International Business Machines Corporation

Memorandum to: Licensees of CIEDS/CBDS Version 4 RT 4.04.01I
5601-059

Subject: Release 04, Modification Level 01I
Features 5858, 5900

Release 04, Modification Level 01, of the CIEDS/CBDS Version 4 RT is available.

Included herein are:

1. Summary of Changes (Attachment A).
2. List of Program Material (Attachment A).
3. Statement of Program Support (Attachment A).

Any discrepancies between the material received and the items listed above should be reported using the enclosed Questionnaire.

USEMEM9V87
10/90

Licensees of CIEDS/CBDS Version 4 RT 4.04.01I
5601-059

ATTACHMENT A

SUMMARY OF CHANGES
Release (4), Modification (01I) provides functional enhancements to previous releases of CIEDS/CBDS Version 4 for AIX/RT, and resolves a number of problems/APAR's.

To simplify matters, the level of the CBDS product will be called **CBDS 4.05.00I** in the documentation, program material, and Hot-line support. This nomenclature is consistent with the program level information used by the vendor, Bell-Northern Research.

LIST OF PROGRAM MATERIAL

The materials for Release (4), Modification (01B) included a complete set of program material, and a copyof the following publications. There is one refresh tape with this release.

SH23-6117-03 Installation Guide for an AIX Workstation
SH23-6118-03 Using CBDS with the AIX Workstation
SH23-6120-03 Schematic Layout Subsystem User's Guide
SH23-6121-03 Physical Layout Subsystem User's Guide
SH23-6122-03 Physical Layout Subsystem Reference Manual-Automatic Functions
SH23-6123-03 Physical Layout Subsystem Reference Manual-Interactive Functions
SH23-6124-03 Computer-Aided Manufacturing Subsystem - User's Guide
SH23-6125-03 Component Data Base User's Guide
SH23-6126-03 Component Data Base Administrator's Guide
SH23-6127-03 Utilities User's Guide
SH23-6128-03 Technical Reference
SH23-6038-00 General Information Manual
GH23-6129-02 Licensed Program Specifications

STATEMENT OF PROGRAM SUPPORT

Customer service on Release (4) of CIEDS/CBDS Version 4 for AIX/RT will be available until March 31, 1991.

International Business Machines Corporation

MEMORANDUM TO: Current Licensees of CIEDS/CBDS Version 4 RT 4.04.01G
5601-059

Features 5858, 5900

SUBJECT: Release 04, Modification Level 01I

The above subject is enclosed. This memo contains the following information concerning the above subject:

1. Summary of Changes	(Attachment A)
2. List of Program Material	(Attachment A)
3. Statement of Program Support	(Attachment A)
4. Release Content	(Attachment B)
5. Fixed Problems in 4.04.00	(Attachment C)
6. Emergency Fix 4.04.01A	(Attachment D)
7. Emergency Fix 4.04.01B	(Attachment E)
8. Emergency Fix 4.04.01C	(Attachment F)
9. Emergency Fix 4.04.01D	(Attachment G)
10. Emergency Fix 4.04.01E	(Attachment H)
11. Emergency Fix 4.04.01F	(Attachment I)
12. Emergency Fix 4.04.01G	(Attachment J)
13. Emergency Fix 4.04.01H	(Attachment K)
14. Emergency Fix 4.04.01I	(Attachment K)

Note: Program materials remain the property of IBM; if no longer needed, they are to be rendered unreadable.

Current Licensees of CIEDS/CBDS Version 4 RT 4.04.01G
5601-059

ATTACHMENT A

SUMMARY OF CHANGES
Release (4), Modification (01I) provides functional enhancements to previous releases of CIEDS/CBDS Version 4 for AIX/RT, and resolves a number of problems/APAR's.

To simplify matters, the level of the CBDS product will be called **CBDS 4.05.00I** in the documentation, program material, and Hot-line support. This nomenclature is consistent with the program level information used by the vendor, Bell-Northern Research.

LIST OF PROGRAM MATERIAL

The materials for Release (4), Modification (01I) include a complete set of program material.

STATEMENT OF PROGRAM SUPPORT

Customer service on Release (4) of CIEDS/CBDS Version 4 for AIX/RT will be maintained until March 31,1991.

