



TECHNICAL SERVICE BULLETIN
SECTION: HardWare Technical

NUMBER: HWT 6216 REPLACES: _____ DATE: 09/16/86 PAGE 1 OF 1
MATRIX ID. 1200 PRODUCT/RELEASE# ALL
TITLE: FCO HISTORY LABEL

PURPOSE:

To announce availability of FCO History Label.

EXPLANATION:

In order to assist customer engineers in tracking the installations of Field Change Orders (FCO) in Wang equipment, an FCO History Label has been developed. The part number for the label is 615-3299 and will consist of one 8 1/2" x 11" sheet with 10 labels per sheet. Labels can be ordered through normal logistics procedures and will be available during early September.

!!	(W A N G)						!!
!!	FIELD CHANGE HISTORY						!!
!!	MODEL		!!	S/N		!!	
!!	FCO#	DATE	C.E.	!!	FCO#	DATE	C.E.
!!	!	!	!	!!	!	!	!
!!	!	!	!	!!	!	!	!
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As you can see from the example provided, the label will provide space in which to document 1) that an FCO was installed, 2) who installed it, and 3) when it was installed. When used with the index on page 1 of the FCO Fiche Package, it will provide an easy way of determining system level status without disassembling the equipment.

Additional information regarding recommended label placement for individual systems is being developed and will be made available when completed.

GROUP: ECO Support Group

MAIL STOP: 0139

COMPANY CONFIDENTIAL

WANG Laboratories, Inc.

M-E-M-O-R-A-N-D-U-M

TO: Distribution
 FROM: John Proulx
 DATE: May 12, 1989
 SUBJECT: Field Change Order Index

 Attached is the latest distribution of FCO Index information via OFFICE. As you can see from the table below, new FCO releases since the last distribution are highlighted on the cover memo to ensure immediate visibility to the user. Based upon a recent user request, the FCO Class has also been added to highlight the FCO installation urgency. Distribution is scheduled to continue on a monthly basis.

<u>New FCO</u>	<u>FCO Class</u>	<u>Product(s) Affected</u>
FCO 1309	All Units/Next Call	22/55/6581WC, 5541WC
FCO 1313	Prob. Only/Next Call	VS-75E
FCO 1315	Prob. Only/Next Call	5575 BP Printer
FCO 1316	All Units/Next Call	2278V-J2
FCO 1319	All Units/Next Call	2278V-J2
FCO 1320	All Units/Next Call	2278V-J2
FCO 1321	Prob. Only/Next Call	PC 280
FCO 1322	Prob. Only/Next Call	PC 380
FCO 1323	Prob. Only/Next Call	PC 381
FCO 1324	Prob. Only/Next Call	PC 382
FCO 1325	Prob. Only/Next Call	LCS-15
FCO 1326	Prob. Only/Next Call	PC 280/380
FCO 1327	All Units/Next Call	7581WC/T
FCO 1328	Prob. Only/Next Call	4230A
FCO 1329	Prob. Only/Next Call	PC 240

Please evaluate this distribution considering your respective needs and provide me with names of any individuals that you feel could benefit by receiving this information directly.

If you have any comments/recommendations regarding these lists or their distribution, please feel free to contact me via OFFICE or by telephone at (508)967-1938.

JP:
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FCO INDEX IN FCO ORDER

<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1001	Immediate	2201	TB 216 (FTU)	Add features; change EPROMs to ROMs. JGX (CDC).
1002A	N/A	7303	22V26 (VS 100)	Voids 1002; replaced by 1094A.
1003A	N/A	7303	22V06 (VS 60/80)	Voids 1003; replaced by 1091.
1004A	Next Call	3105	2280,6580	Provides protection to heads & media by adding pressure sensor device. 726-6847 (CDC) filter added.
1005A	Next Call	4103	2200 SVP/LVP	I93 error "SEEK COMPLETE" would occur on Winchester Disk. DPU would not pass power-up diagnostics when switches were set to floppy only. Floppy door will unlock after 5 seconds of non-use. Format error found within alternate sector during FORMAT DISK operation is now recovered by software. 210-8696-A/-B, R9 EPROMs installed.
1006	Next Call	4103	2200 SVP-A/X	Corrects record handling capabilities, I94 or I98 errors, & improperly reported format errors that may occur on 26th sector. Improves verify speed & speeds sequential read write. 210-7890-A, R2 EPROMs installed.
1007	Next Call	3101	2200 SVP/LVP	Provides valid "SEEK COMPLETE" signal to controller. Shugart PCB #26073-5.
1008	Next Call	5105	OIS 105,115	Reduces band width of PLL filter, minimizing disk retry errors. 210-7653 to E-Rev 9.
1009	ASAP	3404	ERGO II	New control codes allow easier aligning of characters in proportional spacing. Length of cursor will be proportional to that of character. 210-7671 to E-Rev 5.
1010A	Next Call	5104	5504	Corrects VCO circuit which locks onto harmonic frequency disabling read operation. 210-7977 to E-Rev 5.
1011	Prob Only	5105	EM-OIS	Prevents occurrence of non-maskable interrupt during reset cycle. 210-7685 to E-Rev 4.

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1012	Prob Only	5105	OIS 105,115	Eliminates indeterminate logic state that sometimes occurs after seek, resulting in retry. 210-7653 to E-Rev 10.
1013	Next Call	3302	5577	Provides software with control line to disable all stepping motors when printer is idle. 210-7677 to E-Rev 2.
1014	Prob Only	3305	2281W/5541W&WC/6581W	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-7360 to E-Rev 14, 210-7361 to E-Rev 9, 210-7364 to E-Rev 11.
1015	Next Call	3704	7536T	CRT screen tends to flicker if space bar is depressed due to horizontal phase shift problem. 210-8067 to E-Rev 1.
1016	ASAP	6104	VS-25/45	System exhibits "Fatal Task Error" prompt & CRC failure due to faulty ECC Circuitry. 210-8325-A to E-Rev 2.
1017B	Prob Only	3404	ERGO III	Prevents ERGO III W/S from hanging, provides interface to parallel & serial K/Bs, prevents possible hardware damage & "Cancel" & "Execute" keys from repeating. 210-7916-B through 210-7916-AR, 210-7970-A, 210-8470-A, R4 EPROM.
1018	Prob Only	5105	105/115/125A/130A-F	High transistor gain causes premature failure of Regulator PCB. 210-7887, resistor added.
1019A	Prob Only	6101	VS-60/80	Additional resistance attributed to excessive lead length of current sense resistors on 7210 PCB will cause premature power supply foldback in certain VS-80 systems. 210-7210, resistor leads shortened.
1020A	Next Call	6104	VS-25/45	VS 25/45 Systems are being upgraded to 512K memory for better performance. 210-7900-3A added.

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1021	ASAP	3318	LPS-12	New photoreceptor added to LPS-12 units will produce copies with excessive gray background unless high voltage power supply is modified. HVPS modified.
1022	Prob Only	3703	7581 WT/WCT	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-8070 to E-Rev 2, 210-8071-A to E-Rev 2, 210-8072-A to E-Rev 1.
1023	Prob Only	3305	DW/22-20	Corrects erratic line feed problems, special character attribute problems (i.e., bold print, auto slashing, superscript & subscript) & erratic twin sheet feeder problems. 210-7886-1A, R2 EPROMs installed.
1024A	Prob Only	3105	2280,2280V,6580	Assures compatibility of CDC Phoenix 9448 CMD with A-Cable Terminator. Corrects intermittent device selection errors. 210-80i7 added.
1025	Prob Only	3305	2281,81P,81W,81WC	Assures ground between printer & 2200. 510-5223-C, finger board added.
1026	Prob Only	5105	OIS 105,115	Increases heat dissipation of heat sink & redirects air flow for better cooling of transistors. Fan, Heatsink modified.
1027	Next Call	7302	DVX/Alliance	Interior surface on some rear panel covers used in OIS 140 cabinet were improperly painted. Improper grounding of electrical noise could result. Symptoms will be intermittent system failure that cannot be directly related to either CPU or attached peripherals. Toothed lock washers added.
1028	Next Call	5105	OIS 105,115	Corrects potential problem of power supply connectors melting under high current conditions. P.S. Connectors modified.

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29	Prob Only	6101	VS-60/80	Prevents main memory parity errors by eliminating noise on bus, starting main memory read cycle at T10 & increasing margin of address set-up time in memory. 210-7300 to E-Rev 1, 210-7413 to E-Rev 1.
1030	Next Call	3314	5548Z	Prevents Photo Typesetter hang-ups by improving performance of turret solenoid through reduction of current demand on 725-0079 power supply. 210-7548, diode removed.
1031A	Next Call	8101	PC	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
1032	Next Call	6104	VS-25/45	Corrects failure on DMA Test VS25 DRAM/MM DMA. Facilitates testing of 'Write 8' low-command of main memory controller for future device adapters. 210-8304-A to E-Rev 6.
1033A	Next Call	3404	ERGO III	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
1034	Next Call	5106	7505T,15T,35T,40T,50T	Increases current limiting of +12V power supply during power up to prevent premature current foldback with fully loaded master. Increases current capacity of +12V power supply to 5 amps, preventing simultaneous highs on system front panel LEDs. 210-8100 to E-Rev 1.
1035	Prob Only	4201	2236MXD	Prevents intermittent system hangs. 210-7591 to E-Rev 1.
1036B	Prob Only,NC	6102	22V15-2 (VS 90/100)	voids 1036A; Refer to FCO 1224.
1037	Prob Only	6104	VS-25/45	Prevents LED display of intermittent '00E9' error or program exception on invalid memory address. Reduces unrequired customer calls. 210-7900-3/-4/-5 to E-Rev 2.
1038A	N/A	6201	22V48 (VS 90/100)	voids 1038; replaced by FCO 1099.

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1039	Prob Only	8101	PC	Prevents system hangs when using certain CP/M application software. 210-8221 to E-Rev 6.
1040	All Units	3404	5530/5540, ERGO III	Complies with FCC RFI regulations. Ground lug added.
1041	Prob Only	6101	VS-60/80	Increases running efficiency by providing improved cooling of PCBs. 279-0484, fan mounting bracket added. 220-1176, AC interconnect cable added.
1042	Prob Only	6102	VS-90/100	Supports "TRAP 1" hardware initialize by reducing noise in clock signals. 210-7608 to E-Rev 2.
1043A	Next Call	3106	2265V-2	Increases amp rating of CB10 & CB11 circuit breakers to prevent nuisance tripping. Assures proper operation of drive motor brake & prevents unimpeded pack rotation when either circuit breaker is open. 12 amp circuit breakers added.
1044	Next Call	3106	2265V-3	Three ganged circuit breakers (CB2, CB3, & CB4) on AC power supply may physically appear activated while electrically any one of them may have tripped to deactivated state. Gang pin removed.
1045	Prob Only	4103	2200 VP/MVPA/MVPC/LVP	Thin fan is required in I/O section of chassis to accommodate increased length of MXE PCB. 400-1029 fan installed.
1046	Prob Only	3404	ERGO II, TC-800&-5900	Ensures reliable TC connection & prevents transmission errors due to fluctuating ground signals. 210-8181 to E-Rev 2, 210-7681 to E-Rev 4, 210-7681-1 to E-Rev 3, 210-7681-2 to E-Rev 2.
1047	Prob Only	3404	ERGO III, TC-300	Provides logic ground to TC modem. Prevents TC transmission errors. 210-7917 to E-Rev 3.
1048	All Units	7302	OIS 140, 145	Reduces noise on "RFOR" signal which results in erratic CRC accumulation. Prevents serial device hang-ups. 210-8349 to E-Rev 4.

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49	Prob Only	3106	2265V-1	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOPs. 210-7477 to E-Rev 1.
1050A	N/A	3302	5577	Voids 1050; replaced by FCO 1116.
1051C	Prob Only,NC	5105	All OIS 105-130E	Prevents Winchester drive heads from banging against stops at power up & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 & R5 EPROMs. 210-7684-A, R5 & R8 EPROMs installed. Adds 344 Meg drives to OIS line.
1052A	Prob Only	5105	OIS 105,115,130-B/C	Prevents Winchester drive heads from banging against stops at power-up, & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 EPROMs. 210-7501-D, R8 EPROMs installed.
1053	Prob Only	3106	2265V-2	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.
1054	Prob Only	3106	2265V-3	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.
1055	Prob Only	5104	5504,5524 With TC	Corrects timing problems & enables proper execution of system software. 210-7975 to E-Rev 7.
1056	Prob Only	4103	SVP	Reduces audible noise level of unit & increases cooling of diskette drive. Fan & fan guard replaced, heatsink modified.
1057A	N/A	3305	DW/OS-20,PC-PM011	Voids 1057; replaced by FCO 1115.
1058	Prob Only	7202	CIU-A,-B	Prevents intermittent system hangs by insuring D-Space memory performs 8-bit transfer. 210-7882 to E-Rev 3.

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1059A	Prob Only	8101	PC	Obsoletes all previous revisions of PC firmware. Corrects time out problem in power-up diagnostic code when using IMI Winchester disk drive. Adds capacity to use both 10 & 30 megabyte drives without future firmware change. Ensures Winchester disk drive will function properly when 256K expanded memory PCB is installed. 210-8225-A, R3 EPROM installed.
1060B	Prob Only	3305	DW/22-20	Corrects light print & increases ribbon motor pulse. 210-7886-1A, R3 & R4 EPROMs installed.
1061	Prob Only	7202	CIU	Compensates for modem carrier levels ignored by BCC receiver as result of maladjustments. 210-7881 to E-Rev 6.
1062	Prob Only	3318	LPS-12	Provides contact on ends of rolls for effective snuffing of burning paper on printers without tag 49. Snuffer Roll modified.
1063	Prob Only	8101	PC	Eliminates noise on "DACK" lines which can cause data transfer errors between 8221-R3 Artwork PCB & 210-8225 PCB. 210-8237 to E-Rev 1.
1064A	Prob Only	3105	2280,2280V,6580	Enables use of low air option, increases shroud pressure, & increases device cooling. H.V. Blower replaced.
1065	Prob Only	3106	2265V-1,6565,7565T	Safety problems for customer engineers working inside unit. AC voltage remains active in unit with CBI in OFF position. (No safety problem for customers.) Circuit breakers wire removed.
1066	Prob Only	3703	7581W-T/WC-T,7582T	Corrects misprints. 210-8070 R0 artwork correction.
1067	All Units	5103	OIS 40/40B/50	Systems with internal printer controller option require change to correct print failure problems. 210-8280 to E-Rev 4.

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68	Prob Only	6104	VS-25/45	Z7, current limiting choke, is removed from SPS 450E enabling use with NEC 76 Meg Winchester Drive. 210-8011 to E-Rev 1.
1069	Prob Only	3202	2229,2529V,6529	Upgrades unit to work with 6.11 Operating System. 726-6202 Formatter PCB, 726-6338 EPROM added.
1070	Prob Only	3318	LPS-12	Blocks satellite laser beam near shutter. Gasket modified.
1071	Prob Only	3318	LPS-12	Reduces drum crystallization by cooling printer cavity. 726-7014, control PWB EPROM replaced, harness rewired.
1072	Prob Only	3106	2265V-2,6565	Reduces static problems in unit by properly grounding I/O cables at base of CDC Cabinet & complies with FCC regulations. 452-2779 cable clamp added.
1073	Prob Only	3302	2233/2235,5533/5535	Shortens bleed off time & prevents PCB failures during trouble shooting at customer sites, & ensures compliance with UL. 210-7595 to E-Rev 1.
1074	Prob Only	3301	2263,2263V,5570,5571	Fixes paper-out switch problem which results in intermittent 'paper-out' indication & printer printing over previous text when re-selected. 210-7386 to E-Rev 2.
1075	Prob Only	3302	SPS 613	Ensures power up signal reliability. 210-8006 to E-Rev 7, 210-8206 to E-Rev 1.
1076	Prob Only	5106	7540T,7550T	Ensures disk pack interchangeability. Ensures drive reads disk. 210-8098 E-Rev 1 board installed.
1077	All Units	5103	OIS 40/40B/50	Ensures compatibility & reliability when internal printer controller option is used with 25 & 50 foot cables. 210-8280 to E-Rev 5.

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1078	Prob Only	3708	7582T TSF (Ziyad)	Ensures proper side-to-side tray registration. 726-2782 springs replaced.
1079	Prob Only	3308	5575	Evens out printing on ribbon, ensures proper detection of ribbon, & eliminates printing without ribbon covering either edge of form. Sensors will detect ribbon fold at end of ribbon life. Ribbon Mask replaced.
1080B	Prob Only	6101	VS-60/80	Prevents main memory parity errors by reducing noise on bus. Allows flexibility in use of different vendor ICs. Differentiates between 7401 & 7104 memory PCBs through use of 3-pin header. 210-7413 to E-Rev 2.
1081	All Units	3404	4205/4230	Achieves compatibility with previous underline attribute code. Corrects missing cursor problem in applications such as List Processing, Advanced Functions, or CP/M. 210-8287 to E-Rev 5, 210-8287-1 to E-Rev 2, 210-8287-2 to E-Rev 1.
1082	Prob Only	3302	5577	Reduces static susceptibility. Ribbon Motor Assembly modified.
1083	Prob Only	6102	VS-100, Filter Box	Supplies clearance between J.M.K. Inc., AC filter terminal & metal chassis which prevents potentially dangerous electrical condition from occurring. Filter Box Chassis, "U" channel added.
1084	All Units	3106	2265V-3	Allows better recovery from low voltage transient. Improves daisy chaining power-up compatibility with storage module drive. Allows system to clear voltage fault over I/O. 726-6830-1 QKTX logic PCB added.
1085B	All Units	7303	928W Master	Voids 1085A; discontinues FCO kit.
1086A	N/A	3107	2280 DPU	Voids 1086; replaced by FCO 1114.

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87	Prob Only	3404	ERGO II,TC-900	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7681 to E-Rev 5, 210-7681-1 to E-Rev 4, 210-8181 to E-Rev 3.
1088	Prob Only	3404	ERGO III,TC-310,30,40	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7917 to E-Rev 4.
1089	Prob Only	3402	5536-3/-4	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7542-2 to E-Rev 3.
1090	All Units	3106	2265V-3	Prevents pin solder failure on edge connector of drive motor & motor control PCB. AC Power Supply wires modified.
1091	All Units	7303	22V06 (VS 60/80)	Supersedes 1003. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1B & 210-7826-B to E-Rev 1 & R1 EPROMs installed.
1092A	All Units	3703	7582T,7582T-WPS	Provides ability to print on all but last line of paper, eliminates removal of forms tractor to change ribbon, enables shifting between forms tractor & sheet feeder without C.E. assistance, corrects design problems, adds internal lighting. Printer parts added.
1093A	N/A	8101	PC	voids 1093; replaced by FCO 1122.
1094A	All Units	7303	22V26 (VS 100)	Replaces FCO 1002. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1A & 210-7826-A to E-Rev 1 & R5 EPROM installed.
1095A	Prob Only	6104	VS-25/45	Replaces FCO 1095. Avoids intermittent problem on some PCBs which results in system hangs. 210-8304-1 to E-Rev 7.

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1096	All Units	3302	5577	Provides better grounding between top cover & lower cover. Improves grounding by using conductive material. 478-1226, metal pin clips added.
1097A	All Units	3404	2246R	Supersedes 1097. Releases Remote Data Link Processor PROM microcode version 4.01.00. Improves error recovery & retry processing. 210-7478-A, R1 EPROMs installed.
1098	All Units	3310	PIC PM04	Corrects timing problem causing bad print quality. 210-8774 to E-Rev 2.
1099	All Units	6201	22V48 (VS 90/100)	Supersedes 1038. Adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. 210-7110-AK, R2 EPROMs installed.
1100A	N/A	3110	2275-10,20,30	Voids 1100; replaced by FCO 1111.
1101	Prob Only	3302	5577	Prevents printer hangs resulting from electrostatic discharge. Shielded cables installed.
1102	All Units	7202	WANGNET	Eliminates electrical interference problem. 210-8282 to E-Rev 1.
1103	Prob Only	6104	VS-25/45	Deletes Test 68 which checked that LS191 counter did not count when disabled. This is unsupported condition & results in some vendors' ICs failing test. 210-8616-A, R2 EPROMs installed.
1104	All Units	3310	PIC	Improves timing margin on Video Data with respect to Clock. Puts correct firmware into all cameras built to date. Corrects "Photo" (Dither) Image. 210-8454 to E-Rev 2 & R3 PROMs installed.
1105	Prob Only	3318	LPS-12	Prevents potential shock hazard by installing fuse shield which was omitted in some 50 Hz units. Fuse shield added.

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06	Prob Only	8101	PC	Adds support for diagnosis of Wang PIC Image Monitor, Local Communications Option, Local Interconnect Option, Remote TC, & Multi-port PCBs. Provides initial support for Remote Bootstrap from attached Wang OIS system via LCO PCB. Corrects 'Hi Res' monitor sync problem. Corrects power-up test of 928 PCB without Z80. Adds more floppy disk alignment capability, i.e., ability to view output of both upper & lower heads. 210-8221-A, 210-9221-A, R2 EPROMs installed.
1107	All Units	6201	22V38	Releases Microcode version 5.2.1 which adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. Ensures data base integrity. 210-7110-AJ, R1 EPROMs installed.
1108	Prob Only	3308	2273-1,5573	Possibility exists that terminals on CRT Breaker Surge Resistor may become loose because of improper crimping. Surge resistor changed.
1109	Prob Only	8101	PC (TC)	Prevents RS232 CTS signal from disabling transmitter. 210-8251 to E-Rev 3, 210-9251 to E-Rev 2.
1110	All Units	3311	IP4ID	Prevents burned out video PCBs resulting from failure of regulator to supply +22 volts. 210-7764 to E-Rev 3.
1111A	All Units,NC	3110	2275-10,20,30	Voids 1111; replaced by FCO 1202.
1112A	Prob Only	6104	VS-25/45	Supercedes 1112. Corrects parity error on Power Up Diagnostics & removes 'OOFB' error code on front panel. 210-8616 to E-Rev 5.
1113	All Units	3106	2265V-2,6565-2	Alters air flow in shroud area reducing possibility of contamination entering pack/head area. Gasket/Baffle added.
1114A	All Units	3107	2280 DPU/MUX	Voids 1114; refer to FCO 1168.

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1115	Prob Only	3305	DW/OS-20,PC-PM011	Supersedes 1057. Corrects light print, increases ribbon motor pulse, & prevents ribbon motor failures. 210-7886-A, 210-7886-1B, R5 & R8 EPROMs installed.
1116	All Units	3302	5577	Supersedes 1050. Prevents cross talk in L13 which causes printer to hang when selecting & deselecting. 210-8174 to E-Rev 5.
1117A	Prob Only	7501	IOMP/DVX	Supersedes 1117. Prevents DVX systems from becoming insensitive to various 'hand held' Dual Tone Multi-frequency (DTMF) generators. 210-7835, 210-8144 (212-3063) trunk board added.
1118	All Units	7201	9.6 FAM	Prevents possibility of overheated transformer. Fan, 9.6 FAM fuse changed to 1/2 amp.
1119	Prob Only	3204	2219V	Reduces possibility of tape slippage by raising capstan vacuum. Capstan holes covered.
1120	Prob Only	8201	75PC-T	Prevents PCB from sticking to copper-sprayed bottom cover, fish paper is added to K/B base. PC K/B.
1121	Prob Only	8101	PC	Improves compatibility between floppy drives. 210-8221 to E-Rev 12, 210-9221 to E-Rev 4.
1122A	N/A	8101	PC	Voids 1122; replaced by FCO 1151.
1123	Prob Only	8201	75PC-T	Improves compatibility between floppy drives. 210-8644 to E-Rev 3.
1124B	Prob Only,NC	6102	VS-85/90/100	Voids 1124A; adds support for new disk devices (344MB CDC/FSD drives). Also adds IDENTIFY IOP command. 210-7110-AL, R3 EPROMs installed.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
25	All Units	8201	75PC-T	Provides greater tolerance for variations in performance of hardware used in interface between CPU & floppy drives. Connectors changed.
1126	Prob Only	3308	2273-1,-2,5573,5574	Band cover interlock switch may fail to function due to contact contamination. May result in band motion while band cover is open. Band Cover Interlock Switch changed.
1127	Prob Only	3302	5577	Enables printer to recover from paper jam which displaces head so it interrupts either margin sector causing printer to hang. 210-8174-A, R4 EPROM installed.
1128	Prob Only	6102	VS-85/90/100	Improves accuracy of Time of Day clock. New crystal oscillator makes Time of Day clock accurate to 10 seconds/day. 210-7602 to E-Rev 2.
1129A	All Units	3404	4205A (Middle East)	Supersedes 1129. Enhanced software eliminates need for special version PCB allowing use of standard (-1) PCB in Middle East W/S. 210-8287-3/-3A created.
1130	Prob Only	7202	928W Net Mux	Minimize failures resulting from unterminated serial cables. Releases new version of Net Mux Built in Test that supports global modems. 210-8350-A, R3 EPROM installed.
1131	Prob Only	3107	2280 DPU/MUX	Standoffs are changed to improve connection between cable ground shield & controller. Corrects static problem & improves grounding. 210-7717, standoffs changed.
1132	Prob Only	3106	2265V-1	Provides FCC-approved top inner weldment cover which will accommodate variations of position in 80 Meg Drive relative to chassis assembly & prevents "A" & "B" cables from fraying & slicing. 458-3276 weldment cover replaced.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1133A	All Units	3701	7565-1T	Supercedes 1133. Complies with 7500T standard. 654-1369 finger stock added.
1134	All Units	7201	WANGNET FASTLAN	Components are failing because they do not operate within specified voltage ratings. 210-8432 to E-Rev 1.
1135	Prob Only	8301	WOA 20/40	Prevents failures resulting from loose ground strap on inside of base unit cover. 279-0599/0600, 279-0648 ground strap changed.
1136	Prob Only	3106	2265V-2	Plastic plunger on pack access cover switch may break. Could cause spindle to continue to spin when pack access cover is open. Switch Assembly changed.
1137A	N/A	8201	75PC-T	Voids 1137; replaced by FCO 1157B.
1138	Prob Only	8201	7502-T	Corrects intermittent problems & hang-ups with various combinations of Winchester Controller, Graphic, Ext. Memory & CPU PCBs. 210-8641 E-Rev 1 board installed.
1139B	All Units	7303	22V67 (VS 90/100)	Supercedes 1139A. Creates 5 MHz Z80 Bus Processor version for 22V67 & speeds transfer time between VS & IOP, allowing peripheral band to perform almost as fast as base band version. To release R1 EPROMs 210-7826-1A EPROMs, R1, RAMs, Z80 installed.
1140	Prob Only	5103	OIS 40/50/60	Provides correct reset pulse width to 8031 chip. Hangs when shift/cancel keys are struck during IPL. 210-8274-A to E-Rev 8.
1141	Prob Only,NC	6104	25V76-2 (VS 15-65)	Corrects incompatibility & communication errors that may occur when used with some modems. 210-8637 to E-Rev 6.

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42	Prob Only	8101	PC	Allows co-processor (8087) to operate with 9521 PCB. Allows PC diagnostic system to display list of options for various diagnostics & software. 210-92517-17-27-3 to E-Rev 4.
1143	Prob Only	3308	DW/OS-55/PM014	Corrects ribbon advance problem which resulted in poor print quality when using metal print wheels. 725-1510, Logic PCB EPROM (726-1543-1) installed.
1144	All Units	3308	PM014	Corrects firmware problem which causes loss of left margin during Ziyad sheet feeder use. Changes character set of printer to comply with ASCII. Allows support of IBM PC emulation on Wang PC. 725-1557, Interface PCB EPROMs installed.
1145	Prob Only	6101	22V78 (VS 80)	Adds support for NEC 80 MB fixed disk (2268V-1) & NEC 160 MB (2268V-2). 210-7110-AM, RI EPROMs installed.
1146	Prob Only	8101	PC	Allows IBM monochrome emulator & IBM color PCB to operate in system simultaneously. 210-9443 to E-Rev 5.
1147	All Units	3705	7561T WISE	Polarities of C65 on 210-8127 PCB are reversed. Deterioration of cap could result in WISE unit failures. 210-8127 cap polarity corrected.
48	All Units	8301	WOA 20/40	Reduces radio emissions & ensures all units meet FCC Class "B" requirements. Keeps 80186 microprocessor (L114) running below 55 degrees C. 210-8556 (279-0648/0600) to E-Rev 4.
1149	All Units,NC	8301	WOA 20 with 279-0599	Installs heatsink which keeps 80186 microprocessor running below 55 degrees C. Provides insulation between daughter board of CPU assembly & switching power supply. 210-8356 & 210-8856 PCBs of 279-0599 CPU.

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1150	Prob Only	3403	4200	Eliminates potential shock hazard when used at 220 volts. 725-2749/-10, Harris SPS 80, bleeder resistor added.
1151C	Prob Only,NC	8101	PC	Supersedes 1151B. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Adds support for Micropolis 30 & 40 Meg drives. Provides improved margin testing & error recovery. 210-8225-A, 210-9025-A, or 210-9225-A, PCB R12 EPROM installed.
1152B	Prob Only,NC	5103	OIS 140,145	Supersedes 1152A. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7684-A, R5 & R8 EPROMs installed.
1153	Prob Only,NC	MANY	Monitors	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 clip added.
1154A	Prob Only,NC	5103	OIS 140,145	Supersedes 1154. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7501-A, R6 & R8 EPROMs installed.
1155	Prob Only,NC	3605	55/77DSF (Ziyad)	Replaces solid gear which causes paper to feed only partially into paper path. Sensor is activated too soon, resulting in 'Change Paper' error. Lost motion gear installed.
1156	Prob Only,NC	3302	2233/2235	Renders signal "FAULT" inactive. Remote parallel printers used with PC/2200 emulation do not print because of erroneous fault signal. 210-7593 to E-Rev 9, 210-8393 to E-Rev 2.
1157B	All units	8201	75PC-T	Supersedes 1157A. Conforms to 7500T standards. Monitor modified, ground clip added, 210-8645 to E-Rev 4.

