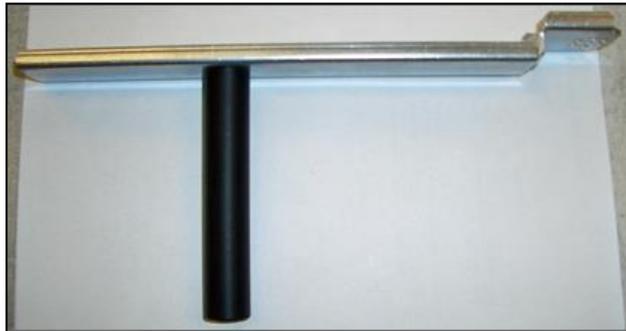
APPENDIX F - Legacy Receipt Roll Holder Installation for Lemur-Z (P/N 424051)

Kit will include mounting plate, roll holder arm, spindle, adjustable stopper and various mounting screws.

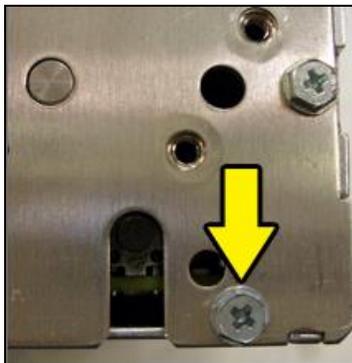


Roller holder arm may differ from what is shown in the photo

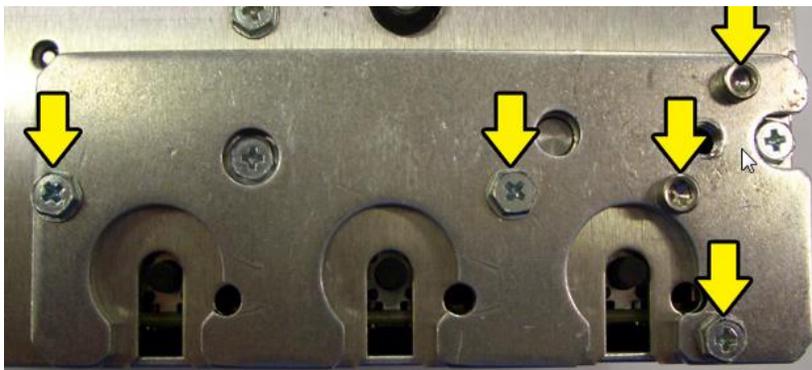
1. Attach the spindle onto the roll holder arm using the two Philip 1/4" Hex head screws included with kit.



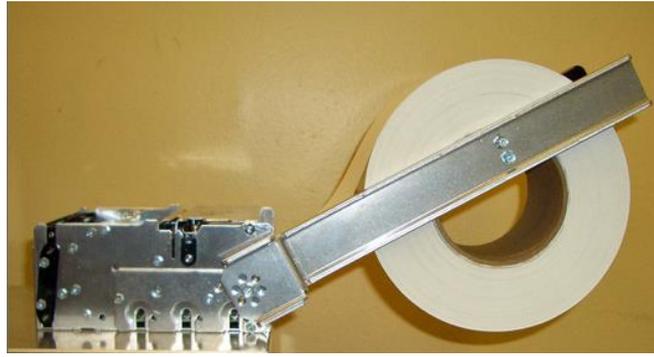
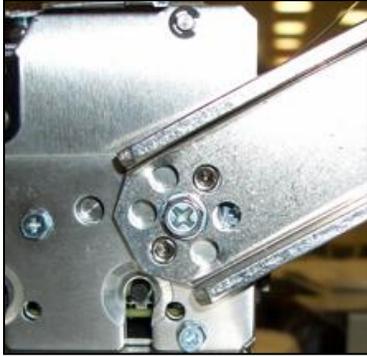
2. The Philip 3/16" Hex head screw shown in the photo below will need to be removed and will be reused.



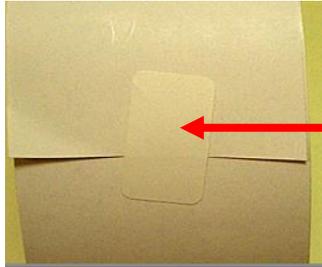
3. Install the mounting plate onto the printer using three Philip 3/16" hex and two 3/32" Allen head screws.



4. Install the roll holder arm onto the mounting plate and secure it in place with a Philip ¼” hex head screw. [Appendix J](#) shows the different positions the arm may be placed in.

