ARGOX

a SATO company

OS SERIE PRINTERS

OS-2130D
OS-2130DE
USER'S MANUAL

Version: 1.3
Date: Dec. 13, 2019

Revision History

Changes to the user manual are listed below:

Version	Date (Y/M/D)	Description	Page #
1.0	2017/12/11	Initial release	
1.1	2018/10/3		
1.2	2019/10/7		
1.3	2019/12/13	Updated the general specification	54

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Introduction

Proprietary Statement

This manual contains proprietary information of Argox Information Co., Ltd. It is intended solely for the information and use of parties operating and maintaining the equipment described herein. Such proprietary information may not be used, reproduced, or disclosed to any other parties for any other purpose without the expressed written permission of Argox Information Co., Ltd.

Product Improvements

Continuous improvement of products is a policy of Argox Information Co., Ltd. All specifications and signs are subject to change without notice.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into a different outlet on a different circuit.
- Consult the dealer or an experience Radio/TV technician for help.

This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance. The user is cautioned that any changes or modifications not expressly approved by Argox Information Co., Ltd. could void the user's authority to operate the equipment.

Liability Disclaimer

Argox Information Co., Ltd. takes steps to assure that the company's published engineering specifications and manuals are correct; however, errors do occur. Argox Information Co., Ltd. reserves the right to correct any such errors and disclaims any resulting liability. In no event shall Argox Information Co., Ltd. or anyone else involved in the creation, production, or delivery of the accompanying product (including hardware and software) be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or the results of use of or inability to use such product, even if Argox Information Co., Ltd. has been advised of the possibility of such damages.

CAUTION:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Safety

Supplemental Information: This device complies with the requirement of FCC Part 15 Rules. 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.

INDUSTRY CANADA NOTICE:
This device complies with Industry Canada ICES-003 class A requirements.
Cet equipement est conforme a ICES-003 classe A de la norm Industrielle Canadian.

Please only use adapters with the following electrical characteristics and are certified by current legislation. Using other adapters may damage the device and void the warranty also cause risks to the user.
Features Output: 24VDC, 2.4A

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The manufacturer declares under sole responsibility that this product conforms to the following standards or other normative documents:
EMC: EN 55022:2010 class A
        EN55024:2010

Argox Information Co., Ltd certifies that the following products and/or components are compliant with the current requirements of the European Union Restriction on the use of Hazardous Substances (RoHS) Directive, 2011/65/EC.

Getting Started

Congratulations on choosing OS-2130D and OS-2130DE printers, made by Argox Information Co., a leader in the world-wide barcode industry. OS-2130D and OS-2130DE are ideally designed to easily bring more efficiency for your business. This manual will help you get to know your new printer and provide sufficient information needed.

Unpacking Printer

After receiving your printer, please check for possible shipping damage:

Inspect the outside of both the box and the printer for possible damage.

1. Open the top cover of the printer to see if all parts are in order.

> ***Note:*** *If shipping damage has been discovered, contact your shipping company immediately to file a claim.*

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2. Check whether you have received the following accessories together with the printer. If there is any item missing, please contact your local dealer.
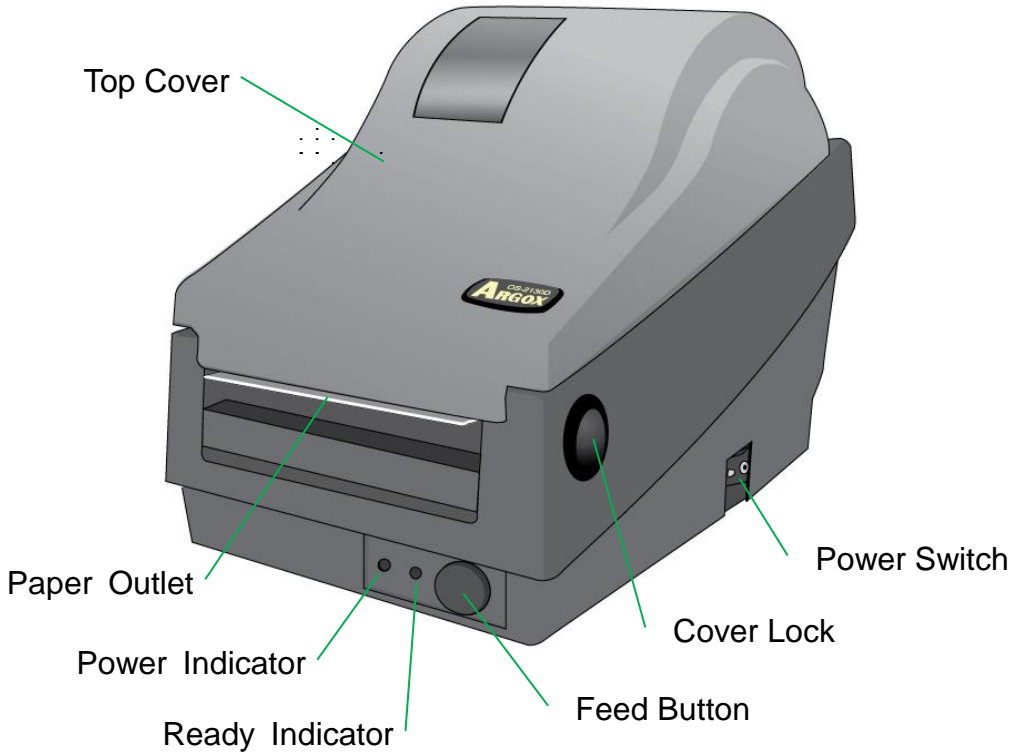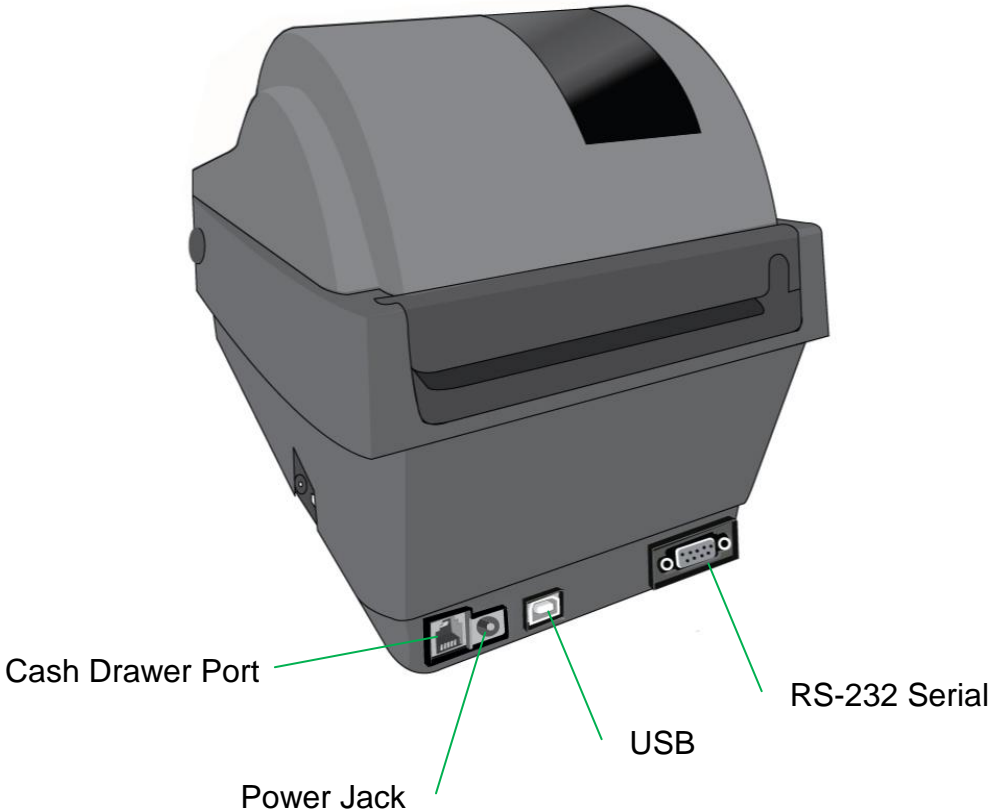
Package Contents

- Quick Installation Guide
- Power Cord
- Media Hanger & Media Shields
- Printer
- Power Supply
- USB cable
- DVD

Printer Overview
Front View: OS-2130D and OS-2130DE

Top Cover

Paper Outlet

Power Indicator

Ready Indicator

Power Switch

Cover Lock

Feed Button

Rear View: OS-2130D

Cash Drawer Port

RS-232 Serial

USB

Power Jack

Rear View: OS-2130DE

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Cash Drawer Port

Power Jack

USB

Ethernet

RS-232 Serial

Interior View I

Media Hanger

Release Levers

Interior View II

Thermal Print Head

Media Guides
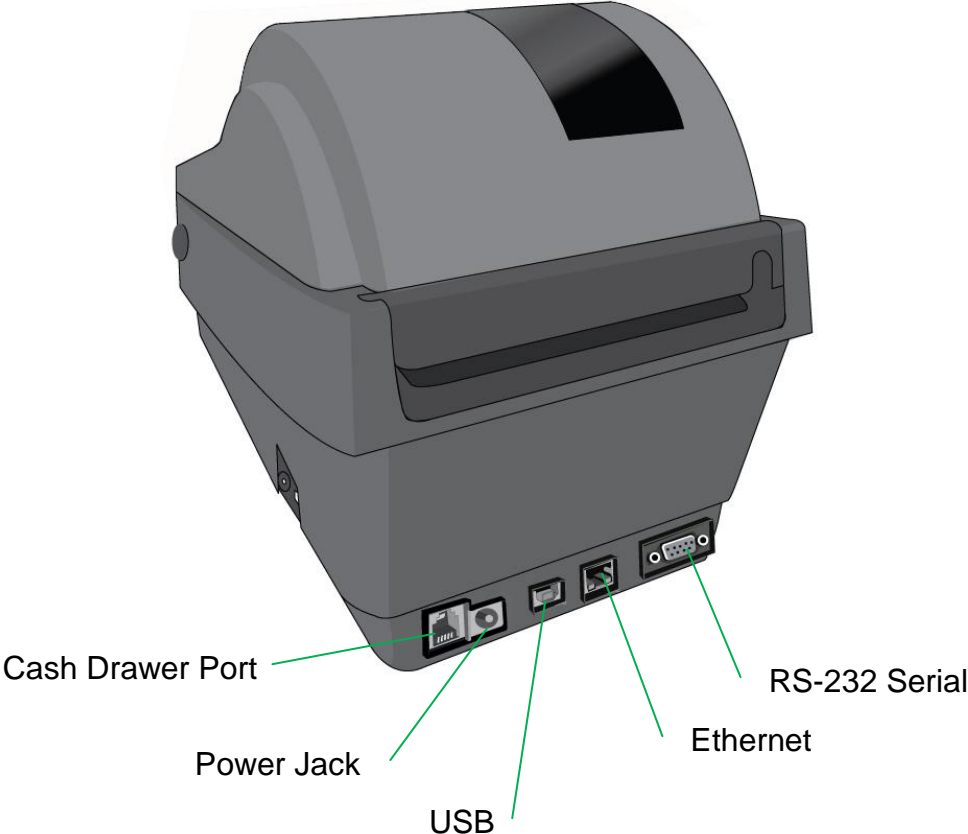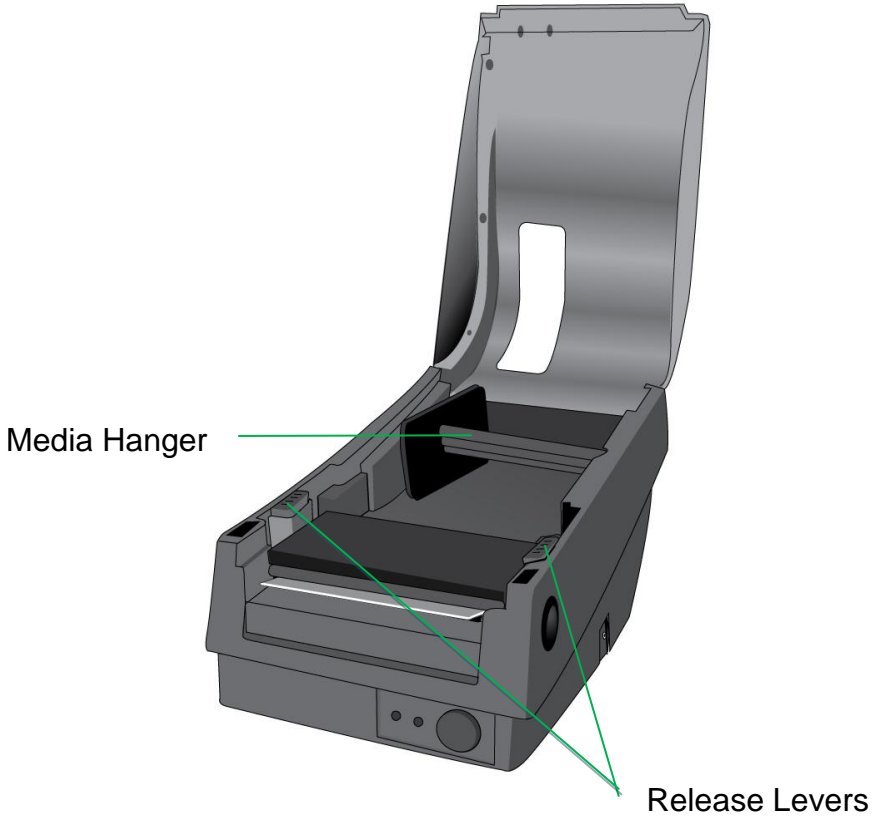
Attaching Power