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58	Prob Only,NC	3108	Quantum	Dirty sensors can cause read/write errors with 30 Meg disk & customers might lose data. Disk Drive PCB isolator gasket added.
1159	Prob Only,NC	8201	75PC-T (Monitors)	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 cable clip added.
1160	Prob Only,NC	8301	WOA 20/40	Improves timing window for floppy phase lock loop. Change makes it easier to use varied quality diskettes. 210-8356 to E-Rev 7, 210-8556 to E-Rev 5.
1161A	All Units,NC	3107	2280	Supersedes 1161; eliminates noise on 'READY' line. Corrects intermittent hangs & incorrect drive selection. Install with FCO 1168. 210-7422 to E-Rev 5.
1162	Prob Only,NC	8301	WOA 20/40	Small number of WOAs were shipped with marginal 7201 NEC communications controller chips which could cause transmission & receive errors (no WSN). Change NEC chip if present. 210-8356, 210-8556 NEC chip changed.
1163A	Prob Only,NC	3302	XX33/XX35	Supersedes 1163. Some Mallory capacitors have experienced leakage after one year of operation causing damage to motherboard. Change if present. 210-7595, 210-7595-1, Mallory caps changed.
1164	Prob Only,NC	3703	7582T	Printer fails to IPL when connected to bipolar fiber optic connector box (FO-MC-1T). 210-8073 to E-Rev 4.
1165	Prob Only,NC	6104	25V76-2 (VS 15-65)	Eliminates two-port TC IOP from causing MRI at power-up resulting in "4E10" error. 210-8637 to E-Rev 5.
1166	All Units,NC	3318	LIS 12/24	Corrects unreadable characters. 210-8382 to E-Rev 4.

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1167B	Prob Only,NC	8201	75PC-T	Supersedes 1167A. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Provides improved margin testing & error recovery. 210-8655-A & 210-8855-A, R12 EPROM installed.
1168	All Units,IM	3107	2280 DPU/MUX	Supersedes 1114. Corrects errors occurring on multi-sector-write operation, I91 errors, & DPU hang-up. Install with FCO 1161. 210-7423-A, R10 EPROMs installed.
1169	Prob Only,NC	3308	DW/OS-55	Static build-up can cause printer to lose track of encoder position which could cause garbled print. ESD shield added to printwheel motor assembly.
1170	Prob Only,NC	3318	LPS/LIS-12	Reduces fuser contamination caused by paper jams. Reduces affects of AC noise transients. 726-7014, Control PCB, 8L EPROM installed.
1171	Prob Only,NC	6107	VS-65	Allows use of port "0" for external drives, rather than internal only. 210-8465-A, R1 EPROMs installed.
1172	Prob Only,NC	3605	PM012/PTR-20	Eliminates line crowding which occurs approx. 3" from top of page. Cradle deflector added.
1173	Prob Only,NC	3106	2265V-3	Adds ground strap to correct for possible wiring error. Ground strap.
1174	All Units,NC	3202	2229/6529	Prevents glitches that can cause phantom errors. Wire & lug ass'y added.
1175B	N/A	3110	2275-10,20,30	FCO is voided.
1176	Prob Only,NC	6105	VS-300	Prevents potential problem when using Floating Point option. 210-8832 to E-Rev 4.
1177B	All Units,NC	3318	LPS8	voids 1177A; replaced by FCO 1237.

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78	All Units,NC	3318	LPS8	To meet FCC requirements. Allows printer to work on VS with 22V17 or 22V27 IOPs. 210-8901 to E-Rev 5.
1179	Prob Only,NC	3305	PM015 (Juki)	Corrects printing of question marks (?) on power-up. Prints bidirectionally on WOA. Operates on WOA printer sharing device. 726-7733, EPROMs installed.
1180	All Units,NC	8201	75PC-T	Improves shielding. CRT Socket modified, Monitor ground cable changed.
1181	Prob Only,NC	3308	DW/OS-55	Corrects chronic baseline deviations & character crowding problems. Printer mechanism reworked.
1182	Prob Only,NC	8101	PC	Corrects "System Parity" & "I/O Parity" errors that occur on power-up in heavily loaded 8-slot PCs. 210-9521 to E-Rev 5.
1183	Prob Only,NC	3609	PIC-PM03	Improves scanner's sensitivity to color (improves ability to read red, green, & blue). PIC Scanner modified.
1184B	Prob Only,NC	3404	PM-004L	Supersedes 1184A. Reduces screen brightness problems caused by direct or reflected light passing through slide actuator. Label is replaced/added.
185	Prob Only,NC	3703	75 LIS-12T	Corrects inefficient grounding. 210-8680, ground lug & cap added.
1186	Prob Only,NC	6105	VS-300	Eliminates confusion regarding "I/O" slot numbering & "SBI" slot numbering. Correct slot address is needed to IPL. Card designator label changed.
1187	All Units,NC	3703	75 LIS-12T	To conform to 7500T standards. 210-8682 to E-Rev 2.
1188A	Prob Only,NC	3308	DW/OS-55	voids 1188; replaced by FCO 1181.

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1189	Prob Only,NC	6105	VS-300	Improves reliability of real time clock. This FCO should be done in conjunction with installation of SCU software above 1.02.00. This FCO <u>MUST</u> be done when 1.03.XX SCU software rev is installed. 210-8710 to E-Rev 1.
1190	All Units,NC	6105	VS-300	A "UNIT SELECT TAP" generated from disk IOC may deselect drive causing drive's READY status to appear 'Not Ready' or to oscillate. 210-8785 to E-Rev 4.
1191	Prob Only,NC	6105	VS-300	Second DC PDU is added to accommodate high power consumption of some APA configurations. 279-0673 PDU added.
1192	Prob Only,NC	3318	LPS8	Corrects vertical line slant skewing problem. Paper feeds in at angle causing uneven print. Spacer added.
1193	All Units,NC	8201	75PC-T	Incorporates power-up diagnostics support of LCO, RTC, & MCC options. 210-8644-A, R2 EPROMs.
1194	Prob Only,NC	8201	75PC-T	Prevents RS232 CTS signal from disabling transmitter. (Characters in print file are dropped.) 210-8653 to E-Rev 2.
1195	Prob Only,NC	3404	PM-004L	Poor contact on yoke connector electrical connection may cause vertical jitter or jumping screen problem. Yoke cable changed to 220-2492.
1196	All Units,NC	3703	75 LIS-12T	Provides good ground isolation. 220-2478, cable adapter assembly added.
1197	All Units,NC	3113	2295V-CX	Allows easier access to disk drives. Metal front panels changed to snap-on panels.
1198	All Units,NC	6104	VS-15/25/45/65	Corrects DEAD MAN TIMER to allow TTY & WSN to work. 210-9337 to E-Rev 4.

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99	Prob Only,NC	3404	PM-004L	Units may display brightness fluctuations when monitor is moved. PCB support bracket is added.
1200	Prob Only,NC	6104	VS-15/25/45/65	Fails to load remote workstation code. Corrects R1 & R2 artwork. 210-8637, Artwork correction.
1201A	All Units,NC	6105	VS-150/300 SMD Disk	Supercedes 1201. Corrects following problems: A. To correct IPL problems from 314 Meg. drive. B. To support future enhancements. 210-8785A/C, R2 EPROMs.
1202	Prob Only,NC	3308	DW/OS-55	Carriage drive motor may overheat & present potential hazard. Carriage motor resistor block harness is removed.
1203	All Units,NC	3318	LPS8	Prevents background toner deposits in area that measures 1/4" to 1/2" in width. Area is usually located on lower half of page & 1" off center toward non-separation side of printer. Paper guide assembly is replaced.
1204	All Units,NC	3316	75PC-PM16ZT(FX-100T)	Allows 75 PC-PM16ZT to operate properly on PC CPU RS232 port or PC MCC RS232 port with 421-0029 cable. Symptoms were hang/no operation or partial lines on MCC port. 278-4047, jumper added.
1205	Prob Only,IM	6108	VS-5/6 (SPS 500)	Grey or spotted insulating fiber sheet may break down in high humidity, causing power supply failures. Insulating sheet is replaced, grey or spotted to white.
1206A	N/A	7401	928W Global Modem	FCO is voided.
1207A	N/A	3110	2275-10, 20, 30	FCO is voided.
1208	All Units,NC	3106	2268 3/4 F.S. Drive	Ensures new power supply interchangeability on older units. 726-6981, Change one PROM.
1209	Prob Only,NC	3302	2233/2235	Corrects printer timing problems which cause printer to hang intermittently. 210-8393, R1 PROMs.

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1210A	N/A	3110	2275-10, 20, 30	FCO is voided.
1211	Prob Only,NC	8101	APC	Corrects following problems: 1) For proper IBM emulations, code was changed to distinguish between IBM AT & IBM XT. 2) Corrects several "Warm Boot" problems related to occasional keyboard failures. 3) Improves LCO power-up diagnostics. 210-9721, R1 EPROMs.
1212	Prob Only,NC	3305	PM015 Juki Daisy Ptr.	Prevents possible baseline problem on some fonts due to previous 12mm carriage shaft diameter. Old carriage assembly & 12mm shaft is replaced by new carriage assembly & 13 mm shaft.
1213	All Units,NC	3318	LPS-12/LIS-12/24	Protects service representative from possible shock hazard. Adds tubing to upper fuser harness.
1214	All Units,NC	5106	7500T/AT OIS/ALLI M.U.	Ensures integrity where cables are not installed. Washers added to cable clamps.
1215	Prob Only,NC	3703	7581T+7582T All Models	Corrects intermittent misprint condition, and/or printwheel motor retries which can result in printer malfunction. 210-8070, jumper/etch modifications.
1216	All Units,NC	3701	7565-1T 80MB SMD Drive	Ensures integrity where cables are not installed. Washers added to cable clamps.
1217	All Units,IM	7102	6554T TCT/TC1T	To conform to 7500T standards. 210-8663, C86-C93 capacitors changed.
1218	Prob Only,NC	3302	5577/5577V VHD Printer	Prevents printhead from rubbing against foam pad causing noise & static build-up. Damping pad dimensions changed.
1219	Prob Only,NC	7102	FW-RCS-16T (FSK)	Prevents power supply from electrically shorting to chassis. Installed washer.
1220	Prob Only,NC	3608	55/77 DSF	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.

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21A	All Units,NC	3802	ATM-8162/72/73/74	Supercedes FCO 1221. Prevents possible stream feeds from 1300 Series dispenser. Diode D12 is removed.
1222	Prob Only,NC	6104	VS-15 Buss Processor	Allows code to access SMD drive from port "0" of device adaptor at address "200h" 210-8358-A, R2 PROMs.
1223	Prob Only,NC	6104	VS-25 Buss Processor	Supports new software release. 210-8304-1A, R4 PROMs.
1224	All Units,NC	6106	22V15-2, Telex	Corrects following problems: A. Corrects hard error "01" in IOSW8. B. Corrects direct address read/write so 2K bytes is addressable. C. Updates error retry algorithm & checks ERR bit. D. Increases retry count on write from 10 to 40. E. Checks errors on motion commands. F. Checks LRC error. 210-7110-AH, R3 PROMs.
1225	All Units,NC	6105	VS-300 Ken. Tape IOC	A. Enhances load code & off-line diagnostic capabilities. B. Allows BIT to run with tape drive cabled to IOC, though powered off. 210-8790-A, R1 PROMs.
1226A	All Units,NC	6105	VS-300 Telex Tape IOC	Supercedes 1226. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8789-A, R1 PROMs.
1227B	All Units,NC	6105	VS-300 SIOC	Supercedes 1227A. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8609-A, R1 PROMs.
1228	All Units,NC	6105	VS-300, Inboard CIU	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8392-A, R1 PROMs.
1229	Prob Only,NC	3608	55/77 DSF-1T	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.

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1230	All Units,NC	6105	VS-300 SIOC w/Fbrwy	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-9809-A, R1 PROMs.
1231	Prob Only,NC	7300	DLP/64-128	Eliminates intermittent errors when using 128K memory in I/D mode (OIS SNA Release 1.0 & above, X.25 & Teletex). 210-7962/-1, 150 pf capacitor added.
1232	All Units,IM	8202	75PC-T/XAPC-T	To conform to Secure Product standards. Add new finger contact strips.
1233	Prob Only,NC	6102	22V25/VS-100 (Kennedy)	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-S, R3 PROMs installed.
1234	Prob Only,NC	6101	22V05/VS-80 (Kennedy)	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-G, R3 PROMs installed.
1235	Prob Only,NC	6102	22V27/VS-100 (Serial)	Corrects SPR# F008748: when first communication with device is unsolicited interrupt (as with opening in-bound circuits on CIU or TCB) SQB is invalid. 210-7110-U, R4 PROMs installed.
1236	All Units,NC	3318	LIS-12	Increases printing speed on VS systems as required by new WP Plus software. 210-9438 is installed.
1237	All Units,NC	3318	LPS-8	Changes printer firmware to eliminate LPS-8 hangs especially notable when VS DP/WP code is switched or when printer is IPL'ed. Both symptoms are exhibited only when LPS-8 is out of paper. 210-8901-A, R4 PROMs installed.

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38	Prob Only,NC	3203	2238V-1	Increases sourcing voltage on pin IOREQ* of Z80A chip; 210-8482, to E-Rev 6.
1239	All Units,NC	7501	DVX 1.5 (Trunk Board)	A. Eliminates "choppy message" problems related to VOX circuitry. B. Modifies hardware to allow pause suppression to be enabled/disabled as customer option. NOTE: Software patches PA506A7A & PA506A7B are used with this FCO. 210-8735-A, two (2) jumpers/etch cuts.
1240	All Units,NC	3605	DSF-55/77 (Ziyad 306)	Improves paper ejection. Eject deflector installed.
1241	All Units,NC	3605	DSF-1T (Ziyad 306)	Improves paper ejection. Eject deflector installed.
1242	All Units,NC	3608	DSF-55/77 Ziyad DSF	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
1243	All Units,NC	3608	DSF-1T Ziyad DSF	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
1244	All Units,NC	6103	7585T	Provides sufficient voltage from J3 pin 7 to J6 pin 4 by improving 5 volt & ground track. 210-8535, to E-Rev 1.
1245	Prob Only,NC	7300	TP-Adapter	Improves system performance for TP baluns configured with short cable runs. 210-8748, change two capacitors.
1246	All Units,NC	6106	VS-85 (LH Power Sup.)	Corrects AC miswiring & eliminates potential safety issue. Switch two wires.
1247	Prob Only,NC	N/A	720 Keyboards	Corrects spurious reset problem. Keyboard PCB, add 1000 pf capacitor.
1248	All Units,IM	3703	DW55-T	To conform with 7500T/Secure Products standards. Card cage, hammer ass'y., & label are replaced.

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1249	All Units,IM	7101	WBX	Provides enhancements to WBX system, which will improve call processing & overall system performance. MP2 replaced by MP3.
1250	All Units,NC	6102	VS-90/100	Improves accessibility to air filters which will facilitate proper & timely service/maintenance of air filters. Changes filters, adds Velcro to grill covers, adds temperature tape.
1251	All Units,NC	8501	WLTC	Prevents fuse from "blowing" when plastic-type SCSI Connector is plugged into External Floppy Disk Unit upside-down. Adds POLY FUSE.
1252A	All Units,NC	3404	4230A	Increases reliability of keyboard during static discharge. 210-8467, to E-Rev 3.
1253	Prob Only,NC	3703	75LIS-12T	Improves timing margins; correcting intermittent errors (error codes displayed) observed after extended operation. Changes 3 ICs.
1254	Prob Only,NC	3318	LCS-15	Increases warm-up time; eliminating fuser offset problem on power-up. PROM changed to RICOH # G0012567.
1255	All Units,NC	3318	LPS-8	Allows customer to more easily read page count meter. One rib removed from back panel.
?56A	Prob Only,NC	3318	LCS-15	Voids FCO 1256.
1257	Prob Only,NC	7101	WBX	Corrects handset noise problem. Foam insert is added.
1258	Prob Only,NC	3204	2248V-1	Prevents 20A internal fuse from "blowing" & disabling tape drive. Fuse holder & fuse are changed.
1259A	All Units,IM	3318	LM400/700/900	Voids FCO 1259. Refer to FCO 1278.
1260	All Units,NC	5106	7500AT	Prevents shorting against 210-9032 board rail. U-Channel extrusion added to rail.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
61	Prob Only,NC	3318	LCS-15	To improve print quality by addressing the following: 1) Image fade out, 2) Mechanical noise, 3) Broken character lines. Gear assembly is changed.
1262	Prob Only,NC	3106	2265V-2	Prevents possible physical injury from pack access cover malfunction, which causes drive to activate prematurely if start switch is depressed & cover is opened. Pack access cover switch is replaced.
1263	Prob Only,NC	3703	DW55-T	To conform to 7500T/Secure Products standards. Power line filter gasket is replaced.
1264	All Units,IM	N/A	9618	Prevents disk drive failures by reducing 240V output voltage by 8%. 49.9K ohm resistor added.
1265	All Units,NC	8201	PC 280T	To conform with 7500T/Secure Products standards. Cable changed; finger stock added.
1266	All Units,NC	3703	7582T	To conform with 7500T/Secure Products standards. Capacitor added to 210-8147 PCB, E-Rev 2.
1267	Prob Only,NC	7300	DLP/128	Eliminates intermittent errors due to RF interference between 210-7963 & 210-7962 PCBs, which could cause "crashing" or "hanging" of DLP 128. RF shield is added between 210-7963 & 210-7962.
1268	All Units,IM	8101	VD-0001-PC2	Prevents system "lock-up" which may occur when attempting to load Microsoft Windows. Corrects erratic video problems such as missing lines encountered when in "Hercules" mode & bad video when in some CGA applications. 210-8986 PCB is replaced.
1269	All Units,IM	6109	VS-7010	Prevents system "hangs" caused by malfunctioning clock oscillator. 270-1103 Backplane Ass'y is replaced.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1270A	All Units,NC	3305	22/55/6581W, 5541W	Supersedes FCO 1270. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1271	All Units,IM	8201	MON-1450-PC2T	To ensure 7500T/Secure Systems compliance margin. External tooth lockwashers are added to cover.
1272	All Units,NC	3203	2238V-1/PM038	Corrects PC errors "Write Abort" & "Excessive Soft Write Errors". Corrects VS errors "FS30" on TAPEINIT or 'hang' during backup. Gate Array 004 is added.
1273	All Units,NC	3320	LM400/700/900	Assists operator to fine tune print quality; platen index label is provided. Label will serve as reference point to determine proper platen setting, which controls width of throat opening in relation to print area. Platen index label added to platen index dial.
1274	Prob Only,NC	3318	LDP8-T	Corrects problem on data lines which causes intermittent random character printing ('garbage print'). I/O PCB is replaced.
1275	Prob Only,NC	3204	2248V-1	Prevents overrun condition during data transfer to tape subsystem. Symptom seen will be 'FS96' when trying to restore data while heavy I/O is present. Microprocessor is reworked (two etch cuts & two jumpers).

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
76	Prob Only,NC	3318	LCS-15	<p>1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.</p> <p>2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.</p> <p>3. Adds LaserJet 500+ bin feed select commands to emulator.</p> <p>4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.</p> <p>5. Corrects following problems occurring in PostScript Mode:</p> <p>a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.</p> <p>b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "AND'ing" input data with Hex 7F.</p> <p>Controller firmware to Revision 5 ADOBE.</p>
1277	Prob Only,NC	3318	LCS-15T	<p>1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.</p> <p>2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.</p> <p>3. Adds LaserJet 500+ bin feed select commands to emulator.</p> <p>4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.</p> <p>5. Corrects following problems occurring in PostScript Mode:</p> <p>a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.</p> <p>b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "AND'ing" input data with Hex 7F.</p> <p>Controller firmware to Revision 5 ADOBE.</p>
1278A	All Units,IM	3320	LM400/700/900	Voids FCO 1278. Refer to FCO 1301.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1279	Prob Only,NC	3320	LM400/700/900	Removes ribbon sensing fault. 726-3452, firmware to 726-5756.
1280	Prob Only,NC	8201	75PC-T/XAPC-T	Prevents warranty voids and incidental failures on drives due to improper use of the cartridge interlocking switch. Improved mylar window is added.
1281	Prob Only,NC	7202	802.3 Adapter	Retrofit precludes any issues with UL agency certification for units which are wall mounted with power supply facing down. Cover (451-9023) is added.
1282	Prob Only,NC	6110	VS-5300	Prevents failure to access drive by enabling SCSI buss terminator power. 210-9116, to E-Rev 1.
1283	Prob Only,NC	8101	WLOC Option	To eliminate "30]" keyboard error on power up when using a 723 keyboard on COMPAQ computers. 723 keyboard, EPROM.
1284A	Prob Only,NC	8101	PC 380	Voids FCO 1284. Refer to FCO 1308.
1285	Prob Only,NC	8101	PC 240	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-8800, R2 EPROM.
1286	Prob Only,NC	8101	PC 280	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-9451, R2 EPROM.
?87	Prob Only,NC	8101	PC 240	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-8800, R4 EPROMs.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
88	Prob Only,NC	8101	PC 280	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-9451, R4 EPROMS.
1289	Prob Only,NC	8101	PC 240	Prevents the following intermittent problems: software damage, inability to "boot" PC, read/write errors, and disk access errors. 210-8801, replaced.
1290	All Units,IM	8201	75PC-T/-XCx-3T/XAPC-T	To ensure 7500T/Secure Systems standards. Cables replaced, gasket & jumper added, springs & clips replaced.
1291	Prob Only,NC	6110	VS-5300/5600	Prevents noise which can cause "hangs" and I/O errors on external drives. 210-9109, to E-Rev 4.
1292A	Prob Only,NC	3318	LCS-15	Supercedes FCO 1292. To correct intermittent "hangs" which occur during the transition from DP to WP. 210-8868, to E-Rev 3.
1293C	Prob Only,NC	3318	LCS-15	Supercedes FCO 1293B. Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.
1294A	All Units,NC	3703	7581WT/-1T, 7582T/-WP	Supercedes FCO 1294. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1295	Prob Only,NC	3801	ATM-8160 (CCD)	A) Reduces test dispense retry attempts when low on money, B) Improves picking performance with either low grade or fit currency, C) prevents system diagnostic picker test from dispensing from customer cassette. Changes vendor PROM to 726-4497.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1298	Prob Only,NC	3319	PM060	A) Prevents intermittent "Can't print to LPT1" when using Centronics parallel interface and when printing under "windows", B) prevents dropping of characters on higher speed PCs, C) prevents intermittent error message or garbage print when under "Lotus". I/F PCB is replaced.
1299B	Prob Only,NC	3318	LCS-15T	Supercedes FCO 1299A. Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.
1301	Prob Only,NC	3320	LM400/700/900	Prevents possible intermittent shuttle errors and top-of-form problems. 726-3450, 2 PROMs are changed.
1302	Prob Only,NC	3320	LM400/700/900	Allows eight lines per inch without "hanging". 726-3450, 2 PROMs are changed.
1303	All Units,NC	3320	LM400/700/900	Prevents electrostatic discharge (ESD) failures in all circumstances. Ground spring is added.
1304	All Units,NC	8101	PC 240	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-8800, 82A205 IC changed.
1305	All Units,NC	8101	PC 280	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-9451, 82A205 IC changed.
1306	All Units,NC	8101	PC 280T	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-9500, 82A205 IC changed.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1307	Prob Only,NC	8201	PC 280T	A) To upgrade to ROM BIOS Versions 3.10.02. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems in OS/2 when switching from real mode to protected mode. D) To allow for valid burn-in test on 210-9500 CPU board. E) To correct CMOS Configuration Program. 210-9500, R4 EPROMs.
1308	Prob Only,NC	8101	PC 380	A) Prevents keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX, B) Corrects intermittent "hang" problem under OS/2 when the diskette is accessed from DOS compatibility mode. 725-3466, Keyboard controller PROM to 377-4012-R2.
1309	All Units,NC	3305	22/55/6581WC, 5541WC	Prevents possible physical injury on power-up if a malfunction occurs causing "carriage slam" and the access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1310	Prob Only,NC	6107	VS-65	Prevents speeding up of system clock. 210-9699, to E-Rev 3.
1311	Prob Only,NC	6108	VS-6/6E	Prevents speeding up of system clock. 210-9699, to E-Rev 3.
1312	Prob Only,NC	6112	VS-75E	Prevents speeding up of system clock. 210-9699, to E-Rev 3.
1313	Prob Only,NC	6112	VS-75E	Prevents a parity error (0035) by grounding the internal disk drives. Ground cable is added.
1314	Prob Only,NC	8301	8700 Terminal	For 8700 Financial Terminal Operating System 2.0 and higher, and to support MSDOS file support. 210-8556-2, R1 PROMs.
1315	Prob Only,NC	3308	5575 BP Printer	Prevents intermittant "hangs" caused by low voltage (+5V) on Siblinc board. Siblinc power cable is installed.
1316	All Units,NC	3610	2278V-J2	Prevents fuse from "blowing" on power-up of Jukebox. Fuse changed in Power Amp panel.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1317	Prob Only,NC	8201	PC 280T	Prevents keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or using SCO XENIX. 210-9500, R2 PROM.
1318	Prob Only,NC	6110	VS-5000	1) Prevents "400A" error code from being displayed on front panel LEDs on power-up, 2) prevents IPL drive selection screen from displaying "Type Not Defined" instead of 2269V3H or 2269V4H, and 3) prevents disk drive failure by supporting half/height SCSI disk drives from vendors CDC/IMPRIMIS and MICROPOLIS. 210-9109, R1 PROMs.
1319	All Units,NC	3610	2278V-J2	Corrects the polarity of the MCL cable. Two wires are switched.
1320	All Units,NC	3610	2278V-J2	Provides field with F.E. Accessory Bag, LMS Bumper Tool, and LMS Gripper Tool. Adds F.E. Kit to frame.
1321	Prob Only,NC	8101	PC 280	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
1322	Prob Only,NC	8101	PC 380	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
1323	Prob Only,NC	8101	PC 381	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
1324	Prob Only,NC	8101	PC 382	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
25	Prob Only,NC	3318	LCS-15	Prevents printer busy "hang" problem. 210-8868, to E-Rev 4, R2 PAL.
1326	Prob Only,NC	8101	PC 280/380	1) Supports WIIS/FREESTYLE integration. 2) Corrects WP Plus underscore problems. 210-9229, R2 PROMs.
1327	All Units,NC	3703	7581WC/T	Prevents possible physical injury on power-up if a malfunction occurs causing "carriage slam" and the access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1328	Prob Only,NC	3404	4230A	Lowers the light intensity of highlighted video. 210-9932, to E-Rev 4, 210-9932-1, to E-Rev 3.
1329	Prob Only,NC	8101	PC 240	Corrects WP Plus underscore problems. 210-9229, R2 PROMs.

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1	TB 216 (FTU)	1001	Immediate	Add features; change EPROMs to ROMs. JGX (CDC).
3101	2200 SVP/LVP	1007	Next Call	Provides valid "SEEK COMPLETE" signal to controller. Shugart PCB #26073-5.
3105	2280,6580	1004A	Next Call	Provides protection to heads & media by adding pressure sensor device. 726-6847 (CDC) filter added.
3105	2280,2280V,6580	1024A	Prob Only	Assures compatibility of CDC Phoenix 9448 CMD with A-Cable Terminator. Corrects intermittent device selection errors. 210-8017 added.
3105	2280,2280V,6580	1064A	Prob Only	Enables use of low air option, increases shroud pressure, & increases device cooling. H.V. Blower replaced.
3106	2265V-2	1043A	Next Call	Increases amp rating of CB10 & CB11 circuit breakers to prevent nuisance tripping. Assures proper operation of drive motor brake & prevents unimpeded pack rotation when either circuit breaker is open. 12 amp circuit breakers added.
3106	2265V-3	1044	Next Call	Three ganged circuit breakers (CB2, CB3, & CB4) on AC power supply may physically appear activated while electrically any one of them may have tripped to deactivated state. Gang pin removed.
3106	2265V-1	1049	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOPs. 210-7477 to E-Rev 1.
3106	2265V-2	1053	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.
3106	2265V-3	1054	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
3106	2265V-1,6565,7565T	1065	Prob Only	Safety problems for customer engineers working inside unit. AC voltage remains active in unit with CBI in OFF position. (No safety problem for customers.) Circuit breakers wire removed.
3106	2265V-2,6565	1072	Prob Only	Reduces static problems in unit by properly grounding I/O cables at base of CDC Cabinet & complies with FCC regulations. 452-2779 cable clamp added.
3106	2265V-3	1084	All Units	Allows better recovery from low voltage transient. Improves daisy chaining power-up compatibility with storage module drive. Allows system to clear voltage fault over I/O. 726-6830-1 QKTX logic PCB added.
3106	2265V-3	1090	All Units	Prevents pin solder failure on edge connector of drive motor & motor control PCB. AC Power Supply wires modified.
3106	2265V-2,6565-2	1113	All Units	Alters air flow in shroud area reducing possibility of contamination entering pack/head area. Gasket/Baffle added.
3106	2265V-1	1132	Prob Only	Provides FCC-approved top inner weldment cover which will accommodate variations of position in 80 Meg Drive relative to chassis assembly & prevents "A" & "B" cables from fraying & slicing. 458-3276 weldment cover replaced.
3106	2265V-2	1136	Prob Only	Plastic plunger on pack access cover switch may break. Could cause spindle to continue to spin when pack access cover is open. Switch Assembly changed.
3106	2265V-3	1173	Prob Only,NC	Adds ground strap to correct for possible wiring error. Ground strap.
3106	2268 3/4 F.S. Drive	1208	All Units,NC	Ensures new power supply interchangeability on older units. 726-6981, Change one PROM.

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06	2265V-2	1262	Prob Only,NC	Prevents possible physical injury from pack access cover malfunction, which causes drive to activate prematurely if start switch is depressed & cover is opened. Pack access cover switch is replaced.
3107	2280 DPU	1086A	N/A	voids 1086; replaced by FCO 1114.
3107	2280 DPU/MUX	1114A	All Units	voids 1114; refer to FCO 1168.
3107	2280 DPU/MUX	1131	Prob Only	Standoffs are changed to improve connection between cable ground shield & controller. Corrects static problem & improves grounding. 210-7717, standoffs changed.
3107	2280	1161A	All Units,NC	Supersedes 1161; eliminates noise on 'READY' line. Corrects intermittent hangs & incorrect drive selection. Install with FCO 1168. 210-7422 to E-Rev 5.
3107	2280 DPU/MUX	1168	All Units,IM	Supersedes 1114. Corrects errors occurring on multi-sector-write operation, I91 errors, & DPU hang-up. Install with FCO 1161. 210-7423-A, R10 EPROMs installed.
3108	Quantum	1158	Prob Only,NC	Dirty sensors can cause read/write errors with 30 Meg disk & customers might lose data. Disk Drive PCB isolator gasket added.
110	2275-10,20,30	1100A	N/A	voids 1100; replaced by FCO 1111.
1110	2275-10,20,30	1111A	All Units,NC	voids 1111; replaced by FCO 1202.
3110	2275-10,20,30	1175B	N/A	FCO is voided.
3110	2275-10, 20, 30	1207A	N/A	FCO is voided.
3110	2275-10, 20, 30	1210A	N/A	FCO is voided.
3113	2295V-CX	1197	All Units,NC	Allows easier access to disk drives. Metal front panels changed to snap-on panels.
3202	2229,2529V,6529	1069	Prob Only	Upgrades unit to work with 6.11 Operating System. 726-6202 Formatter PCB, 726-6338 EPROM added.