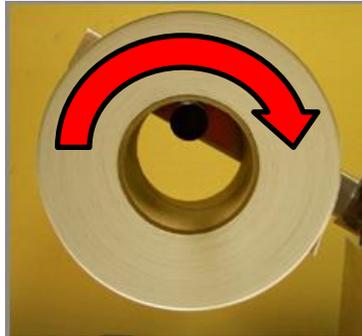


5. Prior to installing the receipt roll onto the roll holder arm the printer needs to be secured in place.
6. Tear off a full turn of the paper from the new paper roll. **Caution:** *This is important as the outer end of the paper is usually secured to the roll with glue or other adhesive substance that may cause paper jam or damage the print head.*



Must be completely removed

7. Place the Receipt roll onto the spindle.



8. Install the adjustable stopper onto the spindle and slide into place. The stopper should not be binding against the roller to prevent it from moving freely.



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APPENDIX G – SERVICE PLANS

For enhanced [warranty](#) coverage or for an out of warranty printer, we offer two types of service plans.

GOLD SERVICE

- Printer repair at BOCA facility (3 business day turnaround)
- Replace defective parts (ship within one business day) – customer must return defective parts
- Return shipping (from factory to customer) via UPS Ground service (other delivery options to be billed to the customer)

PLATINUM SERVICE

- Printer repair at BOCA facility (3 day business day turnaround)
- Replace defective parts (ship within one business day) – customer must return defective parts
- Return shipping (from factory to customer) via UPS Ground service (other delivery options to be billed to the customer)
- Replacement printer provided within one business day, if requested. (This service will become available one week after the platinum plan begins.)

The following items are not covered by the service plans:

- **Preventative Maintenance** – the customer is responsible to provide a reasonable level of preventative maintenance as described in [section 9](#) of this manual.
- **Negligence** – parts damaged by misuse or negligence, including damage due to defective ticket stock, is not covered
- **Pre-existing conditions** - all printers must be in good working order prior to entering the plan. The customer will be invoiced for any parts and repair work needed on printers which were defective prior to the start of the maintenance plan. BOCA reserves the right to make this determination unilaterally.
- **Incoming Shipments** – the customer is responsible for shipping charges to BOCA.

Please visit the link below for the latest pricing on our service plans.

www.bocasystems.com/serviceplans.html

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APPENDIX H – TECHNICAL SUPPORT