1. Make sure the printer's power switch is in the off position (down)

before conducting following actions.
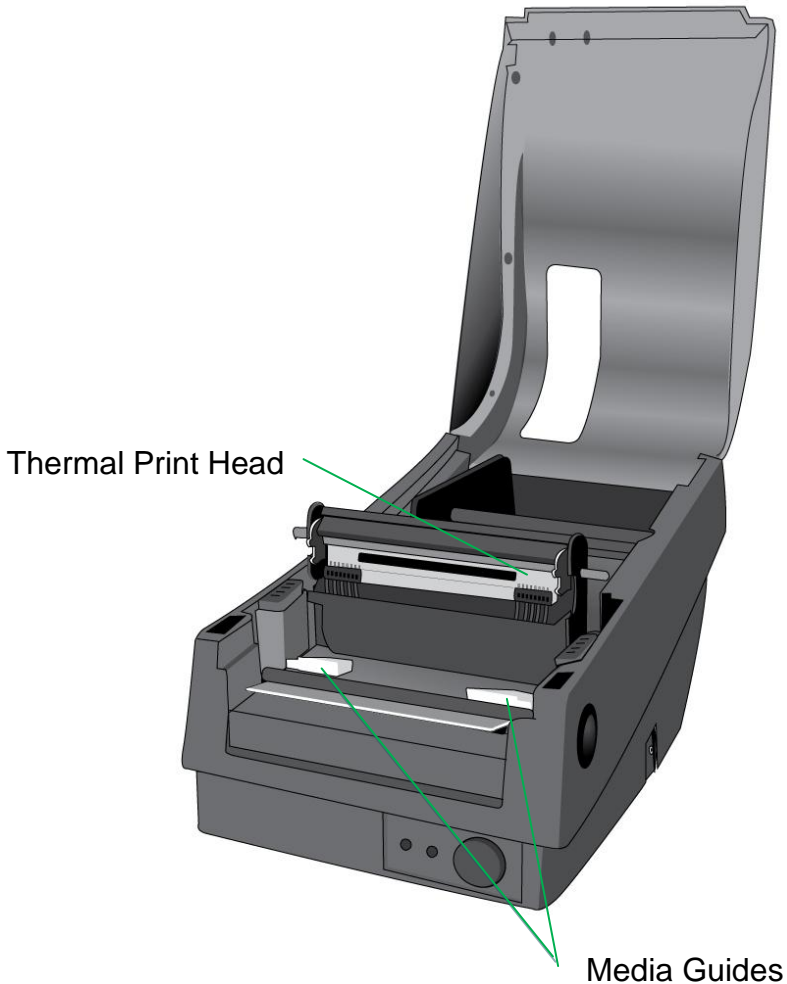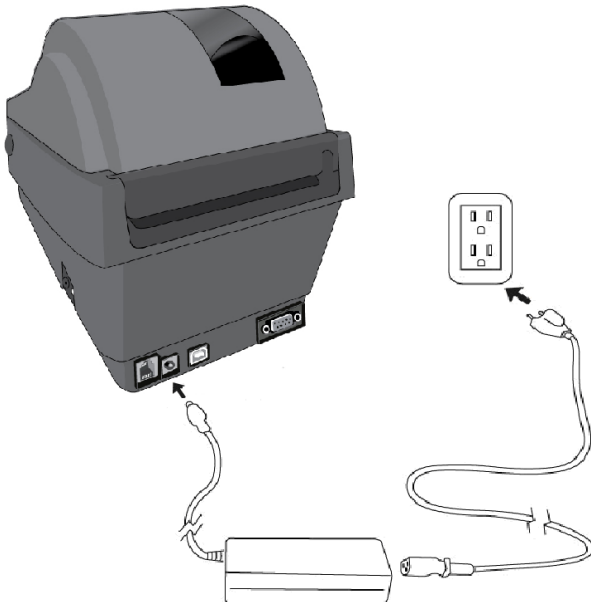
2. Insert the AC power cord into the power supply.

3. Insert the power supply's power connector into the printer's power jack.

4. Plug the other end of the power cord into an appropriate grounded AC electrical outlet.

> *Warning:*
>
> *D*o not operate the printer and power supply in an area where they might get wet.

OS-2130D

OS-2130DE
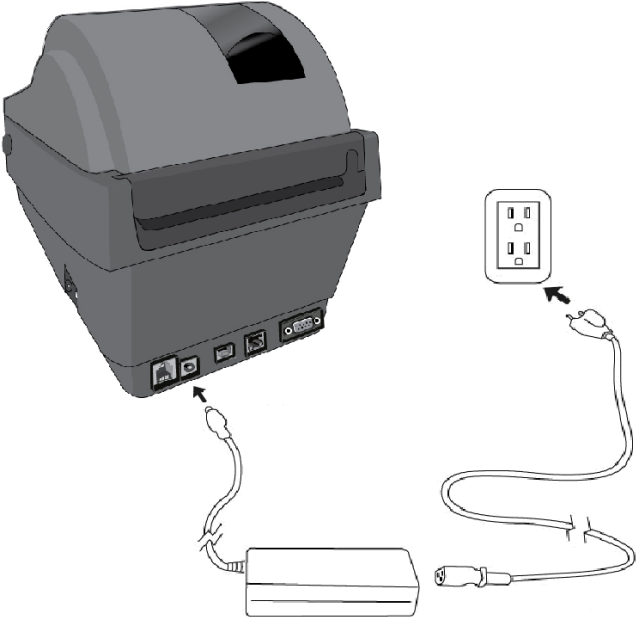
Loading Media

Preparing Media

In case media roll may become dirty or dusty during shipment,

handling, or storage, firstly remove the outside length of media, which

helps to avoid dragging adhesive or dirty media between the print

head and platen roller. When loading media, it must be placed onto

the media hangers.

Placing Media Roll

1. Open Top Cover of the printer.
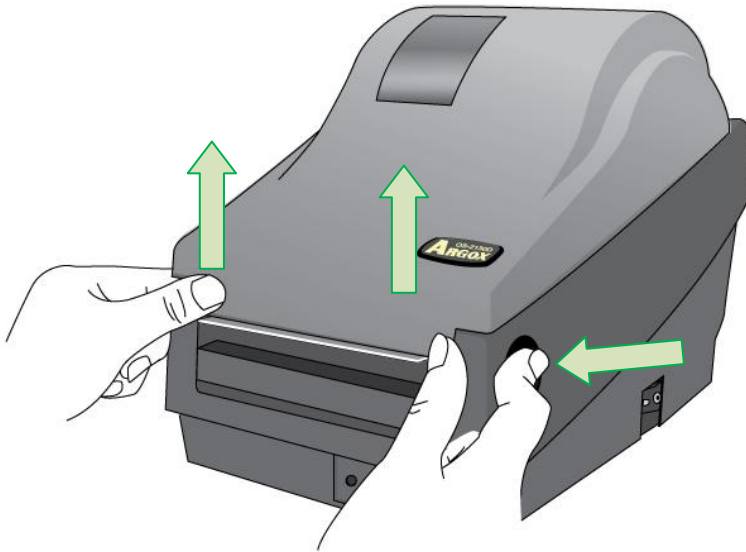
2. Put the Media Hanger through media supply roll, and then

centrally align with the two Media Shields to closely lean against

the media supply roll.

Media Roll

Media Hanger
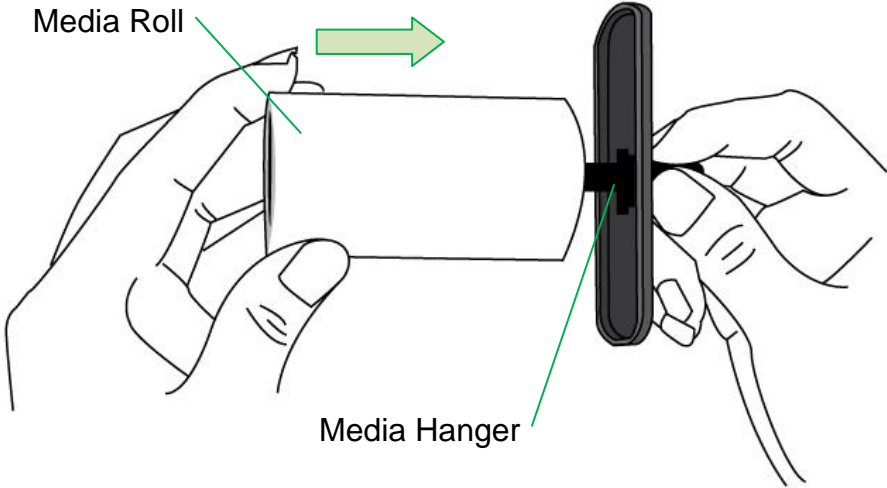
3. Locate the media supply roll into the Media Compartment of

   printer.

Media Compartment
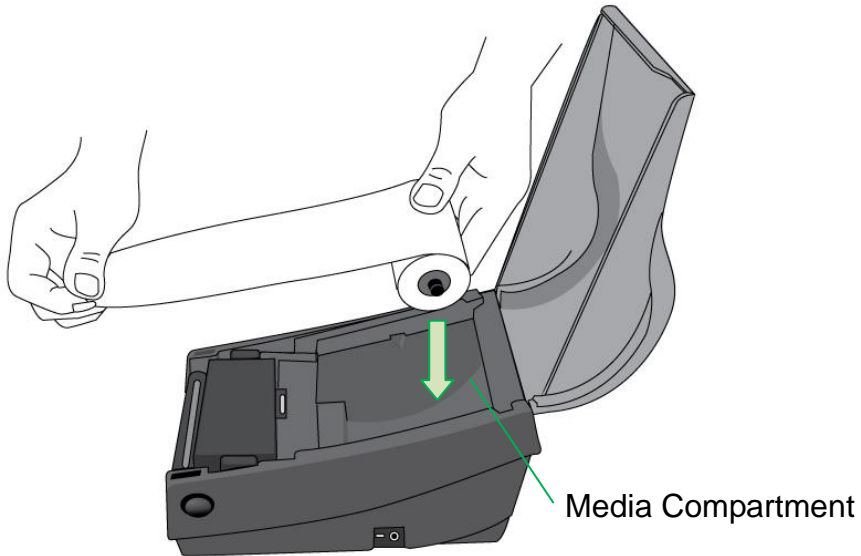
4. Push the Release Levers to open the printer module.