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2202	2229/6529	1174	All Units,NC	Prevents glitches that can cause phantom errors. Wire & lug ass'y added.
3203	2238V-1	1238	Prob Only,NC	Increases sourcing voltage on pin IOREQ* of Z80A chip. 210-8482, to E-Rev 6.
3203	2238V-1/PM038	1272	All Units,NC	Corrects PC errors "Write Abort" & "Excessive Soft Write Errors". Corrects VS errors "FS30" on TAPEINIT or 'hang' during backup. Gate Array 004 is added.
3204	2219V	1119	Prob Only	Reduces possibility of tape slippage by raising capstan vacuum. Capstan holes covered.
3204	2248V-1	1258	Prob Only,NC	Prevents 20A internal fuse from "blowing" & disabling tape drive. Fuse holder & fuse are changed.
3204	2248V-1	1275	Prob Only,NC	Prevents overrun condition during data transfer to tape subsystem. Symptom seen will be 'FS96' when trying to restore data while heavy I/O is present. Microprocessor is reworked (two etch cuts & two jumpers).
3301	2263,2263V,5570,5571	1074	Prob Only	Fixes paper-out switch problem which results in intermittent 'paper-out' indication & printer printing over previous text when re-selected. 210-7386 to E-Rev 2.
3302	5577	1013	Next Call	Provides software with control line to disable all stepping motors when printer is idle. 210-7677 to E-Rev 2.
3302	5577	1050A	N/A	Voids 1050; replaced by FCO 1116.
3302	2233/2235,5533/5535	1073	Prob Only	Shortens bleed off time & prevents PCB failures during trouble shooting at customer sites, & ensures compliance with UL. 210-7595 to E-Rev 1.
3302	SPS 613	1075	Prob Only	Ensures power up signal reliability. 210-8006 to E-Rev 7, 210-8206 to E-Rev 1.

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02	5577	1082	Prob Only	Reduces static susceptibility. Ribbon Motor Assembly modified.
3302	5577	1096	All Units	Provides better grounding between top cover & lower cover. Improves grounding by using conductive material. 478-1226, metal pin clips added.
3302	5577	1101	Prob Only	Prevents printer hangs resulting from electrostatic discharge. Shielded cables installed.
3302	5577	1116	All Units	Supercedes 1050. Prevents cross talk in L13 which causes printer to hang when selecting & deselecting. 210-8174 to E-Rev 5.
3302	5577	1127	Prob Only	Enables printer to recover from paper jam which displaces head so it interrupts either margin sector causing printer to hang. 210-8174-A, R4 EPROM installed.
3302	2233/2235	1156	Prob Only,NC	Renders signal "FAULT" inactive. Remote parallel printers used with PC/2200 emulation do not print because of erroneous fault signal. 210-7593 to E-Rev 9, 210-8393 to E-Rev 2.
3302	XX33/XX35	1163A	Prob Only,NC	Supercedes 1163. Some Mallory capacitors have experienced leakage after one year of operation causing damage to motherboard. Change if present. 210-7595, 210-7595-1, Mallory caps changed.
3302	2233/2235	1209	Prob Only,NC	Corrects printer timing problems which cause printer to hang intermittently. 210-8393, R1 PROMs.
3302	5577/5577V VHD Printer	1218	Prob Only,NC	Prevents printhead from rubbing against foam pad causing noise & static build-up. Damping pad dimensions changed.

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3305	2281W/5541W&WC/6581W	1014	Prob Only	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-7360 to E-Rev 14, 210-7361 to E-Rev 9, 210-7364 to E-Rev 11.
3305	DW/22-20	1023	Prob Only	Corrects erratic line feed problems, special character attribute problems (i.e., bold print, auto slashing, superscript & subscript) & erratic twin sheet feeder problems. 210-7886-1A, R2 EPROMs installed.
3305	2281,81P,81W,81WC	1025	Prob Only	Assures ground between printer & 2200. 510-5223-C, finger board added.
3305	DW/OS-20,PC-PM011	1057A	N/A	Voids 1057; replaced by FCO 1115.
3305	DW/22-20	1060B	Prob Only	Corrects light print & increases ribbon motor pulse. 210-7886-1A, R3 & R4 EPROMs installed.
3305	DW/OS-20,PC-PM011	1115	Prob Only	Supersedes 1057. Corrects light print, increases ribbon motor pulse, & prevents ribbon motor failures. 210-7886-A, 210-7886-1B, R5 & R8 EPROMs installed.
3305	PM015 (Juki)	1179	Prob Only,NC	Corrects printing of question marks (?) on power-up. Prints bidirectionally on WOA. Operates on WOA printer sharing device. 726-7733, EPROMs installed.
3305	PM015 Juki Daisy Ptr.	1212	Prob Only,NC	Prevents possible baseline problem on some fonts due to previous 12mm carriage shaft diameter. Old carriage assembly & 12mm shaft is replaced by new carriage assembly & 13 mm shaft.
3305	22/55/6581W, 5541W	1270A	All Units,NC	Supersedes FCO 1270. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.

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05	22/55/6581WC, 5541WC	1309	All Units,NC	Prevents possible physical injury on power-up if a malfunction occurs causing "carriage slam" and the access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
3308	5575	1079	Prob Only	Evens out printing on ribbon, ensures proper detection of ribbon, & eliminates printing without ribbon covering either edge of form. Sensors will detect ribbon fold at end of ribbon life. Ribbon Mask replaced.
3308	2273-1,5573	1108	Prob Only	Possibility exists that terminals on CRT Breaker Surge Resistor may become loose because of improper crimping. Surge resistor changed.
3308	2273-1,-2,5573,5574	1126	Prob Only	Band cover interlock switch may fail to function due to contact contamination. May result in band motion while band cover is open. Band Cover Interlock Switch changed.
3308	DW/OS-55/PM014	1143	Prob Only	Corrects ribbon advance problem which resulted in poor print quality when using metal print wheels. 725-1510, Logic PCB EPROM (726-1543-1) installed.
3308	PM014	1144	All Units	Corrects firmware problem which causes loss of left margin during Ziyad sheet feeder use. Changes character set of printer to comply with ASCII. Allows support of IBM PC emulation on Wang PC. 725-1557, Interface PCB EPROMs installed.
3308	DW/OS-55	1169	Prob Only,NC	Static build-up can cause printer to lose track of encoder position which could cause garbled print. ESD shield added to printwheel motor assembly.
3308	DW/OS-55	1181	Prob Only,NC	Corrects chronic baseline deviations & character crowding problems. Printer mechanism reworked.
3308	DW/OS-55	1188A	Prob Only,NC	voids 1188; replaced by FCO 1181.

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3308	DW/OS-55	1202	Prob Only,NC	Carriage drive motor may overheat & present potential hazard. Carriage motor resistor block harness is removed.
3308	5575 BP Printer	1315	Prob Only,NC	Prevents intermittant "hangs" caused by low voltage (+5V) on Siblinc board. Siblinc power cable is installed.
3310	PIC PM04	1098	All Units	Corrects timing problem causing bad print quality. 210-8774 to E-Rev 2.
3310	PIC	1104	All Units	Improves timing margin on Video Data with respect to Clock. Puts correct firmware into all cameras built to date. Corrects "Photo" (Dither) Image. 210-8454 to E-Rev 2 & R3 PROMS installed.
3311	IP4ID	1110	All Units	Prevents burned out video PCBs resulting from failure of regulator to supply +22 volts. 210-7764 to E-Rev 3.
3314	5548Z	1030	Next Call	Prevents Photo Typesetter hang-ups by improving performance of turret solenoid through reduction of current demand on 725-0079 power supply. 210-7548, diode removed.
3316	75PC-PM16ZT(FX-100T)	1204	All Units,NC	Allows 75 PC-PM16ZT to operate properly on PC CPU RS232 port or PC MCC RS232 port with 421-0029 cable. Symptoms were hang/no operation or partial lines on MCC port. 278-4047, jumper added.
3318	LPS-12	1021	ASAP	New photoreceptor added to LPS-12 units will produce copies with excessive gray background unless high voltage power supply is modified. HVPS modified.
3318	LPS-12	1062	Prob Only	Provides contact on ends of rolls for effective snuffing of burning paper on printers without tag 49. Snuffer Roll modified.
3318	LPS-12	1070	Prob Only	Blocks satellite laser beam near shutter. Gasket modified.

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18	LPS-12	1071	Prob Only	Reduces drum crystallization by cooling printer cavity. 726-7014, control PWB EPROM replaced, harness rewired.
3318	LPS-12	1105	Prob Only	Prevents potential shock hazard by installing fuse shield which was omitted in some 50 Hz units. Fuse shield added.
3318	LIS 12/24	1166	All Units,NC	Corrects unreadable characters. 210-8382 to E-Rev 4.
3318	LPS/LIS-12	1170	Prob Only,NC	Reduces fuser contamination caused by paper jams. Reduces affects of AC noise transients. 726-7014, Control PCB, 8L EPROM installed.
3318	LPS8	1177B	All Units,NC	Voids 1177A; replaced by FCO 1237.
3318	LPS8	1178	All Units,NC	To meet FCC requirements. Allows printer to work on VS with 22V17 or 22V27 IOPs. 210-8901 to E-Rev 5.
3318	LPS8	1192	Prob Only,NC	Corrects vertical line slant skewing problem. Paper feeds in at angle causing uneven print. Spacer added.
3318	LPS8	1203	All Units,NC	Prevents background toner deposits in area that measures 1/4" to 1/2" in width. Area is usually located on lower half of page & 1" off center toward non-separation side of printer. Paper guide assembly is replaced.
3318	LPS-12/LIS-12/24	1213	All Units,NC	Protects service representative from possible shock hazard. Adds tubing to upper fuser harness.
3318	LIS-12	1236	All Units,NC	Increases printing speed on VS systems as required by new WP Plus software. 210-9438 is installed.

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318	LPS-8	1237	All Units,NC	Changes printer firmware to eliminate LPS-8 hangs especially notable when VS DP/WP code is switched or when printer is IPL'ed. Both symptoms are exhibited only when LPS-8 is out of paper. 210-8901-A, R4 PROMs installed.
3318	LCS-15	1254	Prob Only,NC	Increases warm-up time; eliminating fuser offset problem on power-up. PROM changed to RICOH # G0012567.
3318	LPS-8	1255	All Units,NC	Allows customer to more easily read page count meter. One rib removed from back panel.
3318	LCS-15	1256A	Prob Only,NC	voids FCO 1256.
3318	LM400/700/900	1259A	All Units,IM	voids FCO 1259. Refer to FCO 1278.
3318	LCS-15	1261	Prob Only,NC	To improve print quality by addressing the following; 1) Image fade out, 2) Mechanical noise, 3) Broken character lines. Gear assembly is changed.
3318	LDP8-T	1274	Prob Only,NC	Corrects problem on data lines which causes intermittent random character printing ('garbage print'). I/O PCB is replaced.

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18	LCS-15	1276	Prob Only,NC	<p>1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.</p> <p>2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.</p> <p>3. Adds LaserJet 500+ bin feed select commands to emulator.</p> <p>4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.</p> <p>5. Corrects following problems occurring in PostScript Mode:</p> <p>a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.</p> <p>b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "AND'ing" input data with Hex 7F. Controller firmware to Revision 5 ADOBE.</p>
3318	LCS-15T	1277	Prob Only,NC	<p>1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.</p> <p>2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.</p> <p>3. Adds LaserJet 500+ bin feed select commands to emulator.</p> <p>4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.</p> <p>5. Corrects following problems occurring in PostScript Mode:</p> <p>a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.</p> <p>b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "AND'ing" input data with Hex 7F. Controller firmware to Revision 5 ADOBE.</p>

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3318	LCS-15	1292A	Prob Only,NC	Supercedes FCO 1292. To correct intermittent "hangs" which occur during the transition from DP to WP. 210-8868, to E-Rev 3.
3318	LCS-15	1293C	Prob Only,NC	Supercedes FCO 1293B. Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.
3318	LCS-15T	1299B	Prob Only,NC	Supercedes FCO 1299A. Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.
3318	LCS-15	1325	Prob Only,NC	Prevents printer busy "hang" problem. 210-8868, to E-Rev 4, R2 PAL.
3319	PM060	1298	Prob Only,NC	A) Prevents intermittent "Can't print to LPT1" when using Centronics parallel interface and when printing under "windows", B) prevents dropping of characters on higher speed PCs, C) prevents intermittent error message or garbage print when under "Lotus". I/F PCB is replaced.
3320	LM400/700/900	1273	All Units,NC	Assists operator to fine tune print quality; platen index label is provided. Label will serve as reference point to determine proper platen setting, which controls width of throat opening in relation to print area. Platen index label added to platen index dial.
3320	LM400/700/900	1278A	All Units,IM	Voids FCO 1278. Refer to FCO 1301.
3320	LM400/700/900	1279	Prob Only,NC	Removes ribbon sensing fault. 726-3452, firmware to 726-5756.
3320	LM400/700/900	1301	Prob Only,NC	Prevents possible intermittent shuttle errors and top-of-form problems. 726-3450, 2 PROMs are changed.
3320	LM400/700/900	1302	Prob Only,NC	Allows eight lines per inch without "hanging". 726-3450, 2 PROMs are changed.

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20	LM400/700/900	1303	All Units,NC	Prevents electrostatic discharge (ESD) failures in all circumstances. Ground spring is added.
3402	5536-3/-4	1089	Prob Only	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7542-2 to E-Rev 3.
3403	4200	1150	Prob Only	Eliminates potential shock hazard when used at 220 volts. 725-2749/-10, Harris SPS 80, bleeder resistor added.
3404	ERGO II	1009	ASAP	New control codes allow easier aligning of characters in proportional spacing. Length of cursor will be proportional to that of character. 210-7671 to E-Rev 5.
3404	ERGO III	1017B	Prob Only	Prevents ERGO III W/S from hanging, provides interface to parallel & serial K/Bs, prevents possible hardware damage & "Cancel" & "Execute" keys from repeating. 210-7916-B through 210-7916-AR, 210-7970-A, 210-8470-A, R4 EPROM.
3404	ERGO III	1033A	Next Call	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
3404	5530/5540,ERGO III	1040	All Units	Complies with FCC RFI regulations. Ground lug added.
3404	ERGO II,TC-800&-5900	1046	Prob Only	Ensures reliable TC connection & prevents transmission errors due to fluctuating ground signals. 210-8181 to E-Rev 2, 210-7681 to E-Rev 4, 210-7681-1 to E-Rev 3, 210-7681-2 to E-Rev 2.
3404	ERGO III,TC-300	1047	Prob Only	Provides logic ground to TC modem. Prevents TC transmission errors. 210-7917 to E-Rev 3.

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3404	4205/4230	1081	All Units	Achieves compatibility with previous underline attribute code. Corrects missing cursor problem in applications such as List Processing, Advanced Functions, or CP/M. 210-8287 to E-Rev 5, 210-8287-1 to E-Rev 2, 210-8287-2 to E-Rev 1.
3404	ERGO II,TC-900	1087	Prob Only	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7681 to E-Rev 5, 210-7681-1 to E-Rev 4, 210-8181 to E-Rev 3.
3404	ERGO III,TC-310,30,40	1088	Prob Only	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7917 to E-Rev 4.
3404	2246R	1097A	All Units	Supercedes 1097. Releases Remote Data Link Processor PROM microcode version 4.01.00. Improves error recovery & retry processing. 210-7478-A, R1 EPROMs installed.
3404	4205A (Middle East)	1129A	All Units	Supercedes 1129. Enhanced software eliminates need for special version PCB allowing use of standard (-1) PCB in Middle East W/S. 210-8287-3/-3A created.
3404	PM-004L	1184B	Prob Only,NC	Supercedes 1184A. Reduces screen brightness problems caused by direct or reflected light passing through slide actuator. Label is replaced/added.
3404	PM-004L	1195	Prob Only,NC	Poor contact on yoke connector electrical connection may cause vertical jitter or jumping screen problem. Yoke cable changed to 220-2492.
3404	PM-004L	1199	Prob Only,NC	Units may display brightness fluctuations when monitor is moved. PCB support bracket is added.
3404	4230A	1252A	All Units,NC	Increases reliability of keyboard during static discharge. 210-8467, to E-Rev 3.

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04	4230A	1328	Prob Only,NC	Lowers the light intensity of highlighted video. 210-9932, to E-Rev 4, 210-9932-1, to E-Rev 3.
3605	55/77DSF (Ziyad)	1155	Prob Only,NC	Replaces solid gear which causes paper to feed only partially into paper path. Sensor is activated too soon, resulting in 'Change Paper' error. Lost motion gear installed.
3605	PM012/PTR-20	1172	Prob Only,NC	Eliminates line crowding which occurs approx. 3" from top of page. Cradle deflector added.
3605	DSF-55/77 (Ziyad 306)	1240	All Units,NC	Improves paper ejection. Eject deflector installed.
3605	DSF-1T (Ziyad 306)	1241	All Units,NC	Improves paper ejection. Eject deflector installed.
3608	55/77 DSF	1220	Prob Only,NC	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.
3608	55/77 DSF-1T	1229	Prob Only,NC	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.
3608	DSF-55/77 Ziyad DSF	1242	All Units,NC	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
3608	DSF-1T Ziyad DSF	1243	All Units,NC	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
3609	PIC-PM03	1183	Prob Only,NC	Improves scanner's sensitivity to color (improves ability to read red, green, & blue). PIC Scanner modified.
3610	2278V-J2	1316	All Units,NC	Prevents fuse from "blowing" on power-up of Jukebox. Fuse changed in Power Amp panel.

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3610	2278V-J2	1319	All Units,NC	Corrects the polarity of the MCL cable. Two wires are switched.
3610	2278V-J2	1320	All Units,NC	Provides field with F.E. Accessory Bag, LMS Bumper Tool, and LMS Gripper Tool. Adds F.E. Kit to frame.
3701	7565-1T	1133A	All Units	Supercedes 1133 Complies with 7500T standard. 654-1369 finger stock added.
3701	7565-1T 80MB SMD Drive	1216	All Units,NC	Ensures integrity where cables are not installed. Washers added to cable clamps.
3703	7581 WT/WCT	1022	Prob Only	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-8070 to E-Rev 2, 210-8071-A to E-Rev 2, 210-8072-A to E-Rev 1.
3703	7581W-T/WC-T,7582T	1066	Prob Only	Corrects misprints. 210-8070 RO artwork correction.
3703	7582T,7582T-WPS	1092A	All Units	Provides ability to print on all but last line of paper, eliminates removal of forms tractor to change ribbon, enables shifting between forms tractor & sheet feeder without C.E. assistance, corrects design problems, adds internal lighting. Printer parts added.
703	7582T	1164	Prob Only,NC	Printer fails to IPL when connected to bipolar fiber optic connector box (FO-MC-1T). 210-8073 to E-Rev 4.
3703	75 LIS-12T	1185	Prob Only,NC	Corrects inefficient grounding. 210-8680, ground lug & cap added.
3703	75 LIS-12T	1187	All Units,NC	To conform to 7500T standards. 210-8682 to E-Rev 2.
3703	75 LIS-12T	1196	All Units,NC	Provides good ground isolation. 220-2478, cable adapter assembly added.

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03	7581T+7582T All Models	1215	Prob Only,NC	Corrects intermittent misprint condition, and/or printwheel motor retries which can result in printer malfunction. 210-8070, jumper/etch modifications.
3703	DW55-T	1248	All Units,IM	To conform with 7500T/Secure Products standards. Card cage, hammer ass'y., & label are replaced.
3703	75LIS-12T	1253	Prob Only,NC	Improves timing margins; correcting intermittent errors (error codes displayed) observed after extended operation. Changes 3 ICs.
3703	DW55-T	1263	Prob Only,NC	To conform to 7500T/Secure Products standards. Power line filter gasket is replaced.
3703	7582T	1266	All Units,NC	To conform with 7500T/Secure Products standards. Capacitor added to 210-8147 PCB, E-Rev 2.
3703	7581WT/-1T, 7582T/-WP	1294A	All Units,NC	Supersedes FCO 1294. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
3703	7581WC/T	1327	All Units,NC	Prevents possible physical injury on power-up if a malfunction occurs causing "carriage slam" and the access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
3704	7536T	1015	Next Call	CRT screen tends to flicker if space bar is depressed due to horizontal phase shift problem. 210-8067 to E-Rev 1.
3705	7561T WISE	1147	All Units	Polarities of C65 on 210-8127 PCB are reversed. Deterioration of cap could result in WISE unit failures. 210-8127 cap polarity corrected.

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3708	7582T TSF (Ziyad)	1078	Prob Only	Ensures proper side-to-side tray registration. 726-2782 springs replaced.
3801	ATM-8160 (CCD)	1295	Prob Only,NC	A) Reduces test dispense retry attempts when low on money, B) Improves picking performance with either low grade or fit currency, C) prevents system diagnostic picker test from dispensing from customer cassette. Changes vendor PROM to 726-4497.
3802	ATM-8162/72/73/74	1221A	All Units,NC	Supercedes FCO 1221. Prevents possible stream feeds from 1300 Series dispenser. Diode D12 is removed.
4103	2200 SVP/LVP	1005A	Next Call	I93 error "SEEK COMPLETE" would occur on Winchester Disk. DPU would not pass power-up diagnostics when switches were set to floppy only. Floppy door will unlock after 5 seconds of non-use. Format error found within alternate sector during FORMAT DISK operation is now recovered by software. 210-8696-A7-B, R9 EPROMs installed.
4103	2200 SVP-A/X	1006	Next Call	Corrects record handling capabilities, I94 or I98 errors, & improperly reported format errors that may occur on 26th sector. Improves verify speed & speeds sequential read write. 210-7890-A, R2 EPROMs installed.
103	2200 VP/MVPA/MVPC/LVP	1045	Prob Only	Thin fan is required in I/O section of chassis to accommodate increased length of MXE PCB. 400-1029 fan installed.
4103	SVP	1056	Prob Only	Reduces audible noise level of unit & increases cooling of diskette drive. Fan & fan guard replaced, heatsink modified.
4201	2236MXD	1035	Prob Only	Prevents intermittent system hangs. 210-7591 to E-Rev 1.
5103	OIS 40/40B/50	1067	All Units	Systems with internal printer controller option require change to correct print failure problems. 210-8280 to E-Rev 4.

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03	OIS 40/40B/50	1077	All Units	Ensures compatibility & reliability when internal printer controller option is used with 25 & 50 foot cables. 210-8280 to E-Rev 5.
5103	OIS 40/50/60	1140	Prob Only	Provides correct reset pulse width to 8031 chip. Hangs when shift/cancel keys are struck during IPL. 210-8274-A to E-Rev 8.
5103	OIS 140,145	1152B	Prob Only,NC	Supersedes 1152A. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7684-A, R5 & R8 EPROMs installed.
5103	OIS 140,145	1154A	Prob Only,NC	Supersedes 1154. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7501-A, R6 & R8 EPROMs installed.
5104	5504	1010A	Next Call	Corrects VCO circuit which locks onto harmonic frequency disabling read operation. 210-7977 to E-Rev 5.
5104	5504,5524 With TC	1055	Prob Only	Corrects timing problems & enables proper execution of system software. 210-7975 to E-Rev 7.
5105	OIS 105,115	1008	Next Call	Reduces band width of PLL filter, minimizing disk retry errors. 210-7653 to E-Rev 9.
5105	EM-OIS	1011	Prob Only	Prevents occurrence of non-maskable interrupt during reset cycle. 210-7685 to E-Rev 4.
5105	OIS 105,115	1012	Prob Only	Eliminates indeterminate logic state that sometimes occurs after seek, resulting in retry. 210-7653 to E-Rev 10.
5105	105/115/125A/130A-F	1018	Prob Only	High transistor gain causes premature failure of Regulator PCB. 210-7887, resistor added.

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5105	OIS 105,115	1026	Prob Only	Increases heat dissipation of heat sink & redirects air flow for better cooling of transistors. Fan, Heatsink modified.
5105	OIS 105,115	1028	Next Call	Corrects potential problem of power supply connectors melting under high current conditions. P.S. Connectors modified.
5105	All OIS 105-130E	1051C	Prob Only,NC	Prevents Winchester drive heads from banging against stops at power up & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 & R5 EPROMs. 210-7684-A, R5 & R8 EPROMs installed. Adds 344 Meg drives to OIS line.
5105	OIS 105,115,130-B/C	1052A	Prob Only	Prevents Winchester drive heads from banging against stops at power-up, & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 EPROMs. 210-7501-D, R8 EPROMs installed.
5106	7505T,15T,35T,40T,50T	1034	Next Call	Increases current limiting of +12V power supply during power up to prevent premature current foldback with fully loaded master. Increases current capacity of +12V power supply to 5 amps, preventing simultaneous highs on system front panel LEDs. 210-8100 to E-Rev 1.
5106	7540T,7550T	1076	Prob Only	Ensures disk pack interchangeability. Ensures drive reads disk. 210-8098 E-Rev 1 board installed.
5106	7500T/AT OIS/ALLI M.U.	1214	All Units,NC	Ensures integrity where cables are not installed. Washers added to cable clamps.
5106	7500AT	1260	All Units,NC	Prevents shorting against 210-9032 board rail. U-Channel extrusion added to rail.

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01	VS-60/80	1019A	Prob Only	Additional resistance attributed to excessive lead length of current sense resistors on 7210 PCB will cause premature power supply foldback in certain VS-80 systems. 210-7210, resistor leads shortened.
6101	VS-60/80	1029	Prob Only	Prevents main memory parity errors by eliminating noise on bus, starting main memory read cycle at T10 & increasing margin of address set-up time in memory. 210-7300 to E-Rev 1, 210-7413 to E-Rev 1.
6101	VS-60/80	1041	Prob Only	Increases running efficiency by providing improved cooling of PCBs. 279-0484, fan mounting bracket added. 220-1176, AC interconnect cable added.
6101	VS-60/80	1080B	Prob Only	Prevents main memory parity errors by reducing noise on bus. Allows flexibility in use of different vendor ICs. Differentiates between 7401 & 7104 memory PCBs through use of 3-pin header. 210-7413 to E-Rev 2.
6101	22V78 (VS 80)	1145	Prob Only	Adds support for NEC 80 MB fixed disk (2268V-1) & NEC 160 MB (2268V-2). 210-7110-AM, R1 EPROMs installed.
6101	22V05/VS-80 (Kennedy)	1234	Prob Only,NC	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-G, R3 PROMs installed.
6102	22V15-2 (VS 90/100)	1036B	Prob Only,NC	Voids 1036A; Refer to FCO 1224.
6102	VS-90/100	1042	Prob Only	Supports "TRAP 1" hardware initialize by reducing noise in clock signals. 210-7608 to E-Rev 2.

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6102	VS-100, Filter Box	1083	Prob Only	Supplies clearance between J.M.K. Inc., AC filter terminal & metal chassis which prevents potentially dangerous electrical condition from occurring. Filter Box Chassis, "U" channel added.
6102	VS-85/90/100	1124B	Prob Only, NC	voids 1124A; adds support for new disk devices (344MB CDC/FSD drives). Also adds IDENTIFY IOP command. 210-7110-AL, R3 EPROMs installed.
6102	VS-85/90/100	1128	Prob Only	Improves accuracy of Time of Day clock. New crystal oscillator makes Time of Day clock accurate to 10 seconds/day. 210-7602 to E-Rev 2.
6102	22V25/VS-100 (Kennedy)	1233	Prob Only, NC	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-S, R3 PROMs installed.
6102	22V27/VS-100 (Serial)	1235	Prob Only, NC	Corrects SPR# F008748: when first communication with device is unsolicited interrupt (as with opening in-bound circuits on CIU or TCB) SQB is invalid. 210-7110-U, R4 PROMs installed.
'02	VS-90/100	1250	All Units, NC	Improves accessibility to air filters which will facilitate proper & timely service/maintenance of air filters. Changes filters, adds Velcro to grill covers, adds temperature tape.
6103	7585T	1244	All Units, NC	Provides sufficient voltage from J3 pin 7 to J6 pin 4 by improving 5 volt & ground track. 210-8535, to E-Rev 1.
6104	VS-25/45	1016	ASAP	System exhibits "Fatal Task Error" prompt & CRC failure due to faulty ECC Circuitry. 210-8325-A to E-Rev 2.

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04	VS-25/45	1020A	Next Call	VS 25/45 Systems are being upgraded to 512K memory for better performance. 210-7900-3A added.
6104	VS-25/45	1032	Next Call	Corrects failure on DMA Test VS25 DRAM/MM DMA. Facilitates testing of 'Write 8' low-command of main memory controller for future device adapters. 210-8304-A to E-Rev 6.
6104	VS-25/45	1037	Prob Only	Prevents LED display of intermittent 'OOE9' error or program exception on invalid memory address. Reduces unrequired customer calls. 210-7900-3/-4/-5 to E-Rev 2.
6104	VS-25/45	1068	Prob Only	Z7, current limiting choke, is removed from SPS 450E enabling use with NEC 76 Meg Winchester Drive. 210-8011 to E-Rev 1.
6104	VS-25/45	1095A	Prob Only	Replaces FCO 1095. Avoids intermittent problem on some PCBs which results in system hangs. 210-8304-1 to E-Rev 7.
6104	VS-25/45	1103	Prob Only	Deletes Test 68 which checked that LS191 counter did not count when disabled. This is unsupported condition & results in some vendors' ICs failing test. 210-8616-A, R2 EPROMs installed.
6104	VS-25/45	1112A	Prob Only	Supersedes 1112. Corrects parity error on Power Up Diagnostics & removes 'OOFE' error code on front panel. 210-8616 to E-Rev 5.
6104	25V76-2 (VS 15-65)	1141	Prob Only,NC	Corrects incompatibility & communication errors that may occur when used with some modems. 210-8637 to E-Rev 6.
6104	25V76-2 (VS 15-65)	1165	Prob Only,NC	Eliminates two-port TC IOP from causing MRI at power-up resulting in "4E10" error. 210-8637 to E-Rev 5.
6104	VS-15/25/45/65	1198	All Units,NC	Corrects DEAD MAN TIMER to allow TTY & WSN to work. 210-9337 to E-Rev 4.

