



Reporting Workflow

Ink Usage Calculation and Reporting

Overview



Get ink usage and cost estimates on any print job-even before it prints.



Supports all Resolution / Ink Type and dot patterns within the printer configuration capabilities.



Adjust the ink drop value/cost per unit with custom reporting units.



View estimated ink channel usage and total ink usage or cost in the RIP-Queue's Printed Job Log.

Before You Print



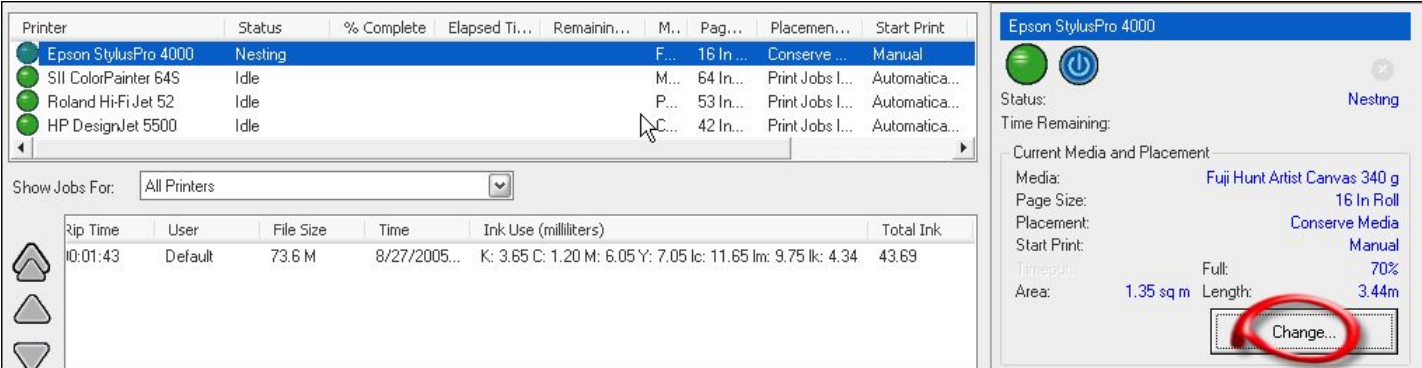
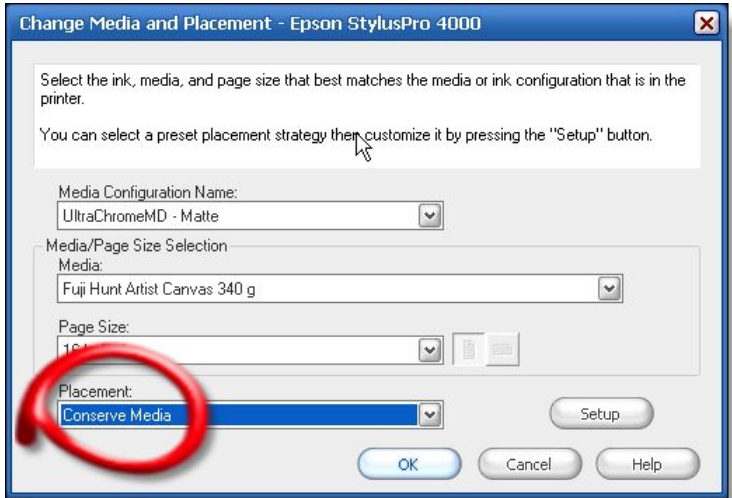
Competitive Bids

