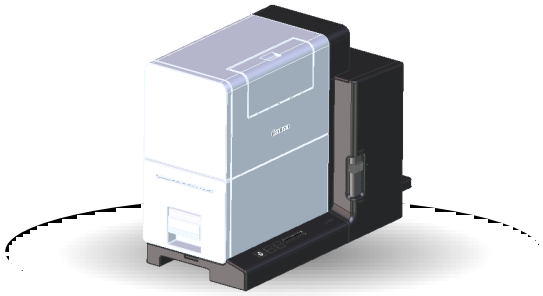
# Sales Training
# Swiftcolor



***Digital Printer Business Unit of***

KANEMATSU CORPORATION

***January, 2015***

***Revision 0.0***

For Telephone operator

1. What is difference of INKJET and Thermal Ribbon. (Advantage)
2. Overview of Swiftcolor product
3. General Q&A
4. Recommend Application
5. Price (List Price/Per Print Cost)
6. Durability (Machine/Media)
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9. How to proceed shipping mode
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    1. Overlay Printing
    2. Pinpoint color print
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    4. Color matching

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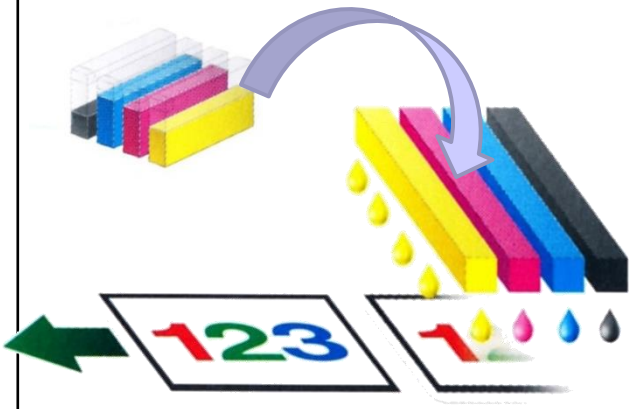
# What is difference of INKJET and Thermal Ribbon. (Advantage)

- ☐ IJ printing Security Merit
- ☐ High Print Quality
- ☐ High Productivity
- ☐ Multi size media Printing
- ☐ Multi Kind Media Printing
- ☐ Broaden Color Space/gamut

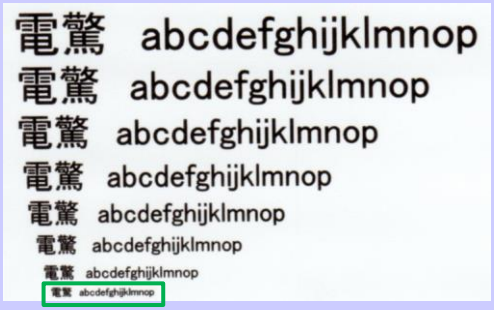
# IJ Printing Security Merit

| | IJ printing | Thermal transfer printing |
|---|---|---|
| Features |  |  |
| Information protection | No information remains<br>No care about used ink | Printed information remains on the used ink ribbon<br>Must be careful about leak of information |
| Ink consumption | Ink is used only for printing area<br>No ink is wasted | Entire card range of ribbon is used for every color<br>Most of the ink ribbon is wasted |

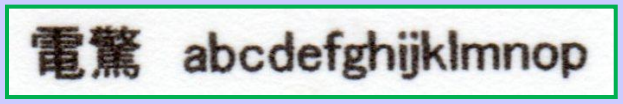
# High Print Quality

1,200dpi print resolution enables to print very clear small characters and small barcodes

Inkjet Card Printer




16pt
14pt
12pt
10pt
8pt
6pt
4pt
2pt

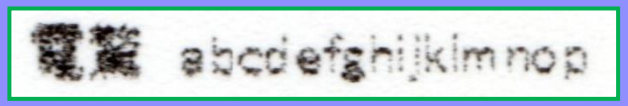



**Readability**
**Good Good Good**


(mm)

Thermal Transfer Printer


16pt
14pt
12pt
10pt
8pt
6pt
4pt
2pt

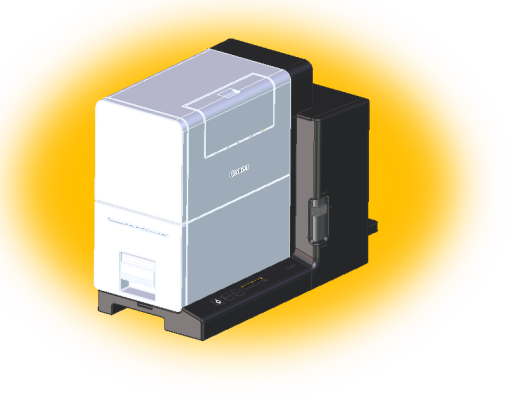



**Readability**
**Bad Bad Bad**


(mm)

# ◆Product Advantage

## High Productivity

| Swiftcolor Card Printer | | Thermal Transfer Printer | |
|---|---|---|---|
|  | | PR-C201 (Retransfer)<br>  | PR-C101 (Thermal transfer)<br>  |
| **50ppm** | **Productivity** | 2.4ppm | 2.5ppm |
| **within 10 sec.** | First Print Time | within 24.8 sec. | within 25 sec. |

**Productivity : 20** times higher

**First Print : 2.5** times faster first print time

\+

- **1200 dpi high resolution**
- **Full color with CMYK 4 colors**

# Multi size media printing

## Swiftcolor


Business Card
(55mm x 91mm)


ID CR-80
(54mm x 85.6mm)


Large format
(90mm x 140mm)


Ticket size
(58mm x 172mm)

## Thermal Ribbon Printer


ID CR-80
(54mm x 85.6mm)

Inkjet technology could be supported media size variety.
So, many application and new market will be opened.

# Multi kind media printing

## 1) Effective use contributes cost reduction

You have another choice, using paper !!
Sometimes don't need to use plastic,
using paper contributes cost reduction !!

Plastic

**Full-time**

Employee ID


Plastic business card
for executives available


Paper

**Temporary/Visitor usage**

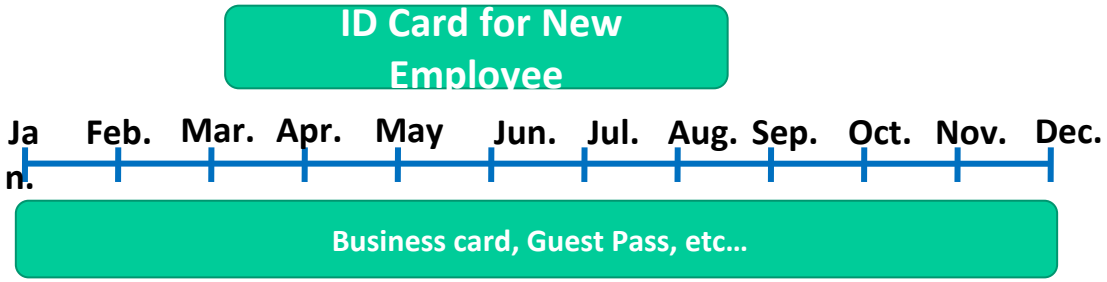
Stuff ID/Pass

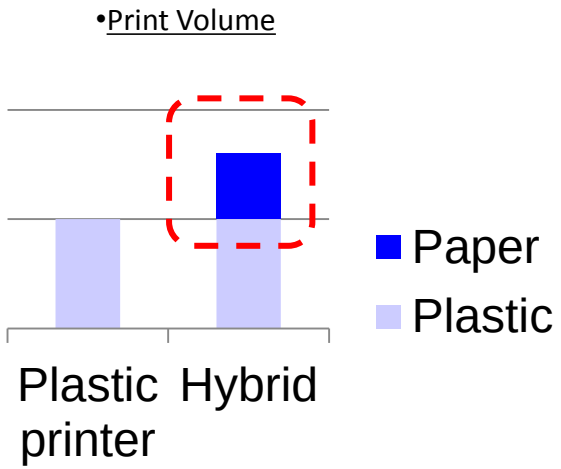

Business Card


(Ex. Office Use)

# Multi kind media printing

## 2) Multi kind Media Printer works all seasons ,all time.




## Business Merit

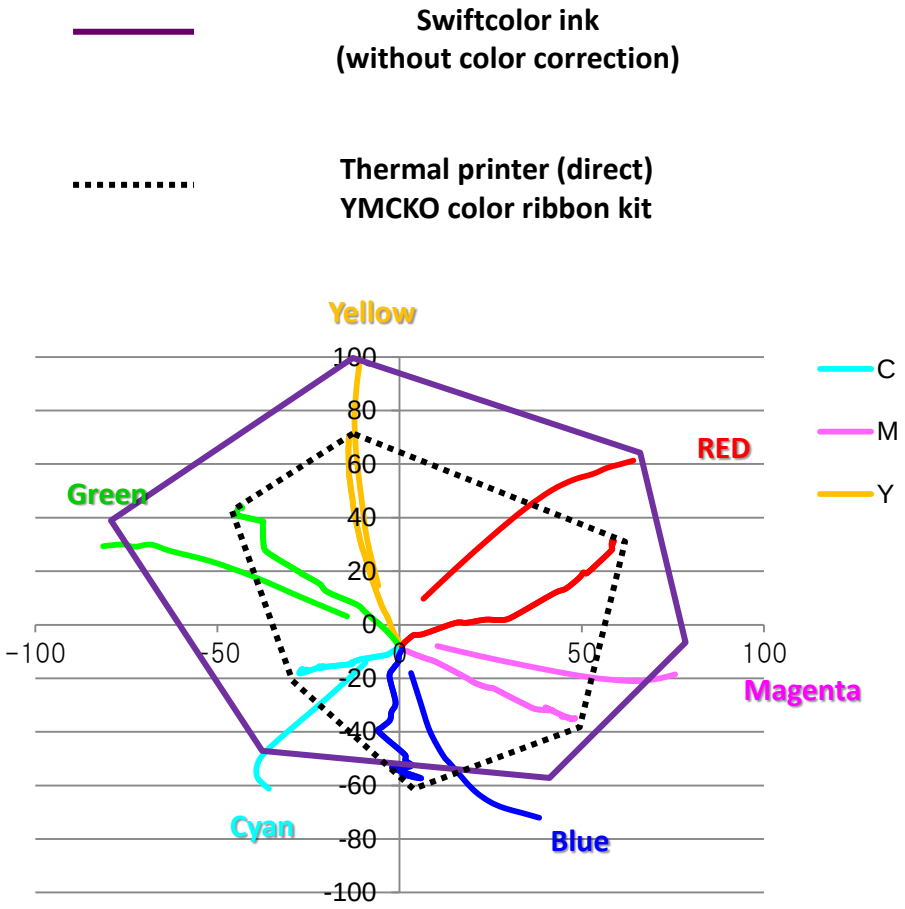
•Chance to get more **supply business**

-Paper media
-Ink for paper

•Chance to get more market
- Office, Retail, Amusement

# Color Space/ gamut

Inkjet printer has broader color space in every color (YMCRGB) compared to the dye-sublimation type printer



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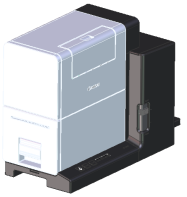
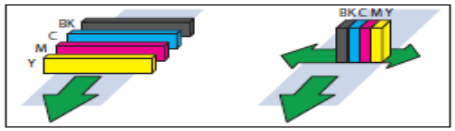
# Overview of Swiftcolor product

| | | Swift Color SCC-4000D | Swift Color SCC-2000D |
|---|---|---|---|
| Printing Technology | | 4” width Single-Pass Inkjet | 2” width Single-Pass Inkjet |
| Photo | |  |  |
| Resolution | | 1,200 dpi | 1,200 dpi |
| Type of ink | | Dye based ink | Dye based ink |
| Throughput | CR-80 ID card | 100 cards / min | 50 cards / min |
| | Business card | 100 cards / min | 50 cards / min |
| | 90 x 140 mm | 45 sheets / min | - |
| Media | | IJ coated Plastic & Paper cards | IJ coated Plastic & Paper cards |
| Security | | No print trace remained | No print trace remained |
| Print-head Lifecycle *(Business card, 7.5% duty for each color) | | 1,200,000 prints or 5years | 500,000 prints or 5years |
| # of card print per cartridge | | 5,000 – 35,000 cards | 700 – 3,500 cards |




Single-pass printing (SCC-2000D/P) Serial printing

**Central mass-production model**

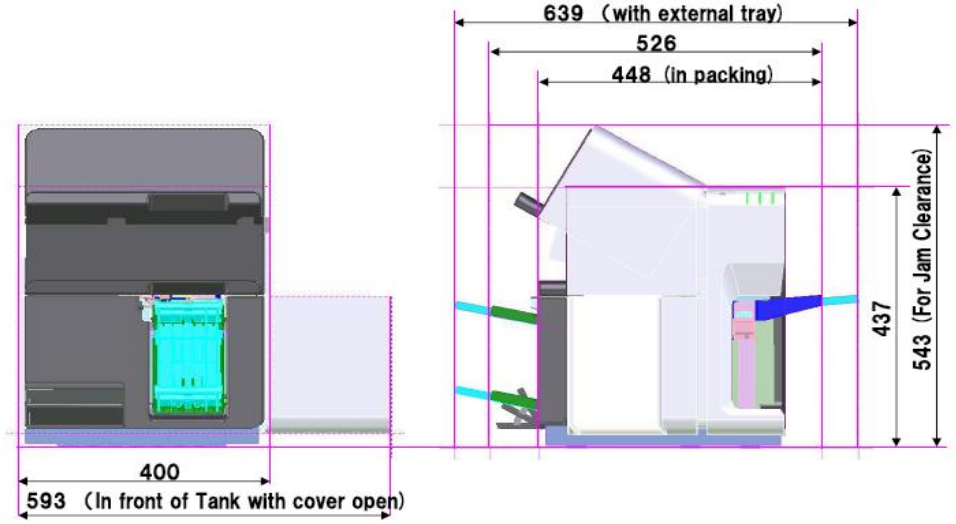
**Department, Small sales office, Branch office, Reception**

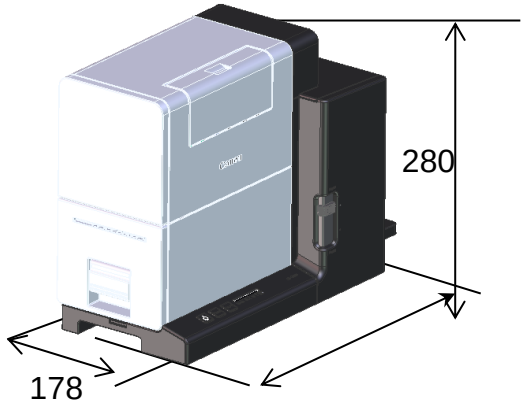
# Specifications

| | SCC-4000D | SCC-2000D |
|---|---|---|
| Print Technology | Inkjet, Single pass printing | Inkjet, Single pass printing |
| Type of Ink | Dye based ink | Dye based ink |
| Ink Color | 4 colors (Black, Cyan, Magenta & Yellow) | 4 colors (Black, Cyan, Magenta & Yellow) |
| Dimensions | 595 (W) x 410 (H) x 463 (D) mm<br>23.3" (W) x 16.1" (H) x 18.2" (D) | 391 (W) x 180 (H) x 179(D) mm<br>15.4" (W) x 7.0" (H) x 11.0" (D) |
| Weight | Approx. 25 kg | Approx. 8 kg (Excluding ink tanks) |
| # of Print-head | 4 | 4 |
| Max. Print Width | 107.8mm / 4.24" | 57.4mm / 2.26" |
| Max. Print Length | 297.0mm / 11.69" | 171.4mm / 6.75" |
| Data Interface | USB2.0, High speed function Gigabit Ethernet | USB2.0, High speed function Gigabit Ethernet |
| Power Supply | 100 - 240 v, 50 - 60 Hz | 100 - 240 v, 50 - 60 Hz |
| Power Consumption | 250w or less | 250w or less |
| Operational environment | 15 degreeC/10% - 30 degreeC/80% | 15 degreeC/10% - 30 degreeC/80% |
| Media Size | Width: 85 - 120 mm / 3.35" - 4.70"<br>Length: 49 - 300 mm / 1.90" - 11.81"<br>Thickness: 200 - 760 um | Width: 51 - 58 mm / 2.00" - 2.28"<br>Length: 81 - 172 mm / 3.19" - 6.77"<br>Thickness: 210 - 760 um |

# Specifications

| | SCC-4000D | SCC-2000D |
|---|---|---|
| Print Speed<br>(Copy Mode) | Business card (55 x 91 mm): 100 sheets/min<br>Postcard (100 x 148 mm): 45 sheets/min<br>Envelop (235 x 120 mm): 28 sheets/min | Business card (55 x 91 mm): 50 sheets/min<br>Plastic card (54 x 85.6 mm): 50 sheets/min |
| Deck Capacity | Business card: 500 sheets<br>Postcard: 500 sheets<br>Envelop: 100 sheets | Business card: 250 sheets<br>Plastic card: 100 sheets |
| Ink cartridges | 105 ml for Bk/C/M/Y each color | 14.5 ±0.3ml for Bk/C/M/Y each color |



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# General Q&A

Q： Can we print onto general paper/Normal PVC?
A： No, you can't. IJ coated media is required. Please test before use.

Q： What will happen if we print onto general paper/Normal PVC?
A： Sometimes ink adheres to the back side of cards because of lack of ink dryness.
Also, it may cause paper jam, transporting several cards at one time, and skew.
There may occur other troubles except above.
Regarding Normal PVC, this media do not absorb our ink. Thus cannot be used.

Q： Can we print on both side?
A： After printing one side, you need to turn cards over and set them again for printing.

Q： Can we print on edge to edge?
A： No, you can't. However SCC-2000D achieves nearly edge to edge.
SCC-4000D margins "Top/Bottom 1.5mm" and "Right/Left 2.0mm" are needed.
SCC-2000D margins "Top/Bottom 0.3mm" and "Right/Left 0.3mm" are needed.

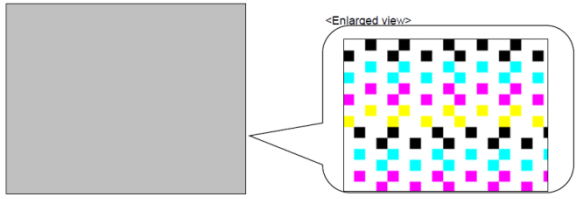
Q： Which type is the ink Dye type or Pigment type?
A： The ink is Dye type.

Q: How long is Ink Tank guaranteed for working?
A: Within 24 months（Within 6 months after it is installed)

Q: How long is Ink Tank guaranteed for working?
A: Within 24 months（Within 6 months after it is installed)

# General Q&A

Q: How long can we use this printer itself?
A: SCC-4000D work for 1.5 million sheets or 5 years.
SCC-2000D work for 0.5 million sheets or 5 years
(General name card's size, Printing coverage is 7.5% duty)




7.5% duty: Standard Image

Q: How often should we exchange maintenance cartridge?
A: SCC-4000D: About 72,000 sheets (Subject to change by using condition)
SCC-2000D: About 35,000 sheets (Subject to change by using condition)

Q: How much does it cost per 1 sheet?
A: It depends on the printing image and your setting.
Please calculate it by "Ink Cost Tool" we offer.

Q: Do we need to clean printer periodically?
A: Yes, you need. Please refer to the chart right.

| | | |
|---|---|---|
| 1 | Print head cleaning (via Driver) | When you find Print image failure |
| 1-1 | Print head cleaning (Use cleaning stick) | Advanced operation to proceed after #1. |
| 2 | Register adjustment | When color gap occurs. In exchanging Print Head. |
| 3 | TOF sensor cleaning | Whenever needed |
| 4 | Transporting Unit Cleaning | Whenever needed |

Q: Can we use this printer by Mac OS?
A: We are sorry, but you can't.

Q: PostScript can be used for this printer?
A: We are sorry, but it cannot be used.

# General Q&A

Q : Does it require Lamination?
A : Depends on use. Laminator should be prepared separately. *Lamination right after printing may cause migration.

Q : Can we print on print RFID cards?
A : Able to print however, requires to input data separately to the RFID.

Q : Are there any consumables other than ink tank?
A : Maintenance cartridge is required to collect maintenance ink.
Replacing timing differs depending on how it is used.
Reference)
Average maintenance ink replacement timing
SCC-4000D : 72,000 sheets with standard condition.
SCC-2000D : 35,000 sheets with standard condition .

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# Success Case

- Keyword is replacement XXL Printer

Customer: Famous baseball, American foot ball club and Event company

Printer: SCC-4000D

Application: Large format size card

Advantage: No Pre-Print, print speed;

✓ A customer has 2 concern

1. They can't estimate requirement number of large format card for one event. So, they need to purchase more than enough card because competitor printer need pre-print card.
   After changed to SCC-4000D, they didn't care about such wasted expense.
2. Due to event pass, requirement delivery time is really short. So, they need to dispatch special printing person for 24hr printing. After changed to SCC-4000D, they could shorten lead time drastically.

- Keyword is everyday different information

Customer: Huge Pharmacy Company

Printer: SCC-4000D

Application: Seminar ID Pass

Advantage: On demand Digital Printing

✓ Good point

1. A customer would like to print name as Big size character on front and to print daily schedule on back. So, SCC-4000D really fits this customer's demand
2. A customer print name card when a printer doesn't print Seminar ID Pass.

# Office Use

## ◆ Employee ID Card and Business Card

Plastic

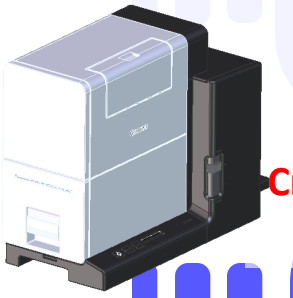
Employee ID


full-time

Corporate Calendar


CSR Card


Or Plastic business card for executives available.

ID Card for New Employee

Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.

Business card, Guest Pass, etc...

Creatively using contributes to cost reduction

Not just a ID card printer, but a Multi purpose printer. it will benefit you all seasons ,all time.

Temporary/Visitor

Stuff ID/Pass


Business Card


外注不要

Paper

# Retail Use (Ex. : Retail Shop, Service Industry (Beauty shop, Tax shop)

◆ Reward/member's Card (Plastic) + shop card, service ticket (Paper)

Plastic

## Reward/Member's Card




For Repeat Customer

## Employee card


Paper

Raise your business!!

For Entry Customer


Stamp Reward card


Apparel Price Tag


Service Ticket


Shop card

# Amusement Use (Example : Aquarium, Zoo, Amusement/Theme Park, Museum,… )

◆ Annual Pass (1 year durability) and Effective use of Paper Card

## Plastic

## Annual Pass


Front





Congestion Reducing

Many customers rush in holiday's morning

Less waiting time

**-Saving both customer's and stuff's time**

High Speed Print

## Paper

Creative Use Supports your Daily Business


Ticket


Stamp Rally


Memorial Card

# Entertainment Use (Example : Baseball Team, Football Team, Music Group, … )

## ◆ Season Ticket, Fun Club Card + Memorial Card

Jan. Feb. **Mar. Apr. May** Jun. Jul. Aug. Sep. Oct. Nov. Dec.

## Season Ticket

Front


Many funs rush in stadium at the beginning of season,
Ellis can print their Passes immediately.
You can catch the fun who is very impressed by that game and considering buy season ticket. Don't need to give application form for sending later.

Back


## Attract more funs


MVP Baseball Card


Music Event Ticket

Ellis's high speed printing enable you to print MVP card in the same day . Thus, your idea can attract more funs.

Also can print temporary event ticket ,for example music live. Thus, one plastic printer accomplish multi purpose.

Jan. Feb. Mar. Apr. **May Jun. Jul. Aug. Sep. Oct.** Nov. Dec.

# Entertainment Use (Example : Local sports club, Community Facilities, … )

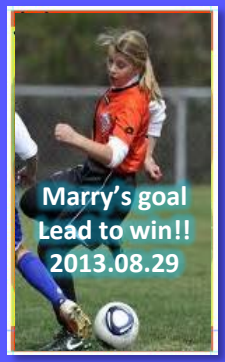
## ◆ Member Card, Memorial card, Event Card


Group member card
Attendee card


Community center member card
for use of pool, gym, library…

If he/she did good play in the game,
make memorial Card and give for his/her
Parents !!

**Contribute Club management**




Attracting member!!


Team/Event Information Card

Entertain member!!


Memorial Card for praising great job

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# Desk-top Ink Jet Card Printer SCC-4000D

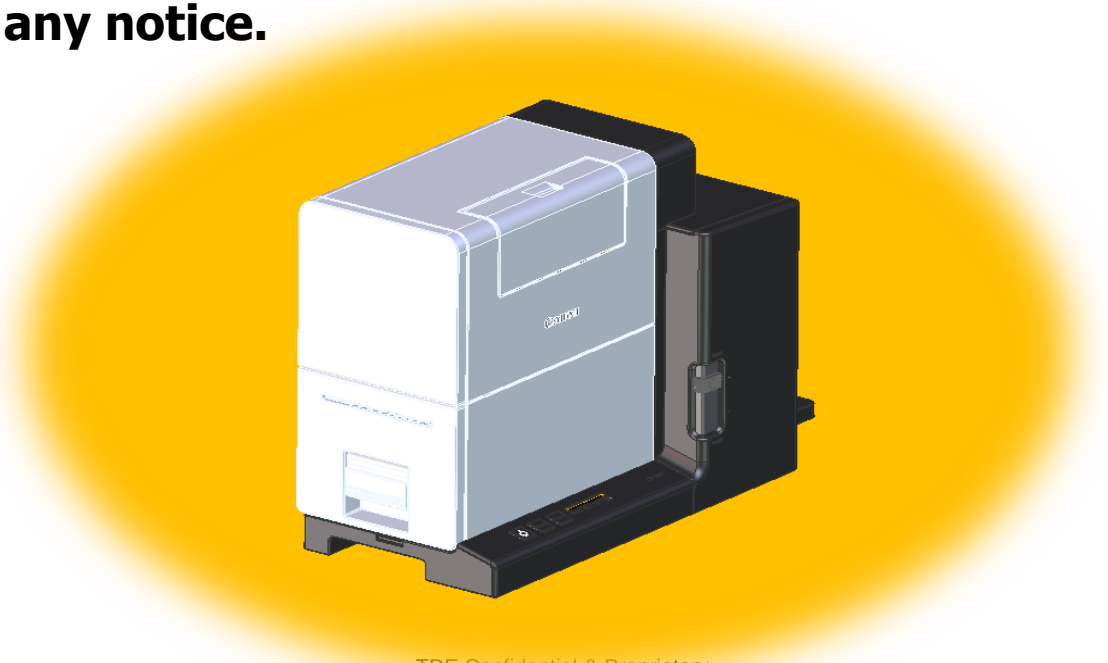
1. **Printer (SCC-4000D)** — **Euro6,895.-/printer**
2. **Ink Cartridge (100ml)** — **Euro100.-/cartridge**
   **4 cartridges (YMC and K) are required.**
3. **Maintenance Cartridge** — **Euro 45.-/cartridge**

**The above prices may subject to be changed due to exchange rate without any notice.**


# Counter-top Ink Jet Card Printer SCC-2000D

1. **Printer (SCC-2000D)** — **Euro 4,495.-/printer**
2. **Ink Cartridge (14ml)** — **Euro 25.-/cartridge**
   **4 cartridges (YMC and K) are required.**
3. **Maintenance Cartridge** — **Euro 29.-/cartridge**

**The above prices may subject to be changed due to exchange rate without any notice.**



# Consumables

## 3. Cards

### 1. Business Card

| | | | |
|---|---|---|---|
| 1. | Business Cards (Matte White) | 100 cards/set | €2.60/set |
| 2. | Business Cards (Matte Natural) | 100 cards/set | €2.60/set |
| 3. | Business Cards (Matte Cream) | 100 cards/set | €2.60/set |
| 4. | Business Cards (Thick White) | 100 cards/set | €2.60/set |

### 2. Plastic Cards (Mat/Gloss Surface)

| | | | |
|---|---|---|---|
| 1. | CR-80 (85.6mm x 54mm) | 250 cards/set | €62.50/set |
| 2. | Large Size (90mm x 140mm) | 100 cards/set | €75.00/set |

### 3. Thick Paper Cards

| | | | |
|---|---|---|---|
| 1. | CR-80 (85.6mm x 54mm) | 250 cards/set | €37.50/set |
| 2. | Large Size (90mm x 140mm) | 100 cards/set | €45.00/set |

**The above prices may subject to be changed due to exchange rate without any notice.**

# Running Cost

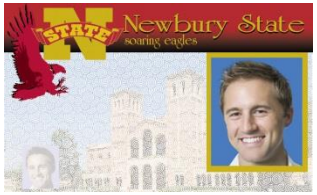
Image

CR-80 (84mm x 54.6mm)


| | | SCC-4000D | | | SCC-2000D | | |
|---|---|---|---|---|---|---|---|
| Color | Media (PVC) | Ink | Cost | Total | Ink | Cost | Total |
| Black | € 0.25 | 0.00243 ml | € 0.007 | € 0.257 | 0.00212 ml | € 0.007 | € 0.257 |
| Cyan | | 0.00161 ml | | | 0.00094 ml | | |
| Magenta | | 0.00148 ml | | | 0.00057 ml | | |
| Yellow | | 0.00115 ml | | | 0.00049 ml | | |

Image

CR-80 (84mm x 54.6mm)




| Color | Media (PVC) | Ink | Cost | Total | Ink | Cost | Total |
|---|---|---|---|---|---|---|---|
| Black | € 0.25 | 0.00172 ml | € 0.020 | € 0.270 | 0.00236 ml | € 0.036 | € 0.286 |
| Cyan | | 0.00326 ml | | | 0.00407 ml | | |
| Magenta | | 0.00804 ml | | | 0.00692 ml | | |
| Yellow | | 0.00707 ml | | | 0.00665 ml | | |

Image

Large (90mm x 140mm)

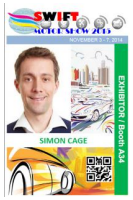

| Color | Media (PVC) | Ink | Cost | Total | Ink | Cost | Total |
|---|---|---|---|---|---|---|---|
| Black | € 0.75 | 0.00360 ml | € 0.032 | € 0.782 | - | - | - |
| Cyan | | 0.00832 ml | | | - | | |
| Magenta | | 0.00862 ml | | | - | | |
| Yellow | | 0.01133 ml | | | - | | |

*Print Condition
100print/job

# Running Cost – Print condition -

Image

Large (90mm x 140mm)



| | | | SCC-4000D | | | |
|---|---|---|---|---|---|---|
| Condition | Color | Media (PVC) | Ink | Cost | Total | Printable Number |
| 100print/job | Black | € 0.75 | 0.00360 ml | € 0.032 | € 0.782 | 27,799 pcs |
| | Cyan | | 0.00832 ml | | | 12,025 pcs |
| | Magenta | | 0.00862 ml | | | 11,594 pcs |
| | Yellow | | 0.01133 ml | | | 8,829 pcs |

Image

Large (90mm x 140mm)

| Codition | Color | Media (PVC) | Ink | Cost | Total | Printable Number |
|---|---|---|---|---|---|---|
| 10print/job | Black | € 0.75 | 0.01020 ml | € 0.058 | € 0.808 | 9,804 pcs |
| | Cyan | | 0.01492 ml | | | 6,703 pcs |
| | Magenta | | 0.01523 ml | | | 6,567 pcs |
| | Yellow | | 0.01793 ml | | | 5,577 pcs |

Image

Large (90mm x 140mm)

| Codition | Color | Media (PVC) | Ink | Cost | Total | Printable Number |
|---|---|---|---|---|---|---|
| 1print/job | Black | € 0.75 | 0.07622 ml | € 0.323 | € 1.073 | 1,311 pcs |
| | Cyan | | 0.08094 ml | | | 1,235 pcs |
| | Magenta | | 0.08125 ml | | | 1,230 pcs |
| | Yellow | | 0.08395 ml | | | 1,191 pcs |

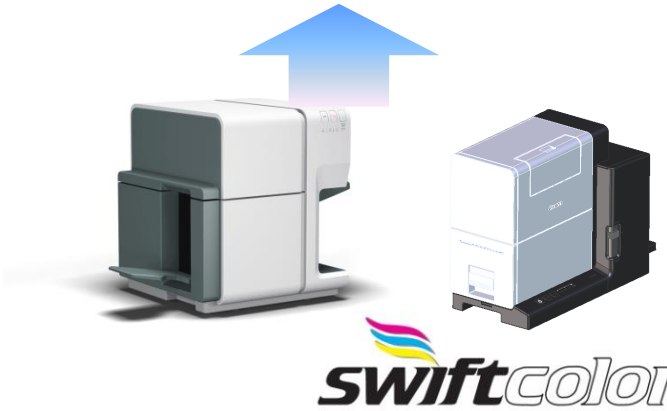
*Regarding SCC-4000D, a print cost and printable number is related with print condition due to auto cleaning process. (SCC-2000D doesn't change much up to print condition.)
*Even print condition has a impact for ink cost, total cost is occupied by media cost.

# Print Cost Comparison

**Plastic Card : €0.27**
- Card: €0.25
- Ink: €0.02

**30mil Paper Card : €0.17**
- Card: €0.15
- Ink: €0.02

**Paper Card : €0.046**
- Card: €0.026
- Ink: €0.02




**Plastic Card : €0.40**
- Card: €0.10
- Ink: €0.30

Create new desktop inkjet card printing world

Create paper card market in the current plastic card world

Thermal ID Card Printer

For Telephone operator

1. What is difference of INKJET and Thermal Ribbon. (Advantage)
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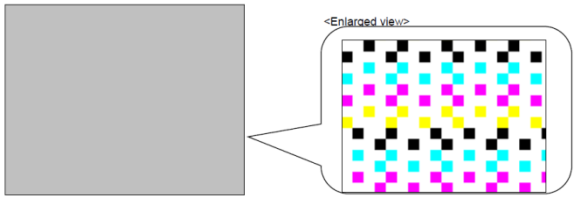
4. Recommend Application
5. Price (List Price/Per Print Cost)
6. **Durability (Machine/Media)**
7. Maintenance
8. Setup
9. How to proceed shipping mode
10. How to use driver functions
    1. Overlay Printing
    2. Pinpoint color print
    3. Supplements
    4. Color matching

# Durability

| | Swift Color SCC-4000D | Swift Color SCC-2000D |
|---|---|---|
| Printing Technology | 4” width Single-Pass Inkjet | 2” width Single-Pass Inkjet |
| Photo |  |  |
| Printer Life | 1,500,000 prints or 5years | 500,000 prints or 5years |
| Print-head Lifecycle<br>*(Business card, 7.5% duty for each color) | 1,200,000 prints | 500,000 prints |
| Warranty (without warranty) | 1 year | 1 year |
| # of card print per ink cartridge | 5,000 – 35,000 cards | 700 – 3,500 cards |
| # of card print per maintenance cartridge<br>*(Business card, 7.5% duty for each color) | 72,000 cards | 35,000 cards |
| # of card print per cartridge/roll | 5,000 – 35,000 cards | 700 – 3,500 cards |




7.5% duty: Standard Image

# Swiftcolor Media Durability Test

- SCC Ink (Y/M/C/K)
  - Swiftcolor uses water based dye ink. Able to produce vivid color and sharp images.
  - Swiftcolor dye ink has high durable resistance compared to Thermal ribbon.
  - Depending on use, Lamination required in case of exposing to water or chemical (liquids.)