Release Levers
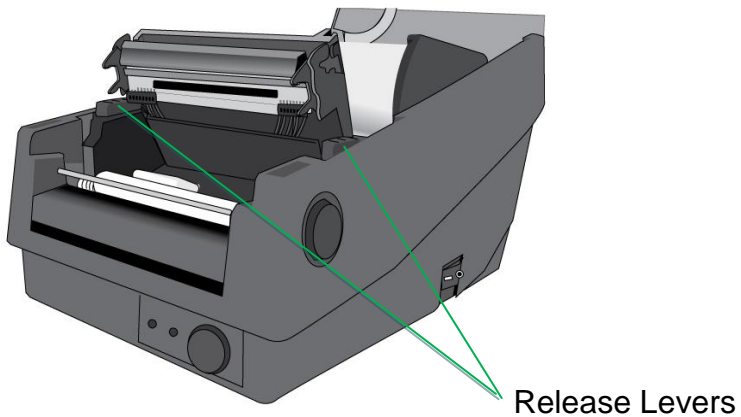
5. Pull a short length of media till it reaches the Platen Roll of printer.

Adjust the media guide at right margin, to make media

left-alignment.
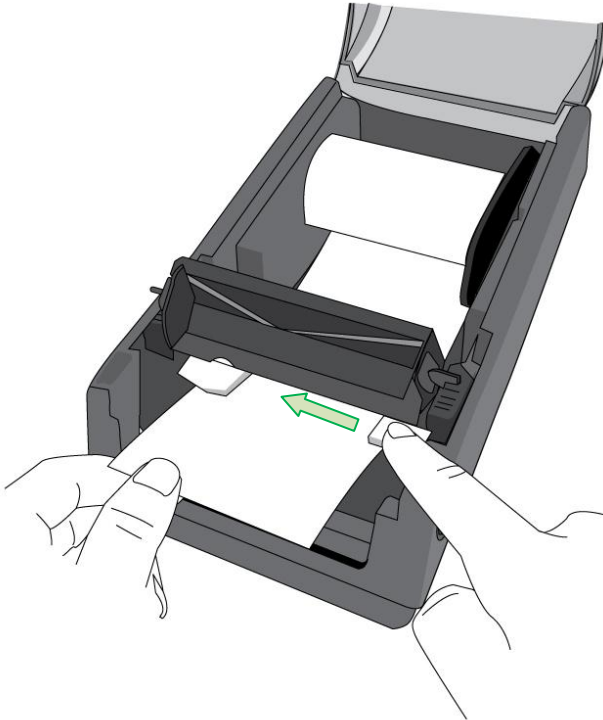
6. Close the printer module and then press firmly at the both sides to

properly latch until you hear a click.
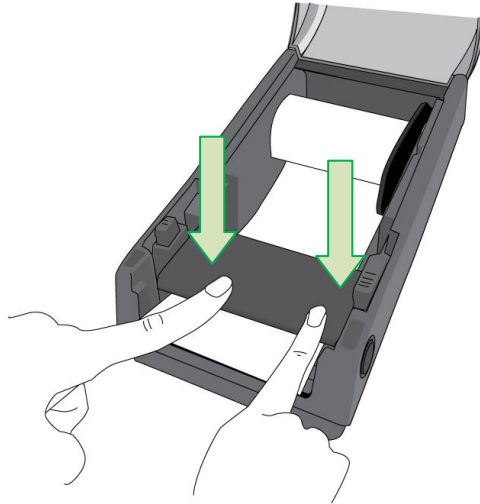
7. Close the top cover and turn on the printer.

8. Press the FEED button to feed labels out of the printer.

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Printer Operations

Printing Media Calibration & Configuration

Before connecting the printer to your computer, to make sure that the printer works properly, conduct media calibration and print a self-test/ configuration label.

Steps to Start Media Calibration & Configuration

1. Make sure the media is properly loaded and the top cover of the printer is closed.
2. Turn off the printer power.
3. Press and hold the FEED button while turning on the power, until printer motor is activated.
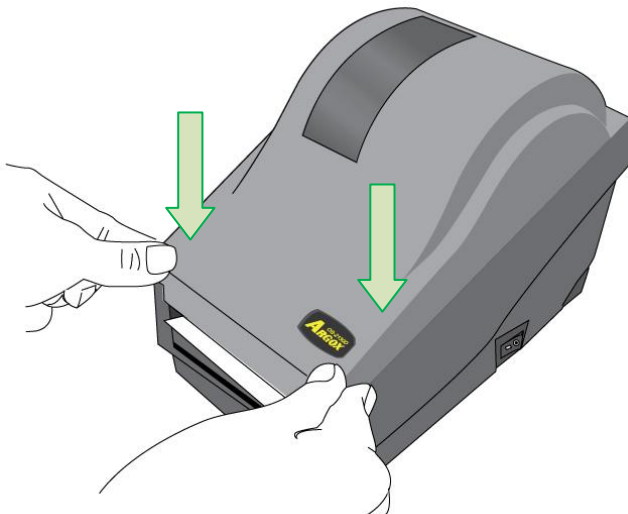4. Media is calibrated while the printer automatically feeds the label stock for a certain length; then the printer motor suspends for one second and then prints out a configuration profile. Release the FEED button as soon as printer starts to print.

Note:

   If printer is with Argox PPLB printer language, printer will enter Dump mode after printing configuration. In Dump mode, all characters will be printed in 2 columns: the right shows characters received from your system, and the left are the corresponding hexadecimal values of the characters. It allows users or engineers to verify and debug the program.

To return to normal operation mode from Dump mode, press the FEED button again. Another way is to turn off printer power, and then restart printer.

Sample of Printer Configuration Label
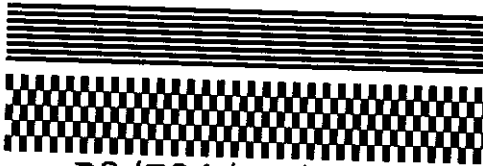
- Print head test pattern

R8/E94/PC/PCA/PCB
Courier Fonts:
ASD font 18 points
ASD font 14 points - 01
ASD font 12 points - 012345
ASD font 10 points - 0123456789
ASD font 8 points - 0123456789 ABCDEF
ASD font 6 points - 0123456789 ABCDEFGHIJ
0123456789
INT. FONT 7 01234567
INT. FONT 6
INT. FONT 5 0123456
INT. FONT 4 0123456
INT. FONT 3 0123456789 AB
INT. FONT 2 0123456789 ABCDEFGHIJ
INT. FONT 1 0123456789 ABCDEFGHIJXYZ
INT. FONT 0 0123456789 ABCDEFGHIJXYZ

```
ON
OFF  o  o  o  o  o
SW2  1  2  3  4  5
```
——— Main board DIP switch settings

```
1,1,1,1,1,1,1,1,1,1,
U32,0,6,0,0,51520
s( 0 ,0 )
M(0,0,0,0)
CALIBRATION TYPE: MODE 1          ——— Calibration Type
R(X,Y) = R(0,0)
CUTTER/PEELER OFFSET: 0           ——— Cutter/Peeler setting offset
PEELER DISABLE                    ——— Peeler setting
CUTTER DISABLE                    ——— Cutter setting
BACKFEED DISABLE
LABEL_LENGTH: 80                  ——— Backfeed setting
MEDIA_TYPE: CONTINUOUS
SPEED:2IPS DARKNESS: 10           ——— Media type setting
CHECKSUM :   0000                 ——— Print speed and darkness
RS232 : 9600, 8, N, 1P
PRINT LENGTH METER: 43 M          ——— Serial port settings
CUT COUNT: 0
Int. fonts:NO ANY INTERNAL FONTS  ——— Printed label length
BUZZER ENABLE                     ——— Internal fonts
RTC TIME: 23/45/2160 165:165:52
RTC CHIP INSTALL                  ——— Real Time Clock (RTC) setup
NO. OF DL SOFT FONTS :   0
REF:5F19
SENSOR INTENSITY:NORMAL
STD CTRL CODES
DIRECT THERMAL                    ——— Print method
USASCII
AVAILABLE FLASH: 2047K BYTES
FLASH TYPE:ON BOARD 4M BYTES      ——— Memory capacity
AVAILABLE RAM: 6586K BYTES
STANDARD RAM: 8M BYTES
OS2130D-A01.00 071210  00         ——— Firmware version & date code
Label Printer with Firmware
```

Resetting Printer to Factory Defaults

Follow the steps below to reset printer to default settings:
1. Turn on the printer and wait till both "Ready" indicator and "Power" indicator stay solid green.
2. Press the "Feed" button for 5 seconds, and the "Ready" indicator and "Power" indicator will go off in order.
   (at this step, if the "FEED" button is pressed for 10 seconds, printer will reset first >> feed blank labels as media calibration >> and then print configuration/ self-test labels.)
3. Once "Power" indicator becomes lit again, release the FEED button.
4. "Ready" indicator will then become lit, too. At this moment, the printer has resumed its factory default settings

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Note:
    The printer factory default settings are stored in printer's flash; these settings remain stored, without being erased even the printer power is disconnected.

Printer Controls and Indicators

Power Switch

Power Indicator

Feed Button

Ready Indicator
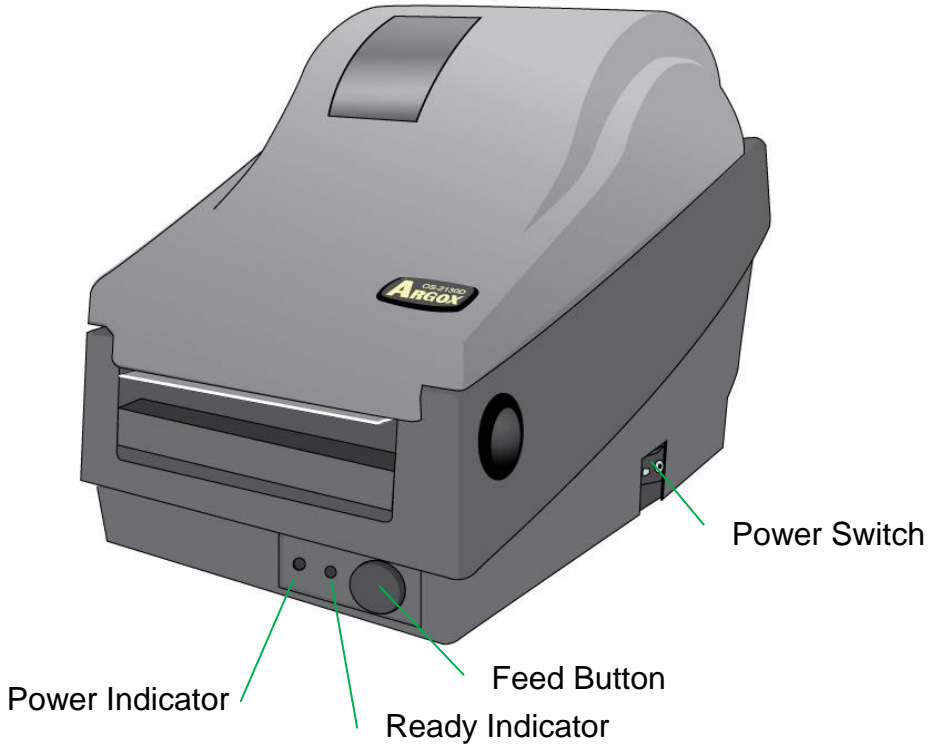
The following table explains printer controls and indicators' functions to help understanding LED indications and printer status:

Control / Indicator	Function
Power Switch	• On: turns on normal operation (at "I" position) • Off: turns off power (at "O" position) ***Note:*** *Turn power off before connecting or disconnecting cables*
Power LED	• Off: Printer power off • Green: Printer power on • It will start blinking while "Media Out", "Media Gap Not Found" has been detected. • Once printer cutter mode has been enabled, when Cutter is jammed with paper or Cutter is not installed, POWER indicator will blink. • When RS-232 communication error is detected, POWER indicator will blink.
Ready LED	• When printer is started, the READY indicator will blink. In Ethernet model, the READY indicator will blink for several seconds to wait till and stop blinking when Ethernet Card is ready. • When printer receives data from host PC, READY indicator will start blinking. • READY indicator will blink when printing is paused.