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104	VS-15/25/45/65	1200	Prob Only,NC	Fails to load remote workstation code. Corrects R1 & R2 artwork. 210-8637, Artwork correction.
6104	VS-15 Buss Processor	1222	Prob Only,NC	Allows code to access SMD drive from port "0" of device adaptor at address "200h" 210-8358-A, R2 PROMs.
6104	VS-25 Buss Processor	1223	Prob Only,NC	Supports new software release. 210-8304-1A, R4 PROMs.
6105	VS-300	1176	Prob Only,NC	Prevents potential problem when using Floating Point option. 210-8832 to E-Rev 4.
6105	VS-300	1186	Prob Only,NC	Eliminates confusion regarding "I/O" slot numbering & "SBI" slot numbering. Correct slot address is needed to IPL. Card designator label changed.
6105	VS-300	1189	Prob Only,NC	Improves reliability of real time clock. This FCO should be done in conjunction with installation of SCU software above 1.02.00. This FCO <u>MUST</u> be done when 1.03.XX SCU software rev is installed. 210-8710 to E-Rev 1.
6105	VS-300	1190	All Units,NC	A "UNIT SELECT TAP" generated from disk IOC may deselect drive causing drive's READY status to appear 'Not Ready' or to oscillate. 210-8785 to E-Rev 4.
6105	VS-300	1191	Prob Only,NC	Second DC PDU is added to accommodate high power consumption of some APA configurations. 279-0673 PDU added.
6105	VS-150/300 SMD Disk	1201A	All Units,NC	Supersedes 1201, Corrects following problems: A. To correct IPL problems from 314 Meg. drive. B. To support future enhancements. 210-8785A/C, R2 EPROMs.

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05	VS-300 Ken. Tape IOC	1225	All Units,NC	A. Enhances load code & off-line diagnostic capabilities. B. Allows BIT to run with tape drive cabled to IOC, though powered off. 210-8790-A, R1 PROMs.
6105	VS-300 Telex Tape IOC	1226A	All Units,NC	Supercedes 1226. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8789-A, R1 PROMs.
6105	VS-300 SIOC	1227B	All Units,NC	Supercedes 1227A. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8609-A, R1 PROMs.
6105	VS-300, Inboard CIU	1228	All Units,NC	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8392-A, R1 PROMs.
6105	VS-300 SIOC w/Fbrwy	1230	All Units,NC	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-9809-A, R1 PROMs.
6106	22V15-2, Telex	1224	All Units,NC	Corrects following problems: A. Corrects hard error "01" in IOSW8. B. Corrects direct address read/write so 2K bytes is addressable. C. Updates error retry algorithm & checks ERR bit. D. Increases retry count on write from 10 to 40. E. Checks errors on motion commands. F. Checks LRC error. 210-7110-AH, R3 PROMs.
6106	VS-85 (LH Power Sup.)	1246	All Units,NC	Corrects AC miswiring & eliminates potential safety issue. Switch two wires.
6107	VS-65	1171	Prob Only,NC	Allows use of port "0" for external drives, rather than internal only. 210-8465-A, R1 EPROMs installed.
6107	VS-65	1310	Prob Only,NC	Prevents speeding up of system clock. 210-9699, to E-Rev 3.

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6108	VS-5/6 (SPS 500)	1205	Prob Only,IM	Grey or spotted insulating fiber sheet may break down in high humidity, causing power supply failures. Insulating sheet is replaced, grey or spotted to white.
6108	VS-6/6E	1311	Prob Only,NC	Prevents speeding up of system clock. 210-9699, to E-Rev 3.
6109	VS-7010	1269	All Units,IM	Prevents system "hangs" caused by malfunctioning clock oscillator. 270-1103 Backplane Ass'y is replaced.
6110	VS-5300	1282	Prob Only,NC	Prevents failure to access drive by enabling SCSI buss terminator power. 210-9116, to E-Rev 1.
6110	VS-5300/5600	1291	Prob Only,NC	Prevents noise which can cause "hangs" and I/O errors on external drives. 210-9109, to E-Rev 4.
6110	VS-5000	1318	Prob Only,NC	1) Prevents "400A" error code from being displayed on front panel LEDs on power-up, 2) prevents IPL drive selection screen from displaying "Type Not Defined" instead of 2269V3H or 2269V4H, and 3) prevents disk drive failure by supporting half/height SCSI disk drives from vendors CDC/IMPRIMIS and MICROPOLIS. 210-9109, R1 PROMs.
6112	VS-75E	1312	Prob Only,NC	Prevents speeding up of system clock. 210-9699, to E-Rev 3.
'12	VS-75E	1313	Prob Only,NC	Prevents a parity error (0035) by grounding the internal disk drives. Ground cable is added.
6201	22V48 (VS 90/100)	1038A	N/A	voids 1038; replaced by FCO 1099.
6201	22V48 (VS 90/100)	1099	All Units	Supercedes 1038. Adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. 210-7110-AK, R2 EPROMs installed.

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01	22V38	1107	All Units	Releases Microcode version 5.2.1 which adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. Ensures data base integrity. 210-7110-AJ, RT EPROMs installed.
7101	WBX	1249	All Units,IM	Provides enhancements to WBX system, which will improve call processing & overall system performance. MP2 replaced by MP3.
7101	WBX	1257	Prob Only,NC	Corrects handset noise problem. Foam insert is added.
7102	6554T TCT/TC1T	1217	All Units,IM	To conform to 7500T standards. 210-8663, C86-C93 capacitors changed.
7102	FW-RCS-16T (FSK)	1219	Prob Only,NC	Prevents power supply from electrically shorting to chassis. Installed washer.
7201	9.6 FAM	1118	All Units	Prevents possibility of overheated transformer. Fan, 9.6 FAM fuse changed to 1/2 amp.
7201	WANGNET FASTLAN	1134	All Units	Components are failing because they do not operate within specified voltage ratings. 210-8432 to E-Rev 1.
7202	CIU-A,-B	1058	Prob Only	Prevents intermittent system hangs by insuring D-Space memory performs 8-bit transfer. 210-7882 to E-Rev 3.
.202	CIU	1061	Prob Only	Compensates for modem carrier levels ignored by BCC receiver as result of maladjustments. 210-7881 to E-Rev 6.
7202	WANGNET	1102	All Units	Eliminates electrical interference problem. 210-8282 to E-Rev 1.
7202	928W Net Mux	1130	Prob Only	Minimize failures resulting from unterminated serial cables. Releases new version of Net Mux Built in Test that supports global modems. 210-8350-A, R3 EPROM installed.

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7202	802.3 Adapter	1281	Prob Only,NC	Retrofit precludes any issues with UL agency certification for units which are wall mounted with power supply facing down. Cover (451-9023) is added.
7300	DLP/64-128	1231	Prob Only,NC	Eliminates intermittent errors when using 128K memory in I/D mode (OIS SNA Release 1.0 & above, X.25 & Teletex). 210-7962/-1, 150 pf capacitor added.
7300	TP-Adapter	1245	Prob Only,NC	Improves system performance for TP baluns configured with short cable runs. 210-8748, change two capacitors.
7300	DLP/128	1267	Prob Only,NC	Eliminates intermittent errors due to RF interference between 210-7963 & 210-7962 PCBs, which could cause "crashing" or "hanging" of DLP 128. RF shield is added between 210-7963 & 210-7962.
7302	DVX/Alliance	1027	Next Call	Interior surface on some rear panel covers used in OIS 140 cabinet were improperly painted. Improper grounding of electrical noise could result. Symptoms will be intermittent system failure that cannot be directly related to either CPU or attached peripherals. Toothed lock washers added.
7302	OIS 140,145	1048	All Units	Reduces noise on "RFOR" signal which results in erratic CRC accumulation. Prevents serial device hang-ups. 210-8349 to E-Rev 4.
7303	22V26 (VS 100)	1002A	N/A	Voids 1002; replaced by 1094A.
7303	22V06 (VS 60/80)	1003A	N/A	Voids 1003; replaced by 1091.
7303	928W Master	1085B	All Units	Voids 1085A; discontinues FCO kit.
7303	22V06 (VS 60/80)	1091	All Units	Supercedes 1003. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1B & 210-7826-B to E-Rev 1 & R1 EPROMs installed.

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03	22V26 (VS 100)	1094A	All Units	Replaces FCO 1002. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1A & 210-7826-A to E-Rev 1 & R5 EPROM installed.
7303	22V67 (VS 90/100)	1139B	All Units	Supercedes 1139A. Creates 5 MHz Z80 Bus Processor version for 22V67 & speeds transfer time between VS & IOP, allowing peripheral band to perform almost as fast as base band version. To release R1 EPROMs 210-7826-1A EPROMs, R1, RAMs, Z80 installed.
7401	928W Global Modem	1206A	N/A	FCO is voided.
7501	IOMP/DVX	1117A	Prob Only	Supercedes 1117. Prevents DVX systems from becoming insensitive to various 'hand held' Dual Tone Multi-frequency (DTMF) generators. 210-7835, 210-8144 (212-3063) trunk board added.
7501	DVX 1.5 (Trunk Board)	1239	All Units, NC	A. Eliminates "choppy message" problems related to VOX circuitry. B. Modifies hardware to allow pause suppression to be enabled/disabled as customer option. NOTE: Software patches PA506A7A & PA506A7B are used with this FCO. 210-8735-A, two (2) jumpers/etch cuts.
8101	PC	1031A	Next Call	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
8101	PC	1039	Prob Only	Prevents system hangs when using certain CP/M application software. 210-8221 to E-Rev 6.

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7101	PC	1059A	Prob Only	Obsoletes all previous revisions of PC firmware. Corrects time out problem in power-up diagnostic code when using IMI Winchester disk drive. Adds capacity to use both 10 & 30 megabyte drives without future firmware change. Ensures Winchester disk drive will function properly when 256K expanded memory PCB is installed. 210-8225-A, R3 EPROM installed.
8101	PC	1063	Prob Only	Eliminates noise on "DACK" lines which can cause data transfer errors between 8221-R3 Artwork PCB & 210-8225 PCB. 210-8237 to E-Rev 1.
8101	PC	1093A	N/A	Voids 1093; replaced by FCO 1122.
8101	PC	1106	Prob Only	Adds support for diagnosis of Wang PIC Image Monitor, Local Communications Option, Local Interconnect Option, Remote TC, & Multi-port PCBs. Provides initial support for Remote Bootstrap from attached Wang OIS system via LCO PCB. Corrects 'Hi Res' monitor sync problem. Corrects power-up test of 928 PCB without Z80. Adds more floppy disk alignment capability, i.e., ability to view output of both upper & lower heads. 210-8221-A, 210-9221-A, R2 EPROMs installed.
8101	PC (TC)	1109	Prob Only	Prevents RS232 CTS signal from disabling transmitter. 210-8251 to E-Rev 3, 210-9251 to E-Rev 2.
8101	PC	1121	Prob Only	Improves compatibility between floppy drives. 210-8221 to E-Rev 12, 210-9221 to E-Rev 4.
8101	PC	1122A	N/A	Voids 1122; replaced by FCO 1151.
8101	PC	1142	Prob Only	Allows co-processor (8087) to operate with 9521 PCB. Allows PC diagnostic system to display list of options for various diagnostics & software. 210-9251/-17-2/-3 to E-Rev 4.

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01	PC	1146	Prob Only	Allows IBM monochrome emulator & IBM color PCB to operate in system simultaneously. 210-9443 to E-Rev 5.
8101	PC	1151C	Prob Only,NC	Supersedes 1151B. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Adds support for Micropolis 30 & 40 Meg drives. Provides improved margin testing & error recovery. 210-8225-A, 210-9025-A, or 210-9225-A, PCB R12 EPROM installed.
8101	PC	1182	Prob Only,NC	Corrects "System Parity" & "I/O Parity" errors that occur on power-up in heavily loaded 8-slot PCs. 210-9521 to E-Rev 5.
8101	APC	1211	Prob Only,NC	Corrects following problems: 1) For proper IBM emulations, code was changed to distinguish between IBM AT & IBM XT. 2) Corrects several "Warm Boot" problems related to occasional keyboard failures. 3) Improves LCO power-up diagnostics. 210-9721, R1 EPROMs.
8101	VD-0001-PC2	1268	All Units,IM	Prevents system "lock-up", which may occur when attempting to load Microsoft Windows. Corrects erratic video problems such as missing lines encountered when in "Hercules" mode & bad video when in some CGA applications. 210-8986 PCB is replaced.
8101	WLOC Option	1283	Prob Only,NC	To eliminate "30]" keyboard error on power up when using a 723 keyboard on COMPAQ computers. 723 keyboard, EPROM.
8101	PC 380	1284A	Prob Only,NC	voids FCO 1284. Refer to FCO 1308.
8101	PC 240	1285	Prob Only,NC	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-8800, R2 EPROM.

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9101	PC 280	1286	Prob Only,NC	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-9451, R2 EPROM.
8101	PC 240	1287	Prob Only,NC	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-8800, R4 EPROMS.
8101	PC 280	1288	Prob Only,NC	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-9451, R4 EPROMS.
8101	PC 240	1289	Prob Only,NC	Prevents the following intermittent problems: software damage, inability to "boot" PC, read/write errors, and disk access errors. 210-8801, replaced.
8101	PC 240	1304	All Units,NC	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-8800, 82A205 IC changed.
8101	PC 280	1305	All Units,NC	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-9451, 82A205 IC changed.

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01	PC 280T	1306	All Units,NC	Prevents memory parity error caused by faulty National (NLA205V) IC (causes false parity messages to be generated and displayed on screen. 210-9500, 82A205 IC changed.
8101	PC 380	1308	Prob Only,NC	A) Prevents keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX, B) Corrects intermittent "hang" problem under OS/2 when the diskette is accessed from DOS compatibility mode. 725-3466, Keyboard controller PROM to 377-4012-R2.
8101	PC 280	1321	Prob Only,NC	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
8101	PC 380	1322	Prob Only,NC	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
8101	PC 381	1323	Prob Only,NC	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
101	PC 382	1324	Prob Only,NC	Prevents indication of hard disk failure on power-up. Prevents system configuration errors on power-up. Prevents loss of or incorrect time on system clock. 210-9461, to E-Rev 5.
8101	PC 280/380	1326	Prob Only,NC	1) Supports WIIS/FREESTYLE integration. 2) Corrects WP Plus underscore problems. 210-9229, R2 PROMs.
8101	PC 240	1329	Prob Only,NC	Corrects WP Plus underscore problems. 210-9229, R2 PROMs.

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8201	75PC-T	1120	Prob Only	Prevents PCB from sticking to copper-sprayed bottom cover, fish paper is added to K/B base. PC K/B.
8201	75PC-T	1123	Prob Only	Improves compatibility between floppy drives. 210-8644 to E-Rev 3.
8201	75PC-T	1125	All Units	Provides greater tolerance for variations in performance of hardware used in interface between CPU & floppy drives. Connectors changed.
8201	75PC-T	1137A	N/A	voids 1137; replaced by FCO 1157B.
8201	7502-T	1138	Prob Only	Corrects intermittent problems & hang-ups with various combinations of Winchester Controller, Graphic, Ext. Memory & CPU PCBs. 210-8641 E-Rev 1 board installed.
8201	75PC-T	1157B	All units	Supercedes 1157A. Conforms to 7500T standards. Monitor modified, ground clip added, 210-8645 to E-Rev 4.
8201	75PC-T (Monitors)	1159	Prob Only,NC	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 cable clip added.
8201	75PC-T	1167B	Prob Only,NC	Supercedes 1167A. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Provides improved margin testing & error recovery. 210-8655-A & 210-8855-A, R12 EPROM installed.
8201	75PC-T	1180	All Units,NC	Improves shielding. CRT Socket modified, Monitor ground cable changed.
8201	75PC-T	1193	All Units,NC	Incorporates power-up diagnostics support of LCO, RTC, & MCC options. 210-8644-A, R2 EPROMs.

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.01	75PC-T	1194	Prob Only,NC	Prevents RS232 CTS signal from disabling transmitter. (Characters in print file are dropped.) 210-8653 to E-Rev 2.
8201	PC 280T	1265	All Units,NC	To conform with 7500T/Secure Products standards. Cable changed; finger stock added.
8201	MON-1450-PC2T	1271	All Units,IM	To ensure 7500T/Secure Systems compliance margin. External tooth lockwashers are added to cover.
8201	75PC-T/XAPC-T	1280	Prob Only,NC	Prevents warranty voids and incidental failures on drives due to improper use of the cartridge interlocking switch. Improved mylar window is added.
8201	75PC-T/-XCx-3T/XAPC-T	1290	All Units,IM	To ensure 7500T/Secure Systems standards. Cables replaced, gasket & jumper added, springs & clips replaced.
8201	PC 280T	1307	Prob Only,NC	A) To upgrade to ROM BIOS Versions 3.10.02. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems in OS/2 when switching from real mode to protected mode. D) To allow for valid burn-in test on 210-9500 CPU board. E) To correct CMOS Configuration Program. 210-9500, R4 EPROMs.
.01	PC 280T	1317	Prob Only,NC	Prevents keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or using SCO XENIX. 210-9500, R2 PROM.
8202	75PC-T/XAPC-T	1232	All Units,IM	To conform to Secure Product standards. Add new finger contact strips.
8301	WOA 20/40	1135	Prob Only	Prevents failures resulting from loose ground strap on inside of base unit cover. 279-0599/0600, 279-0648 ground strap changed.

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
9301	WOA 20/40	1148	All Units	Reduces radio emissions & ensures all units meet FCC Class "B" requirements. Keeps 80186 microprocessor (L114) running below 55 degrees C. 210-8556 (279-0648/0600) to E-Rev 4.
8301	WOA 20 with 279-0599	1149	All Units,NC	Installs heatsink which keeps 80186 microprocessor running below 55 degrees C. Provides insulation between daughter board of CPU assembly & switching power supply. 210-8356 & 210-8856 PCBs of 279-0599 CPU.
8301	WOA 20/40	1160	Prob Only,NC	Improves timing window for floppy phase lock loop. Change makes it easier to use varied quality diskettes. 210-8356 to E-Rev 7, 210-8556 to E-Rev 5.
8301	WOA 20/40	1162	Prob Only,NC	Small number of WOAs were shipped with marginal 7201 NEC communications controller chips which could cause transmission & receive errors (no WSN). Change NEC chip if present. 210-8356, 210-8556 NEC chip changed.
8301	8700 Terminal	1314	Prob Only,NC	For 8700 Financial Terminal Operating System 2.0 and higher, and to support MSDOS file support. 210-8556-2, R1 PROMs.
8501	WLTC	1251	All Units,NC	Prevents fuse from "blowing" when plastic-type SCSI Connector is plugged into External Floppy Disk Unit upside-down. Adds POLY FUSE.
MANY	Monitors	1153	Prob Only,NC	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 clip added.
N/A	720 Keyboards	1247	Prob Only,NC	Corrects spurious reset problem. Keyboard PCB, add 1000 pf capacitor.
N/A	9618	1264	All Units,IM	Prevents disk drive failures by reducing 240V output voltage by 8%. 49.9K ohm resistor added.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1001	Immediate	2201	TB 216 (FTU)	Add features; change EPROMs to ROMs. JGX (CDC).
1002A	N/A	7303	22V26 (VS 100)	Voids 1002; replaced by 1094A.
1003A	N/A	7303	22V06 (VS 60/80)	Voids 1003; replaced by 1091.
1004A	Next Call	3105	2280,6580	Provides protection to heads & media by adding pressure sensor device. 726-6847 (CDC) filter added.
1005A	Next Call	4103	2200 SVP/LVP	I93 error "SEEK COMPLETE" would occur on Winchester Disk. DPU would not pass power-up diagnostics when switches were set to floppy only. Floppy door will unlock after 5 seconds of non-use. Format error found within alternate sector during FORMAT DISK operation is now recovered by software. 210-8696-A/-B, R9 EPROMs installed.
1006	Next Call	4103	2200 SVP-A/X	Corrects record handling capabilities, I94 or I98 errors, & improperly reported format errors that may occur on 26th sector. Improves verify speed & speeds sequential read write. 210-7890-A, R2 EPROMs installed.
1007	Next Call	3101	2200 SVP/LVP	Provides valid "SEEK COMPLETE" signal to controller. Shugart PCB #26073-5.
1008	Next Call	5105	OIS 105,115	Reduces band width of PLL filter, minimizing disk retry errors. 210-7653 to E-Rev 9.
1009	ASAP	3404	ERGO II	New control codes allow easier aligning of characters in proportional spacing. Length of cursor will be proportional to that of character. 210-7671 to E-Rev 5.
1010A	Next Call	5104	5504	Corrects VCO circuit which locks onto harmonic frequency disabling read operation. 210-7977 to E-Rev 5.
1011	Prob Only	5105	EM-OIS	Prevents occurrence of non-maskable interrupt during reset cycle. 210-7685 to E-Rev 4.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1012	Prob Only	5105	OIS 105,115	Eliminates indeterminate logic state that sometimes occurs after seek, resulting in retry. 210-7653 to E-Rev 10.
1013	Next Call	3302	5577	Provides software with control line to disable all stepping motors when printer is idle. 210-7677 to E-Rev 2.
1014	Prob Only	3305	2281W/5541W&WC/6581W	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-7360 to E-Rev 14, 210-7361 to E-Rev 9, 210-7364 to E-Rev 11.
1015	Next Call	3704	7536T	CRT screen tends to flicker if space bar is depressed due to horizontal phase shift problem. 210-8067 to E-Rev 1.
1016	ASAP	6104	VS-25/45	System exhibits "Fatal Task Error" prompt & CRC failure due to faulty ECC Circuitry. 210-8325-A to E-Rev 2.
1017B	Prob Only	3404	ERGO III	Prevents ERGO III W/S from hanging, provides interface to parallel & serial K/Bs, prevents possible hardware damage & "Cancel" & "Execute" keys from repeating. 210-7916-B through 210-7916-AR, 210-7970-A, 210-8470-A, R4 EPROM.
1018	Prob Only	5105	105/115/125A/130A-F	High transistor gain causes premature failure of Regulator PCB. 210-7887, resistor added.
1019A	Prob Only	6101	VS-60/80	Additional resistance attributed to excessive lead length of current sense resistors on 7210 PCB will cause premature power supply foldback in certain VS-80 systems. 210-7210, resistor leads shortened.
1020A	Next Call	6104	VS-25/45	VS 25/45 Systems are being upgraded to 512K memory for better performance. 210-7900-3A added.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1021	ASAP	3318	LPS-12	New photoreceptor added to LPS-12 units will produce copies with excessive gray background unless high voltage power supply is modified. HVPS modified.
1022	Prob Only	3703	7581 WT/WCT	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-8070 to E-Rev 2, 210-8071-A to E-Rev 2, 210-8072-A to E-Rev 1.
1023	Prob Only	3305	DW/22-20	Corrects erratic line feed problems, special character attribute problems (i.e., bold print, auto slashing, superscript & subscript) & erratic twin sheet feeder problems. 210-7886-1A, R2 EPROMs installed.
1024A	Prob Only	3105	2280,2280V,6580	Assures compatibility of CDC Phoenix 9448 CMD with A-Cable Terminator. Corrects intermittent device selection errors. 210-8017 added.
1025	Prob Only	3305	2281,81P,81W,81WC	Assures ground between printer & 2200. 510-5223-C, finger board added.
1026	Prob Only	5105	OIS 105,115	Increases heat dissipation of heat sink & redirects air flow for better cooling of transistors. Fan, Heatsink modified.
1027	Next Call	7302	DVX/Alliance	Interior surface on some rear panel covers used in OIS 140 cabinet were improperly painted. Improper grounding of electrical noise could result. Symptoms will be intermittent system failure that cannot be directly related to either CPU or attached peripherals. Toothed lock washers added.
1028	Next Call	5105	OIS 105,115	Corrects potential problem of power supply connectors melting under high current conditions. P.S. Connectors modified.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1029	Prob Only	6101	VS-60/80	Prevents main memory parity errors by eliminating noise on bus, starting main memory read cycle at T10 & increasing margin of address set-up time in memory. 210-7300 to E-Rev 1, 210-7413 to E-Rev 1.
1030	Next Call	3314	5548Z	Prevents Photo Typesetter hang-ups by improving performance of turret solenoid through reduction of current demand on 725-0079 power supply. 210-7548, diode removed.
1031A	Next Call	8101	PC	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
1032	Next Call	6104	VS-25/45	Corrects failure on DMA Test VS25 DRAM/MM DMA. Facilitates testing of 'Write 8' low-command of main memory controller for future device adapters. 210-8304-A to E-Rev 6.
1033A	Next Call	3404	ERGO III	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added.
1034	Next Call	5106	7505T,15T,35T,40T,50T	Increases current limiting of +12V power supply during power up to prevent premature current foldback with fully loaded master. Increases current capacity of +12V power supply to 5 amps, preventing simultaneous highs on system front panel LEDs. 210-8100 to E-Rev 1.
1035	Prob Only	4201	2236MXD	Prevents intermittent system hangs. 210-7591 to E-Rev 1.
1036B	Prob Only,NC	6102	22V15-2 (VS 90/100)	voids 1036A; Refer to FCO 1224.
1037	Prob Only	6104	VS-25/45	Prevents LED display of intermittent 'OOE9' error or program exception on invalid memory address. Reduces unrequired customer calls. 210-7900-3/-4/-5 to E-Rev 2.
1038A	N/A	6201	22V48 (VS 90/100)	voids 1038; replaced by FCO 1099.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1039	Prob Only	8101	PC	Prevents system hangs when using certain CP/M application software. 210-8221 to E-Rev 6.
1040	All Units	3404	5530/5540,ERGO III	Complies with FCC RFI regulations. Ground lug added.
1041	Prob Only	6101	VS-60/80	Increases running efficiency by providing improved cooling of PCBs. 279-0484, fan mounting bracket added 220-1176, AC interconnect cable added.
1042	Prob Only	6102	VS-90/100	Supports "TRAP 1" hardware initialize by reducing noise in clock signals. 210-7608 to E-Rev 2.
1043A	Next Call	3106	2265V-2	Increases amp rating of CB10 & CB11 circuit breakers to prevent nuisance tripping. Assures proper operation of drive motor brake & prevents unimpeded pack rotation when either circuit breaker is open. 12 amp circuit breakers added.
1044	Next Call	3106	2265V-3	Three ganged circuit breakers (CB2, CB3, & CB4) on AC power supply may physically appear activated while electrically any one of them may have tripped to deactivated state. Gang pin removed.
1045	Prob Only	4103	2200 VP/MVPA/MVPC/LVP	Thin fan is required in I/O section of chassis to accommodate increased length of MXE PCB. 400-1029 fan installed.
1046	Prob Only	3404	ERGO II,TC-800&-5900	Ensures reliable TC connection & prevents transmission errors due to fluctuating ground signals. 210-8181 to E-Rev 2, 210-7681 to E-Rev 4, 210-7681-1 to E-Rev 3, 210-7681-2 to E-Rev 2.
1047	Prob Only	3404	ERGO III,TC-300	Provides logic ground to TC modem. Prevents TC transmission errors. 210-7917 to E-Rev 3.
1048	All Units	7302	OIS 140,145	Reduces noise on "RFOR" signal which results in erratic CRC accumulation. Prevents serial device hang-ups. 210-8349 to E-Rev 4.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1049	Prob Only	3106	2265V-1	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOPs. 210-7477 to E-Rev 1.
1050A	N/A	3302	5577	VOIDS 1050; replaced by FCO 1116.
1051C	Prob Only,NC	5105	All OIS 105-130E	Prevents Winchester drive heads from banging against stops at power up & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 & R5 EPROMs. 210-7684-A, R5 & R8 EPROMs installed. Adds 344 Meg drives to OIS line.
1052A	Prob Only	5105	OIS 105,115,130-B/C	Prevents Winchester drive heads from banging against stops at power-up, & eliminates resultant 1, 2, & 4 error code displays on front panel LEDs. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 EPROMs. 210-7501-D, R8 EPROMs installed.
1053	Prob Only	3106	2265V-2	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.
1054	Prob Only	3106	2265V-3	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38 & 22V48 IOPs. 210-7477 to E-Rev 1.
1055	Prob Only	5104	5504,5524 With TC	Corrects timing problems & enables proper execution of system software. 210-7975 to E-Rev 7.
1056	Prob Only	4103	SVP	Reduces audible noise level of unit & increases cooling of diskette drive. Fan & fan guard replaced, heatsink modified.
1057A	N/A	3305	DW/OS-20,PC-PM011	VOIDS 1057; replaced by FCO 1115.
1058	Prob Only	7202	CIU-A,-B	Prevents intermittent system hangs by insuring D-Space memory performs 8-bit transfer. 210-7882 to E-Rev 3.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1059A	Prob Only	8101	PC	Obsoletes all previous revisions of PC firmware. Corrects time out problem in power-up diagnostic code when using IMI Winchester disk drive. Adds capacity to use both 10 & 30 megabyte drives without future firmware change. Ensures Winchester disk drive will function properly when 256K expanded memory PCB is installed. 210-8225-A, R3 EPROM installed.
1060B	Prob Only	3305	DW/22-20	Corrects light print & increases ribbon motor pulse. 210-7886-1A, R3 & R4 EPROMs installed.
1061	Prob Only	7202	CIU	Compensates for modem carrier levels ignored by BCC receiver as result of maladjustments. 210-7881 to E-Rev 6.
1062	Prob Only	3318	LPS-12	Provides contact on ends of rolls for effective snuffing of burning paper on printers without Tag 49. Snuffer Roll modified.
1063	Prob Only	8101	PC	Eliminates noise on "DACK" lines which can cause data transfer errors between 8221-R3 Artwork PCB & 210-8225 PCB. 210-8237 to E-Rev 1.
1064A	Prob Only	3105	2280,2280V,6580	Enables use of low air option, increases shroud pressure, & increases device cooling. H.V. Blower replaced.
1065	Prob Only	3106	2265V-1,6565,7565T	Safety problems for customer engineers working inside unit. AC voltage remains active in unit with CBl in OFF position. (No safety problem for customers.) Circuit breakers wire removed.
1066	Prob Only	3703	7581W-T/WC-T,7582T	Corrects misprints. 210-8070 R0 artwork correction.
1067	All Units	5103	OIS 40/40B/50	Systems with internal printer controller option require change to correct print failure problems. 210-8280 to E-Rev 4.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1068	Prob Only	6104	VS-25/45	Z7, current limiting choke, is removed from SPS 450E enabling use with NEC 76 Meg Winchester Drive. 210-8011 to E-Rev 1.
1069	Prob Only	3202	2229,2529V,6529	Upgrades unit to work with 6.11 Operating System. 726-6202 Formatter PCB, 726-6338 EPROM added.
1070	Prob Only	3318	LPS-12	Blocks satellite laser beam near shutter. Gasket modified.
1071	Prob Only	3318	LPS-12	Reduces drum crystallization by cooling printer cavity. 726-7014, control PWB EPROM replaced, harness rewired.
1072	Prob Only	3106	2265V-2,6565	Reduces static problems in unit by properly grounding I/O cables at base of CDC Cabinet & complies with FCC regulations. 452-2779 cable clamp added.
1073	Prob Only	3302	2233/2235,5533/5535	Shortens bleed off time & prevents PCB failures during trouble shooting at customer sites, & ensures compliance with UL. 210-7595 to E-Rev 1.
1074	Prob Only	3301	2263,2263V,5570,5571	Fixes paper-out switch problem which results in intermittent 'paper-out' indication & printer printing over previous text when re-selected. 210-7386 to E-Rev 2.
1075	Prob Only	3302	SPS 613	Ensures power up signal reliability. 210-8006 to E-Rev 7, 210-8206 to E-Rev 1.
1076	Prob Only	5106	7540T,7550T	Ensures disk pack interchangeability. Ensures drive reads disk. 210-8098 E-Rev 1 board installed.
1077	All Units	5103	OIS 40/40B/50	Ensures compatibility & reliability when internal printer controller option is used with 25 & 50 foot cables. 210-8280 to E-Rev 5.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1078	Prob Only	3708	7582T TSF (Ziyad)	Ensures proper side-to-side tray registration. 726-2782 springs replaced.
1079	Prob Only	3308	5575	Evens out printing on ribbon, ensures proper detection of ribbon, & eliminates printing without ribbon covering either edge of form. Sensors will detect ribbon fold at end of ribbon life. Ribbon Mask replaced.
1080B	Prob Only	6101	VS-60/80	Prevents main memory parity errors by reducing noise on bus. Allows flexibility in use of different vendor ICs. Differentiates between 7401 & 7104 memory PCBs through use of 3-pin header. 210-7413 to E-Rev 2.
1081	All Units	3404	4205/4230	Achieves compatibility with previous underline attribute code. Corrects missing cursor problem in applications such as List Processing, Advanced Functions, or CP/M. 210-8287 to E-Rev 5, 210-8287-1 to E-Rev 2, 210-8287-2 to E-Rev 1.
1082	Prob Only	3302	5577	Reduces static susceptibility. Ribbon Motor Assembly modified.
1083	Prob Only	6102	VS-100, Filter Box	Supplies clearance between J.M.K. Inc., AC filter terminal & metal chassis which prevents potentially dangerous electrical condition from occurring. Filter Box Chassis, "U" channel added.
1084	All Units	3106	2265V-3	Allows better recovery from low voltage transient. Improves daisy chaining power-up compatibility with storage module drive. Allows system to clear voltage fault over I/O. 726-6830-1 QKTX logic PCB added.
1085B	All Units	7303	928W Master	voids 1085A; discontinues FCO kit.
1086A	N/A	3107	2280 DPU	voids 1086; replaced by FCO 1114.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1087	Prob Only	3404	ERGO II,TC-900	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7681 to E-Rev 5, 210-7681-1 to E-Rev 4, 210-8181 to E-Rev 3.
1088	Prob Only	3404	ERGO III,TC-310,30,40	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7917 to E-Rev 4.
1089	Prob Only	3402	5536-3/-4	Provides signal "LC3" on motherboard for Teletex Date & Time PCB. 210-7542-2 to E-Rev 3.
1090	All Units	3106	2265V-3	Prevents pin solder failure on edge connector of drive motor & motor control PCB. AC Power Supply wires modified.
1091	All Units	7303	22V06 (VS 60/80)	Supercedes 1003. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1B & 210-7826-B to E-Rev 1 & R1 EPROMs installed.
1092A	All Units	3703	7582T,7582T-WPS	Provides ability to print on all but last line of paper, eliminates removal of forms tractor to change ribbon, enables shifting between forms tractor & sheet feeder without C.E. assistance, corrects design problems, adds internal lighting. Printer parts added.
1093A	N/A	8101	PC	voids 1093; replaced by FCO 1122.
1094A	All Units	7303	22V26 (VS 100)	Replaces FCO 1002. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1A & 210-7826-A to E-Rev 1 & R5 EPROM installed.
1095A	Prob Only	6104	VS-25/45	Replaces FCO 1095. Avoids intermittent problem on some PCBs which results in system hangs. 210-8304-1 to E-Rev 7.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1096	All Units	3302	5577	Provides better grounding between top cover & lower cover. Improves grounding by using conductive material. 478-1226, metal pin clips added.
1097A	All Units	3404	2246R	Supersedes 1097. Releases Remote Data Link Processor PROM microcode version 4.01.00. Improves error recovery & retry processing. 210-7478-A, R1 EPROMs installed.
1098	All Units	3310	PIC PMO4	Corrects timing problem causing bad print quality. 210-8774 to E-Rev 2.
1099	All Units	6201	22V48 (VS 90/100)	Supersedes 1038. Adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. 210-7110-AK, R2 EPROMs installed.
1100A	N/A	3110	2275-10,20,30	voids 1100; replaced by FCO 1111.
1101	Prob Only	3302	5577	Prevents printer hangs resulting from electrostatic discharge. Shielded cables installed.
1102	All Units	7202	WANGNET	Eliminates electrical interference problem. 210-8282 to E-Rev 1.
1103	Prob Only	6104	VS-25/45	Deletes Test 68 which checked that LS191 counter did not count when disabled. This is unsupported condition & results in some vendors' ICs failing test. 210-8616-A, R2 EPROMs installed.
1104	All Units	3310	PIC	Improves timing margin on Video Data with respect to Clock. Puts correct firmware into all cameras built to date. Corrects "Photo" (Dither) Image. 210-8454 to E-Rev 2 & R3 PROMs installed.
1105	Prob Only	3318	LPS-12	Prevents potential shock hazard by installing fuse shield which was omitted in some 50 Hz units. Fuse shield added.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1106	Prob Only	8101	PC	Adds support for diagnosis of Wang PIC Image Monitor, Local Communications Option, Local Interconnect Option, Remote TC, & Multi-port PCBs. Provides initial support for Remote Bootstrap from attached Wang OIS system via LCO PCB. Corrects 'Hi Res' monitor sync problem. Corrects power-up test of 928 PCB without Z80. Adds more floppy disk alignment capability, i.e., ability to view output of both upper & lower heads. 210-8221-A, 210-9221-A, R2 EPROMs installed.
1107	All Units	6201	22V38	Releases Microcode version 5.2.1 which adds more "Set Busy" comments to avert hardware situation where busy state can be reset incorrectly. Ensures data base integrity. 210-7110-AJ, R1 EPROMs installed.
1108	Prob Only	3308	2273-1,5573	Possibility exists that terminals on CRT Breaker Surge Resistor may become loose because of improper crimping. Surge resistor changed.
1109	Prob Only	8101	PC (TC)	Prevents RS232 CTS signal from disabling transmitter. 210-8251 to E-Rev 3, 210-9251 to E-Rev 2.
1110	All Units	3311	IP4ID	Prevents burned out video PCBs resulting from failure of regulator to supply +22 volts. 210-7764 to E-Rev 3.
1111A	All Units,NC	3110	2275-10,20,30	Voids 1111; replaced by FCO 1202.
1112A	Prob Only	6104	VS-25/45	Supersedes 1112. Corrects parity error on Power Up Diagnostics & removes 'O0FE' error code on front panel. 210-8616 to E-Rev 5.
1113	All Units	3106	2265V-2,6565-2	Alters air flow in shroud area reducing possibility of contamination entering pack/head area. Gasket/Baffle added.
1114A	All Units	3107	2280 DPU/MUX	Voids 1114; refer to FCO 1168.