  *Ink resistance result depends on used Media, therefore please test before use

- Media list
  1. Business Card
     1. Business Cards (Matte White)
     2. Business Cards (Matte Natural)
     3. Business Cards (Matte Cream)
     4. Business Cards (Thick White)
  2. Plastic Cards (Mat/Gloss Surface)
     1. CR-80 (85.6mm x 54mm)
     2. Large Size (90mm x 140mm)
  3. Thick Paper Cards
     1. CR-80 (85.6mm x 54mm)
     2. Large Size (90mm x 140mm)

- Media Durability Test results written in the following pages

# Swiftcolor Media Durability Test

【Printer】 SCC-4000D/(160mm/sec)

【Media】 Thick Paper, Matt, Gloss, Direct YMCK, Direct YMCKO, Retransfer

【Conclusion】 Swiftcolor media has enough durability to use under general condition.

| Item | Content | Swiftcolor Inkjet | | | Thermal Ribbon | | |
|---|---|---|---|---|---|---|---|
| | | ① | ③ | ④ | ⑤ | ⑥ | ⑦ |
| | | Thick Paper | Matt | Gloss | Direct YMCK | Direct YMCKO | Retransfer |
| Durability for plastic 50℃ 10Hr Weighted | Plastic Eraser (PVC) TOMBO PE-LTS | Excellent | Excellent | Excellent | Poor (Transferred) | Excellent | Excellent |
| | Plastic Eraser (PVC-P) KOKUYO KESI-70 | Excellent | Excellent | Excellent | Poor (Transferred) | Excellent | Excellent |
| | Rubber Band | Excellent | Excellent | Excellent | Excellent | Excellent | Excellent |
| Durability for Scratch 500times | 200g weight (Inserting paper : Silbon Paper) | Excellent | Excellent | Excellent | Excellent (Scratch Scar) | Excellent | Excellent |
| | 500g weight (Inserting paper : Silbon Paper) | Acceptable (Little Tailing) | Excellent | Excellent (Scartch Scar) | Excellent (Scratch Scar) | Excellent | Excellent |
| Durability for Light | 100h exposure (1year in room) | Acceptable | Acceptable | Acceptable | Poor | Poor | Poor |
| Durability for Water | Drop water | Excellent | Acceptable (Ring Stain) | Acceptable (Ring Stain) | Excellent | Excellent | Excellent |
| Durability for Chemical | Drop Ethanol | Excellent | Excellent | Acceptable (Little Bleeding) | Poor (Bleeding) | Excellent | Excellent |
| | Drop IPA (kind of Alcohol) | Excellent | Excellent | Acceptable (Little Bleeding) | Poor (Bleeding) | Excellent | Excellent |
| Remark | | Availabel | Available Limited Condition | | Unavailable | Available (Short term) | |

# Durability for Light(Remain OD Ratio)

| | Swiftcolor Inkjet | | | Thermal Ribbon | | |
|---|---|---|---|---|---|---|
| Color | Thick Paper | Matt | Gloss | Direct YMCK | Direct YMCKO | Retransfer |
| Bk | 49% | 65% | 52% | 36% | 42% | 58% |
| Y | 75% | 87% | 77% | 27% | 30% | 67% |
| M | 71% | 52% | 67% | 35% | 44% | 58% |
| C | 91% | 93% | 87% | 30% | 37% | 49% |

: More than 50% Less than 80%

: Less than 50%

# Thick Paper

| Weather Resistance | | | Media | ①Thick P |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Before

After

Little Tailing

Yellowish/Migration

# Matt

| Weather Resistance | | | Media | ③New Mat |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Before

After

Ring stain

Yellowish/Migration

# Gloss

| Weather Resistance | | | Media | ④New Gloss |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Ring stain

Little bleeding

Little bleeding

Yellowish/Migration

Before

After

# Direct YMCK

| Weather Resistance | | | Media | ⑤Direct YMCK |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Before

After

Bleeding

Bleeding

Transferred

Yellowish/Migration

# Direct YMCKO

| Weather Resistance | | | Media | ⑥Direct YMCKO |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Yellowish/Migration

Before

After

# Retransfer

| Weather Resistance | | | Media | ⑦Retransfer |
|---|---|---|---|---|
| Initial | | | | |
| Drop | Water | 1drop | | |
| | EtOH | 1drop | | |
| | IPA | 1drop | | |
| Dip | Water | 5min | | |
| Rubbed (500times) | Dry | 200g | | |
| | Dry | 500g | | |
| Plasticizer 50℃10Hr | PVC ERASER | PVC-P ERASER | | |
| | rubber band | | | |
| Light | 0.39W/m^2, 100h | | | |
| | | | | |

Before

After

Yellowish/Migration

# Swiftcolor Media Feeding Test

【Printer】SCC-4000D/(160mm/sec), SCC-20000D
【Media】Thick Paper, Matt, Gloss
【Circumstance】JJ: 25℃40%), LL：15℃/30%, HH: 30℃/80%
【Image】Front: ISO(Fruit), Back: Swiftcolor Test Pattern
【Image】Number: 200pcs/Circumstance
【Check Point】
- Checking feeding condition (accuracy of feeding)
- Checking exit media condition
- Checking shelf test condition


ISO (Fruit)

# Problem and Countermeasure

Slipping Jam

【Media】: Gloss PVC

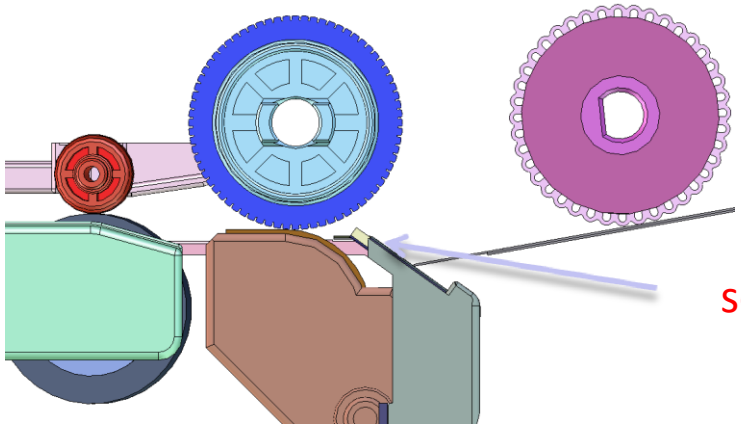
【Printer】: SCC-4000D

【Problem】: Slipping Jam occur at around separation roller

【Reason】: Mechanically printed side touches the separation assistance pat. In case of printing high density image side first, and flipping over the media to print the blank back side, slipping jam may occur due to high coefficient of friction. (For printing both side)

【Countermeasure】:

1. For printing both side, print low density image at front side and print high density image after.
2. Will change less sticky Gloss media



separation assistance pat

# Problem and Countermeasure

## Media Double Feeding

【Media】: Matt PVC

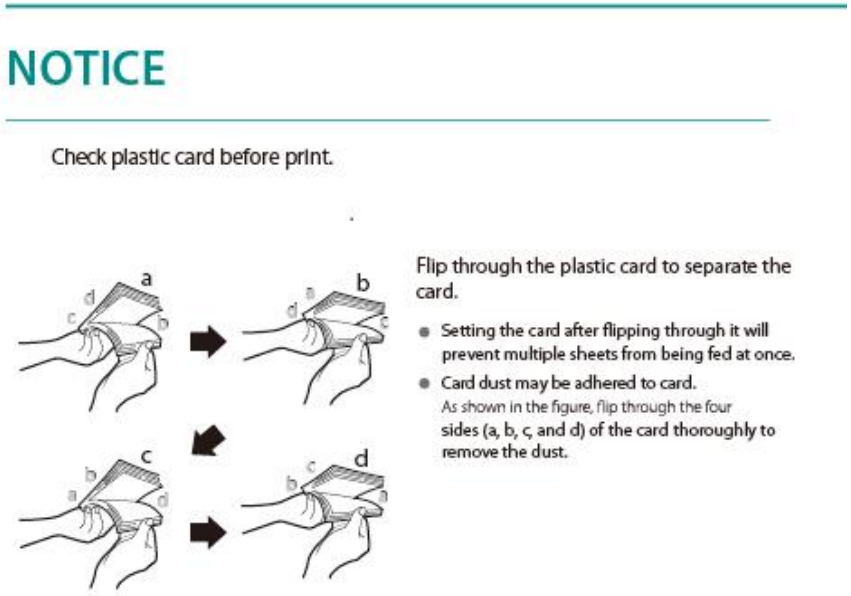
【Printer】: SCC-4000D, SCC-2000D

【Problem】: Media Double Feeding

【Reason】: A flashing at edge of media. And static electronic.

【Countermeasure】:

1. Mass production media use a card shape cutter. So, a flashing will be decreased.
2. A media box include below instruction. Before set up media, please flip through a plastic card.



NOTICE

Check plastic card before print.



Flip through the plastic card to separate the card.

- Setting the card after flipping through it will prevent multiple sheets from being fed at once.
- Card dust may be adhered to card.
  As shown in the figure, flip through the four sides (a, b, c, and d) of the card thoroughly to remove the dust.

# Problem and Countermeasure

## Touch Print Head Surface

【Media】: Thick Paper
【Printer】: SCC-2000D
【Problem】: Due to media curling issue, a print head surface touches thick paper media.
【Reason】: Under low humidity circumstance(27 degC 38%), thick media strongly curls and touches the head surface.
SCC-4000D doesn't occur this issue due to guide of media.
【Countermeasure】:

1. Do not set Micro Margin printing with thick paper. (Use the paper guide to flatten the media.)
2. We'll release new thick paper media in 2015.

# Summarize feeding test result

| | | | Gloss PVC | Matt PVC | Thick Paper |
|---|---|---|---|---|---|
| SCC-4000D | J/J | Feeding | Slipping (only back side printing) | OK | OK |
| | | Image | OK | OK | OK |
| | L/L | Feeding | Slipping (only back side printing) | Multi feeding<br>After flipping, OK | OK |
| | | Image | OK | OK | OK |
| | H/H | Feeding | Slipping (only back side printing) | Multi feeding<br>After flipping, OK | OK |
| | | Image | OK | OK | OK |
| SCC-2000D | J/J | Feeding | OK | OK | OK |
| | | Image | OK | OK | Touch print head surface<br>(Media curling issue） |
| | L/L | Feeding | OK | Multi feeding<br>After flipping, OK | OK |
| | | Image | OK | OK | OK |
| | H/H | Feeding | Multi feeding<br>After flipping, OK | Multi feeding<br>After flipping, OK | Multi feeding<br>After flipping, OK |
| | | Image | OK | OK | OK |
| Shelf test | | | OK | OK | Under less than 27℃38%, a media will be curling. |

For Telephone operator

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# Maintenance

| | Swift Color SCC-4000D | Swift Color SCC-2000D |
|---|---|---|
| Photo |  |  |
| Customer Maintenance | | |
| Cleaning the transport unit with dry towel | As needed | As needed |
| Media Pick Up Roller | As needed | As needed |
| Manual software cleaning | When print quality is poor (Light, Medium, Strong) | When print quality is poor (Light, Medium, Strong) |
| Registration adjustment | If color registration is out of alignment | If color registration is out of alignment |

# Cleaning printhead for white line issue

Light Cleaning

Medium Cleaning

Strong Cleaning

Cleaning Stick

Ink Loading

Change Printhead

| Type | Amount of ink consumed (ml) |
|---|---|
| Light cleaning | 0.8ml/4heads |
| Medium cleaning | 3.2ml/4heads |
| Strong cleaning | 10.0ml/4heads |

••••• Cleaning method by Service Utility

## SCC-4000D Overview :

Please refer to section 1-5, 1-6, 1-7, 1-8 (Component Names) on SWIFTCOLOR SCC-4000D Service Manual.

## SCC-2000D Overview :

Please refer to section 1-5 (External View/Internal View) on SWIFTCOLOR SCC-4000D Service Manual.

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Please see video;

SCC-4000D: http://www.swiftcolor.com/SCC4000-setup-video.php

SCC-2000D:


Please see manual;

SCC-4000D: SCC-4000D Start Guide.pdf

SCC-2000D: SCC-2000D Set Up Guide.pdf

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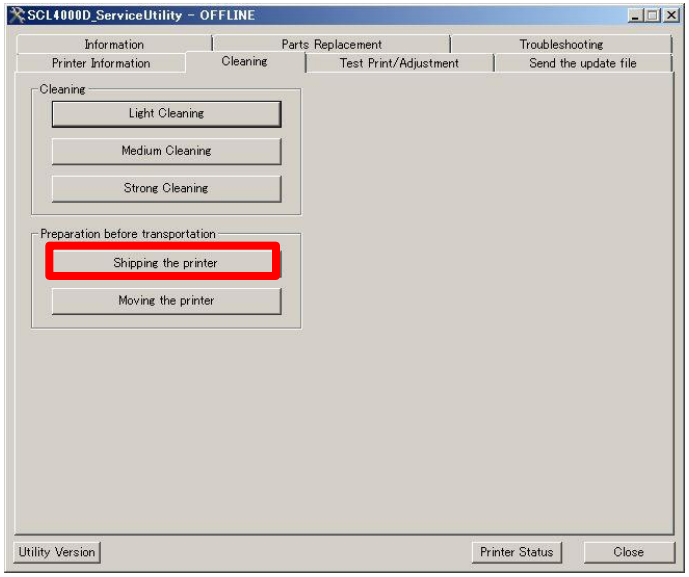
## [Draining ink]

1. Connect PC to Printer and start Service Utility.
2. Open [Cleaning] tab and click [Shipping the printer].
   （Returns ink in the ink flow path to Ink Tank.)

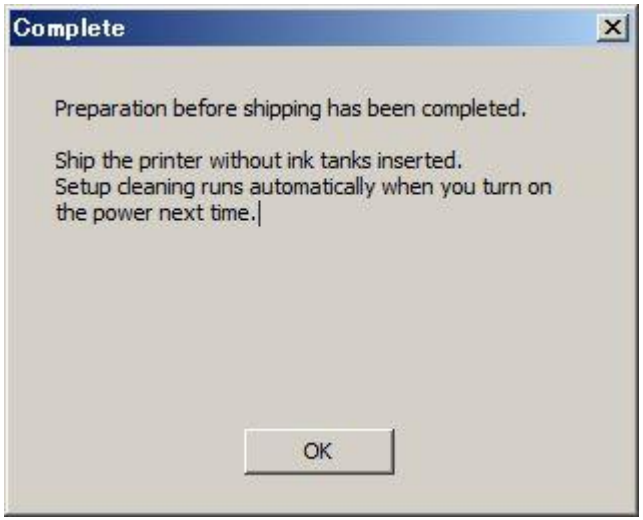



3. Remove Ink Tanks when the following message is displayed.
4. Close Ink Tank Door.
   （Feeds back ink in nozzles and Purge Unit to Maintenance Cartridge.)


CAUTION:
Do not operate Printer until the message is displayed.

## [Draining ink]

1. Ink drainage is completed when the following message is displayed.

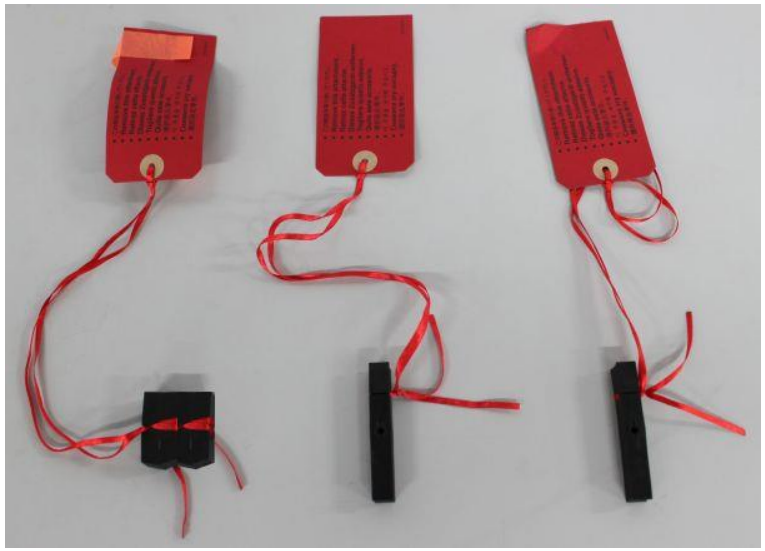


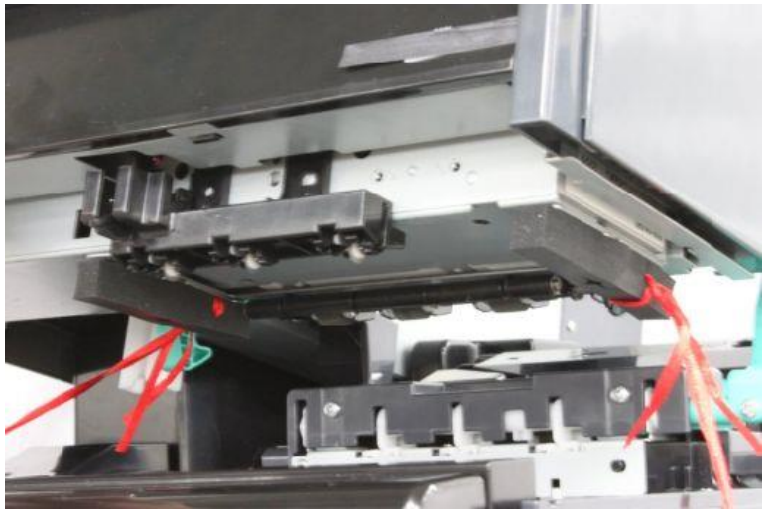

CAUTION:
Do not operate Printer until the message is displayed.

2. Turn off the power and remove Power Cable.

## [Packing]

1. Attach cushions (at 3 positions).

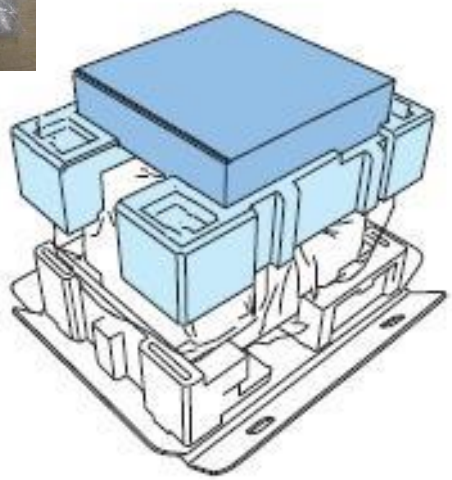




**[Packing]**

CAUTION:
Do not transport Printer with Ink Tanks.
Do not remove Maintenance Cartridge.

2. Wrap Printer with a plastic bag.
3. Attach pads and place Accessory Box on the upper pads.



4. Put the upper box.
5. Attach grips (at 4 positions).

6. Completed package

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Please see manual

SCC-4000D: SCC-4000D USER'S GUIDE

SCC-2000D: SCC-2000D USER'S GUIDE

# Overlay Printing Function

# Contents

- What is the “Overlay” function?

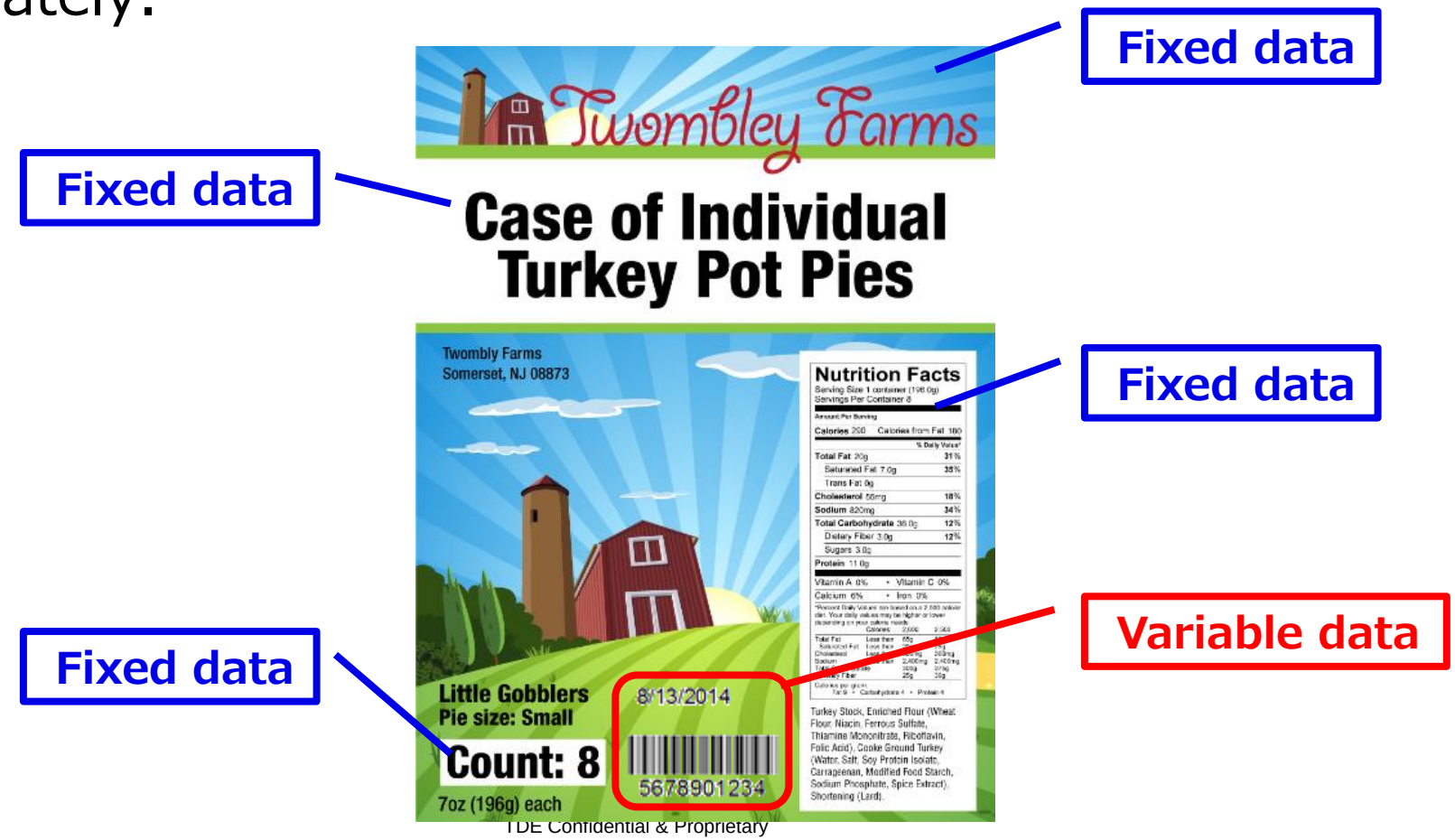
- How to use the “Overlay” function

1. Create a Form file (ofe. file)
2. Overlay Printing

# What is the “Overlay” function?

When printing labels with variable data, it may take time if image file is used as below.

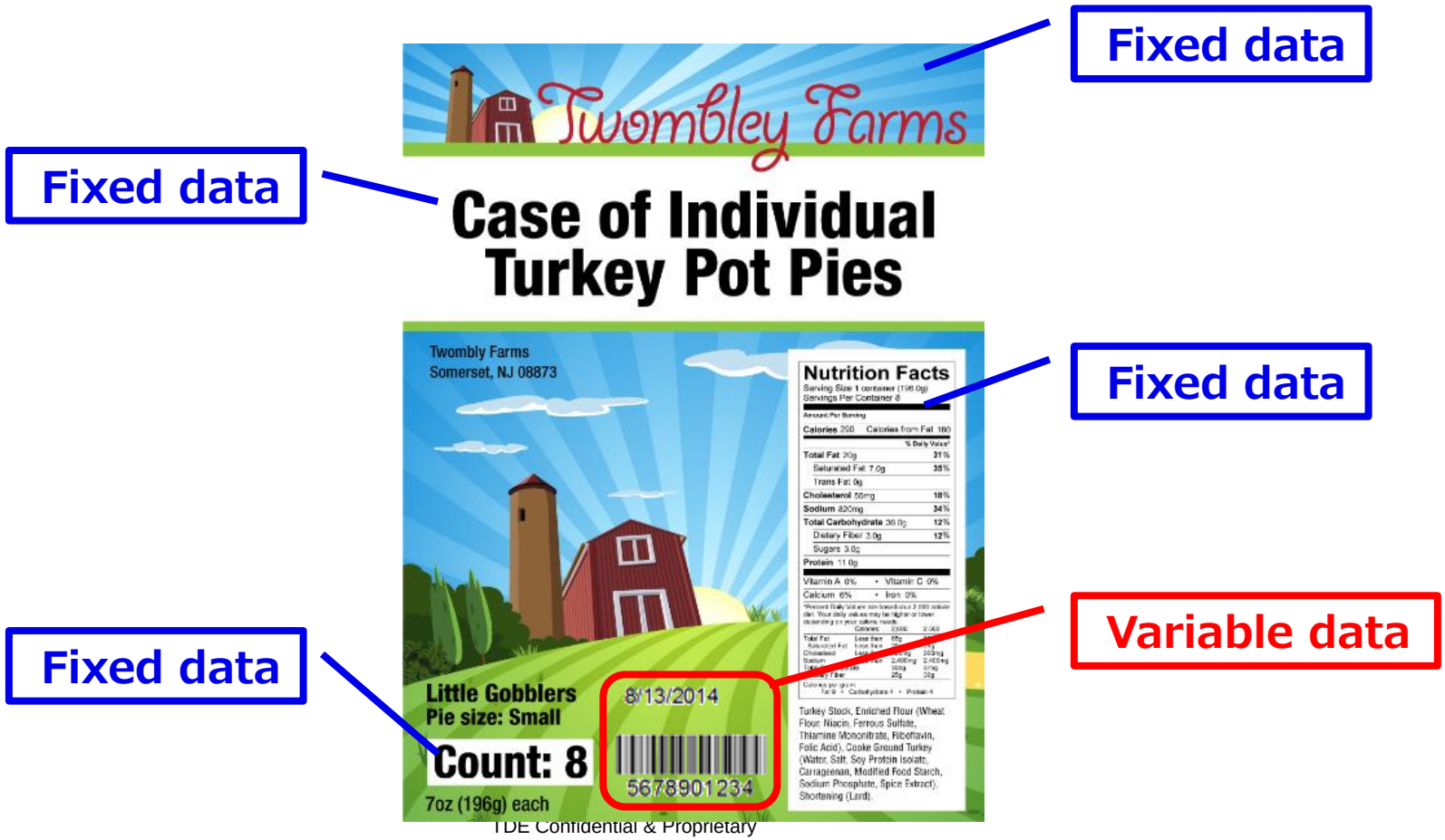
By using Overlay function, it helps to improve print throughput by registering the image data (fixed data) separately.



# How to use the “Overlay” function

Make a label data separately for

1. Fixed data (as a form file [.ofe])
2. Variable data

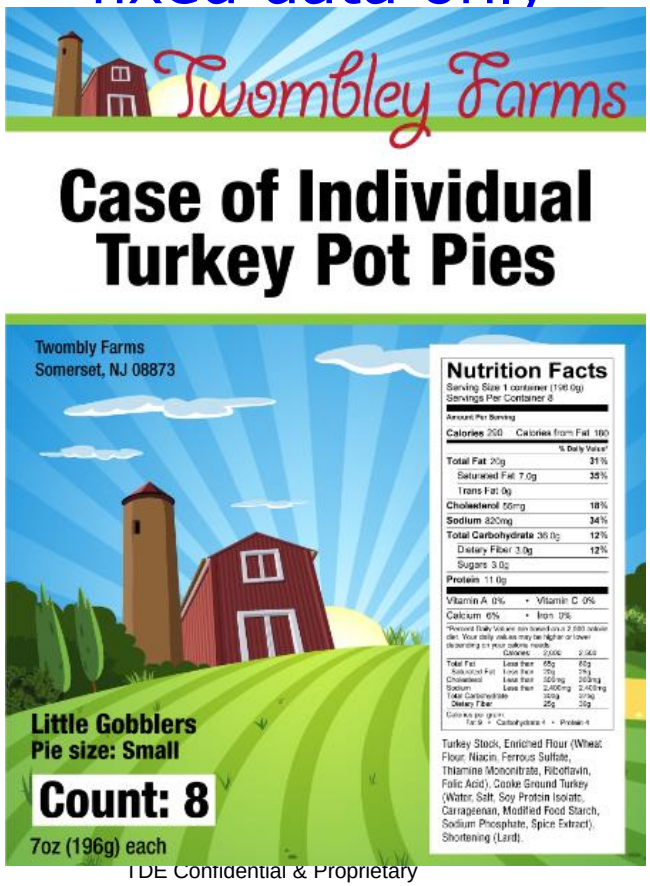


# 1. Create a Form file [.ofe]

- Open the file which you want to print as a background (fixed data)
- Then, execute a print job.

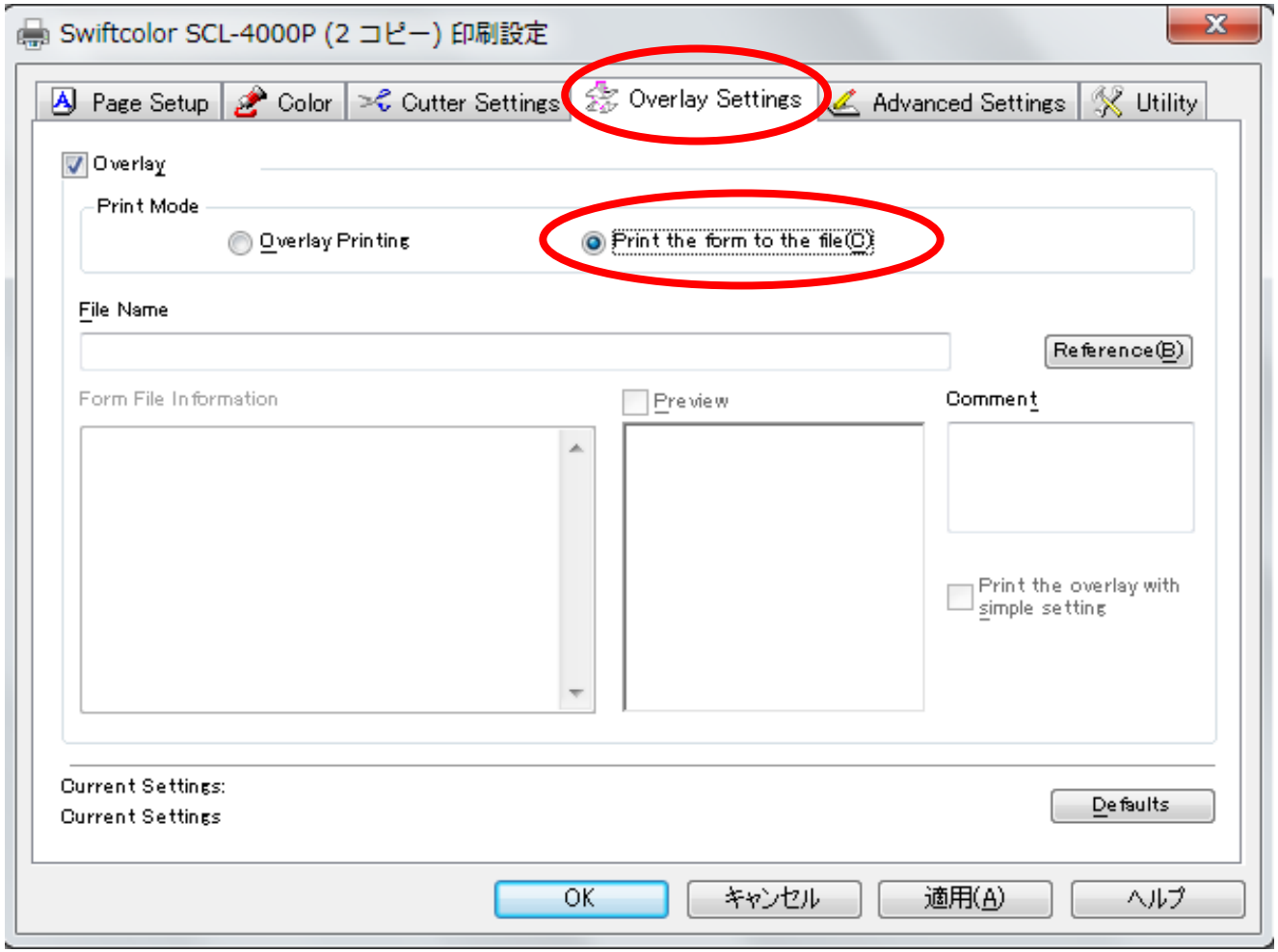
<Printing Image Example 1>

~fixed data only~



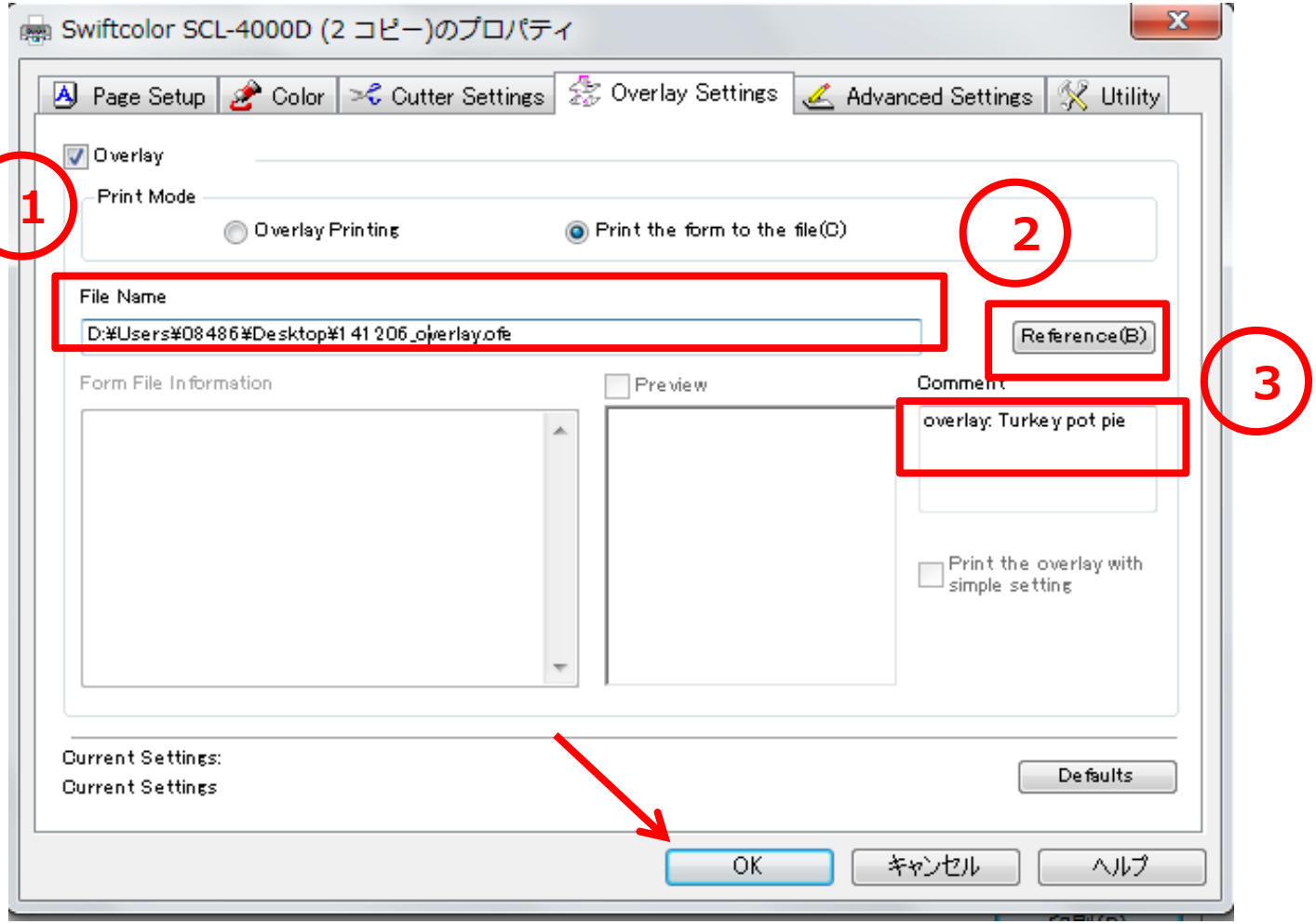
# 1. Create a Form file [.ofe]

- On “Overlay Setting” tab in printer driver, check the box of Overlay and select “Print the form to the file”.



# 1. Create a Form file [.ofe]

- Decide “1. File Name” and “2. Where to save the [.ofe] file”
- Also, you can write “3. comment” in the box below.
- After set up is completed, click OK



# 1. Create a Form file [.ofe]

- When the print execution window appears again, click [Print]. Print data will be used as a form file.
  *Be sure to turn on the printer before executing print

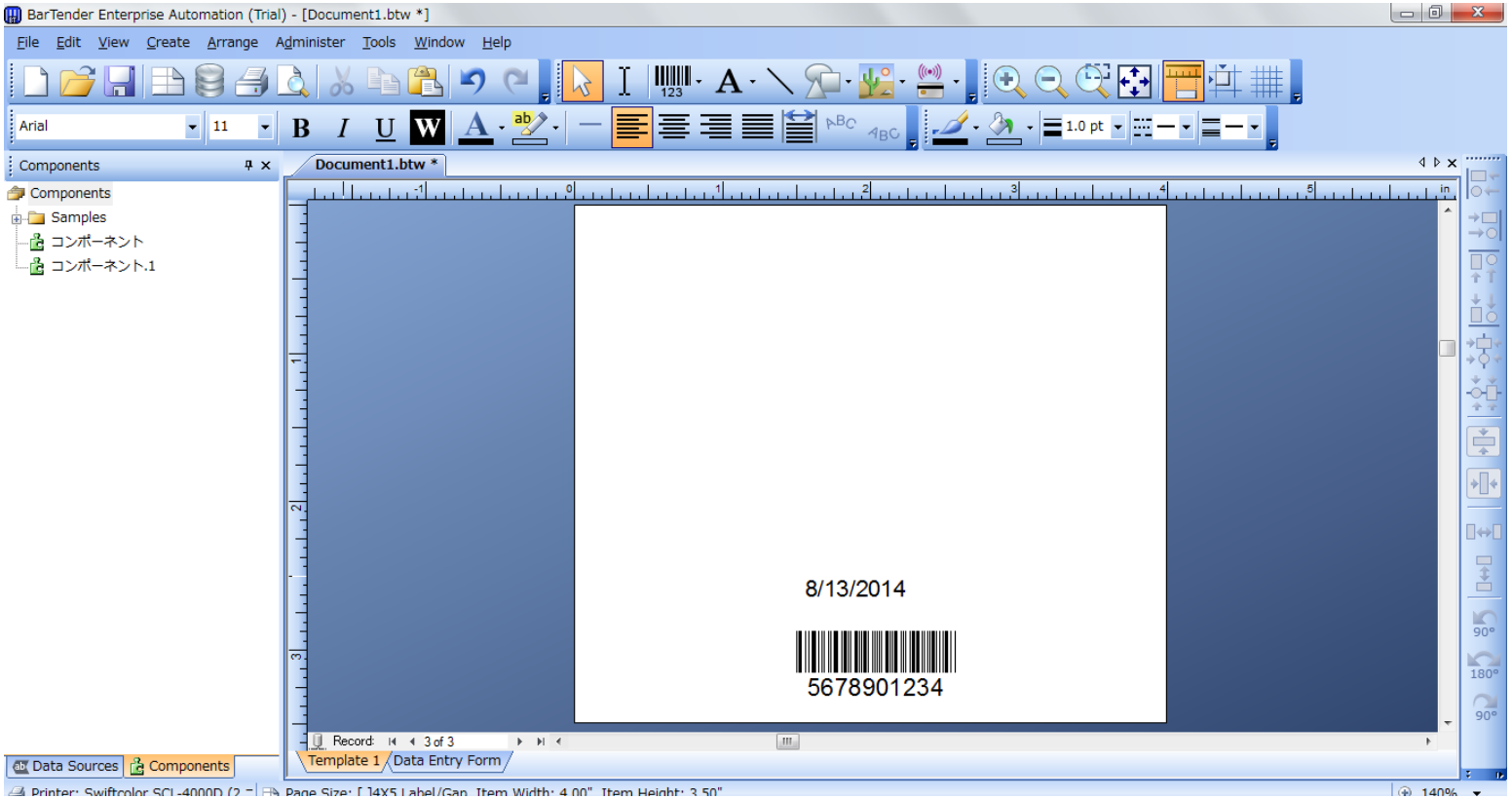
- The data is saved in the folder created as a form file.

