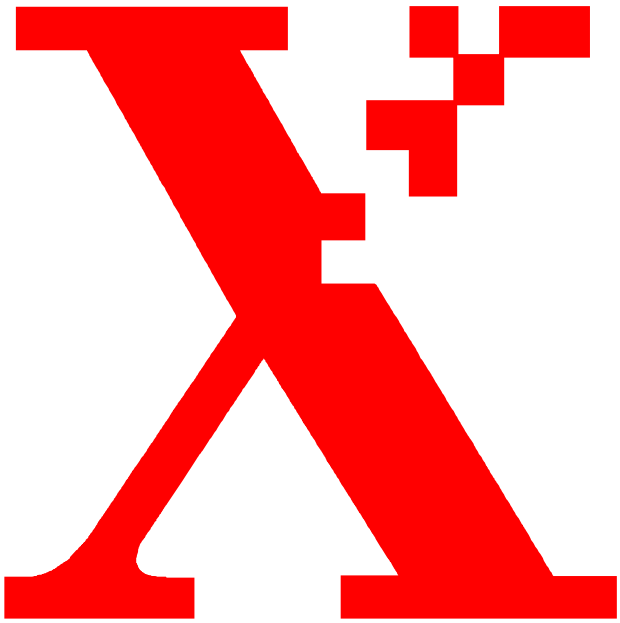
DocuColor 2045 / 2060

Printer/Printer Copier

Max Setup

January 30, 2005



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Max Setup

Purpose

The purpose of this procedure is to optimize toner density levels and obtain consistent image quality.

NOTE:

If a fault occurs during any procedure, refer the 2045/2060 Service Manual and troubleshoot the fault. Return to this procedure when the fault is corrected.

Check

The following procedure is to be used with IOT Software version 6.2.8.

1. Check the Error Log for any IQ Faults. Repair any problems before proceeding.
2. For more information on Max Setup refer to the DocuColor 2045/2060 EPSS CD.

Adjustment

NOTE: *In the following procedures, when you first enter the diagnostics routines some NGs may be present, but they are not the true reading. You must run each of the routines first and then check for NGs.*

1. Using the PWS, enter **DC131** NVM Read/Write, 700-102. Record the current value. (This value will have to be restored at the completion of Max Setup). **Set** the value to 1.
2. Select **DC612** Test Pattern. Select Pattern **5-1** Pro-Con Test Pattern. Run 30 prints to stabilize Process Control.
3. Select **DC930** PROCON Switch/Judge.
   a. Select **OK** to turn off ASG.
   b. If all the values in the judgement table are **OK**, proceed to DC934 ADC AGC Setup.

      NOTE: *If this is the first time performing a Max Setup after an NVM Initialization, the judgement may be NG before performing a Max Setup. Ignore the NGs and go to DC934.*

   c. If any of the values are NG (in red), go to IQ 52 Max Setup RAP.
   d. Check **DC930** PROCON Switch/Judge again until all problems are fixed.
4. Select **DC934** ADC AGC Setup.
   a. Select **Start** and wait for the setup to complete.
   b. If all the values in the judgement table are OK, proceed to DC933 VH/VM Setup.
   c. If any of the values are NG (in red), go to IQ 52 Max Setup RAP.
5. Select **DC933** VH/VM Setup.
   a. Select **Start** and wait for the setup to complete.
   b. If all the values in the judgement tables are OK, proceed to DC918 IOT Hi-Light Setup.
   c. If any of the values are NG (in red), go to IQ 52 Max Setup RAP.
6. Select **DC918** IOT Hi-Light Manual Setup.
   a. Select **300 - 0 / 600** Screen Designation.
   b. Select a tray with 11x17 or A3 paper or load this paper into a tray.
   c. Select **Start**.

      NOTE: *The top of the print is 300-0 screen and the bottom is 600 screen.*

   d. (Figure 1): Visually check the entire print (300 & 600 screen) and compare the side to side density 30mm in from each edge. The density on the IB side of the print is fixed. The density on the OB side of the print is adjustable. If there is no density difference from the outboard to the inboard side for all colors, go to Step 7.