- Know Your Material Costs
- Efficient Pricing



Manage Inventory

- Reorder Supplies
- Long Print Runs
- Meet Deadlines



Highlight Printer, Click > Change > Conserve Media

After You Print



Check Reported Ink Usage

- Accuracy "Known vs. Reported"
- Fine Tune Correction Factor



Cost

- Budget Time & Money
- Total Cost
- Estimation
- Build in Margins



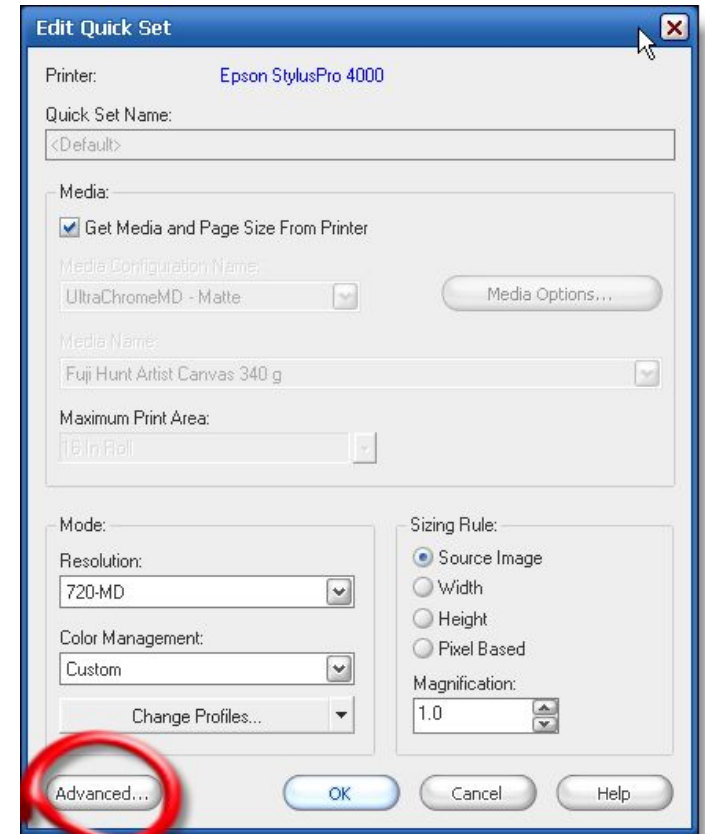
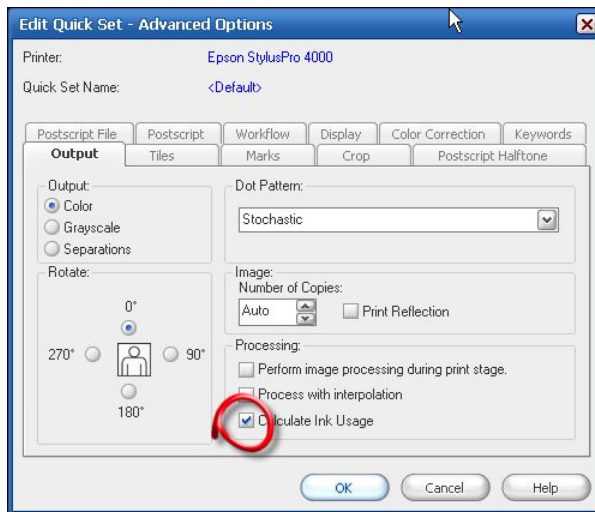
Report What You Want!

Configure Quick Set



Report the **Total Ink** in **NUMERIC** values for use with your **EXCEL** data sheets by configuring **ONLY** the Quick Set!

Saves Time Editing Data Sheet



Advanced Button > Output Tab > Calculate Ink Usage

Configure Printer



Configure for each resolution and ink type you'll plan to print



Select the type of reporting unit you want to display in terms of volume or cost

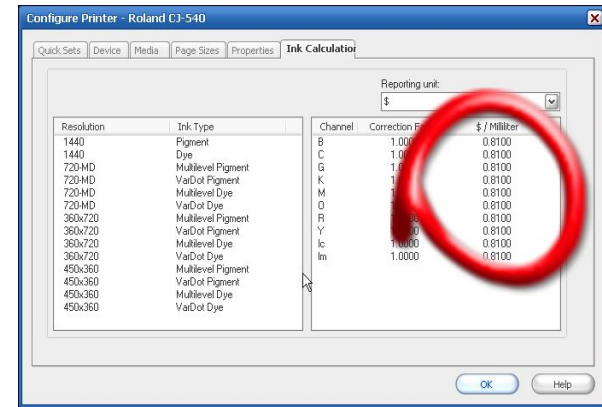
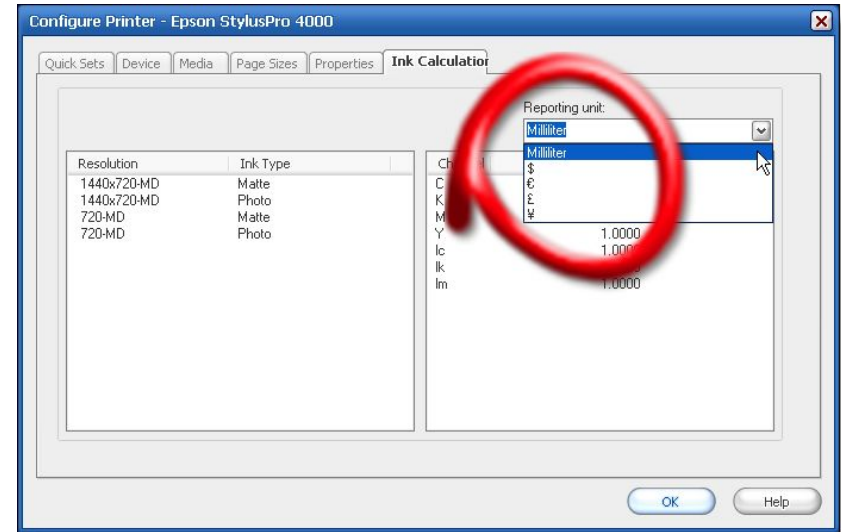


