

Application User Manual

Rev: A0

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USER'S GUIDE FOR ISL29011 SENSOR PRINTER APPLICATION

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1 Introduction

This application manual explains the Printer Application of ISL29011 Sensor. Which will calculate the number of pages remaining in the paper tray as well as photo tray by using the proximity count.

This application will be compatible for Windows XP/7/8/8.1 platform.

1.1 Feature:

1. View proximity count as well as paper remaining continuously.
2. Work for two types of tray.
 - a) Paper
 - b) Photo

Each tray contains indivisually six type of papers

Paper Tray:

- a) PaperPoint Typing Paper (60g/m²)
- b) Paper One Copier HSPCP (70g/m²)
- c) Paper One All Purpose (80g/m²)
- d) A'Zone perfectCopy (100g/m²)
- e) A'Zone perfectCopy Nature (160g/m²)
- f) A'Zone perfectCopy (160g/m²)

Photo Tray:

- a) Photo paper one
- b) Photo paper two
- c) Photo paper three
- d) Photo paper four
- e) Photo paper five
- f) Photo paper six

3. Grid view for the LUT tables.
4. Edit the LUT values for a particular paper type in running application
5. User Compatible modes
 - a) Continuous
 - b) Once
6. Easier switch from one tray to another tray using radio button

2 Installing the Application

This application is deployed for Windows xp/7/8/8.1 platform. Necessary updates and software upgradations will be provided for the same in final release with concern to Intersil feedbacks.

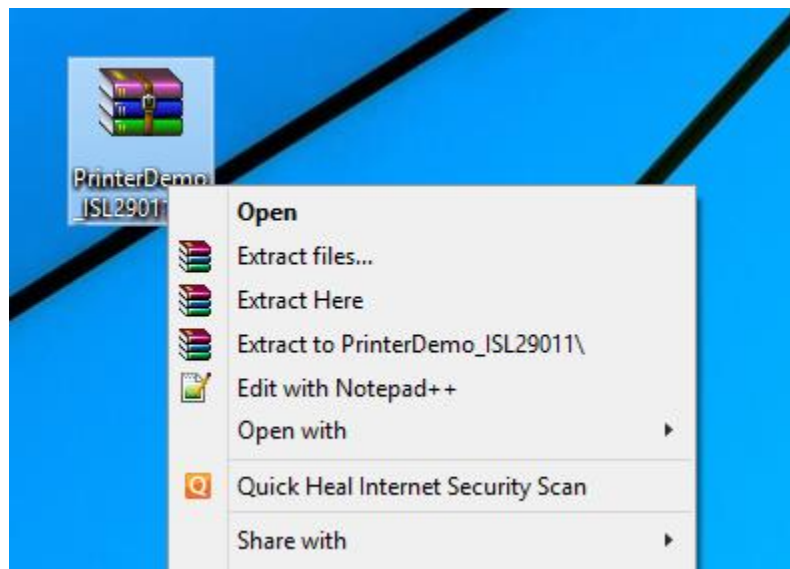
2.1 Installation files

.exe file provided by intersil for this application.