Release Content

Circuit Board Design System (CBDS) 4.04.01 is the latest release in the CBDS software series. The following features highlight this release:

- Improved Silkscreen Handling
- Curved Track Capability
- Common Features/Specific Features Delta Retrofit Capabilities
- Increased CDB Database Capacity
- CBDS-CATIA Bridge Delta Retrofit Capabilities
- TTI Bare Board Tester Support
- BDL, NFGEN, GRCDL Within CAM Module
- Postscript Driver on Workstations

ATTACHMENT C

The following Requests for Assistance (RFAs) reported in previous releases have been addressed in CBDS 4.04.01:

SUBPROJ	RFA	APAR	ABSTRACT (Truncated)
CAM	35440	IIB10974	R430/PROBLEM GENERATING TESTPOINT I
CAM	35522	HB11067	R420/MINUS SIGN MISSING FOR COMPONE
CAM	35961		When I generate the layer the Issue
CAM	35968	IIB11371	R403,VM/CAM/PLANES CREATED IN SPRIG
CAM	36125		not all output files generated in w
CAM	36207		Manusert portion of CAM not correct
CAM	36209		camdrillbd1"t" numbering
CAM	36223		text font different & causes violat
CAM	36441		Unable to run Wirewrap Program
CAM	36466	IIB11712	R430,VM/CAM REPORT GENERATOR PADS O
CAM	36468		cambd1 vs gg1&go1 discrepency
CAM	36502	IIB11700	R430,VM/ISOTHERM DRAWS ARE DEFINED
CAM	36503	IIB11701	R431/VM/SUBROUTINE CALL RECORD IN '
CAM	36603	IIB11765	R430,VM/ISO-THERMAL PADS CREATED IN
CAM	36745	IIB11826	R440,VM/CAM VAPE deletes planes and
CAM	36900		Report messed up!
CAM	37084	IIB11975	R403C/CAM REPORT FUNCTION PARTS LIS
CAM	37167		photolab cannot plot g01 and gl1
CAM	37203		cam aborts with bus error
CAM	900120		solder resist pads too large
CDB	12555		eqvc coding for devices not up to d
CDB	12570		CDB documentation comp main entry h
CDB	35020	IIB10609	R430/ERROR IN DOCUMENTATION FOR HOL
CDB	35940	B4MOT01	R440,VM/ERRONEOUS ERROR MESSAGES OC
CDB	36101	IIB11501	R420,VM/LOKI DESIGN FILE FETCH MOVE
LOKI	34928	B343474	R440,VM/LOKI-COMPONENT DESIGNATION
LOKI	35443	HB10984	R420,VM/LOKI DISPLAY FINAL SYMBOL/C
LOKI	35520	IIB11063	R430/LOKI DEVICES ON SECONDARY SIDE
LOKI	36089	HB11499	R420,VM/LOKI AUTOCONNECT WITH GND S
LOKI	36100	IIB11500	R420,VM/LOKI SOFTWARE ZOOM MISLOCAT
LOKI	36980	IIB11933	R430,VM/LOKI DESIGNATE FUNCTION FAI
LOKI	36982	IIB11932	R430,VM/LOKI ERROR 78 FETCHING 4.1.
LOKI	37420	IIB12180	R430C/VM/LOKI FORMAT TYPE PROBLEM.
LOKI	900028		timer needs to be more accurate
LOKI	900107		standup devices do not appear in as
SPRIG	11936	RKC2524	CBDS V4 - Hybrid Microcircuit Desig
SPRIG	12530		slog and df violations do not match
SPRIG	12558		TECHNICAL manual MIIBLIN states mils
SPRIG	27702		45 DEG. tracking is segmented, in s
SPRIG	33362		loses via pads on fetch
SPRIG	33587		lattice over misc. pads don't chang
SPRIG	33642		change of pad shape occures on oth
SPRIG	34140		Apply tech file does not change tex
SPRIG	34461	IIB10295	R430,RT/BREAKOUTS SNAP TO BOARD/TRA
SPRIG	34485	IIB10285	R430,RT/AUTOPLACE DOES NOT RECOGNIZ
SPRIG	34566		cannot back-arrow out of route
SPRIG	34580		cannot find violation in sprig
SPRIG	34707		orientation dot is described as MM0