Calculate ink cost by determining how much ink is in a cartridge and how much each cartridge costs

– 220ml cost \$269 = \$0.81/ml



Enter unit values for each channel by clicking on the entry for that row



Configure Printer > Ink Calculation Tab > Reporting Unit

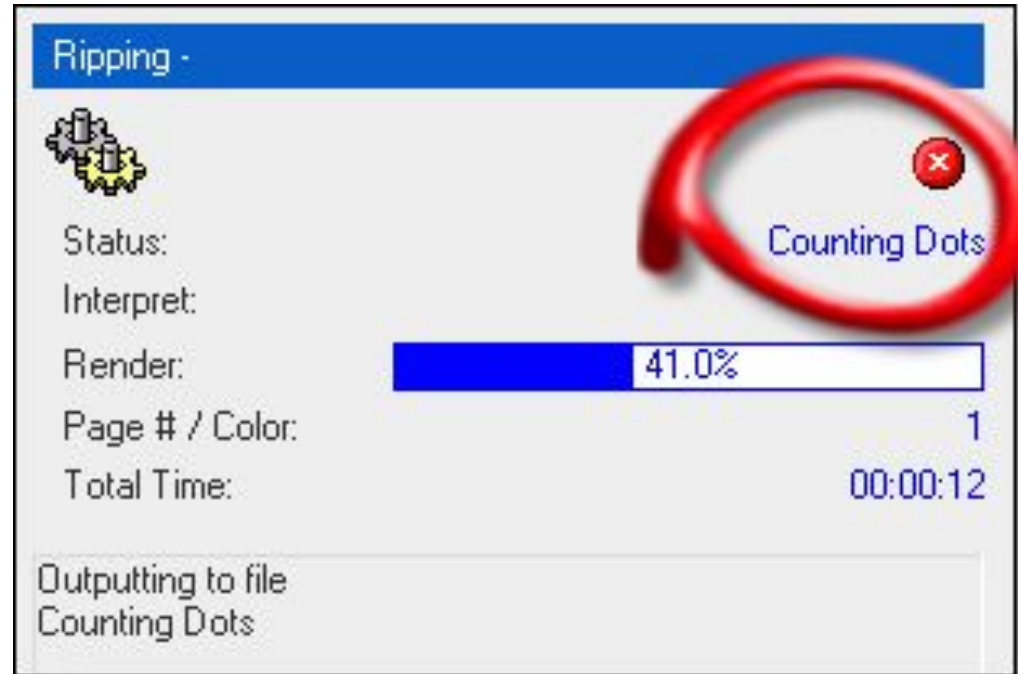
Counting Dots

Calculation of Ink Usage

- Ink Drop Size
- Manufacture Spec

RIP-Queue

- Interprets the Job
- Accounts for Quantity
- Size & Resolution
- Ripping
- Rendering Image
- Counting Dots



Counting dots for the printed resolution

Resolution

Ink Usage @ 720 dpi



Ink Usage @ 1440

More than

2X

- **Acceptable Quality**
- **Efficient Material Management**
- **Make More Money**