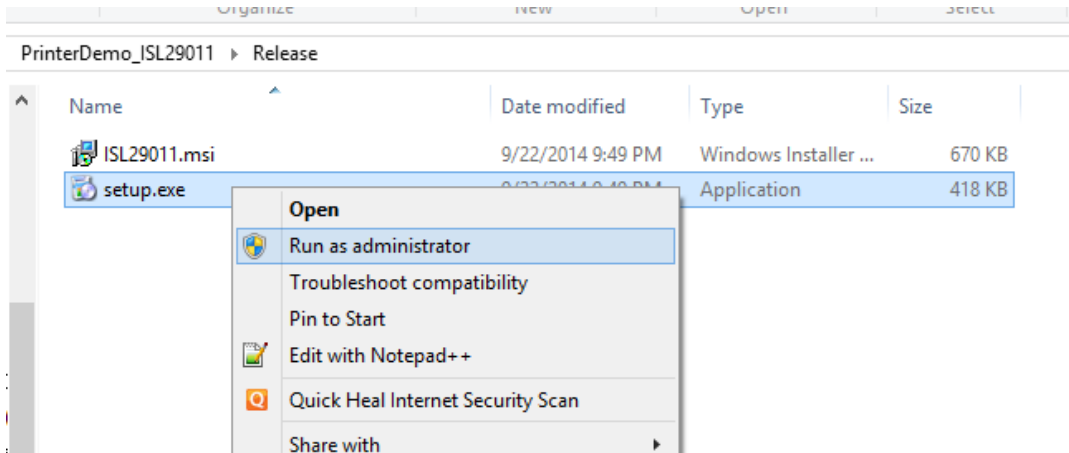
2.2 Installation procedure

2.2.1 Extracting the files

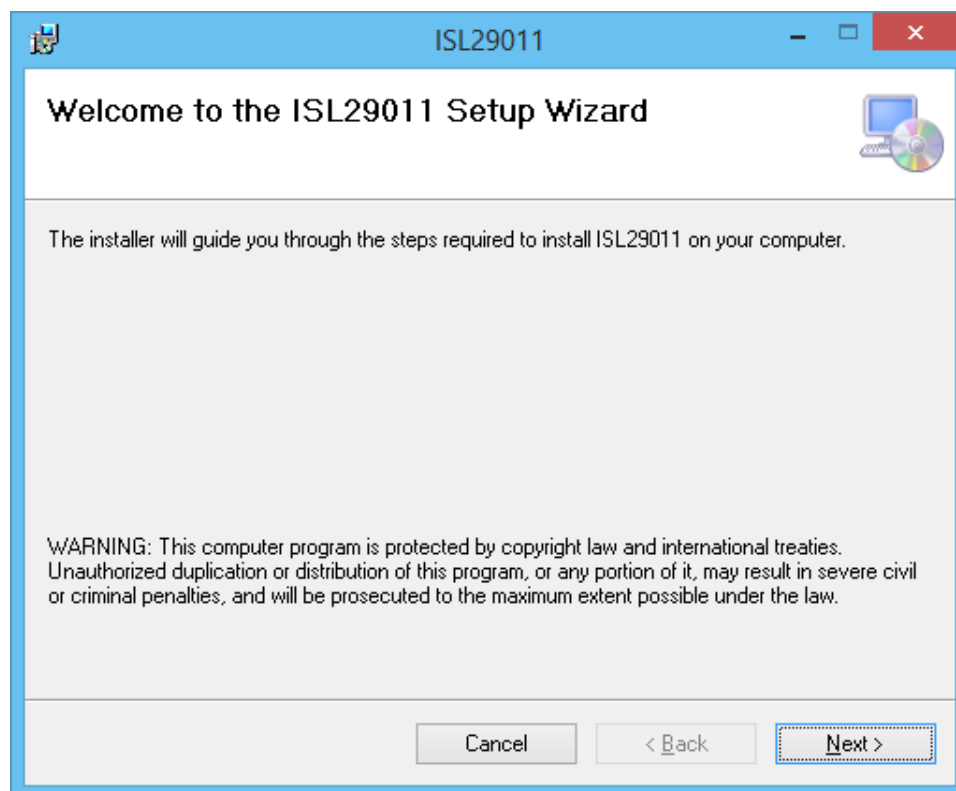
- Log onto host computer running Windows operating system, using an account with local administrator privileges.
- Copy the application package archive (PrinterDemo_isl29011.zip) to anywhere in the hard disk.
- Open the appropriate subdirectory as per the host computer architecture.

