


TOSHIBA E-STUDIO E-350 / 352 / 450 / 452, DP-3520 / DP-4520

CONSUMABLES

	<p><b>Similar (but not necessarily identical) machines: None.</b>  <b>Speed: 35 / 45 copies per minute</b>  <b>Dimensions: Machine without any accessories or cabinet: H: 29"; W: 26"; D: 28"; Weight: 183 lbs.</b>  <b>Approximate list price when new: \$7,500.00 / \$9,500.00.</b>  <b>Year of introduction: 2004 for 350/450. 2005 for 352/452.</b>  <b>Warm-up time: 20 seconds.</b></p>																																							
<table border="1"> <thead> <tr> <th>SUPPLY YIELD</th> <th>DESIGNATION</th> <th>STATED</th> </tr> </thead> <tbody> <tr> <td>Toner:</td> <td>T3520</td> <td>21,000 per cartridge</td> </tr> <tr> <td>Developer:</td> <td>D-3500</td> <td>120,000/150,000</td> </tr> <tr> <td>Drum:</td> <td>OD-3500</td> <td>120,000/150,000</td> </tr> <tr> <td>Waste toner bottle:</td> <td>TB3520</td> <td>21,000</td> </tr> <tr> <td>Staple cartridge for MJ-1022:</td> <td>Staple-1600</td> <td></td> </tr> <tr> <td>Staple cartridge for MJ-1023/1024:</td> <td>Staple-2000</td> <td></td> </tr> <tr> <td>Staple cartridge for MJ-1024:</td> <td>Staple-600</td> <td></td> </tr> <tr> <td>Staple cartridge for MJ-1101:</td> <td>Staple-2400</td> <td></td> </tr> </tbody> </table>	SUPPLY YIELD	DESIGNATION	STATED	Toner:	T3520	21,000 per cartridge	Developer:	D-3500	120,000/150,000	Drum:	OD-3500	120,000/150,000	Waste toner bottle:	TB3520	21,000	Staple cartridge for MJ-1022:	Staple-1600		Staple cartridge for MJ-1023/1024:	Staple-2000		Staple cartridge for MJ-1024:	Staple-600		Staple cartridge for MJ-1101:	Staple-2400		<table border="1"> <thead> <tr> <th>SUPPLY YIELD</th> <th>DESIGNATION</th> <th>STATED</th> </tr> </thead> <tbody> <tr> <td>PM kit (DEV-KIT-3520) includes developer, 3 corona wires, charge grid, developer, ozone filter, drum blade and 3 drum separator fingers. ....</td> <td>6LA7 6552000</td> <td>.....</td> </tr> <tr> <td>PM fuser kit (FU-KIT-3520) includes heat roller, pressure roller, cleaner roller and six separator pawls.</td> <td>6LA7 6550000</td> <td></td> </tr> <tr> <td>PM paper feed kit (includes 3 rollers). (ROL-KIT-3500CST) .....</td> <td>4420 2420000</td> <td>.....</td> </tr> </tbody> </table>	SUPPLY YIELD	DESIGNATION	STATED	PM kit (DEV-KIT-3520) includes developer, 3 corona wires, charge grid, developer, ozone filter, drum blade and 3 drum separator fingers. ....	6LA7 6552000	.....	PM fuser kit (FU-KIT-3520) includes heat roller, pressure roller, cleaner roller and six separator pawls.	6LA7 6550000		PM paper feed kit (includes 3 rollers). (ROL-KIT-3500CST) .....	4420 2420000	.....
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ACCESSORIES

Accessory	Designation		Accessory	Designation	
Reversing document feeder (350/450)	MR-3015		Wireless LAN module (350/450)	GN-1010	
Reversing document feeder (352/452)	MR-3018		Wireless LAN module (352/452)	GN-1041	
Platen cover (if no doc feeder)	KA-3511		PCI slot (350/450)	GO-1030	
Finisher (hanging; 350/352)	MJ-1022		PCI slot (352/452)	GO-1060	
Finisher (console; all)	MJ-1023		Scrambler board (350/450)	GP-1030	
Finisher (console; 352/452)	MJ-1101		Scrambler board (352/452)	GP-1040	
Finisher (saddle-stitch)	MJ-1024		Printer kit (350/450)	GM-1010	
Punch unit (for MJ-1023/1024)	MJ-6004		Printer kit (352/452)	GM-1060	
Punch unit (for MJ-1101)	MJ-6101		Printer/scanner kit (350/450)	GM-2010	
Bridge kit	KN-3520		Printer/scanner kit (352/452)	GM-2060	
Job separator	MJ-5004		Scan upgrade kit	GM-3010	
Offset tray	MJ-5005		Data overwrite kit (352/452)	GP-1050	
Work tray	KK-3511		Bluetooth module (352/452)	GN-2010	
Paper feed pedestal	KD-1011		Antenna (352/452)	GN-3010	
Paper drawer module	MY-1021		Desk	MH-1700	
LCF	KD-1012		Key counter	MU-8	
Fax board (350/450)	GD-1150		Key counter socket	MU-10	
Fax board (352/452)	GD-1200		Work tray	KK-3511	
Fax 2 <sup>nd</sup> line option	GD-1160		Damp heater	MF-3520U/E	

**Developer unit:** Open front door. Remove waste toner container. Unplug connector and loosen screw that holds developer unit in. Slide out the developer unit. Remove the developer cover by sliding it off; there are no screws holding it but it is probably spring loaded or snapped into place. Empty the old developer and replace with new. Factory manual recommends using a nozzle for the developer when adding it. Go to 0 & 5 mode, sub-code 200 for developer calibration.

**Drum/cleaner unit:** Open front door and remove waste toner container. Remove developer unit as described above. Open bypass, duplex unit and right side cover. Remove toner full sensor. Loosen two screws and slide out cleaner unit.

**Charge corona unit:** Remove cleaner unit as described above. Pull charge corona up and off cleaner unit.

**Drum removal:** Remove developer unit and drum/cleaner unit from machine and remove charge corona. Release a latch to remove the cleaner bracket. Push down on the drum-shaft lock lever and slide the drum-shaft out to the front. Lift the drum out. Note: Service manual says that you must use a special tool to take drum blade pressure off when installing a new drum. This is a cam/lever that is slid in and pushes the blade holder away from the drum. hopefully this can be accomplished somehow without the tool if you don't have it. It is possible you can disconnect the spring or use some other tool to do the job of the special tool.

**Drum cleaner blade:** With drum already removed (as described above) the blade is held in by two screws.

**Drum recovery blade (lower seal blade):** Remove drum cleaner blade and then remove cleaner blade.

**Drum separator fingers:** Each finger is removed without tools but the manual says the drum should be removed before the fingers are removed.

**Fuser unit removal:** Open duplex unit, jam access cove and fuser cover. Take off the cover (two screws) that covers the wiring. Unplug one connector, two terminals and two more connectors. Close fuser cover. Remove two screws that mount fuser; one in front and one in rear. Slide the fuser unit out.

**Fuser cleaner roller:** Remove fuser unit from machine as described above. Remove fuser cover. Release harness on rear side, remove one screw and take off the rear cover. Remove two screws on rear, two screws on front and take off the transport guide. Remove the fuser's cleaning unit. Remove the lock ring and take out the old cleaner roller with its bushings. Replace with new and reassemble.

**Waste toner:** When symbol displays, customer must replace bottle. New bottle with clean sensor window will reset indicator.

## PARTS AND MAINTENANCE ITEMS

Note: PM cycle is 120K for eStudio 350 and 150K for eStudio 150K.