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1115	Prob Only	3305	DW/OS-20,PC-PM011	Supercedes 1057. Corrects light print, increases ribbon motor pulse, & prevents ribbon motor failures. 210-7886-A, 210-7886-1B, R5 & R8 EPROMs installed.
1116	All Units	3302	5577	Supercedes 1050. Prevents cross talk in L13 which causes printer to hang when selecting & deselecting. 210-8174 to E-Rev 5.
1117A	Prob Only	7501	IOMP/DVX	Supercedes 1117. Prevents DVX systems from becoming insensitive to various 'hand held' Dual Tone Multi-frequency (DTMF) generators. 210-7835, 210-8144 (212-3063) trunk board added.
1118	All Units	7201	9.6 FAM	Prevents possibility of overheated transformer. Fan, 9.6 FAM fuse changed to 1/2 amp.
1119	Prob Only	3204	2219V	Reduces possibility of tape slippage by raising capstan vacuum. Capstan holes covered.
1120	Prob Only	8201	75PC-T	Prevents PCB from sticking to copper-sprayed bottom cover, fish paper is added to K/B base. PC K/B.
1121	Prob Only	8101	PC	Improves compatibility between floppy drives. 210-8221 to E-Rev 12, 210-9221 to E-Rev 4.
1122A	N/A	8101	PC	Voids 1122; replaced by FCO 1151.
1123	Prob Only	8201	75PC-T	Improves compatibility between floppy drives. 210-8644 to E-Rev 3.
1124B	Prob Only,NC	6102	VS-85/90/100	Voids 1124A; adds support for new disk devices (344MB CDC/FSD drives). Also adds IDENTIFY IOP command. 210-7110-AL, R3 EPROMs installed.

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1125	All Units	8201	75PC-T	Provides greater tolerance for variations in performance of hardware used in interface between CPU & floppy drives. Connectors changed.
1126	Prob Only	3308	2273-1,-2,5573,5574	Band cover interlock switch may fail to function due to contact contamination. May result in band motion while band cover is open. Band Cover Interlock Switch changed.
1127	Prob Only	3302	5577	Enables printer to recover from paper jam which displaces head so it interrupts either margin sector causing printer to hang. 210-8174-A, R4 EPROM installed.
1128	Prob Only	6102	VS-85/90/100	Improves accuracy of Time of Day clock. New crystal oscillator makes Time of Day clock accurate to 10 seconds/day. 210-7602 to E-Rev 2.
1129A	All Units	3404	4205A (Middle East)	Supercedes 1129. Enhanced software eliminates need for special version PCB allowing use of standard (-1) PCB in Middle East W/S. 210-8287-3/-3A created.
1130	Prob Only	7202	928W Net Mux	Minimize failures resulting from unterminated serial cables. Releases new version of Net Mux Built in Test that supports global modems. 210-8350-A, R3 EPROM installed.
1131	Prob Only	3107	2280 DPU/MUX	Standoffs are changed to improve connection between cable ground shield & controller. Corrects static problem & improves grounding. 210-7717, standoffs changed.
1132	Prob Only	3106	2265V-1	Provides FCC-approved top inner weldment cover which will accommodate variations of position in 80 Meg Drive relative to chassis assembly & prevents "A" & "B" cables from fraying & slicing. 458-3276 weldment cover replaced.

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1133A	All Units	3701	7565-1T	Supercedes 1133. Complies with 7500T standard. 654-1369 finger stock added.
1134	All Units	7201	WANGNET FASTLAN	Components are failing because they do not operate within specified voltage ratings. 210-8432 to E-Rev 1.
1135	Prob Only	8301	WOA 20/40	Prevents failures resulting from loose ground strap on inside of base unit cover. 279-0599/0600, 279-0648 ground strap changed.
1136	Prob Only	3106	2265V-2	Plastic plunger on pack access cover switch may break. Could cause spindle to continue to spin when pack access cover is open. Switch Assembly changed.
1137A	N/A	8201	75PC-T	VOIDS 1137; replaced by FCO 1157B.
1138	Prob Only	8201	7502-T	Corrects intermittent problems & hang-ups with various combinations of Winchester Controller, Graphic, Ext. Memory & CPU PCBs. 210-8641 E-Rev 1 board installed.
1139B	All Units	7303	22V67 (VS 90/100)	Supercedes 1139A. Creates 5 MHz Z80 Bus Processor version for 22V67 & speeds transfer time between VS & IOP, allowing peripheral band to perform almost as fast as base band version. To release R1 EPROMs 210-7826-1A EPROMs, R1, RAMs, Z80 installed.
1140	Prob Only	5103	OIS 40/50/60	Provides correct reset pulse width to 8031 chip. Hangs when shift/cancel keys are struck during IPL. 210-8274-A to E-Rev 8.
1141	Prob Only,NC	6104	25V76-2 (VS 15-65)	Corrects incompatibility & communication errors that may occur when used with some modems. 210-8637 to E-Rev 6.

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1142	Prob Only	8101	PC	Allows co-processor (8087) to operate with 9521 PCB. Allows PC diagnostic system to display list of options for various diagnostics & software. 210-9251/-1/-2/-3 to E-Rev 4.
1143	Prob Only	3308	DW/OS-55/PM014	Corrects ribbon advance problem which resulted in poor print quality when using metal print wheels. 725-1510, Logic PCB EPROM (726-1543-1) installed.
1144	All Units	3308	PM014	Corrects firmware problem which causes loss of left margin during Ziyad sheet feeder use. Changes character set of printer to comply with ASCII. Allows support of IBM PC emulation on Wang PC. 725-1557, Interface PCB EPROMs installed.
1145	Prob Only	6101	22V78 (VS 80)	Adds support for NEC 80 MB fixed disk (2268V-1) & NEC 160 MB (2268V-2). 210-7110-AM, R1 EPROMs installed.
1146	Prob Only	8101	PC	Allows IBM monochrome emulator & IBM color PCB to operate in system simultaneously. 210-9443 to E-Rev 5.
1147	All Units	3705	7561T WISE	Polarities of C65 on 210-8127 PCB are reversed. Deterioration of cap could result in WISE unit failures. 210-8127 cap polarity corrected.
1148	All Units	8301	WOA 20/40	Reduces radio emissions & ensures all units meet FCC Class "B" requirements. Keeps 80186 microprocessor (L114) running below 55 degrees C. 210-8556 (279-0648/0600) to E-Rev 4.
1149	All Units,NC	8301	WOA 20 with 279-0599	Installs heatsink which keeps 80186 microprocessor running below 55 degrees C. Provides insulation between daughter board of CPU assembly & switching power supply. 210-8356 & 210-8856 PCBs of 279-0599 CPU.

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1150	Prob Only	3403	4200	Eliminates potential shock hazard when used at 220 volts. 725-2749/-10, Harris SPS 80, bleeder resistor added.
1151C	Prob Only,NC	8101	PC	Supercedes 1151B. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Adds support for Micropolis 30 & 40 Meg drives. Provides improved margin testing & error recovery. 210-8225-A, 210-9025-A, or 210-9225-A, PCB R12 EPROM installed.
1152B	Prob Only,NC	5103	OIS 140,145	Supercedes 1152A. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7684-A, R5 & R8 EPROMs installed.
1153	Prob Only,NC	MANY	Monitors	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 clip added.
1154A	Prob Only,NC	5103	OIS 140,145	Supercedes 1154. Allows support of NEC 85 & NEC 160 MB disk drives. Allows 344 Meg drives to be added to OIS line. 210-7501-A, R6 & R8 EPROMs installed.
1155	Prob Only,NC	3605	55/77DSF (Ziyad)	Replaces solid gear which causes paper to feed only partially into paper path. Sensor is activated too soon, resulting in 'Change Paper' error. Lost motion gear installed.
1156	Prob Only,NC	3302	2233/2235	Renders signal "FAULT" inactive. Remote parallel printers used with PC/2200 emulation do not print because of erroneous fault signal. 210-7593 to E-Rev 9, 210-8393 to E-Rev 2.
1157B	All units	8201	75PC-T	Supercedes 1157A. Conforms to 7500T standards. Monitor modified, ground clip added, 210-8645 to E-Rev 4.

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1158	Prob Only,NC	3108	Quantum	Dirty sensors can cause read/write errors with 30 Meg disk & customers might lose data. Disk Drive PCB isolator gasket added.
1159	Prob Only,NC	8201	75PC-T (Monitors)	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 cable clip added.
1160	Prob Only,NC	8301	WOA 20/40	Improves timing window for floppy phase lock loop. Change makes it easier to use varied quality diskettes. 210-8356 to E-Rev 7, 210-8556 to E-Rev 5.
1161A	All Units,NC	3107	2280	Supersedes 1161; eliminates noise on 'READY' line. Corrects intermittent hangs & incorrect drive selection. Install with FCO 1168. 210-7422 to E-Rev 5.
1162	Prob Only,NC	8301	WOA 20/40	Small number of WOAs were shipped with marginal 7201 NEC communications controller chips which could cause transmission & receive errors (no WSN). Change NEC chip if present. 210-8356, 210-8556 NEC chip changed.
1163A	Prob Only,NC	3302	XX33/XX35	Supercedes 1163. Some Mallory capacitors have experienced leakage after one year of operation causing damage to motherboard. Change if present. 210-7595, 210-7595-1, Mallory caps changed.
1164	Prob Only,NC	3703	7582T	Printer fails to IPL when connected to bipolar fiber optic connector box (FO-MC-1T). 210-8073 to E-Rev 4.
1165	Prob Only,NC	6104	25V76-2 (VS 15-65)	Eliminates two-port TC IOP from causing MRI at power-up resulting in "4E10" error. 210-8637 to E-Rev 5.
1166	All Units,NC	3318	LIS 12/24	Corrects unreadable characters. 210-8382 to E-Rev 4.

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1167B	Prob Only,NC	8201	75PC-T	Supercedes 1167A. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. Provides improved margin testing & error recovery. 210-8655-A & 210-8855-A, R12 EPROM installed.
1168	All Units,IM	3107	2280 DPU/MUX	Supercedes 1114. Corrects errors occurring on multi-sector-write operation, I91 errors, & DPU hang-up. Install with FCO 1161. 210-7423-A, R10 EPROMs installed.
1169	Prob Only,NC	3308	DW/OS-55	Static build-up can cause printer to lose track of encoder position which could cause garbled print. ESD shield added to printwheel motor assembly.
1170	Prob Only,NC	3318	LPS/LIS-12	Reduces fuser contamination caused by paper jams. Reduces affects of AC noise transients. 726-7014, Control PCB, 8L EPROM installed.
1171	Prob Only,NC	6107	VS-65	Allows use of port "O" for external drives, rather than internal only. 210-8465-A, R1 EPROMs installed.
1172	Prob Only,NC	3605	PM012/PTR-20	Eliminates line crowding which occurs approx. 3" from top of page. Cradle deflector added.
1173	Prob Only,NC	3106	2265V-3	Adds ground strap to correct for possible wiring error. Ground strap.
1174	All Units,NC	3202	2229/6529	Prevents glitches that can cause phantom errors. Wire & lug ass'y added.
1175B	N/A	3110	2275-10,20,30	FCO is voided.
1176	Prob Only,NC	6105	VS-300	Prevents potential problem when using Floating Point option. 210-8832 to E-Rev 4.
1177B	All Units,NC	3318	LPS8	VOIDS 1177A; replaced by FCO 1237.

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1178	All Units,NC	3318	LPS8	To meet FCC requirements. Allows printer to work on VS with 22V17 or 22V27 IOPs. 210-8901 to E-Rev 5.
1179	Prob Only,NC	3305	PM015 (Juki)	Corrects printing of question marks (?) on power-up. Prints bidirectionally on WOA. Operates on WOA printer sharing device. 726-7733, EPROMs installed.
1180	All Units,NC	8201	75PC-T	Improves shielding. CRT Socket modified, Monitor ground cable changed.
1181	Prob Only,NC	3308	DW/OS-55	Corrects chronic baseline deviations & character crowding problems. Printer mechanism reworked.
1182	Prob Only,NC	8101	PC	Corrects "System Parity" & "I/O Parity" errors that occur on power-up in heavily loaded 8-slot PCs. 210-9521 to E-Rev 5.
1183	Prob Only,NC	3609	PIC-PM03	Improves scanner's sensitivity to color (improves ability to read red, green, & blue). PIC Scanner modified.
1184B	Prob Only,NC	3404	PM-004L	Supercedes 1184A. Reduces screen brightness problems caused by direct or reflected light passing through slide actuator. Label is replaced/added.
1185	Prob Only,NC	3703	75 LIS-12T	Corrects inefficient grounding. 210-8680, ground lug & cap added.
1186	Prob Only,NC	6105	VS-300	Eliminates confusion regarding "I/O" slot numbering & "SBI" slot numbering. Correct slot address is needed to IPL. Card designator label changed.
1187	All Units,NC	3703	75 LIS-12T	To conform to 7500T standards. 210-8682 to E-Rev 2.
1188A	Prob Only,NC	3308	DW/OS-55	VOIDS 1188; replaced by FCO 1181.

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1189	Prob Only,NC	6105	VS-300	Improves reliability of real time clock. This FCO should be done in conjunction with installation of SCU software above 1.02.00. This FCO <u>MUST</u> be done when 1.03.XX SCU software rev is installed. 210-8710 to E-Rev 1.
1190	All Units,NC	6105	VS-300	A "UNIT SELECT TAP" generated from disk IOC may deselect drive causing drive's READY status to appear 'Not Ready' or to oscillate. 210-8785 to E-Rev 4.
1191	Prob Only,NC	6105	VS-300	Second DC PDU is added to accommodate high power consumption of some APA configurations. 279-0673 PDU added.
1192	Prob Only,NC	3318	LPS8	Corrects vertical line slant skewing problem. Paper feeds in at angle causing uneven print. Spacer added.
1193	All Units,NC	8201	75PC-T	Incorporates power-up diagnostics support of LCO, RTC, & MCC options. 210-8644-A, R2 EPROMs.
1194	Prob Only,NC	8201	75PC-T	Prevents RS232 CTS signal from disabling transmitter. (Characters in print file are dropped.) 210-8653 to E-Rev 2.
1195	Prob Only,NC	3404	PM-004L	Poor contact on yoke connector electrical connection may cause vertical jitter or jumping screen problem. Yoke cable changed to 220-2492.
1196	All Units,NC	3703	75 LIS-12T	Provides good ground isolation. 220-2478, cable adapter assembly added.
1197	All Units,NC	3113	2295V-CX	Allows easier access to disk drives. Metal front panels changed to snap-on panels.
1198	All Units,NC	6104	VS-15/25/45/65	Corrects DEAD MAN TIMER to allow TTY & WSN to work. 210-9337 to E-Rev 4.

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1199	Prob Only,NC	3404	PM-004L	Units may display brightness fluctuations when monitor is moved. PCB support bracket is added.
1200	Prob Only,NC	6104	VS-15/25/45/65	Fails to load remote workstation code. Corrects R1 & R2 artwork. 210-8637, Artwork correction.
1201A	All Units,NC	6105	VS-150/300 SMD Disk	Supercedes 1201. Corrects following problems: A. To correct IPL problems from 314 Meg. drive. B. To support future enhancements. 210-8785A/C, R2 EPROMs.
1202	Prob Only,NC	3308	DW/OS-55	Carriage drive motor may overheat & present potential hazard. Carriage motor resistor block harness is removed.
1203	All Units,NC	3318	LPS8	Prevents background toner deposits in area that measures 1/4" to 1/2" in width. Area is usually located on lower half of page & 1" off center toward non-separation side of printer. Paper guide assembly is replaced.
1204	All Units,NC	3316	75PC-PM16ZT(FX-100T)	Allows 75 PC-PM16ZT to operate properly on PC CPU RS232 port or PC MCC RS232 port with 421-0029 cable. Symptoms were hang/no operation or partial lines on MCC port. 278-4047, jumper added.
1205	Prob Only,IM	6108	VS-5/6 (SPS 500)	Grey or spotted insulating fiber sheet may break down in high humidity, causing power supply failures. Insulating sheet is replaced, grey or spotted to white.
1206A	N/A	7401	928W Global Modem	FCO is voided.
1207A	N/A	3110	2275-10, 20, 30	FCO is voided.
1208	All Units,NC	3106	2268 3/4 F.S. Drive	Ensures new power supply interchangeability on older units. 726-6981, Change one PROM.
1209	Prob Only,NC	3302	2233/2235	Corrects printer timing problems which cause printer to hang intermittently. 210-8393, R1 PROMs.

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1210A	N/A	3110	2275-10, 20, 30	FCO is voided.
1211	Prob Only,NC	8101	APC	Corrects following problems: 1) For proper IBM emulations, code was changed to distinguish between IBM AT & IBM XT. 2) Corrects several "Warm Boot" problems related to occasional keyboard failures. 3) Improves LCO power-up diagnostics. 210-9721, R1 EPROMs.
1212	Prob Only,NC	3305	PM015 Juki Daisy Ptr.	Prevents possible baseline problem on some fonts due to previous 12mm carriage shaft diameter. Old carriage assembly & 12mm shaft is replaced by new carriage assembly & 13 mm shaft.
1213	All Units,NC	3318	LPS-12/LIS-12/24	Protects service representative from possible shock hazard. Adds tubing to upper fuser harness.
1214	All Units,NC	5106	7500T/AT OIS/ALLI M.U.	Ensures integrity where cables are not installed. Washers added to cable clamps.
1215	Prob Only,NC	3703	7581T+7582T All Models	Corrects intermittent misprint condition, and/or printwheel motor retries which can result in printer malfunction. 210-8070, jumper/etch modifications.
1216	All Units,NC	3701	7565-1T 80MB SMD Drive	Ensures integrity where cables are not installed. Washers added to cable clamps.
1217	All Units,IM	7102	6554T TCT/TC1T	To conform to 7500T standards. 210-8663, C86-C93 capacitors changed.
1218	Prob Only,NC	3302	5577/5577V VHD Printer	Prevents printhead from rubbing against foam pad causing noise & static build-up. Damping pad dimensions changed.
1219	Prob Only,NC	7102	FW-RCS-16T (FSK)	Prevents power supply from electrically shorting to chassis. Installed washer.
1220	Prob Only,NC	3608	55/77 DSF	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.

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1221A	All Units,NC	3802	ATM-8162/72/73/74	Supercedes FCO 1221. Prevents possible stream feeds from 1300 Series dispenser. Diode D12 is removed.
1222	Prob Only,NC	6104	VS-15 Buss Processor	Allows code to access SMD drive from port "0" of device adaptor at address "200h". 210-8358-A, R2 PROMs.
1223	Prob Only,NC	6104	VS-25 Buss Processor	Supports new software release. 210-8304-1A, R4 PROMs.
1224	All Units,NC	6106	22V15-2, Telex	Corrects following problems: A. Corrects hard error "01" in IOSW8. B. Corrects direct address read/write so 2K bytes is addressable. C. Updates error retry algorithm & checks ERR bit. D. Increases retry count on write from 10 to 40. E. Checks errors on motion commands. F. Checks LRC error. 210-7110-AH, R3 PROMs.
1225	All Units,NC	6105	VS-300 Ken. Tape IOC	A. Enhances load code & off-line diagnostic capabilities. B. Allows BIT to run with tape drive cabled to IOC, though powered off. 210-8790-A, R1 PROMs.
1226A	All Units,NC	6105	VS-300 Telex Tape IOC	Supercedes 1226. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8789-A, R1 PROMs.
1227B	All Units,NC	6105	VS-300 SIOC	Supercedes 1227A. A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8609-A, R1 PROMs.
1228	All Units,NC	6105	VS-300, Inboard CIU	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-8392-A, R1 PROMs.
1229	Prob Only,NC	3608	55/77 DSF-1T	Corrects paper curl & resultant problems. Installed deflector shield to monarch tray.

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1230	All Units,NC	6105	VS-300 SIOC w/Fbrwy	A. Enhances load code & off-line diagnostic capabilities. B. Supports future enhancements. 210-9809-A, R1 PROMs.
1231	Prob Only,NC	7300	DLP/64-128	Eliminates intermittent errors when using 128K memory in I/D mode (OIS SNA Release 1.0 & above, X.25 & Teletex). 210-7962/-1, 150 pf capacitor added.
1232	All Units,IM	8202	75PC-T/XAPC-T	To conform to Secure Product standards. Add new finger contact strips.
1233	Prob Only,NC	6102	22V25/VS-100 (Kennedy)	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-S, R3 PROMs installed.
1234	Prob Only,NC	6101	22V05/VS-80 (Kennedy)	A. Modifies microcode in write error retry mechanism to allow two backspaces followed by forward space so tape prior to erase is more likely to be within interblock gap. B. Allows number of erases to be equal to number of retries. C. Adds identify IOP command. 210-7110-G, R3 PROMs installed.
1235	Prob Only,NC	6102	22V27/VS-100 (Serial)	Corrects SPR# F008748: when first communication with device is unsolicited interrupt (as with opening in-bound circuits on CIU or TCB) SQB is invalid. 210-7110-U, R4 PROMs installed.
1236	All Units,NC	3318	LIS-12	Increases printing speed on VS systems as required by new WP Plus software. 210-9438 is installed.
1237	All Units,NC	3318	LPS-8	Changes printer firmware to eliminate LPS-8 hangs especially notable when VS DP/WP code is switched or when printer is IPL'ed. Both symptoms are exhibited only when LPS-8 is out of paper. 210-8901-A, R4 PROMs installed.

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1238	Prob Only,NC	3203	2238V-1	Increases sourcing voltage on pin IOREQ* of Z80A chip. 210-8482, to E-Rev 6.
1239	All Units,NC	7501	DVX 1.5 (Trunk Board)	A. Eliminates "choppy message" problems related to VOX circuitry. B. Modifies hardware to allow pause suppression to be enabled/disabled as customer option. NOTE: Software patches PA506A7A & PA506A7B are used with this FCO. 210-8735-A, two (2) jumpers/etch cuts.
1240	All Units,NC	3605	DSF-55/77 (Ziyad 306)	Improves paper ejection. Eject deflector installed.
1241	All Units,NC	3605	DSF-1T (Ziyad 306)	Improves paper ejection. Eject deflector installed.
1242	All Units,NC	3608	DSF-55/77 Ziyad DSF	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
1243	All Units,NC	3608	DSF-1T Ziyad DSF	Prevents paper skew and/or erroneous paper-out errors caused by feeder frame damage due to abusive tray insertion. Install four bumpers on paper trays.
1244	All Units,NC	6103	7585T	Provides sufficient voltage from J3 pin 7 to J6 pin 4 by improving 5 volt & ground track. 210-8535, to E-Rev 1.
1245	Prob Only,NC	7300	TP-Adapter	Improves system performance for TP baluns configured with short cable runs. 210-8748, change two capacitors.
1246	All Units,NC	6106	VS-85 (LH Power Sup.)	Corrects AC miswiring & eliminates potential safety issue. Switch two wires.
1247	Prob Only,NC	N/A	720 Keyboards	Corrects spurious reset problem. Keyboard PCB, add 1000 pf capacitor.
1248	All Units,IM	3703	DW55-T	To conform with 7500T/Secure Products standards. Card cage, hammer assy., & label are replaced.

