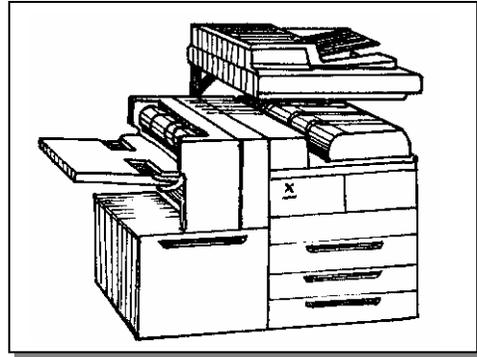


## **Servicing the masses ...Xerox DC220 style, & DC332 style.**

(Document Centre) DC220, DC230, DC420, DC426... also DC332, DC340, DC425, DC432, DC440



Guys... this series of machines is overdue for a good looking-at. We've covered the Print Cartridge Reconditioning and the Fuser Repairs, but somehow the machines themselves snuck by me up till now.

They are the first really widely spread style of Xerox brand digital copiers to have been released. They've been proliferating for the past 8 years all over the place. The most recently released models (DC420, DC425, DC426) were being sold as recently as two years ago. They are approachable... the Diagnostics are all available without any special equipment. The parts to fix them are readily available, making them worthy of repairing. We'll hit on a few known weaknesses including how to "beat the status code out of em" and then go into the meanings for many of the common Status Codes.

There are two basic "styles" which share some parts and codes, but which also have many differences. The DC220 style (Document Centre 220/230/420/426) are the first group and then there are the DC332 style (DocumentCentre 332/340/425/432/440). There are no common parts in the electrical boards, nor in the Fuser Modules. The Print Cartridges are also sold under different reorder numbers and are not interchangeable without modification. Some similarities include the Feed components, as well as many of the Document Feeder and scanner parts. The DC332 style also shares a lot in common physically with the N24 style Printers (N24/32/40, N3225/4025) including the fuser parts.

The weaknesses of these machines include pieces which break too easily and some quirky faults which can be difficult to diagnose. In the "weak parts" arena, we have the latches on the door assembly on the left side of the machine which are famous for breaking. The latches are not spared in any parts book I've seen so far, except as part of the complete Door Assembly for around \$175.- or so... fortunately, you'll be seeing generic latches coming into the market shortly. Another fragile piece is the Inner Chute Assembly in the Duplex Module. That piece is a large clear plastic chute which holds the latches for the Duplex as well as a diverter gate. They break in a few places. The good thing is that Xerox came out with a repair kit for these chute assemblies. The kit is basically just a few pieces of plastic and some peel and stick stuff but it actually works rather well. The Duplex Inner Chute Repair Kit is sold under the part number 655N14.

The other weak part which can cause a huge range of problems is the external Connectors / cable which join the upper and lower halves of the machine. This cord is far too exposed for its own health... folks move the machine, and if they don't remove the cable first, damage can result. Sometimes the connector itself gets damaged with pins getting pushed in or bent, and other times the cord gets pinched. The resulting errors or symptoms vary widely. One such symptom is a machine which refuses to come to ready.

This series is infamous for calling vague error messages without any Status Code being displayed. Often all you get out of it at first is : "Not Ready to Copy" or "Print Engine Fault" or something similar. The thing to do is; when a customer calls to report the problem, have them press the "Machine Status Button" on the console. If only the User Interface (UI)

software level is displayed then it is a communications problem between the User Interface and the rest of the machine (check all connections and cables). For the DC220 style, the Service Manual says if the other software levels are displayed, then you will want to approach it as if you are trying to solve a U4-1 fuser undertemperature status code. Next have your customer look for a soft key on the touchscreen which says “Current Fault”. With the Status Code in hand, you’ll have some idea what you’re up against. If the machine does not display the current fault, then you will probably want to go into the Diagnostics when you get to the machine to look at the Fault History (Last 40 faults) as follows to see what the most recent fault was (the fault at the top of the list is the most recent one). Here’s how to enter the Diagnostic Mode... Press the ‘Access’ button on the upper right corner of the console... a keypad will show up on the display prompting for a Passcode. The default code is ‘#,’1,’1’ followed by ‘Enter’. If the machine is currently in a fault, it will give you the option to shut down the part of the machine calling the fault... press ‘Confirm’ and then do the same process a second time to get into Diagnostics.

Another similarly frustrating symptom is when the machine just shows the “Dancing X” going back and forth on the display with no apparent problem or fault coming up (usually the fuser is warming up properly and the lamps can be seen cycling in and out as they should normally). In this case, the console will generally not work at all... so you can’t even go into diagnostics to look at the Fault History. Check out the Cord which goes from the top part of the machine to the bottom (they call it the IIT / IOT cable... IIT is Input Image Terminal... IOT stands for Image Output Terminal). Look closely for any pins being bent or pushed in, etc. Also, look at the paper trays to make sure that there is paper in the trays. This machine can be funny about having paper in the proper trays when it is running certain reports. If you turn off and unplug the machine, you can go to the rear of the machine, where you’ll find two large “Main” Boards ... the MCU/Sys Board and the IOT Board... these two are connected to one another with a large many traced ribbon cable. If you unplug that major ribbon cable, and then turn the machine on again... it will be forced into a status condition. This will give you an opportunity to get into the Diagnostic Mode and look at the Fault History. Another trick of the trade is to disconnect all plugs going to the ESS Module. The ESS is the module accessed from the rear of the machine which has the connectors for interfacing with a computer... it has its own hard drive on board. If you disconnect everything going to it, some phantom networking codes will go away for you... of course this is not a good solution if the customer is using the machine as a printer or scanner.