PART DESCRIPTION	PART NUMBER	PART DESCRIPTION	PART NUMBER
MAN LOC	YIELD	MAN LOC	YIELD
Board (PWA-F-LRL-360) .....	6LA6 9849000 .....	Cleaner unit toner full sensor??..	6LA6 2863000 .....2
Board-f (near or above laser; small)		Clutch (main drive?) .....	6LA6 6940000 ..... 1
.....	6LA6 1849000 .....	Control panel assembly .....	6LA3 7030000 .....
Board-logic; 350 .....	6LA6 9853000 .....	Control panel board; display .....	6LA4 1771100 .....
Board-logic; 450 .....	6LA6 9854000 .....	Control panel board; key .....	6LA4 1769000 .....
Board-NIC.....	6LA4 1692000 .....	Control panel hinged cover .....	6LA3 7019000 .....
Board-SLG.....	6LA6 9843000 ..... 1	Control panel hinged cover hinge; left	
Board-system .....	6LA6 9846000 .....	.....	6LA3 7028000 .....
Bridge unit KN-3520 micro switch		Control panel hinged cover hinge; right	
.....	41321242000 .3 19	.....	6LA3 7028000 .....
Bridge unit KN-3520		Control panel LCD.....	6LA3 7029000 .....
photo interrupter (3).....	41321248000 .2 22	Control panel start button.....	6LA3 7007000 .....
Bridge unit KN-3520 sensor flag (3)		Developer .....	D-3500 .....120K
.....	41321246000 .2 20	Developer ATC sensor.....	4402 859550 ..26
Bypass actuator .....	6LA2 8951000 .....	19.....	

Bypass actuator spring .....	6LA2 8960000 .....	Developer cover (COV-DEV-FRONT).....	4420
Bypass clutch .....	6LA3 1944000 .....	4080000.....	26 21 .....
Bypass empty actuator .....	6LA2 8842000 .....	Developer cover (K-COV-DEV-MIX) .....	4420
Bypass feed roller .....	4421 8389000 18	4127000.....	26 24 .....
37 .....	80K	Developer gear .....	4420 4062000 26
Bypass photo interrupters (2).....	C0-07 598000 18 5	13.....	
Bypass pickup roller .....	4421 8398000 18	Developer gear (idler) .....	4420 4061000 26
26 .....	80K	12.....	
Bypass separator roller.....	6LA2 8899000 .....	Developer gear (mag).....	4420 4057000 26
Bypass wrap spring .....	6LA2 8865000 .....	10.....	
CCD .....	6LA7 6557000 .....	Developer gear (mag).....	4420 4060000 26
Charge corona assembly .....	6LA6 2890000 .....	11.....	
Charge corona grid.....	4408 672480 .23 15. 120K/1	Developer gear (mixing) .....	4420 4063000 26
Charge corona wire		14.....	
(precut with eyelets).....	4408 672510 .23 10. 120K/1	Developer mag roller .....	4420 4030000 26 2..
Circuit breaker (15 amp) .....	4402 255020 .6	Developer plate (PLT-DEV-BIAS).....	4420
14c.....		4079000.....	26 20 .....
		Developer unit.....	6LA7 6548000 .....
		Door switch pusher .....	4420 5117000 11 5..
		Download item (K-PWA-DLM-320).....	4420
		5829000.....	102 1 .....
		Download jig 1 .....	6LA4 1994000 .....
		Download jig 2.....	6LA4 1995000 .....

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PART DESCRIPTION	PART NUMBER	PART DESCRIPTION	PART NUMBER
MAN LOC	YIELD	MAN LOC	YIELD
Drum cleaner blade		Finisher MJ-1022 stack tray extension	
(BL-3520D).....	6LA2 7554000 25 4120K	(same for upper and lower) .....	6LA95344000 8 13..
Drum cylinder .....	0D-3500 .....	120K	
Drum seal/recovery blade		Finisher MJ-1022 stack tray	
(K-BLADE-REC) .....	4420 3416000 25	motor (exit?).....	413212910008 19 ...8 19..
18 .....		Finisher MJ-1022 stack tray	
Drum thermistor .....	4420 5158000 26	photo interrupters (3) .....	4402966330 ...8 11..
29 .....		Finisher MJ-1022 staple cartridge	
Drum/cleaner unit		.....	6LA95349000 11 7..
(without drum cylinder) .....	6LA7 6547000 .....	1	
Drum/cleaner unit		Finisher MJ-1022 stapler assembly	
separator fingers (3) .....	4130 6133000 25 13120K/	.....	6LA95348000 11 0..
Duplex board.....	6LA6 9830000 .....	3	
Duplex clutch .....	6LA3 2838000 .....	3	
Duplex exit motor .....	4420 5169000 32	Finisher MJ-1023/1024 board	
18 .....		K-PWA-DLM-320 .....	44205829000 .40 1..
Duplex sensors w/ actuators (2).....	4401 983080 ..32	Finisher MJ-1023/1024 casters (4)	
31 .....		.....	6LA94787000 1 3 ...
Erase lamp assembly .....	4420 3765000 25	Finisher MJ-1023/1024 clutch (2)	
33 .....		.....	6LA94442000 7 74..
Exposure lamp .....	6LA6 7251000 .....	15	
Exposure lamp-inverter board harness		Finisher MJ-1023/1024 control board	
(flat cable).....	6LA7 1382000 .....	2	
		.....	6LA94242000 7 92..
		Finisher MJ-1023/1024 inner side plate motor	
		(small-round).....	6LA94653000 27 2..
		Finisher MJ-1023/1024 inner side plate	
		photo interrupter.....	6LA94749000 27
		15.....	

Fan (above power supply).....6LA3 4314000 .....	Finisher MJ-1023/1024 inner side plate
Fan (rear frame-scan).....6LA3 4314000 .....	sensor flag .....4402969910 ...27 5..
Fans (angled, together; 2) .....6LA3 4314000 .....	Finisher MJ-1023/1024 lower guide motor
Feeder 1 actuator.....4131 8603000 14	(small-round).....6LA94652000 26
15 .....	11 .....
Feeder 1 actuator (1 of 2 on same shaft but only	Finisher MJ-1023/1024 lower guide
one is an actuator).....4130 6011000 14	photo interrupters (2) .....6LA94749000 26
17 .....	15 .....
Feeder 1 clutch.....6LA3 1944000 .... 1	Finisher MJ-1023/1024 micro switch
Feeder 1 feed roller .....4401 964410 .. 14	.....6LA94444000 7 48..
24 .....	80K
Feeder 1 paper empty actuator...4130 6012000 14	Finisher MJ-1023/1024 motor (front-stack tray-
14 .....	upper and lower
Feeder 1 photo interrupter (3) ....C0-07 598000 14	trays are the same).....6LA94435000 9 8 ...
30 .....	Finisher MJ-1023/1024 motor
Feeder 1 pickup roller (2 on shaft).....4130	(square-rear).....6LA94432000 7 54..
6719000 .....	Finisher MJ-1023/1024 motor
14 20 .....	(square-rear).....6LA94433000 7 49..
80K	Finisher MJ-1023/1024 motor mount
Feeder 1 separator roller .....4130 4047100 14 5	cylindrical motor .....4402968320 ...29 4..
Feeder 1 wrap spring.....4420 1817000 14 9	Finisher MJ-1023/1024 motor mount
Feeder 2 clutch.....6LA6 6937000 .... 1	cylindrical motor .....6LA94651000 29 3..
Feeder 2 clutch.....6LA6 6938000 .... 1	Finisher MJ-1023/1024 motor mount
Finisher MJ-1022 control board.41321158000 .5 5 ...	photo interrupters (2) .....6LA94659000 29 5..
Finisher MJ-1022 feed in	Finisher MJ-1023/1024 operation
actuator flag .....41321089000 .3 5 ...	tray actuator.....6LA94289000 11
Finisher MJ-1022 feed in	31 .....
photo interrupter.....4402966330 ...3 8 ...	Finisher MJ-1023/1024 operation
Finisher MJ-1022 harness to machine	tray actuator.....6LA94290000 11
.....41321086000 .3 2 ...	33.....
Finisher MJ-1022 IPC board.....4402 352650 .. 1 19	Finisher MJ-1023/1024 operation tray
Finisher MJ-1022 motor; small, round	motor (round-2).....6LA94437000 11
(2- under tray) .....41321199000 .6 24	45.....
Finisher MJ-1022 motor; small,	Finisher MJ-1023/1024 operation tray
square 46w .....41321157000 .5 3 ...	motor (square).....6LA94436000 11
Finisher MJ-1022 operating tray	25.....
photo interrupters (4) .....4402966330 ...6 6 ...	Finisher MJ-1023/1024 operation tray
Finisher MJ-1022 paper height	photo interrupter (4) .....6LA94749000 11
photo interrupter.....4402966330 ...10 8	14.....
Finisher MJ-1022 photo interrupters (5)	Finisher MJ-1023/1024 paper feeder area
.....4402966330 ...5 4 ...	motor (round) .....6LA94438000 12
Finisher MJ-1022 sensor flag	19.....
(3 blades + flag) .....41321095000 .3 12	Finisher MJ-1023/1024 paper feeder motor
Finisher MJ-1022 stack tray (piece on finisher; same	(large-square) .....6LA94431000 12 1..
for	Finisher MJ-1023/1024 return roller actuator
upper and lower) .....6LA95345000 8 14	(long shaft) .....6LA94275000 13 1..
Finisher MJ-1022 stack tray	Finisher MJ-1023/1024 return roller
drive assembly .....41321216000 .7 0 ...	photo interrupter.....6LA94749000 13
	26.....
	Finisher MJ-1023/1024 saddle
	assembly board.....6LA94243000 21
	93.....