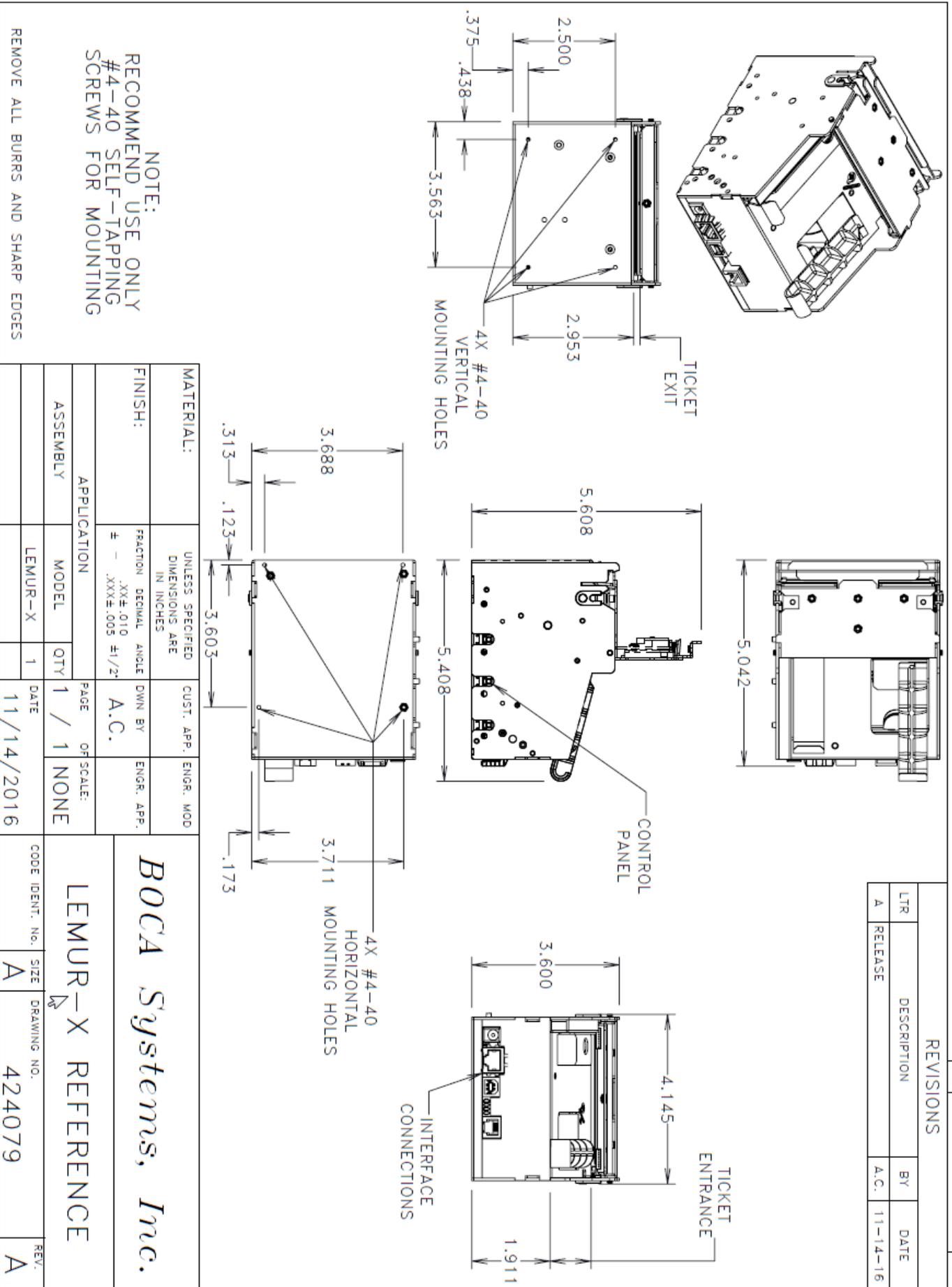
Please go to the link below if you require technical support with your BOCA printer. There is no fee for initial email support.

www.bocasystems.com/onlinesupportform.html

PHONE / EMAIL SUPPORT - BOCA provides free technical support via email for all printers under warranty or service contracts. (Phone support may be provided for covered printers at BOCA's sole discretion as needed.) Email support for non-warranty/non-contract printers is billable at \$100.00 per incident. However, BOCA may (at its sole discretion) choose to waive this fee for customers in good standing. Phone support for non-warranty/non-contract printers will be billed at a rate of \$100.00/hour for Level 1 support and \$200.00/hour for Level 2 support. Billing time will be rounded up to the nearest hour. A valid credit card number is required for phone support payments.

Click here to return to > [Table of Contents](#)