One report which can get the machine caught in a loop is the “Discharge of Power Off Report”. This is a report which is supposed to automatically print whenever a machine loses power and then is turned back on. Such a report is only supposed to be enabled on machines which are set up for faxing capability. Early software on the DC220/230’s had a glitch which was repaired later with a software upgrade. The problem arises when a machine which is equipped with fax capabilities is powered down... One of the memory settings relates to a report which the machine can produce which is called the “Discharge of Power Off Report”. Basically, whenever the machine is powered off and back on, it is set up to run and print a report. The problem is, it is designed to print the report on a specific paper size and color, from a specific paper deck. If the paper supply was changed at some point, then the machine gets caught in a loop it can’t get out of... it can not run the report, so it never comes to ready. This report is “on” by default.

If you want to disable the report, go into Diagnostic mode and press the “DC Routines” tab.

Press “Fax DC’s” and then “dc131 NVM Read / Write”. Press the button which says ‘0-000’ and enter the number 58-353. Then press the “Read” button on the left... If the line is set to “1” (which is the default value), then press the ‘o’ soft-button to enter a new value... then press ‘0’, ‘Save’, then press ‘Write’, and ‘Confirm’.

After that, you can turn off the machine and unplug it... then go and plug in the big connector between the Main Boards again.

Ok... now for a run down on the meaning behind many of the Status Codes. This is an abbreviated list but should help for most problems you’ll see out there. The codes will be consistent with many of the other Xerox copiers. They have a letter and a number followed by a two digit number.

### **STATUS CODES:**

**A1’s, A2’s, & A3’s** - Document Feeder jams.

**A5-1** - The Document Feeder’s top cover interlock is open.

**A5-2** - Document Miscount

**C Codes** – Paper Misfeeds

**D Codes** – Board and hardware related problems.

**E1’s, E2’s, E3’s, & E4’s** – Paper jam faults.

**E5-1** – Upper Left Door interlock is open. (the switch is at the rear of the machine... the rear end has an ‘L’ shaped mounting shaft which pivots when the door is opened such as to contact the Interlock Switch).

**E6-1** – Lower Left Cover interlock switch is open.

**E7-3** – Duplex Interlock is open.

**E8 Codes** – Duplex exit jams.

**F Codes** – Finisher or Sorter or HCF (High Capacity Feeder) problems.

**G Codes** – More Finisher or HCF (High Cap Feeder) problems.

**H1 Codes** – Tray Lift failures. (the number after the H1 tells you which tray to look at).

**H2 Codes** – Paper tray empty. (the number after the H2 tells you which tray to look at).

**H3 & H11 Codes** – Various Finisher problems.

**H6 Codes** – Document Feeder setup failures.

**J1-1** – Toner empty sensor failure.

**J3-1** – Print Cartridge not installed.

**J6-1** – Print Cartridge “end of life” has been reached.

**J7 Codes** – “Wrong cartridge type”. This comes up if you install a Print Cartridge which has the wrong type of Connector for your machine.

**J8 Codes** – Communication failures between the Connector CRUM on the Print Cartridge and the machine.

**K Codes** – Fax related faults.

**L1-1** – High Capacity Feeder (HCF) interlock is open.

**N Codes** – Communication Errors with accessories or the network.

**U1-1** – Main Motor Failure.

**U1-2** – Fuser Fan failure.

**U1-3** – Low Voltage Power Supply (LVPS) Fan failure.

**U2-1, U2-2, U2-3 Codes** – Exposure Lamp carriage scan failure.

**U3 Codes** – Raster Output Scanner (ROS or Laser Unit) problems.

**U4-1** – Fuser under temperature.

**U4-2\*** – Fuser over temperature (requires reset from diagnostics ... read below\*)

**U4-3** – Thermistor problems.

**U6 Codes** – Non Volatile Memory (NVM) failures.

**U7 Codes** – Interface errors.

**U8-3 through U8-6** - IIT (Image Input Terminal or scanner assembly) problems.

\* **Resetting the U4-2 Status Codes...** Enter the Diagnostic Mode as explained earlier. Then touch “dC Routines” and then “dC131”. Scroll through the list to “50-20 Fuser Over temp Reset”. Press ‘Read’ and then ‘New Value’. Change the value from ‘1’ to ‘0’ and press ‘save’, followed by ‘Write’ and then ‘confirm’ to lock in your selection. When you turn the power off and back on, the machine will attempt to warm up again... watch the fuser lamps to make sure they cycle out when the fuser is fully heated (just in case your problem is a shorted wiring harness or triac which would make the lamps stay on continuously without ever turning off until the machine overheats again).

These machines are out there in a-plenty... so they are worth the learning curve which they present us all. I hope that the information found in this article will prove helpful in heading you in the right direction when the machine needs help.

Happy Repairs y’all (I just got back from a visit to my Granddad in Georgia so you’ll have to excuse the y’all bit) !

*Britt works for The Parts Drop, a company whose primary business is providing parts, supplies and information for Xerox brand copiers, printers and fax machines. You can find more information on their website [www.partsdrop.com](http://www.partsdrop.com). There’s a complete listing of past articles under contributing writers on the ENX website ([www.ENXMAG.com](http://www.ENXMAG.com)) if you’d like to read more about Xerox brand office equipment.*