SPRIG 34803 TESTPADS TO SILKSCREEN VIOLATION CH
SPRIG 34867 B343466 R440,VM/SPRIG-MISCPAD ALLOWS ONLY O
SPRIG 34926 B343472 R440,VM/SPRIG-UNDOCUMENTED ERROR ME
SPRIG 34929 B43NFCM UNLESS A USER IS FAMILIAR WITH CIRC
SPRIG 35082 When I place two 75sq pads together
SPRIG 35103 BM404-1 R44),RT/ERROR MESSAGE WHEN AUTOROUT
SPRIG 35126 cannot find gnd subnet
SPRIG 35163 cannot put misc-pad over mtg hole
SPRIG 35245 sp404c3 /3 files for RFA 35048
SPRIG 35322 HB10822 R420/SPRIG UPDATE FUNCTION DOESN'T
SPRIG 35446 pin 1 on silkscreen does not show
SPRIG 35749 getting Error 305 & 320
SPRIG 35782 ver silkscreen reports on copper la
SPRIG 35806 hole size not right for "staked" pi
SPRIG 35860 Arc causes SPRIG to getinto infinit
SPRIG 35929 B4SAN02 R440/SPRIG/VM/STRAP ONLY ALLOWS SEL
SPRIG 36024 in sprig strap is not picking the c
SPRIG 36029 carbon ink pads and trks give spac
SPRIG 36160 B4SAN03 R440/SPRIG/VM/ERRONEOUS APPLY TECH
SPRIG 36181 fetch aborts with segmentation err
SPRIG 36388 CAM PROBLEM
SPRIG 36424 ig40400a/1 Iges fails with software
SPRIG 36427 g20 doesn't enforce 45-degree pad e
SPRIG 36440 does not use board identification d
SPRIG 36521 HB11736 R430/CANNOT PICK CENTER OF SMD PAD
SPRIG 36680 restore is virtually useless
SPRIG 36767 Wrong pads displayed with secondary
SPRIG 36882 HB11868 R430,VM/SIGNAL MERGE IN SPRIG
SPRIG 37082 HB11971 R440/AUTO DIELECTRIC CREATES PLANES
SPRIG 37160 HB12003 CBSA/R440/FALSE ERROR USING MISC. P
SPRIG 37161 HB12005 R440/FALSE ERROR PLACING DIELECTRIC
SPRIG 37166 PAGE I-328
SPRIG 37221 There should be warnings re 0 line
SPRIG 37244 HB12026 R440/DIELECTRIC NOT RECOGNIZED WHEN
TECH 37140 Tech files opening on burried is wr

CBDS 4.04.01A

This emergency fix (EF) provides solutions in the following areas:

- Loki merge and repeat
- CDB validat1 from macros (reload)
- CDB LOKI text rotation
- CAM plane filling
- CAM test points
- CAM penfile
- SPRIG colinear tracks
- SPRIG messages

It also incorporates all fixes provided in all EFs since the base 4.04.00 was released:

PROBLEMS CORRECTED IN 4.04.01A

The following serious problems in the CBDS 4.04.01 software were corrected in 4.04.01A:

RFA	APAR	PRS	TOOL	DESCRIPTION
36349	HB11649	45187	ALL RT	When sorting files in remotely mounted directories on the RT, the sort operation failed. An AIX limitation has been worked around to enable this capability. Symptom was failing report generation in DS configuration.
37328	HB12004	41990	CAM	In plane fill, small bumps (0.5 mil and less) were appearing along some arc edges. The problem was due to calculation precision when odd line aperture was used to fill the plane.
38007		42413	CAM	Solder paste pads that were assigned to vias were being ignored, if they were defined in the via pad stack. Fixed.
		45183	CAM	Debug code was appearing when reading Cam panel coupons. Code no longer appears.
BAL00039		42553	CAM	The Bill of Materials report was scrambled for very large designs. The report can now handle designs of this size.
99900169		42570	CAM	The mounting hole buried layer

increment (MIIBLIN) was calculated inconsistently. Fixed.

38041 HB13293 45881 LOKI There was a problem back-annotating SPRIG data into LOKI. Fixed.

99900160 45505 CDB The REPORT command was not working on the RT. Fixed.