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1249	All Units,IM	7101	WBX	Provides enhancements to WBX system, which will improve call processing & overall system performance. MP2 replaced by MP3.
1250	All Units,NC	6102	VS-90/100	Improves accessibility to air filters which will facilitate proper & timely service/maintenance of air filters. Changes filters, adds Velcro to grill covers, adds temperature tape.
1251	All Units,NC	8501	WLTC	Prevents fuse from "blowing" when plastic-type SCSI Connector is plugged into External Floppy Disk Unit upside-down. Adds POLY FUSE.
1252A	All Units,NC	3404	4230A	Increases reliability of keyboard during static discharge. 210-8467, to E-Rev 3.
1253	Prob Only,NC	3703	75LIS-12T	Improves timing margins; correcting intermittent errors (error codes displayed) observed after extended operation. Changes 3 ICs.
1254	Prob Only,NC	3318	LCS-15	Increases warm-up time; eliminating fuser offset problem on power-up. PROM changed to RICOH # G0012567.
1255	All Units,NC	3318	LPS-8	Allows customer to more easily read page count meter. One rib removed from back panel.
1256	Prob Only,NC	3318	LCS-15	Corrects intermittent "hang" problems caused by reversed loading of L15 & L16 PALs on 210-8868 PCB. 210-8868 is replaced.
1257	Prob Only,NC	7101	WBX	Corrects handset noise problem. Foam insert is added.
1258	Prob Only,NC	3204	2248V-1	Prevents 20A internal fuse from "blowing" & disabling tape drive. Fuse holder & fuse are changed.
1259A	All Units,IM	3318	LM400/700/900	Voids FCO 1259. Refer to FCO 1278.
1260	All Units,NC	5106	7500AT	Prevents shorting against 210-9032 board rail. U-Channel extrusion added to rail.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1261	Prob Only,NC	3318	LCS-15	To improve print quality by addressing the following: 1) Image fade out, 2) Mechanical noise, 3) Broken character lines. Gear assembly is changed.
1262	Prob Only,NC	3106	2265V-2	Prevents possible physical injury from pack access cover malfunction, which causes drive to activate prematurely if start switch is depressed & cover is opened. Pack access cover switch is replaced.
1263	Prob Only,NC	3703	DW55-T	To conform to 7500T/Secure Products standards. Power line filter gasket is replaced.
1264	All Units,IM	N/A	9618	Prevents disk drive failures by reducing 240V output voltage by 8%. 49.9K ohm resistor added.
1265	All Units,NC	8201	PC 280T	To conform with 7500T/Secure Products standards. Cable changed; finger stock added.
1266	All Units,NC	3703	7582T	To conform with 7500T/Secure Products standards. Capacitor added to 210-8147 PCB, E-Rev 2.
1267	Prob Only,NC	7300	DLP/128	Eliminates intermittent errors due to RF interference between 210-7963 & 210-7962 PCBs, which could cause "crashing" or "hanging" of DLP 128. RF shield is added between 210-7963 & 210-7962.
1268	All Units,IM	8101	VD-0001-PC2	Prevents system "lock-up", which may occur when attempting to load Microsoft Windows. Corrects erratic video problems such as missing lines encountered when in "Hercules" mode & bad video when in some CGA applications. 210-8986 PCB is replaced.
1269	All Units,IM	6109	VS-7010	Prevents system "hangs" caused by malfunctioning clock oscillator. 270-1103 Backplane Assy is replaced.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1270A	All Units,NC	3305	22/55/6581W, 5541W	Supersedes FCO 1270. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1271	All Units,IM	8201	MON-1450-PC2T	To ensure 7500T/Secure Systems compliance margin. External tooth lockwashers are added to cover.
1272	All Units,NC	3203	2238V-1/PM038	Corrects PC errors "Write Abort" & "Excessive Soft Write Errors". Corrects VS errors "FS30" on TAPEINIT or 'hang' during backup. Gate Array 004 is added.
1273	All Units,NC	3320	LM400/700/900	Assists operator to fine tune print quality; platen index label is provided. Label will serve as reference point to determine proper platen setting, which controls width of throat opening in relation to print area. Platen index label added to platen index dial.
1274	Prob Only,NC	3318	LDP8-T	Corrects problem on data lines which causes intermittent random character printing ('garbage print'). I/O PCB is replaced.
1275	Prob Only,NC	3204	2248V-1	Prevents overrun condition during data transfer to tape subsystem. Symptom seen will be 'FS96' when trying to restore data while heavy I/O is present. Microprocessor is reworked (two etch cuts & two jumpers).

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1276	Prob Only,NC	3318	LCS-15	<ol style="list-style-type: none">1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.3. Adds LaserJet 500+ bin feed select commands to emulator.4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.5. Corrects following problems occurring in PostScript Mode:<ol style="list-style-type: none">a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "and'ing" input data with Hex 7F. Controller firmware to Revision 5 ADOBE.
1277	Prob Only,NC	3318	LCS-15T	<ol style="list-style-type: none">1. Corrects problems encountered in LaserJet Plus emulation, which center around printing of graphs.2. Adds two characters to Roman-8 translation table for LaserJet Plus emulation.3. Adds LaserJet 500+ bin feed select commands to emulator.4. To print Phase 1.5 Software applications that utilize LaserJet Plus emulation.5. Corrects following problems occurring in PostScript Mode:<ol style="list-style-type: none">a) Full width pages do not print at full speed. Clipping boundary is one pixel short of full width.b) RS-232-C communications interface appears to be permanently set to 7-bit, regardless of 7/8 bit setting in "Set & Display" mode. It would appear that PostScript is "and'ing" input data with Hex 7F. Controller firmware to Revision 5 ADOBE.
1278	All Units,IM	3318	LM400/700/900	Corrects form length problem. 726-3450, two PROMs changed.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1279	Prob Only,NC	3318	LM400/700/900	Removes ribbon sensing fault. 726-3452, firmware to 726-5756.
1281	Prob Only,NC	7202	802.3 Adapter	Retrofit precludes any issues with UL agency certification for units which are wall mounted with power supply facing down. Cover (451-9023) is added.
1282	Prob Only,NC	6110	VS-5300	Prevents failure to access drive by enabling SCSI buss terminator power. 210-9116, to E-Rev 1.
1283	Prob Only,NC	8101	WLOC Option	To eliminate "301" keyboard error on power up when using a 723 keyboard on COMPAQ computers. 723 keyboard, EPROM.
1284	Prob Only,NC	8101	PC 380	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 725-3466, R1 EPROM.
1285	Prob Only,NC	8101	PC 240	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-8800, R2 EPROM.
1286	Prob Only,NC	8101	PC 280	To prevent keyboard "hang" from occurring when attempting to perform IBM 3270 emulation or SCO XENIX. 210-9451, R2 EPROM.
1287	Prob Only,NC	8101	PC 240	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-8800, R4 EPROMs.

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<u>FCO</u>	<u>CLASS</u>	<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
1288	Prob Only,NC	8101	PC 280	A) To upgrade to ROM BIOS Versions 3.10. B) To support 1.44 MB disk driver and high capacity ESDI disk driver. C) To correct problems with Novell 286 Netware. D) To correct problems using hard card options. E) To correct problems in OS/2 when switching from real mode to protected mode. F) To allow for valid burn-in test on 210-8800 CPU board. G) To correct CMOS Configuration Program. 210-9451, R4 EPROMs.
1291	Prob Only,NC	6110	VS-5300/5600	Prevents noise which can cause "hangs" and I/O errors on external drives. 210-9109, to E-Rev 4.
1292	Prob Only,NC	3318	LCS-15	To correct intermittent "hangs" which occur during the transition from DP to WP. 210-8868, to E-Rev 3.
1293A	Prob Only,NC	3318	LCS-15	Supercedes FCO 1293. Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.
1294A	All Units,NC	3703	7581WT/-1T, 7582T/-WP	Supercedes FCO 1294. Prevents possible physical injury on power up if malfunction occurs causing "carriage slam" & access cover is open. Cover open switch & bracket are replaced; cable assembly is added.
1299	Prob Only,NC	3318	LCS-15T	Corrects "Flushing 64" errors and printer "hang" condition. 726-1477, Replaces PALs.

FCO #	EQUIP.	ECO	KIT NUMBER
1001	TB 216	PE54290/54327	728-0009-25
1002	22V26	22400/22401	728-0011
1003	22V06	20575/22398	728-0014
1004A	2280/6580 BP 3 & Below	CDC # 3379	728-0018-25
1005A	2200 SVP/LVP	22452/26044	728-0013-A / 728-0015-A
1006	2200 SVP-A/X	21865	728-0012
1007	2200 SVP/LVP	Shugart 3385	728-0017
1008	OIS 105/115 - 1 & 2	23101	728-0016
1009	ERGO II W/PROP. SPACE	23390	728-0019
1010	WW II / 5504	24230	728-0020
1011	EM - OIS	24232	728-0021
1012	OIS 105/115	24297	728-0024
1013	5577	24446	728-0025
1014	81W	25186/87/25254	728-0023
1015	7536T	25335	728-0027
1016	VS 25/45	25570	728-0026
1017	ERGO III	25882/26746	728-0028-A
1018	OIS 105/115/125A/130A-F	25514	728-0029
1019	VS 60/80	25514	None
1020A	VS 25/45	25764	728-0032
1021	LPS-12	XEROX 600P7375	728-0033
1022	7581W	25783/85/25255	728-0031
1023	DW20-22	25704	728-0035
1024A	2280/6580	27287	728-0047
1025	81W	25101	728-0036
1026	OIS 105/115	26578	728-0037
1027	OIS 140/145/DVX/ALLIANCE	26225	728-0038
1028	OIS 105/115	26748	728-0039
1029	VS 60/80	26750/26800	728-0040
1030	5548Z	20030	728-0041
1031A	PC	27372	728-0042
1032	VS25/45	26952	728-0043
1033A	ERGO III	27372	728-0042
1034	7540/7550/7505/7515/7535	27124	728-0045
1035	MXD I/O CONTROLLER	26937	728-0046
1036	22V15-2	27165	728-0052
1037	VS 25/45	27401	728-0053
1038	22V48 Dual Port IOP	27448	728-0054
1039	PC	27750	728-0055
1040	ERGO III	27592/93	728-0056
1041	VS 60/80	19219	728-0057
1042	VS 90/100	18483/25721	728-0058
1043	2265V-2/6565	CDC CDC 13365	None 728-0059
1044	2265V-3	CDC DH02561	728-None
1045	VP/LVP/MVPA/MVPC	27336	728-728-0063
1046	ERGO II TC-5800/5900	279727910/11	728-728-0064
1047	OIS ERGO III TC-5300	27676	728-728-0065
1048	OIS 140/145	28191	728-728-0066
1049	5577 2265V-1	288291	728-728-0067
1050A	OIS 105/115/130B & C	28328	728-728-0068
1051	OIS 105/115/130B & C	28532	728-728-0069
1052	OIS 105/115/130B & C	28624	728-728-0070
1053	2265V-2	28291	728-728-0067
1054	2265V-3	28291	728-0067

1055	WW W/TC OPTION 5504/5524	27164/28361	728-0071
1056	SVP	28501	728-0074
1057A	DW20-22 PC-PM011	28744/29154	728-0075
1058	CIU	28793	728-0076
1059A	PC	28913	728-0077
1060B	DW20-22	25704/29380/33458	728-0078-B
1061	CIU	29112	728-0079
1062	LPS-12	XEROX 600P7527	728-0083
1063	PC	29219	728-0080
1064A	2280/6580	CDC 33945	728-0081-A
1065			
1066			
1067	OIS 40/40B/50 W/INT. PRTR	29936/30273	728-0084
1068	VS 25/45	29327	None
1069	2229/2529/6529	Kennedy 11281/11448/11478/11819/11900	728-0085
1070	LPS-12	XEROX 600P7591	728-0086
1071	LPS-12 MODEL 504	XEROX 600P7521A	728-0087
1072	2265V-2/6565	29993	728-0088
1073	2233/35/5533/35	29600	728-0089
1074	2263/5570/5571	29802/31055	728-0090
1075			
1076			
1077	OIS 40/40B/50 W/INT. PRTR.	30919	728-0094
1078	7528T ZIYAD TSF	ZIYAD TFB 153	728-0095
1079	5575	DATA PRODUCTS CIB-BP 13 REV. A	728-0096
1080B	VS 60/80	30826	728-0097
1081	4230/4205	31398	728-0098
1082	5577	32374	728-0099
1083	VS 100 FILTER BOX CHASSIS	30808	728-0100
1084	2265V-3	CDC DJ 15236	728-0101
1085	928W MDL	31780/31065/31667/31959	728-0102/728-0103
1086A	2280 DPU	31181	728-0104
1087	ERGO II TC-5900	31535/31536	728-0108
1088	ERGO III TC-5310/20/30/40	31534	728-0109
1089	5536 TC W/S	31976	728-0113
1090	2265V-3	CDC DJ 15271	728-0105
1091	22V06	31065/31667	728-0106
1092A	7582T/7582T-WPS		728-0114A
1093	PC	31673	728-0112
1094	22V26	31065/31667	728-0107
1094A	22V26 (Replaced 1094)	31065/31667	728-0107A
1095	VS 25/45	31845	728-0110
1096	5577	31246/31678	728-0111
1097A	2246R	32090/33163/33590	728-0115-A
1098	PIC PM04	32382D/32390	728-0116
1099	22V48 DUAL DISK IOP	32011	728-0117
1100A	2275-10/20/30	32608	728-0118
1101	5577	32439	728-0119
1102	WANGNET	32339	728-0120
1103	VS 25/45	33117	728-0121
1104	PIC	32623	728-0122
1105	LPS-12	XEROX 600P8154	728-0123

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1106		PC		31978		728-0124
1107		22V38		32642		728-0125
1108		2273-1/5573		DP 6651		728-0130
1109		PC - TC		32229		728-0126
1110		1P41D		33096		728-0127
1111		2275-10/20/30		33512		728-0129
1112		VS 25/45		33180		728-0128
1113		2265V-2/6565		CDC DJ13476		728-0133
1114		2280 DPU		33310		728-0131
1115		DW/OS-20		33332/33334		728-0134
1116		5577		28328/33095		728-0132
1117		IOMP/DVX		33113D		728-0135
1117A		IOMP/DVX (Replaes 1117)		33113D		728-0135A
1118						
1119		2219V		Telex 1-6258		728-0137
1120						
1121						
1122		PC		33926		728-0140

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
2201	TB 216 (FTU)	1001	Immediate	Add features; change EPROM's to ROM's. JGX (CDC)
3101	2200 SVP/LVP	1007	Next Call	Provides valid 'SEEK COMPLETE' signal to controller. Shugart PCB #26073-5
3105	2280,6580	1004A 726-6847	Next Call	Provides protection to heads & media by adding pressure sensor device. 726-6847 (CDC) filter added
3105	2280,2280V,6580	1024A	Prob Only	Assures compatibility of CDC Phoenix 9448 CMD with A-Cable Terminator. Corrects intermittent device selection errors. 210-8017 added
3105	2280,2280V,6580	1064A 728-2221A	Prob Only	Enables use of low air option, increases shroud pressure, & increases device cooling. H.V. Blower replaced <i>Blower exchanged for the 220/50002 Int'l only</i>
3106	2265V-2	1043A	Next Call	Increases amp rating of CB10 & CB11 circuit breakers to prevent nuisance tripping. Assures proper operation of drive motor brake & prevents unimpeded pack rotation when either circuit breaker is open. 12 amp circuit breakers added
3106	2265V-3	1044	Next Call	Three ganged circuit breakers (CB2, CB3, & CB4) on AC power supply may physically appear activated while electrically any one of them may have tripped to deactivated state. Gang pin removed
3106	2265V-1	1049	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOP's. 210-7477 to E-Rev 1
3106	2265V-2	1053	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOP's. 210-7477 to E-Rev 1
3106	2265V-3	1054	Prob Only	Prevents Drive Faults & Read/Write errors when used with 22V08, 22V28, 22V38, & 22V48 IOP's. 210-7477 to E-Rev 1

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<u>CLASS</u> <u>CODE</u>	<u>EQUIP</u> <u>AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
3106	2265V-1,6565,7565T	1065	Prob Only	Safety problems for customer engineers working inside unit. AC voltage remains active in unit with CBI in OFF position. (No safety problem for customers.) Circuit breakers wire removed
3106	2265V-2,6565	1072	Prob Only	Reduces static problems in unit by properly grounding I/O cables at base of CDC Cabinet & complies with FCC regulations. 452-2779 cable clamp added
3106	2265V-3	1084	All Units	Allows better recovery from low voltage transient. Improves daisy chaining power-up compatibility with storage module drive. Allows system to clear voltage fault over I/O. 726-6830-1 QKTX logic PCB added
3106	2265V-3	1090	All Units	Prevents pin solder failure on edge connector of drive motor & motor control PCB. AC Power Supply wires modified
3106	2265V-2,6565-2	1113	All Units	Alters air flow in shroud area reducing possibility of contamination entering pack/head area. Gasket/Baffle added
3106	2265V-1	1132	Prob Only	Provides FCC-approved top inner weldment cover which will accommodate variations of position in 80 Meg Drive relative to chassis assembly & prevents "A" & "B" cables from fraying & slicing. 458-3276 weldment cover replaced
3106	2265V-2	1136	Prob Only	Plastic plunger on pack access cover switch may break. Could cause spindle to continue to spin when pack access cover is open. Switch Assembly changed
3106	2265V-3	1173	Prob Only,NC	Adds ground strap to correct for possible wiring error. Ground strap
3107	2280 DPU	1086A	N/A	voids 1086; superceded by 1114.
3107	2280 DPU/MUX	1114A	All Units	voids 1114; refer to FCO 1168.
3107	2280 DPU/MUX	1131	Prob Only	Standoffs are changed to improve connection between cable ground shield & controller. Change will correct static problem & improve grounding. 210-7717, standoffs changed

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
3107	2280	1161A	All Units,NC	VOIDS 1161; eliminates noise on 'READY' line. Corrects intermittent hangs & incorrect drive selection. Install with FCO 1168. 210-7422 to E-Rev 5
3107	2280 DPU/MUX	1168	All Units,IM	Supersedes 1114. Corrects errors occurring on multi-sector-write operation, I91 errors, & DPU hang-up. Install with FCO 1161. 210-7423-A, R10 EPROM's installed
3108	Quantum	1158	Prob Only,NC	Dirty sensors can cause read/write errors with 30 Meg disk & customers might lose data. Disk Drive PCB isolator gasket added.
3110	2275-10,20,30	1100A	N/A	VOIDS 1100; superceded by 1111.
3110	2275-10,20,30	1111A	All Units,NC	Supersedes 1111. Corrects incorrect addressing selection, I92 on 'Read PROM Level' command, improper reporting of sectors available, system hang with unformatted diskette, & also improves diagnostics. Requires FCO 1175. 210-8396-A, R3 EPROM installed
3110	2275-10,20,30	1175	Prob Only,NC	Supports R3 PROM revision, eliminating possible I91. 210-8396 to E-Rev 3
3202	2229,2529V,6529	1069 ECO 39182 210-826 to E-REV 1	Prob Only	Upgrades unit to work with 6.11 Operating System. 726-6202 Formatter PCB, 726-6338 EPROM added
3202	2229/6529	1174	All Units,NC	Prevents glitches that can cause phantom errors. Wire & lug ass'y added
3204	2219V	1119	Prob Only	Reduces possibility of tape slippage by raising capstan vacuum. Capstan holes covered
3301	2263,2263V,5570,5571	1074	Prob Only	Fixes paper-out switch problem which results in intermittent 'paper-out' indication & printer printing over previous text when re-selected. 210-7386 to E-Rev 2
302	5577	1013	Next Call	Provides software with control line to disable all stepping motors when printer is idle. 210-7677 to E-Rev 2
3302	5577	1050A	N/A	VOIDS 1050; superceded by 1116.

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
3302	2233/2235,5533/5535	1073	Prob Only	Shortens bleed off time & prevents PCB failures during trouble shooting at customer sites, & ensures compliance with UL. 210-7595 to E-Rev 1
3302	<u>SPS 613</u>	1075	Prob Only	Ensures power up signal reliability. 210-8006 to E-Rev 7, 210-8206 to E-Rev 1
3302	5577	1082	Prob Only	Reduces static susceptibility. Ribbon Motor Assembly modified
3302	5577	1096	All Units	Provides better grounding between top cover & lower cover. Improves grounding by using conductive material. 478-1226, metal pin clips added
3302	5577	1101	Prob Only	Prevents printer hangs resulting from electrostatic discharge. Shielded cables installed
3302	5577	1116	All Units	Supercedes 1050. Prevents cross talk in L13 which causes printer to hang when selecting & deselecting. 210-8174 to E-Rev 5
3302	5577	1127	Prob Only	Enables printer to recover from paper jam which displaces head so it interrupts either margin sector causing printer to hang. 210-8174-A, R4 EPROM installed
3302	2233/2235	1156	Prob Only,NC	Renders signal 'FAULT' inactive. Remote parallel printers used with PC/2200 emulation do not print because of erroneous fault signal. 210-7593 to E-Rev 9, 210-8393 to E-Rev 2
3302	XX33/XX35	1163A	Prob Only,NC	Supercedes 1163. Some Mallory capacitors have experienced leakage after one year of operation causing damage to motherboard. Change if present. 210-7595, 210-7595-1, Mallory caps changed
3305	2281W/5541W&WC/6581W	1014	Prob Only	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-7360 to E-Rev 14, 210-7361 to E-Rev 9 210-7364 to E-Rev 11

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<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
3305	DW/22-20	1023	Prob Only	Corrects erratic line feed problems, special character attribute problems (i.e., bold print, auto slashing, superscript & subscript) & erratic twin sheet feeder problems. 210-7886-1A, R2 EPROM's installed
3305	2281,81P,81W,81WC	1025	Prob Only	Assures ground between printer & 2200. 510-5223-C, finger board added
3305	DW/OS-20,PC-PM011	1057A	N/A	VOIDS 1057; superceded by 1115.
3305	DW/22-20	1060B	Prob Only	Corrects light print & increases ribbon motor pulse. 210-7886-1A, R3 and R4 EPROM's installed
3305	DW/OS-20,PC-PM011	1115	Prob Only	Supercedes 1057. Corrects light print, increases ribbon motor pulse, & prevents ribbon motor failures. 210-7886-A, 210-7886-1B, R5 & R8 EPROM's installed
3305	PM015 (Juki)	1179	Prob Only,NC	Corrects printing of question marks (?) on power-up. Prints bidirectionally on WOA. Operates on WOA printer sharing device. 726-7733, EPROM's installed
3308	5575	1079	Prob Only	Evens out printing on ribbon, ensures proper detection of ribbon, & eliminates printing without ribbon covering either edge of form. Sensors will detect ribbon fold at end of ribbon life. Ribbon Mask replaced
3308	2273-1,5573	1108	Prob Only	Possibility exists that terminals on CRT Breaker Surge Resistor may become loose because of improper crimping. Surge resistor changed
3308	2273-1,-2,5573,5574	1126	Prob Only	Band cover interlock switch may fail to function due to contact contamination. May result in band motion while band cover is open. Band Cover Interlock Switch changed
3308	DW/OS-55/PM014	1143	Prob Only	Corrects ribbon advance problem which resulted in poor print quality when using metal print wheels. 725-1510, Logic PCB EPROM (726-1543-1) installed

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3308	PM014	1144	All Units	Corrects firmware problem which causes loss of left margin during Ziyad sheet feeder use. Changes character set of printer to comply with ASCII. Allows support of IBM PC emulation on Wang PC. 725-1557, Interface PCB EPROM's installed
3308	DW/OS-55	1169	Prob Only,NC	Static build-up can cause printer to lose track of encoder position which could cause garbled print. ESD shield added to printwheel motor assembly
3308	DW/OS-55	1181	Prob Only,NC	To correct chronic baseline deviations and character crowding problems. Printer mechanism reworked
3308	DW/OS-55	1188	Prob Only,NC	Corrects chronic uneven baseline & character crowding problems that can't be remedied by standard maintenance : procedures & adjustments. Printer mechanism & analog PCB replaced
3310	PIC PM04	1098	All Units	Corrects timing problem causing bad print quality. 210-8774 to E-Rev 2
3310	PIC	1104	All Units	Improves timing margin on Video Data with respect to Clock. Puts correct firmware into all cameras built to date. Corrects "Photo" (Dither) Image. 210-8454 to E-Rev 2 & R3 PROM's installed
3311	IP4ID	1110	All Units	Prevents burned out video PCB's resulting from failure of regulator to supply +22 volts. 210-7764 to E-Rev 3
3314	5548Z	1030	Next Call	Prevents Photo Typesetter hang-ups by improving performance of turret solenoid through reduction of current demand on 725-0079 power supply. 210-7548, diode removed
3318	LPS-12	1021	ASAP	New photoreceptor added to LPS-12 units will produce copies with excessive gray background unless high voltage power supply is modified. HVPS modified
3318	LPS-12	1062	Prob Only	Provides contact on ends of rolls for effective snuffing of burning paper on printers without Tag 49. Snuffer Roll modified

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3318	LPS-12	1070	Prob Only	Blocks satellite laser beam near shutter. Gasket modified
3318	LPS-12	1071	Prob Only	Reduces drum crystalization by cooling printer cavity. 726-7014, control PWB EPROM replaced, board rewired
3318	LPS-12	1105	Prob Only	Prevents potential shock hazard by installing fuse shield which was omitted in some 50 Hz units. Fuse shield added
3318	LIS 12/24	1166	All Units,NC	Corrects unreadable characters. 210-8382 to E-Rev 4
3318	LPS/LIS-12	1170	Prob Only,NC	Reduces fuser contamination caused by paper jams. Reduces affects of AC noise transients. 726-7014, Control PCB, 8L EPROM installed
3318	LPS8	1177A	All Units,NC	Voids 1177; increases printer speed & corrects various software problems. 210-8901, R3 EPROM's installed
3318	LPS8	1178	All Units,NC	To meet FCC requirements. Allows printer to work on VS with 22V17 or 22V27 IOP's. 210-8901 to E-Rev 5
3318	LPS8	1192	Prob Only,NC	Corrects vertical line slant skewing problem. The paper feeds in at an angle causing uneven print. Spacer added
3402	5536-3/-4	1089	Prob Only	Provides signal 'LC3' on motherboard for Teletex Date & Time PCB. 210-7542-2 to E-Rev 3
3403	4200	1150	Prob Only	Eliminates potential shock hazard when used at 220 volts. 725-2749/-10, Harris SPS 80, bleeder resistor added
3404	ERGO II	1009	ASAP	New control codes allow easier aligning of characters in proportional spacing. Length of cursor will be proportional to that of character. 210-7671 to E-Rev 5
3404	ERGO III	1017B	Prob Only	Prevents ERGO III W/S from hanging with various systems, provides interface to parallel & serial K/B's, prevents possible hardware damage & "Cancel" & "Execute" keys from repeating. 210-7916-B through 210-7916-AR, 210-7970-A, 210-8470-A, R4 EPROM

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3404	ERGO III	1033A	Next Call	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added
3404	5530/5540,ERGO III	1040	All Units	Complies with FCC RFI regulations. Ground lug added
3404	ERGO II,TC-800&-5900	1046	Prob Only	Ensures reliable TC connection & prevents transmission errors due to fluctuating ground signals. 210-8181 to E-Rev 2, 210-7681 to E-Rev 4, 210-7681-1 to E-Rev 3, 210-7681-2 to E-Rev 2
3404	ERGO III,TC-300	1047	Prob Only	Provides logic ground to TC modem. Prevents TC transmission errors. 210-7917 to E-Rev 3
3404	4205/4230	1081	All Units	Achieves compatibility with previous underline attribute code. Corrects missing cursor problem in applications such as List Processing, Advanced Functions, or CP/M. 210-8287 to E-Rev 5, 210-8287-1 to E-Rev 2, 210-8287-2 to E-Rev 1
3404	ERGO II,TC-900	1087	Prob Only	Provides signal 'LC3' on motherboard for Teletex Date & Time PCB. 210-7681 to E-Rev 5, 210-7681-1 to E-Rev 4, 210-8181 to E-Rev 3
3404	ERGO III,TC-310,30,40	1088	Prob Only	Provides signal 'LC3' on motherboard for Teletex Date & Time PCB. 210-7917 to E-Rev 4
3404	2246R	1097A	All Units	Releases Remote Data Link Processor PROM microcode version 4.01.00. Improves error recovery & retry processing. 210-7478-A, R1 EPROM's installed
3404	4205A (Middle East)	1129A	All Units	Enhanced software eliminates need for special version PCB allowing use of standard (-1) PCB in Middle East W/S. 210-8287-3/-3A created
3404	PM-004L	1184	Prob Only,NC	Reduces screen brightness problems caused by direct or reflected light passing through the slide actuator. Label added to slide actuator
3404	PM-004L	1195	Prob Only,NC	Poor contact on the yoke connector electrical connection may cause vertical jitter or jumping screen problem. Yoke cable is changed to 220-2492.