4X

Cheap/Fast vs. Expensive/Slow

Printer Reporting

PRINTER REPORT

 **Web Interface**

 **Front Panel Display**

 **Printed Report**

 **Device Dependent**





**HP
EPSON
MUTOH
COLORSPAN
SEIKO
AND OTHERS...**

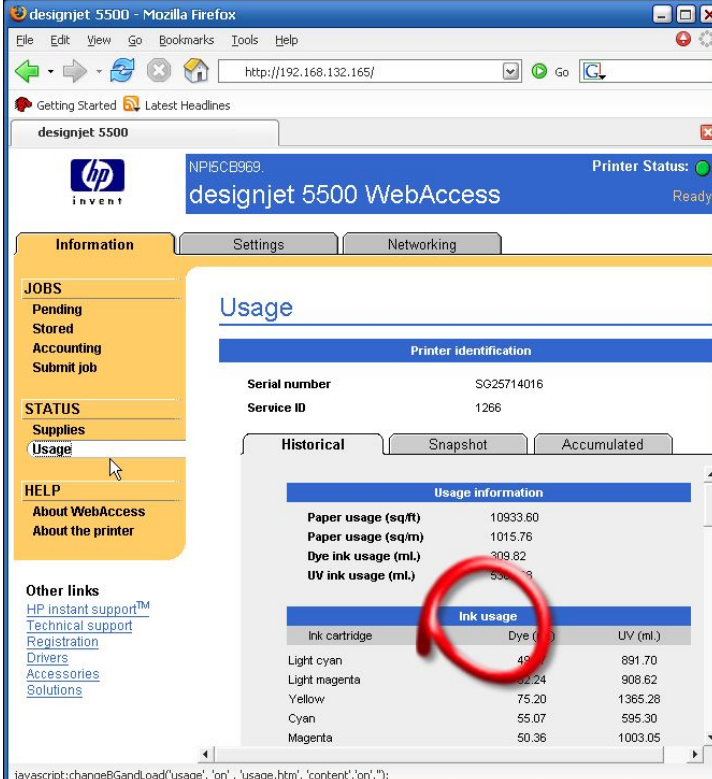
CORRECTION FACTOR

CONTACT YOUR PRINTER MANUFACTURE

Printer Reporting

 **Web Interface**
TCP/IP Address
Historical
Snapshot
Accumulated

 **Front Panel Display**
Usually in Terms of %
Calculation Required
Volume in Terms of
Percentage



The screenshot shows the HP designjet 5500 WebAccess interface in a Mozilla Firefox browser window. The printer status is 'Ready'. The 'Usage' section is active, showing printer identification and usage information. A red circle highlights the 'Ink usage' table.

Usage information		
Paper usage (sq/ft)	10933.60	
Paper usage (sq/m)	1015.76	
Dye ink usage (ml)	309.82	
UV ink usage (ml)	330.78	
Ink usage		
Ink cartridge	Dye (ml)	UV (ml)
Light cyan	49.24	891.70
Light magenta	52.24	908.62
Yellow	75.20	1365.28
Cyan	55.07	595.30
Magenta	50.36	1003.05

220ml = 100%
2.2 ml = 1%

Reporting Functions



Job Report



RIP-Queue



Buffer Queue



Job Log

The screenshot shows the 'ProductionHouse RIP-Queue' application window. It features a menu bar (File, Setup, Help) and a toolbar with icons for Open, Preflight, Edit Quick Sets, Configure Printer, Media Manager, and Configure Profiling. The main area is divided into several sections:

- Printer Status Table:** A table with columns for Printer, Status, % Complete, Elapsed Time, Remain..., M., Pag..., Placem..., Start Print, Timeout, and Full. It lists printers like Epson StylusPro 4000, Epson Stylus Pro 10600 UltraChrome, HP DesignJet 5000, SII ColorPainter 645, RIPeTend, and Roland CJ-540.
- Show Jobs For:** A dropdown menu currently set to 'All Printers'.
- Job Details Table:** A table with columns for Media, C., Res..., Rip Time, File Size, Time, Ink Use (milliliters), and Total Ink. A red circle highlights the 'Ink Use' and 'Total Ink' columns for the selected job.
- Job Settings Panel:** Located on the right, it shows 'Job: Wine_Cheese-1' with a status of 'Waiting to Print'. It includes fields for Media (Fuji Hunt Etch 300 g [UltraChromeMD - Matte]), Size (0.2737mx0.3432m), and Copies (5). Buttons for 'Change...', 'Preflight...', and 'RIP Log...' are visible.
- Thumbnail:** A preview image of a wine and cheese spread.
- Console:** A log window at the bottom right showing server status messages such as 'Server is starting...', 'Server is now running...', and 'Server is now Shut Down!'. It also shows processing details for 'Wine_8_Cheese-1'.