	• It will start blinking while "Media Out", "Media Gap Not Found" has been detected. • It will blink as soon as the printer module is opened. ***Note:*** When the print head is over-heated, printer's thermal protection function will be activated and make READY LED blink to indicate printer is in PAUSE status to wait till print head has been cooled down. The printing tasks sent previously will be resumed automatically later.
Feed Button	• Press to advance the label media to the first printing position. • Press during printing to make printer "pause". • Press and hold while switching on the power to conduct media calibration and print out a configuration profile. • To resume printing after "Media Out " errors have been resolved.

Troubleshooting by LED and Buzzer Indicators Diagnosis

Normally, when the printer is in not working properly, the "Power" LED blinks continuously, and printing and communication between the host and printer stops. Refer to LED indications listed below to understand possible solutions to resolve the problems printer may run into.

LED Indicators: Power and Ready LEDs blink at the same tempo

Power LED	Ready LED
ON	ON
OFF	OFF

Possible Problems	Solutions	Remarks
Media sensor cannot index label gaps	Check the label path Check the label sensor	If a continuous label roll is in use, set "**continuous media**" printing in driver settings or commands.
Media out	Install a new label roll	
Paper jam	Recover the jam	

LED Indicators: Only the Power LED blinks

Power LED	Ready LED
ON	ON
OFF	ON

Possible Problems	Solutions	Remarks
Serial IO error	Check serial baud rate at both of your system and the printer.	For serial interface only
Cutter has failed, or there is paper jam inside the cutter.	Check the cutter or recover paper jam.	Only applicable when cutter mode to cutter mode.
Other possible hardware errors.	Contact the reseller for further service.	

LED Indicators: Only the Ready LED blinks

Power LED	Ready LED
ON	ON
ON	OFF

Possible Problems	Solutions
Print head needs to cool down	Printing will stop until the print head cools to normal printing temperature. Once it completes, the printer will automatically resume the printing tasks sent previously.

Printer is in PAUSE status	Press FEED button to resume printing.
Printer is receiving data	As soon as all the data has been received, Ready LED will stay solid green and automatically resume normal operation.

The printer has built-in monitors for the status. The status and error indications will be displayed via the front panel LED indicators and the alert buzzer. Generally, when a malfunction or an abnormal condition is detected, the alert buzzer will beep for three times, and the ERROR LED will also blink. Below list shows the buzzer and LED indications corresponding to various errors.

Situation	Buzzer Alert	Blinking LED	Description
MEDIA OUT	YES	READY POWER	Both LEDs blink synchronously. The media is not installed or used up. Printer fails to detect the media gap.
CUTTER FAILURE	YES	POWER	Cutter failed or jammed at cutter.
MEMORY FULL	YES	POWER	The full printer buffer is caused by the loaded soft fonts, graphics or forms. Check the format of these data. Call for service

Note:

*The alert buzzer can be disabled by Printer Utility.*

Miscellaneous

If the host shows "Printer Time out":
1. Check if the communication cable (serial) is connected securely to your serial port on the PC and to the connector on the printer at the other end.
2. Check if the printer power is turned on.

If the data has been sent, but there is no output from the printer. Check the active printer driver, and see if Seagull driver for your Windows system and the label printer has been selected.

Vertical streaks in the printout usually indicate a dirty or faulty print head. (Refer to the following examples.)
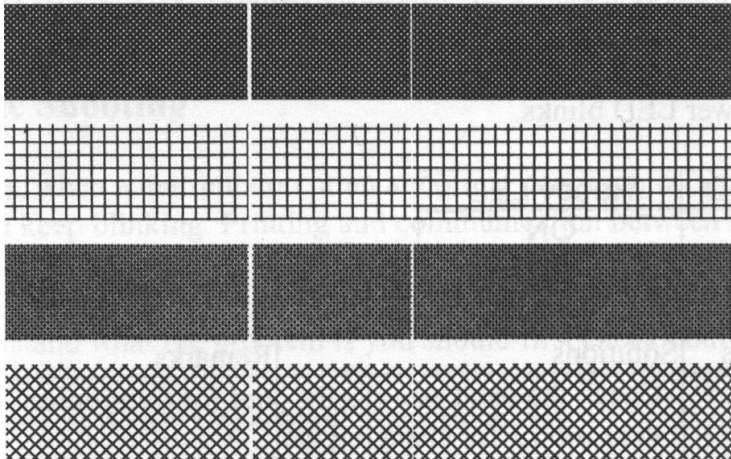
Clean the print head. If the problem persists, replace the print head.

Poor printout quality:

- The media may not be qualified.
- Adjust the Darkness (heat temperature).
- Slow down the print speed.
- Refer to the next chapter and clean the related spare parts.

Recovery

After correcting problems, simply press the panel button or restart the printer to continue your print jobs. Make sure the LEDs are not blinking and remember to resend your files.

Communications

Interfaces and Requirements

Argox OS-2130D and OS-2130DE printers come with a nine-pin Electronics Industries Association (EIA) RS-232 serial data interface, a USB interface, Cash drawer interface and Ethernet. A variety of interface options are suitable for versatile applications:

OS-2130D: Cash drawer, USB, and Serial interfaces
OS-2130DE: Ethernet, Cash drawer, USB, and Serial interfaces

Note:
1. You must insert the power supply's barrel connector into the power jack on the back of the printer before connecting communication cables.
2. This printer complies with FCC Rules and Regulations, Part 15, for Class A Equipment, for use with fully shielded six-foot data cables. Use of longer cables or unshielded cables may increase radiated emissions above Class A limits.

USB Interface Requirements
The Universal Serial Bus (USB) interface is version 2.0 and 1.1 compliant and provides a full-speed (12Mb/s) interface that is compatible with your existing PC hardware. The USB's "plug and play" design makes installation easy. Multiple printers can share a single USB port/hub.

Serial (RS-232) Interface Requirements
The required cable must have a nine-pin "D" type male connector on one end, which is plugged into the mating serial port located on the back of the printer. The other end of the signal interface cable connects to a serial port on the host computer.

Ethernet 10/100 Internal Printer Server Option
This connector is for Ethernet application; it is convenient to use several printers by Ethernet connector at the same time.


Note:

When using Ethernet model printer, please wait till the Ready Indicator to stop blinking, before starting printer operations.

Ethernet Module Status Indicators

LED Status	Description	
Both Off	No Ethernet link detected.	
Blinking	The printer waits for printer ready. It will take about 20 seconds to be ready.	
Green	Speed LED	On: 100 Mbps link Off: 10 Mbps link
Amber	Link/Activity LED	On: link up Off: link down Flash: activity

OS-2130DE Ethernet LED Indicators:

Green LED

Amber LED
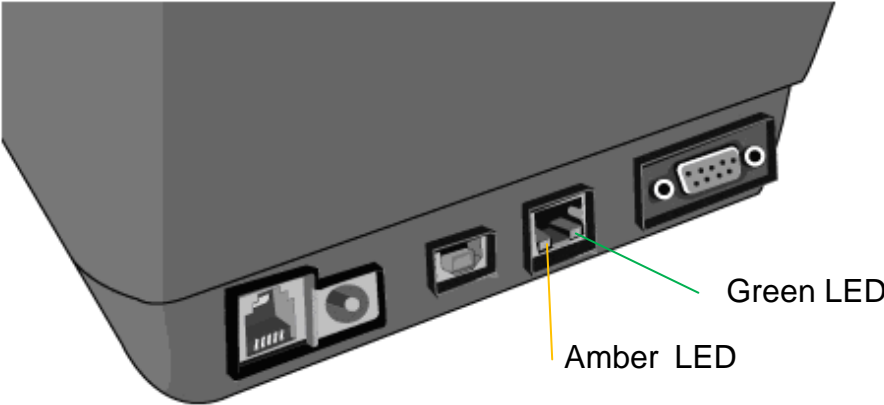
Communicating with the Printer

The bundled printer driver can be applied to all applications under
Windows XP/ Vista/ Windows 7 / 8 and 10, supporting 32-bit/ 64-bit
operation systems. With this driver you can operate any popular
Windows software applications including Argox Bartender UL label
editing software or MS Word, etc., to print to this printer.
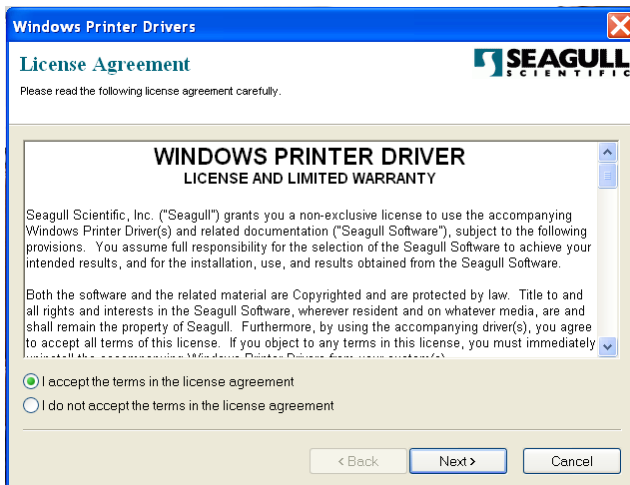
Drivers can be downloaded from Argox website

Installing a Plug and Play printer driver (for USB only)

Note:

We strongly recommend that you use the Seagull Driver Wizard
instead of the Microsoft Windows Add Printer Wizard when
installing and updating your Drivers by Seagull.
(Even though the "Add Printer Wizard" is from Microsoft, it too
easily performs a number of tasks incorrectly when updating

---

1. Turn off the printer. Plug the power cable into the power socket on the wall, and then connect the other end of the cable to printer's power socket. Connect the USB cable to the USB port on the printer and on the PC.

2. Turn on the printer. If the printer supports Plug-and-Play, and you have successfully connected it using a USB cable, then the Windows Add Hardware Wizard will automatically detect the printer and display a dialog that allows you to install a driver. Click Cancel and do not install the driver using this wizard.