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PART DESCRIPTION	PART NUMBER	PART DESCRIPTION	PART NUMBER
MAN LOC	YIELD	MAN LOC	YIELD
Finisher MJ-1023/1024 saddle assembly motor (small-round on rear) .....	6LA94652000 21 55 .....	Fuser unit.....	6LA7 6543000 ... 10
Finisher MJ-1023/1024 saddle assembly motor (small-round).....	6LA94439000 18 56 .....	Hole punch MJ-6004 board.....	6LA95241000 1 54..
Finisher MJ-1023/1024 saddle assembly photo interrupters (many) .....	6LA94749000 18 18 .....	Hole punch MJ-6004 dust box ...	6LA95255000 2 42..
Finisher MJ-1023/1024 saddle assembly sensor flag .....	4402968240 ...21 46 .....	Hole punch MJ-6004 dust box motor (square, on rear) .....	6LA94440000 2 28..
Finisher MJ-1023/1024 saddle assembly stapler units (2) .....	6LA94468000 24 3 .....	Hole punch MJ-6004 micro switch .....	4400790510 ...2 24..
Finisher MJ-1023/1024 saddle delivery actuator.....	4402969460 ...28 10 .....	Hole punch MJ-6004 motor (round) .....	6LA95281000 1 17..
Finisher MJ-1023/1024 saddle delivery photo interrupter.....	6LA94749000 28 19 .....	Hole punch MJ-6004 photo interrupter .....	6LA94749000 1 27..
Finisher MJ-1023/1024 saddle driver board.....	6LA94246000 25 20 .....	Hole punch MJ-6004 punch slide assembly motor .....	6LA95280000 3 13..
Finisher MJ-1023/1024 saddle paper feeder motor (small-square) .....	6LA94440000 25 23 .....	Hole punch MJ-6004 punch slide assembly photo interrupters (2) .....	6LA94659000 3 14..
Finisher MJ-1023/1024 sensor flag (4 fingers).....	6LA94378000 4 4 .....	Inverter board.....	6LA6 7252000 .....
Finisher MJ-1023/1024 sensor flag (upper) .....	6LA94334000 4 24 .....	Laser fans (2) .....	6LA3 4314000 .....
Finisher MJ-1023/1024 stack tray actuator (upper and lower trays are the same) .....	6LA94283000 9 26 .....	Laser unit.....	6LA7 6558000 .....
Finisher MJ-1023/1024 stack tray extension (upper and lower trays are the same) .....	6LA94216000 9 38 .....	LCF KD-1012 board .....	6LA93836000 3 17..
Finisher MJ-1023/1024 stack tray on finisher (upper and lower trays are the same) .....	6LA94215000 9 37 .....	LCF KD-1012 casters (4).....	41319416000 .2 35..
Finisher MJ-1023/1024 stack tray photo interrupter (upper and lower trays are the same) .....	6LA94749000 9 27 .....	LCF KD-1012 casters (4).....	41319609000 .2 8 ...
Finisher MJ-1023/1024 staple unit .....	6LA94470000 17 16 .....	LCF KD-1012 clutch (2).....	41319914000 .3 10..
Finisher MJ-1023/1024		LCF KD-1012 drawer photo interrupter (3) .....	41319917000 .6 17..
		LCF KD-1012 drawer photo interrupter/actuator .....	41319919000 .6 6 ...
		LCF KD-1012 drive motor (round) .....	6LA93843000 3 3 ...
		LCF KD-1012 drive section photo interrupters (2) .....	41319917000 .3 24..
		LCF KD-1012 motor (slider, with coupling) .....	41319907000 .3 21..
		LCF KD-1012 paper empty sensor .....	41319661000 .4 7 ...
		LCF KD-1012 paper feed area photo interrupter.....	41319916000 .4 8 ...
		LCF KD-1012 paper feed area push switch.....	41319911000 .4 20..
		LCF KD-1012 paper feed photo interrupter/actuator.....	41319918000 .4 19..
		LCF KD-1012 paper feed roller.....	41319658000 .4 281
		LCF KD-1012 paper feed roller.....	41319660000 .5 121
		LCF KD-1012 paper pickup roller .....	41319632000 .4 301
		LCF KD-1012 switch .....	41319921000 .3 25..
		LCF KD-1012 tray up motor	

to machine harness.....6LA94247000 7 84	(triangular) .....41319906000 .3 20.
Fuser assembly coil (ASY-COIL-IH-100) .....6LA6 5881000... 31	Main motor.....6LA6 2281000 ..... 1
Fuser cleaner roller (SHAFT-CLN-P/R)..... 4420 2985000 30 8 120K/1	Motor on rear frame (says "exit") .....6LA6 4510000 .....
Fuser cleaner roller bushings (BUSH-CLN-PRS) (2).....4420 2988000 30 9	Ozone filter ..... 6LA6 0636000 11 16120K/
Fuser exit actuator.....4420 2997000 31	Paper feed pedestal KD-1011 cassette backstop.....6LA29061000 6 21..
19 .....	Paper feed pedestal KD-1011 casters (4-large).....41319117000 .2 13..
Fuser exit actuator spring.....6LA6 5778000 ..... 3	Paper feed pedestal KD-1011 casters (6-small) .....41319409000 .2 37..
Fuser exit photo interrupter.....4401 983230 ..31	Paper feed pedestal KD-1011 clutch ..... 6LA47907000 3 18..
21 .....	Paper feed pedestal KD-1011 feed clutch.....6LA31944000 5 22..
Fuser fan ..... 4420 5181000 30	Paper feed pedestal KD-1011 feed roller K-ROLL-FEED (2) .....41304048000 .5 26.
13 .....	
Fuser gear; idler .....4420 3023000 29	
12 .....	
Fuser gear; idler 15t/23t.....4420 3038000 29	
13 .....	
Fuser gear; idler 18t/25t.....4420 3036000 29	
14 .....	
Fuser heat roller bearings (2) ....4420 2938000 30 2	
Fuser heat roller drive gear .....4420 2940000 30 3	
Fuser heat roller (HR-3520-U)..... 6LA2	
7552000 ..... 30 5	
..... 120K/150K	
Fuser pressure roller (HR-3520-L) ..... 6LA2 7553000 30 1120K	
Fuser pressure roller bearings (2).....4420	
2925000 ..... 30 6 .....	
Fuser separator pawl springs (5) 4420 3109000 30	
20 .....	
Fuser separator pawls (5) .. 4420 3114000 30 10120K	
Fuser thermistor (2 with harness)	
.....6LA7 0830000 ..... 2	
Fuser thermal switch .....6LA7 0829000 .....	