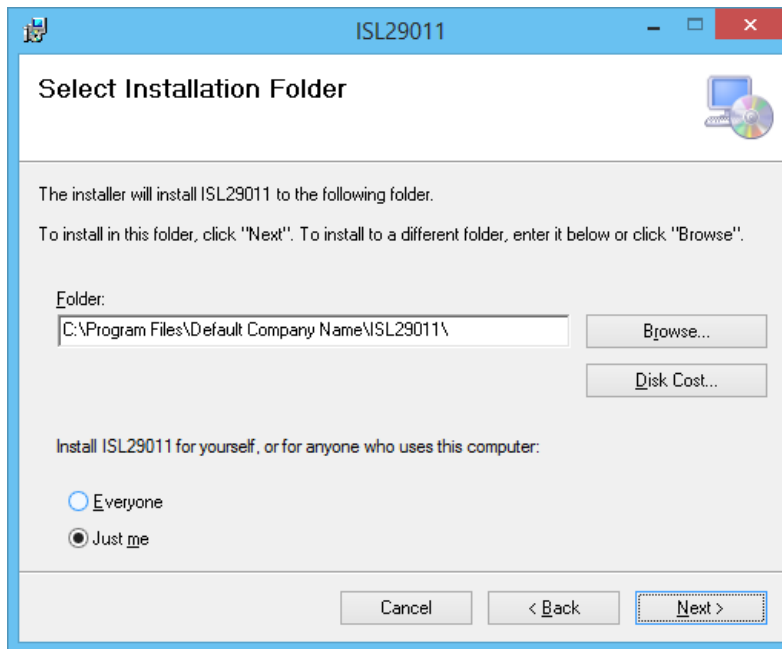


- Install the Application

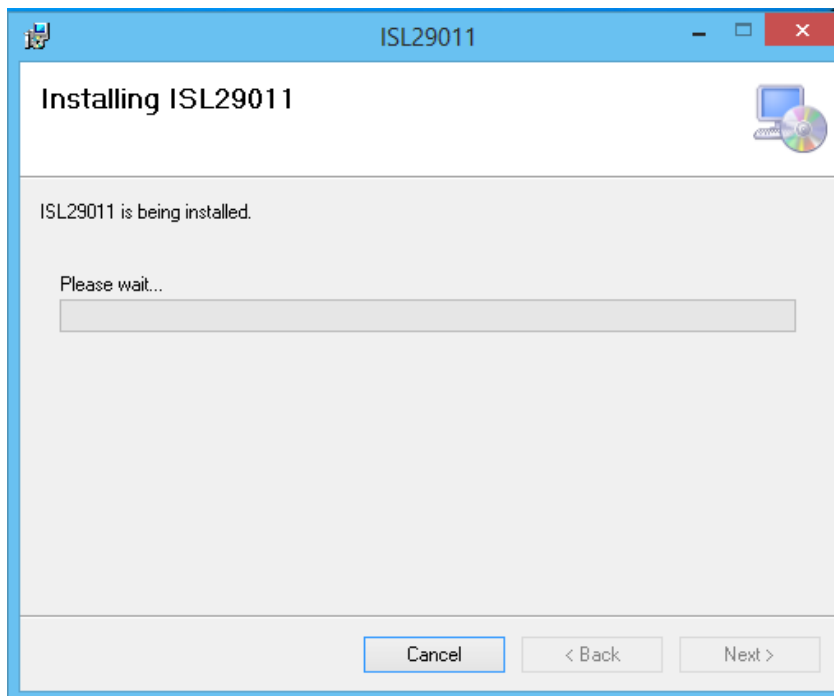


- Press the Next button to continue installation.

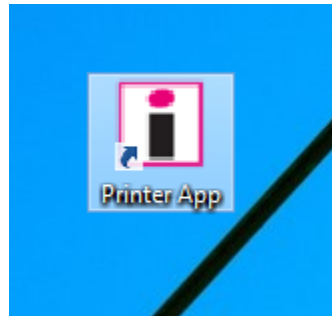




- Choose the appropriate path where we want to install the application.

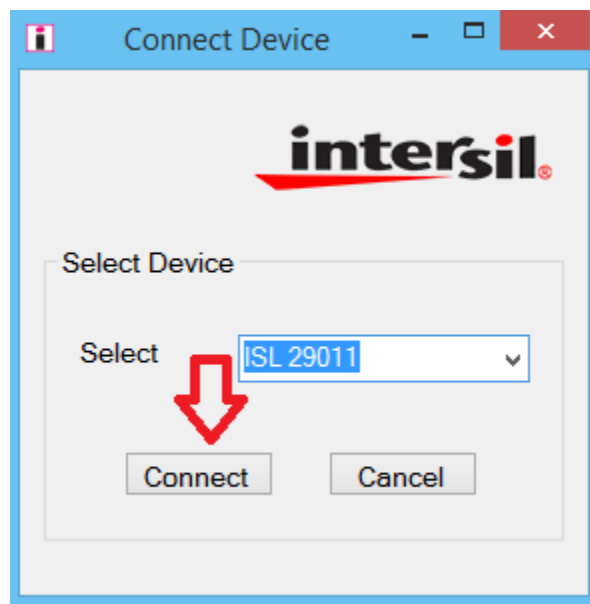


- After successful installation user should be able to find the application tile on the Start screen. Click on the application tile to run it.