Change Reporting to Displays New Units

Tracking Functions



Job Log



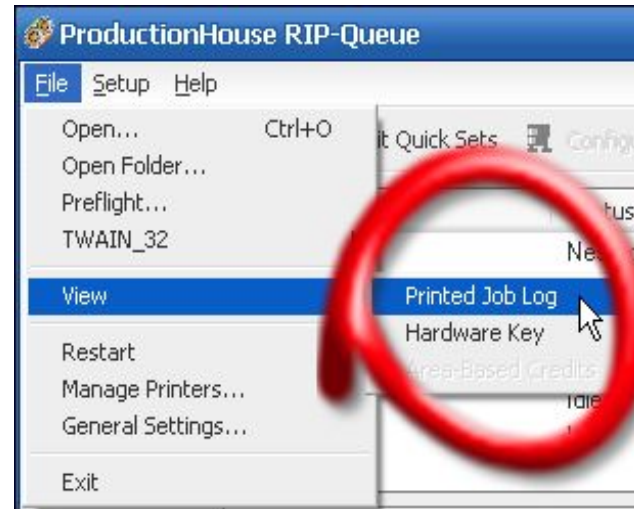
Printed Data



Save As ".txt or .csv"



Open with Excel



Printed Job Log

May 23, 2005 - May 23, 2005

Save As... Print Clear Log Done Help

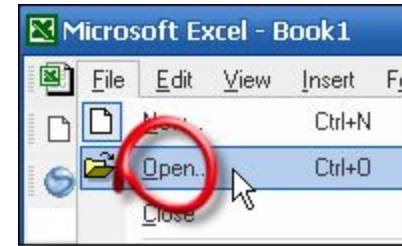
Status	Job	Date Printed	Time Printed	Size	Copies	Total Area Used	Credits U...	Printer	Media	Resolu...	RIP Time	Print Ti...	User
OK	Wine & Cheese...	05/23/2005	08:19	10.777" x 13.510"	1	1.011 sq. ft.	0.9396	HP Des...	IQ-429...	600	00:00:36	00:00:06	Default
OK	Wine & Cheese...	05/23/2005	08:20	10.777" x 13.510"	1	1.011 sq. ft.	0.9396	HP Des...	IQ-429...	600	00:00:36	00:00:06	Default
OK	wheel.TIF	05/23/2005	08:32	8.333" x 8.333"	1	0.482 sq. ft.	0.4480	HP Des...	IQ-429...	600	00:00:04	00:00:04	Default
OK	Wine & Cheese...	05/23/2005	08:32	10.777" x 13.510"	1	1.011 sq. ft.	0.9396	HP Des...	IQ-429...	600	00:00:40	00:00:06	Default
OK	Wine & Cheese...	05/23/2005	08:33	10.777" x 13.510"	1	1.011 sq. ft.	0.9396	HP Des...	IQ-429...	600	00:00:37	00:00:06	Default
OK	graywall.TIF	05/23/2005	08:37	11.605" x 1.863"	1	0.114 sq. ft.	0.1068	HP Des...	IQ-429...	600	00:00:00	00:00:01	Default
OK	Wine & Cheese...	05/23/2005	09:15	32.330" x 40.530"	1	3.100 sq. ft.	8.4546	HP Des...	IQ-429...	600	00:00:53	00:00:50	Default
OK	wheel*2.TIF	05/23/2005	09:35	25.000" x 25.000"	1	4.340 sq. ft.	4.0323	HP Des...	IQ-429...	600	00:00:18	00:00:19	Default