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PART DESCRIPTION	PART NUMBER	PART DESCRIPTION	PART NUMBER
MAN LOC	YIELD	MAN LOC	YIELD
Paper feed pedestal KD-1011		RADF MR-3015 white mat.....6LA95666000 11 2..	
main motor )..... 4400678600 ..3 17		RADF MR-3015 photo interrupter.....4132	
Paper feed pedestal KD-1011		0446000.....4 5 .....	
photo interrupters (3) ..... C0-03663000 5 5 ..		RADF MR-3015 photo interrupter.....4132	
Paper feed pedestal KD-1011 pickup roller		0446000.....5 12 .....	
ROLLER-PICK-AT (2) ..... 41306719000 5 29		RADF MR-3015 photo interrupter.....4132	
Paper feed pedestal KD-1011 PM kit: ROLKIT-		0446000.....6 25 .....	
1010: Includes		RADF MR-3015 pickup roller...4132 0735000 8 261	
pickup roller, feed roller and separator roller.....80K		RADF MR-3015 separator roller .....4132	
Paper feed pedestal KD-1011 separator roller		0650000.....6 6	
K-ROLL-SPT (2)..... 41304047100 5 12		.....120K	

Paper feed pedestal KD-1011 separator roller wrap spring..... 44201817000 5 11	RADF MR-3015 sheet brake (might be sep pad).....4132 0703000 6 22..
Paper feed pedestal KD-1011 tray motor (2-cylindrical) ..... 41306513000 3 35	RADF MR-3015 tray actuator ...4132 0319000 1 5 ...
Platen glass assembly..... 6LA6 7425000 .... 2	RADF MR-3015 width actuator.4132 0707000 6 28..
PM kit DEV-KIT-3520 includes drum blade, 3 drum separator fingers, charge grid, charge wire, transfer wire, separator wire, ozone filter and developer	RADF slit glass .....6LA6 7448000 .....1
PM kit FU-KIT-3520 includes heat roller, pressure roller, 6 separator fingers and cleaning roller	Recovery blade (K-BLADE-REC) .....4420 3416000.....25 18 .....
PM kit DF-KIT-3015 includes RADF pickup roller, feed roller and separator roller.	Registration actuator .....4420 1537000 19 8..
PM kit ROL-KIT-1010 includes pickup roller, feed roller and separator roller .....	Registration actuator .....6LA6 6909000 .....
PM kit ROLL-KIT-16CST includes pickup roller, feed roller and separator roller	Registration actuator spring (2-same for both).....4420 1535000 19 10.....
Power supply (near top, below fan) .....6LA7 0826000 .....	Registration clutch .....6LA6 6939000 ..... 1
Power switch?..... 4420 5162000 .....	Registration feed switch (actuator/ photo interrupter assembly).....4401 983080 ..19 5..
RADF MR-3015 aligning actuator .....4132 0705000 ..... 6 26 .....	Registration photo interrupters (2) .....C0-07 598000.....19 11 .....
RADF MR-3015 cushion brake (might be sep pad)..... 4132 0704000 .....	Registration roller; left.....4420 1510000 19 22.....
RADF MR-3015 empty actuator4132 0589000 8 6 ...	Registration roller; right.....4420 1490000 19 19.....
RADF MR-3015 exit actuator ... 4132 0562000 .....	Scan cable; front.....6LA3 9410000 .....
RADF MR-3015 fan ..... 4132 0450000 .....	Scan cable; rear .....6LA3 9430000 .....
RADF MR-3015 feed roller..... 4132 0734000 .....	Scan home photo interrupter .....C0-07 598000 13 10.....
RADF MR-3015 micro switch...4132 0210000 10 19 .....	Scan motor .....6LA6 9739000 .....
RADF MR-3015 micro switch...4132 0210000 3 23	Separator corona wire (part of transfer) .....4400 674790 24 6 or 16?120K
RADF MR-3015 board ..... 6LA95730000 ..... 1	Toner motor.....6LA6 8922000 .....
RADF MR-3015 photo interrupter ..... C0-01611000 ..... 4 13 .....	Toner recovery blade (K-BLADE-REC) .....4420 3416000 25 18.....
RADF MR-3015 photo interrupter (many) ..... C0-01611000 3 34	Transfer corona .....6LA7 6541000 ..... 1
	Transfer corona block; front.....4420 3850000 24 4..
	Transfer corona block; rear .....4420 3855000 24 3..
	Transfer corona finger assembly 6LA5 6333000 ..... 2
	Transfer corona wires (precut with eyelets; 2).. 4400 674790....24 6 120K/1
	Tray motor (cylindrical).....4401 981710 ..4 26..

## DIAGNOSTICS AND SIMULATIONS

### TROUBLE CODES

These might not display automatically. If the machine has a jam ("Clear paper") or "picture of a wrench" you can read these codes. To read them, press down the "8" key and the "Clear/Stop" key at the same time. All codes, except fuser errors, are reset by turning the machine off and back on again.

C010: Drive system.

C040: PFP motor.

C130: Upper drawer motor.  
C140: Lower drawer motor.  
C150: PFP upper drawer motor.  
C160: PFP lower drawer motor.  
C180: LCF tray motor.  
C1A0: LCF end fence motor.  
C1B0: LCF transport motor.  
C260: Exposure lamp not detected.  
C270: Scan home problem.  
C280: Scan home problem.  
C410: Fuser low temp or thermistor.  
C440: Fuser too high or too low.  
C450: Fuser thermistor.  
C470: IH initialization power voltage. No AC.  
C480: IGBT overheat.  
C490: IH control problem.  
**To clear fuser errors;** turn on power while holding down "0" & "8." Enter 400. Press "Start." Change status to "0." Press "ENTER" or "INTERRUPT." Shut power and turn back on.  
C550: Communication problem between IF and RADF.  
C570: Communication problem between engine-CPU and IPC.  
C580: Communication problem between IPC and finisher.  
C730: EEPROM initialization problem in RADF.  
C810: Fan problem.  
C820: Read sensor adjustment error.  
C830: Original length sensor adjustment error.  
C940: Engine-CPU problem.  
C970: HVT or charge corona.  
CA10: Laser motor (polygon motor) problem.  
CA20: Laser H-SYNC problem.  
CB20: Finisher exit motor.  
Cb30: Finisher tray1/tray2 shift motor.  
Cb30: Finisher tray1/tray 2 shift motor.  
CB40: Finisher alignment plate motor.  
CB50: Staple motor.  
CB60: Staple shift motor problem.  
CB80: Finisher backup RAM problem.  
CB90: Finisher paper push plate motor CB7: Finisher height sensor.  
CBA0: Saddle stitcher front stitcher motor.  
CBB0: Saddle stitcher rear stitcher motor.  
CBC0: Saddle stitcher alignment motor.  
CBD0: Saddle stitcher guide motor.  
CBE0: Saddle stitcher folding motor.  
CBF0: Saddle stitcher paper positioning plate motor.  
CC00: Finisher sensor connector error.  
CC10: Finisher micro switch.  
CC20: Saddle stitcher to finisher communications problem.  
CC30: Stack process motor.  
CC40: Finisher swing motor.  
CC50: Finisher horizontal registration motor.  
CC60: Finisher punch motor.  
CC80: Finisher front alignment motor.



CC90: Finisher upper stack tray lift motor.  
CCA0: Finisher lower stack tray lift motor.  
CCB0: Finisher rear jogger motor.  
CCDO: Finisher stack eject motor.  
CCE0: Finisher paper trail edge assist motor.  
CCF0: Finisher gear change motor.  
CDF0: Offset tray home separator problem.  
CE00: Communication problem between finisher and punch.  
E010: Exit jam.  
E020: Exit jam.  
E030: Jam.  
E090: Jam  
E110: Duplex jam.  
E120: By pass jam.  
E130: Upper drawer jam.  
E140: Lower drawer jam.  
E150: PFP upper drawer jam.  
E160: PFP lower drawer jam.  
E190: LCF jam.  
E200: Upper drawer transport jam.  
E210: Lower drawer transport jam.  
E220: Lower drawer transport jam.  
E300, 310, 320: PFP upper drawer transport jam.  
E330, 340, 350, 360: PFP lower drawer transport jam.  
E3C0, E3D0, E3E0: LCF transport jam.  
E400: Jam access cover open.  
E410: Front cover open.  
E420: PFP side cover open.  
E430: Duplex unit open.  
E440: Side cover open.  
E450: LCF side cover open.  
E480: Bridge open.  
E490: Job separator cover open.  
E491: Offset tray cover open.  
E510: Duplex exit jam.  
E520: Duplex entry jam.  
E550: Transport jam.  
E711-E743: RADF jams.  
E860, E870: RADF open cover.  
E910-E940: Finisher/bridge jam.  
E950, E951: Job separator jam.  
E960, E961: Offset tray jam.  
E9F0: Finisher/punch jam.  
EA10, EA20, EA30, EA40, EA50, EA60, EA70: Finisher jams.  
EA80, EA90, EAA0, EAB0 EAC0, EAD0, EAE0, EAF0: Saddle-stitch finisher jams.  
EB30: Finisher jam.  
EB50, EB60: Transport jams.  
F070: Communication error between system-CPPU and engine-CPU.  
F090: SYS board SRAM.  
F091: NVRAM problem on SYS board.  
F092: SRAM and NVRAM problem on SYS board.