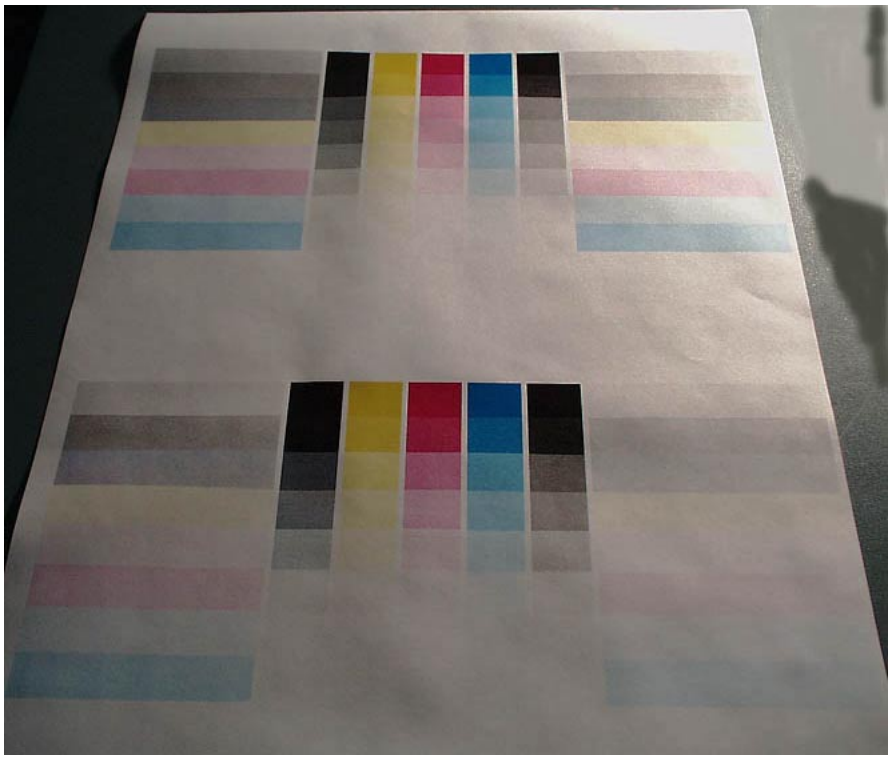

Figure 1 Checking the Side-To-Side Density

e. If density adjustment is required, perform the following:

NOTE: *If an adjustment is needed, visually check and adjust ONLY the 300-0 screen for C, M and K before adjusting Y (using the three color process gray). The adjustment will be applied to all three screens.*

f. Adjust the outboard densities until the inboard densities and the outboard densities are equal. Do not adjust by more than 20 bits at one time, and do not exceed +/-50 bits total from the default (128). The box marked **"In/Out ASG Bias**" is used for this adjustment. Select the box of the color to adjust and perform the following.

- To **lighten** the outboard (right side) density, **increase** the value by entering in a larger number. Select **Save** to store the value. Select **Start** to check the density.
- To **darken** the outboard (right side) density, **decrease** the value by entering in a smaller number. Select **Save** to store the value. Select **Start** to check the density.
- Adjust until the inboard and outboard densities are equal.
- If the adjustment requires more than 50 bits from the default (128), refer to IQ 8 IB/OB Uneven Density Rap.

7. Continue **DC918** IOT Hi-Light Setup.
   a. Select a tray with 8.5x11 or A4 paper or load this paper into a tray
   b. (Figure 2): Run each of the Screen Designations and visually check the densities of the C, M, Y and K squares for 300-0, 300-180, and 600.
      1) For the **300-0** and **300-180**, the C, M, Y and K Squares in the 9th row should be barely visible. The 8th row should be visible.
      2) For **600** screen the 7th row should be visible and the 9th row should be barely visible.

If the print does not meet specification, bring in all the rows so that the 9th row is clearly visible. Lighten C, M, Y and K until the 9th row for each color just becomes barely visible. In the **IOT Hi-Light ASG BIAS** table, select the appropriate Screen Designation and input the new value in both the ROS-A and ROS-B column. Any changes made to column A and B must be done in equal increments.

- To **lighten** the square, **decrease** the value.
- To **darken** the square, **increase** the value.

   c. Select **Save**.
   d. Select **Start**. Check the print again. Adjust until the densities are equally visible

Figure 2 Checking the C, M, Y, K Densities

8. Select **DC917** ALC/TRC Target Set.
   a. Select **Start**.
   b. If any of the values are NG (in red), go to IQ 52 Max Setup RAP.
   c. Select **Save** when the routine has completed.
9. Select **DC922** TRC Control Tone Up/Down.
   a. A pop up menu will come up, Select **OK** to turn ASG Sw On. Select **OK** to confirm.
   b. Select **Start** in TRC Control.
   c. If all the boxes in the **Radc Judge** row are **OK**, continue. If any **NG**s are displayed go to IQ 52 Max Setup RAP.
   d. If all the boxes in the **Tone Up/Dwn** row are **OK**, go to step 10.
   e. If Up or Down, is displayed in the **Tone Up/Dwn Judge** rows the Prints Row will display the number of prints for Y, M, C and K that are required to make the adjustment.
   f. Select a tray with 11x17 (A3) or 8.5x11 (A4) LEF.