# 2. Overlay Printing

- Open the file which you want to print as a variable image.
- Then, execute a print job.

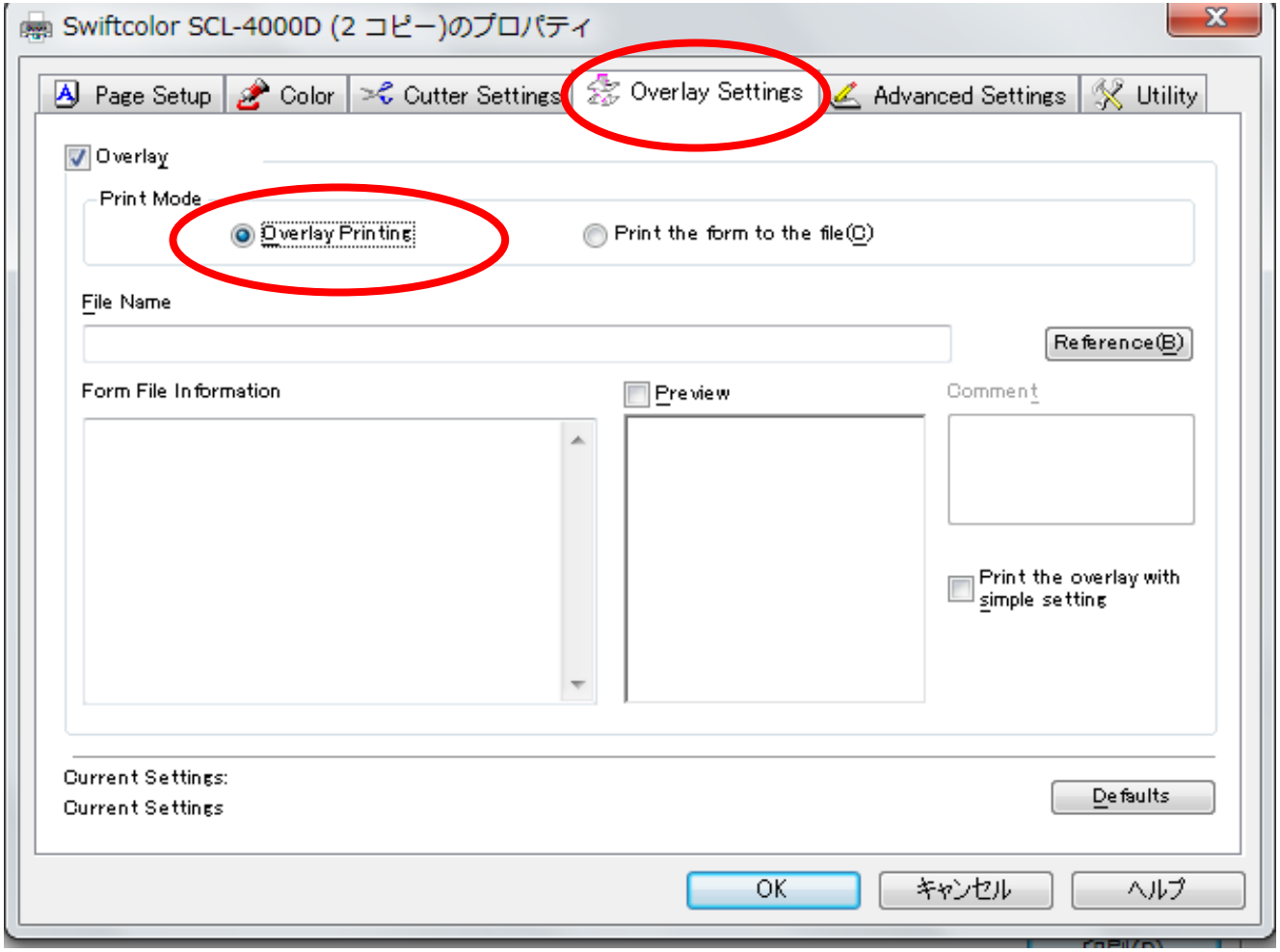
<Printing Image Example 2>

~variable data only~



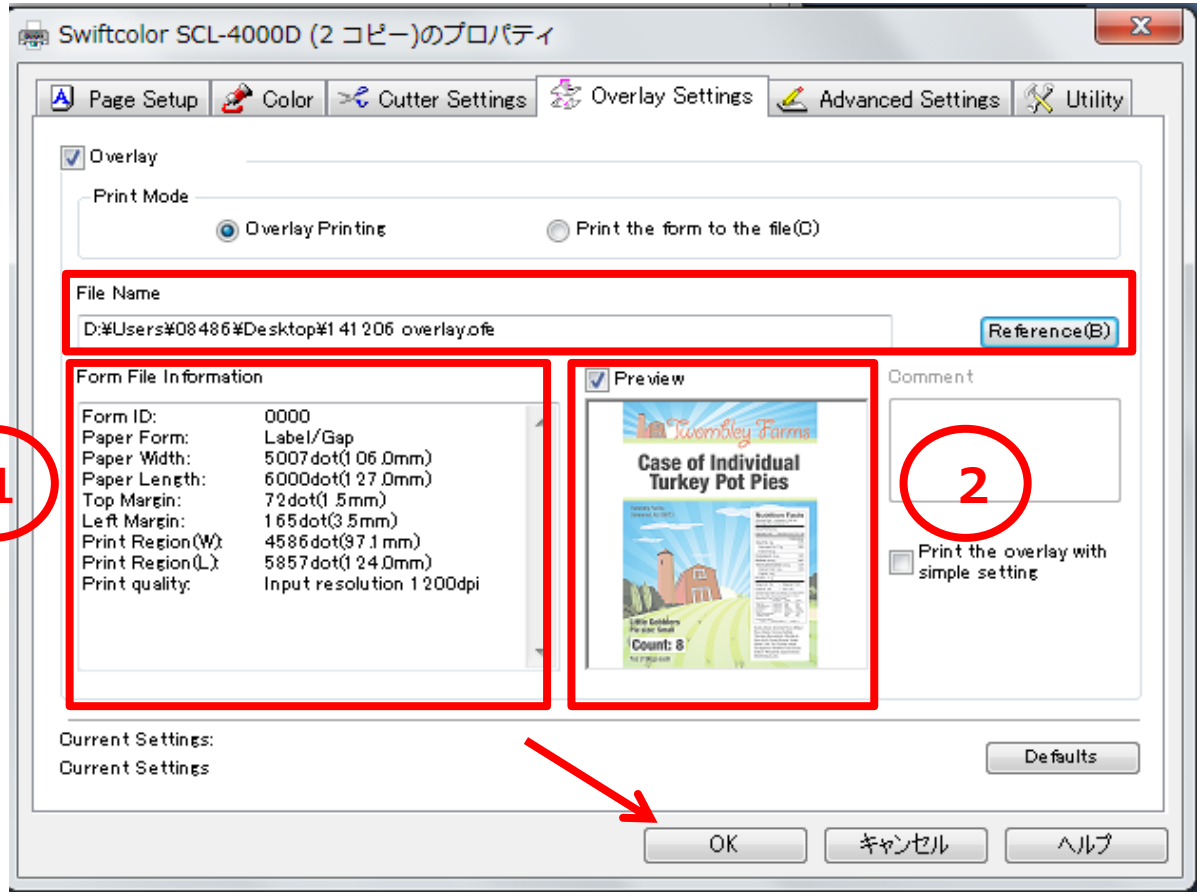
# 2. Overlay Printing

- On “Overlay Setting” tab in printer driver, check the box of Overlay and select “Overlay Printing”.



# 2. Overlay Printing

- Click Reference and choose the [.ofe] file you created.
- Check information in “1. Form File Information” and “2. Preview”.
- After set up is completed, click OK



# 2. Overlay Printing

- Execute a print job.
- Print data is printed overlaid with the form file.

**Note**

- Overlay printing would be disabled if the print setup information differs between the print data and the form file.
- When a document is printed in single-color zebra, it can be overlaid with form data even if it varies in the number of colors.
- Overlay printing may not work if the printer driver with which the form has been created has an invalid version or the like. In this case, create a form file with the printer drive to be used for overlay printing.
- [Form File Information] or [Preview] may not be displayed depending on the form file.

For Telephone operator

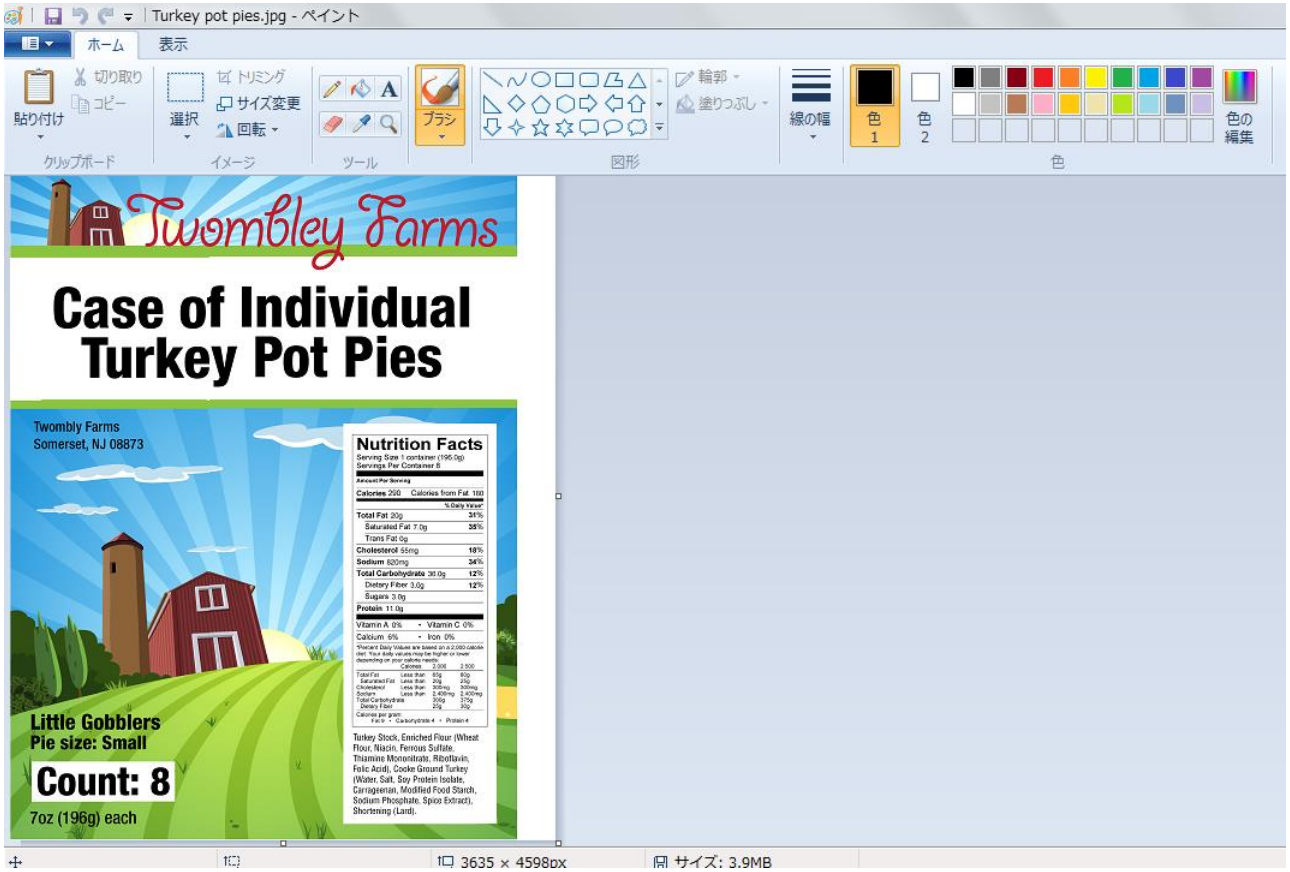
1. What is difference of INKJET and Thermal Ribbon. (Advantage)
2. Overview of Swiftcolor product
3. General Q&A
4. Recommend Application
5. Price (List Price/Per Print Cost)
6. Durability (Machine/Media)
7. Maintenance
8. Setup
9. How to proceed shipping mode
10. **How to use driver functions**
    1. Overlay Printing
    2. **Pinpoint color print**
    3. Supplements
    4. Color matching

# Pinpoint Color Matches

# Contents

# 1. R/G/B value reading procedure (Paint)

- Please open an image for color matching in “Paint.”




**Note**

- To read the R/G/B values from a source image that is subject to color matching, such as a logo mark, use an image processing program, such as “Paint,” which comes standard with Widows.

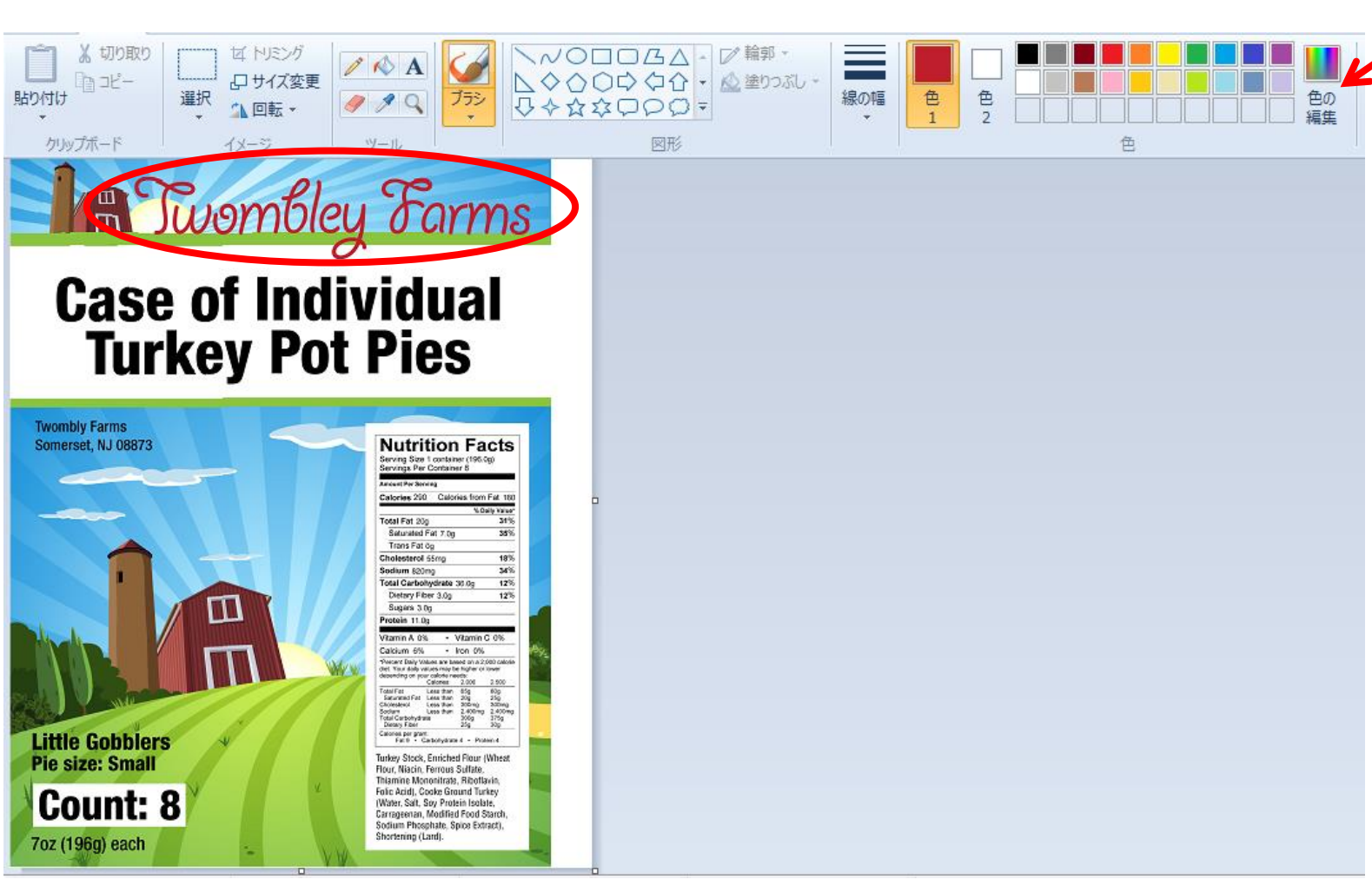
# 1. R/G/B value reading procedure (Paint)

- Please chose “Eyedropper” tool so that you can capture the color information of subject.

# 1. R/G/B value reading procedure (Paint)

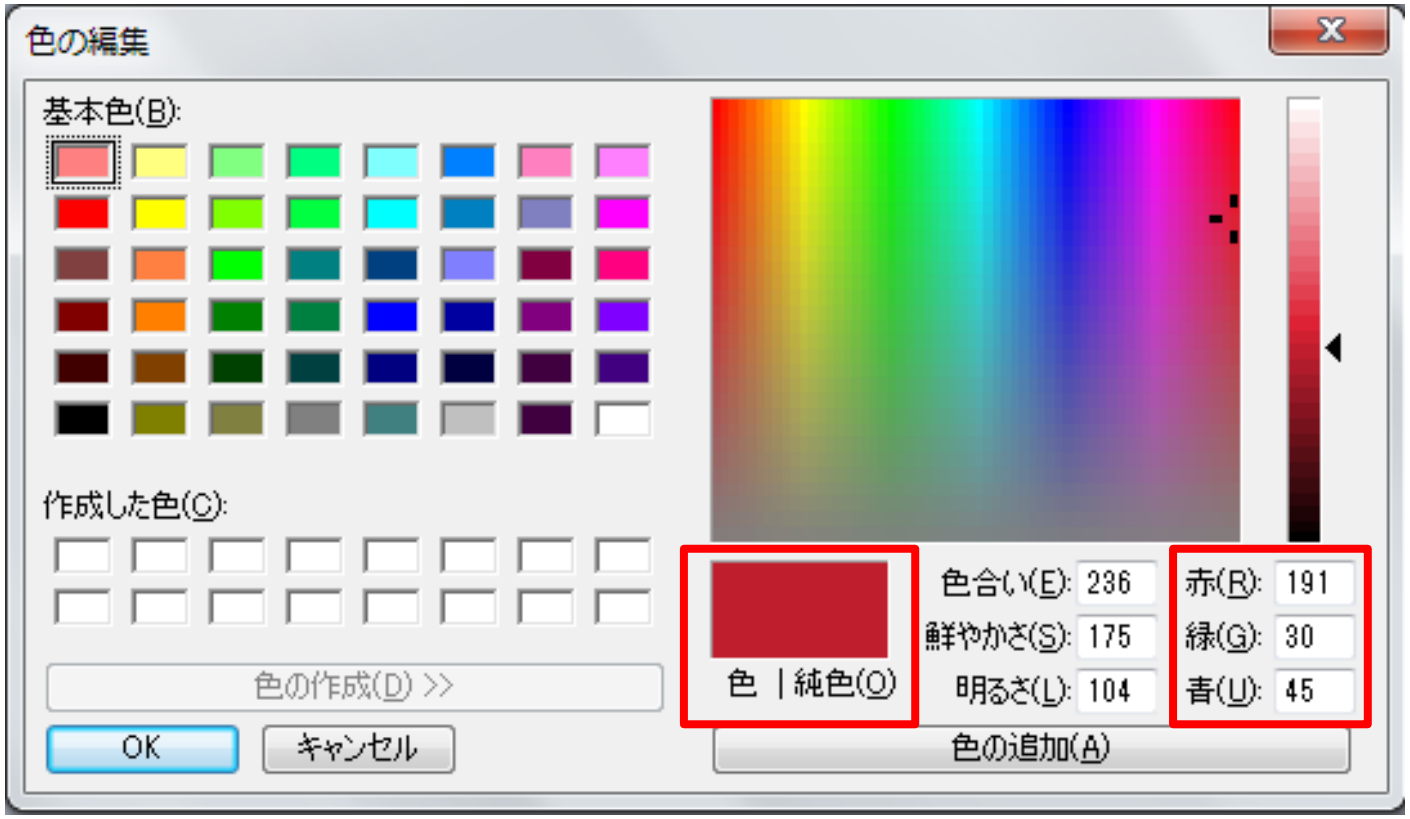
- After you capture the color, please click “Edit Colors”

<For example, the letter (Twombley Farms) is captured for color match>



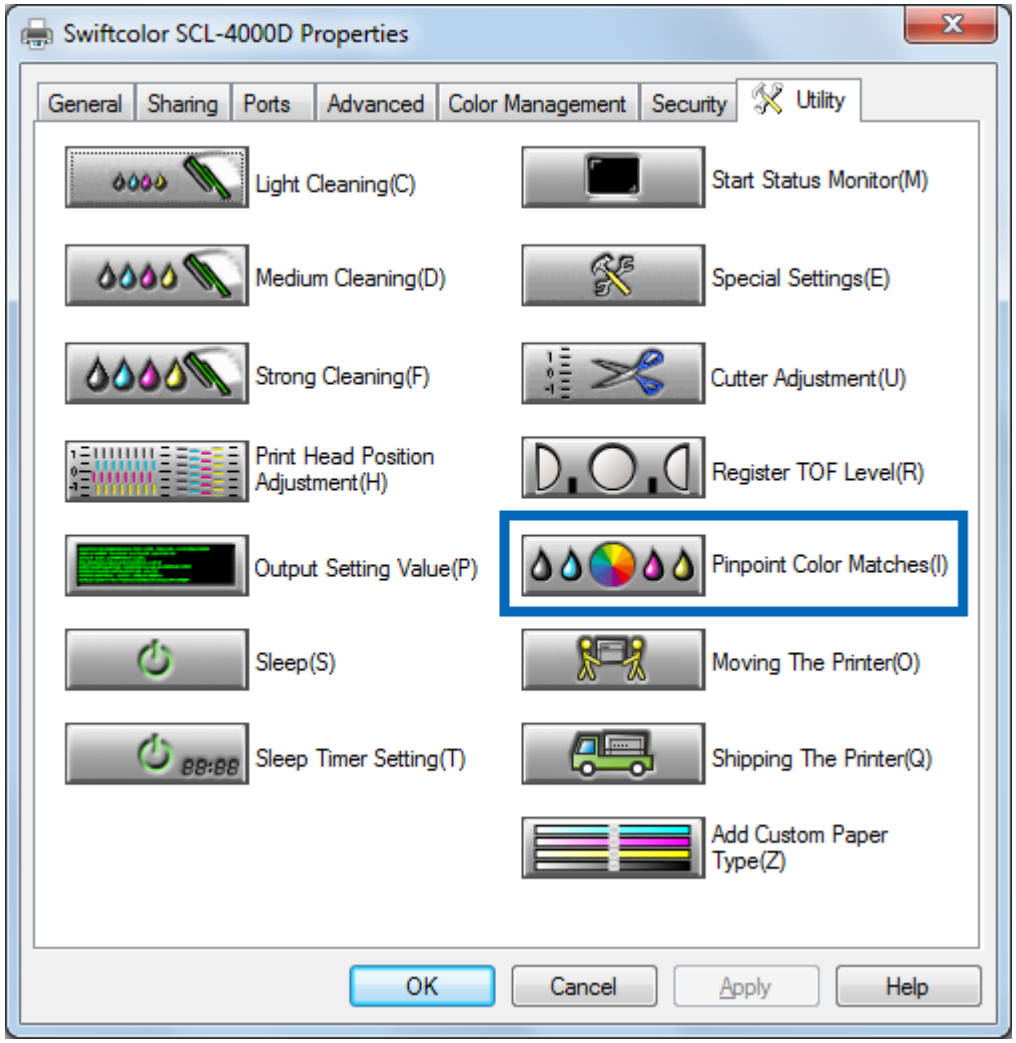
# 1. R/G/B value reading procedure (Paint)

- R/G/B value can be read as below



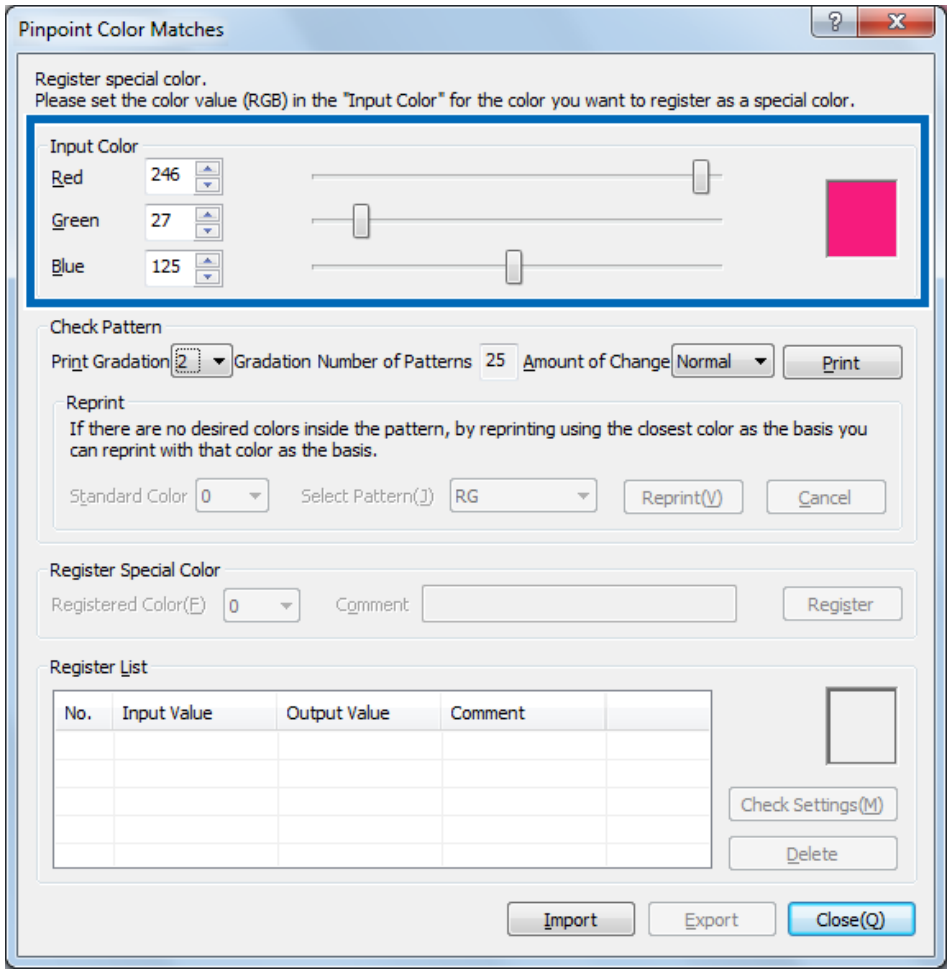
# 2. Pinpoint Color Matches

- Please click “Pinpoint Color Matches” from Utility.



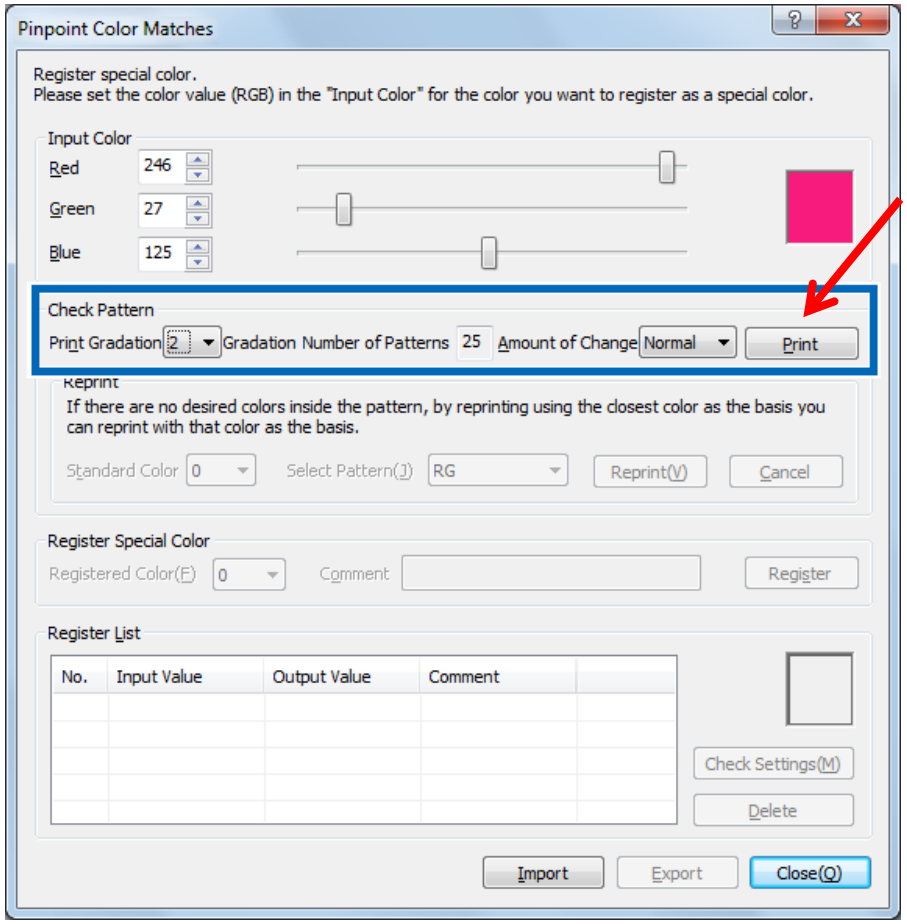
# 2. Pinpoint Color Matches

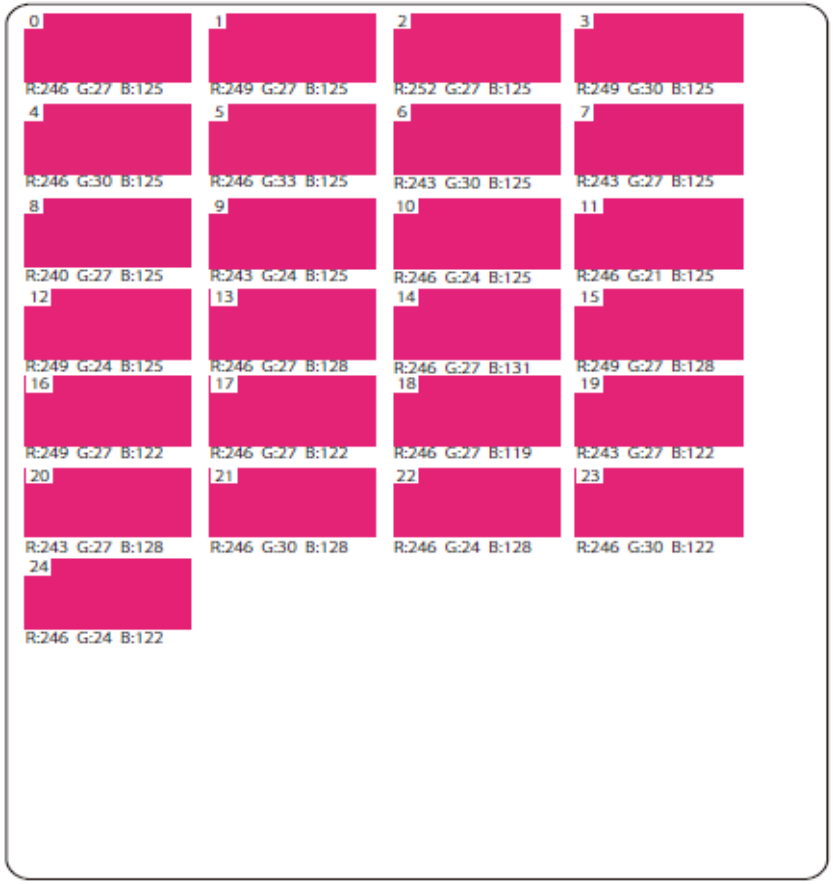
- “Pinpoint Color Matches” window appears
- After you read the values of R/G/B, please enter the read values into Red (R)/Green (G)/Blue (B) in the sheet.



# 2. Pinpoint Color Matches

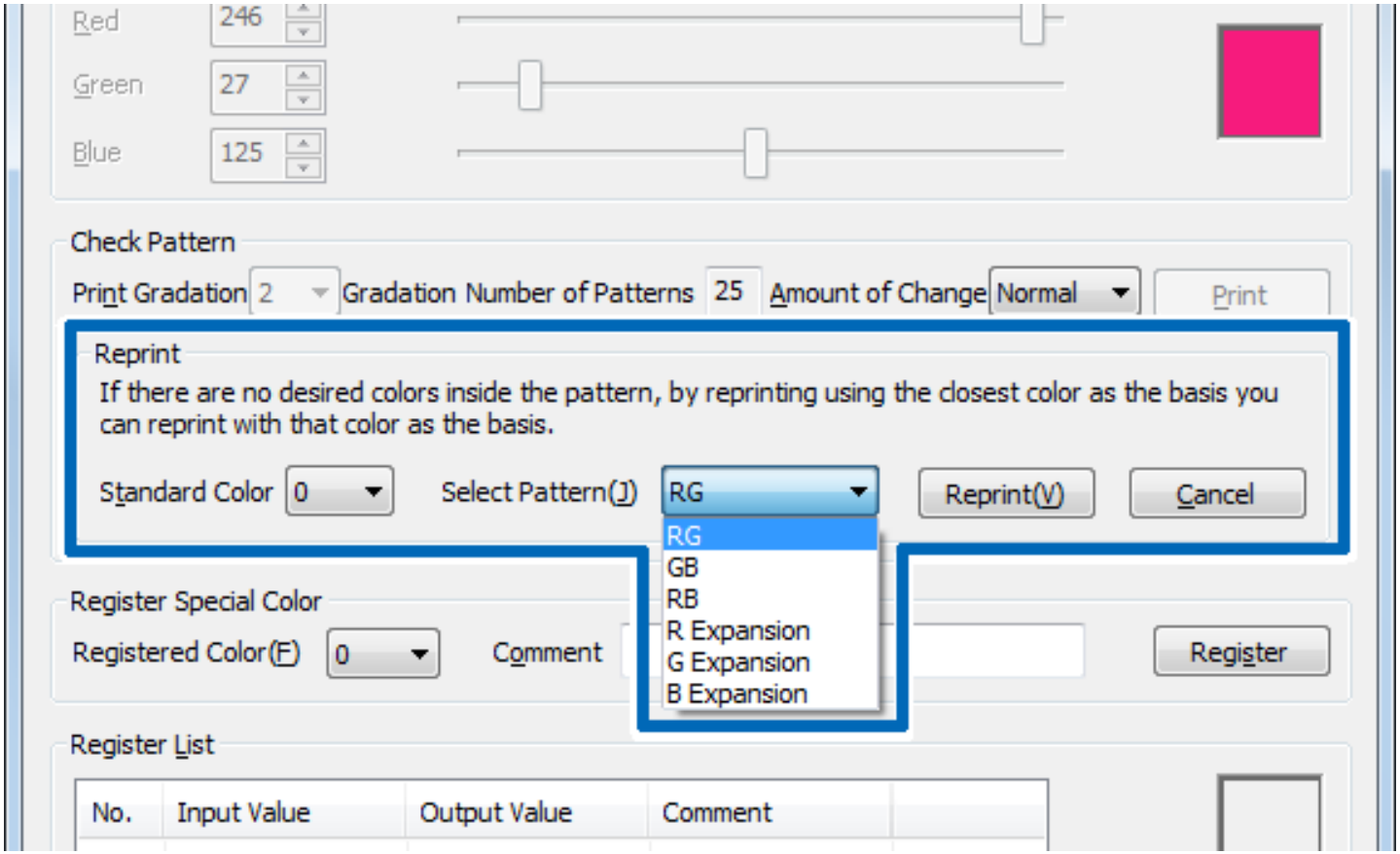
- Please print 25 square color pallets to designate color samples that represent approximate values 0 to 24.