F100: Hard drive format error.  
F101: Hard drive connection.  
F102: Hard drive start.  
F103: Hard drive time out.  
F104: Hard drive data error.  
F105: Hard drive.  
F106: Point and print partition problem.  
F107: SHR partition.  
F108: SHA partition.  
F110: Communication error between system-CPU and scan-CPU.  
F111: Scan problem.  
F120: Database problem.

**SIMULATIONS:** Hold down the two keys (0 and 1 for example) while turning on power.

**Inputs:** These are signals that enter the main board, and are supplied by switches and sensors throughout the machine.

0 & 1 Mode: Lights operation panel display.

0 & 3 Mode: These are signals that enter the main board, and are supplied by switches and sensors throughout the machine. There are “buttons” A, B, C, D, E, F, G, H that will display. This is the button in the below table. You will press the indicated key to test the item listed.

**This group is done with fax button off and fax LED off.**

**Key: Button: Description of test**

1: B: LCF connected  
1: C: Bypass connected  
1: D: Bypass paper sensor  
1: E: Duplex connected  
1: F: Duplex open/close switch  
1: G: Duplex exit sensor  
1: H: Duplex entry sensor  
2: A: PFP upper drawer detect  
2: C: PFP upper drawer paper stock sensor  
2: D: PFP upper drawer feed  
2: E: PFP connected  
2: F: PFP side switch  
2: G: PFP upper drawer empty  
2: H: PFP upper drawer tray up  
3: A: LCF bottom sensor  
3: B: LCF standby side mis-stack sensor  
3: E: LCF drawer detect  
3: H: Lcf side paper stock sensor  
4: A: PFP lower drawer detect  
4: C: PFP lower drawer feed  
4: D: PFP lower drawer feed sensor  
4: E: PFP motor  
4: G: PFP lower drawer empty  
4: H: PFP lower drawer tray up  
5: A: LCF end fence home sensor  
5: B: LCF end fence stop sensor  
5: C: LCF standby side sensor  
5: D: LCF side cover open/close switch

5: E: LCF motor  
5: F: LCF tray-up sensor  
5: G: LCF feed sensor  
5: H: LCF feed side empty sensor  
6: E: Upper drawer feed sensor  
6: F: Toner bag sensor  
6: G: Upper drawer empty sensor  
6: H: Upper drawer tray up sensor  
7: E: Lower drawer feed sensor  
7: G: Lower drawer empty  
7: H: Lower drawer tray up  
8: B: Bypass width sensor  
8: C: Bypass width sensor  
8: D: Bypass width sensor  
8: E: Bypass width sensor  
8: F: Job separator upper stack sensor  
8: H: Bridge unit transport cover sensor  
9: D: Upper drawer detect  
9: E: Upper drawer paper stock sensor  
0: D: Lower drawer detect switch  
0: E: Lower drawer stock sensor.

**This group is done with fax button on and fax LED on.**

**Key: Button: Description of test**

1: C: 24 volt power supply  
1: D: IPC connected  
1: F: Laser polygon motor status  
1: H: Toner cartridge switch  
2: A: Registration sensor  
2: B: Exit sensor  
2: C: Auto-toner sensor connected  
2: D: Front cover open/close  
2: E: Destination  
2: G: Side cover open/close  
2: H: Main motor rotate status  
3: B: Key counter  
3: C: Toner bag full sensor  
3: D: Fuser unit connected  
3: E: Bridge unit transport sensor 2  
3: G: Bridge unit paper full sensor, job separator lower stack sensor or offset stack sensor  
3: H: Bridge transport sensor, job separator feed sensor or offset tray sensor.  
4: F: Bypass feed sensor  
4: H: High voltage power supply status  
5: F: RADF connected  
5: G: Platen cover sensor  
5: H: Scan home sensor.  
6: D, E, F, G, G: APS sensors R, C, 3, 2, 1  
7: A: RADF tray sensor  
7: B: RADF empty sensor  
7: C: RADF jam cover sensor  
7: D: RADF open/close sensor

7: E: RADF exit sensor  
7: F: RADF reverse sensor  
7: G: RADF read sensor  
7: H: RADF registration sensor  
8: E: RADF original length sensor  
8: F: RADF original width sensor 1  
8: G: RADF original width sensor 2  
8: H: RADF original width sensor 3  
9: A: Bridge/job separator/offset tray connected1  
9: B: Bridge/job separator/offset tray connected2  
9: C: Bridge/job separator/offset tray connected3  
0: A: Dongle (that's what it says!) for GM-2010  
0: B: Dongle for GM-1010  
0: C: Dongle for GM-3010  
0: D: Dongle for other USB devices and other equipment

### **Simulations - continued**

0 & 3 Mode-**outputs**: Shut power. Hold down 0 & 3 keys while turning on power. Enter the number of the code, using the number keys. Then press "Start." This will test the component. In some cases, "Clear" ends the test. Some require a second press of the "Start" button to stop the test. In some cases you must enter a second code (50 digits higher) to stop the test. In some cases, another press of the Start key will reverse the item or cause it to move another step. Note: 101-122 must be turned off with 151-172, (50 digits higher), listed below.

101: Main motor.  
102: Toner motor on.  
103: Laser motor at 600 dpi on.  
108: Registration motor.  
110: Duplex motor.  
118: Laser.  
120: Exit motor; forward.  
121: Exit motor; reverse.  
122: LCF motor.  
177: Offset motor.  
201: 1<sup>st</sup> cassette clutch.  
202: 2<sup>nd</sup> cassette clutch.  
203: Intermediate transport clutch.  
204: Bypass feed clutch.  
206: LCF pickup solenoid.  
207: LCF end fence.  
208: LCF motor.  
209: LCT feed clutch.  
210: LCF transport clutch.  
217: Sub-separation fan.  
218: Key counter count up.  
222: Duplex feed clutch.  
225: PFP transport clutch.  
226: PFP upper clutch.  
228: PFP lower clutch.  
232: Bridge unit gate solenoid.  
234: Bypass pickup solenoid.  
235: Discharge LED.

236: Fan.  
238: IH fan.  
241: IH fan.  
242: Upper drawer tray-up motor.  
243: Lower drawer tray-up motor.  
248: Developer bias +DC.  
249: Developer bias -DC1.  
252: Charge corona.  
253: Separator bias.  
255: Transfer guide bias.  
256: Transfer transformer.  
261: Scan motor.  
267: Exposure lamp.  
271: LCF lift motor.  
278: PFP upper lift motor.  
280: PFP lower lift motor.  
281: RADF motor; forward.  
282: RADF motor; reverse.  
283: RADF read motor; forward.  
284: RADF read motor; reverse.  
285: RADF reverse motor; reverse.  
289: Developer fan; high speed.  
290: Developer fan; low speed.  
294: RADF reverse solenoid.  
297: RADF fan.  
410: Power supply fan.  
411: Power supply fan; high speed.  
413: Middle fan.  
432: Developer clutch.  
461: Fuser fan; low speed.  
462: Fuser fan; high speed.  
463: Developer fan; low speed.  
464: Developer fan; high speed.

**0 & 4 Mode:** Test pattern printout. Turn power off. Hold down "0" & "4" while turning on power. Enter the code number of your choice. Press "Start." The machine will make the test pattern. Press "Clear" to end. Shut power to exit.

111: Primary scan with 33 gradations and error diffusion.  
113: Secondary scan with 33 gradations and error diffusion.  
142: Grid pattern.

**0 & 5 Mode:** Turn power off. Hold down "0" & "5" while turning on power. This is a mode for setting and adjusting. Once in the mode, press the number key of choice (for the particular code you want. Then press "Start." Then use the number keys to change the setting. Then press "ENTER" or "INTERRUPT" to lock in the new value. Press "FAX" to make a test copy. Press "Function Clear" to insert a hyphen (-).