37846 HB12757 42175 CDB When using the ADD macro to add a group to a CDB entry in CDB 5080 5080 mode on the RT, many lines of the same message are dumped. This has been fixed by the additon of a new CDB menu which requests REQUIRED field data from the user. (RT only.)

45684 SPRIG Running VERIFY POOR CONNECTIVITY on a large backplane was causing a segmentation fault to occur. Fixed.

37161 HB12005 41759 SPRIG Verify was not handling a DPS value of 0 properly. If a dielectric was butting a pad but not overlapping, it was still being reported as a violation. The Interactive Verify function now handles zero properly. Auto-verify may still flag the violation, in some circumstances. This problem will be corrected in an upcoming Emergency Fix.

37242 HB12024 41770 SPRIG The RCS parameter was generating false violations when a track on the primary side ran over a resistor ink on the secondary side. Fixed.

37640 B52MVGL 42014 SPRIG The algorithm used to generate dielectric puts small triangular tabs in some planes, which must be editted out to avoid peeling during manufacturing.
This PRS was reopened after the original fix was found to be inadequate. The functionality has been restored to its original form until a more suitable implementation can be worked out.

37926 B56NGCZ 42313 SPRIG Surface mount pins with pads on more than one level on the same side of the board were being reported as open ends. This will no longer occur.

37928 B54NGCZ 42314 SPRIG The verify function was not recognizing overlapping unmerged dielectric planes when verifying crossovers. Verify now merges all overlapping dielectric planes and pads internally when checking for crossover violations.

37940 B50NGDB 42315 SPRIG Dielectric layers have been removed from the LAYER-SELECT-1 menu for the segment relayer and route-edit relayer functions, as relayering of dielectric layers should not be allowed.

37820 HB12702 45389 RTR Boards with a large number of unroutable contours required large amounts of virtual memory. Memory usage in these cases has been greatly improved, with no impact on completion or routing strategy. (Mainframe only.)

99900163 46061 Relnote The new LOKI comment justification method was not documented. See section 5.0 below for explanation. Also, a new X-windows update needed. See section 4.2.2 below.

ATTACHMENT E

PROBLEMS CORRECTED IN 4.04.01B

The following serious problems in the CBDS 4.04.01 software were corrected in 4.04.01B:

RFA	APAR	PRS	TOOL	DESCRIPTION
37789	HB12690	42098	LOKI	MERGE and REPEAT sequences were not working properly when the signal name suffix was zero (0). Fixed.
37829	HB12750	45302	CAM	Specific plane configuration cases were not being filled correctly. Plane filling algorithm adjusted.
BAT00008		42692	CAM	Test point layer generation was giving a segmentation fault when test pads were constructed, rather than flashed. (RT only)
		45988	CAM	Line index assignment in CAM was not functioning correctly between the CAM penfile, CAM software, and the color mix file.
BAL00056		42797	CDB	LOKI text rotation data (TXTSUPP group) was not used when displaying symbols in the CDB Editor. Correct text rotation is now displayed.
38086	HB13423	42671	CDB	The VALIDAT1 command always gave an error message when run from a macro, including the RELOAD macro. Fixed.
BAK00175		42710	SPRIG	SPRIG terminated when long component names caused messages to be longer than 120 characters. Fixed.
BAN00002		42675	SPRIG	SPRIG terminated when a track from a SMD pad had a colinear track on it that did not meet it at the endpoint. Fixed.

ATTACHMENT F

PROBLEMS CORRECTED IN 4.04.01C

The following serious problems in the CBDS 4.04.01 software are corrected in 4.04.01C:

RFA	APAR	PRS	TOOL	DESCRIPTION
38141	HB13756	43038	LOKI	CDB defined border textstrings were not displayed if they were rotated, centre or right-justified, and close to the schematic border. Fixed.
		46486	CAM	The mounting hole clearance factor (on buried layer) is now handled as an increment (MIIBLIN), rather than as an absolute value. See section 5.2 below for the related documentation addendum.
37941	B57NGCZ	42316	SPRIG	The auto dielectric function was not recognizing pads in pin pad stacks when isolating crossovers, and was therefore placing dielectric planes over these pads. Now if a dielectric pad overlaps a crossover by any amount, no dielectric will be added, even if the pad does not properly isolate the crossover. Verify will report this.
37161	HB12005	41759	SPRIG	Verify was assuming that if DPS = DPPS = PPPS = 0 the board was not a hybrid and, therefore, no dielectric verification was done. Verify now checks for the existence of a dielectric layer to determine if dielectric verification should be performed.
BAK00185		43117	SPRIG	When interactive routing on hybrids, SPRIG was snapping to the centre of the pad. This will no longer occur for hybrid boards (but will continue to occur for normal PCBs).
BAK00214 BAK00229		43011 43012	SPRIG	Subnet calculations were incorrect when copper objects were butted against each other. Fixed.
		46309	Megapel	On Megapel machines, all CBDS modules were coming up with incorrect colors. An upcoming X-Window fix will completely correct this problem, but in this release any crosshair move-