# 2. Pinpoint Color Matches

- If the target color is not found, create a color close to it by performing “Reprint”.
- Enter the number of the color closest to the target color in “Base Color”.



# 2. Pinpoint Color Matches

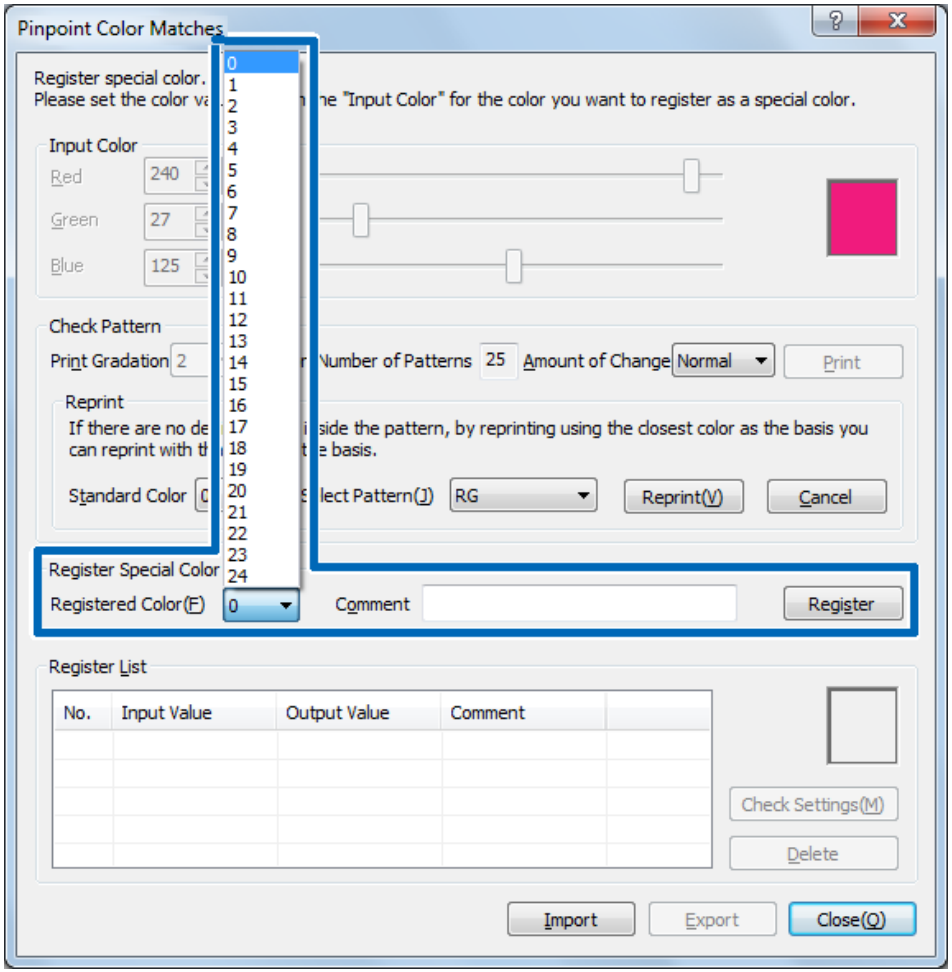
- Select a color pattern in “Pattern Selection”.

- Select a color pattern by determining which of RGB needs to be enhanced with regard to the target color.

| | |
|---|---|
| **RG** | Change the values of 2 colors, Red and Green, but not Blue. |
| **GB** | Change the values of 2 colors, Green and Blue, but not Red. |
| **RB** | Change the values of 2 colors, Red and Blue, but not Green. |
| **R Expansion** | Change the values of 3 colors across the board and then increase or decrease the value of Red. |
| **G Expansion** | Change the values of 3 colors across the board and then increase or decrease the value of Green. |
| **B Expansion** | Change the values of 3 colors across the board and then increase or decrease the value of Blue. |

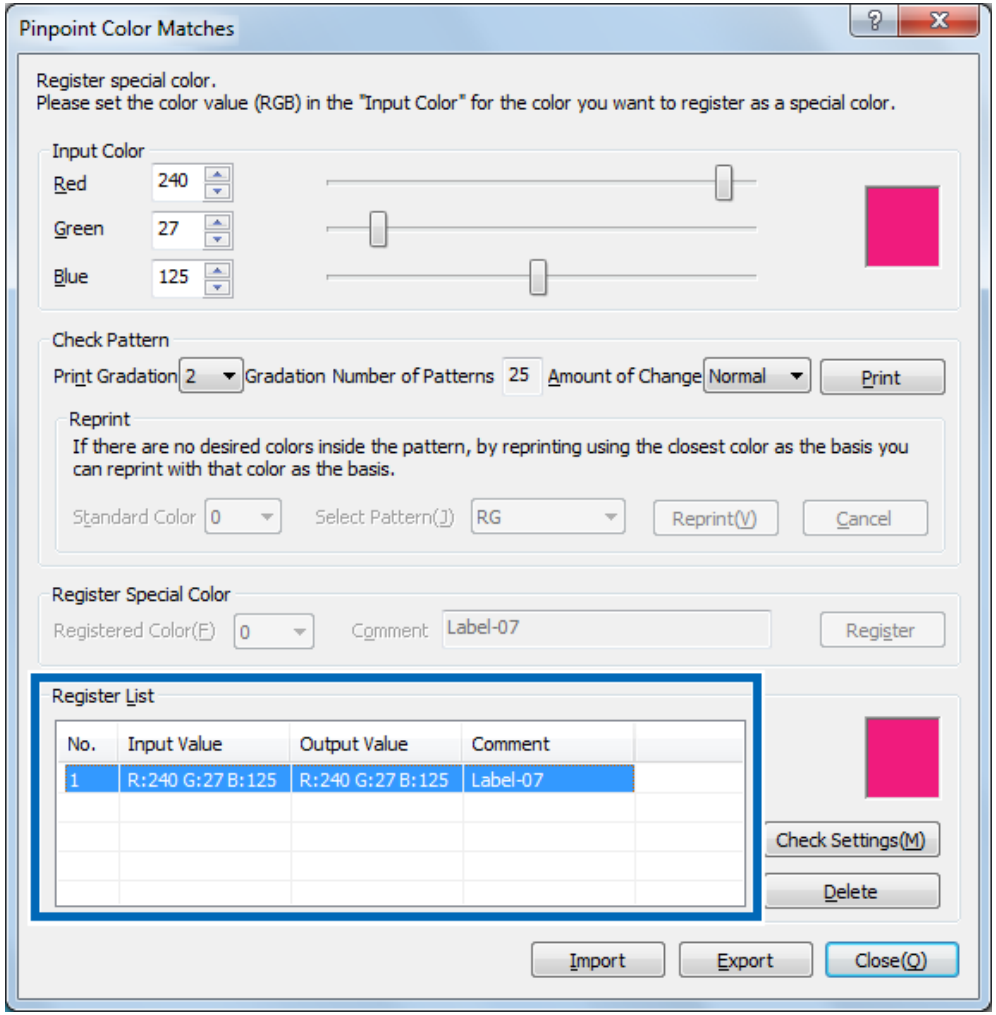
# 2. Pinpoint Color Matches

- If the target color is found in the color samples printed, select a number in [Registered Color] among 0 to 24
- Please enter any name in the "Comment" field and click “Register”.



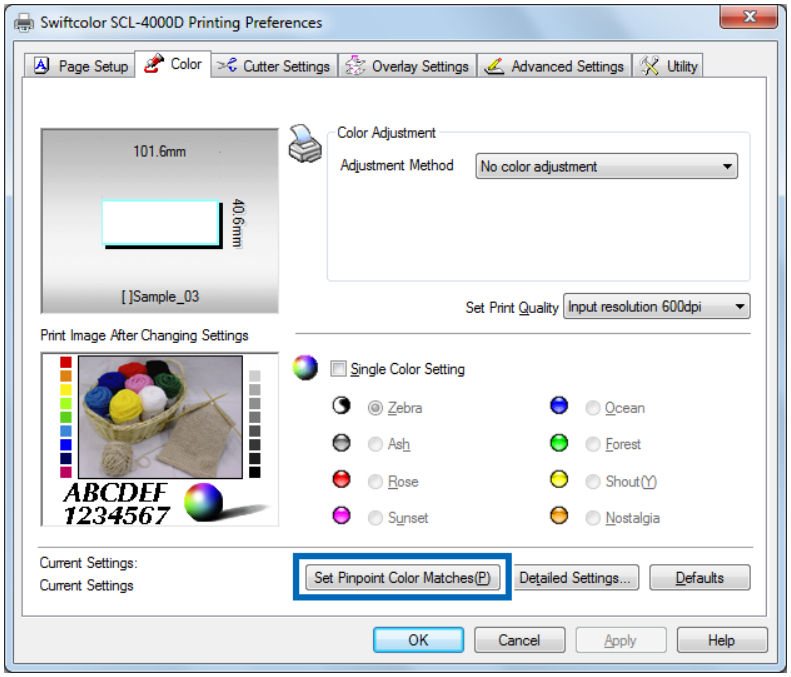
# 2. Pinpoint Color Matches

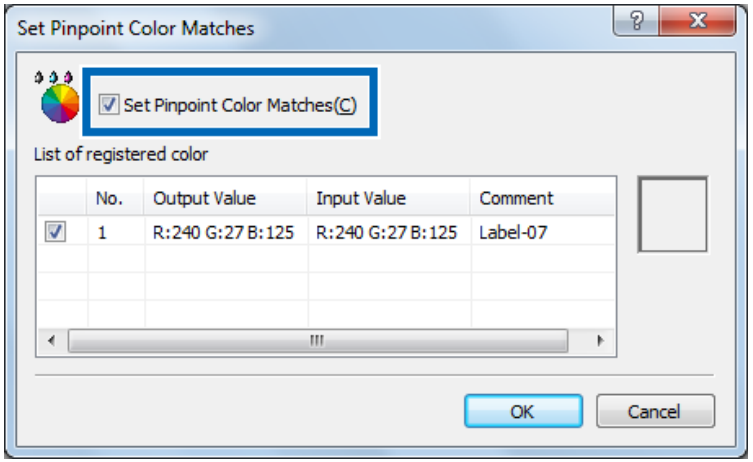
- The registered color will be displayed in the “Register List.”

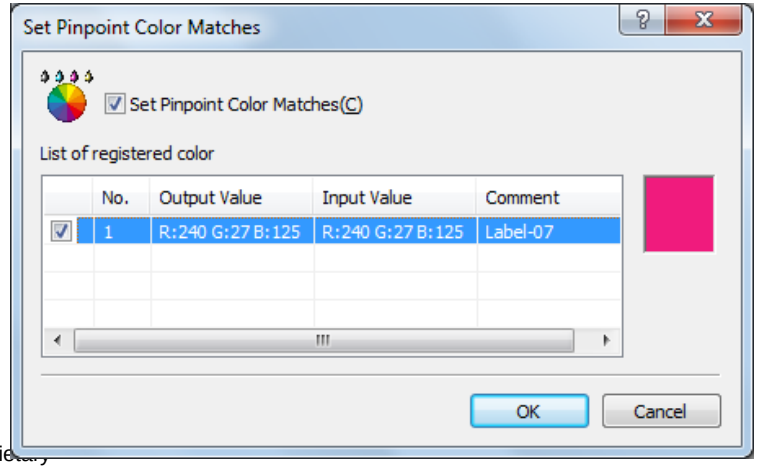


# 2. Pinpoint Color Matches

- To check to see if a color has been registered or not, click “PrintingPreferences”→“Color”→“Set Pinpoint Color Matches” and view “List of registered color”.



For Telephone operator

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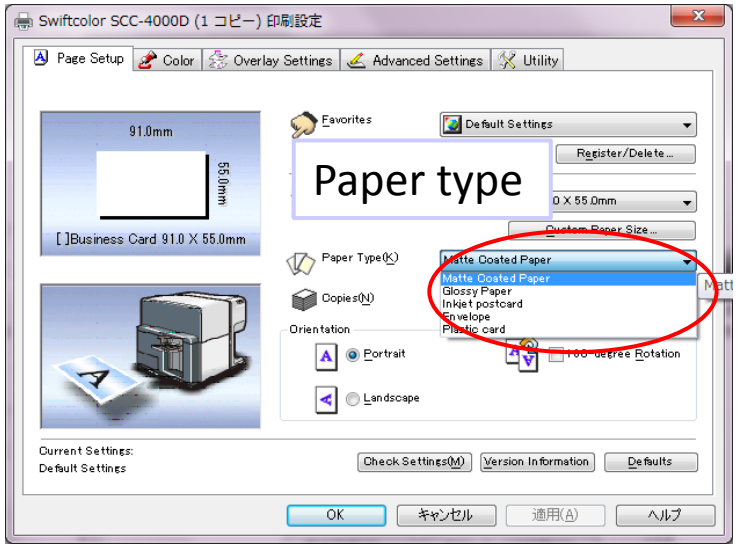
    4. Color matching

# SCC Driver “Supplements”

## 1. Keynotes

1. Adjusting color: There are several ways to adjust color using SCC driver setting as below.
    1. Change paper type

SCC driver has 5 different paper type as default. By changing the paper type, color profile and Ink jetting amount will be changed as below.




| Used Color profile | Paper Type | Note |
|---|---|---|
| Color profile 1 | Matte Coated Paper<br>Envelop<br>Inkjet post card | Ink jetting amount differs for each media type. |
| Color profile 2 | Glossy Paper | |
| Color profile 3 | Plastic card | |

Note: Ink jetting amount for each paper type can be checked at “ Add custom paper type” in Printer driver utility tab.

Advanced: “Add custom paper type”- Change ink jetting amount for your own media and improve print result even more. - Refer to P. 5 for description.

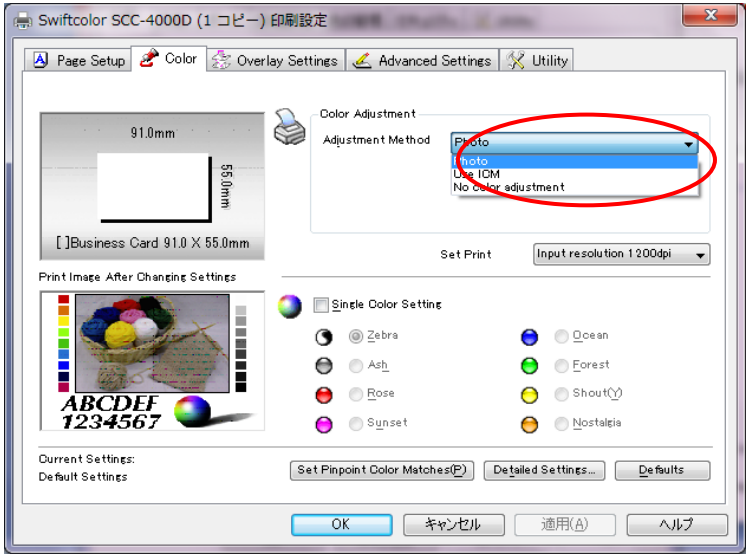
# SCC Driver “Supplements”

## 1. Keynotes

1. Adjusting color: There are several ways to adjust color using SCC driver setting as below.
   2. Change Adjustment Method in Color tab

      SCC driver has 2 adjustment method as default (exclude Use ICM).

      >>#1, #2; In total there are 6 color difference as below (right figure).




| Adjustment Method | Paper Type | Used Color profile | |
|---|---|---|---|
| Photo | Matte Coated Paper, Envelop, Inkjet post card | Color profile 1 | 1 |
| | Glossy Paper | Color profile 2 | 2 |
| | Plastic card | Color profile 3 | 3 |
| No color adjustment | Matte Coated Paper, Envelop, Inkjet post card | Color profile 1 | 4 |
| | Glossy Paper | Color profile 2 | 5 |
| | Plastic card | Color profile 3 | 6 |
| Use ICM | Above color profile of CFT driver will be invalid | | |

Advanced: In case using your own ICM refer to p.9 and select Use ICM.

# SCC Driver “Supplements”

## 1. Keynotes

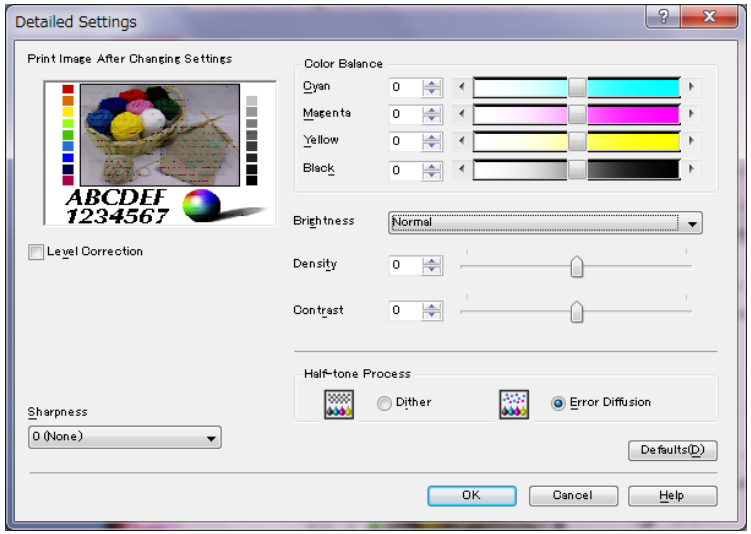
1. Adjusting color: There are several ways to adjust color using SCC driver setting as below.

3. Detailed Settings function

By changing Detailed Setting the entire print image will be influenced >> Suitable for adjusting photo or whole design image color.

Color shift image by adjusting each setting is shown in the next page.

**In case you want to adjust particular color only, use Pin point color matches. >> Suitable for adjusting Company logo color etc.



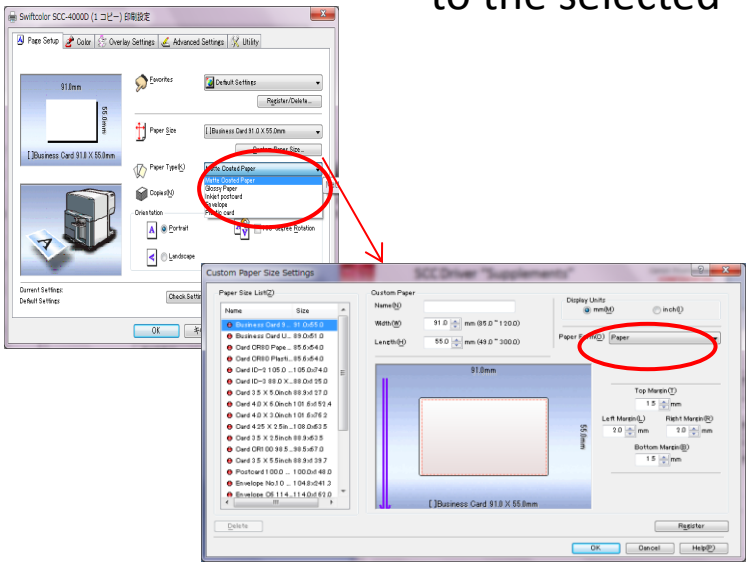

Advanced: Refer to p. # for description for Pin point color matches.　鴇崎さん資料ページ記載

# SCC Driver “Supplements”

## 1. Keynotes

2. Print head position and media ejection lever position difference

1. Print head position and media ejection lever position differs according to the selected “Paper Type” and “Paper Form”.



| Driver Setting | | Printer Setting | |
|---|---|---|---|
| Paper Type | Paper Form | Print head position | Thick paper transport lever |
| Matte Coated Paper | Paper | A | |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | D | 1 |
| Envelope | Paper | E | |
| | Thick Paper | | |
| | Envelope | | |
| | Card(20-30mil) | | |
| Glossy Paper | Paper | A | |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | D | 1 |
| Inkjet postcard | Paper | A | |
| | Thick Paper | | |
| | Envelope | | |
| | Card(20-30mil) | | |
| Plastic card | Paper | C | 1 |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | C | 1 |

Note:

Print head position: A----> E (print head position gets higher; Media Thin ----> Thick). May cause paper jam in case proper setting is not selected.

Thick paper transport lever (UG p.23): Pull out (1) for using Plastic and Card (20-30mil) media.* Caution: Lever should be at the normal position when “Plastic card” is selected and media length is longer than 65mm. Error occurs “Thick feed lever position error.” depending on the selected paper type and form.

# SCC Driver “Supplements”

## 1. Keynotes

Utilize!: Combination with Keynote #1 and #2

*Please be aware of Keynote #1 and #2 when adding your own custom paper size.

*If you desire to use Color profile1 with plastic card media, select “Matte coated paper” and “Card(20-30mil).

*If you desire to use Color profile 3 (plastic card) for either normal matte or glossy media , select “Plastic card” and “Thick Paper”.

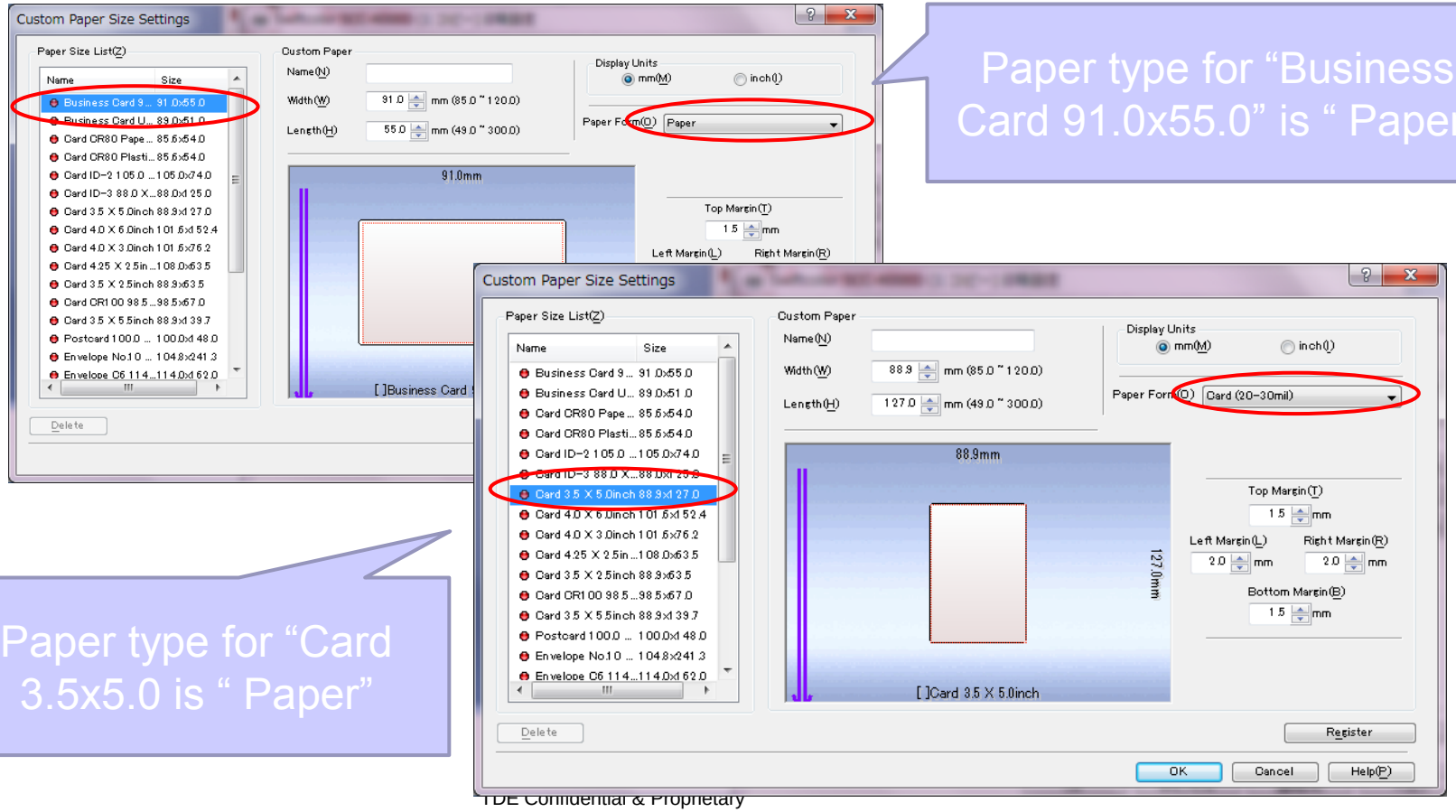
| Used Color profile | Paper Type |
|---|---|
| Color profile 1 | Matte Coated Paper<br>Envelop<br>Inkjet post card |
| Color profile 2 | Glossy Paper |
| Color profile 3 | Plastic card |

| Driver Setting | | Printer Setting | |
|---|---|---|---|
| Paper Type | Paper Form | Print head position | Media ejection lever |
| Matte Coated Paper | Paper | A | |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | D | 1 |
| Envelope | Paper | E | |
| | Thick Paper | | |
| | Envelope | | |
| | Card(20-30mil) | | |
| Glossy Paper | Paper | A | |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | D | 1 |
| Inkjet postcard | Paper | A | |
| | Thick Paper | | |
| | Envelope | | |
| | Card(20-30mil) | | |
| Plastic card | Paper | C | 1 |
| | Thick Paper | B | |
| | Envelope | E | |
| | Card(20-30mil) | C | 1 |

# SCC Driver “Supplements”

## 1. Keynotes

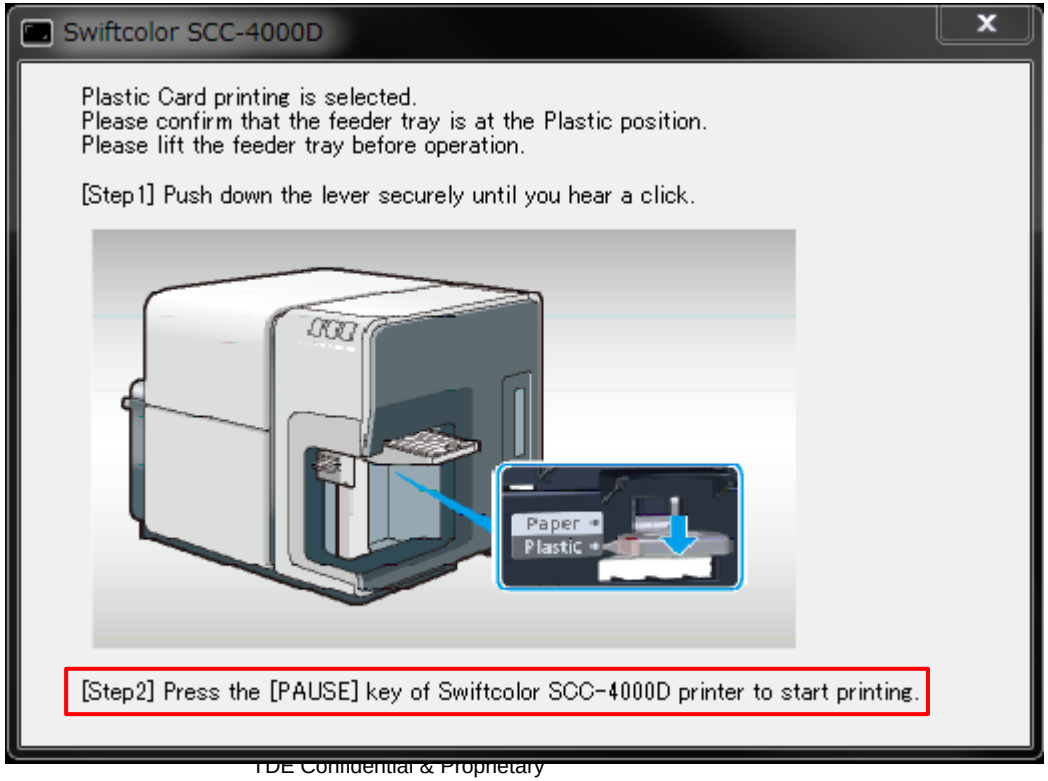
4. Registered paper form for each default paper size
    1. Can be checked in custom paper size dialog
       Choose desired paper type and check Paper Form



# SCC Driver “Supplements”

## 1. Keynotes

5. To print plastic card
    1. Follow the direction in UG p.24-
    2. Caution: Press Pause after changing Feeder tray lever position(UG p.25) . If not, even you send the data, the printer do not start printing. Below Error state will be shown in the PC.



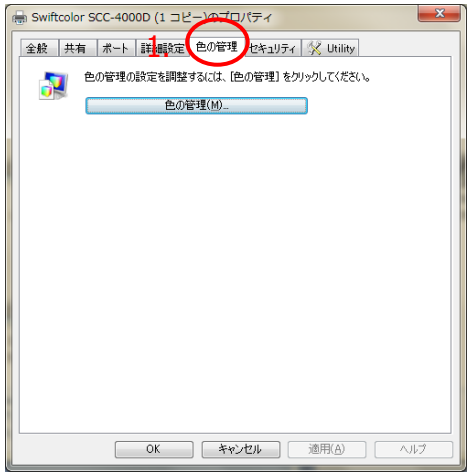
# SCC Driver “Supplements”

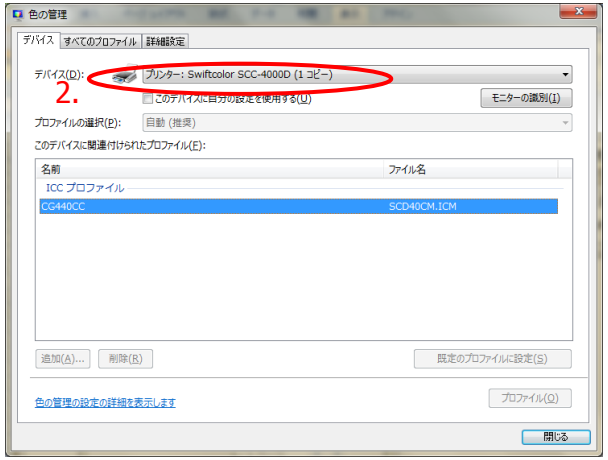
## 2. ICM profile (Color reproducibility)

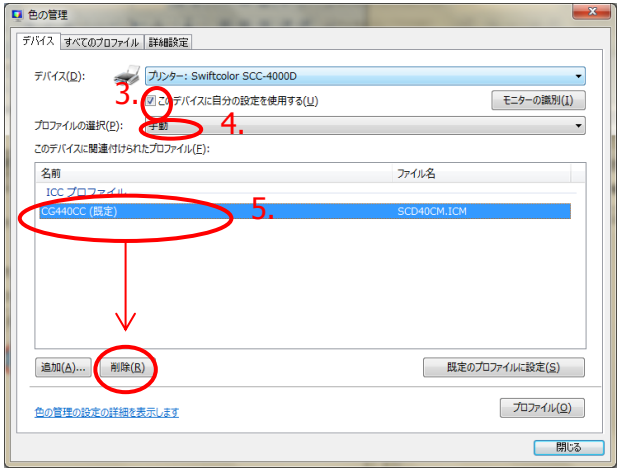
### 1. Delete ICM file; SCC-4000D

- Please delete the dummy file before use.

Open Device and Printer>Select Swiftcolor SCC-4000D> Click Printer Property>
1. Select Color Management tab>2. Open Color Management>
3. Check Use your own setting with this Device> 4. Select Profile (Manual)> 5. Delete CG440CC




Note:

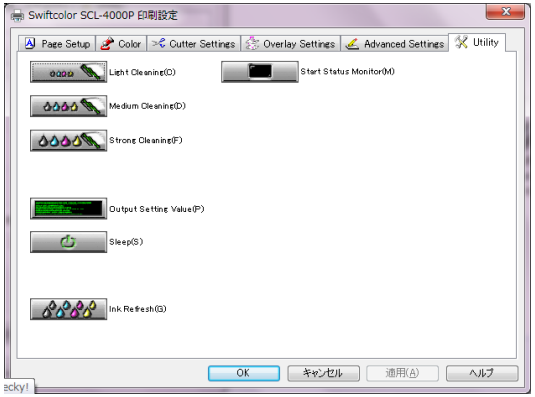
- Please check above points when there is an inquiry for color reproducibility
- If you want to use your own ICM profile, please add your own ICM profile to above printer property and select Use ICM at printer driver.
- Cautions: Depending on applications, some applications validate ICM profile as default setting (ignores driver setting). > Refer to Application “Supplements”

# SCC Driver “Supplements”

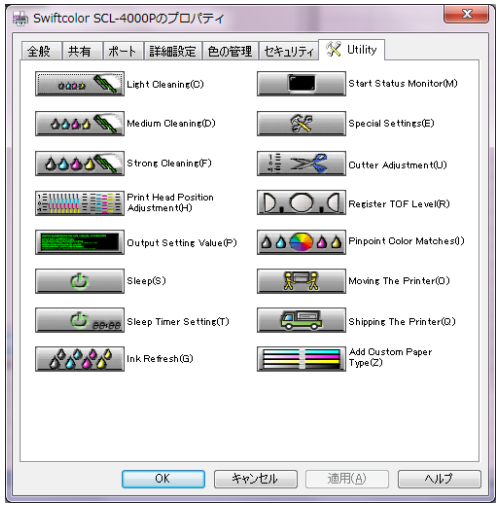
## 3. Utility functions difference

1. Printer Driver Utility; Maintenance function for operator
2. Printer Property Utility tab; Adjustment functions for administrator

1. Printer Driver Utility




2. Printer Property Utility tab




Cautions for changing driver setting:

1. Settings changed via Printer Driver Utility tab which is opened from applications will not be saved. It is valid only within the active application.
2. By setting via Printer property Utility tab, printer driver remembers the setting. Thus, changed setting will be reflected to all data in the same PC.

# SCC Driver “Supplements”

## 4. Remarks – to be fixed

1. Default paper name missing in applications: SCC driver default paper name may not appear properly when selecting paper size from the application side.

*Add Screen shot: Ex. photo viewer

→Occurs when paper name is longer than 32 words

2. Custom paper setting: Inch setting cannot be used when registering custom media size

→Only “mm” is valid for use to register media as custom paper setting.

[Tentative counter measure]

Please convert into “mm” and register.

# SCC Driver “Supplements”

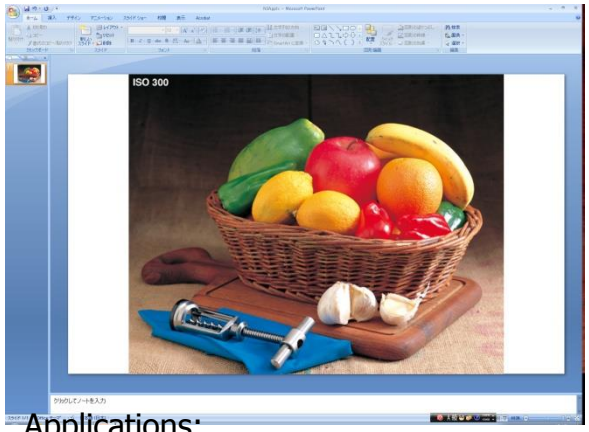
## 4. Remarks – to be fixed

3. Applications: When particular Applications and Office applications are used, when printing media whose width is longer than the length, printed image may be defected.

→Some of Microsoft Office applications defines that the media is always vertically long. However, SCC-4000D has horizontally long media (i.e. business card). In case, when it receives horizontally long media, it automatically convert the data as horizontally long data and print, resulting in image defect.

Example:

Sent data: image is intended to print as below.




Printed image: image is printed as if the media is vertically long.

Applications:

Office; Power point, word 2010, 2013 and Other application which follows office media definition such as Card Exchange etc.

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    2. Pinpoint color print
    3. Supplements
    4. **Color matching**

# How to match color by Swift Color Printer

# Basic instruction for color matching

- Be sure to use “RGB value” (not CMYK value) when you change the color.

  (If using CMYK value, narrow color gamut may be narrow than original one compared with using RGB value(It depends on software that you are using).
- Be sure to use same media which are used practically for color matching.
- Be sure to settled driver setting (color adjustment mode, paper type).
- There is no automatic system or settled setting corresponding color guide (ex. PANTONE). You need to find approximated color manually.
- Please kindly switch off “color management” when print a data by illustrator or photoshop directly.

# Steps for color matching

①Print color chart by using same media and same driver setting

⇒Media and driver setting should be used same ones of practical use. If not, print result will be different.

②Find and pick up similar color patch among the color chart.

⇒Pick up several ( if needed).

③Set the RGB value that you picked up and print it. Compare the color between it and Color reference (ex. PANTONE).

⇒The color will be changing soon after printing and printing after a few minutes. Shake media a little after printing and wait a minute. After that, compare with both 2 colors.

④Adjust the color by changing RGB value from 3 ~15 points with reference of changing trend of color chart.

Adjust by trial and error with reference to “points of RGB value setting”

⑤Print it again with adjusted RGB value, and compare with color reference.

- Fixed （or return and repeat ④～⑤ steps if the color is still different)

# Point of RGB value setting①

- Even you change RGB value at same rate, color won't change at same rate. Some color gamut changes sensitively with a few change rate, but another  is not. Knowing point below helps you to do color matching smoothly.

【the case: 3 RGB values is near with each other】

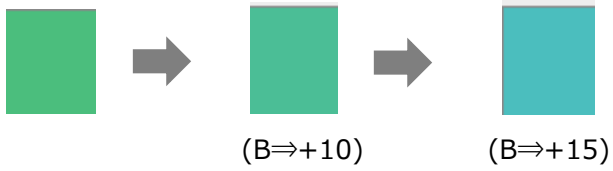
In the case of RGB values is near each other(Ex. gray), the color will change significantly with a few change. Adjust RGB value bit by bit (ex. each by 3 or 4).