      NOTE: *Run 11x17 (A3) as the preferred size. Using 11x17 (A3) will run 5 extra prints. Using 8.5x11 (A4) LEF will run 10 extra prints.*

   g. Enter 1/2 (half) the number of prints in the appropriate box (round up to a whole number).
   h. Select **Run** and wait for the routine to complete.
   i. Select **Start** to run TRC Control. Run the routine again if you do not get all OK's in the in the **Tone Up/Down Judge** row.
   j. Repeat steps f through i until the Tone Up/Down Judge is OK.
10. If you are doing a Max Setup for a PRINTER ONLY, go to step 23. If the machine has a Scanner installed, continue on to the next step.
11. (Copier only) Select **DC945** IIT Calibration.
    a. Place 10 sheets of paper (Color Xpressions 24lb. 11x17 / ColoTech 90gsm A3) on the platen.
    b. Select **White Reference**.
    c. Select **Start**, and select OK to confirm. Wait for the test to complete.
    d. Remove the 10 sheets of paper from platen.
    e. Place Test Pattern 82E13030 on the platen.
    f. Ensure that the **CCD Calibration** is selected.
    g. Select **Start,** and select **OK** to confirm. Wait for the test to complete.

h. Remove Test Pattern from platen.

12. Select **DC926** C-POP TRC Control.

NOTE: *If Tray 4 is installed, wait for Tray 4 to initialize.*

a. Select **300/600**.
b. Select a tray with 11x17 (A3) paper.
c. Select **Start** and wait for the routine to complete.

13. Exit Service Mode and return to Customer Mode.
14. Enter **Tools Mode**, **Tools Pathway**.
15. Select **More/ Feature Defaults 1** and set the following to 0 or Auto.
    a. **Lighten/Darken** (**Auto**)
    b. **Color Balance**[(0) for **C, M, Y**, and **K**}
    c. **Color Shift**(0)
    d. **Chroma**.(0) **Normal**
16. Exit **Tools Mode**, and select the Copier Mode screen (**Ready for Scan to Prin**t).
17. Ensure that Color Xpressions 24lb. 11x17 / ColoTech 90gsm A3 paper is loaded in one of the paper trays.
18. In the Copier Mode screen, select the following:
    a. Select **Basic Features**, **Full Color** and **100% Reduce/Enlarge**.
    b. Select **Added Features**, **Image Shift**. Set to **No Shift**, **Save**.
    c. Select **Image Quality**, **Original Type**. Set to **Auto Photo** & **Text and Halftone**, **Save**.
    d. If HCS is installed, select **Top Tray**.
    e. Select a **Paper Tray** with 11x17 paper.
19. Place test pattern 82E13030 on the platen, and make 2 copies of the test pattern.
20. (Figure 3): Check the copy. The C, M and Y in Column 10 on the print should be well defined (visible). Magenta (M) will be better defined (darker than C and Y). Column 5 should be just visible.
    1) Fold the copy between the upper and lower gray-scale rows (Figure 3).
    2) Compare the gray scale on the copy to the gray scale on the 82E13030 test pattern, between the 60 column and the 10 column, on the Test Pattern.

Figure 3 Checking the C, M, and Y darkness

NOTE: *In the following step, You are not trying to match the gray scale perfectly. You are only using the test pattern as a reference. 30% and below may show more hue shift.*

21. If an adjustment is needed, select **Image Quality/ Color Balance** in Customer Mode. Use **Density**, **Low** and

Medium to bring in the grays. Make two copies of test pattern 82E13030 with the new Color Balance Setup.

22. Repeat Steps 20 and 21 until the copy matches the test pattern. Record the final adjustment values. Select **Tools Mode, More, Features Default 1**, **Color Balance,** input the final adjustment. Select **Close**.

CAUTION

Failure to reset NVM 700-102 will result in improper Paper Type Mode Selection during customer operation.

23. Enter **DC131** NVM Read/Write, 700-102 renter the recorded value from Max Setup Adjustment step 1.
24. Using the Image Quality Supplement, refer to the 3.2.2 IOT Setup for Full-Color Output Check (Without Modified Restore Chart) or to the 3.2.2 IOT Setup for Full-Color Output Check (With Modified Restore Chart) to confirm image quality setup.
25. After completing the image quality setup, label the prints with the Machine Serial Number, Date, and Meter Count and place the prints in the Right Front Door compartment.
26. If this Max Setup was completed as part of an initial install or an IOT software upgrade, fill out the Critical NVM Record and place a copy in the Right Front Door compartment