File > View > Printed Job Log

RIP Log Data in Excel



Open “.csv” in Excel



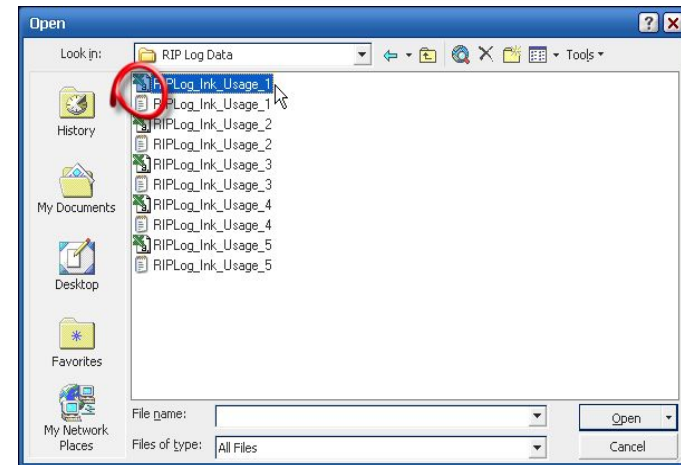
Remove Unwanted Data



Format Data Sheet



AutoSum Column



▼ Add all numbers in a contiguous row or column

Use **AutoSum** Σ to do this task.

1. Click a cell below the column of numbers or to the right of the row of numbers.
2. Click **AutoSum** Σ on the **Standard toolbar**, and then press ENTER.

Correction Factor (CF)

Activities That Consume Ink

Making Prints

Reported Ink Usage in RIP-Queue

Printer Maintenance-Device Dependent

NOT Reported in RIP-Queue

 nt-Head Cleanings $*(4.1\text{ml}+ -)*$

 to Cleanings $*(4.1\text{ml}+ -)*$

 er Triggered Cleanings $*(4.1\text{ml}+ -)*$

 zzle Check $*(0.3\text{ml}+ -)*$

 utters $*(\text{Gutter Size} \times \text{Print Length}+ -)*$

Correction Factor Examples

1

Compare Printer Report to RIP-Queue Report

- Contact printer manufacture for detailed instructions
- Extract the ink usage report from your printer
- Compare it to the Printed Job Log from RIP-Queue

2

Print with New Cartridges Until it's Empty

- Know the Volume of Your Cartridge (10ml + -)
 - Mimaki = 220ml, HP = 680ml, Seiko = 1000ml or Bulk Ink = Xml
- Determine R & D Print Session Time Frame
- Compare it to the Printed Job Log from RIP-Queue

3

Weigh Cartridges to Determine Volume Consumed

- Weight Before and After your R & D Print Session
- Use a Postal Scale (Ounces) or Triple Beam Scale (Grams)
- Understand the relationship between Mass and Volume
 - ***(Density=Mass/Volume)**
- Take Good Notes and Record Values Before and After Print Session

Fine Tune Correction Factor



Examples



Known Values (X)



Reported Values (Y)



X Divided By Y =
New Correction Factor

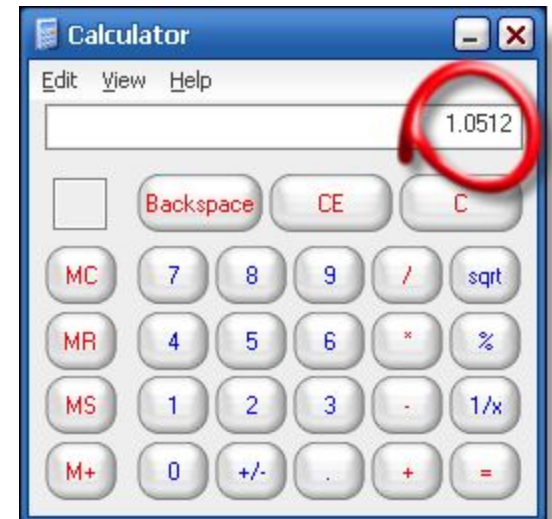
Known/Reported=New CF

(X) Printer 657/ml

(Y) RIP-Queue 625/ml

$657/625=1.0512$

**New Correction
Factor=1.05**



Units of Measurements

3

Units of Measurements

- Density = gram/ml
- Mass and Weight = ounces or grams
 - 1 oz = 28.35 grams
 - 16 oz = 1 lb (pound)
 - *Weigh Cartridge Before Print Session*
 - 13.1 oz
 - 371.39 grams
 - Determine Combined Density - **WHY?**
 - *Weigh Cartridge After Print Session*
 - 6.2 oz
 - 175.77 grams
- Volume = cc or ml