Image :


【Turning point of color changing】

Green⇒Blue, red⇒pink, red ⇒orange,  on the turning point of color, a few change makes a big difference. Adjust RGB value  carefully (ex. each by 6 or 7).

Image :



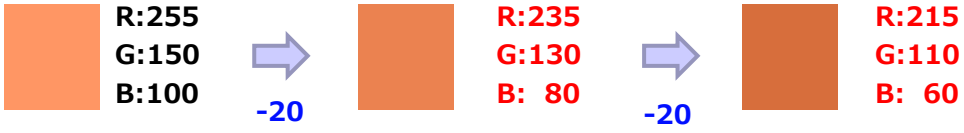

⇒Pinpoint color matches(driver's function) will help your task.

# Point of RGB value setting②

【Adjust only contrasting density with keeping same color balance】

⇒ Change each RGB values with same amount of number.

Image :



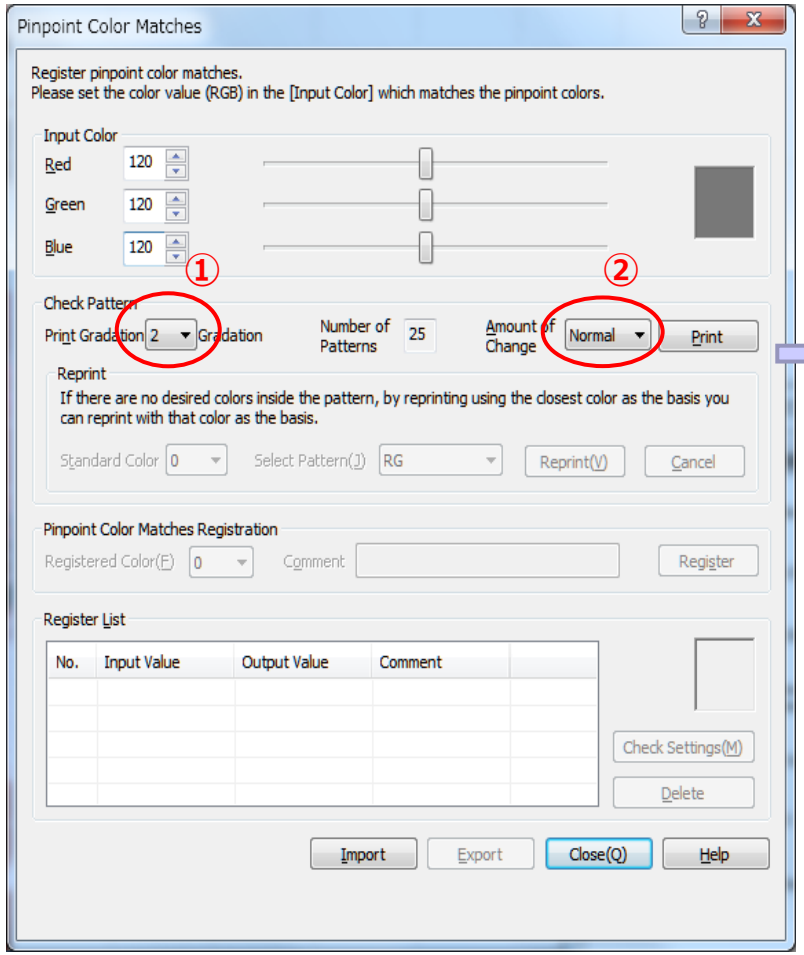

【In some color gamut, need to change RGB value a lot to get different color】

⇒ In the case that only 1 value is higher than other 2 value, the degree of color change is not remarkable. Change RGB value a lot (ex. 15 point) to adjust color.

Image :

# Pinpoint color matches(driver's utility function)

Pinpoint color matching is a useful function in the driver's utility.
(Property >utility>pinpoint color matches)
To use this function, it's easy to make efficiently-revised color pattern.

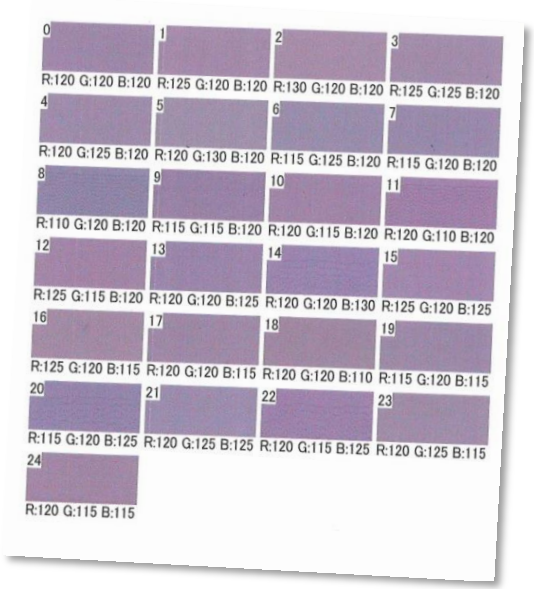



①Select Print Gradation

②Select Amount of change
(Large, Normal, Small)

Print

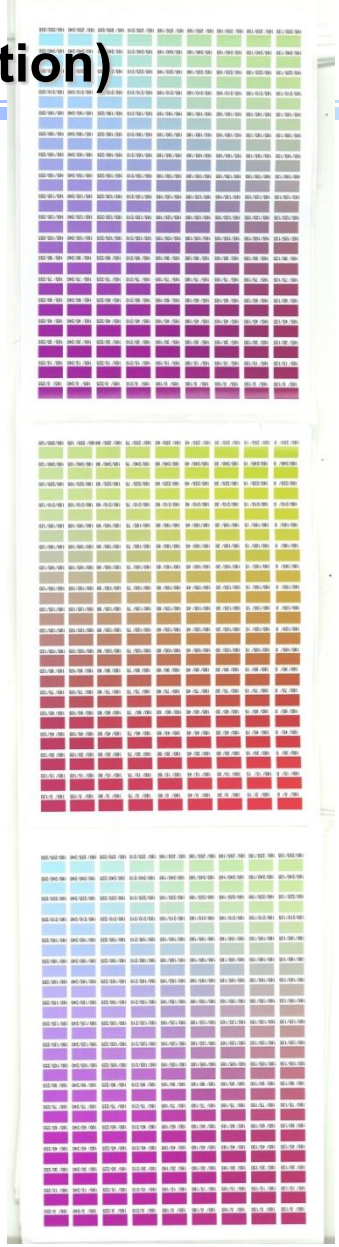
Automatically make color pattern below.



# Pinpoint color matches(driver's utility function)

## Color chart (image)

## A image of color chart



# Second part

# Print barcode and small characters clearly

Highest Priority

①Make characters and Barcode with the personalized software, layout software which deal with the print drawing data, and then, print.

**=Print characters and barcode with Vector(Drawing) image.**

.. (Image Create SE, bartender, nice label, etc..)

(*reference1)

In no choice but to use bit map image

②Modify a bit map image(JPEG etc.) into proper image for a inkjet printer.

(*reference2)

1. Modify an anti-aliasing part (Make 2 value)
2. Modify Black part value.
3. Modify blank(white) part
4. Raise resolution.

# Print barcode and small characters clearly

-Example creating data made with layout software.

It prefer for characters and barcode to be output from software dealing with vector data.
=Output characters and barcode with Image Create SE, bartender, nice label, etc.

[Ex]Creating demo data for Cartes


(Before)

Delete small characters, barcode with Photoshop.


(After)


After delete the characters and barcode, put this image on nice label and then, **add characters and barcode on this.**

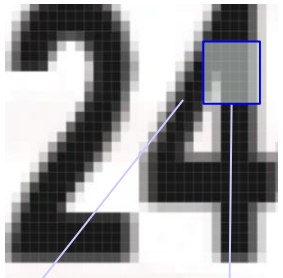
# Print barcode and small characters clearly

## -Modifying bit map image

### 1．Modify anti-aliasing part（Make 2 value）

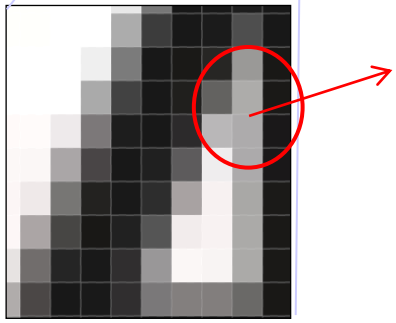
anti-aliasing_····this is function to change color gradually for integrating outline of stuf
with background.

**Anti- aliasing image**

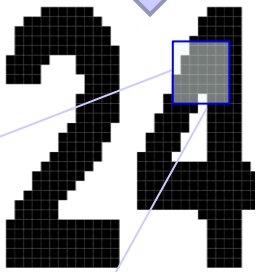


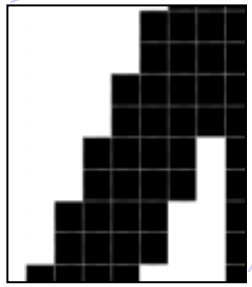
**Modify it into the 2 value data**

(operation example with Photoshop)
Image＞color tone revision＞2 graduati



It’s possible not to re-appear outline in detail because print in CMY, second color, for printing gray part, not black data(PGB=0,0,0).





The edge is clear because of Black and white, only 2 value

# Print barcode and small characters clearly

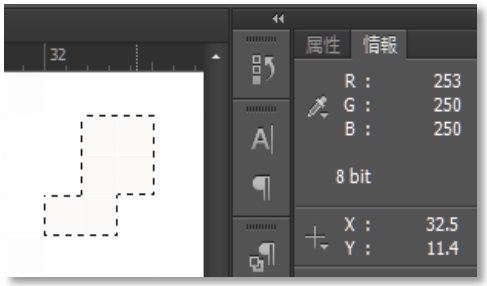
## -Modifying bit map image

### 2． Modify black value

Even if look like black, RGB value is sometimes not 0, and then, it sometimes print black in CMY, and it may happen for printer not to express sophisticated level of itself.
In this case, modify RGB into 0.


### 3． Modify blank (white)

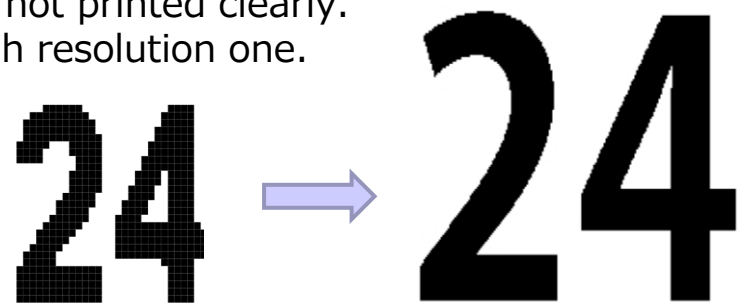
In spite of that Sub spitting mode is OFF,
the dust is on the blank part, ]
in this case, RGB is likely not to be(255, 255, 255)
even if it seems like white.
In so, modify RGB of white blank into 255.




### 4． Raise resolution

If resolution is low, edge may be not printed clearly.
In this case, change image to high resolution one.

(*reference about 3 resolution)



# Point of Color Adjustment, Creating Image and Modification

## (CMYK image and RGB image)

As of now, a lot of image are created under the CMYK color gamut setting.
The data created under the setting of CMYK color gamut is set by more narrow range than RGB.
So, printer which color gamut is based on RGB, may do not use full gamut.
Please understand the difference between CMYK image and RGB image and modify efficiently.

【Gamut】

RGB

reappeared color value on display

>

CMYK

Reappeared color value on printed media.
(Ink mix rate)

There is gap between gamut create by print(CMYK) and gamut by monitor(RGB). For making the both near, it is limited to be covert within RGB range when change CMYK into RGB.

In the case of the on-demand printer handling color data with digital through PC, if you do color set in CMYK same as intaglio printing, it's forced to covert into RGB during work. As a result, it comes data without using gamut itself fully.

# Point of Color Adjustment, Creating Image and Modification

## (CMYK image and RGB image)

**example for converting CMYK image into RGB**

**Ex 1)** R=255,G=0,B=0 (Max) ← •C=,M=100,Y=100、K,=0


max

**R=230,G=0,B=18**

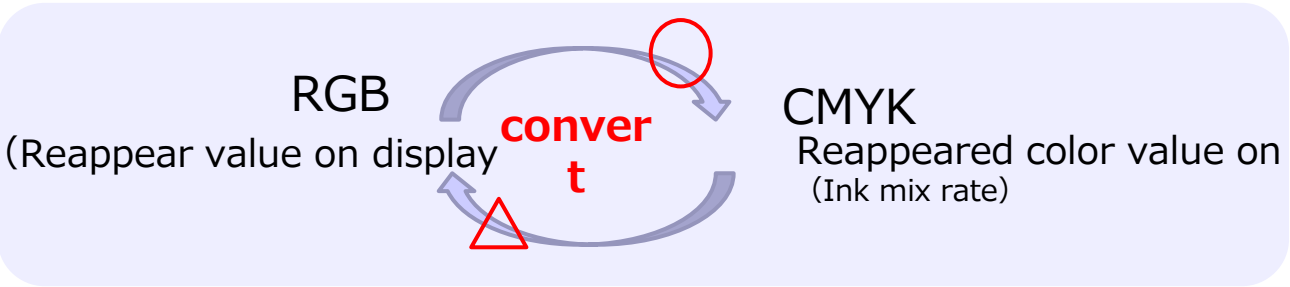
**It is set as M=100,Y=100(red maximum value), but if convert with illustrator, the value is not convert into R=255(maximum value).**

**Ex 2)** R=35,G=24,B=21 ← •C=0,M=0,Y=0,K=100


**Not convert from（K=100）into (RGB=0)**

# Point of Color Adjustment, Creating Image and Modification

## (CMYK image and RGB image)




- When creating new data, or in the ease case to reset with EPS, AI data etc., do color setting in RGB again.

- As for modifying bit map, revise color considering convert from CMYK into RGB.

# Point of creating new design

## （in the case of out sourcing sample)

•Create data after setting color mode as RGB necessary.

•When appoint black character and black only, set RGB＝０.

•Avoid the method to convert into RGB after setting by CMYK.

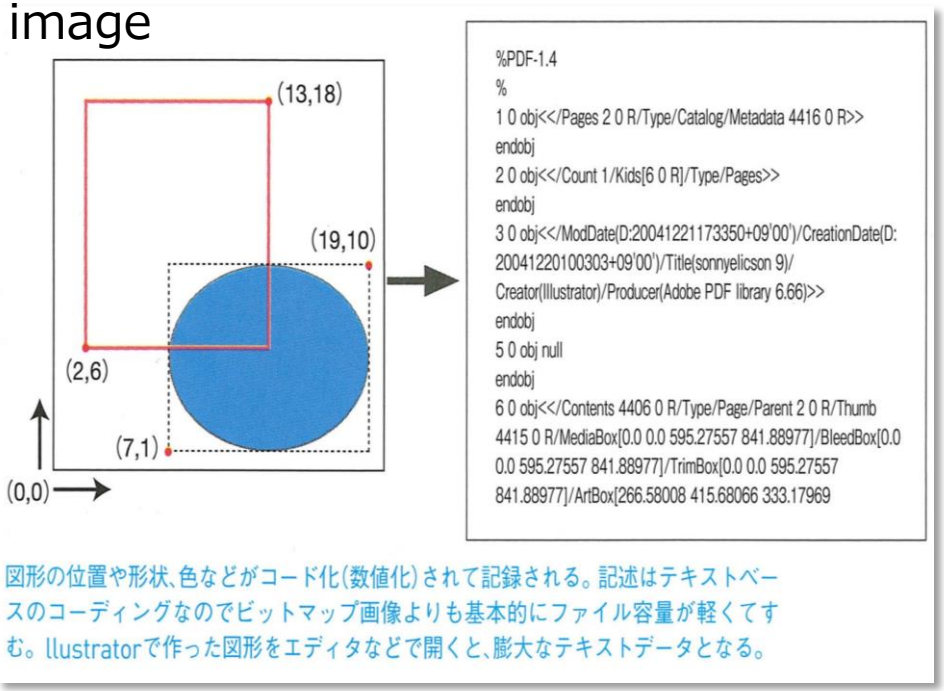
•Anti-aliasing should be OFF(Without check)(Illustrator)

•When editing resolution by Photoshop, select the nearest neighbor.

# Reference 1

## What is the vector(drawing) image.

●data image of vector image




図形の位置や形状、色などがコード化(数値化)されて記録される。記述はテキストベースのコーディングなのでビットマップ画像よりも基本的にファイル容量が軽くてすむ。Illustratorで作った図形をエディタなどで開くと、膨大なテキストデータとなる。

It has image data as formula and it appears the image every time in accordance with environment.
That's why it is easy to expand and change the format.

**When printing, it can output various resolution and revise barcode in accordance with printer.**

**It can make printer function maximum like print sophisticated and subtle characters and barcode.**

# Reference 2
## What is bit map image

- bit map image


It regards image as pixel of dot matrix and deal with them as line information of color / density value of pixel based on RGB.

It has fixed data as pixel mass.

It is not easy to modify form. If expanding the image, it become rough image because the number of pixel is not different.

In need to create or modify data following printer features.

# Reference 3

## Proper resolution

Resolution of print head is 1200dpi.

If setting 1200dpi, image is very good but data is very heavy.

Print by 600dpi is still good and we recommend 600dpi.

## Point to draw logo

When pointing resolution by JPEG with illustrator and drawing, you must set the size to template on where you put on, and draw with appointed resolution.

If you convert on the part where you put on it, the resolution is changed itself.

# *Ink cost calculation*

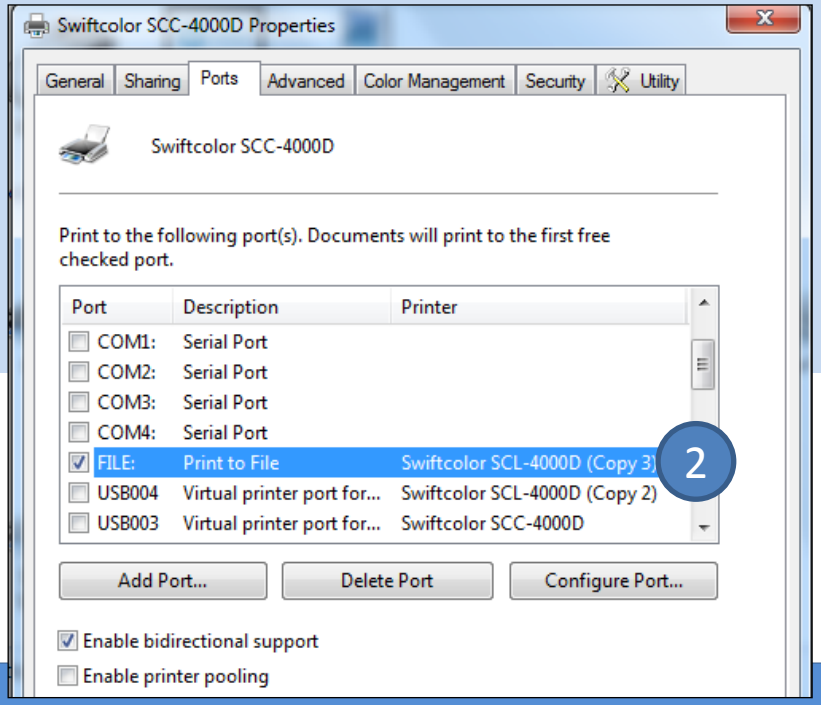
Create file for use with Ink cost calculation tool

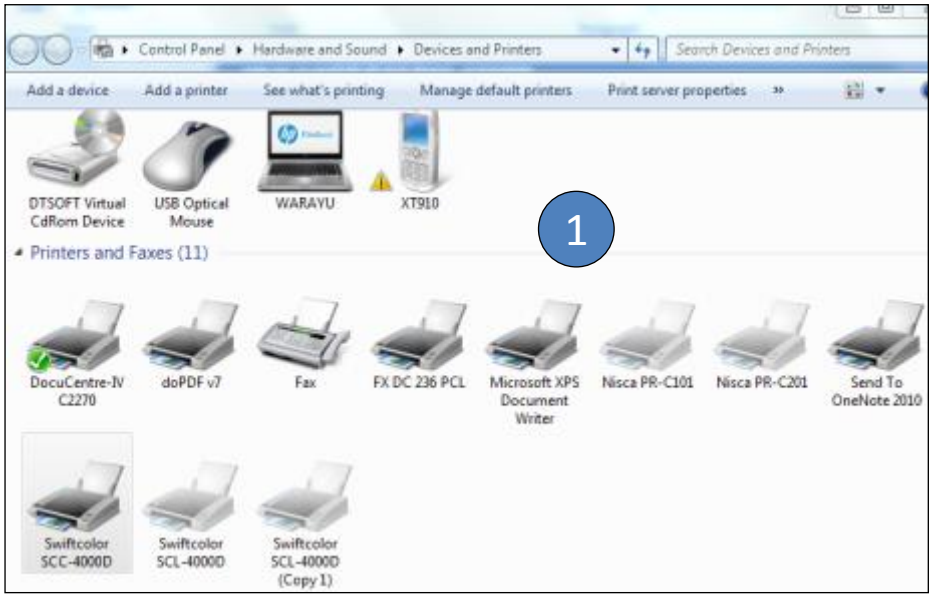
1. Left click Printer Swiftcolor at Device and Printer menu
2. Right click and port from USB to FILE (Print to file)
3. Select picture and print, Dialog box “Output file name” will Appeared and input file name. Any name can be used but file type name must be “.prn”. Also if you specify file pass before file name, file will be created at the specified place.

For example:

C:¥Users¥011916¥Desktop¥prnfile¥card sample.prn

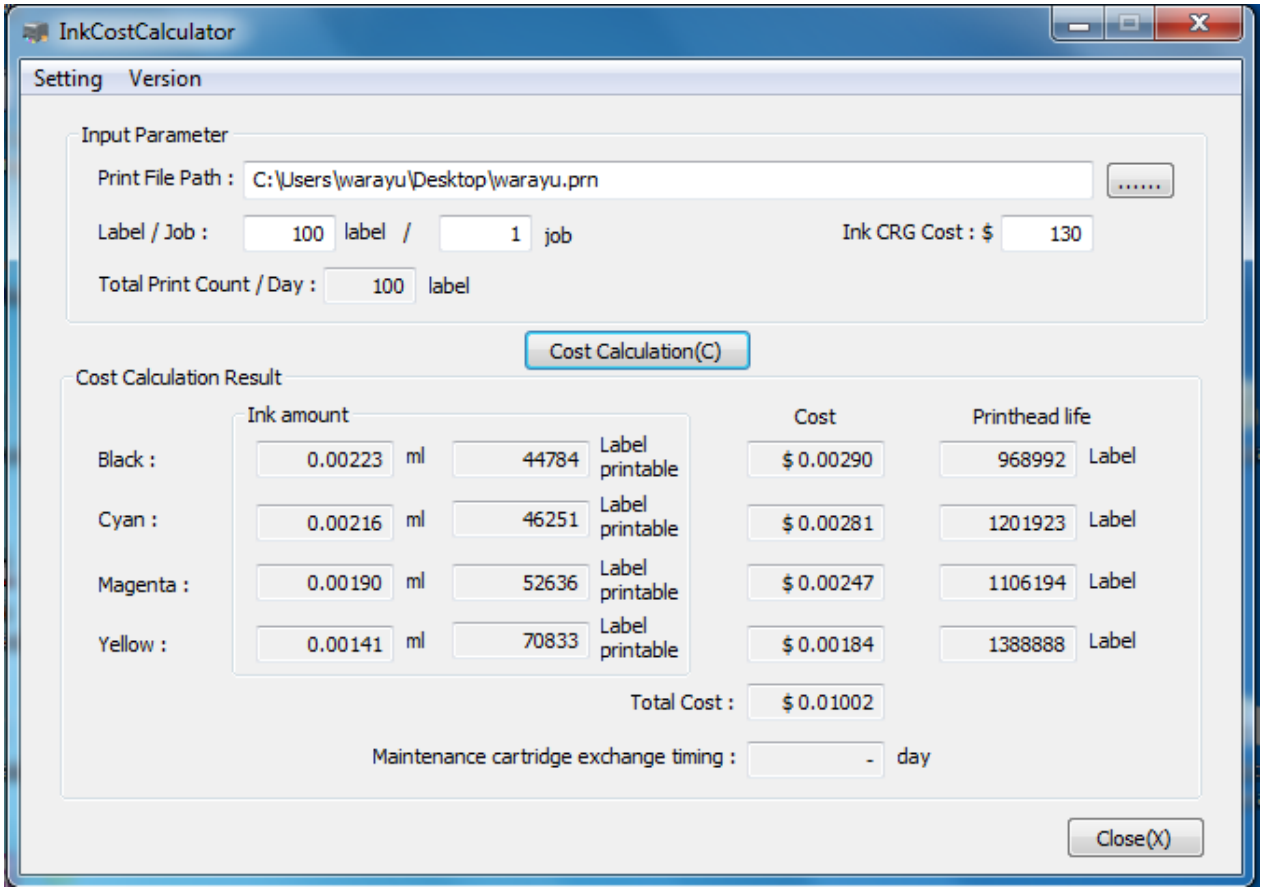
File Pass File Name




Open program Ink cost calculation tool

- Setting printer type to card printer
- Choose XXX.prn (that create in last step)
- Input ink cost and print per job (More print / job is lower cost)
- Click Cost Calculation → You will know estimate cost



# SCC-4000D_Medie Hole condition

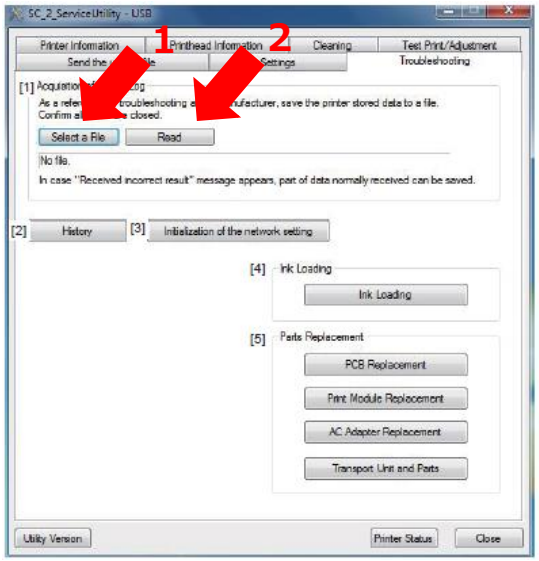
# Information necessary to troubleshoot:

◆ Printer serial number:

- Printer serial number
- Firmware version
- Printer log data (both .txt and .bin files) → Please get log data soon after the trouble occurred.
- Situation detail: How it was occurred (trigger of the trouble), How it was handled, Result after any actions.

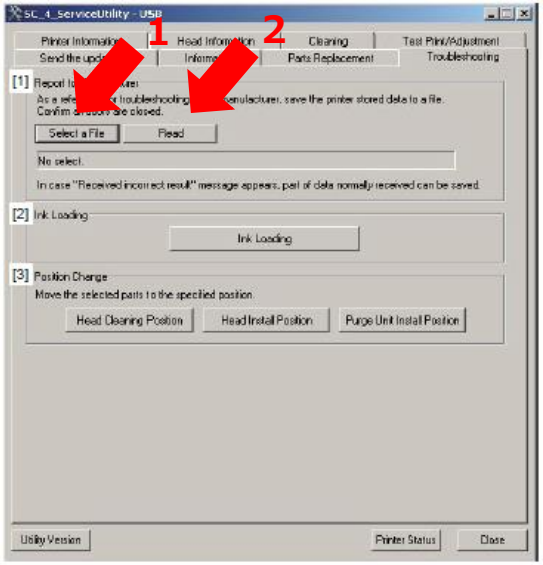
How to get printer log:

SCC-2000D Service Utility




(SCC-2000D Service Manual 9-11)

SCC-4000D Service Utility




(SCC-4000D Service Manual 9-11)

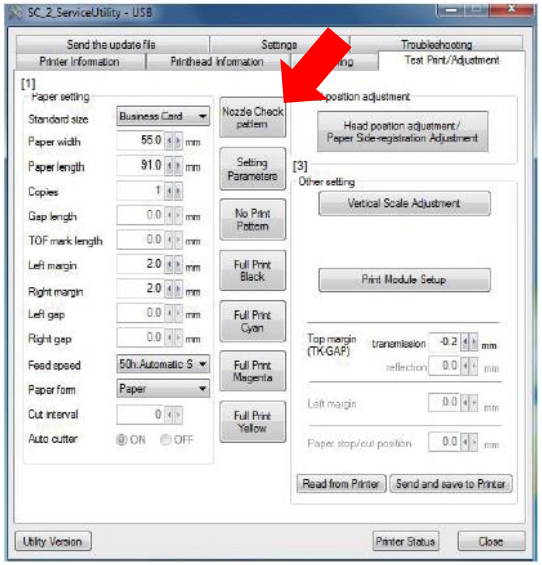
In addition to above, detail information for each phenomena written in the following pages is helpful.

# Information necessary to troubleshoot:

1. In case of image failure
   - ●Actual failure image, and how it is defective
   - ●Actual printed samples, printed nozzle check pattern, defective location.
   - ●Paper type and size
   - ●When it was occurred. (after powered on, it appeared while printing, after auto cleaning was performed, after paper jammed, etc)
   - ●Failure frequency
   - ●How it was changed after performing manual cleanings (light/medium/strong)
   - ●Please note on the print sample when it was printed (after printing XX pages, after strong cleaning 2times, etc)
   - ●Any other actions and its result (reinstalling print head, etc)

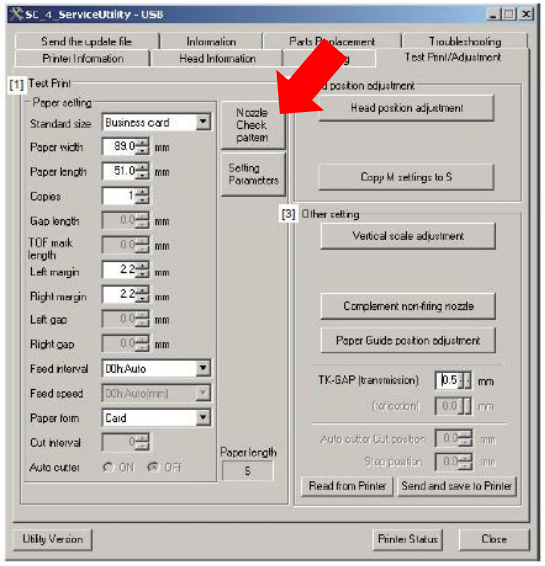
How to print Nozzle Check pattern:

SCC-2000D Service Utility




(SCC-2000D Service Manual 9-7)

SCC-4000D Service Utility



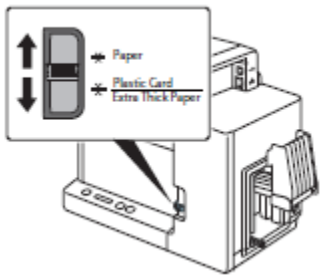

(SCC-4000D Service Manual 5-61)

# Information necessary to troubleshoot:

2. In case of paper jam
   - ●Whether it is modified to handle plastic card or not.（SCC–4000D）
   - ●If the paper lever is set to correct position
   - ●Error code (check with Service Utility)
   - ●Paper type and size
   - ●How it was jammed? (skewed and stopped on the transport belt, or stuck at a certain position. (photo if any)
   - ●In case it stopped in the middle of printing, image sample where it jammed (Exact jammed page).
   - ●Failure frequency
   - ●In case with SCC-2000D, if the media guide is set to correct position.

How to confirm the position of Paper Lever:

SCC-2000D



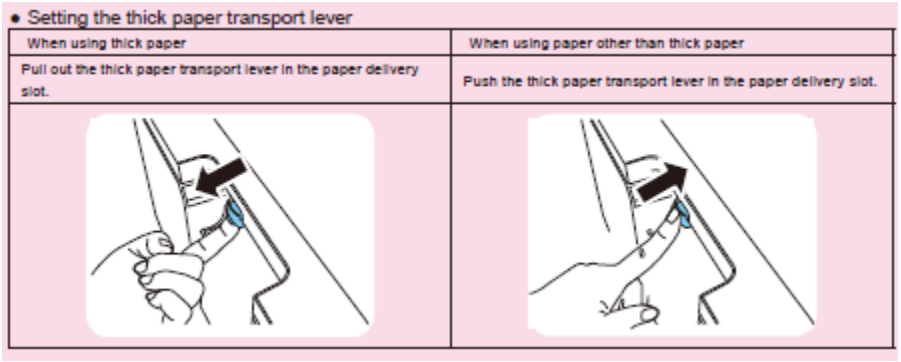

- Set the lever to the appropriate position according to the paper to be printed on.

  Plastic card or Extra thick paper:
  Set it to [Plastic Card/Extra Thick Paper]

  Paper other than above:
  Set it to [Paper]

SCC-2000D User's Guide P.13

SCC-4000D

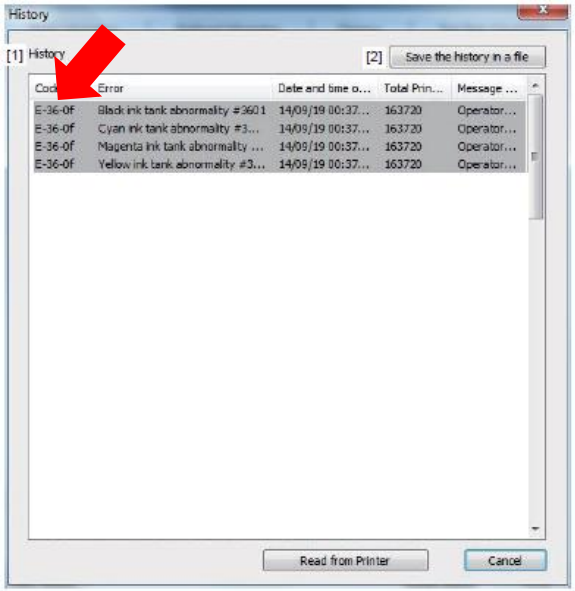



SCC-4000D User's Guide P.23

# Information necessary to troubleshoot:

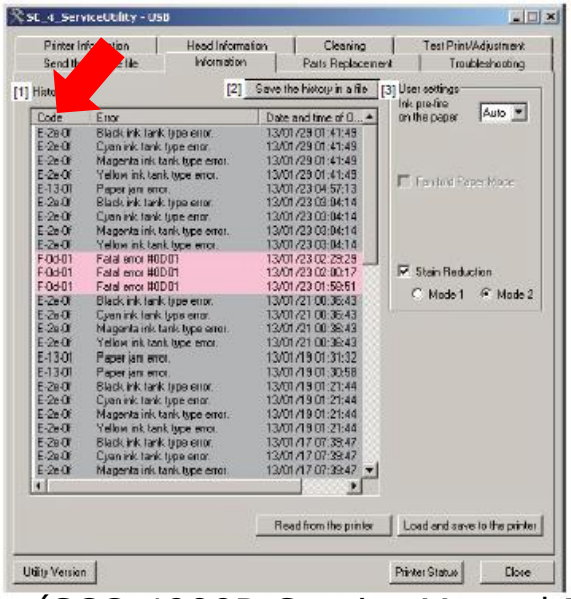
How to confirm the Error Code:

SCC-2000D Service Utility




(SCC-2000D Service Manual 9-12)

SCC-4000D Service Utility



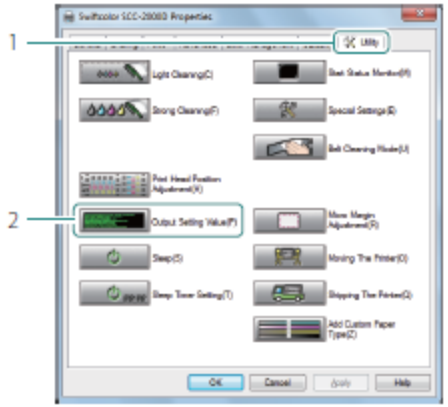

(SCC-4000D Service Manual 5-64)

# Information necessary to troubleshoot:

3. In case of printer driver malfunction
   - ●Problem detail
   - ●Printer Driver version
   - ●Application software and its version
   - ●Printer driver setting file
   - ●Setting from printer driver, or setting from application software

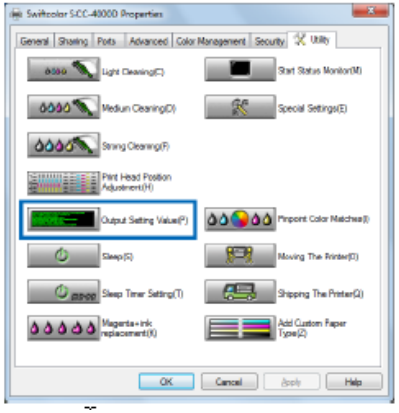
   how to export driver setting:

SCC-2000D Service Utility




(SCC-2000D User's Guide P.122)

SCC-4000D Service Utility



(SCC-4000D User's Guide P.162 )

4. In case other than above
   - ・Error code
   - ・Problem detail

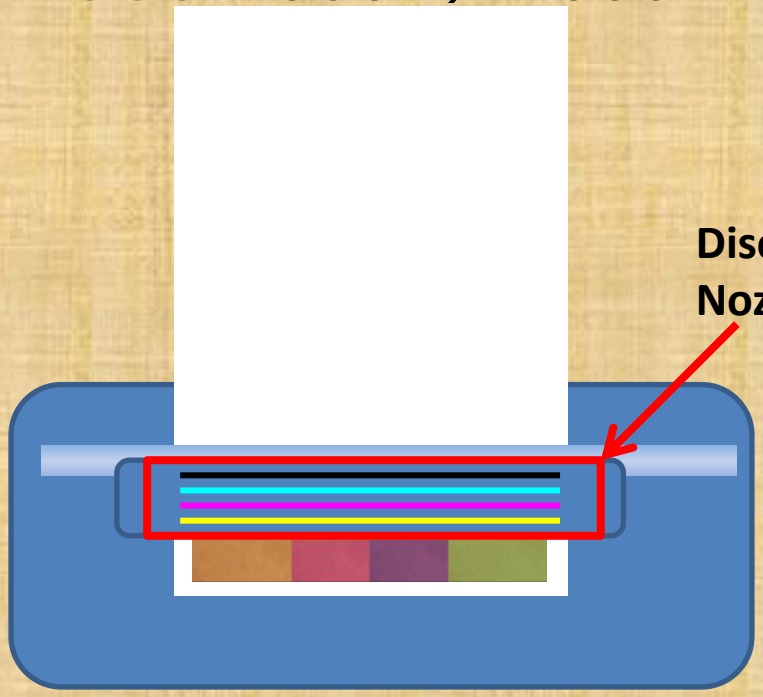
# How to utilize print head: SwiftColor sample image design

**2015/1/19**

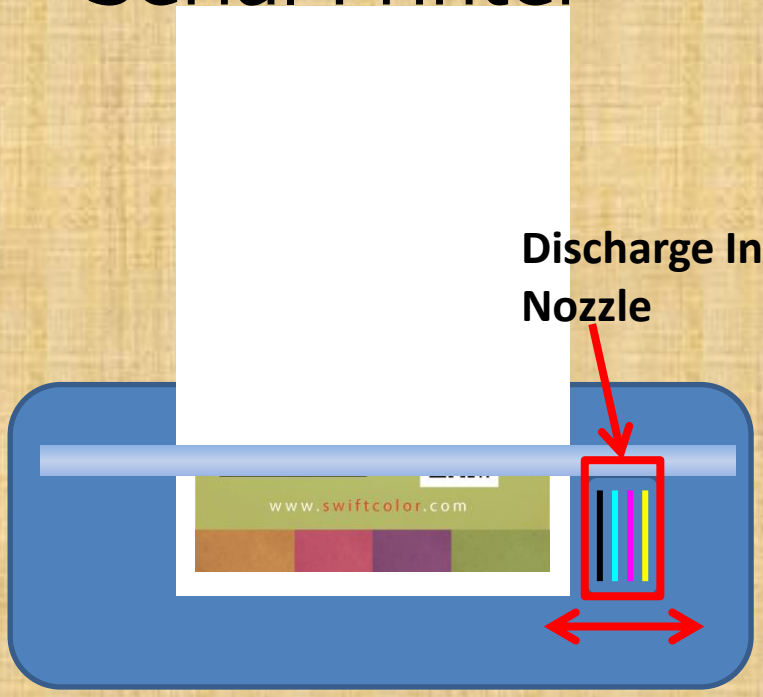
**Canon Finetech Inc.**

# IJ Printer printing mechanism

## SCC-4000D／2000D




## Serial Printer




Media feeding direction

Media moves under the fixed head at a constant speed and images are created.