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3605	55/77DSF (Ziyad)	1155	Prob Only,NC	Replaces solid gear which causes paper to feed only partially into paper path. Sensor is activated too soon, resulting in 'Change Paper' error. Lost motion gear installed
3605	PM012/PTR-20	1172	Prob Only,NC	Eliminates line crowding which occurs approx. 3" from top of page. Cradle deflector added
3609	PIC-PM03	1183	Prob Only,NC	Improves scanner's sensitivity to color (improves ability to read red, green, & blue). PIC Scanner modified
3701	7565-1T	1133A	All Units	Complies with 7500T standard. 654-1369 finger stock added
3703	7581 WT/WCT	1022	Prob Only	Improves overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, & inconsistent hammer impressions. 210-8070 to E-Rev 2, 210-8071-A to E-Rev 2, 210-8072-A to E-Rev 1
3703	7581W-T/WC-T,7582T	1066	Prob Only	Corrects misprints. 210-8070 R0 artwork correction
3703	7582T,7582T-WPS	1092A	All Units	Provides ability to print on all but last line of paper, eliminates removal of forms tractor to change ribbon, enables shifting between forms tractor & sheet feeder without C.E. assistance, corrects design problems, adds internal lighting. Printer parts added
3703	7582T	1164	Prob Only,NC	Printer fails to IPL when connected to bipolar fiber optic connector box (FO-MC-1T). 210-8073 to E-Rev 4
3703	75 LIS-12T	1185	Prob Only,NC	Corrects inefficient grounding. 210-8680, ground lug & cap added
3703	75 LIS-12T	1187	All Units,NC	To conform to 7500T standards. 210-8682 to E-Rev 2
3703	75 LIS-12T	1196	All Units,NC	To provide good ground isolation. 220-2478, cable adapter assembly added.
3704	7536T	1015	Next Call	CRT screen tends to flicker if space bar is depressed due to horizontal phase shift problem. 210-8067 to E-Rev 1

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3705	7561T WISE	1147	All Units	Polarities of C65 on 210-8127 PCB are reversed. Deterioration of cap could result in WISE unit failures. 210-8127 cap polarity corrected
3708	7582T TSF (Ziyad)	1078	Prob Only	Ensures proper side-to-side tray registration. 726-2782 springs replaced
4103	2200 SVP/LVP	1005A	Next Call	I93 error "SEEK COMPLETE" would occur on Winchester Disk. DPU would not pass power-up diagnostics when switches were set to floppy only. Floppy door will unlock after 5 seconds of non-use. Format error found within alternate sector during FORMAT DISK operation is now recovered by software. 210-8696-A/-B, R9 EPROM's installed
4103	2200 SVP-A/X	1006	Next Call	Corrects record handling capabilities, I94 or I98 errors, & improperly reported format errors that may occur on 26th sector. Improves verify speed & speeds sequential read write. 210-7890-A, R2 EPROM's installed
4103	2200 VP/MVPA/MVPC/LVP	1045	Prob Only	Thin fan is required in I/O section of chassis to accommodate increased length of MXE PCB. 400-1029 fan installed
4103	SVP	1056	Prob Only	Reduces audible noise level of unit & increases cooling of diskette drive. Fan & fan guard replaced, heatsink modified
4201	2236MXD	1035	Prob Only	Prevents intermittent system hangs. 210-7591 to E-Rev 1
5103	OIS 40/40B/50	1067	All Units	Systems with internal printer controller option require change to correct print failure problems. 210-8280 to E-Rev 4
5103	OIS 40/40B/50	1077	All Units	Ensures compatibility & reliability when internal printer controller option is used with 25 & 50 foot cables. 210-8280 to E-Rev 5
5103	OIS 40/50/60	1140	Prob Only	Provides correct reset pulse width to 8011 chip. Without change, chip hangs when shift/cancel keys are struck during IPL. 210-8274-A to E-Rev 8
5103	OIS 140,145	1152A	Prob Only,NC	Allows support of NEC 85 & NEC 160 MB disk drives. 210-7684-A, R5 & R7 EPROM's installed

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5103	OIS 140,145	1154	Prob Only,NC	Allows support of NEC 85 & NEC 160 MB disk drives. 210-7501-A R5 & R8 EPROM's installed
5104	5504	1010A	Next Call	Corrects VCO circuit which locks onto harmonic frequency disabling read operation. 210-7977 to E-Rev 5
5104	5504,5524 With TC	1055	Prob Only	Corrects timing problems & enables proper execution of system software. 210-7975 to E-Rev 7
5105	OIS 105,115	1008	Next Call	Reduces band width of PLL filter, minimizing disk retry errors. 210-7653 to E-Rev 9
5105	EM-OIS	1011	Prob Only	Prevents occurrence of non-maskable interrupt during reset cycle. 210-7685 to E-Rev 4
5105	OIS 105,115	1012	Prob Only	Eliminates indeterminate logic state that sometimes occurs after seek, resulting in retry. 210-7653 to E-Rev 10
5105	105/115/125A/130A-F	1018	Prob Only	High transistor gain causes premature failure of Regulator PCB. 210-7887 resistor added
5105	OIS 105,115	1026	Prob Only	Increases heat dissipation of heat sink & redirects air flow for better cooling of transistors. Fan, Heatsink modified
5105	OIS 105,115	1028	Next Call	Corrects potential problem of power supply connectors melting under high current conditions. P.S. Connectors modified
5105	105,115,125A,130A/B	1051B	Prob Only,NC	Prevents Winchester drive heads from banging against stops at power up & eliminates resultant 1, 2, & 4 error code displays on front panel LED's. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R7 & R5 EPROM's. 210-7684-A, R5 and R7 EPROM's installed

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5105	OIS 105,115,130-B/C	1052A	Prob Only	Prevents Winchester drive heads from banging against stops at power-up, & eliminates resultant 1, 2, & 4 error code displays on front panel LED's. Increases read time from 20 MSEC to 30 MSEC when IPL'ing from floppy drive. Documents release of R8 EPROM's. 210-7501-D, R8 EPROM's installed
5106	7505T,15T,35T,40T,50T	1034	Next Call	Increases current limiting of +12V power supply during power up to prevent premature current foldback with fully loaded master. Increases current capacity of +12V power supply to 5 amps, preventing simultaneous highs on system front panel LED's. 210-8100 to E-Rev 1
5106	7540T,7550T	1076	Prob Only	Ensures disk pack interchangeability. Ensures drive reads disk. 210-8098 E-Rev 1 board installed
6101	VS-60/80	1019A	Prob Only	Additional resistance attributed to excessive lead length of current sense resistors on 7210 PCB will cause premature power supply foldback in certain VS-80 systems. 210-7210 resistor leads shortened
6101	VS-60/80	1029	Prob Only	Prevents main memory parity errors by eliminating noise on bus, starting main memory read cycle at T10 & increasing margin of address set-up time in memory. 210-7300 to E-Rev 1, 210-7413 to E-Rev 1
6101	VS-60/80	1041	Prob Only	Increases running efficiency by providing improved cooling of PCB's. 279-0484, fan mounting bracket added 220-1176, AC interconnect cable added
6101	VS-60/80	1080B	Prob Only	Prevents main memory parity errors by reducing noise on bus. Allows flexibility in use of different vendor IC's. Differentiates between 7401 & 7104 memory PCB's through use of 3-pin header. 210-7413 to E-Rev 2
6101	22V78 (VS 80)	1145	Prob Only	Adds support for NEC 80 MB fixed disk (2268V-1) & NEC 160 MB (2268V-2). 210-7110-AM, R1 EPROM's installed
6102	22V15-2 (VS 90/100)	1036A	Prob Only,NC	Voids 1036; eliminates "File Status 30" or "File Status 96" during restore. 210-7110-AH, 212-3030 R2 EPROM's installed

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6102	VS-90/100	1042	Prob Only	Supports 'TRAP 1' hardware initialize by reducing noise in clock signals. 210-7608 to E-Rev 2
6102	VS-100, Filter Box	1083	Prob Only	Supplies clearance between J.M.K. Inc., AC filter terminal & metal chassis which prevents potentially dangerous electrical condition from occurring. Filter Box Chassis, "U" channel added
6102	VS-85/90/100	1124B	Prob Only, NC	Voids 1124A; To add support for the new disk devices (344MB CDC/FSD drives). Also adds IDENTIFY IOP command. 210-7110-AL, R3 EPROM's installed
6102	VS-85/90/100	1128	Prob Only	Improves accuracy of Time of Day clock. New crystal oscillator makes Time of Day clock accurate to 10 seconds/day. 210-7602 to E-Rev 2
6104	VS-25/45	1016	ASAP	System exhibits 'Fatal Task Error' prompt & CRC failure due to faulty ECC Circuitry. 210-8325-A to E-Rev 2
6104	VS-25/45	1020A	Next Call	VS 25/45 Systems are being upgraded to 512K memory for better performance. 210-7900-3A added
6104	VS-25/45	1032	Next Call	Corrects failure on DMA Test VS25 DRAM/MM DMA. Facilitates testing of 'Write 8' low-command of main memory controller for future device adapters. 210-8304-A to E-Rev 6
6104	VS-25/45	1037	Prob Only	Prevents LED display of intermittent '00E9' error or program exception on invalid memory address. Reduces unrequired customer calls. 210-7900-3/-4/-5 to E-Rev 2
6104	VS-25/45	<u>1068</u>	Prob Only	Z7, current limiting choke, is removed from SPS 450E enabling use with NEC 76 Meg Winchester Drive. 210-8011 to E-Rev 1
6104	VS-25/45	1095A	Prob Only	Supercedes 1095. Avoids intermittent problem on some PCB's which results in system hangs. 210-8304-1 to E-Rev 7
104	VS-25/45	1103	Prob Only	Deletes Test 68 which checked LS191 counter did not count when disabled. This is unsupported condition & results in some vendors' IC's failing test. 210-8616-A, R2 EPROM's installed

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6104	VS-25/45	1112A	Prob Only	Supercedes 1112. Corrects parity error on Power Up Diagnostics & removes 'OOFE' error code on front panel. 210-8616 to E-Rev 5
6104	25V76-2 (VS 15-65)	1141	Prob Only,NC	Corrects incompatibility & communication errors that may occur when used with some modems. 210-8637 to E-Rev 6
6104	25V76-2 (VS 15-65)	1165	Prob Only,NC	Eliminates the two-port TC IOP from causing MRI at power-up resulting in "4E10" error. 210-8637 to E-Rev 5
6104	VS-15/25/45/65	1198	All Units,NC	Correct DEAD MAN TIMER to allow TTY and WSN to work. 210-9337 to E-Rev 4
6104	VS-15/25/45/65	1200	Prob Only,NC	Corrects R1 & R2 artwork. Fails to load remote workstation code. 210-8637, Artwork correction
6105	VS-300	1176	Prob Only,NC	Prevents potential problem when using Floating Point option. 210-8832 to E-Rev 4
6105	VS-300	1186	Prob Only,NC	Eliminates confusion regarding 'I/O' slot numbering & 'SBI' slot numbering. Correct slot address is needed to IPL. Card designator label changed
6105	VS-300	1189	Prob Only,NC	Improves reliability of the real time clock. This FCO should be done in conjunction with installation of SCU software above 1.02.00. This FCO <u>MUST</u> be done when the 1.03.XX SCU software rev is installed. 210-8710 to E-Rev 1
6105	VS-300	1190	All Units,NC	A 'UNIT SELECT TAP' generated from disk IOC may deselect drive causing drive's READY status to appear 'Not Ready' or to oscillate. 210-8785 to E-Rev 4
6105	VS-300	1191	Prob Only,NC	Second DC PDU is added to accommodate high power consumption of some APA configurations. 279-0673 PDU added
6107	VS-65	1171	Prob Only,NC	Allows the use of port '0' for external drives, rather than internal only. 210-8465-A, R1 EPROM's installed
6201	22V48 (VS 90/100)	1038A	N/A	VOIDS 1038; superceded by 1099.

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6201	22V48 (VS 90/100)	1099	All Units	Supercedes 1038. Adds more 'Set Busy' comments to avert hardware situation where busy state can be reset incorrectly. 210-7110-AK, R2 EPROM's installed
6201	22V38	1107	All Units	Releases Microcode version 5.2.1 which adds more 'Set Busy' comments to avert hardware situation where busy state can be reset incorrectly. Ensures data base integrity. 210-7110-AJ, R1 EPROM's installed
7201	9.6 FAM	1118	All Units	Prevents possibility of overheated transformer. Fan, 9.6 FAM fuse changed to 1/2 amp
7201	WANGNET FASTLAN	1134	All Units	Components are failing because they do not operate within specified voltage ratings. 210-8432 to E-Rev 1
7202	CIU-A,-B	1058	Prob Only	Prevents intermittent system hangs by insuring D-Space memory performs 8-bit transfer. 210-7882 to E-Rev 3
7202	CIU	1061	Prob Only	Compensates for modem carrier levels ignored by BCC receiver as result of maladjustments. 210-7881 to E-Rev 6
7202	WANGNET	1102	All Units	Eliminates electrical interference problem. 210-8282 to E-Rev 1
7202	928W Net Mux	1130	Prob Only	Minimize failures resulting from unterminated serial cables. Releases new version of Net Mux Built in Test that supports global modems. 210-8350-A, R3 EPROM installed
7302	DVX/Alliance	1027	Next Call	Interior surface on some of rear panel covers used in OIS 140 cabinet were improperly painted. Improper grounding of electrical noise could result. Symptoms will be intermittent system failure that cannot be directly related to either CPU or attached peripherals. Toothed lock washers added
7302	OIS 140,145	1048	All Units	Reduces noise on 'RFOR' signal which results in erratic CRC accumulation. Prevents serial device hang-ups. 210-8349 to E-Rev 4
7303	22V26 (VS 100)	1002A	N/A	VOIDS 1002; superceded by 1094A.
7303	22V06 (VS 60/80)	1003A	N/A	VOIDS 1003; superceded by 1091.

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7303	928W Master	1085B	All Units	VOIDS 1085A; discontinues the FCO kit.
7303	22V06 (VS 60/80)	1091	All Units	Supercedes 1003. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1B and 210-7826-B to E-Rev 1 and R1 EPROM's installed
7303	22V26 (VS 100)	1094A	All Units	Supercedes 1002. Eliminates channel hangs. Enables use of all 32 Peripheral Band channels. Eliminates associated peripheral equipment hangs. Enhances performance. Eliminates printer restrictions. 210-7426-1A and 210-7826-A to E-Rev 1 and R5 EPROM installed
7303	22V67 (VS 90/100)	1139A	All Units	Creates 5 MHz Z80 Bus Processor version for 22V67 & speeds transfer time between VS & IOP, allowing peripheral band to perform almost as fast as base band version. 210-7826-1A EPROM's, RAM's, Z80 installed
7501	IOMP/DVX	1117A	Prob Only	Prevents DVX systems from becoming insensitive to various 'hand held' Dual Tone Multi-frequency (DTMF) generators. 210-7835, 210-8144 (212-3063) trunk board added
8101	PC	1031A	Next Call	Prevents system hang-ups by increasing static protection in Low Profile K/B. 725-2738, K/B, 452-2740, ground strap added
8101	PC	1039	Prob Only	Prevents system hangs when using certain CP/M application software. 210-8221 to E-Rev 6
8101	PC	1059A	Prob Only	Obsoletes all previous revisions of PC firmware. Corrects time out problem in power-up diagnostic code when using IMI Winchester disk drive. Adds capacity to use both 10 & 30 megabyte drives without future firmware change. Ensures Winchester disk drive will function properly when 256K expanded memory PCB is installed. 210-8225-A, R3 EPROM installed
8101	PC	1063	Prob Only	Eliminates noise on 'DACK' lines which can cause data transfer errors between 8221-R3 Artwork PCB & 210-8225 PCB. 210-8237 to E-Rev 1

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8101	PC	1093A	N/A	Voids 1093; superceded by 1122.
8101	PC	1106	Prob Only	Adds support for diagnosis of Wang PIC Image Monitor, Local Communications Option, Local Interconnect Option, Remote TC, & Multiport PCB's. Provides initial support for Remote Bootstrap from attached Wang OIS system via LCO PCB. Corrects 'Hi Res' monitor sync problem. Corrects power-up test of 928 PCB without Z80. Adds more floppy disk alignment capability, i.e., ability to view output of both upper & lower heads. 210-8221-A, 210-9221-A, R2 EPROM's installed
8101	PC (TC)	1109	Prob Only	Prevents RS232 CTS signal from disabling transmitter. 210-8251 to E-Rev 3, 210-9251 to E-Rev 2
8101	PC	1121	Prob Only	Improves compatibility between floppy drives. 210-8221 to E-Rev 12, 210-9221 to E-Rev 4
8101	PC	1122A	N/A	Voids 1122; Superceded by 1151.
8101	PC	1142	Prob Only	Allows co-processor (8087) to operate with 9521 PCB. Allows PC diagnostic system to display list of options for various diagnostics & software. 210-9251/-1/-2/-3 to E-Rev 4
8101	PC	1146	Prob Only	Allows IBM monochrome emulator & IBM color PCB to operate in system simultaneously. 210-9443 to E-Rev 5
8101	PC	1151A	Prob Only	Supercedes 1151. Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. 210-8225-A or 210-9225-A, PCB R10 EPROM installed
8101	PC	1182	Prob Only,NC	Corrects "System Parity" & "I/O Parity" errors that occur on power-up in heavily loaded 8-slot PC's. 210-9521 to E-Rev 5
8201	75PC-T	1120	Prob Only	Prevents PCB from sticking to copper-sprayed bottom cover, fish paper is added to K/B base. PC K/B

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8201	75PC-T	1123	Prob Only	Improves compatibility between floppy drives. 210-8644 to E-Rev 3
8201	75PC-T	1125	All Units	Provides greater tolerance for variations in performance of hardware used in interface between CPU & floppy drives. Connectors changed
8201	75PC-T	1137A	N/A	voids 1137; superceded by 1157B.
8201	7502-T	1138	Prob Only	Corrects intermittent problems & hang-ups with various combinations of Winchester Controller, Graphic, Ext. Memory & CPU PCB's. 210-8641 E-Rev 1 board installed
8201	75PC-T	1157B	All units	Conforms to 7500T standards. Monitor modified, ground clip added, 210-8645 to E-Rev 4
8201	75PC-T (Monitors)	1159	Prob Only,NC	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 cable clip added
8201	75PC-T	1167	Prob Only,NC	Changes built-in test to avoid corrupting customer data if switches are set wrong. Fixes PC Diagnostics System failure that occurred when testing without drive attached. 210-8655-A, 210-8855-A, R10 EPROM installed
8201	75PC-T	1180	All Units,NC	Improves shielding. CRT Socket modified, Monitor ground cable changed
8201	75PC-T	1193	All Units,NC	To incorporate power-up diagnostics support of LCO, RTC, and MCC options. 210-8644-A, R2 EPROM's
8201	75PC-T	1194	Prob Only,NC	To prevent RS232 CTS signal from disabling the transmitter. (Characters in print file are dropped.) 210-8653 to E-Rev 2
8301	WOA 20/40	1135	Prob Only	Prevents failures resulting from loose ground strap on inside of base unit cover. 279-0599/0600, 279-0648 ground strap changed
8301	WOA 20/40	1148	All Units	Reduces radio emissions & ensures all units meet FCC Class "B" requirements. Keeps 80186 microprocessor (L114) running below 55 degrees C. 210-8556 (279-0648/0600) to E-Rev 4

FCO INDEX IN EQUIPMENT ORDER

<u>CLASS CODE</u>	<u>EQUIP AFFECTED</u>	<u>FCO</u>	<u>CLASS</u>	<u>REASON FOR CHANGE/DESCRIPTION OF CHANGE</u>
8301	WOA 20 with 279-0599	1149	All Units,NC	Installs heatsink which keeps 80186 microprocessor running below 55 degrees C. Provides insulation between daughter board of CPU assembly & switching power supply. 210-8356 & 210-8856 PCA's of 279-0599 CPU
8301	WOA 20/40	1160	Prob Only,NC	Improves timing window for floppy phase lock loop. Change makes it easier to use varied quality diskettes. 210-8356 to E-Rev 7, 210-8556 to E-Rev 5
8301	WOA 20/40	1162	Prob Only,NC	Small number of WOA's were shipped with marginal 7201 NEC communications controller chips which could cause transmission & receive errors (no WSN). Change NEC chip if present. 210-8356, 210-8556 NEC chip changed
MANY	Monitors	1153	Prob Only,NC	Adds clip to reduce strain on cable. Cables have been falling out of monitors. 449-1129 clip added

*John
FORBES
EX-1*

MEMORANDUM



TO: ALMS
FROM: John DuPont
DATE: November 23, 1982
SUBJ: FCO Status

RECEIVED

DEC 02 1982

TERRY MONGALIER

A weekly FCO status report consisting of (week shipments, percentages complete, open orders) will be distributed on a weekly basis. This list will be current and will list all new FCO's as they become available. (See attached)

The following is a current listing of all ongoing FCO Kits:

<u>PART NUMBER</u>	<u>FCO#</u>	<u>MDL#</u>	<u>EFFECTIVITY</u>	<u>REASON FOR CHANGE</u>
728-0011	1002	22V26	Next Call	Fixes error handling routines, eliminates I/O loss.
728-0012	1006	SVP A & X	Next Call	Improved verify speed, improved speed sequential read write.
728-0013	1005-A	2200 SVP/LVP	Next Call	I93 error seek complete Winchester.
728-0014	1003	VS60/80 22V06	Next Call	Fixes error handling routines, eliminates I/O loss.
728-0015	1005-B	2200SVP/LVP	Next Call	I93 error seek complete Winchester.
728-0016	1008	OIS105/ 115-1-2	Next Call	Reduce disk retry by reducing bandwidth (PLL).
728-0017	1007	SBW 2200SVP LVP	Next Call	Provide valid "Seek Complete" signal.
728-0018-25	1004-A	2280, 6580	Next Call	Protect head from severely restricted air flow.
728-0019	1009	Ergo II	ASAP	New control codes 00, 02, 04 easier aligning of characters in proportional spacing.


<u>PART NUMBER</u>	<u>FCO #</u>	<u>MDL #</u>	<u>EFFECTIVITY</u>	<u>REASON FOR CHANGE</u>
728-0020	1010	WWII 5504	Next Call	VCO circuit will lock into harmonic frequency, not able to read system disk
728-0021	1011	EM-OIS	Problem Only	Reset button will not always work, prevents occurrence of non-maskable interrupts during reset cycle
728-0024	1012	OIS105/ 115-1-2-3-4	Problem Only	Eliminates an indeterminate logic state that sometimes occurs after seek result retry

PLEASE NOTE: All FCO Kits should be ordered on a Routine Order basis (no P-1's).

If you should have any questions regarding FCO Kits and their status, please call me at extension 6318.

Thank you.

Regards,


John DuPont
 Controlled Products
 ECO Planner

JD:lsc:3946B

cc: G. DeBin
 J. Carty
 J. Proulx
 K. Senders
 ATOMS

<u>FCO NUMBER</u>	<u>PRODUCT</u>
1004A	2280 and 6580 Pheonix Drive (BP 3 and below)
1005	2200 SVP/LVP
1010	WW II/5504
1010A	WW II/5504
1012	OIA 105/115
1014	6581W/2281W/5541W and WC
1015	7536T
1017	Ergo II
1017B	ERgo III
1018	OIS 105/115/125A/130A-F
1024	2280, 2280V, 6580 (CDC Pheonix 9448 CMB)
1025	WAng Daisy 2281, 2281P, 2281W 2281W/WC
1026	OIS 105/115
1027	OIS 140/145/DVX/Alliance
1028	OIS 105/115
1030	5548Z Photo Typesetter
1031	PC
1032	VS 25/45
1033	Ergo III
1033A	Ergo III
1035	2236 MXD I/O Controller (2200 LVP, MVP)
1036	22V15-2 6250 Mag Tape IOP, VS 90/100
1037	VS 25/45
1038	22V48 Dual Port Disk IOP; VS 90/100
1038A	22V48 Dual Port Disk IOP; VS 90/100
1039	PC
1040	5530/5540 Black and White monitors - Ergo III
1041	VS 60/80
1042	VS 90/100
1043	2265V-2, 6565 CDC 288 MB SMD
1044	2265V-3 CDC 675 Meg FMD

<u>FCO NUMBER</u>	<u>PRODUCT</u>
1045	VP, LVP MVPA, MVPC
1046	Ergo III model TC-5800 aor TC 5900 Series
1047	Ergo III/TC-5300 Series
1048	OIS 140/145
1049	2265V-1 CDC 75 MB SMD
1050	VHD Matrix Printer 5577
1050A	VHD Matrix Printer 5577
1051	OIS 105, 115, 130-B, 130C
1052	OIS 105, 115, 130-B, 130C
1055	Wangwriter with TC Option
1059A	OC
1060	DW22-20
1064	2280, 2280V, 6580 (GDC Phoenix 9448 CMD)
1067	OIS 40/50 Internal Printer Controller
1068	VS 25/45-8N, 12N, 16N, SPS 450E
1073	2233/2235, 5533/5535
1077	OIS 40/50 Internal Printer Controller Option
1080B	VS 60/80
1082	5577 VHD Matrix Printer
1084	600 MEG FMD (2225V-3)
1086	2280 DPU
1087	Ergo II TC 5900 Series
1088	Ergo III TC 5310, 5320, 5330, 5340
1089	5536-3/4 TC Workstation
1090	2256V-3 (600 Meg FMD)
1093	PC
1095	VS 25/45
1096	5577 VHD Matrix Printer
1097	2246R
1097A	2246R
1099	22V48 Dual Port Disk IOP, VS 90/100
1100	2275-10, 20, 30 Disk Peripheral
1100A	2275-10, 20, 30 Disk Peripheral
1102	Wangnet

<u>FCO NUMBER</u>	<u>PRODUCT</u>
1103	VS 25/45
1104	PIC
1107	22V38 Disk I/O Processor
1110	IP4ID
1111	2275-10, 20, 30 Disk Peripheral
1113	2265V-2, 6565-2 CDC 288 MB SMD
1114	2280 DPU/MUX
1116	5577

CUSTOMER ENGINEERING
TECHNICAL ASSISTANCE CENTER
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GENERAL INFORMATION-TECHNICAL-GENERAL TECHNICAL

TOPIC: FCO INDEX (CLASS CODE ORDER)

The following index contains the most current FCO information presented in Class Code order (equipment model). Requirements for FCO documents or FCO kits can be obtained using normal ordering procedures.

FCO INDEX
(CLASS CODE ORDER)

Codes: I=Immediate, NC=Next Call, (P)=Prom Change, PO=Problem Only, ASAP=As Soon As Possible, AU=All Units

<u>Class Code</u>	<u>Equip. Affected</u>	<u>Sub-Assy Affected</u>	<u>FCO #</u>	<u>Eff Class</u>	<u>Approval Date</u>
3704	7536T	210-8067	1015	NC	01/06/83
2201	TB 216 (FTU)	JGX PCA (P)	1001	I	02/02/82
3101	2200	PCB 26073-5	1007	NC	08/12/82
3105	2280, 6580	Air Press Sensor	1004A	NC	09/15/82
3105	2280, 2280V, 6580 (CDC Phoenix CMD)	210-8017	1024A	PO	06/28/83
3105	2280, 2280V, 6580 (CDC Phoenix CMD)	726-5801	1064	PO	10/26/83
3105	2280, 2280V 6580 (CDC Phoenix CMD)	Blower	1064A	PO	12/28/83
3106	2265V-1 CDC 75MB SMD	210-7477	1049	PO	09/07/83
3106	2265V-1 6565,7565T	Circuit Brkrs	1065	PO	11/09/83

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3106	2265V-2, 6565CDC 288 MB SMD	Circuit Brkrs	1043A	NC	09/15/83
3106	2265V-3 CDC 675 Meg FMD (1X)	Ganged Brkrs	1044	NC	06/28/83
3106	2265V-2 CDC 288 MB SMD	210-7477	1053	PO	09/15/83
3106	2265V-3 CDC 675 Meg FMD (1X)	210-7477	1054	PO	09/15/83
3106	2265V-2 6565 CDC 288 MB SMD	Cable Clamp	1072	PO	01/12/84
3202	Arc.Cart.T/D 2229, 2529V 6529	726-6202(P)	1069	PO	12/28/83
3301	2263, 2263V, 5570,5571, Chntrn Prntr.	210-7386	1074	PO	01/18/84
3302	2233/2235 5533/5535 Matrix Printer	210-7595	1073	PO	01/26/84
3302	VDH Model 5577	210-7677	1013	NC	11/11/82
3302	VHD Model 5577	210-8174	1050	PO	07/21/83
3304	7581 WT/WCT	210-8070 210-8071-A 210-8072-A	1022	PO	01/26/83
3305	2281, 2281P, 2281W, 2281W/WC	510-5223-C	1025	PO	05/11/83
3305	6581W/2281W/ 5541W & WC	210-7360 210-7361-A 210-7364-A	1014	PO	12/17/82
3305	DW/22-20	210-7886-1A (P)	1023	PO	02/08/83
3305	DW22-20	210-7886-1A (P)	1060	PO	09/27/83

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3305	DW22-20	210-7886-1A (P)	1060A	PO	10/20/83
3305	DW/OS-20, PC-PM011	210-7886-A (P) 210-7886-1B (P)	1057	PO	09/21/83
3314	5548Z Photo Typesetter	210-7548	1030	NC	05/04/83
3318	LPS-12	HVPS	1021	ASAP	01/21/83
3318	LPS-12 Md1 504	ROS Gasket	1070	PO	12/28/83
3318	LPS-12 Md1 504	726-7014(P)	1071	PO	01/06/84
3404	ERGO III WORKSTATION	725-2738	1033A	NC	06/21/83
3404	ERGO III/TC -5300 Series	210-7917	1047	PO	08/04/83
3404	5530/5540 B & W Monitors-ERGO 3 Workstation	Ground	1040	AU	06/09/83
3404	ERGO 3	210-7916 (P) 210-7920 (P)	1017A	PO	04/15/83
3404	ERGO II Model TC-5800 Series or TC-5900 Series	210-8181 210-7681,-1,-2	1046	PO	07/20/83
3404	ERGO II	210-7671	1009	ASAP	07/16/82
3703	7581W-T/WC-T, 7581W-IT/WC-IT, 7582T, 7582T-WPS	210-8070	1066	PO	11/22/83
4103	2200 SVP/LVP	210-8696-A, -B (P)	1005A	NC	03/09/83
4103	2200	210-7890-A (P)	1006	NC	06/01/82
4103	VP, LVP, MVPA, MVPC	Fan	1045	PO	12/28/83

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<u>Class Code</u>	<u>Equip Affected</u>	<u>Sub-Assy Affected</u>	<u>FCO #</u>	<u>Eff Class</u>	<u>Approval Date</u>
4201	2236 MXD I/O Ctrlr (2200 LVP, MVP)	210-7591-A	1035	PO	05/23/83
5103	OIS 40/40B/50	210-8280	1067	AU	12/28/83
5104	WWII/5504	210-7977	1010A	NC	06/21/83
5104	Wangwriter W/TC 5504 and 5524	210-7975	1055	PO	09/08/83
5105	OIS 105/115	210-7653	1008	NC	07/09/82
5105	EM-OIS	210-7685	1011	PO	09/13/82
5105	OIS 105/115	210-7653	1012	PO	10/22/82
5105	OIS 105/115 125A/130A-F	270-0186-00	1018	PO	01/14/83
5105	OIS 105/115	Fan, Heat Sink	1026	PO	04/04/83
5105	OIS 105/115	Connectors	1028	NC	03/30/83
5105	OIS 105/115/130	210-7684-A (P)	1051	PO	08/19/83
5105	OIS 105/115/130	210-7501-D (P)	1052	PO	08/19/83
5106	7540T, 7550T, 7505T, 7515T, 7535T	210-8100	1034	NC	05/05/83
6101	VS 60/80	210-7426, -A (P)	1003	NC	05/14/82
6101	VS 60/80	210-7210	1019A	PO	02/03/83
6101	VS 60/80	210-7300 210-7413	1029	PO	04/14/83
6101	VS 60/80	Fan Assy	1041	PO	07/01/83
6102	22V15-2 6250 Magnetic Tape IOP, VS90/100	210-7110-AH (P) 22V15-2	1036	NC	05/26/83
6102	VS-100	210-7426-A (P) 210-7426-1A (P)	1002	NC	04/27/82

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<u>Class Code</u>	<u>Equip Affected</u>	<u>Sub-Assy Affected</u>	<u>FCO #</u>	<u>Eff Class</u>	<u>Approval Date</u>
6102	VS 90/100	210-7608	1042	PO	07/26/83
6104	VS 25/45	210-8325-A	1016	ASAP	01/06/83
6104	VS 25/45	210-7900-1A	1020	NC	01/24/83
6104	VS 25/45	210-7900-3,-4,-5 (P)	1037	PO	06/28/83
6104	VS 25/45	210-8304-A	1032	NC	05/19/83
6201	22V48 Dual Port Disk IOP; VS 90/100	210-7110-AK (P)	1038	ASAP	06/06/83
7202	C I U-A,-B	210-7882	1058	PO	09/15/83
7202	C I U-A,-B	210-7881	1061	PO	10/06/83
7302	OIS 140/145/ DVX/Alliance	Covers	1027	NC	03/16/83
7302	OIS 140/145 (6540-1W,-2W, -3W; 6545W; 6750W)	210-8349	1048	AU	07/28/83
8101	PC	725-2738	1031A	NC	06/21/83
8101	PC(PC-001,002, 003,004,005)	210-8121-A	1039	PO	06/02/83
8101	PC(PC-001,-002, -003,-004,-005)	210-8225-A (P)	1059	PO	09/09/83
8101	PC-001,-002,-003 -004, -005	210-8237	1063	PO	10/06/83

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GENERAL INFORMATION-TECHNICAL-GENERAL TECHNICAL

TOPIC: FCO INDEX (FCO ORDER)

The following index contains the most current FCO information presented in FCO# order. Requirements for FCO documents or FCO kits can be obtained using normal ordering procedures.