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

$$\text{grams/ml} = \frac{\text{grams}}{\text{ml}}$$

Convert Units of Measurement to Cancel Out

Density of Ink



Density

- Density of Water = 1.0 g/ml
 - Water Based Inks = 1.0 -1.2 +
 - Solvent Based Inks = 0.7 -0.9 +
- Density of Ink + Cartridge
- **Density=Mass/Volume**



Hydrometer "Water Measurer"

- Wine Making Supply Store
- Make Your Own



Densities for Common Liquids

- Water = 1.0
- Cooking Oil = 0.92
- Sea Water = 1.025
- Benzene = 0.87
- Glycerin = 1.26
- Methanol = 0.79

D > 1.00
Combined
Density
Ink + Cartridge

Determine Combined Density For Our Purpose

Calculations

3

Before Print Session Calculations

- **Known Mass**
 - **How much the Cartridge Weights BEFORE (371.39 grams)**
- **Known Volume**
 - **How much Ink is in the Cartridge (220 ml)**
- **Determine Density of Cartridge**
 - **Calculate Density (Density = 1.69)**
 - Use to Determine Volume Consumed
 - After Print Session Calculations

$$\text{Density} = \frac{371.39}{220}$$

$$D=1.69$$



Calculations

3

After Print Session Calculations

- **Volume Before – Volume After = Volume Used**

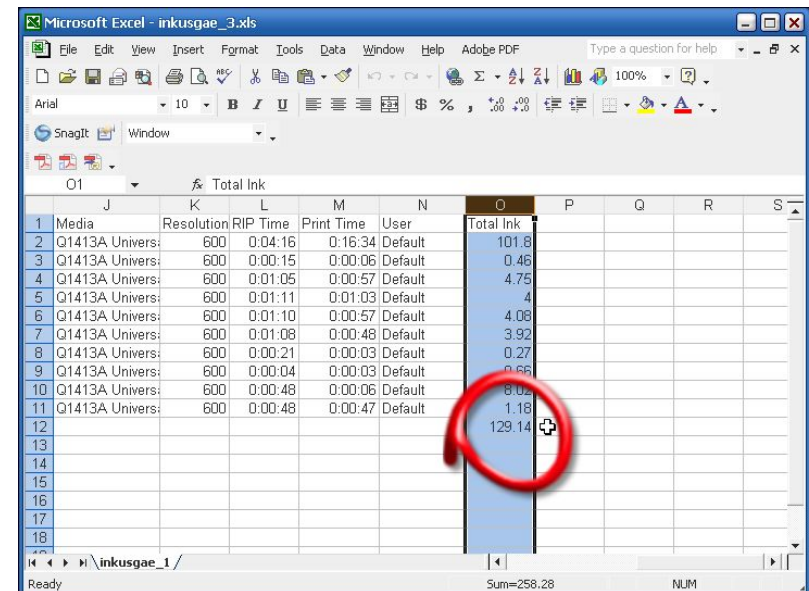
- **220-104 = 116 = Ink Usage**
- **Known Value = 116**

- **Printed Job Log**

- **How much Ink was used?**
- **Same Print Session**
- **Ink Usage = 129.14**
- **Reported Value = 129.14**

- **Calculate**

- **Known/Reported = CF**
- **116/129.14 = 0.898 (0.9)**
- **Enter Value**
- **Ink Calculation Tab**



The screenshot shows a Microsoft Excel spreadsheet titled 'inkusgae_3.xls'. The spreadsheet has columns labeled J through S. Column J is 'Media', K is 'Resolution', L is 'RIP Time', M is 'Print Time', N is 'User', and O is 'Total Ink'. The data rows show multiple print jobs for 'Q1413A Univers:' with various resolution, RIP, and print times. The 'Total Ink' column shows values for each job, with the final row (row 11) having a value of 129.14, which is circled in red. The status bar at the bottom shows 'Sum=258.28'.