3. Run the driver from Argox website.On the prompt, Windows Printer Driver, select "I accept…" and click "Next".

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4. Assign the directory to keep Seagull driver, (for example:
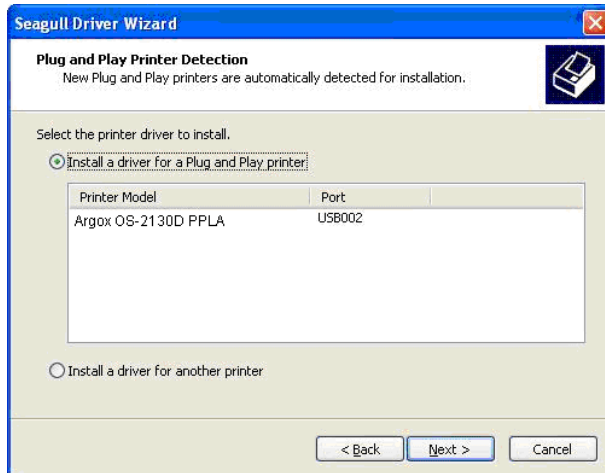
   C:\Seagull) and click "Next".
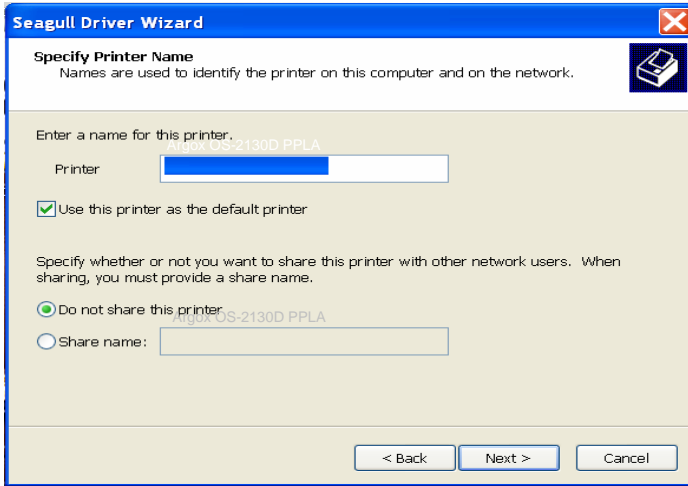

5. Click "Finish".

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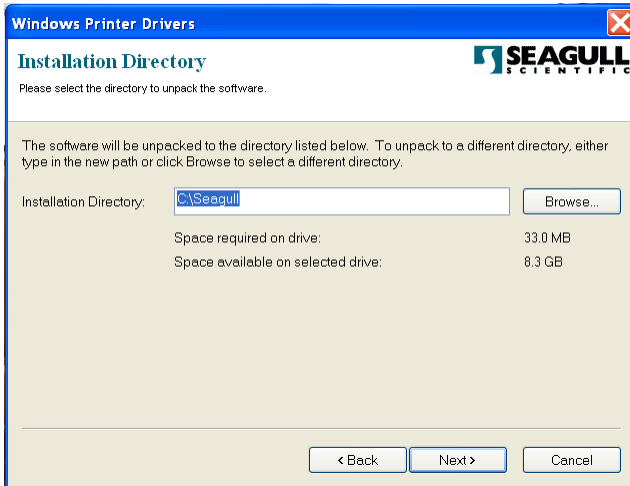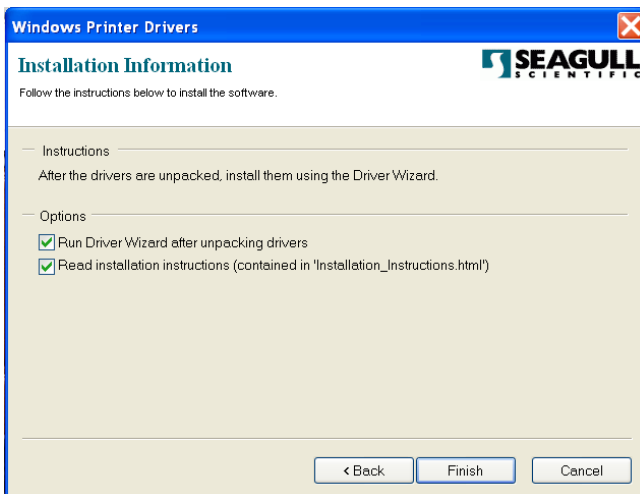
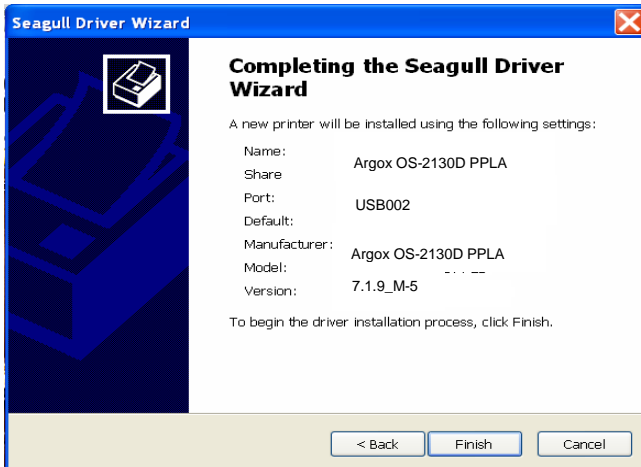6. Select Install printer drivers and Click "Next"

7. On the Seagull Driver Wizard prompt, select the first radio button

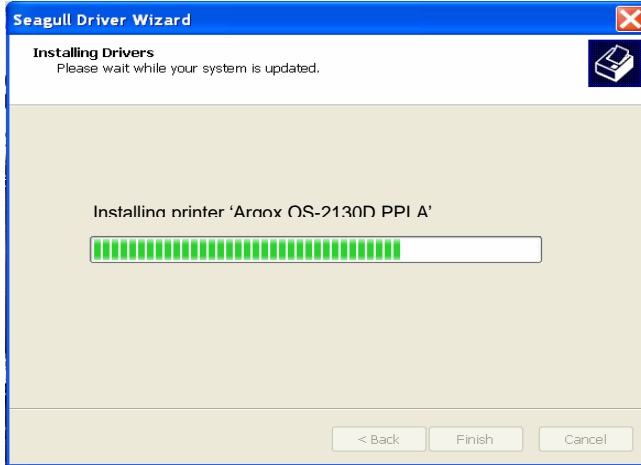to "Install a driver for a Plug and Play printer". Then click "Next."

8. Enter Printer name (i.e. Argox OS-2130D PPLA) and select "do

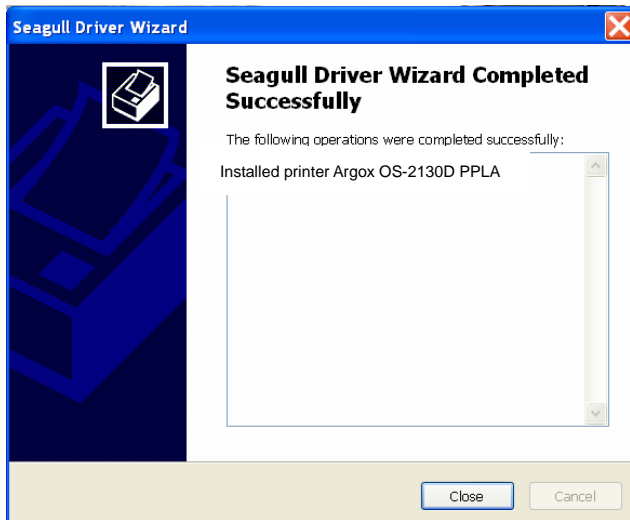not share this printer", and click "Next"

9. Check all the data on the showing screen, if it is correct, click

"Finish".

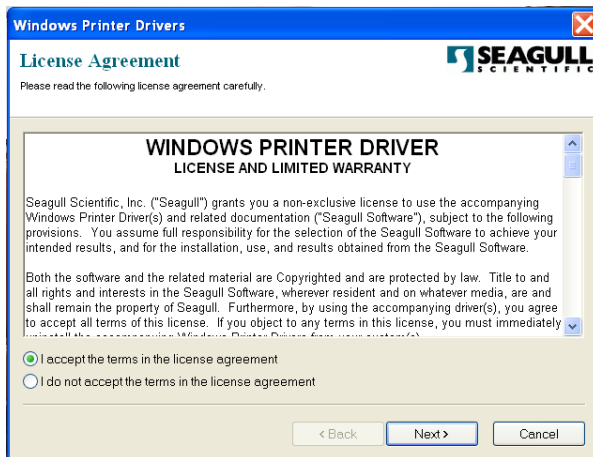10. After the related files have been copied to your system, click

"Finish".

11. After driver installation is complete, click "Close".

The driver should now be installed.

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Installing a Printer Driver (for other interfaces except USB)

1. Turn off the printer. Plug the power cable into the power socket on

    the wall, and then connect the other end of the cable to printer's

    power socket. Connect the Parallel cable, Serial cable, or

    Ethernet cable to the proper port on the printer and on your

    computer.

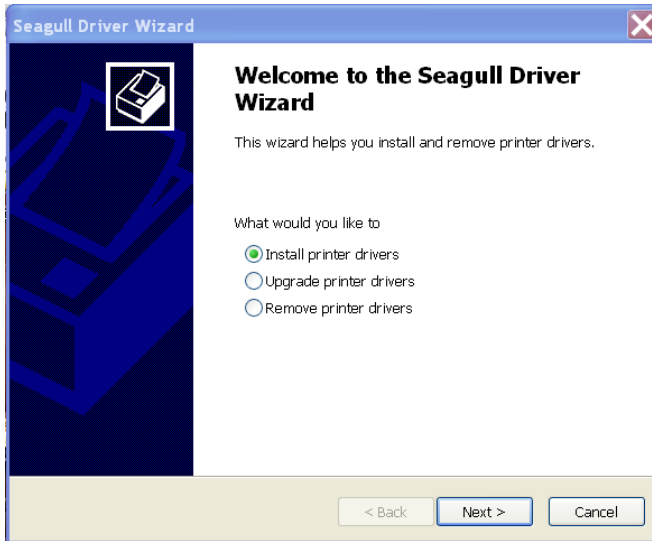2. Run the driver from Argox website. On the prompt, Windows
    Printer Driver, select "I accept…"and click "Next".

3. Assign the directory to keep Seagull driver, (for example: C:\Seagull) and click "Next".

4. Click "Finish".

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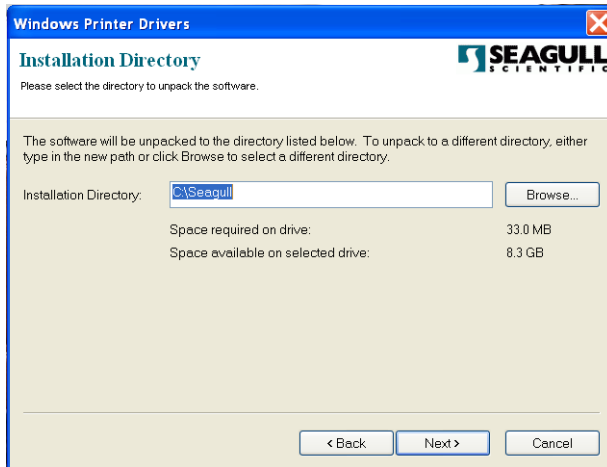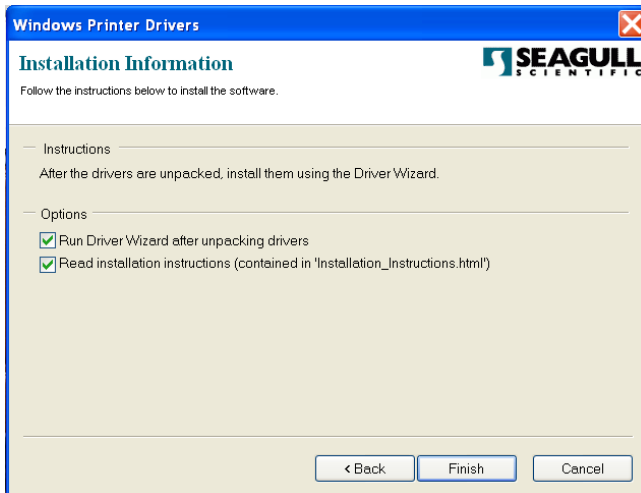
5. Select Install printer drivers and Click "Next"