ment will correct the colors.

38024 B343479 42414 Megapel LOKI could not use filled circle for connect symbols, on Megapel machines only. Fixed.

ATTACHMENT G

PROBLEMS CORRECTED IN 4.04.01D

The following serious problems in the CBDS 4.04.01 software are corrected in 4.04.01D:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAK00279		43316	CAM	The testpoint layer was not processing panel pads. Fixed.
NVC00021		43353	CAM	An internal buffer was overflowing while processing Change Strap records from the Design File (DF). This was causing other variables to be over-written, making CAM abend. Fixed.
BAK00220		42938	CDB	Type-to-disk in CDB was not accepting new file names after prompting them from the user (5080 mode only). A menu now requests the name.
HB14083	38187	43373	IGES	CBDSIGES now properly handles gerber files referencing more than 24 apertures during gerber file trans-lation. In addition, the WIDE LINE gerber translation was exceeding an IBM limit of 100000 entities in an IIF file. The limit has now been increased to 300000.
HB14276	38204	43392	IGES	Contour outlines has start points duplicated as end points in PRG file from the CBDSIGES modeller translation.
		46402	LOKI	Typing 'LOKI ?' was sometimes causing LOKI to hang. LOKI now returns the parameter list help description when a question mark is entered (RT only).
BAK00296		43358	SPRIG	SPRIG was not gracefully handling large memory requests on the mainframe when a large design was originated on a workstation. Correctly checks now.
BAT00057		43414	SPRIG	An internal buffer was too small for large components for update operations.
37445	HB12211	42337	RT	Problems with the precision of floating point calculations on certain versions of RT hardware resulted in the colour mix facility working improperly. This hardware problem has been worked

around by a code change. (RT only)

ATTACHMENT II

PROBLEMS CORRECTED IN 4.04.01E

The following serious problems in the CBDS 4.04.01 software are corrected in 4.04.01E:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAK00075	42273		SPRIG	When running UPDATE, if you select a DDF file that is from a previous release, SPRIG will now terminate appropriately.
BAK00412	48602		SPRIG	SPRIG fetch-bypass-CDB failed if the CDB AUDIT group contained a pound sign. Check added.
BAK00425	44079		SPRIG	SPRIG inserted nulls into PCVIO section of DF when miscellaneous pin and SMPPTH violations occurred. Fixed.
BCD00097	43773		RTR	The router missed vias in ROUT file in rare circumstances.
38249	IIB15182	44032	CBDSDDF	An initialization error was causing
BAK00120	42435		CBDSDDF	to fail under certain circumstances. Fixed.
	48504		CAM	On workstations, wirewrap '.wwp' output files were being generated as binary files, difficult to transfer the mainframe. They are now character files with lrecl 80.
38163	HB13940	43155	CAM	The CAM report generator did not wrap the component description/device designation field in the Bill of Material report. This field is identified by the token '!6' in the report profile. Fixed. Note that the device designation will always begin on a new line.
38246	HB15149	43937	CAM	An internal buffer was overflowing when processing PSEUDO_APERTURES when a large contour is present (248-278 segments). The buffer size has been doubled.
38223	HB14668	43596	CAM	See Documentation Errata section for clarification of coupon origins.
38225	HB14696	43635	CAM	CAM's tool file PLOT_BORDER statement has been enhanced to provide increased

control over plot/display windows. See Documentation Errata section for new documentation.

48687 CAM The limit on the number of coupons allowed in CAM has been increased from 10 to 25.

99900206 43954 LOKI In the LOKI Symbol-Builder environment ORIGIN symbols could not be included in new symbols. Fixed.