**“Line head”**

Media moves bit by bit for printing image, while head moves from right to left and images are created.

**“Serial head”**

# IJ Printer printing mechanism

## SCC-4000D／2000D

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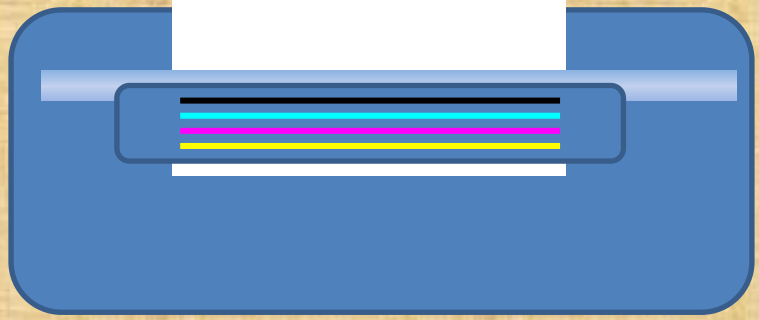

## Serial Printer

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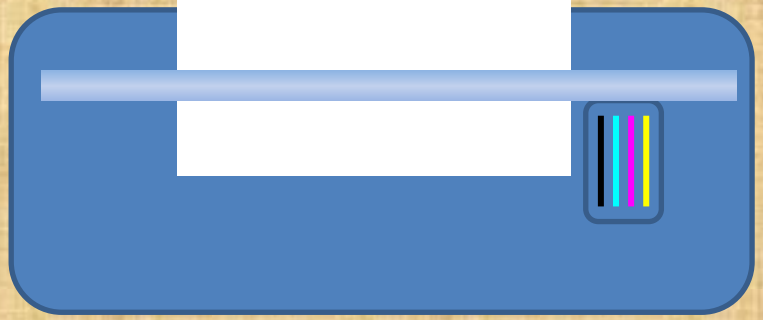

# IJ Printer printing mechanism

## SCC-4000D／2000D

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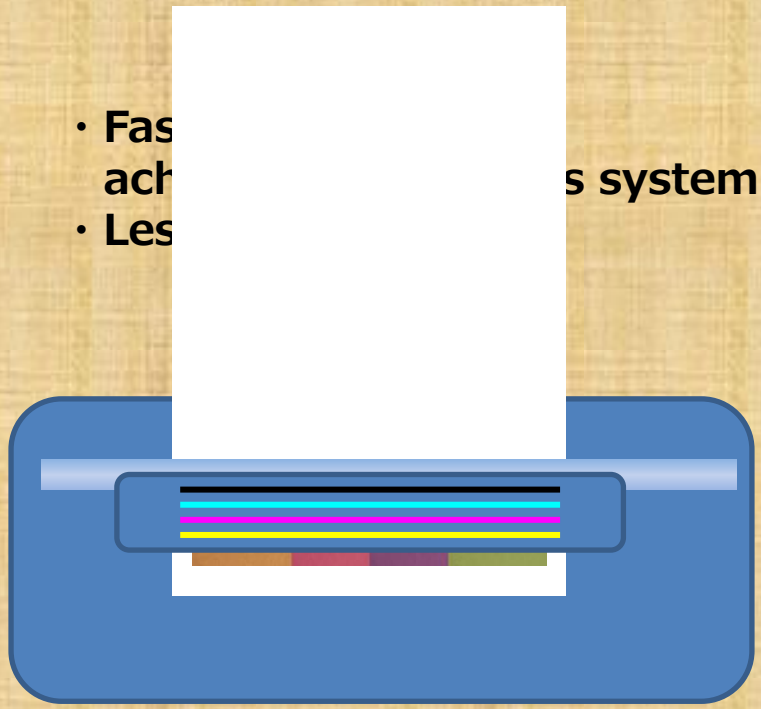

## Serial Printer

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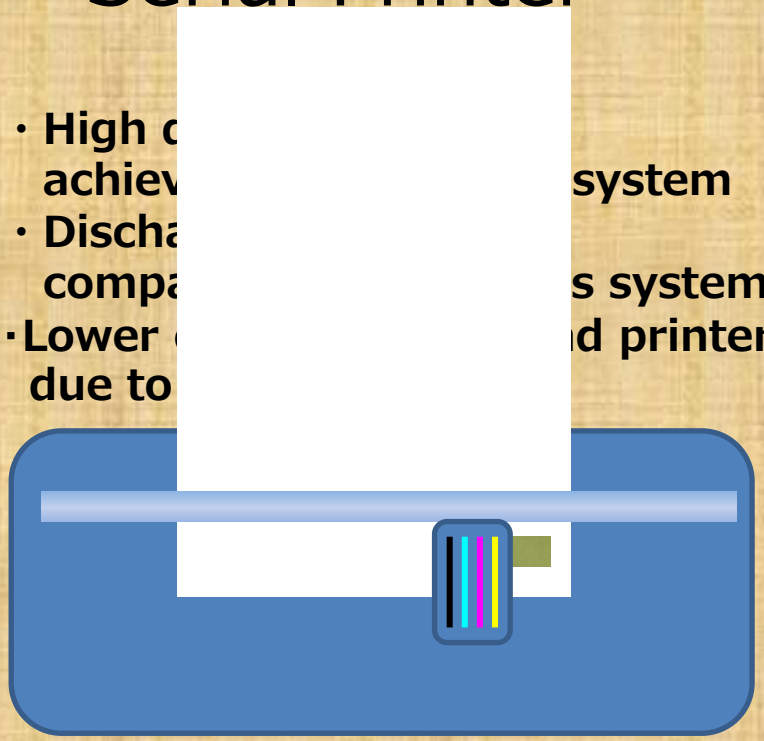

# IJ Printer printing mechanism

## SCC-4000D／2000D

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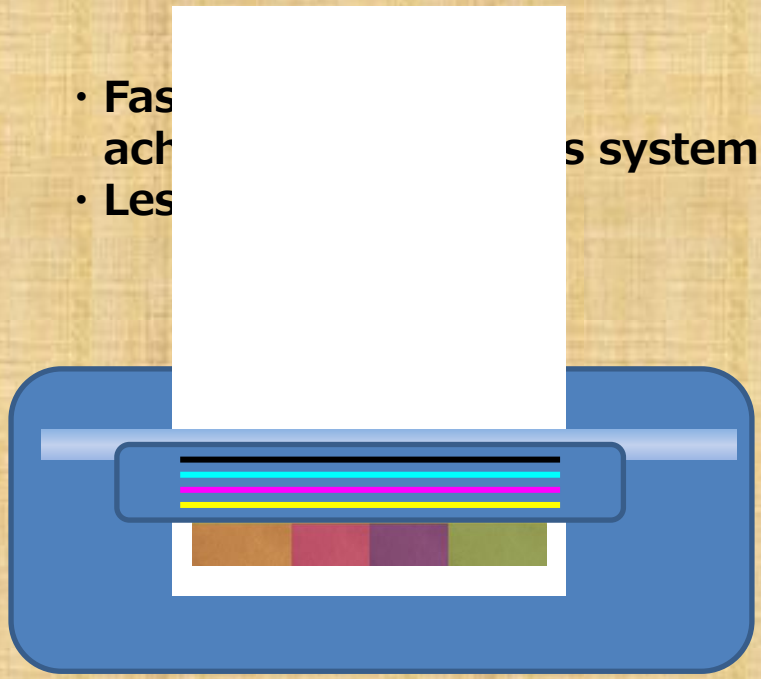

## Serial Printer

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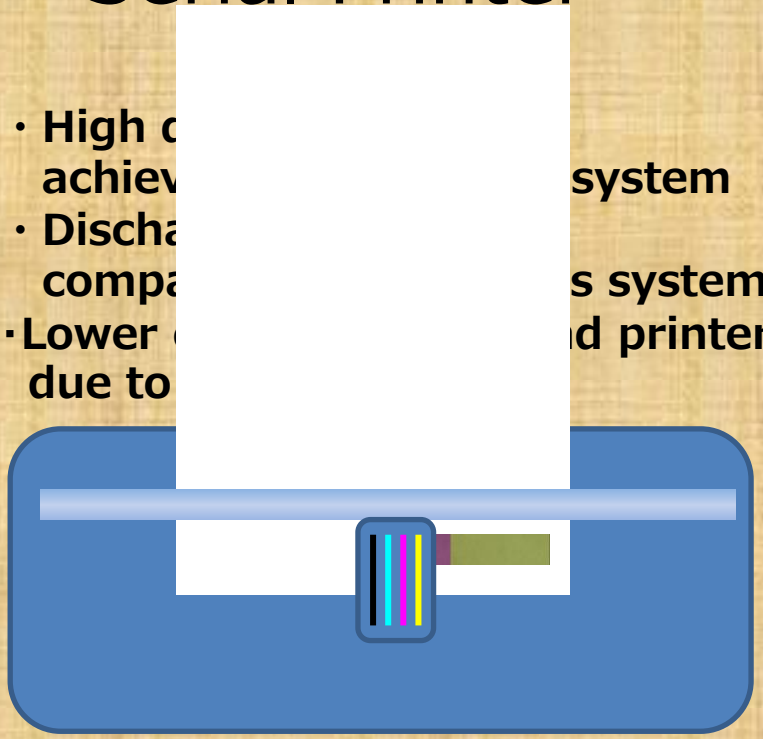

# IJ Printer printing mechanism

## SCC-4000D／2000D

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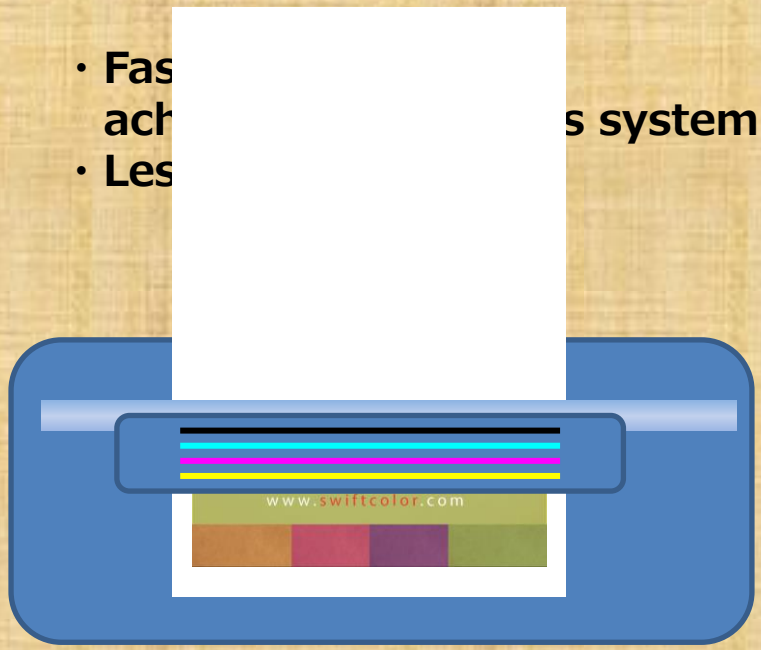


## Serial Printer

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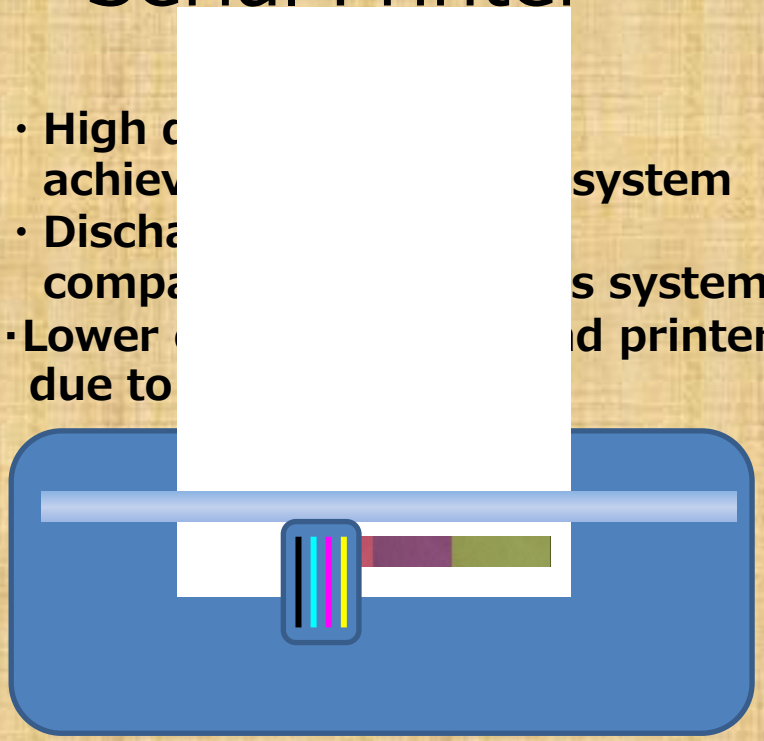

# IJ Printer printing mechanism

## SCC-4000D／2000D

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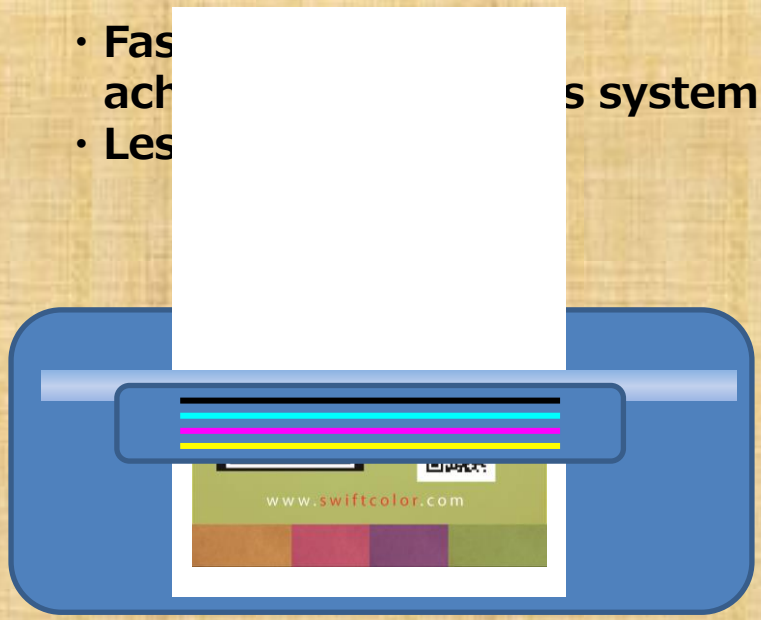


## Serial Printer

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・Discha
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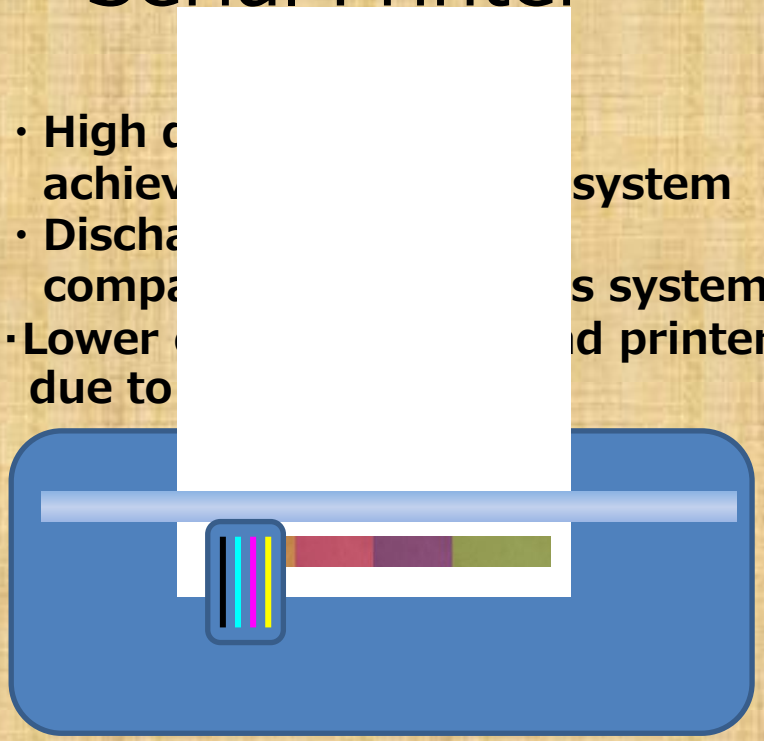
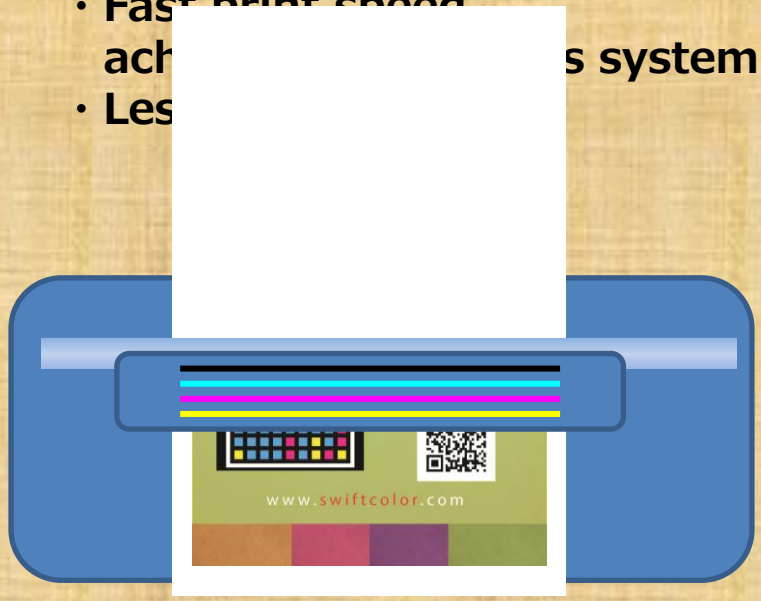


# IJ Printer printing mechanism

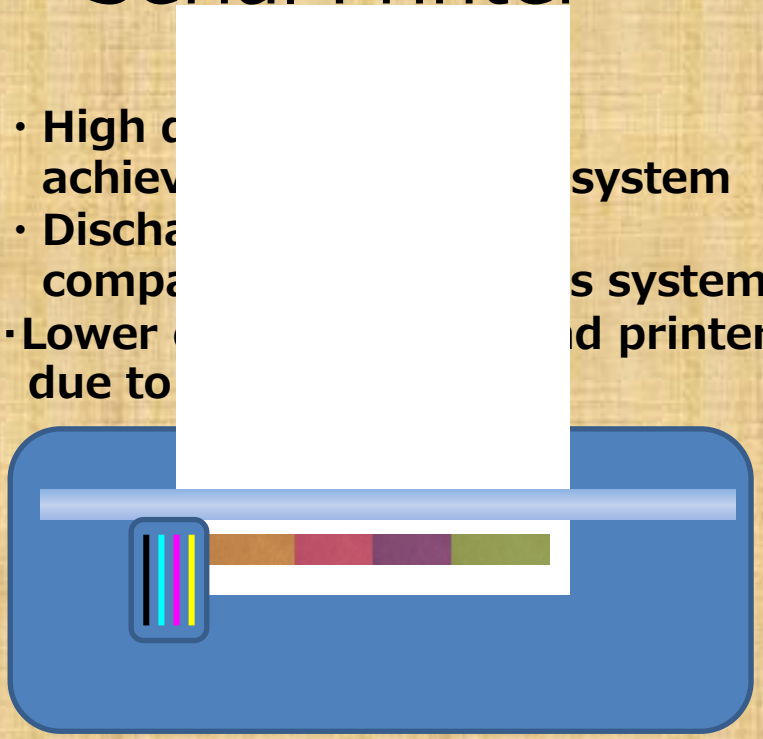
## SCC-4000D／2000D

・Fast print speed
ach s system
・Les




## Serial Printer

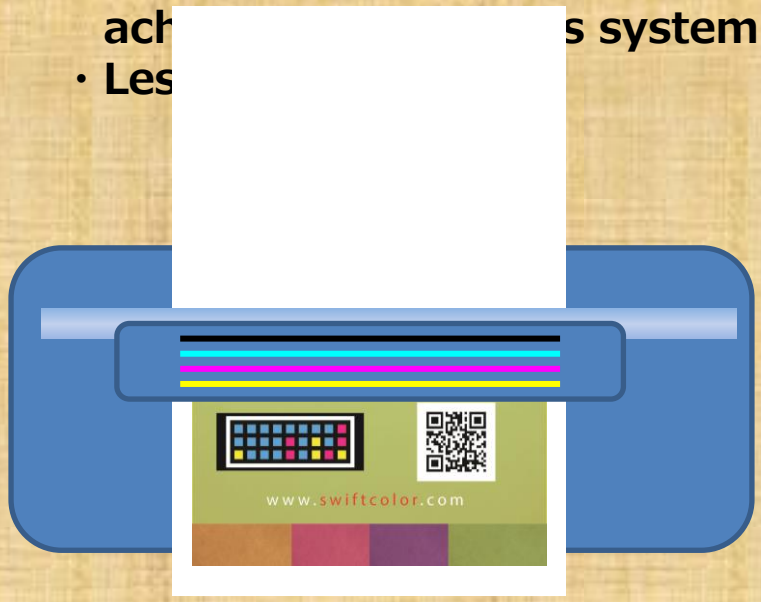
・High c
achiev system
・Discha
compa s system
・Lower d printer
due to



# IJ Printer printing mechanism

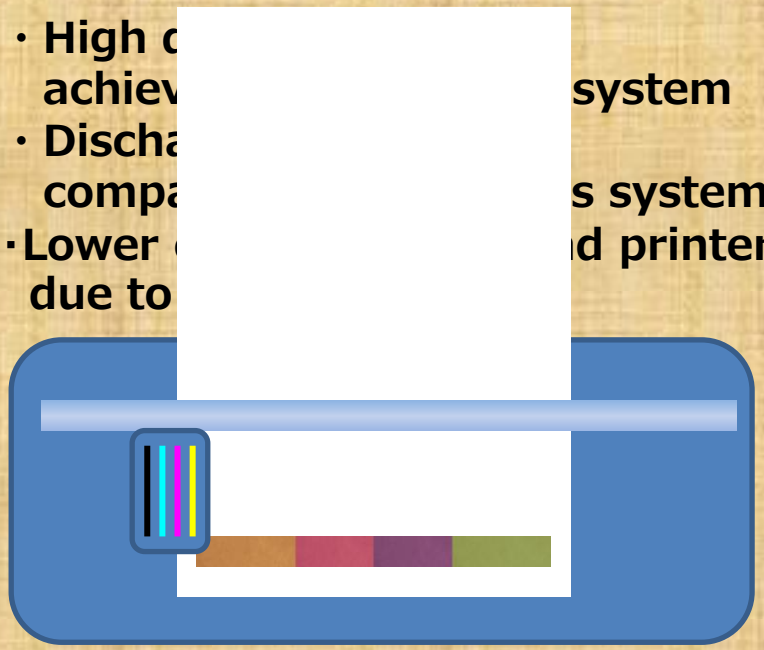
## SCC-4000D／2000D

・Fast print speed
ach s system
・Les




## Serial Printer

・High c
achiev system
・Discha
compa s system
・Lower d printer
due to



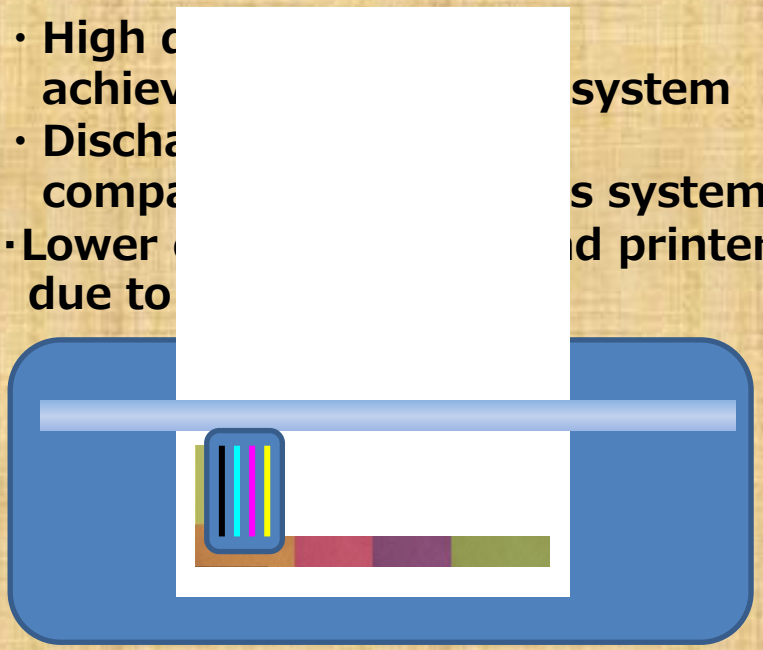
# IJ Printer printing mechanism

## SCC-4000D／2000D

・Fast print speed
achieved by one pass system
・Les


## Serial Printer

・High c
achiev system
・Discha
compa s system
・Lower d printer
due to



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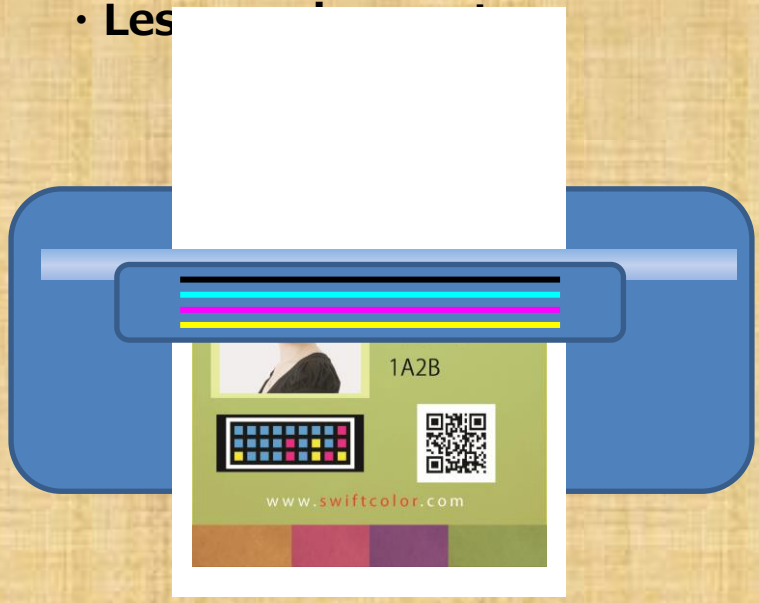
## SCC-4000D／2000D

- Fast print speed
  achieved by one pass system
- Les

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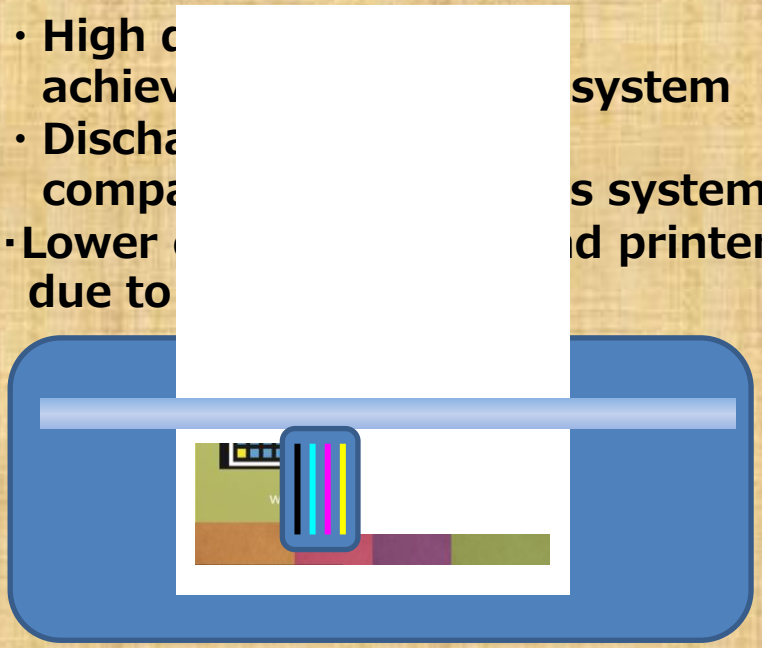

# IJ Printer printing mechanism

## SCC-4000D／2000D

- Fast print speed achieved by one pass system
- Less moving part


## Serial Printer

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  achiev system
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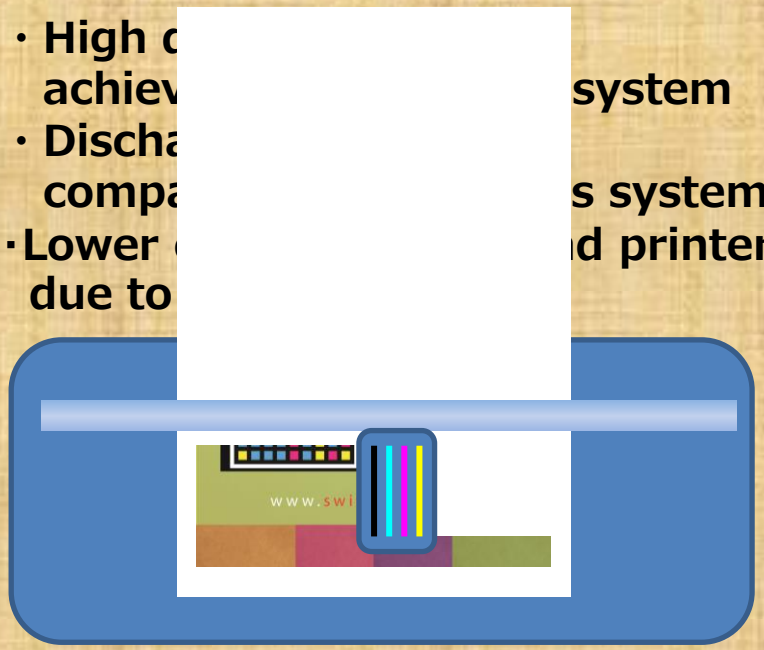


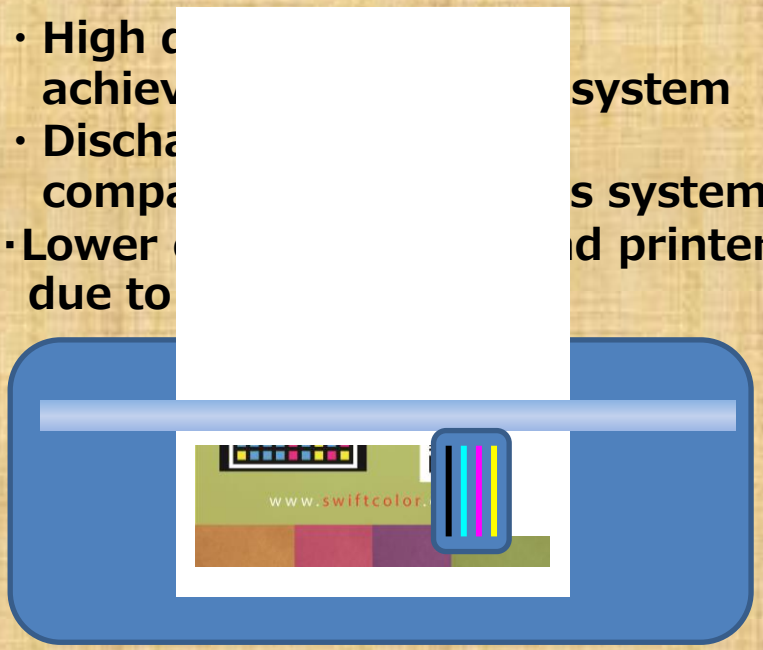
# IJ Printer printing mechanism

## SCC-4000D／2000D

- **Fast print speed achieved by one pass system**
- **Less moving part**


## Serial Printer

- **High c**
  **achiev** **system**
- **Discha**
  **compa** **s system**
- **Lower** **d printer**
  **due to**



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  **compa** **s system**
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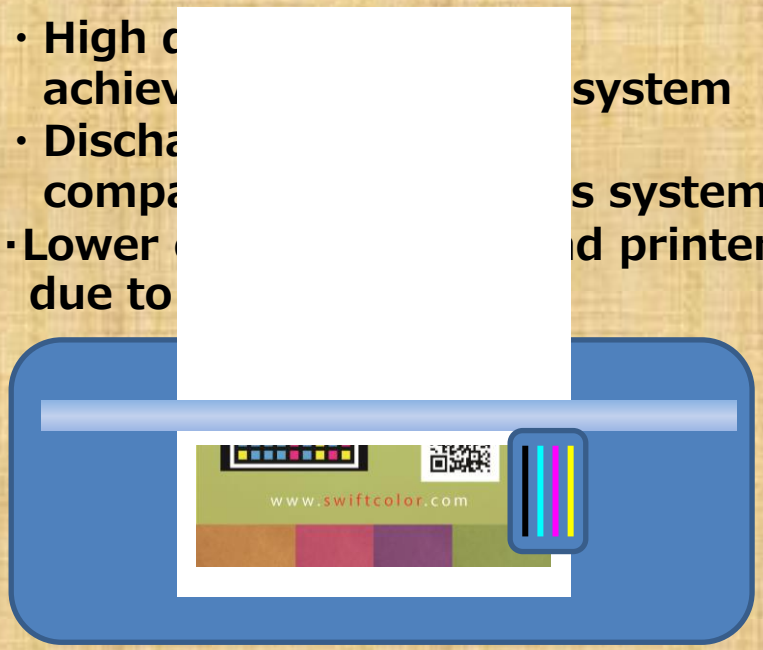