6. Make sure printer is connected to PC, select "Other" and click

    "Next":
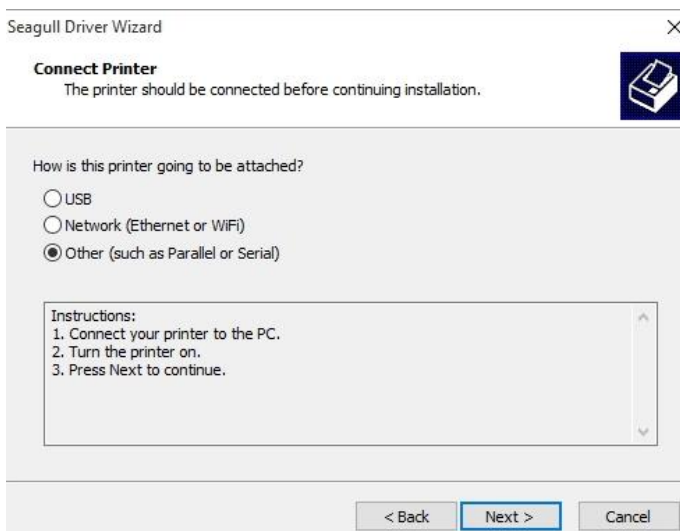
7. Select model & emulation - the following examples are based on model OS-2130D PPLA:
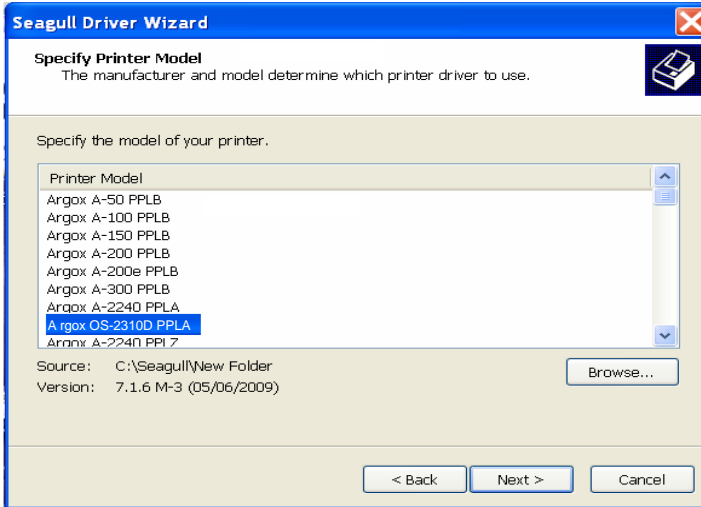
8. Select the port of the printer and click "Next".

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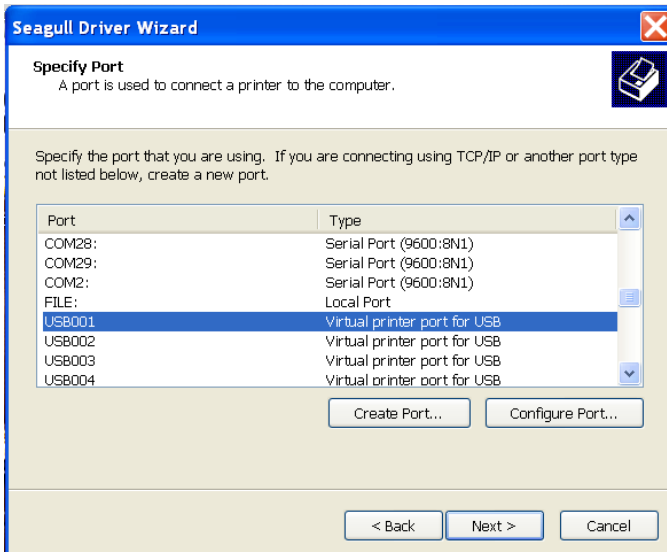
9. Enter Printer name (i.e. Argox OS-2130D PPLA) and select

"do not share this printer", and click "Next".
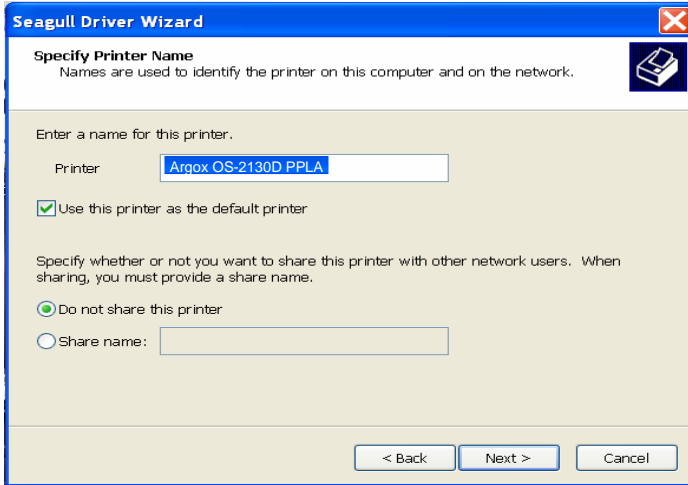
10. Check all the data on the showing screen, if it is correct, click

"Finish".

11. After the related files have been copied to your system, click
"Finish".

12. After driver installation is complete, click "Close".

The driver should now be installed.

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Caring for Your Printer

Print Head Maintenance Guide

To keep the Print Head remain in the best conditions and efficiency

and to extend duration for use, regular cleaning action is needed:

> *Note:* Always switch off printer power before cleaning.

Cleaning Interval

It's strongly recommended to regularly clean print heads at least

when changing every one label roll (in direct thermal printing mode).
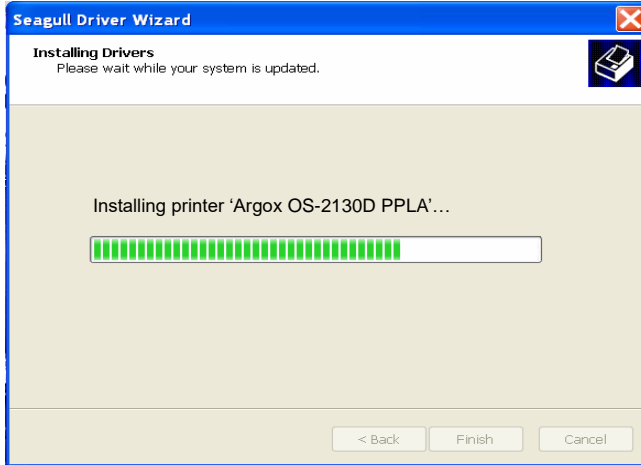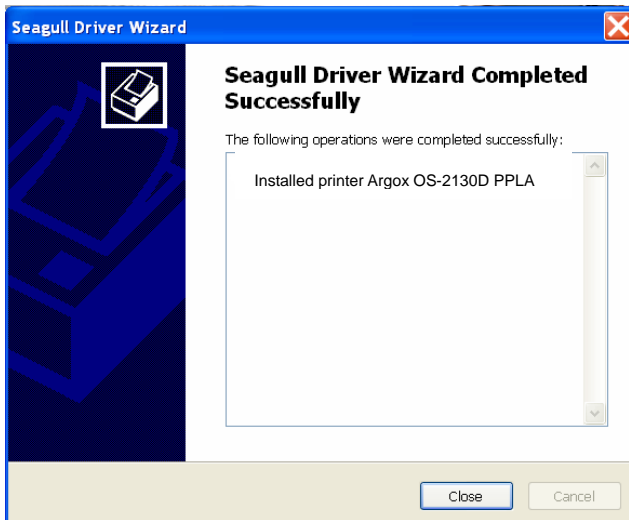
In addition, if printers are operated under critical applications and

environments, or if it's found that print quality is degraded, please

clean print heads more frequently.

Cleaning Material

Surface of print head's heating element is very fragile. To prevent

from any possible damage, please use the Printhead Cleaning Pen

or soft cloth/ cotton buds with "Ethanol" or "industry alcohol" to clean

print head surface.

It's strongly recommended to wear hand gloves during cleaning

progress.

Do not touch print head surface by bare hands or with any hard

equipment.

Water or spit should be kept away in case of corrosion on heating

elements.

Cleaning Direction

When cleaning the print head, always wipe in One-Way Direction -
from Left to Right only, or, from Right to Left only, to clean "Heating
Line" of print head gently without excessive stress.
Do not wipe back and forth, to avoid dust or dirt on cleaning cotton
would be attached onto print head again.
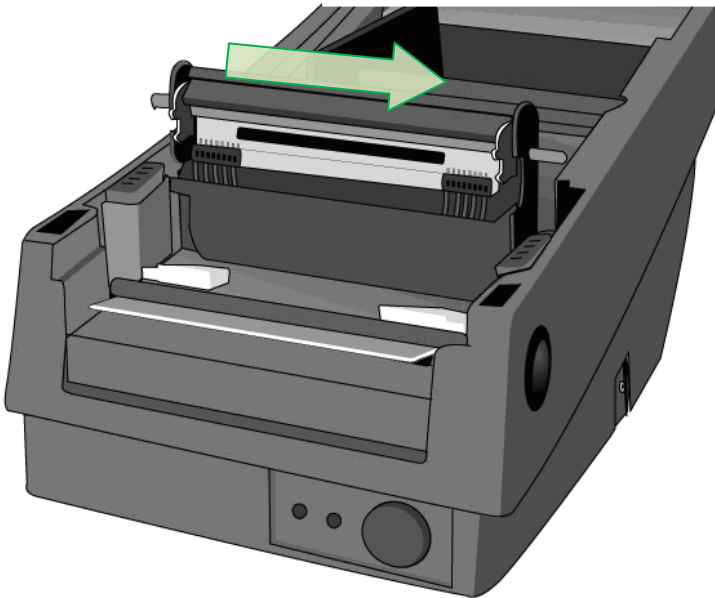
Special Caution:

Warranty of print heads will be void if print head serial number is
removed, altered, defected, or made illegible, under every
circumstance.

Product Specification

General Specification

Specification	OS-2130D	OS-2130DE
Print method	Direct thermal	
Printing resolution	203 DPI (8 dots/mm)	
Printing speed	2ips ~ up to 4ips (51~102mm/s)	
Printing length	Max 100"(2540mm)	
Printing width	Max 2.83" (72mm), Min 1"(25.4mm)	
Memory	8MB SDRAM(6MB user available) 4MB Flash ROM(2MB user available)	
CPU type	32 bit RISC microprocessor 100MHz	
Sensors	Reflective (Left side)	
Operation interface	Button(Feed) x 1	
Communication interface	RS-232, USB, Cash drawer, Ethernet(optional)	
Fonts	PPLA: Internal fonts: 9 fonts with different point size 6 fonts with ASD smooth font. Courier font with different symbol sets.) PPLB: Internal fonts: 5 fonts with different point size	

	Soft fonts and 2-byte Asian fonts are downloadable Ability to print any Windows True Type Font easily
1D barcodes	PPLA: Code 39, UPC-A, UPC-E, Code 128 subset A/B/C, EAN-13, EAN-8, HBIC, Codabar, Plessey, UPC2, UPC5, Code 93, Postnet, UCC/EAN-128, UCC/EAN-128 K-MART, UCC/EAN-128 Random, Weight, Telepen, FIM, Interleave 2 of 5 (Standard/with modulo 10 checksum/with human readable check digit/with modulo 10 checksum & shipping bearer bars), GS1 Data bar (RSS) PPLB: Code 39 Std. & Extended, UPC-A, UPC-E, UPC-Interleaved 2 of 5, Code 39 with check sum digit, Code 93, EAN-13, EAN-8 (Standard, 2 /5digit add-on), Codabar, Postnet, Code128 subset A/B/C, Code 128 UCC (shipping container code), Code 128 auto, UCC/EAN code 128 (GS1-128), Interleave 2 of 5, Interleaved 2 of 5 with check sum, Interleaved 2 of 5 with human readable check digit, German Postcode, Matrix 2 of 5,UPC Interleaved 2 of 5, EAN-13 2/5 digit add-on, UPCA 2/5 digit add-on, UPCE 2/5 digit add-on, GS1 Data bar (RSS)