**1:** Print grid pattern.

**3:** Print grid pattern in duplex.

200: Auto toner set up (**Developer calibration**). This is a bit different than the others. You will not change the setting normally, but will allow the machine to cycle and find the correct setting on its own. Hold 0 & 5 while turning on power. Enter 200 with number keys. Press "Start" key. Allow the machine to cycle for about two to three minutes. The machine will not stop running, but the reading on the display

will stabilize. It should land between 2.35-2.45 volts, though it will be expressed in 3 digits and a (%) sign (such as 230%). If it is not 2.35-2.45, put it there, using the up/down button. Press "ENTER" or "INTERRUPT" key to lock in. When it finishes, shut power to reset.

201: Manual Adjustment of Auto toner set up.  
205: Developer bias DC output. Default is 128.  
210: Grid voltage adjust. Default is 154.  
221: Transfer DC output. 115 is default.  
231: Separator AC adjustment. Default is 166.  
286: Laser power adjustment; Default is 121:  
305: Secondary scan image location adjustment (registration?). 145 is default.  
306: Primary scan image location adjustment. 145 is default.  
308: Moves carriage to adjustment position.  
340: Scan copy length reproduction ratio adjust. 128 is default.  
354: RADF adjustment for one-sided original. 10 is default.  
355: RADF adjustment for two-sided original. 10 is default.  
356: RADF EEPROM initialization. RADF sensor automatic adjustment.  
357: RADF transport motor fine adjustment. 50 is default.  
358: RADF side to side adjustment. 128 is default.  
359: Carriage position adjustment during RADF scan. Default is 128.  
365: RADF lead edge adjustment for single-side original. Default is 50.  
366: RADF lead edge adjustment for two-sided original. Default is 50.  
367 & 368: RADF original width sensor adjustment.  
401: Laser motor fine adjustment. 133 is default.  
405: Laser motor fine adjustment. 129 is default.  
410: Laser write position. 128 is default.  
411: Laser write position. 128 is default.  
422: Drive secondary scan speed adjustment. Default is 139.  
424, 425: Exit motor speed in normal. 128 is default.  
430: Lead edge void adjust. 0 is default.  
431: Left void. 0 is default.  
432: Right void. 0 is default.  
433: Trail edge void. 0 is default.  
434-0: Trail lead edge void. 48 is default.  
434-1: Right edge void. 12 is default.  
435: Lead edge void. 0 is default.  
436: Left void. 0 is default.  
437: Right void. 0 is default.  
438: Trail edge void. 0 is default.  
440: Registration adjustment for paper fed from upper drawer. 7 is default.  
441: Registration adjustment for paper fed from lower drawer. 24 is default.  
442: Registration adjustment for paper fed from bypass. 8 is default.  
443: Registration adjustment for paper fed from LCF. 8 is default.  
444: Registration adjustment for paper fed from PFP. 8 is default.  
445: Registration adjustment for duplex paper. 8 is default.  
448-0 through 467: are for paper aligning adjustment.  
468-0, -1, -2: Binding position/folding fine adjustment (A4R/LT-R). 0 is default.  
469-0 through 474-2: Paper aligning.  
473: Paper aligning amount. 8 is default.  
474-0, -1, -2: Paper aligning amount.  
497-0 through 498-1: Laser sideways adjustments.  
501: Manual exposure adjustment in photo mode; center. 128 is default.

503: Manual exposure adjustment in text/photo mode; center. 128 is default.  
504: Manual exposure adjustment in text mode; center. 128 is default.  
505: Manual exposure adjustment in photo mode, light side. 20 is default.  
506: Manual exposure adjustment in photo/text mode, light side. 20 is default.  
507: Manual exposure adjustment in text mode, light side. 120 is default.  
508: Manual exposure adjustment in photo/text, dark side. 20 is default.  
509: Manual exposure adjustment in photo mode, dark side. 20 is default.  
510: Manual exposure adjustment in text mode, dark side. 20 is default.  
512: Auto exposure adjustment in photo mode. 128 is default.  
514: Auto exposure adjustment in text/photo mode. 128 is default.  
515: Auto exposure adjustment in text mode. 128 is default.  
532: Photo/text range correction. 40 is default.  
533: Photo range correction: 16 is default.  
534: Text range correction. 64 is default.  
570: Range correction for originals on glass in photo/text. Default is 12.  
571: Range correction for originals on glass in photo. Default is 12.  
572: Range correction for originals on glass in text. Default is 22.  
593-595: Gamma data slope correction in various modes. 0 is default.  
620: Sharpness in photo/text. Default is 1.  
621: Sharpness in text. Default is 2.  
622: Sharpness in photo. Default is 45.  
653: Adjust blurred text in photo/text. Default is 208.  
654, 655: Adjust blurred text. Default is 5.  
672-0 through 695 is adjustment of printer density in various modes.  
700, 701, 702: Adjust binarized text.  
710: Density adjustment in fax/photo. Default is 128.  
714: Density adjustment in fax/text-photo mode. Default is 128.  
715: Density adjustment in fax/photo. Default is 20.  
719: Density adjustment in fax/text. Default is 20.  
720: Density adjustment in photo/fax. Default is 20.  
724: Density adjustment in text/fax. Default is 20.  
725: density adjustment in photo/fax. Default is 128.  
729: Density adjustment in text-photo/fax. Default is 128.  
825: Range correction when copying from platen glass in text/photo mode. Default is 12.  
826: Range correction when copying from platen glass in text mode. Default is 12.  
827: Range correction when copying from platen glass in photo mode. Default is 12.  
830, 831, 832: Range correction for background peak; same conditions as 825, 826, 827. Default is 12.  
835, 836, 837: Range correction when copying from ADF with same conditions as 825, 826, 827.  
Defaults are 48, 48, 40.  
845-847: Density adjustment for fine/manual/center for text/photo, text and photo. Default is 128.  
850-8527: Density adjustment for fine/manual/light for text/photo, text and photo. Default is 20.  
855-857: Density adjustment for fine/manual/dark for text/photo, text and photo. Default is 20.  
860-862: Density adjustment for fine/automatic for text/photo, text and photo. Default is 128.  
865-0, -1, -2: Sharpness of text/photo in 40% or smaller, 41%-80% and in 81% and larger. Default is 1.  
866-0, -1, -2: Sharpness of text in 40% or smaller, 41%-80% and in 81% and larger. Default is 2.  
867-0, -1, -2: Sharpness of photo in 40% or smaller, 41%-80% and in 81% and larger. Default is 5.  
913: Range correction for original on glass in custom mode 1. Default is 12.  
914: Range correction for original on glass in custom mode 2. Default is 22.  
915: Range correction for original on glass in custom mode 3. Default is 12.  
916: Range correction for original on RADF in custom mode 1. Default is 12.  
917: Range correction for original on RADF in custom mode 2. Default is 22.

918: Range correction for original on RADF in custom mode 3. Default is 12.  
919: Range correction background peak adjustment in custom mode 1. Default is 40.  
920: Range correction background peak adjustment in custom mode 2. Default is 64.  
921: Range correction background peak adjustment in custom mode 3. Default is 16.  
922: Sharpness adjustment in custom mode 1. Default is 1.  
923: Sharpness adjustment in custom mode 2. Default is 45.  
924: Sharpness adjustment in custom mode 3. Default is 2.  
928: Smudged text adjustment for faint text in custom mode 1. Default is 128.  
931, 932, 933: Density adjustment fine adjustment in manual/ center for custom modes 1, 2, 3. Default is 128.  
934, 935, 936: Density adjustment fine adjustment in manual/light for custom modes 1, 2, 3. Default is 20.  
937, 9358 939: Density adjustment fine adjustment in manual/dark for custom modes 1, 2, 3. Default is 20.  
940, 941, 942: Density adjustment fine adjustment for "auto" for custom modes 1, 2, 3. Default is 128.  
943, 944, 945: Gamma data adjustment for custom modes 1, 2, 3. Default is 0.  
976: Serial number.