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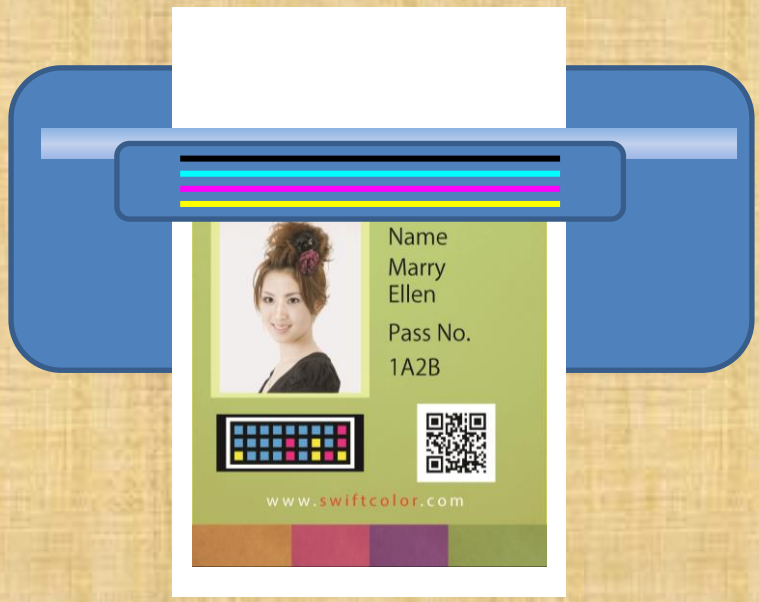


## Serial Printer

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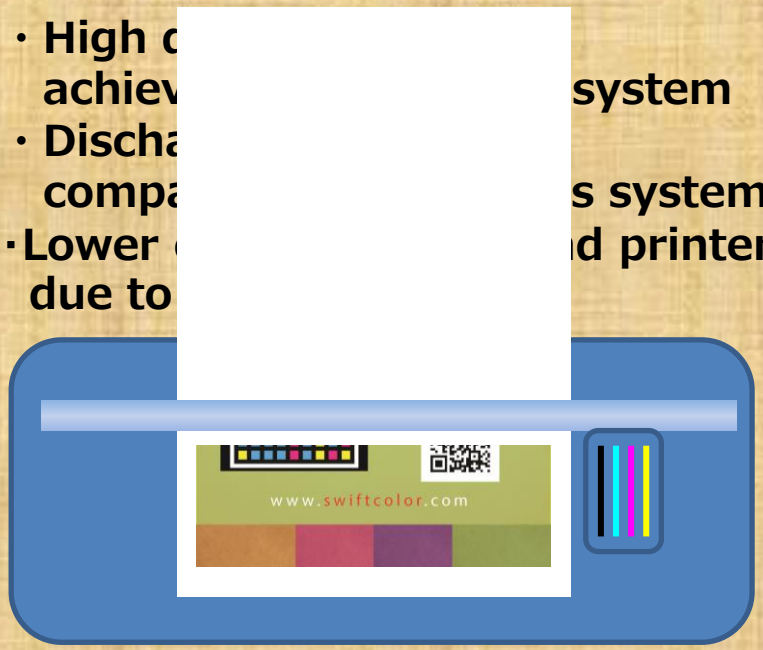
  **achiev** **system**
- **Discha**
  **compa** **s system**
- **Lower** **d printer**
  **due to**



# IJ Printer printing mechanism

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- Fast print speed
  achieved by one pass system
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## Serial Printer

- High quality image
  achieved by multi pass system
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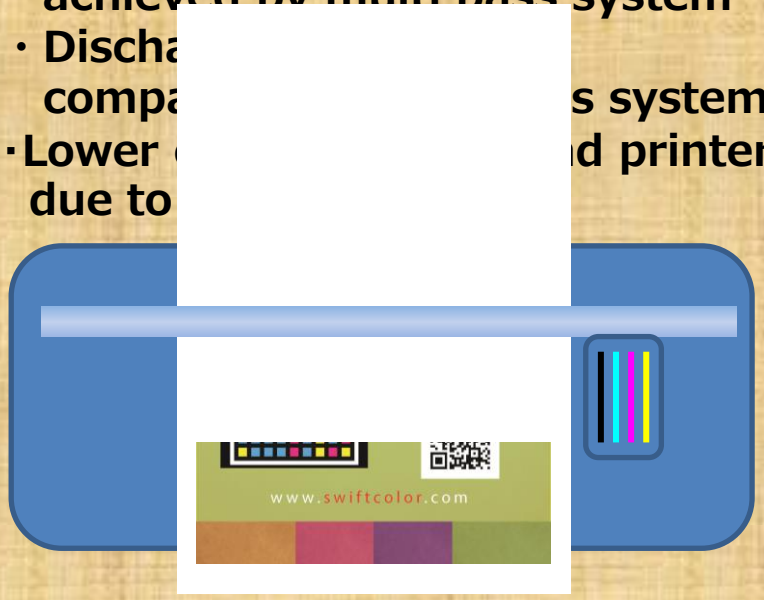
  compa s system
- Lower d printer
  due to



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- Fast print speed achieved by one pass system
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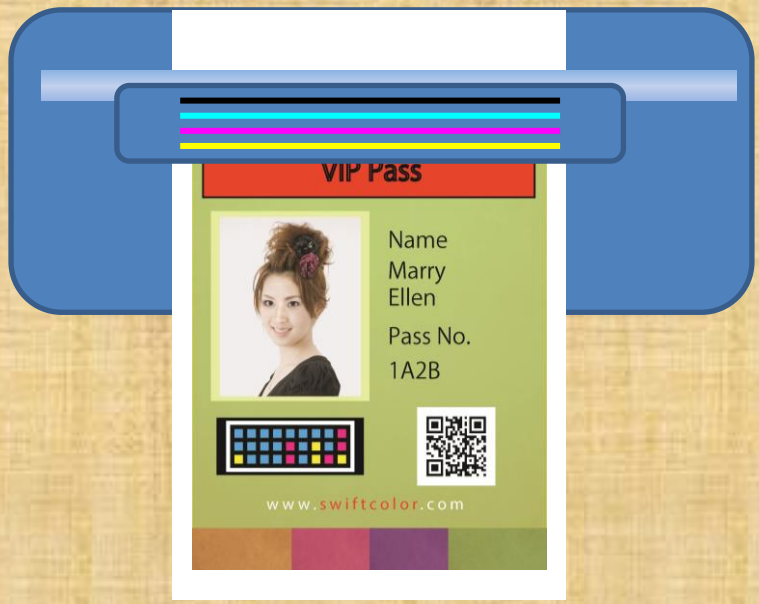
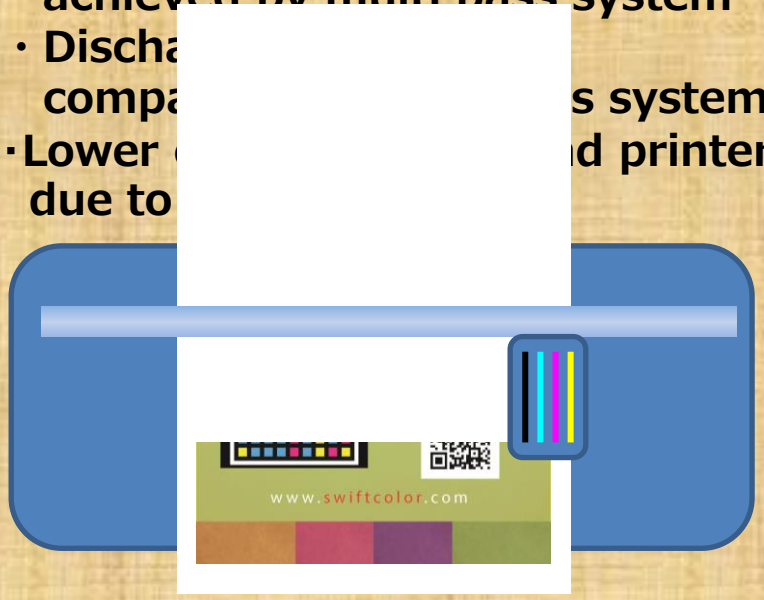



## Serial Printer

- High quality image achieved by multi pass system
- Discha… s system compa…
- Lower … d printer due to …



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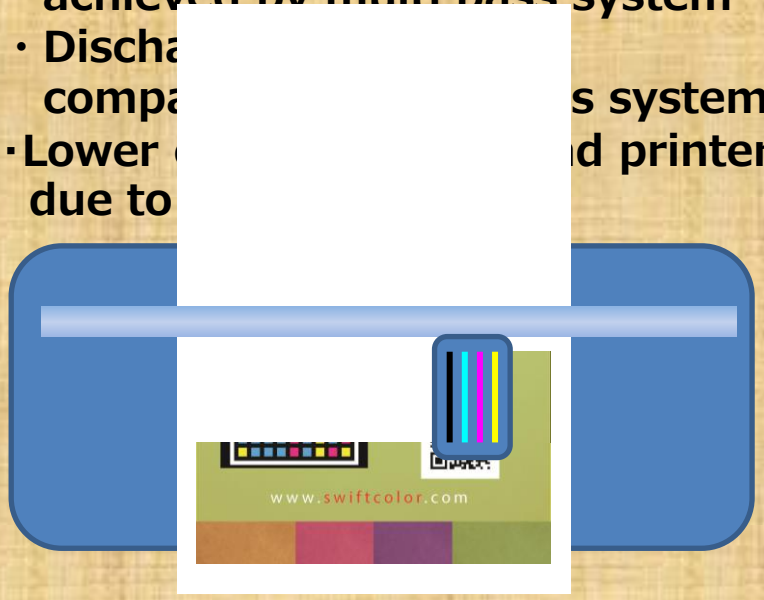

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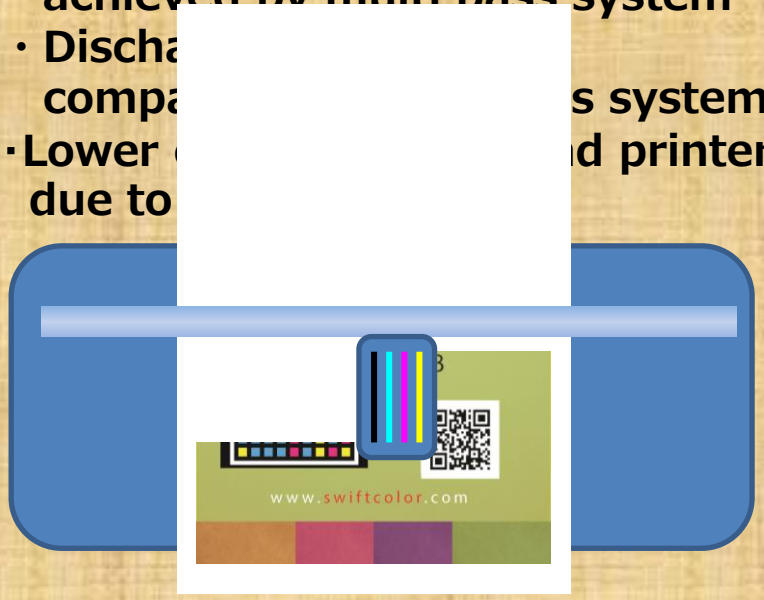

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## SCC-4000D／2000D

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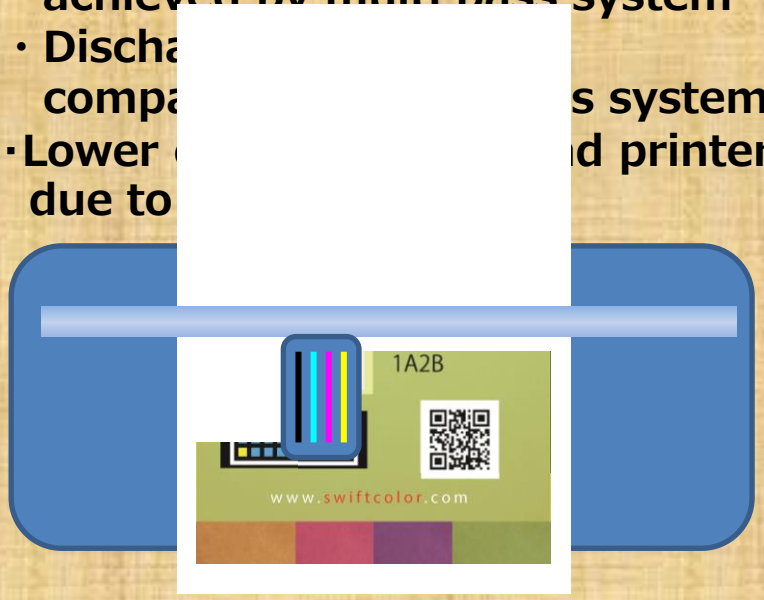

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## SCC-4000D／2000D

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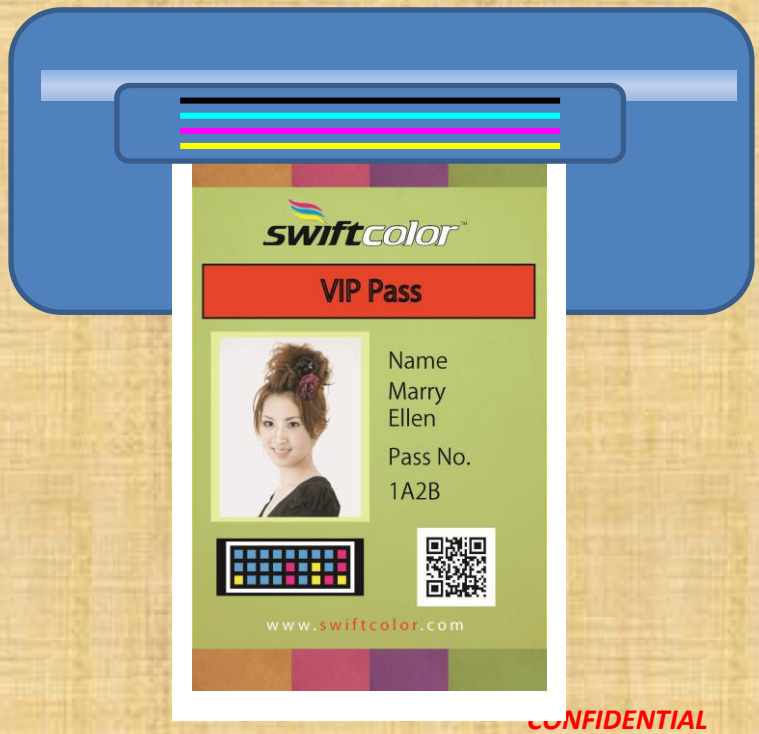


## Serial Printer

- High quality image achieved by multi pass system
- Discha… compa… s system
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## SCC-4000D／2000D

- Fast print speed achieved by one pass system
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## Serial Printer

- High quality image achieved by multi pass system
- Discharge more ink compared with one pass system
- Lower [illegible] printer due to

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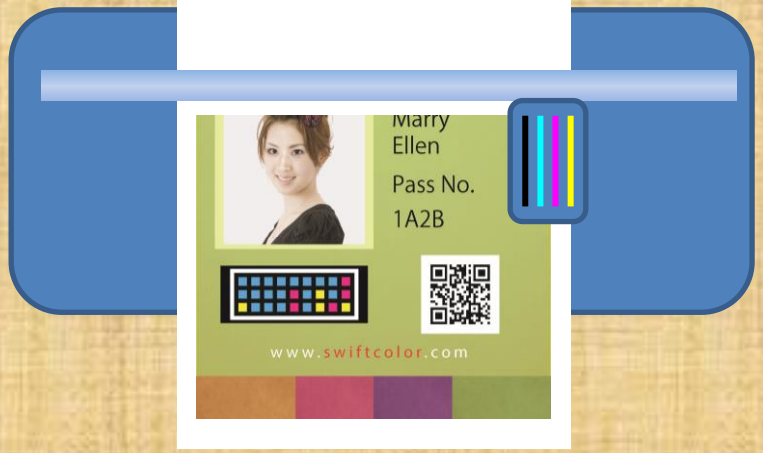

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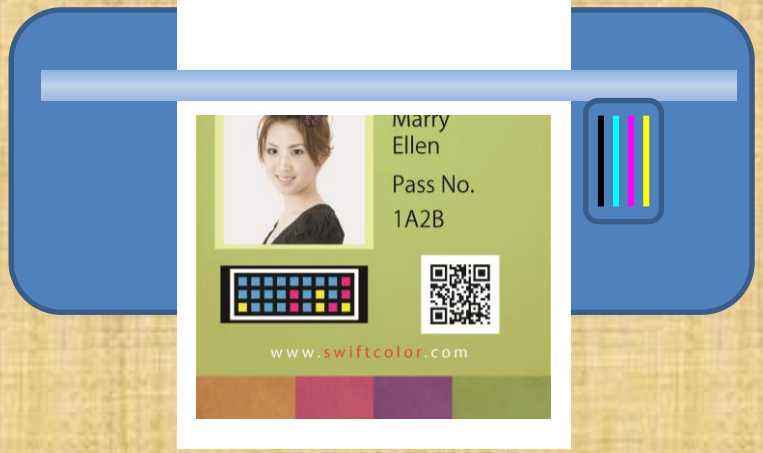

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- Fast print speed achieved by one pass system
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## Serial Printer

- High quality image achieved by multi pass system
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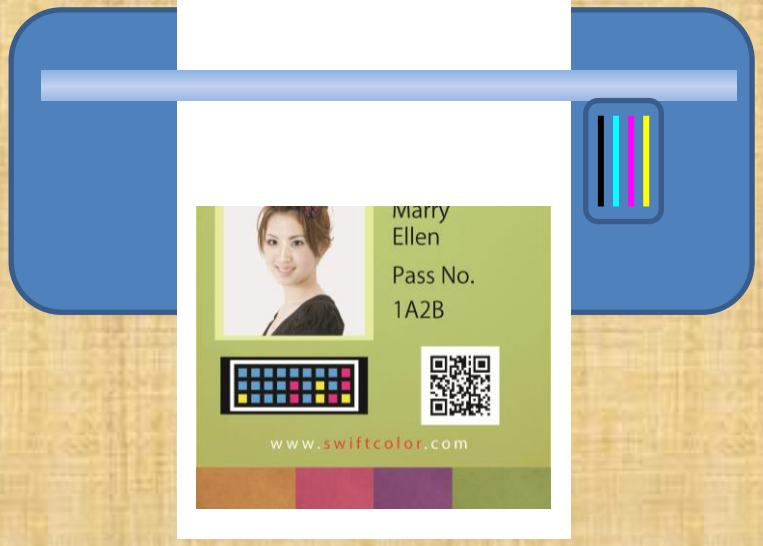
- Lower cost than line head printer due to



# IJ Printer printing mechanism

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- **Fast print speed achieved by one pass system**
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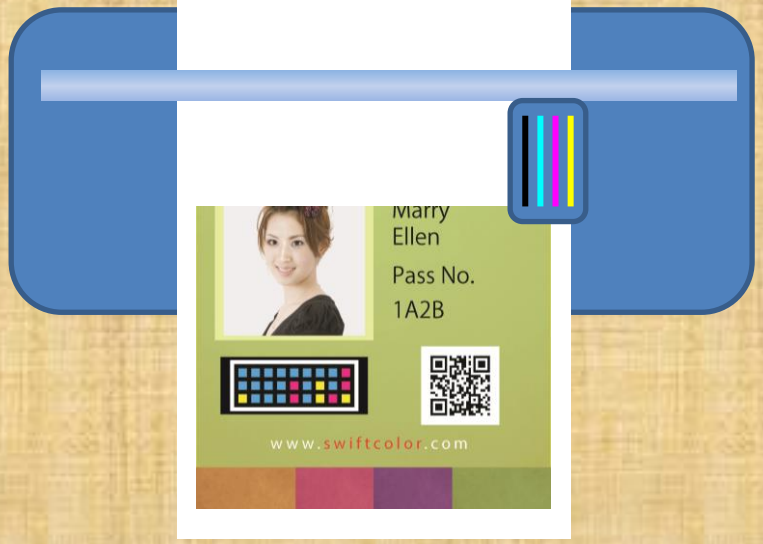

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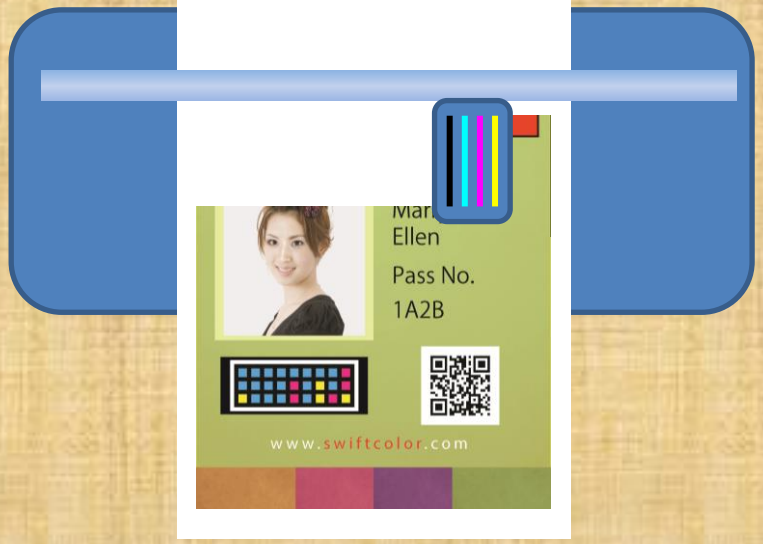

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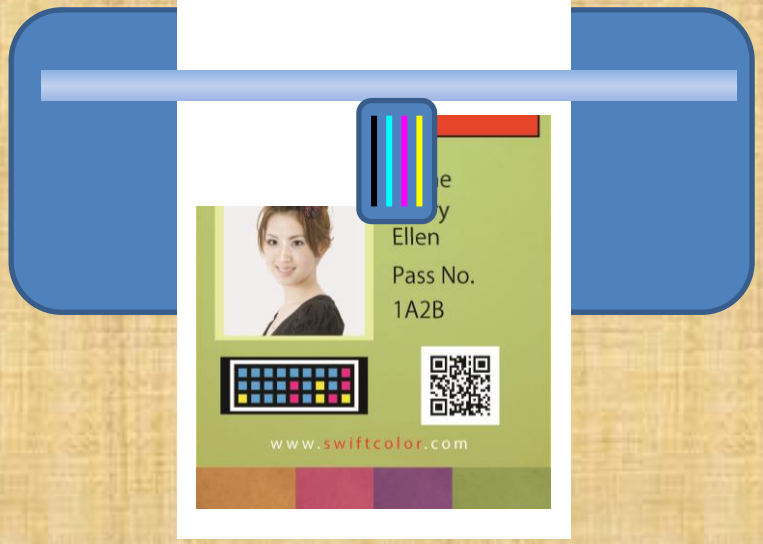

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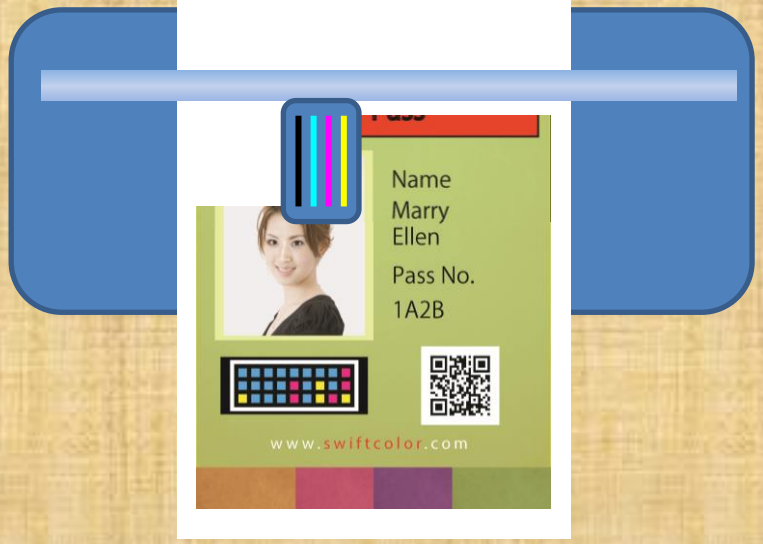

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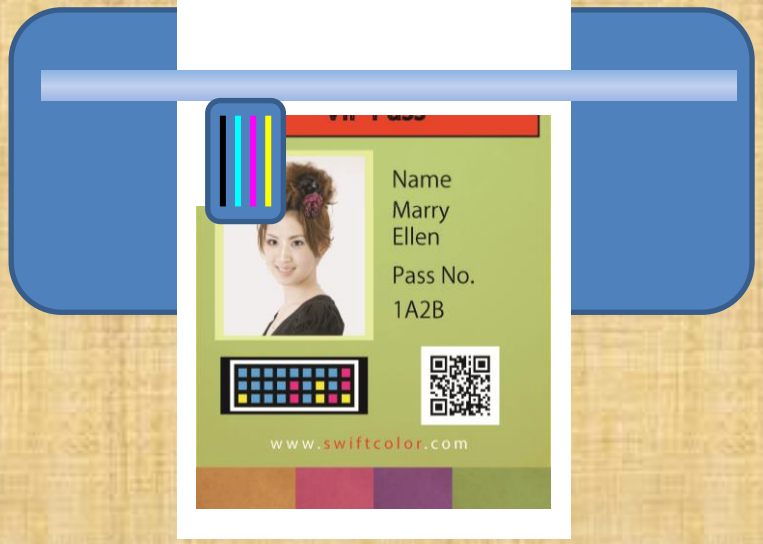

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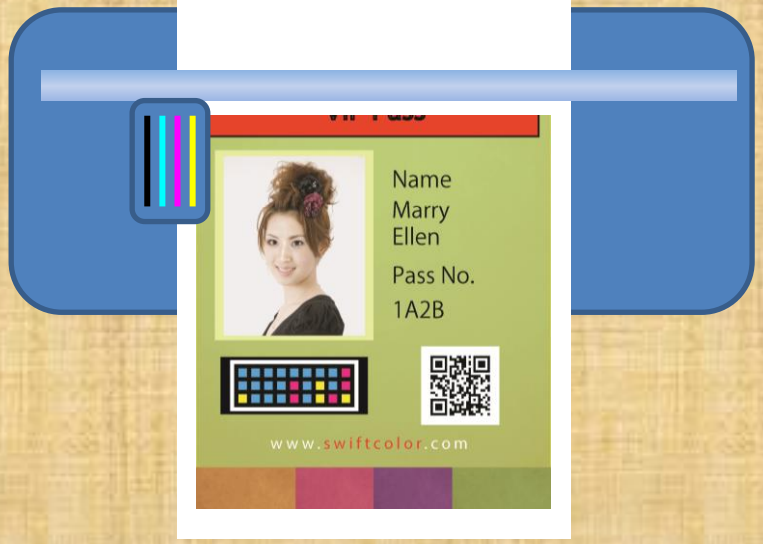

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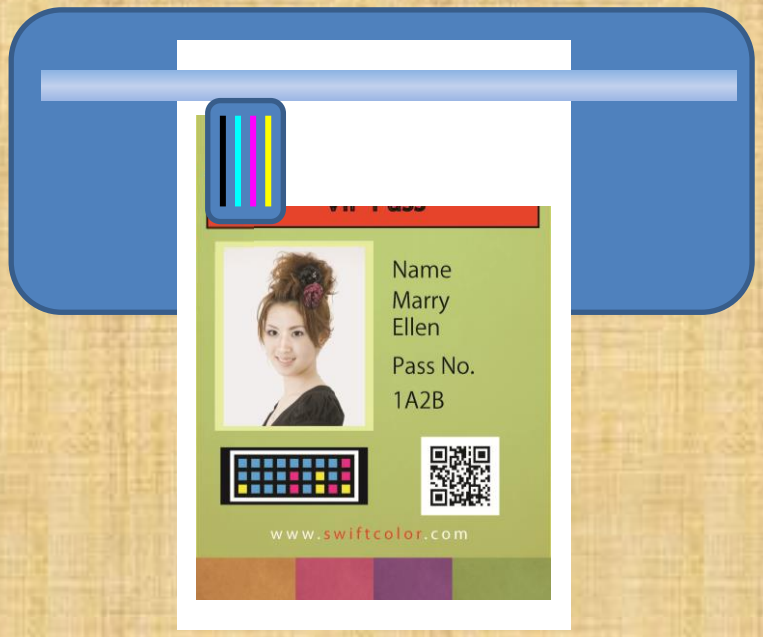

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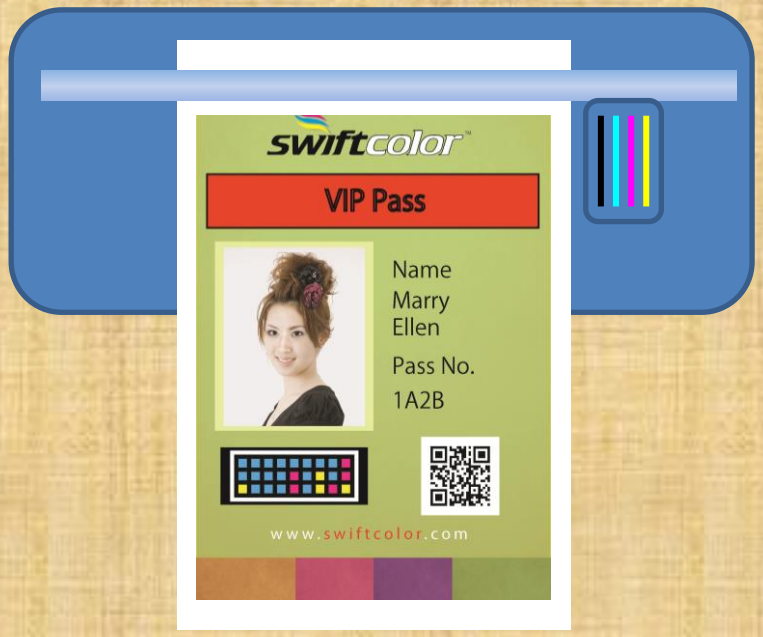

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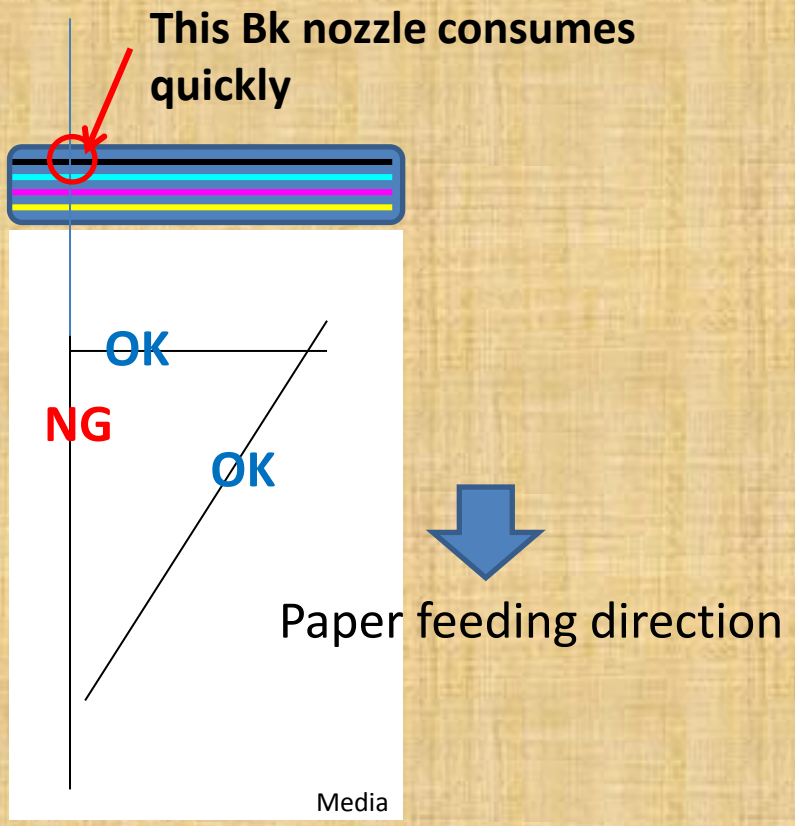
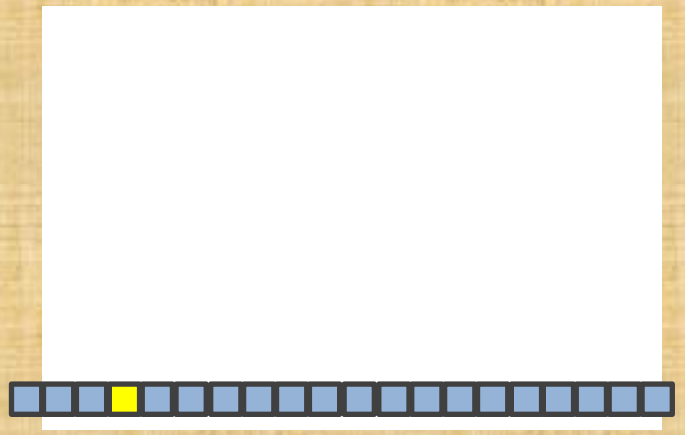
# Bias in used nozzles

## Line head Printer

Due to the feature of line printing system, particular nozzles are used frequently for printing parallel line to media feeding direction. As a result, the head life is shortened and it affects cost per page.