38243 HB15080 43934 LOKI The description of the A+ option has been improved in the LOKI CONFIG file.

NSL00004 43739 LOKI Double lines were being drawn when plotting assembly drawings. Fixed.

NCD00022 43734 LOKI A menu display problem was occurring when component version mismatches were detected during DF generation. Fixed.

38186 HB14081 43393 LOKI A graphics error occurred when the auxiliary plot menu was displayed. Fixed.

46906 LOKI The LINE ENDPOINT attribute of user-defined BCON symbols was not working properly on BCONs that had two connect lines attached to them - only one connect line would be shortened. Now both connect lines shorten properly.

38220 HB14597 43611 NETLIST While in gate mode, components with more than 30 assigned signal pins were not added to the design file correctly. Fixed.

38205 HB14310 43992 PLOT Plots produced on pen plotters with either the BNR HP driver or the IBM ISPC driver could have spurious lines from the end of a text string to another point in the plot. Only a small number of text strings caused this.

38188 HB14112 43232 PLOT Unable to add more than 17 plotters in PADMIN when on a 24-line 3270 terminal. Fixed. (Mainframe only)

37845 HB12753 42214 PLOT An inadvertant reference to VFORTLIB TXTLIB remained in the code. Fixed. (Mainframe only)

47880 PLOT Linestyle array sizes have been increased for release compatibility.

ATTACHMENT I

PROBLEMS CORRECTED IN 4.04.01F

The following serious problems in the CBDS 4.04.01 software are corrected in 4.04.01F:

RFA	APAR	PRS	TOOL	DESCRIPTION
38341	HB16753	44511	All MF	Problems with applications appearing to hang were diagnosed as tier pricing authorization delays. The re-authorization time-out has been reduced to 1 minute (from 2) and a message is now output alerting the user of a possible problem with the CBDSAUTH userid. Original authorization checks remain as-is, with a 2-minute time-out. (Affects mainframe customers with tier pricing other than 'unlimited'.)
38361	HB16859	44630	CatiaBrg	Due to changes in file locations in CATIA 3.1 PTF3 (RT), the CBDS-CATIA bridge failed to link. This update accommodates this change and will still operate with pre-PTF3 CATIA. (RT only.)
38308	HB16456	44235	CBDSIGES	Generating assembly drawings with the use-subfigures parameter set to no caused the translator to abend. Fixed.
38309	HB16457	44236	CBDSIGES	Circles were being drawn inside surface mount pads. An enhancement was made to allow these to be excluded when the SURFACE MOUNT PADS option is turned on.
38407	HB17360	44811	CBDSIGES	Board mounting holes and targets are now included. Also, device designations are now tagged with same layer as associated devices. (Enhancements)
38244	HB15089	43933	PLOT	PADMIN would fail to create a plotrout control file if none was already present. Fixed.
BAL00143		44192	LOKI	Validation of the number of connect nodes on builder symbols in the LOKI Symbol Builder environment is now suppressed. This will make all builder symbols available for use.
38404	HB17197	44737	LOKI	LOKI abended when generating if all border symbol text nodes were popu-

lated. Fixed.

38429 HB17638 44935 LOKI LOKI will now provide the user with an opportunity to correct some types of data corruption detected at file time.

NIE00020 44677 CAM There was a display problem with the notes layer when mirrored. Fixed.

BAT00136 44394 CAM A diagonal 10mil wide track could not be constructed with an 8mil aperture. Warnings are now output to the log file when this type of problem occurs.

BAL00175 44490 CAM A problem existed when routing panels with rotated images. Fixed.

BAK00468 44396 CAM CAM would fail to generate BOTH testpoint layers when only the secondary layer exists. Fixed.

BAL00155 44273 CAM When more than one hole was specified at a given x-y location, some CAM outputs were recognizing all holes, but others were discarding duplicates. CAM has been changed for all drill-related output to discard duplicated holes and use only the largest hole at any one x-y location.

49141 CAM CAM would not display secondary testpoint masks when the nlayr was greater than 9 (eg fname.gt10m). (Mainframe only)

48945 CAM Dot matrix masks do not contain coupon holes when FLASHREC layer is not equal to 0. Fixed to find layer pairing.