3 Using the Application

- Now Select the Printer App and connect your sensor board with your running printer machine tray and press the connect application.
- Press connect button to run the application.



- The below page is the default page

PrinterDemo-ISL29011

Tray Type: Paper Tray Save LUT

Paper No.	PaperPoint Typing Paper (60g/m2)	Paper One Copier HSPCP (70g/m2)	Paper One All Purpose (80g/m2)	A'Zone perfectCopy (100g/m2)	A'Zone perfectCopy Nature (160g/m2)	A'Zone perfectCopy (160g/m2)
0	602	297	297	296	269	298
1	926	911	928	937	997	850
2	993	950	1004	1006	1053	950
3	1024	984	1025	1036	1075	984
4	1045	1010	1050	1055	1090	1010
5	1054	1022	1069	1067	1102	1022
6	1066	1025	1077	1073	1119	1025
7	1072	1037	1085	1075	1122	1037
8	1074	1048	1093	1080	1131	1048
9	1076	1054	1134	1086	1134	1054
10	1085	1058	1179	1089	1140	1058
20	1112	1082	1225	1131	1200	1082
30	1145	1113	1279	1171	1274	1113
40	1174	1138	1332	1219	1360	1138
50	1210	1171	1390	1268	1450	1171
60	1250	1210	1455	1319	0	1210
70	1288	1244	0	1373	0	1244
80	1329	1268	0	1435	0	1268
90	1382	1297	0	0	0	0
100	1424	1351	0	0	0	0

Right Panel:

Paper Type: PaperPoint Typing Paper (60g/m2) ▼

Edit Paper Type

Type: PaperPoint Typing Paper (6) Edit

Mode Selection

☐ Continuous ☒ Once

Start Stop

Tray Type

☒ Paper Tray ☐ Photo Tray

Capture Refill

Paper Type:

Paper Tray Status

Count

Page Remaining

Photo Tray Status

Count

Page Remaining

- We can select the paper tray and observe the status for the proximity count value and number of pages remaining in the paper tray of printer.

PrinterDemo-ISL29011

Tray Type: Paper Tray Save LUT

Paper No.	PaperPoint Typing Paper (60g/m2)	Paper One Copier HSPCP (70g/m2)	Paper One All Purpose (80g/m2)	A'Zone perfectCopy (100g/m2)	A'Zone perfectCopy Nature (160g/m2)	A'Zone perfectCopy (160g/m2)
0	602	297	297	296	269	298
1	926	911	928	937	997	850
2	993	950	1004	1006	1053	950
3	1024	984	1025	1036	1075	984
4	1045	1010	1050	1055	1090	1010
5	1054	1022	1069	1067	1102	1022
6	1066	1025	1077	1073	1119	1025
7	1072	1037	1085	1075	1122	1037
8	1074	1048	1093	1080	1131	1048
9	1076	1054	1134	1086	1134	1054
10	1085	1058	1179	1089	1140	1058
20	1112	1082	1225	1131	1200	1082
30	1145	1113	1279	1171	1274	1113
40	1174	1138	1332	1219	1360	1138
50	1210	1171	1390	1268	1450	1171
60	1250	1210	1455	1319	0	1210
70	1288	1244	0	1373	0	1244
80	1329	1268	0	1435	0	1268
90	1382	1297	0	0	0	0
100	1424	1351	0	0	0	0

Paper Type: PaperPoint Typing Paper (60g/m2)

Edit Paper Type
Type: PaperPoint Typing Paper (6)
Edit

Mode Selection
☒ Continuous ☐ Once
Start Stop

Tray Type
☒ Paper Tray ☐ Photo Tray

3 Capture Refill

Paper Type: PaperPoint Typing Paper (60g/m2)