**0 & 8 Mode.** Turn power off. Hold down "0" and "8" keys while turning on power. Enter the code with the number keys. Press "Start." You may need to use the appropriate ICON. Use the number keys and/or "Function/Clear" to change values. Press "Interrupt" or "ENTER" to lock in. In some cases, you might have to press "HELP" to change or set the value. Shut power to exit. If entering phone number that require a hyphen (-) use the "Monitor/Pause" key to enter the hyphen.



200: Date setting. Year, month, date, day (number value), hour, minutes, seconds. In that order. The day is represented by a digit; 0 is Sunday.

201: Country paper size. 0 is Europe. 1 is UC. 2 is Japan.

202: Optional external counter. 0 is none. 1 is coin. 2 is key card. 3 is key counter.

203: Line adjustment mode. 0 is factory. 1 is line. 0 is default.

204: All clear timer to reset operation panel to standard settings. If set to 0, will not reset. 1 – 10 X 15 seconds.

205: Energy save timing. 0 is no energy save. Choices of 3 minutes through 60 minutes.

206: Automatic power off. 0 after 3 minutes. Approximately 5 minutes X the number up to 10. Various values up to 13, which is 240 minutes. If set to 20, there is no automatic power off.

207: Display LCD; white on black or black on white.

209: Filing format. 0 is TIFF. 1 is PDF.

210: Paper feed direction.

216: Tab paper printing/tab extension setting for bypass. Default is 1300.

217: Tab paper printing/tab shift setting for bypass. Default is 1300.

219: Filing format; 0 is TIFF/multi. 1 is PDF. 3 is TIFF/single.

220: Language display.

221: UI language.

224: Bypass size select.

225: Upper drawer size select.

226: Lower drawer size select.

227: PFP upper drawer size select.

228: PFP lower drawer size select.

Note: For 224-228, select size from display.

229-249: Paper size selections for different sizes from all locations.

250: Service phone number. Use number keys. For hyphen (-) use the "Monitor/Pause" key.

**251: PM cycle counter.** This is the number of copies you want the machine to call for a PM at. If set to "0," there will be no PM indicator.

**252: PM count.** This is the number of copies that have been run since the last PM.

253: Error history count.

255: PFP/LCF installation.

256: PFP/LCF size setting.

257: Copy counters; 1 is electrical, 2 is backup.

258: FSMS maintenance acceptance.

259: Network storage period.

260: Network web data retention period.

261: Network data in electronic filing.

262: Network TWAIN data retention period.

263: Network admin password.

264: Network file retention period.

265: Network maximum data capacity for email.

266: Network fax data capacity.

267: Guarantee documents if Hard drive full.

270: User box retention period.

271: Hard drive nearly full warning.

272: Email time limit warning.

273: Fax default page setting via internet fax.

275: Fax encode default.

276: Automatic density setting. 0 is automatic exposure. 1-11 are manual settings: 1 is step -5. 2 is -4. 3 is -3. 4 is -2. 5 is -1. 6 is 0 (center setting). 7 is +1. 8 is +2. 9 is +3. 10 is +4. 11 is +5.

281: Resolution. 0 is 150dpi. 1 is 200. 2 is 300. 3 is 400. 4 is 600.

283: Original default. 0 is text. 1 is text/photo. 2 is photo.  
285: Rotation default. 0 is none. 1 is 90 degrees. 2 is 180. 3 is 270.  
286: Original size defaults. 0 is auto. 1-22 are listed but too long to include here.  
288: Searching interval of deleting expired files.  
290: Raw printing; duplex (huh?)  
291: Raw printing job.  
292: Raw printing paper size.  
293: Raw printing direction.  
294: Raw printing staple.  
295: Raw printing job to tray.  
296: Raw printing job; PCL font pitch.  
297: Raw printing job: PCL font pitch.  
298: Raw printing job; PCL font.  
299: Raw printing; PCL font number.  
300: Maximum copies that can be made if this is set. 0 is 999. 1 is 99. 2 is 9.  
302: Original count display. 0 is off. 2 display.  
305-0 through 332-2: Various counts of number of pages printed, scanned, etc. in various modes.  
335-0 through 381: Counts of papers fed through devices, uses of RADF, etc.  
390-393: Counts of hard drive errors of various types.  
398: Laser speed switching.  
399: Laser polygon motor accumulated time.  
400: Fuser errors (thermistor status). If 0, no errors. 1-9 is the number of fuser errors that occurred. Sub code in 400. 0 is no error. 1 is C410 once. 2 is C410 continuously. 5 is C440. 6 is C450. 7 is C440. 8 is C450 9 is C440. 10 is C470. 11 is C470. 12 is C480. 13 is C490. 14 is C470. 15 is C480. 16 is C490. 17 is C470. 18 is C480. 19 is C490. **To clear fuser errors**; turn on power while holding down "0" & "8." Enter 400. Press "Start." Change status to "0." Press "ENTER" or "INTERRUPT." Shut power and turn back on.  
409: Fuser temperature in energy saver. 13 different readings at center thermistor. 0 is off. 1 is 40. others are 10 degrees higher up to 160 centigrade.  
410: Fuser temperature in print mode. 0 is 145 degrees centigrade. 1 is 180. Add 5 degrees for every digit up to 14 (210).  
411: Fuser temperature in ready. Almost the same as 410.  
412: Fuser temperature during printing. Almost the same as 410.  
413: Same as 410, for pre-running in low temperature environment.  
414: Toner density correction. 1 is +3. 2 is +6. 3 is +9. 4 is +12. 5 is -3. 6 is -6. 7 is -9. 8 is -12.  
417: Pre-run for thick paper.  
419: Black band pattern between sheets.  
420: Fuser pre-run at warm-up.  
437: Fuser temp in printing for thick paper.  
438: Fuser temp in printing for OHP.  
439: Fuser pre-run thick paper.  
440: Fuser pre-run plain paper.  
441: Fuser pre-run thick paper.  
455: Toner supply amount correction. 0 is 100%. 1 is 90%. 2 is 80%.  
462: Switchback operation: Copy mixed size originals in RADF if set to 1.  
463-0 through 468-1: Various paper feed retries.  
469: Fan speed switching; sub separation.  
471: Paper size (postcard) feed direction.  
472: Middle fan speed switching.  
478, 479: Numbers of laser motor errors.  
480: Paper source default. 0 is letter. 1 is LCF. 2 is upper drawer. 3 is lower drawer. 4 is PFP upper

drawer. 5 is PFP lower drawer.

481: Auto cassette change. 0 is none. 1 is on. 2 is changes to different drawer even if paper feeds other way but is same size.

482: Retry feed if set to 0. No retry if 1.

483: Laser pre-run in standby. 0 is valid. 1 is invalid.

484: Laser polygon motor switching.

485: Laser motor in standby.

486: Laser timing of auto clear in standby. 0 is 15 seconds. 1 is 30. 2 is 45. Contingent on 483 set to 0.

488: Laser type.

489: Laser number in standby.

490: Laser polygon motor in energy saver. 0 is stopped. 1 is 10,000 rpm.

491: Transfer corona H in duplex. Default is 165.

492: Transfer corona C in duplex. Default is 106.

493: Transfer corona L in duplex. Default is 128.

502: Error diffusion and dither setting in photo.

**503: Density default.** 0 is automatic. 1 is manual (center).

508: Custom mode setting.

509: Error diffusion and dither in photo.

526: Fuser pre-run for OHP.

550: Copy mode priority. 0 is text/photo. 1 is photo. 2 is text. 3 is custom.

601: Energy save. 0 is auto shut-off. 1 is sleep mode.

602: Energy save and display power off function. 0 is display on. 1 is display off.

603: Automatic duplexing default. 1 is 1 side/2 side. 2 is 2 side/2 side. 3 is user selected.

604: Auto paper size. 0 is APS. 1 is AMS. 2 is none.

605: Centering print of primary/secondary AMS.

607: RADF priority. 0 is press start. 1 will cause machine to start automatically if documents in RADF feed tray.

610: Key beeps off or on.

611: Book original. 0 is left to right. 1 is right to left.

612: Summertime mode. 0 is not summer time. 1 is summertime.

613: User key size select for "other."

614: Job completion judgment time. 1 is 1 second. 2 is 1.5 through 50 or 25 in 1/2 second increments.

615: Display size of memory.

617: Print setting without department code.