2D barcodes	PPLA/PPLB:
	MaxiCode, PDF417, Data Matrix (ECC 200 only),
	QR code, Composite codes
Graphics	PPLA/PPLB: PCX, BMP, IMG, HEX,GDI, Binary
	raster(PPLB Only)
Emulation	PPLA, PPLB
Software-label	Windows Driver (Win XP/Vista/Win 7/ 8/10)
editing	BarTender
Software-utility	Printer Utility、Font Utility
Media type	Roll-feed, die-cut, continuous, fan-fold, tags, ticket
	in thermal paper
Media	Max width 3.14" (79.8 mm)
	Min width 1" (25.4 mm)
	Max length 100" (2540mm)
	Min length:0.196" (5mm)
	Thickness 0.0025"~0.01" (0.0635mm ~0.254mm)
	Max roll capacity core 0.5" OD 4.3"(109 mm),
	core 1" OD 4" (102 mm)
	Core size 0.5"(12.7mm) and 1"(25.4mm) ID
Dimensions	W 134 x H 163 x L 228 mm
Weight	1.2kgs

Power Source	100V~240V,1.8A, 50~60Hz Input 24V, 2.5A Typical, Output
Operation Environment	Operation Temperature: 40°F~100°F (4°C~38°C), 10% ~ 90% non-condensing, Storage Temperature: -4°F~122°F (-20°C~50°C)
Other	Buzzer internal RTC internal **Note**: RTC Lithium Battery Specification CR2032, +3V, 225mAh **CAUTION**: Risk of Explosion if Battery is replaced by an Incorrect type. Dispose of Used Batteries according to the Instructions.
Optional Items	• Guillotine Cutter • Peeler • External 8"OD media stacker

Fonts, Barcodes, and Graphics Specification

The specifications of fonts, bar codes and graphics depends on the printer emulation. The emulations PPLA and PPLB are printer programming languages, through which the host can communicate with your printer.

Printer Programming Language PPLA

Programming Language	PPLA
Internal fonts	9 fonts with different point size 6 fonts with ASD smooth font. Courier font with different symbol sets.
Symbol sets (Code pages)	Courier font symbol set: Roman-8, ECMA-94, PC, PC-A, PC-B, Legal, and PC437 (Greek), Russian.
Soft fonts	Downloadable soft fonts
Font size	1x1 to 24x24 times
Character rotation	0, 90, 180, 270 degree, 4 direction rotation
Graphics	PCX, BMP, IMG, HEX, GDI
Bar code types	Code 39, UPC-A, UPC-E, Code 128 subset A/B/C, EAN-13, EAN-8, HBIC, Codabar, Plessey, UPC2,

	UPC5, Code 93, Postnet, UCC/EAN-128, UCC/EAN-128 K-MART, UCC/EAN-128 Random, Weight, Telepen, FIM, Interleave 2 of 5 (Standard/with modulo 10 checksum/with human readable check digit/with modulo 10 checksum & shipping bearer bars), GS1 Data bar (RSS), MaxiCode, PDF417, Data Matrix (ECC 200 only), QR code, Composite codes

Printer Programming Language PPLB

Programming Language	PPLB
Internal fonts	5 fonts with different point size
Symbol sets (Code pages)	8 bits code page : 437, 850, 852, 860, 863, 865, 857, 861, 862, 855, 866, 737,851,869, 1252, 1250, 1251, 1253, 1254, 1255 7 bits code page: USA, BRITISH, GERMAN, FRENCH, DANISH, ITALIAN, SPANISH, SWEDISH and SWISS.
Soft fonts	Downloadable soft fonts
Font size	1x1 to 24x24 times
Character rotation	0, 90, 180, 270 degree, 4 direction rotation

Graphics	PCX, BMP, IMG, HEX, GDI, Binary raster
Bar code types	Code 39 Std. & Extended, UPC-A, UPC-E, UPC-Interleaved 2 of 5, Code 39 with check sum digit, Code 93, EAN-13, EAN-8 (Standard, 2 /5digit add-on), Codabar, Postnet, Code128 subset A/B/C, Code 128 UCC (shipping container code), Code 128 auto, UCC/EAN code 128 (GS1-128), Interleave 2 of 5, Interleaved 2 of 5 with check sum, Interleaved 2 of 5 with human readable check digit, German Postcode, Matrix 2 of 5,UPC Interleaved 2 of 5, EAN-13 2/5 digit add-on, UPCA 2/5 digit add-on, UPCE 2/5 digit add-on, GS1 Data bar (RSS), MaxiCode, PDF417, Data Matrix (ECC 200 only), QR code, Composite codes

Interface Specification

Cash Drawer

The following port complies with cash drawer communication.

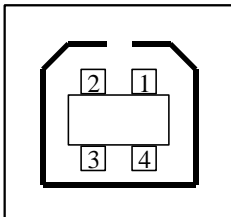| Pin	Signal
1	Ground
2	-
3	Drawer _Back
4	+24V
5	Drawer_KICK2
6	Ground

USB Interface

This is port complies with USB 2.0 Full Speed.

Connector Terminal Pin Assignment

Pin	Signal	Description
1	VBUS	5V
2	D -	Differential data signaling pair -
3	D +	Differential data signaling pair +
4	GND	Ground

USB series "B" Receptacle Interface

The RS232 connector on the printer side is a female, DB-9 and pin to pin
standard type.

Baud rate: 2400, 4800, 9600(default), 19200, 38400, 57600, 115200
bauds.(programmable by command)

Pin	Direction	Definition
1		Shorted to Pin 4,6
2	Output	TX
3	Input	RX
4		Shorted to Pin 1,6
5		Ground
6		Shorted to Pin 1,4
7	Input	CTS
8	Output	RTS
9	Output	+5V

Note :

1. Pin 9 are reserved for KDU (keyboard device unit), therefore

do not connect these pins if you are using a general host like

a PC.

## 2. OS-2130D, OS-2130DE used with standard RS-232 cable, the user can buy it on local.

Ethernet Interface

The following port complies with Ethernet communication.

| Pin	Signal
1	Transmit+
2	Transmit-
3	Receive+
4	Reserved
5	Reserved
6	Receive-
7	Reserved
8	Reserved

Appendix I-Thermal Print Head Replacement

1. Switch off the power and wait for both the LEDs to go off.
2. Open the top cover.
3. Unlatch the print head module and swing it to the opposite.
4. Push the TPH firmly into the mounting bracket to release it from the module.
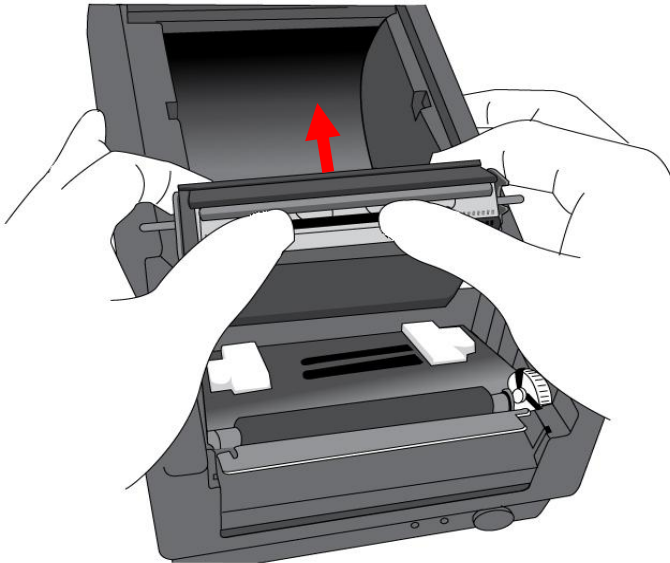
5. Disassemble the TPH and the metal plate by removing the screws.
6. Unplug the 2 print head cables from the connectors on the old TPH-module.

7. Replace the TPH.
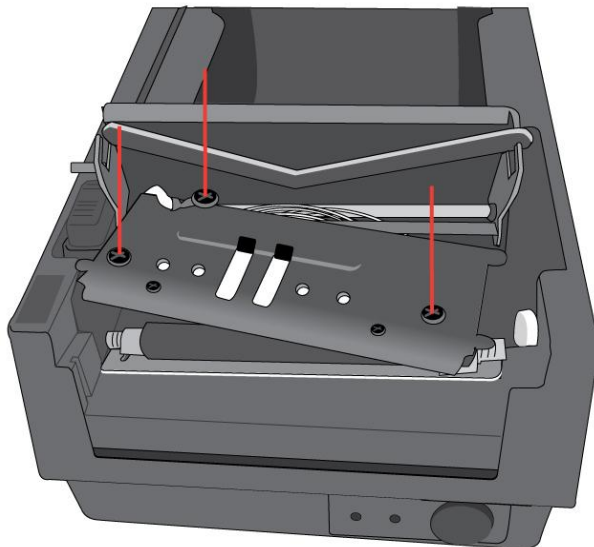
8. Plug the 2 print head cable to the new print head.
9. Put the new "Print Head module" onto "Printer Chassis" with the same way, which you released it from "Printer Chassis".

Appendix II-Cutter Installation

1. Turn off the printer power, unplug the power cable and
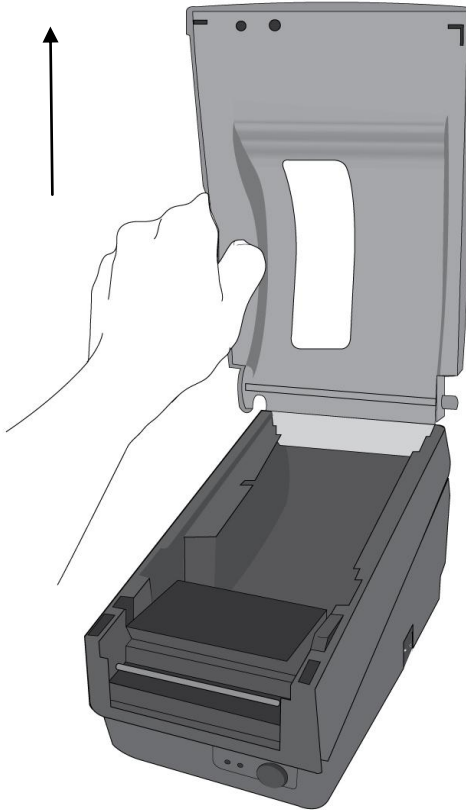   USB/Ethernet/Serial cable.
2. Remove the top cover.

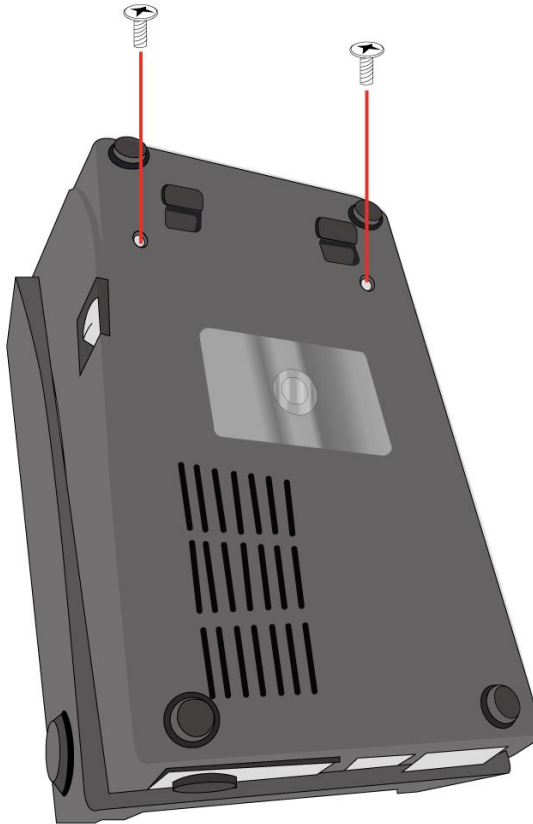

Figure 6.1

3. Remove two screws at base housing.

Figure 6.2

OS-2130D & OS-2130DE User's Manual

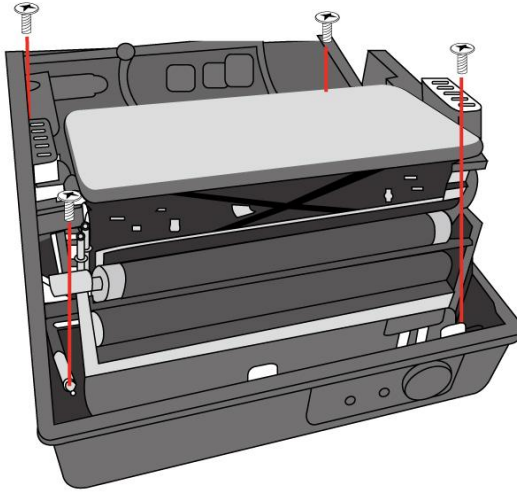4. Remove the whole print head assembly by releasing 4 screws at its

feet.