Paper Tray Status

Count	1410
Page Remaining	97

Photo Tray Status

Count

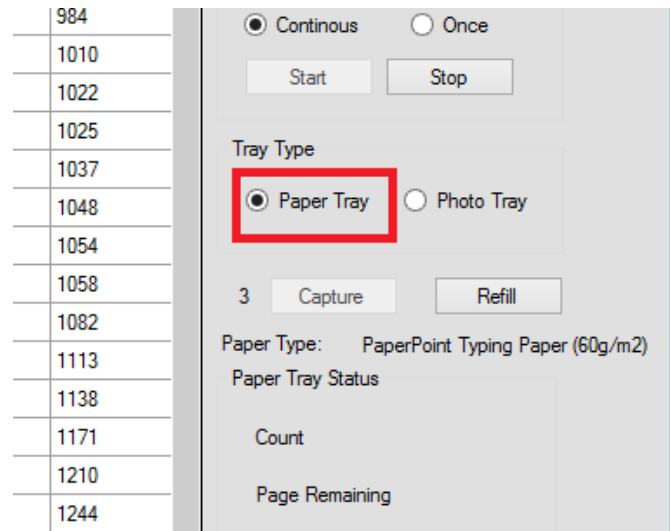
Page Remaining

- We can choose the photo tray and observe the current status of proximity value and number of pages remaining similar to paper tray.

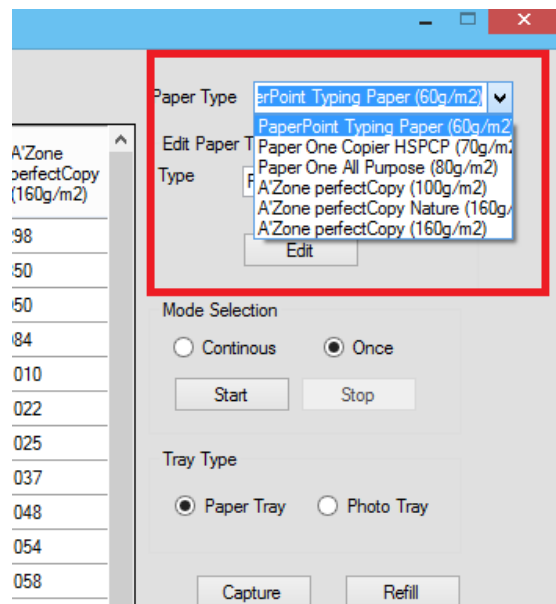
4 Set the configuration

4.1 Paper Tray:

- Select the radio button as a Paper tray



- Choose the Paper Type to fill the LUT table according to the proximity count and press Edit button.

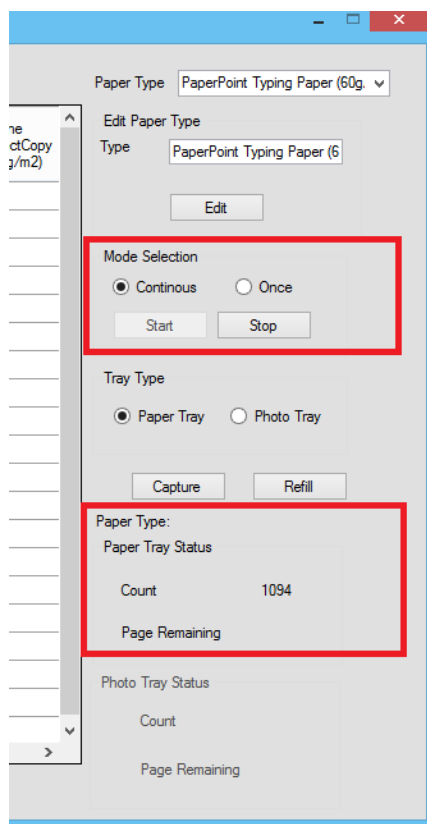


- Now we can edit only that particular column and save it after the edit complete, similarly we can edit the other values of the LUT table and save it.

The screenshot shows the 'PrinterDemo-ISL29011' application window. At the top, there's a 'Tray Type: Paper Tray' label and a 'Save LUT' button highlighted with a red box. Below this is a table with 7 columns: Paper No., PaperPoint Typing Paper (60g/m2), Paper One Copier HSFCP (70g/m2), Paper One All Purpose (80g/m2), A'Zone perfectCopy (100g/m2), A'Zone perfectCopy Nature (160g/m2), and A'Zone perfectCopy (160g/m2). The table contains 11 rows of data. To the right of the table is a control panel with 'Paper Type' set to 'PaperPoint Typing Paper (60g)' and an 'Edit Paper Type' section with 'Type' set to 'PaperPoint Typing Paper (6)' and an 'Edit' button. Below that is a 'Mode Selection' section with 'Continuous' and 'Once' radio buttons, and 'Start' and 'Stop' buttons. Further down is a 'Tray Type' section with 'Paper Tray' and 'Photo Tray' radio buttons, and 'Capture' and 'Refill' buttons. At the bottom right, there are sections for 'Paper Type: Paper Tray Status' with 'Count' and 'Page Remaining' fields, and 'Photo Tray Status' with 'Count' and 'Page Remaining' fields.