Yellow : Discharging nozzle

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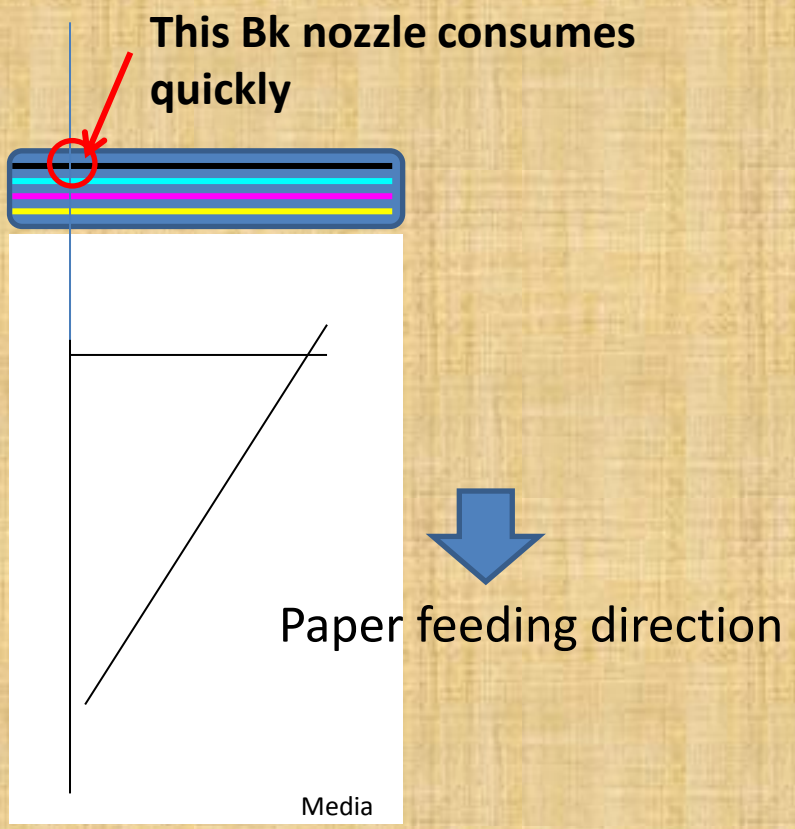


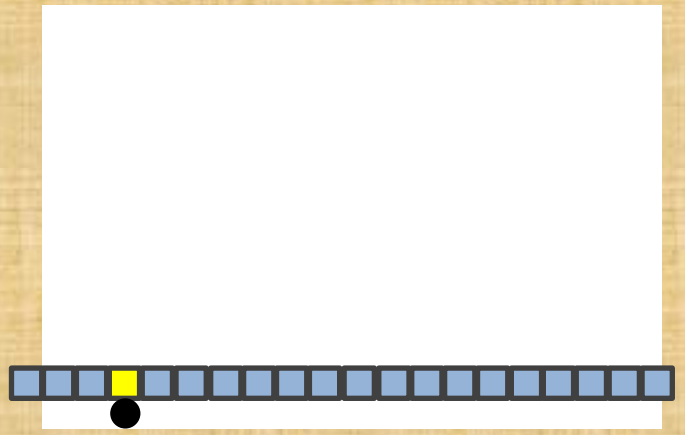

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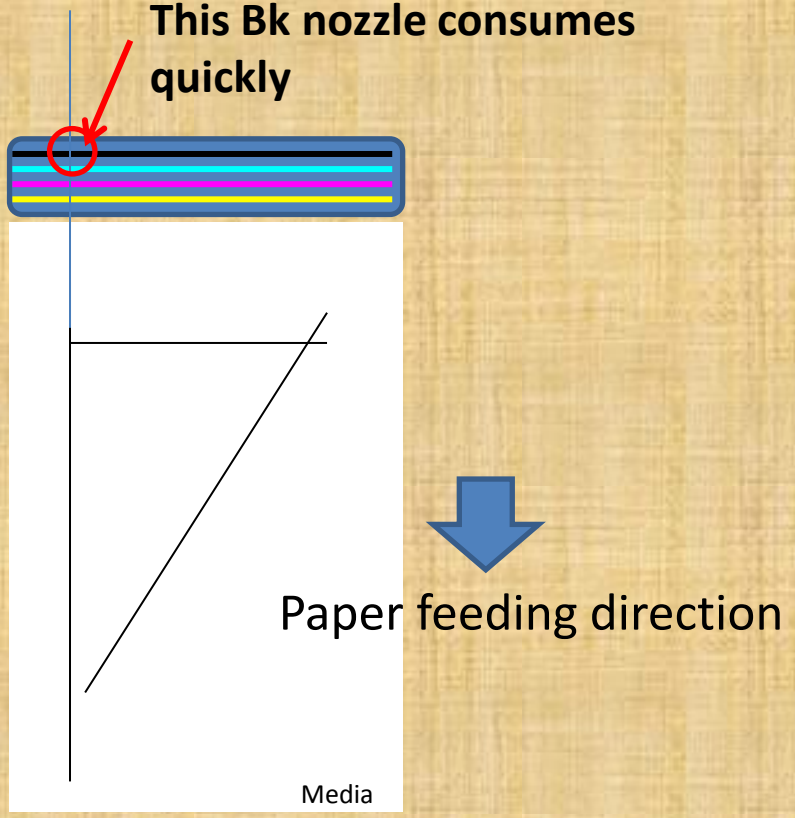


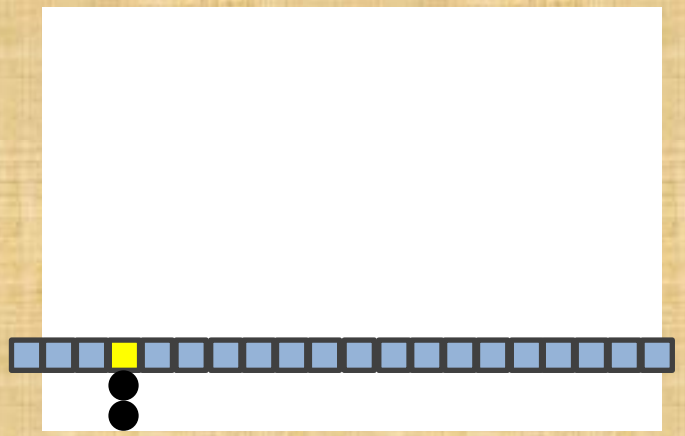

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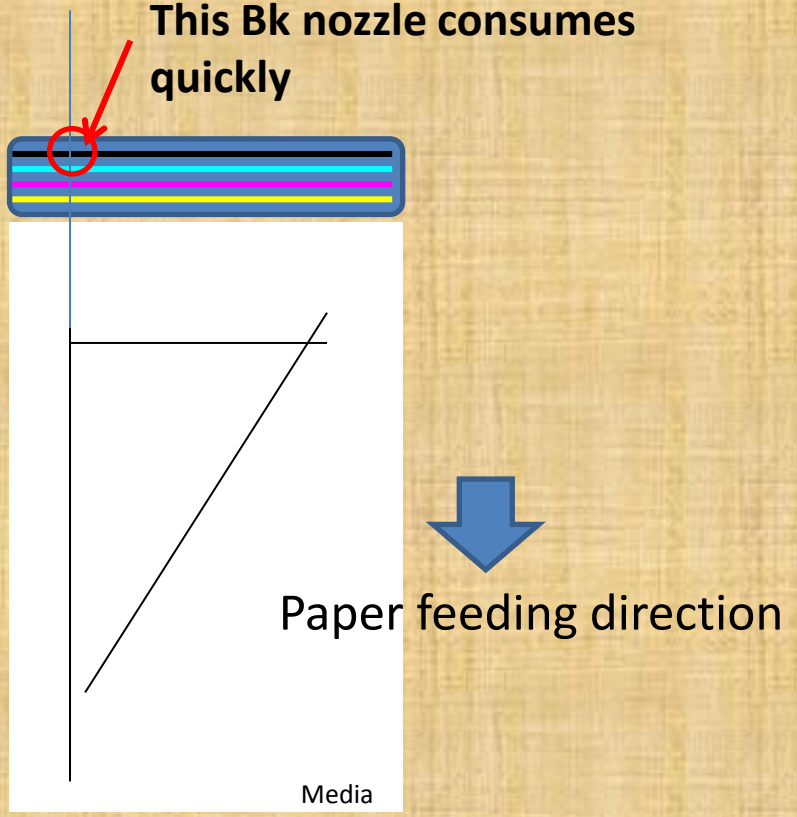


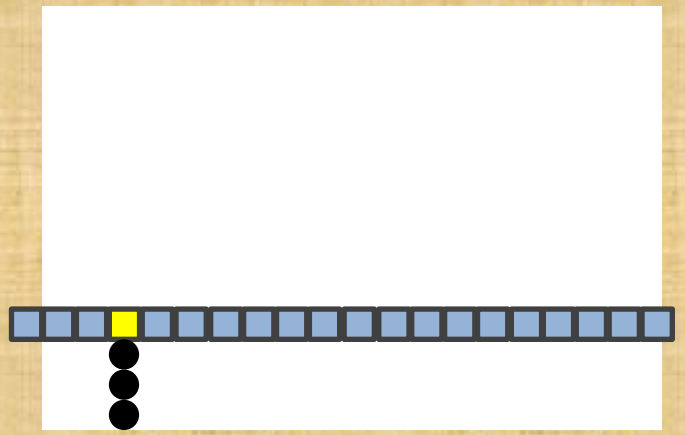

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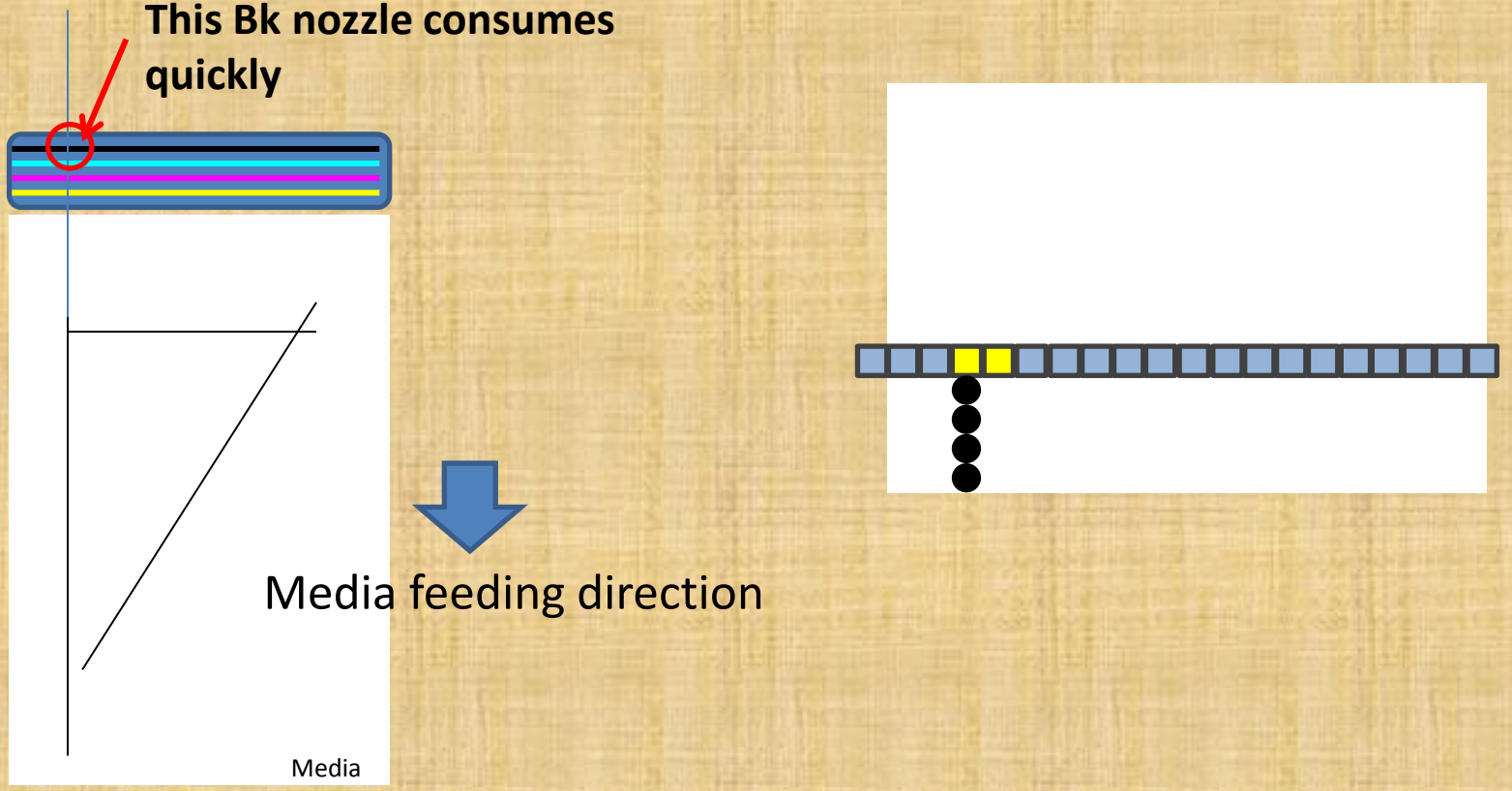

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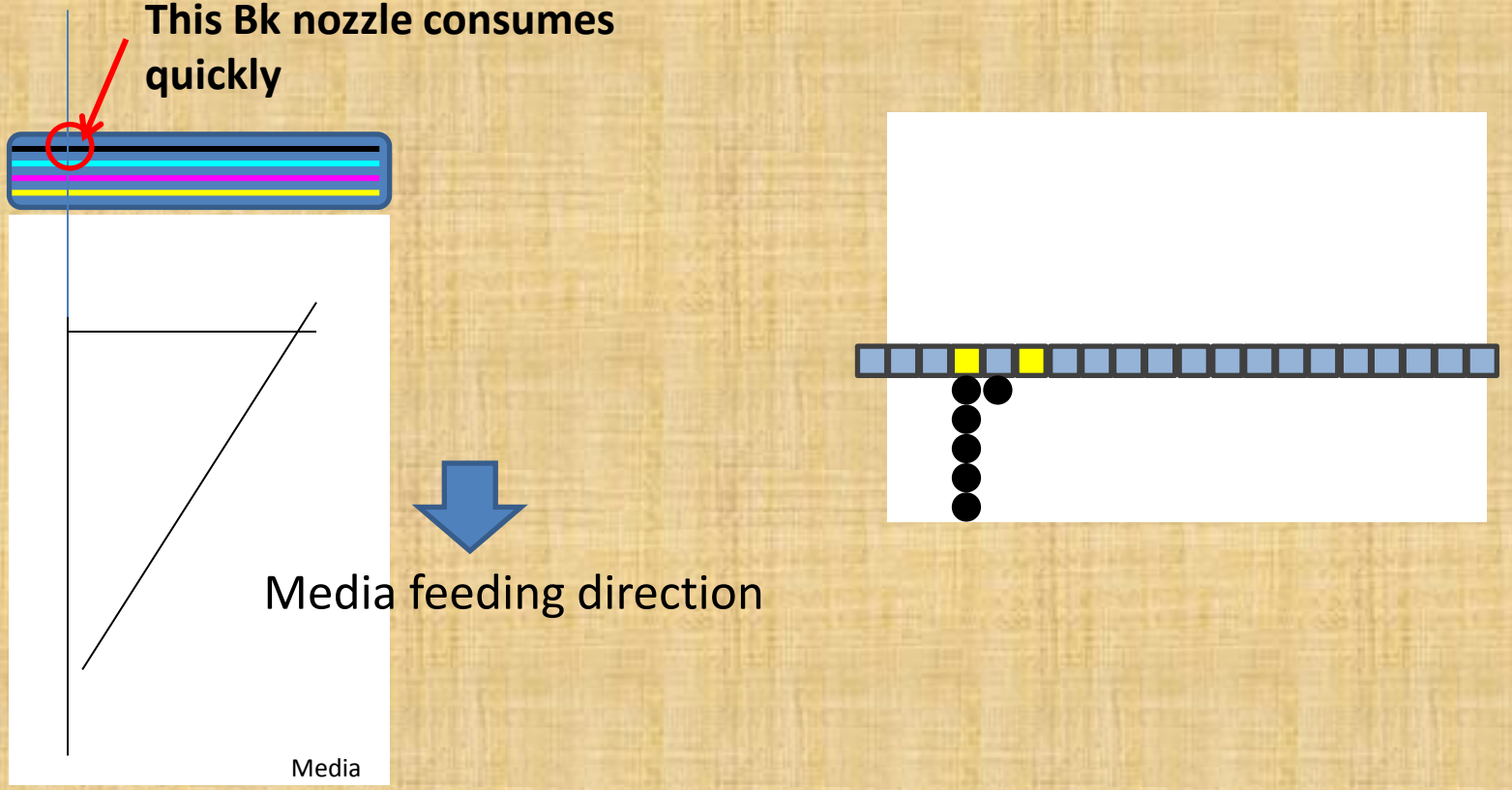

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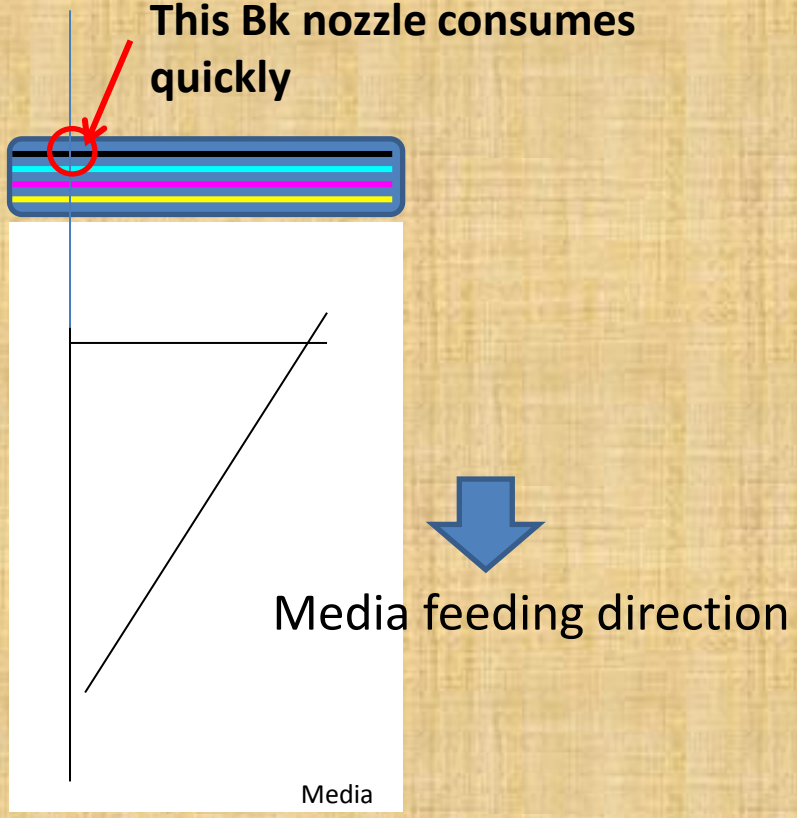


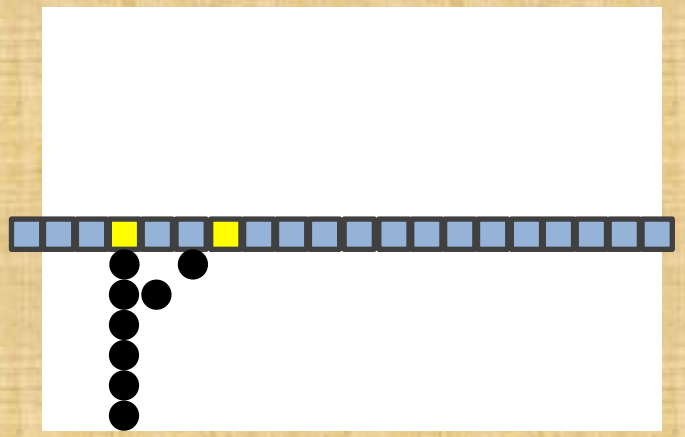

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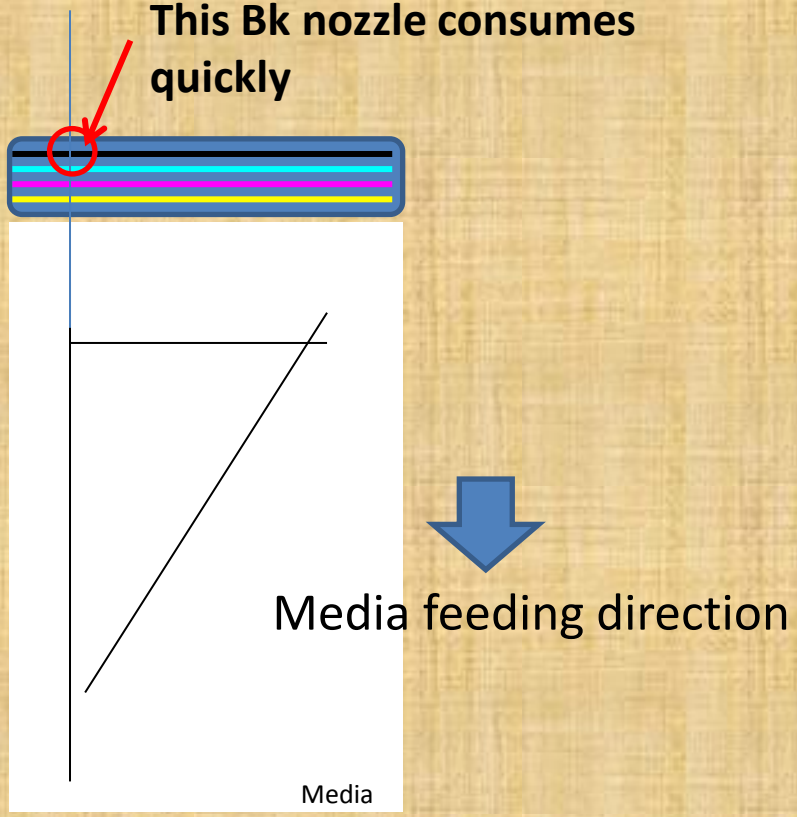


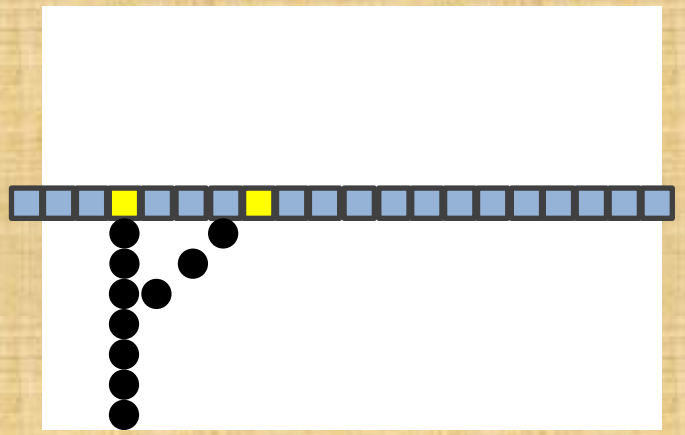

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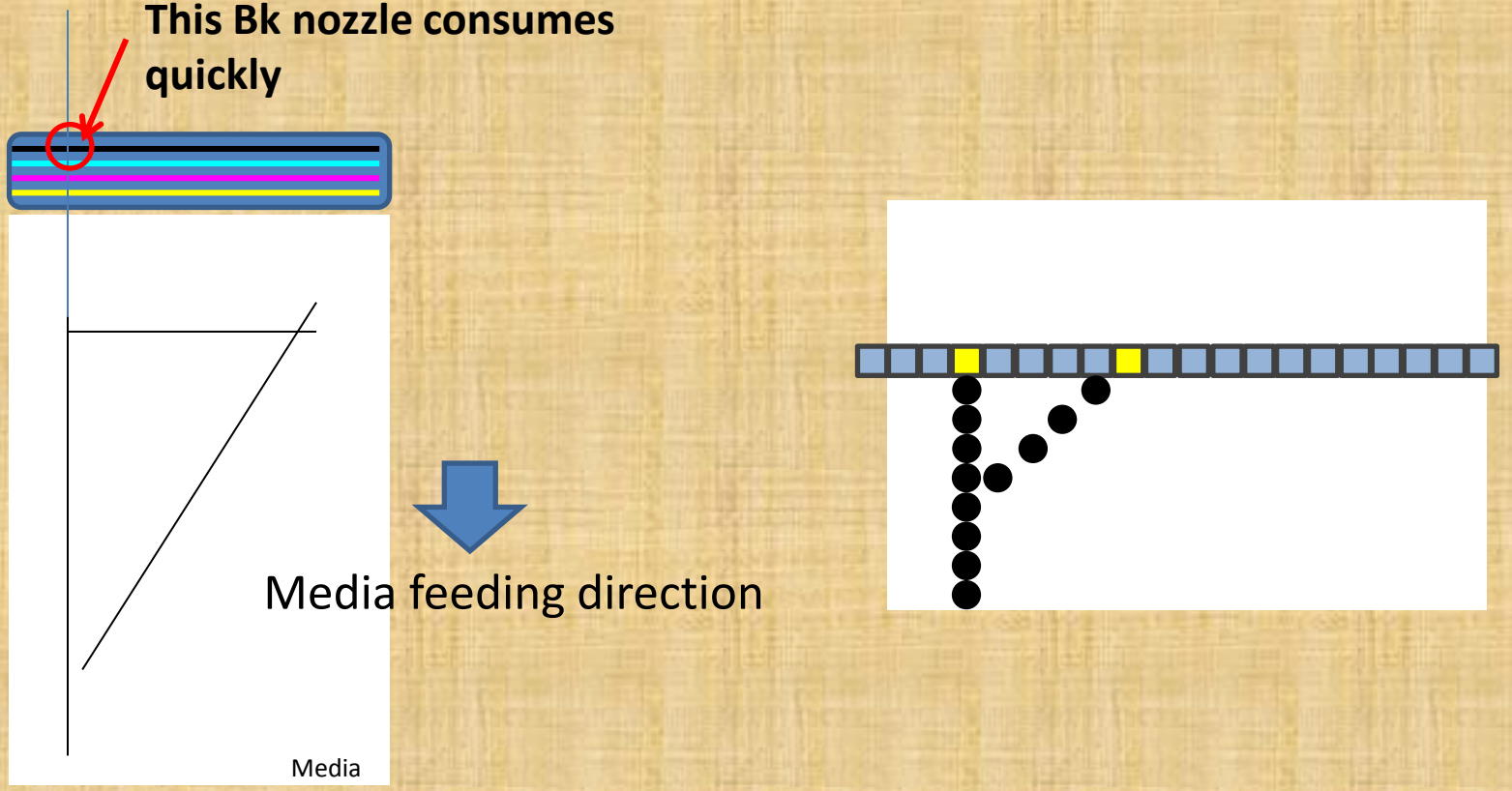

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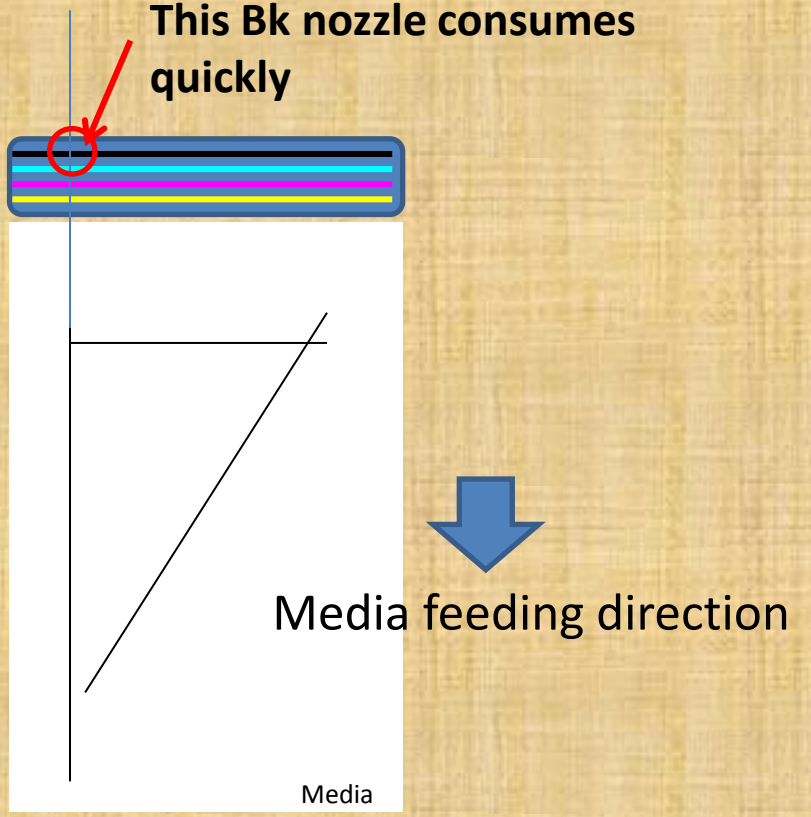


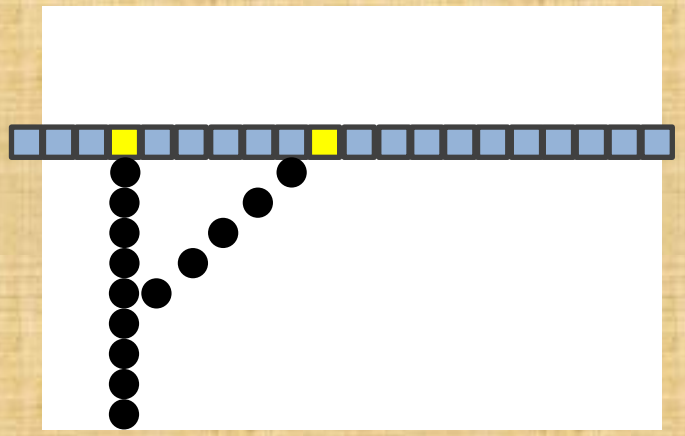

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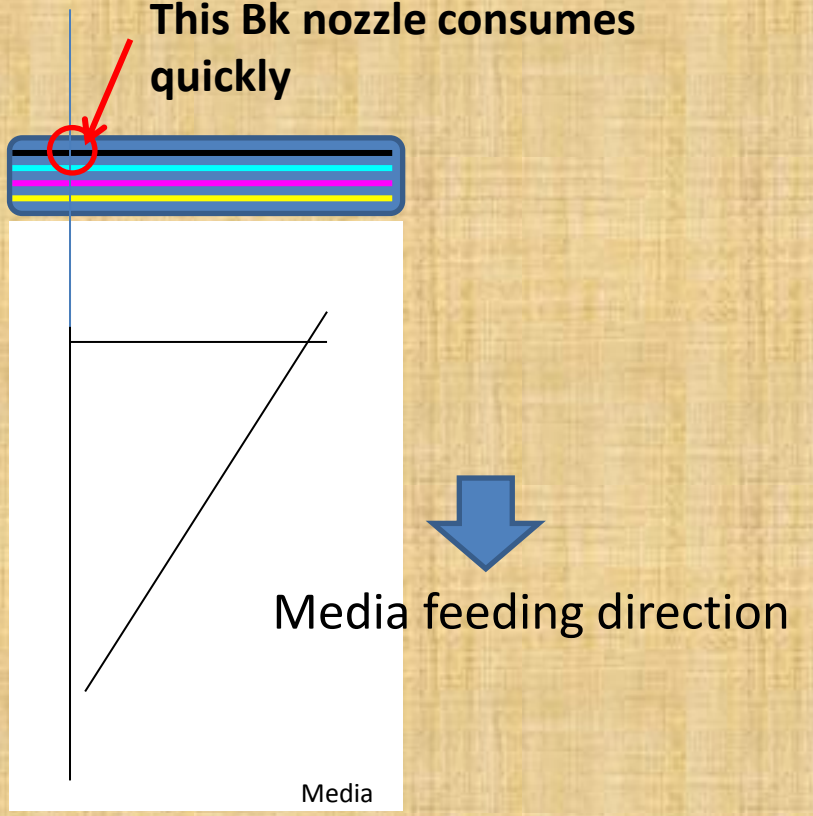


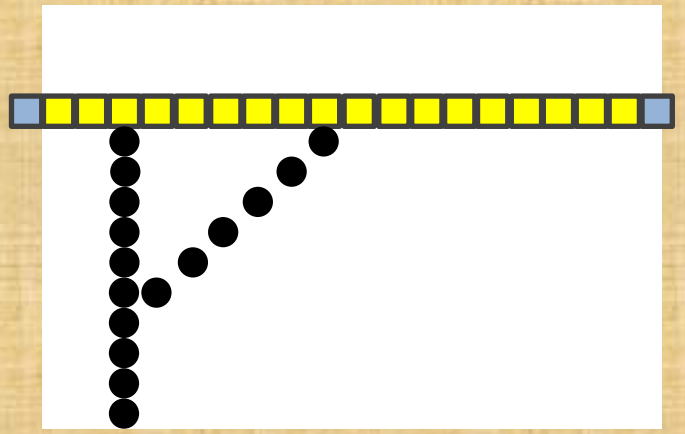

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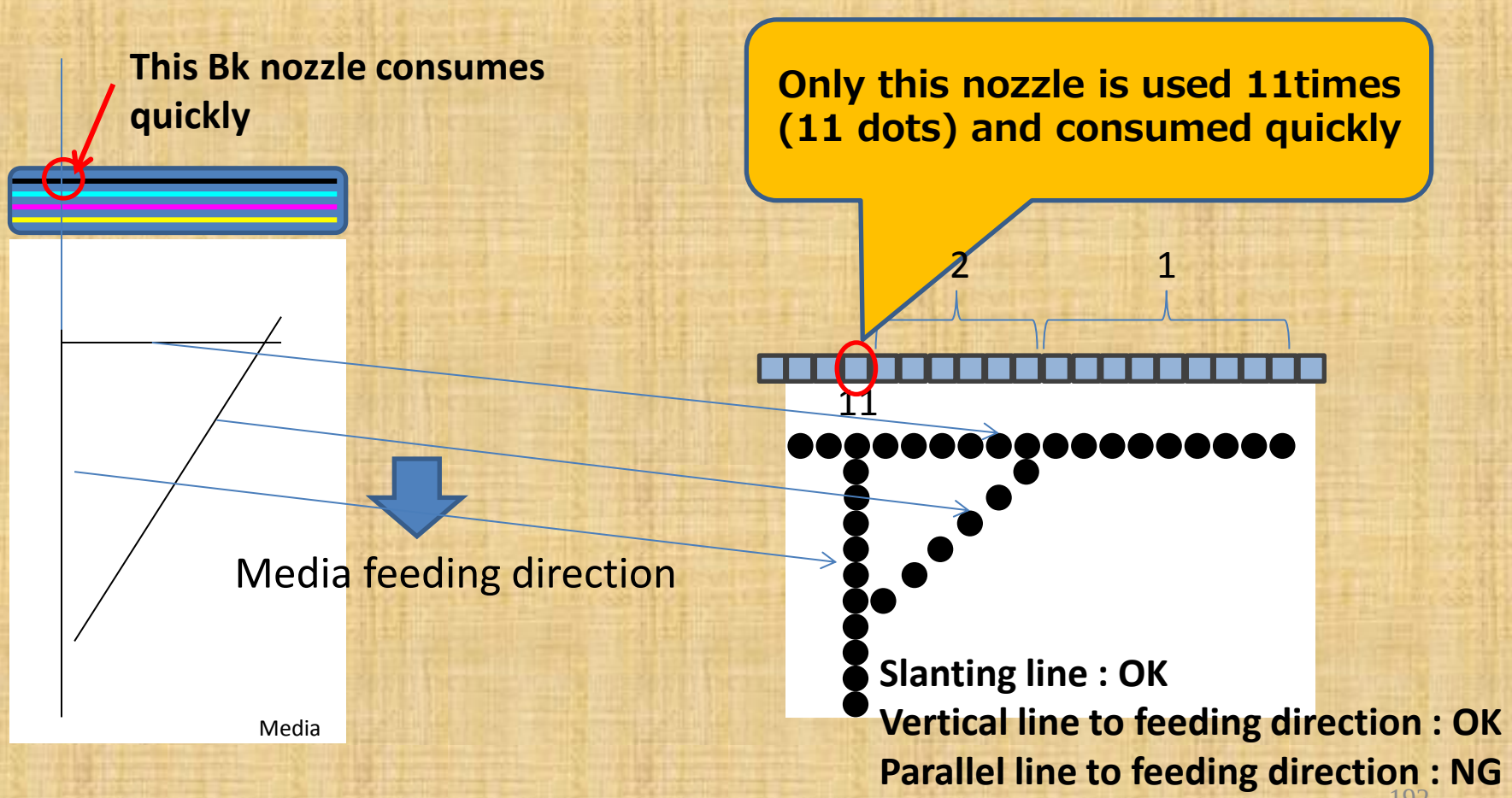


# Key to Design image suitable for SCC printer

SCC-2000D / Extend Print-head Life cycle (Intermittent printing)

Before improvement


Delete surrounding frame borders

Media feeding direction

Lighten background color

After improvement


| SCC-2000D, Head life | |
|---|---|
| Intermittent printing | 350,000 cards |

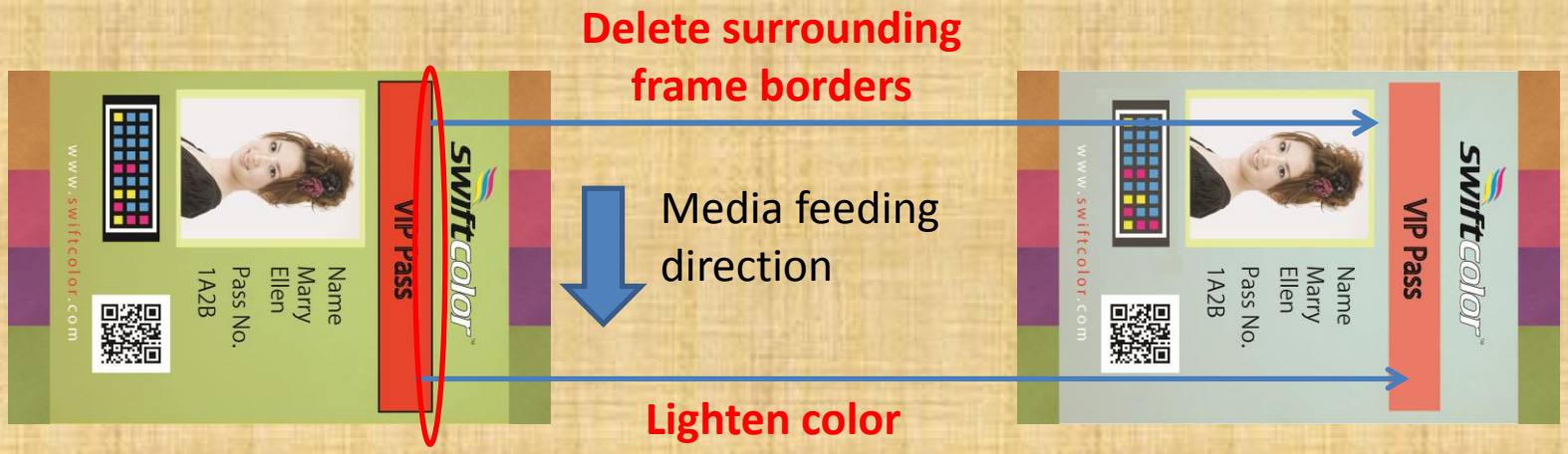
| SCC-2000D、Head life | |
|---|---|
| Intermittent printing | 400,000 cards |

Considering 2inch printer mechanism, above design sample doesn't influence the head life significantly since there are not many parallel lines to media feeding direction.

Before improvement : **350,000 cards** → After improvement : **400,000 cards**

# Key to Design image suitable for SCC printer

SCC-4000D / Print-head Life cycle (Intermittent printing)




| SCC-4000D、Head life | |
|---|---|
| Intermittent printing | 130,000 cards |

| SCC-4000D、Head life | |
|---|---|
| Intermittent printing | 260,000 cards |

**In total, due to mechanical difference between SCC-2000D and SCC-4000D,**
**Above Image design keys are more affective for SCC-4000D.**

**■Before improvement**
**Portrait(2”): 350,000cards / Landscape(4”): 130,000cards**
**■After improvement**
**Portrait(2”): 400,000 cards / Landscape(4”): 260,000card**

**POINT!!**
Key point is to avoid using lines (Line parallel to the Media feeding direction. ) and frames with dark color figures.

# Appendix. Swift design image sample

## ; Sample image which is suitable for Swiftcolor printer mechanism


**Point!**
- **Light color gradation**
- **Use no lines, no frame borders**

**SCC-4000D:**
Intermittent printing **300,000 cards** Continuous printing **500,000cards**

**SCC-2000D:**
Intermittent printing **360,000 cards** Continuous printing **400,000 cards**

**In addition: There aren't significant difference in head life between models with above image.**

**>> In case calculating and comparing both 2" and 4" head life, image which does not result in significant difference between models are more suitable.**

# Appendix. Continuous printing / Intermittent printing

## Features of each model(4inch/2inch)

**2inch Printer:**

Head life is affected less by intermittent printing achieved by improved cleaning sequence

**4inch Printer:**

In case of intermittent printing, large amount of ink is consumed for cleaning before printing, this sequence is more suitable for continuous printing or larger volum printing, but it would consume print head as well.

**2” and 4” printer mechanism/ sequence differs depending on each printers target market.**

## Product Concept/ Target

- **For large volume continuous printing**
  **SCC-4000D**
- **For low volume intermittent printing**
  **SCC-2000D**