618: Mixed size originals priority. 0 is scanned as same size. 1 is scanned as original sizes.

619: Time lag before auto-start in bypass. 1-10 in increments of 1/2 second. 0 is none.

620-624: Department management settings.

625: Non blank sheet prevention mode if set to 1.

627: Rotate or non-rotate in non-sort.

628: Original priority direction. 0 is automatic. 1 is portrait.

629: Department management setting.

634: Send to inner tray in non sort if set to 1..

636: Width setting for image shift. 0 is on. 1 is off.

638: Time difference settings.

640: Date format. If 0, year, month, date (2003, 06, 11). If 1, date, month, year (06, 11, 2003). If 2, month, date, year.

641: RADF automatic sorting mode. 1 is staple. 2 is sort. 3 is group. 4 is rotate sort.

642: Finisher priority. 0 is non-sort. 1 is staple. 2 is sort. 3 is group. 4 is rotate sort.

645: Reproduction ratio in editing. 0 is 90%. 1-10 are 91%-100%.

648: Return finisher to 1-bin position when finished if set to 1. Does not return if 0.

649: Magazine sort. 0 is opening from left. 1 is from right.

650: 2 in 1 and 4 in 1 in order of placement. 0 is horizontal. 1 is vertical.

651: Page numbering.  
652: Cascade operation setting; copier. 0 is off. 1 is on.  
653: Cascade operation setting; printer. 0 is off. 1 is on.  
657: Date time stamp direction. 0 is short edge. 1 is long edge.  
658: Auto start setting for paper during bypass feeding in print mode. 0 is off. 1 is on.  
659: Auto start setting for paper during bypass feeding in copy mode. 0 is off. 1 is on.  
660: Auto forward of received fax.  
661: Auto forward of email.  
662: Clean SMS partition.  
665: M/SYS cleaning.  
666: SHR partition cleaning.  
667: SHA partition cleaning.  
669: System all clear (NVRAM).  
670: Hard drive diagnostic display.  
671: Size indicator.  
672: Departmental management information initialization. Requires code, then press "initialize."  
673: Set trial period from 1-60 days.  
678-682: Set advertise banner display.  
683: Duplex with coin-box.  
684-686: Rebuilding databases.  
689: Fax adapt to paper source.  
690: HDD formatting. 2 is normal.  
691: HDD type indication. 0 is not formatted. 1 is not used. 2 is normal format.  
692: Panel calibration. Press two reference points.  
693: Initialize NIC.  
694: Test hard drive for bad sectors.  
695: Notify end of trial period.  
696: Scrambler board installed or not.  
697: Paper priority (thick or plain).  
698: Scrambler key code.  
699: Erase hard drive (with scrambler board only).  
701: Fax-country setting.  
702: Remote control service.  
703: Remote control HTTP server/URL.  
707: Remote control HTTP server/URL initially registered.  
710: Emergency mode recovery interval.  
711: Emergency mode interval.  
715-719: Remote control items.  
720: Remote control status.  
721: Service center call function.  
723-731: Various HTTP/URL settings.  
732-765: Various **supplies** can be set to be ordered automatically along with other supply information.  
767: Service notification.  
768: Email address.  
769: Total counter info setting.  
770: Total counter transmission.  
771: PM counter. 0 is invalid. 1 is valid.  
772: Dealer name.  
773: Login name.  
774: Display service notification.  
775: Sending error contents.

776: Setting total counter transmission level.  
777: Email 2 address.  
778: Email 3 address.  
779: Notification format.  
780-790: Remote control service.  
794: Supplies-toner cartridge.  
795: Supplies-toner bag.  
796: Remote control service interval polling.  
797: Firmware download.  
798: Notify address of trial period end.  
799: Forcible end of trial period.  
826: Charge bias correct; toner saver.  
840: Setting toner density control. 0 is controlled. 1 is not.  
841: Transfer timing. 0-7. 0 is default.  
855: Fuser temperature during printing. 0 is 140. 14 is 210. 5 degree increments in between.  
856: Fuser pre-run for first print/tab paper.  
859: Developer bias correction in toner save printer mode. 128 is default.  
860: Developer bias correction in normal; printer mode. 128 is default.  
861: Developer bias correction in photo/text; copier mode. 128 is default.  
862: Developer bias correction in text; copier mode. 128 is default.  
863: Developer bias correction in photo; copier mode. 128 is default.  
864: Charge corona grid bias correction in normal; printer mode. 128 is default.  
865: Charge corona grid bias correction in photo; copier mode. 128 is default.  
866: Charge corona grid bias correction in text; copier mode. 128 is default.  
867: Charge corona grid bias correction in photo; copier mode. 128 is default.  
868: Transfer bias correction; high. 128 is default.  
869: Transfer bias correction; low. 128 is default.  
872: Laser power correction in print mode. 128 is default.  
873: Laser power correction in copy mode. 128 is default.  
875: Laser power correction in toner saver. 128 is default.  
876: Laser power correct in print. 128 default.  
877: Laser power correct in print/photo. 128 default.  
900: System firmware ROM version.  
903: Engine ROM version.  
905: Scanner ROM version.  
907: RADF ROM version.  
908: Finisher ROM version.  
915: Fax ROM version.  
916: NIC ROM version.  
920: FROM basic software version.  
921: FROM internal program version.  
922: User Interface fixed version.  
923: UI common version.  
924: 1<sup>st</sup> language UI data version in HDD.  
925: 2<sup>nd</sup> language UI data version in HDD.  
926: 3<sup>rd</sup> language UI data version in HDD.  
927: 4<sup>th</sup> language UI data version in HDD.  
928: 5<sup>th</sup> language UI data version in HDD.  
929: 6<sup>th</sup> language UI data version in HDD.  
930: UI data version displayed at turn on.  
931: UI data language 7 in HDD.

933: Web data whole version.  
934-939: Web UI data; language 1-6.  
944: Hard drive version.  
945: Raw port 9100 two way setting.  
947: Initialization after software upgrade.  
948: Mode setting (press energy saver).  
949: Automatic interrupt during black printing.  
953: Access code entry for electronic file printing.  
954: Clearing timing for files and electronic filing agent.  
969: Error sound.  
970: Sound when switching to energy saver.  
973: PCL line feed code setting.  
975: Job handling re coin controller.  
976: Equipment setting to a folder when saving files.  
977 to 1124 are all network related and will not be covered here.  
1130: Job build function.  
1131: Number of job builds.  
1132: User default screen.  
1135: Drawer default.  
1136: Lines connectable with SMB.  
1139: LDAP authentication.  
1140: Restrict template to admin.  
1150-0 through 1332-8 is a long list of items such as PFP rollers, RADF separator roller, etc. You can enter and/or read pages run on each, when they should be replace, how many pages since replacement, drive counts, number of times replaced and some other items of even less importance. I believe you would spend more time trying to figure out and read these counters than you would doing the work.  
1372: Heater times.  
1376: Toner cartridge drive count.  
1385-1388: Output pages for various media.  
1390-1401: Paper feed retry counters.  
1410: Toner cartridge rotation counter.  
1412: Tab paper counter.  
1500: Paper pixel counter.  
1501: Clear pixel counter.  
1502: Technician counter clear.  
1503: Toner cartridge counter clear.  
1504: Pixel counter display.  
1505: Display reference of pixel counter.  
1506: Toner empty determination by pixel count if 1 or output if 0.  
1507: Threshold setting for toner empty by output pages.  
1508: Threshold setting for toner empty by pixel count.  
1509: Pixel count clear; service tech reference.  
1510: Service technician reference clear data.  
1514: Toner cartridge reference cleared data.  
1518: Toner cartridge reference count start date.  
1548: Copy pages; service tech.  
1550: Print pages; service tech.  
1551: Fax pages; service tech.  
1553, 1555, 1556: copy, print, fax toner cartridge reference.  
1566: Toner cartridge replacement counter.  
1592: Average pixel count; copy.

1593: Average pixel count; print.

1594: Average pixel count; fax.

1606, 1607, 1608: Latest pixel count; copy, print, fax.

1613-1625: Average pixel count in various modes for toner reference.

1634-1640: Latest pixel count for fax, print, copy.

1649-0 through 1651-9: Completely inexplicable.