APPENDIX I – LEMUR-X REFERENCE DRAWING



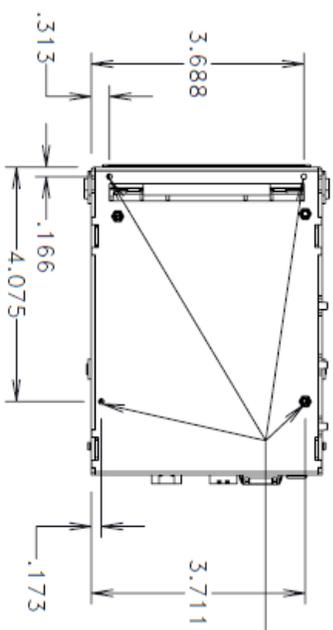
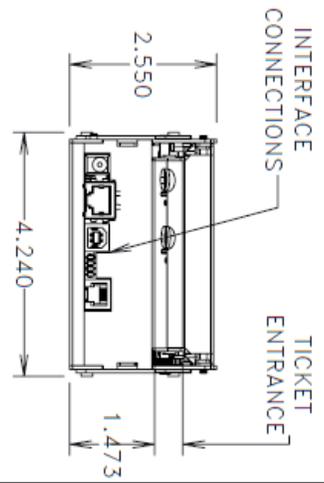
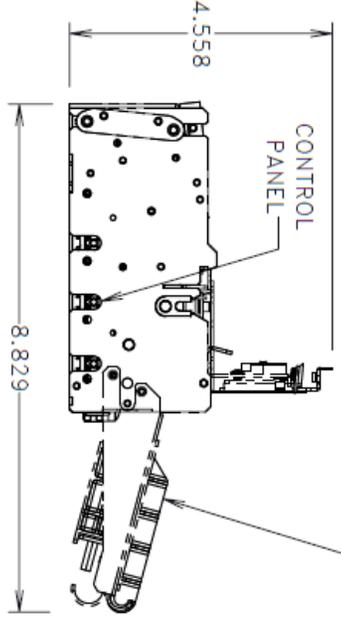
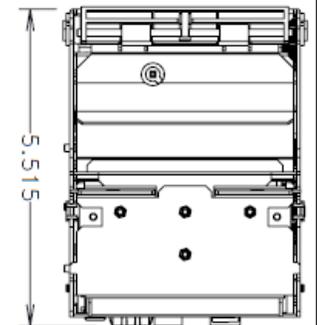
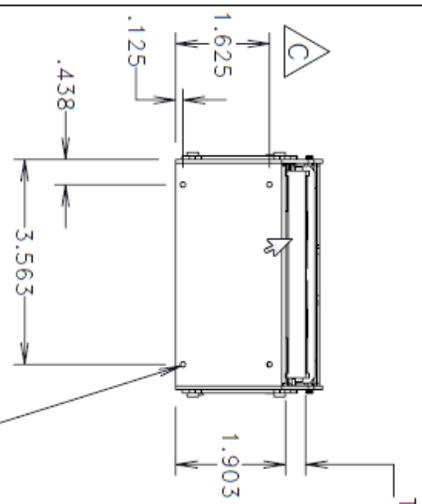
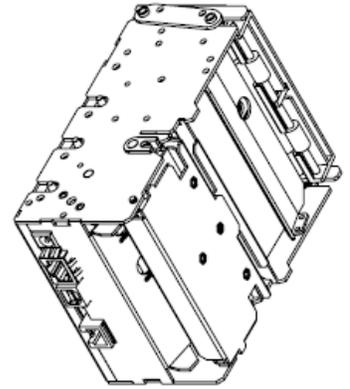
REVISIONS			
LTR	DESCRIPTION	BY	DATE
A	RELEASE	A.C.	11-14-16

MATERIAL:		UNLESS SPECIFIED DIMENSIONS ARE IN INCHES		CUST. APP.	ENGR. MOD
FINISH:		FRACTION DECIMAL ANGLE DWN BY		ENGR. APP.	
		± .XXX±.010 ±1/2"		A.C.	
APPLICATION		PAGE OF SCALE:			
ASSEMBLY	MODEL	QTY	1 / 1	NONE	
	LEMUR-X	1			
		DATE	11/14/2016		
CODE IDENT. NO.		SIZE	DRAWING NO.		REV.
A		A	424079		A

BOCA Systems, Inc.

LEMUR-X REFERENCE

APPENDIX J – LEMUR-Z REFERENCE DRAWING



NOTE:
RECOMMEND USE ONLY
#4-40 SELF-TAPPING
SCREWS FOR MOUNTING

REMOVE ALL BURRS AND SHARP EDGES

REVISIONS			
LTR	DESCRIPTION	BY	DATE
A	RELEASE	A.C.	04-15-16
B	ADDED VERTICAL MNTG HOLES, 1.903 WAS 1.923, 2.550 WAS 2.525	A.C.	08-18-16
C	1.625 WAS 1.725, ADDED LENGTH WITH P/G DIM, ADDED SHEET 2	A.C.	09-28-16