Paper No.	PaperPoint Typing Paper (60g/m2)	Paper One Copier HSFCP (70g/m2)	Paper One All Purpose (80g/m2)	A'Zone perfectCopy (100g/m2)	A'Zone perfectCopy Nature (160g/m2)	A'Zone perfectCopy (160g/m2)
0	602	297	297	296	269	298
1	926	911	928	937	997	850
2	993	950	1004	1006	1053	950
3	1024	984	1025	1036	1075	984
4	1045	1010	1050	1055	1090	1010
5	1054	1022	1069	1067	1102	1022
6	1066	1025	1077	1073	1119	1025
7	1072	1037	1085	1075	1122	1037
8	1074	1048	1093	1080	1131	1048
9	1076	1054	1134	1086	1134	1054
10	1085	1058	1179	1089	1140	1058
20	1112	1082	1225	1131	1200	1082
30	1145	1113	1279	1171	1274	1113
40	1174	1138	1332	1219	1360	1138
50	1210	1171	1390	1268	1450	1171
60	1250	1210	1455	1319	0	1210
70	1288	1244	0	1373	0	1244
80	1329	1268	0	1435	0	1268
90	1382	1297	0	0	0	0
100	1424	1351	0	0	0	0

- After the save LUT we are ready to run the application. And select the mode in which we want to operate it like continuous and once.
- If we select continuous now press start to enable the sensor to display the count value on the screen. And stop it if we finished our all operation.
- Similarly if we select once mode only the start button will be enable it will stop automatically.



- Now remove one paper from the paper tray and press the capture button. This step will be repeat three times and internally algorithm will calculate the slope of paper.
- Now we can able to see the number of remaining pages in the paper tray.

The screenshot displays a control interface with the following sections:

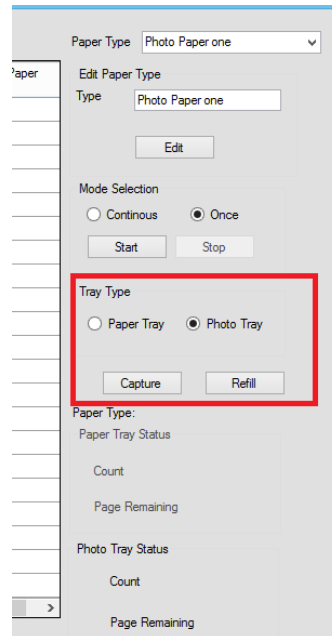
- Mode Selection:** Includes radio buttons for ☒ Continuous and ☐ Once, and buttons for Start and Stop.
- Tray Type:** Includes radio buttons for ☒ Paper Tray and ☐ Photo Tray.
- Buttons:** A '3' label is next to a 'Capture' button. A 'Refill' button is highlighted with a blue border.
- Paper Type:** Displays 'PaperPoint Typing Paper (60g/m2)'.
- Paper Tray Status:** A table showing:

Count	1093
Page Remaining	14
- Photo Tray Status:** A table with labels for 'Count' and 'Page Remaining' is shown, but no numerical values are present.