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<u>FCO #</u>	<u>Class Code</u>	<u>Equip Affected</u>	<u>Sub-Assy Affected</u>	<u>Eff Class</u>	<u>Approval Date</u>
1001	2201	TB 216 (FTU)	JGX PCA (P)	I	2/02/82
1002	6102	VS-100	210-7426-A (P) 210-7426-1A (P)	NC	4/27/82
1003	6101	VS 60/80	210-7426,-A (P)	NC	5/14/82
1004A	3105	2280, 6580	Air Press Sensor	NC	9/15/82
1005A	4103	2200 SVP/LVP	210-8696-A,-B(P)	NC	3/09/83
1006	4103	2200	210-7890-A (P)	NC	6/01/82
1007	3101	2200	PCB 26073-5	NC	8/12/82
1008	5105	OIS 105/115	210-7653	NC	7/09/82
1009	3404	ERGO II	210-7671	ASAP	7/16/82
1010A	5104	WWII/5504	210-7977	NC	6/21/83
1011	5105	EM-OIS	210-7685	PO	9/13/82
1012	5105	OIS 105/115	210-7653	PO	10/22/82
1013	3302	VDH Model 5577	210-7677	NC	11/11/82
1014	3305	6581W/2281W/ 5541W & WC	210-7360 210-7361-A 210-7364-A	PO	12/17/82

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<u>FCO #</u>	<u>Class Code</u>	<u>Equipment Affected</u>	<u>Sub-Assy Affected</u>	<u>Eff Class</u>	<u>Approval Date</u>
1015	3704	7536T	210-8067	NC	1/06/83
1016	6104	VS 25/45	210-8325-A	ASAP	1/06/83
1017A	3404	ERGO 3	210-7916 (P) 210-7920 (P)	PO	4/15/83
1018	5105	OIS 105/115 125A/130A-F	270-0186-00	PO	1/14/83
1019A	6101	VS 60/80	210-7210	PO	2/03/83
1020	6104	VS 25/45	210-7900-1A	NC	1/24/83
1021	3318	LPS-12	HVPS	ASAP	1/21/83
1022	3304	7581 WT/WCT	210-8070 210-8071-A 210-8072-A	PO	1/26/83
1023	3305	DW/22-20	210-7886-1A (P)	PO	2/08/83
1024A	3105	2280, 2280V, 6580 (CDC Phoenix CMD)	210-8017	PO	6/28/83
1025	3305	2281, 2281P, 2281W, 2281W/WC	510-5223-C	PO	5/11/83
1026	5105	OIS 105/115	Fan, Heat Sink	PO	4/04/83
1027	7302	OIS 140/145/ DVX/Alliance	Covers	NC	3/16/83
1028	5105	OIS 105/115	Connectors	NC	3/30/83
1029	6101	VS 60/80	210-7300 210-7413	PO	4/14/83
1030	3314	5548Z Photo Typesetter	210-7548	NC	5/04/83
1031A	8101	PC	725-2738	NC	6/21/83
1032	6104	VS 25/45	210-8304-A	NC	5/19/83
1033A	3404	ERGO III WORKSTATION	725-2738	NC	6/21/83

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<u>FCO #</u>	<u>Class Code</u>	<u>Equipment Affected</u>	<u>Sub-Assy Affected</u>	<u>Eff Class</u>	<u>Approval Date</u>
1034	5106	7540T, 7550T, 7505T, 7515T, 7535T	210-8100	NC	5/05/83
1035	4201	2236 MXD I/O Ctrlr (2200 LVP, MVP)	210-7591-A	PO	5/23/83
1036	6102	22V15-2 6250 Magnetic Tape IOP, VS90/100	210-7110-AH (P) 22V15-2	NC	5/26/83
1037	6104	VS25/45	210-7900-3,-4, -5 (P)	PO	6/28/83
1038	6201	22V48 Dual Port Disk IOP; VS 90/100	210-7110-AK (P)	ASAP	6/06/83
1039	8101	PC(PC-001,002, 003,004,005)	210-8121-A	PO	6/02/83
1040	3404	5530/5540 B & W Ground Monitors-ERGO 3 Workstation		AU	6/09/83
1041	6101	VS 60/80	Fan Assy	PO	7/01/83
1042	6102	VS 90/100	210-7608	PO	7/26/83
1043A	3106	2265V-2, 6565CDC 288 MB SMD	Circuit Brkrs	NC	9/15/83
1044	3106	2265V-3 CDC 675 Meg FMD (1X)	Ganged Brkrs	NC	6/28/83
1045	4103	VP,LVP,MVPA MVPC	Fan	PO	2/28/83
1046	3404	ERGO II Model TC-5800 Series or TC-5900 Series	210-8181 210-7681,-1,-2	PO	7/20/83
1047	3404	ERGO III/TC -5300 Series	210-7917	PO	8/04/83

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1048	7302	OIS 140/145 (6540-1W,-2W, -3W; 6545W; 6750W)	210-8349	AU	7/28/83
1049	3106	2265V-1 CDC 75MB SMD	210-7477	PO	9/07/83
1050	3302	VHD Model 5577	210-8174	PO	7/21/83
1051	5105	OIS 105/115/130	210-7684-A (P)	PO	8/19/83
1052	5105	OIS 105/115/130	210-7501-D (P)	PO	8/19/83
1053	3106	2265V-2 CDC 288 MB SMD	210-7477	PO	9/15/83
1054	3106	2265V-3 CDC 675 Meg FMD (1X)	210-7477	PO	9/15/83
1055	5104	Wangwriter W/TC 5504 and 5524	210-7975	PO	9/08/83
1057	3305	DW/OS-20, PC-PM011	210-7886-A (P) 210-7886-1B (P)	PO	9/21/83
1058	7202	C I U-A,-B	210-7882	PO	9/15/83
1059	8101	PC(PC-001,-002, -003,-004,-005)	210-8225-A (P)	PO	9/09/83
1060	3305	DW22-20	210-7886-1A (P)	PO	9/27/83
1060A	3305	DW22-20	210-7886-1A (P)	PO	10/20/83
1061	7202	C I U-A,-B	210-7881	PO	10/06/83
1063	8101	PC-001,-002, -003, -004, -005	210-8237	PO	10/06/83
1064	3105	2280, 2280V, 6580 (CDC Phoenix CMD)	726-5801	PO	10/26/83
1064-A	3105	2280,2280V 6580 (CDC Phoenix CMD)	Blower	PO	12/28/83

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<u>FCO #</u>	<u>Class Code</u>	<u>Equipment Affected</u>	<u>Sub-Assy Affected</u>	<u>Eff Class</u>	<u>Approval Date</u>
1065	3106	2265V-1 6565,7565T	Circuit Brkrs	PO	11/09/83
1066	3703	7581W-T/WC-T, 7581W-IT/WC-IT, 7582T, 7582T-WPS	210-8070	PO	11/22/83
1067	5103	OIS 40/40B/50	210-8280	AU	12/28/83
1069	3202	Arc. Cart. T/D 2229, 2529V, 6529	726-6202(P)	PO	12/28/83
1070	3318	LPS-12 Model 504	ROS gasket	PO	12/28/83
1071	3318	LPS-12 Model 504	726-7014(P)	PO	01/06/84
1072	3106	2265V-2 6565 CDC 288 MB SMD	Cable Clamp	PO	01/12/84
1073	3302	2233/2235 5533/5535 Matrix Printer	210-7595	PO	01/26/84
1074	3301	2263, 2263V, 5570, 5571 Chn. Trn. Prntr.	210-7386	PO	01/18/84
1077	5103	OIS 40/40B/50 with Internal Controller Option	210-8280	AU	02/02/84

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GENERAL INFORMATION-TECHNICAL-GENERAL TECHNICAL

TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER)

The following indexes contain the most current FCO information presented in two formats - the first index is in FCO order, the second index is in equipment model order. Requirements for FCO documents or FCO kits can be obtained using normal ordering procedures.

FCO INDEX
 (FCO ORDER)

<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1001	Immediate	729-1162	728-0009-25	TB 216 (FTU)	2/2/82
	Add features to tester; change EPROM's to ROM's.				
1002	Next Call	729-9085	728-0011	VS 100	4/27/82
	Fixes error handling routines, eliminates I/O loss.				
1003	Next Call	729-9086	728-0014	VS 60/80	5/14/82
	Fixes error handling routines, eliminates I/O loss..				
1004A	Next Call	729-1090	728-0018-25	2280, 6580	9/15/82
	To provide protection to heads and media by adding a pressure sensor device.				
1005A	Next Call	729-1091-A	728-0013-A 728-0015-B	2200	3/9/83
	I93 error Seek Complete Winchester. Floppy door will unlock after 5 seconds of non-use. A format error found within the alternate sector during a FORMAT DISK operation is now recovered by the software.				
1006	Next Call	729-1092	728-0012	2200	6/1/82
	Improved verify speed & speed sequential read write.				
1007	Next Call	729-1128	728-0017	2200	8/12/82
	To provide a valid "Seek Complete" signal to the controller.				
1008	Next Call	729-1129	728-0016	OIS 105/115	7/9/82
	Reduces the band width of the PLL (Phase Lock Loop) filter thus minimizing disk retry errors.				

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1009	A.S.A.P.	729-1139	728-0019	ERGO II	7/16/82
New control codes added allowing the cursor to be proportional to that of the character.					
1010A	Next Call	729-1151-A	728-0020	WWII/5504	6/21/83
To correct the VCO circuit which locks into a harmonic frequency disabling a read operation.					
1011	Problem Only	729-1152	728-0021	EM-OIS	9/13/82
Prevents the occurrence of non-maskable interrupt during any reset cycle.					
1012	Problem Only	729-1161	728-0024	OIS 105/115	10/22/82
Eliminates an indeterminate logic state that sometimes occurs after a seek and results in a retry.					
1013	Next Call	729-1177	728-0025	VHD Matrix Printer Model 5577	11/11/82
To provide software with a control line to disable all stepping motors when the printer is idle.					
1014	Problem Only	729-1219	728-0023	6581W/2281W/5541W & WC	12/17/82
To improve overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, and inconsistent hammer impressions.					
1015	Next Call	729-1227	728-0027	7536T	1/6/83
The CRT screen tends to flicker when the space bar is depressed due to a horizontal phase shift problem.					
1016	ASAP	729-1228	728-0026	VS 25/45	1/6/83
System exhibits "Fatal Task Error" prompt and CRC (Cyclic Redundancy Check) failure due to faulty ECC (Error Correction Circuitry).					

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1017A	Problem Only	729-1229A	728-0028A	ERGO 3	4/15/83
To prevent the ERGO 3 Workstation from intermittently hanging with various systems. To provide interface to the parallel and serial keyboards on the ERGO 3.					
1018	Problem Only	729-1232	728-0029	OIS 105/115/ 125A/130A-F	1/14/83
High transistor gain causes premature failure of the Regulator Board (210-7887).					
1019A	Problem Only	729-1233	N/A	VS 60/80	2/3/83
The additional resistance attributed to excessive lead length of the current sense resistors on the 7210 PC board will cause premature power supply foldback in certain VS-80 system configurations.					
1020	Next Call	729-1234	728-0032	VS 25/45	1/24/83
VS 25/45 Systems are being upgraded to a 512K memory for better performance capability.					
1021	ASAP	729-1235	728-0033	LPS-12	1/21/83
New photoreceptor added to the LPS-12 units will produce copies with excessive gray background unless the high voltage power supply is modified.					
1022	Problem Only	729-1236	728-0031	7581 WT/WCT	1/26/83
To improve overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, and inconsistent hammer impressions.					
1023	Problem Only	729-1237	728-0035	DW/22-20	2/8/83
The R02 version of the printer microcode is designed to fix the following: Erratic line feed problems; Special character attribute problems (i.e., bold print, auto slashing, superscript and subscript); Erratic twin sheet feeder problems.					

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
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1012	Problem Only	729-1161	728-0024	OIS 105/115	10/22/82
	Eliminates an indeterminate logic state that sometimes occurs after a seek and results in a retry.				
1013	Next Call	729-1177	728-0025	VHD Matrix Printer Model 5577	11/11/82
	To provide software with a control line to disable all stepping motors when the printer is idle.				
1014	Problem Only	729-1219	728-0023	6581W/2281W/5541W & WC	12/17/82
	To improve overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, and inconsistent hammer impressions.				
1015	Next Call	729-1227	728-0027	7536T	1/6/83
	The CRT screen tends to flicker when the space bar is depressed due to a horizontal phase shift problem.				
1016	ASAP	729-1228	728-0026	VS 25/45	1/6/83
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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
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1022	Problem Only	729-1236	728-0031	7581 WT/WCT	1/26/83
	To improve overall reliability, i.e., garbage print, apparent thermal failures, insufficient internal diagnostics, and inconsistent hammer impressions.				
1023	Problem Only	729-1237	728-0035	DW/22-20	2/8/83
	The R02 version of the printer microcode is designed to fix the following: Erratic line feed problems; Special character attribute problems (i.e., bold print, auto slashing, superscript and subscript); Erratic twin sheet feeder problems.				

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TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER) (page 4)

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1024A	Problem Only	729-1298-A	728-0047	2280, 2280V 6580 (CDC Phoenix 9448 CMD)	6/28/83
To assure compatibility of the CDC Phoenix 9448 CMD (Wang model used in 2280V, 2280, and 6580) with the A-Cable Terminator. To correct intermittent device selection errors.					
1025	Problem Only	729-1246	728-0036	Wang Daisy Printer 2281, 2281P, 2281W, 2281W/WC	5/11/83
To assure ground between the printer and the 2200.					
1026	Problem Only	729-1249	728-0037	OIS 105/115	4/4/83
The change will increase heat dissipation of the heat sink and redirect air flow for better cooling of transistors.					
1027	Next Call	729-1250	728-0038	OIS 140/145/ DVX/Alliance	3/16/83
The interior surface on some of the rear panel covers used in the OIS 140 cabinet were improperly painted. Improper grounding of electrical noise could be the result. Symptoms will be intermittent system failure that cannot be directly related to either the CPU or attached peripherals.					
1028	Next Call	729-1269	728-0039	OIS 105/115	3/30/83
To correct the potential problem of power supply connectors melting under high current drain conditions.					
1029	Problem Only	729-1270	728-0040	VS 60/80	4/14/83
To prevent main memory parity errors through elimination of noise on bus. This change allows write data onto the bus during the time needed to write main memory (L5 through L0). To prevent main memory parity errors by starting main memory read cycle a T10 and increasing the margin of address set-up time in memory.					

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TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER) (page 5)

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1030	Next Call	729-1275	728-0041	5548Z Photo Typesetter	5/4/83
	To prevent Photo Typesetter hang-ups by improving the performance of the turret solenoid through reduction of current demand on the 725-0079 power supply.				
1031A	Next Call	729-1279-A	728-0042	PC	6/21/83
	To prevent system hang-ups by increasing static protection in the Low Profile Keyboard.				
1032	Next Call	729-1293	728-0043	VS 25/45	5/19/83
	To correct failure on DMA Test VS25 DRAM/MM DMA. To facilitate testing of the Write 8 low-command of the main memory controller for future device adapters.				
1033A	Next Call	729-1280-A	728-0042	ERGO 3 WORKSTATION	6/21/83
	To prevent system hang-ups by increasing static protection in the Low Profile Keyboard.				
1034	Next Call	729-1292	728-0045	7540T, 7550T, 7505T, 7515T, 7535T	5/5/83
	To increase the current limiting of the +12V power supply during power up to prevent premature current foldback with a fully loaded master. To increase the current capacity of the +12V power supply to 5 amps, thus preventing simultaneous highs on system front panel LEDs.				
1035	Problem Only	729-1297	728-0046	2236 MXD I/O Controller (2200 LVP, 2200 MVP)	5/23/83
	To prevent intermittent system hangups.				

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TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER) (page 6)

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1036	Next Call	729-1299	728-0052	22V15-2 6250 Magnetic Tape IOP, VS 90/100	5/26/83
To assure IOP bypasses bad spots on tape (described in SPR #F001694), thus preventing unwanted screen requests to mount a new tape. To eliminate the dual backup/write protect problem reported in SPR #F0021124.					
1037	Problem Only	729-1300	728-0053	VS 25/45	6/28/83
To prevent LED display of intermittent 00E9 error or program exception on invalid memory address. To reduce unrequired customer calls.					
1038	ASAP	729-1311	728-0054	22V48 Dual Port Disk IOP; VS 90/100	6/6/83
To reduce the number of "IOP Now Ready" interrupts returned to the operating system.					
1039	Problem Only	729-1312	728-0055	Prof. Com. (PC-001,002, 003,004,005)	6/2/83
To prevent system hangups when using certain CP/M 80 application software.					
1040	All Units	729-1313	728-0056	5530/5540 Black & White Monitors-ERGO 3 Workstation	6/9/83
To comply with FCC RFI regulations.					
1041	Problem Only	729-1314	728-0057	VS 60/80	7/1/83
To increase running efficiency by providing improved cooling of PCB's.					

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TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER) (page 7)

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1042	Problem Only	729-1315	728-0058	VS 90/100	7/26/83
To support "TRAP1" hardware initialize by reducing noise in clock signals.					
1043A	Next Call	729-1316-A	728-0059-A	2265V-2, 6565CDC, 288 MB SMD	9/15/83
To increase current rating of CB10 and CB11 circuit breakers to prevent nuisance tripping. To assure proper operation of the drive motor brake and prevent unimpeded pack rotation when either circuit breaker is open.					
1044	Next Call	729-1318	N/A	2265V-3 CDC, 675 Meg FMD (1X)	6/28/83
Three ganged circuit breakers (CB2, CB3, and CB4) on the AC power supply may physically appear activated while electrically any one of them may have tripped to a deactivated state.					
1046	Problem Only	729-1329	728-0064	ERGO II Model TC-5800 Series or TC-5900 Series	7/20/83
To insure a reliable TC connection and prevent transmission errors due to fluctuating ground signals.					
1047	Problem Only	729-1330	728-0065	ERGO III/TC- 5300 Series	8/4/83
To provide logic ground to TC modem. To prevent TC transmission errors.					
1048	All Units	729-1333	728-0066	OIS 140/145 (6540-1W,-2W, -3W; 6545W; 6750W)	7/28/83
To reduce noise on the "RFOR" signal which results in erratic CRC accumulation. To prevent serial device hang-ups.					

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1049	Problem Only To prevent Drive Faults and Read/Write errors when used with 22V08, 22V28, 22V38, and 22V48 IOP's.	729-1331	728-0067	2265V-1 CDC 75MB SMD	9/7/83
1050	Problem Only To eliminate timing problem on an M1 cycle. To prevent matrix printer failure.	729-1332	728-0068	VHD Matrix Printer 5577	7/21/83
1051	Problem Only To prevent winchester drive heads from banging against the stops at power-up, and to eliminate the resultant 1, 2, and 4 error code displays on the front panel LED's. To increase read time from 20 MSEC to 30 MSEC when loading the initial program from a floppy drive.	729-1347	728-0069	OIS 105,105-I 115-I,115-II 130-B,130-C	8/19/83
1052	Problem Only To prevent winchester drive heads from banging against the stops at power-up, and to eliminate the resultant 1, 2, and 4 error code displays on the front panel LED's. To increase read time from 20 MSEC to 30 MSEC when loading the initial program from the floppy drive.	729-1348	728-0070	OIS 105,105-I 115-I,115-II, 130-B,130-C	8/19/83
1053	Problem Only To prevent Drive Faults and Read/Write errors when used with 22V08, 22V28, 22V38 and 22V48 IOP's.	729-1349	728-0067	2265V-2 CDC 288 MB SMD	9/15/83
1054	Problem Only To prevent Drive Faults and Read/Write errors when used with 22V08, 22V28, 22V38 and 22V48 IOP's.	729-1350	728-0067	2265V-3 CDC 675 Meg FMD (1X)	9/15/83

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<u>FCO No.</u>	<u>Class</u>	<u>FCO Doc. No.</u>	<u>FCO Kit No.</u>	<u>Equip Affected</u>	<u>Approval Date</u>
1055	Problem Only	729-1353	728-0071	Wangwriter With TC Option Series 5504 and 5524	9/8/83
To correct timing problems and enable proper execution of system software.					
1057	Problem Only	729-1360	728-0075	DW/OS-20, PC-PM011	9/21/83
To increase ribbon motor torque. To decrease heat output of the ribbon motor. To reposition the ribbon motor when power is reapplied.					
1058	Problem Only	729-1361	728-0076	Cable Inter-face Unit -A, -B	9/15/83
To prevent intermittent system hang-ups by insuring D-Space memory performs an 8-bit transfer.					
1059	Problem Only	729-1362	728-0077	Professional Computer PC-001, -002, -003, -004, -005	9/9/83
To obsolete all previous revisions of the PC Winchester Controller firmware. To correct a time out problem in the power-up diagnostic code when using an IMI Winchester disk drive. To add the capacity to use both the 10 and 30 megabyte drives without a future firmware change. To insure that the Winchester disk drive will function properly when a 256K expanded memory board is installed in the system.					
1060	Problem Only	729-1363	728-0078	DW22-20	9/27/83
To insure proper ribbon advance by changing the ribbon advance phase table from half step to full step.					

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FCO INDEX
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<u>Org Code</u>	<u>Equip Affected</u>	<u>FCO #</u>	<u>Class</u>	<u>Document Number</u>	<u>Approval Date</u>
II.C.1	TB 216 (FTU)	1001	Immediate	729-1162	2/2/82
III.A.2 (6102)	22V15-2 6250 Magnetic Tape IOP, VS90/100	1036	Next Call	729-1299	5/26/83
III.A.7	2280, 6580	1004A	Next Call	729-1090	9/15/82
III.A.7 (3105)	2280, 2280V, 6580 (CDC Phoenix 9448 CMD)	1024A	Problem Only	729-1298-A	6/28/83
III.A.8 (3106)	2265V-1 CDC 75MB SMD	1049	Problem Only	729-1331	9/7/83
III.A.9 (3106)	2265V-2, 6565CDC 288 MB SMD	1043A	Next Call	729-1316A	9/15/83
III.A.9 (3106)	2265V-3 CDC 675 Meg FMD (1X)	1044	Next Call	729-1318	6/28/83
III.A.9	2265V-2 CDC 288 MB SMD	1053	Problem Only	729-1349	9/15/83
III.A.9 (3106)	2265V-3 CDC 675 Meg FMD (1X)	1054	Problem Only	729-1350	9/15/83
III.A.12	2200	1007	Next Call	729-1128	8/12/82
III.C.6	6581W/2281W/ 5541W & WC	1014	Problem Only	729-1219	12/17/82
III.C.6	7581 WT/WCT	1022	Problem Only	729-1236	1/26/83
III.C.6 (3305)	2281, 2281P, 2281W, 2281W/WC	1025	Problem Only	729-1246	5/11/83
III.C.16 (3314)	5548Z Photo Typesetter	1030	Next Call	729-1275	5/4/83
III.C.21	DW/22-20	1023	Problem Only	729-1237	2/8/83
III.C.22	VDH Matrix Printer Model 5577	1013	Next Call	729-1177	11/11/82
III.C.22	VHD Matrix Printer Model 5577	1050	Problem Only	729-1332	7/21/83

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<u>Org Code</u>	<u>Equip Affected</u>	<u>FCO #</u>	<u>Class</u>	<u>Document Number</u>	<u>Approval Date</u>
III.C.23	LPS-12	1021	A.S.A.P.	729-1235	1/21/83
III.D.2	7536T	1015	Next Call	729-1227	1/6/83
III.D.2M	ERGO III	1033A	Next Call	729-1280-A	6/21/83
-1(3404)	WORKSTATION				
III.D.2M	ERGO III/TC	1047	Problem	729-1330	8/4/83
-1(3404)	-5300 Series		Only		
III.D.2M	5530/5540 B & W	1040	All Units	729-1313	6/9/83
-2(3404)	Monitors-ERGO 3				
	Workstation				
III.D.4	ERGO 3	1017A	Problem	729-1229A	4/15/83
			Only		
III.D.4	ERGO II Model	1046	Problem	729-1329	7/20/83
(3404)	TC-5800 Series		Only		
	or TC-5900				
	Series				
III.D.5	ERGO II	1009	A.S.A.P.	729-1139	7/16/82
IV.A.3	2200 SVP/LVP	1005A	Next Call	729-1091-A	3/9/83
IV.A.3	2200	1006	Next Call	729-1092	6/1/82
V.A.3	OIS 140/145/ DVX/Alliance	1027	Next Call	729-1250	3/16/83
V.A.3	OIS 140/145	1048	All Units	729-1333	7/28/83
(7302)	(6540-1W,-2W, -3W; 6545W; 6750W)				
V.A.4	WWII/5504	1010A	Next Call	729-1151-A	6/21/83
V.A.IV	Wangwriter W/TC	1055	Problem	729-1353	9/8/83
(5104)	Option Series		Only		
	5504 and 5524				
V.A.5	OIS 105/115	1008	Next Call	729-1129	7/9/82
V.A.5	EM-OIS	1011	Problem	729-1152	9/13/82
			Only		
V.A.5	OIS 105/115	1012	Problem	729-1161	10/22/82
			Only		
V.A.5	OIS 105/115	1018	Problem	729-1232	1/14/83
	125A/130A-F		Only		
V.A.5	OIS 105/115	1026	Problem	729-1249	4/4/83
			Only		

CUSTOMER ENGINEERING
TECHNICAL ASSISTANCE CENTER
NEWSLETTER

#31004

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GENERAL INFORMATION-TECHNICAL-GENERAL TECHNICAL

TOPIC: FCO INDEXES (FCO ORDER AND EQUIPMENT ORDER) (page 12)

FCO INDEX
(EQUIPMENT ORDER)

<u>Org Code</u>	<u>Equip Affected</u>	<u>FCO #</u>	<u>Class</u>	<u>Document Number</u>	<u>Approval Date</u>
V.A.5	OIS 105/115	1028	Next Call	729-1269	3/30/83
V.A.5	OIS 105/115/130	1051	Problem	729-1347	8/19/83
(5105)			Only		
V.A.5	OIS 105/115/130	1052	Problem	729-1348	8/19/83
(5105)			Only		
VI.A.1	VS 60/80	1003	Next Call	729-9086	5/14/82
VI.A.1	VS 60/80	1019A	Problem	729-1233	2/3/83
			Only		
VI.A.1	VS 60/80	1029	Problem	729-1270	4/14/83
			Only		
VI.A.1	VS 60/80	1041	Problem	729-1314	7/1/83
(6101)			Only		
VI.A.2	VS 100	1002	Next Call	729-9085	4/27/82
VI.A.2	VS 90/100	1042	Problem	729-1315	7/26/83
(6102)			Only		
VI.A.3	VS 25/45	1016	ASAP	729-1228	1/6/83
VI.A.3	VS 25/45	1020	Next Call	729-1234	1/24/83
VI.A.3	VS 25/45	1037	Problem	729-1300	6/28/83
(6104)			Only		
VI.A.3.	VS 25/45	1032	Next Call	729-1293	5/19/83
M-1					
(6104)					
VI.B.1	2236 MXD I/O	1035	Problem	729-1297	5/23/83
(4201)	Controller		Only		
	(2200 LVP,				
	2200 MVP)				
VI.B.1	22V48 Dual Port	1038	ASAP	729-1311	6/6/83
(6201)	Disk IOP;				
	VS 90/100				
5106	7540T, 7550T,	1034	Next Call	729-1292	5/5/83
	7505T, 7515T,				
	7535T				
7202	Cable Interface	1058	Problem	729-1361	9/15/83
	Unit -A, -B		Only		
8101	PC	1031A	Next Call	729-1279-A	6/21/83
8101	PC(PC-001,002,	1039	Problem	729-1312	6/2/83
	003,004,005)		Only		
8101	PC(PC-001,-002,	1059	Problem	729-1362	9/9/83
	-003,-004,-005)		Only		