	J	K	L	M	N	O	P	Q	R	S
1	Media	Resolution	RIP Time	Print Time	User	Total Ink				
2	Q1413A Univers:	600	0:04:16	0:16:34	Default	101.8				
3	Q1413A Univers:	600	0:00:15	0:00:06	Default	0.46				
4	Q1413A Univers:	600	0:01:05	0:00:57	Default	4.75				
5	Q1413A Univers:	600	0:01:11	0:01:03	Default	4				
6	Q1413A Univers:	600	0:01:10	0:00:57	Default	4.08				
7	Q1413A Univers:	600	0:01:08	0:00:48	Default	3.92				
8	Q1413A Univers:	600	0:00:21	0:00:03	Default	0.27				
9	Q1413A Univers:	600	0:00:04	0:00:03	Default	0.66				
10	Q1413A Univers:	600	0:00:48	0:00:06	Default	8.02				
11	Q1413A Univers:	600	0:00:48	0:00:47	Default	1.18				
12						129.14				
13										
14										
15										
16										
17										
18										

New Correction Factor = 0.9

New Correction Factor



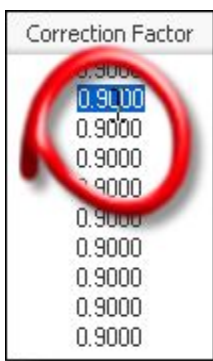
Input New Correction Factor on Ink Calculation Tab



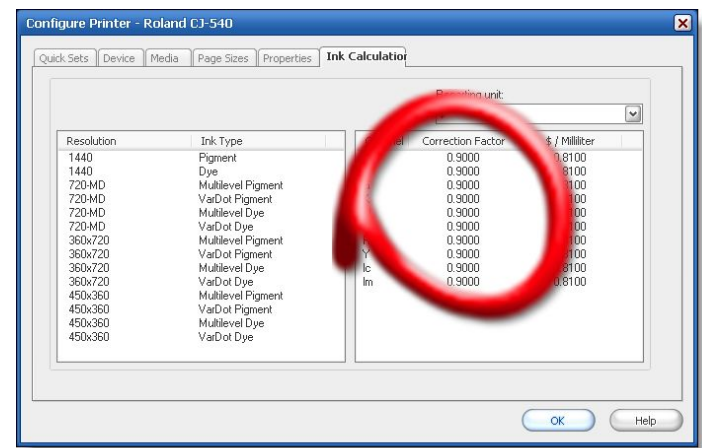
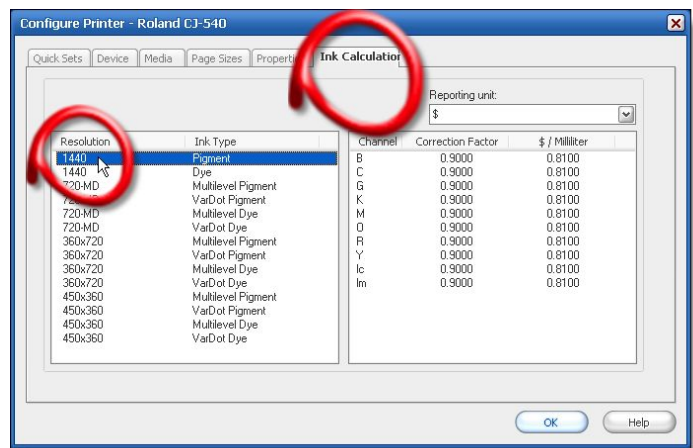
Select Printer Resolution and Ink Type used in R & D Print Sessions



Click Channel to Enter Value for Each Ink



New Correction Factor = 0.9



Configure Printer > Ink Calculation Tab > Correction Factor

New Correction Factor

PRINTER REPORT

 **Verify Accuracy**

 **Reprint**

 **Printed Report**

 **Compare**



**FINE
TUNE
CORRECTION
FACTOR
TO YOUR
LIKING!**

CORRECTION FACTOR

Determine Your Objective

Recap



Bid More Competitively and Use Correction Factor to Build in Cost and Fine Tune Reporting



Manage Wholesale and Retail Costs While Comparing Printer Production Capabilities



Adjust How You Report Information and Change Reporting Options to Suit Your Needs



Utilize Printed Job Log to Capture Your Print Production and Ink Usage Data

Recap



Configure a Quick Set > Advanced Button > Output Tab > Calculate Ink Usage



Configure a Printer > Ink Calculation Tab > Reporting Units > > > Print Now!



Configure Printer > Ink Calculation Tab > Correction Factor



Configure these before you print or your reporting will display "Not Configured"

Questions?



Thank You for Joining!



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