Figure 6.3

5. Add a cutter baby board to J5 on the main board.

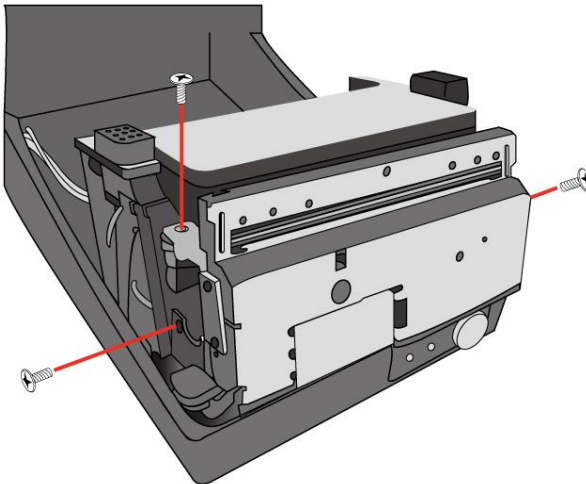6. Secure three attached screws for the cutter.

Figure 6.4

7. Plug the cutter's connector into the PCB's header connector (J3).

8. Reinstate the print head assembly by securing back the 4 screws.

9. Click back the middle cover.

10. Secure two screws back at base housing.

11. Install the top cover.

Appendix III- Peeler Installation

1. Turn off the power switch.
2. Unwrap the PC bag of the peeler to take out the screw, the shaft, the plastic roller, the peeler bar, the direction label and the peeler sensor cable.
3. Take off the top cover of the printer.
4. Fix the sensor board on the top cover and secure the screw. Keep the cable at the left.
5. Rout the peeler sensor cable through the guides along the left side of the top cover.
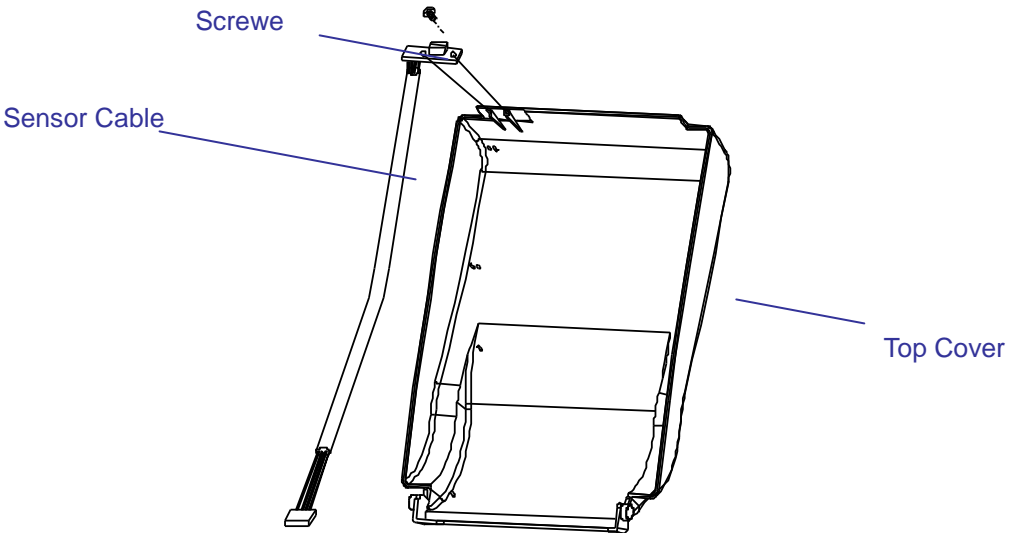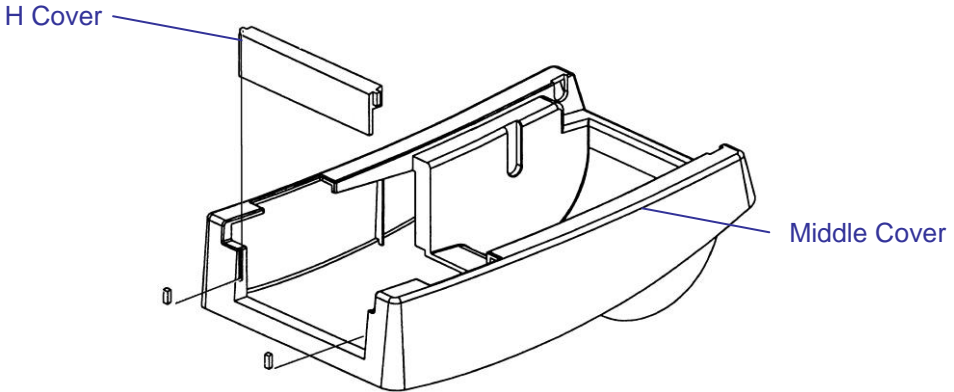

Screwe

Sensor Cable

Top Cover

Figure 6.5

6. Release the two screws at the bottom of the base housing shown in Figure 6.1 to 6.3.
7. Remove the middle cover.

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8. Take off the H cover.
9. Tape the direction label on the top of the H cover with the arrow sign heading toward the opposite of you.

H Cover

Middle Cover

10. Release the screw on the left bracket of the chassis.
11. Unlatch the print head module. Hook the white roller on the brackets of the chassis, ensuring the long thinner end at the left side.
12. Guide the shaft and go through the respective holes on the left bracket, the white roller, and the right bracket in order (To smooth this procedure, better hold the white roller with one hand.).
13. Secure the attached screw at right bracket of the chassis to fix the shaft.
14. Hook the peeler bar on the brackets of the chassis, positioning it above the white roller. Ensure that the peeler bar is paralleled with the black platen roller and its long thinner end is at that left.
15. Plug the sensor board's connector into the PCB's header connector (J2).

16. Secure back the screw on the left bracket of the chassis.

17. Guide the sensor cable connector through the hole on the upper left corner of the middle cover.
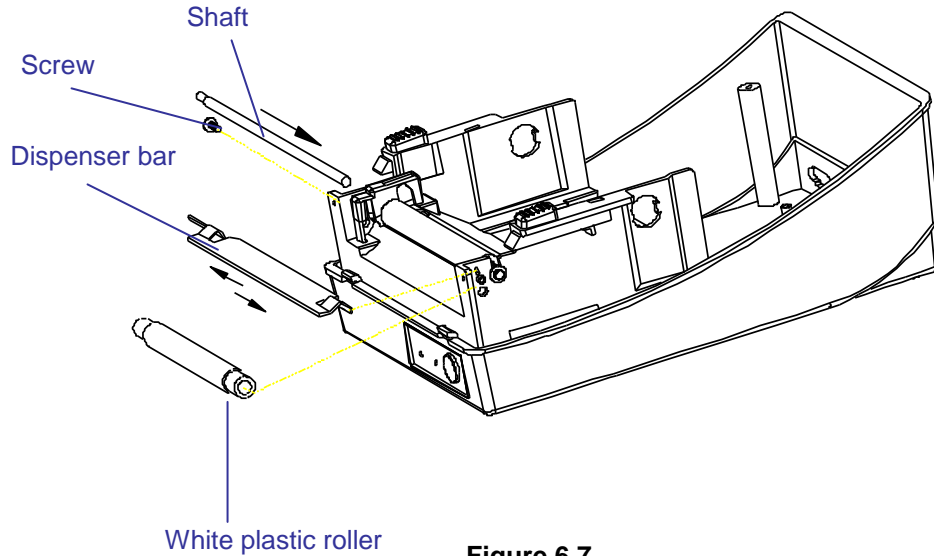

Figure 6.7

18. Click the top cover back to the middle cover.

19. Insert the sensor connector into its receptacle on the main logic board of the base housing.

20. Click the middle cover back to the base housing. First click in the front part then the rear.

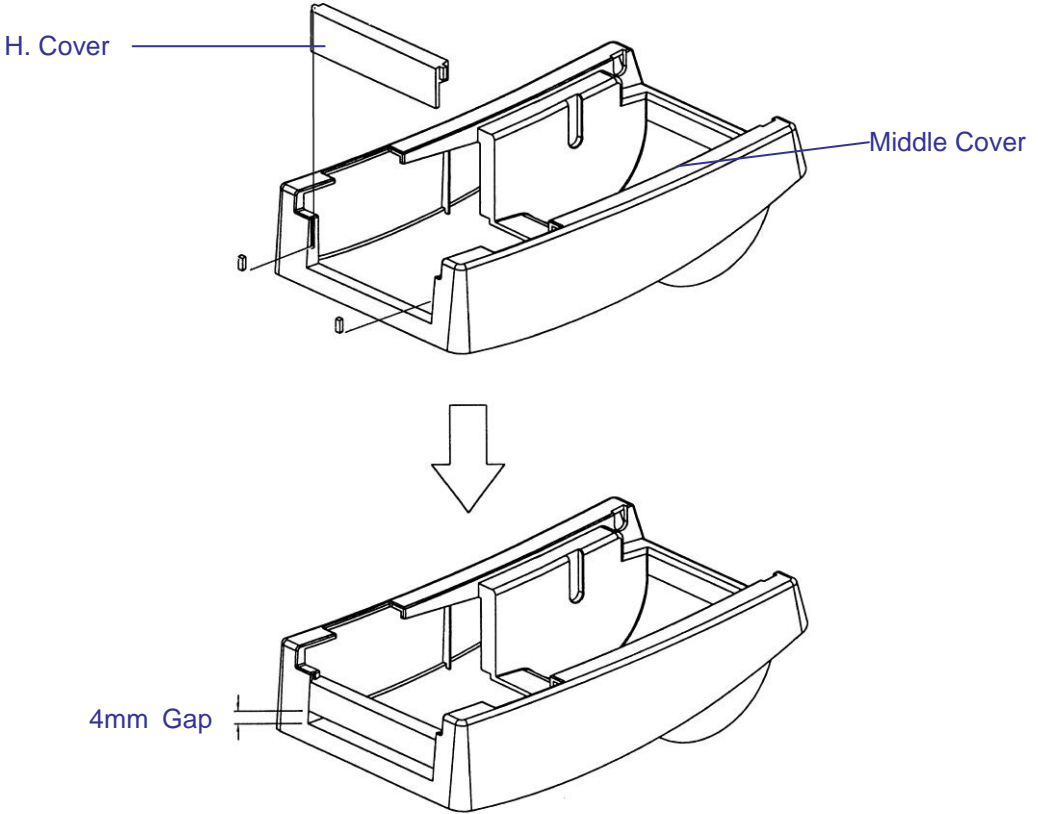21. Secure the two screws at the bottom of the base housing.

H. Cover

Middle Cover

4mm Gap

Figure 6.8

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