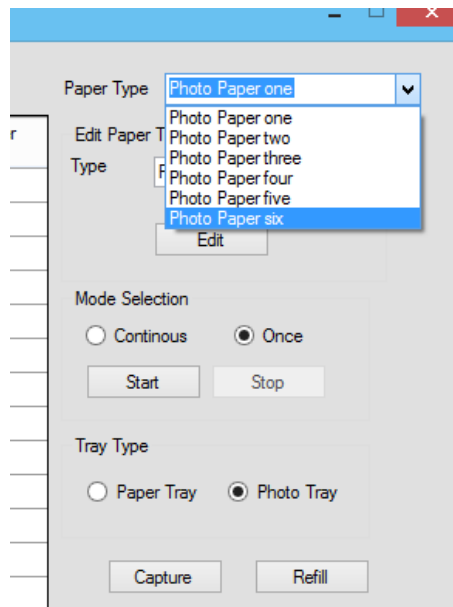
- If we want to refill our paper tray then all the above steps we have to follow again to get the remaining paper count value.
- If we choose once mode we have to press the capture button manually three times because it takes reading one time automatically. After three captures it starts to display the number of pages same as continuous mode.

4.2 Photo Tray:

- Select the radio button as a Photo tray



- Choose the Photo Type to fill the LUT table according to the proximity count and press Edit button.



- Now we can edit only that particular column and save it after the edit complete, similarly we can edit the other values of the LUT table and save it.

Paper No.	Photo Paper one	Photo Paper two	Photo Paper three	Photo Paper four	Photo Paper five	Photo Paper six
0	630	297	297	297	297	297
1	894	928	928	928	928	928
2	942	1004	1004	1004	1004	1004
3	980	1025	1025	1025	1025	1025
4	994	1050	1050	1050	1050	1050
5	2049	1069	1069	1069	1069	1069
6	2225	1077	1077	1077	1077	1077
7	2288	1085	1085	1085	1085	1085
8	2336	1093	1093	1093	1093	1093
9	2359	1134	1134	1134	1134	1134
10	2409	1179	1179	1179	1179	1179
11	2457	1225	1225	1225	1225	1225
12	2470	1279	1279	1279	1279	1279
13	2534	1332	1332	1332	1332	1332
14	2592	1390	1390	1390	1390	1390
15	2662	1455	1455	1455	1455	1455
16	2689	0	0	0	0	0
17	2728	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0

- After the save LUT we are ready to run the application. And select the mode in which we want to operate it like continuous and once.
- If we select continuous now press start to enable the sensor to display the count value on the screen. And stop it if we finished our all operation.
- Similarly if we select once mode only the start button will be enable it will stop automatically.

The screenshot shows a software interface for configuring paper and tray settings. At the top, there is a 'Paper Type' dropdown menu set to 'Photo Paper one'. Below this is an 'Edit Paper Type' section with a 'Type' field also set to 'Photo Paper one' and an 'Edit' button. Two sections are highlighted with red rectangles: 'Mode Selection' and 'Tray Type'. The 'Mode Selection' section contains two radio buttons, 'Continous' (unselected) and 'Once' (selected), along with 'Start' and 'Stop' buttons. The 'Tray Type' section contains two radio buttons, 'Paper Tray' (unselected) and 'Photo Tray' (selected), along with 'Capture' and 'Refill' buttons. Below these sections, there are status indicators for 'Paper Type:', 'Paper Tray Status', 'Count', 'Page Remaining', 'Photo Tray Status', 'Count', and 'Page Remaining'. A right arrow button is visible at the bottom left of the interface.

- Now remove one paper from the paper tray and press the capture button. This step will be repeat three times and internally algorithm will calculate the slope of paper.
- Now we can able to see the number of remaining pages in the photo tray.

The screenshot shows a control interface with the following sections:

- Mode Selection:** Two radio buttons, 'Continuous' (selected) and 'Once'. Below them are 'Start' and 'Stop' buttons.
- Tray Type:** Two radio buttons, 'Paper Tray' and 'Photo Tray' (selected).
- Counters:** A display showing '3' next to a 'Capture' button and a 'Refill' button.
- Paper Type:** A label 'Photo Paper two'.
- Paper Tray Status:** A section with labels 'Count' and 'Page Remaining'.
- Photo Tray Status:** A section with labels 'Count' (displaying '1091') and 'Page Remaining' (displaying '8').

- If we want to refill our photo tray then all the above steps we have to follow again to get the remaining photo count value.
- If we choose once mode we have to press the capture button manually three times because it takes reading one time automatically.

NOTE :

- All the LUT values in a column will be in ascending order (from top to bottom) and the row will be minimum to maximum (depends on paper thickness)
- Replace maximum height by 0 at the end of each column when filling the LUT table (We replace maximum height by 0 for algorithm calculation in next release we will make it user convenient)