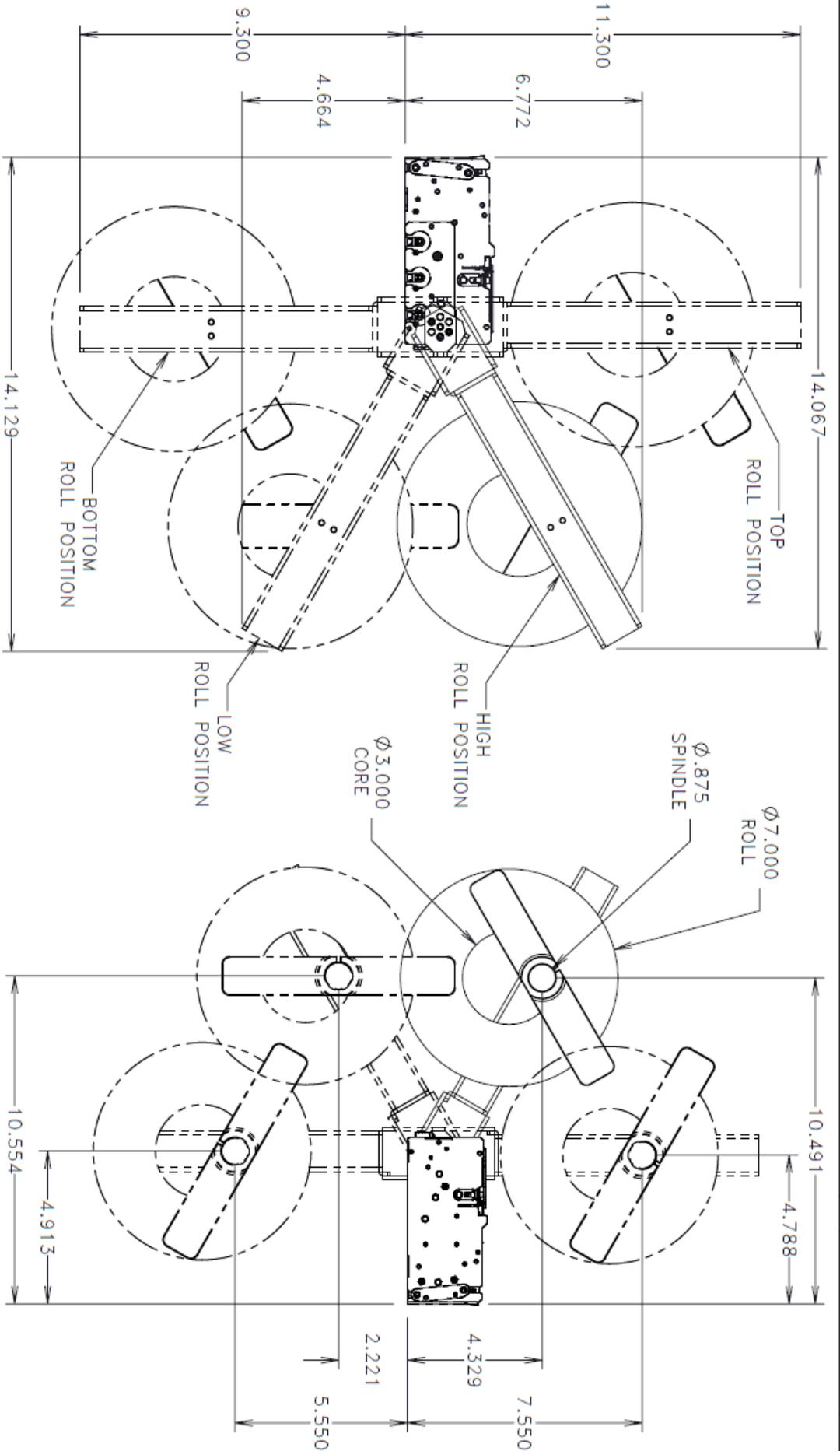
MATERIAL:	UNLESS SPECIFIED DIMENSIONS ARE IN INCHES	CUST. APPR.	ENGR. MOD
FINISH:	FRACTION DECIMAL ANGLE DWN BY	ENGR. APPR.	
	± .XXX ±.010 ± .XXXX ±.005 ±1/2°	A.C.	
APPLICATION		PAGE	OF SCALE:
ASSEMBLY	MODEL	QTY	1 / 2 NONE
	LEMUR-Z	DATE	4/15/2016

BOCA Systems, Inc.

LEMUR-Z REFERENCE

CODE IDENT. NO.	SIZE	DRAWING NO.	REV.
A		424056	C

APPENDIX K – REFERENCE DRAWING



WITH ROLL HOLDER

REMOVE ALL BURRS AND SHARP EDGES

MATERIAL:		UNLESS SPECIFIED DIMENSIONS ARE IN INCHES		CUST. APP. ENGR. MOD	
FINISH:		FRACTION DECIMAL ANGLE		DWN BY ENGR. APP.	
		± .005 ±1/2°		A.C.	
APPLICATION				PAGE OF SCALE:	
ASSEMBLY		MODEL		QTY / NONE	
LEMUR-Z		1		DATE 4/15/2016	

BOCA Systems, Inc.

LEMUR-Z REFERENCE

CODE IDENT. NO.	SIZE	DRAWING NO.	REV.
A		424056	C

A	424056	C
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