38422 HB17593 44875 CAM The PHASE function was not working with 51242 PATTERNs on CAMPNLs. Fixed.

BAK00534 44836 CAM Incorrect messages were being output when isothermals could not be constructed to small planes. Fixed.

38402 HB17170 44693 CAM The definition of coupon holes on IPC layer 00 has been changed to plated holes, since these holes were being incorrectly represented as non-plated tooling holes.

38401 HB17169 44692 CAM The default IPCRT file was incorrect. Fixed.

38400 HB17168 44691 CAM The handling of IPC IMAGE parameters has been corrected.

NSL00029 45010 CAM Physical pin numbers were being truncated when output to section 26 (connectivity) of the neutral file. Fixed.

38380 HB16975 44632 SPRIGRTR The router contained a limit to the number of tracking grid points that a via could impact. This limit was increased from 100 to 512.

BAT00044 43219 SPRIG CBDSDDF/CBDSCCF outputs corrupt records in PCSHAPE section when "> ;" part wraps around. Fixed.

BAK00491 44451 SPRIG UNROUTE was causing memory corruption under certain circumstances. Fixed.

38322 HB16702 44279 SPRIG Using area command, devices on the secondary layer were rotated the wrong way. Fixed.

BAL00168 44412 SPRIG Placing devices may cause a bus error when placing on a board with carbon ink layers. Fixed.

BAT00133 44335 SPRIG Board Statistics may segmentation fault when calculating the area of a composite pin. Fixed.

49820 SPRIG Fetching DFs sometimes will miss adding testpads onto breakout vias.

49809 SPRIG If pattern changes layers and you save the pattern and load in the pat file, orientations are reversed. Fixed.

38280 HB15273 43993 SPRIG Using area command, deadbug devices have their flying lead text randomly placed over the board. Fixed.

38286 HB16247 44439 SPRIG Hybrids were not working on the RT. Fixed.

51047 SPRIG CBDSDDF/CCF does not work when the data in the PCBOARD section is an exact multiple of the internal data record. Not common. Fixed.

38389 HB17165 44690 SPRIG SPRIG may abend when displaying if

NSL00026 44856 there are planes with zero-length edges. Fixed.

BAK00057 51625 SPRIG All tidy functions will now operate on .NC. signals. This enhancement allows improved manufacturability.

51540 SPRIG Fetch was enchanced to use less CPU during placement of devices with breakouts.

ATTACHMENT J

PROBLEMS CORRECTED IN 4.04.01G

The following serious problems in the CBDS 4.04.01 software are corrected in 4.04.01G:

RFA	APAR	PRS	TOOL	DESCRIPTION
		52321	PLOT	With RSCS 2.3 installed, multi-cpu cadplot networks failed. RSCS 2.3 is now supported (Mainframe only)
		51883	IGES	Text string height and length were being improperly interchanged at 90 and 270 degree angles. Fixed.
38484	HB18216	45236	CBDSIGES	Board outline is now flagged as being on layer 0, and when IGES subfigures are not being used, the device outline entities is flagged with the layer that the device is placed on.
38624	HB18666	45636	NETLIST	In device mode, a multiple entry is outputed to the DATA1 file for common shared pin. If the DATA1 file was appended to the data file and rerun, Netlist went off into an infinite loop. Fixed.
38602	HB18538	45614	LOKI	Buffer overflow within a repeat group was caused by too many points within a shape in the PCSHAPE section. Fixed.
38268	HB15279	45171	CAM	A problem existed with location of reference designators. Fixed.
BAK00576		45190	CAM	CAM leaves openings in constructed large tracks when there is a difference between the desired width and the width of the largest available line aperture. Fixed.
NBW00018		45150	CAM	Physical font has incorrect symbol for percent sign. Fixed.
BAL00211		45134	CAM	The damming pattern infringes into board, (i.e. diagonal line crossing board). Fixed.
BAL00213		45095	CAM	A problem existed in both the routing plunge and retract points for the routing of board cutouts. Fixed. Note: It is very critical that the proper router bit size be specified by the ROUTEBIT command in the TOOL file.

BAL00232 45273 CAM A problem with rotated flashed iso's was causing a system abend while generating printed circuit layers. Fixed.

BAL00231 45238 CAM Rectangular pads and cross hatch pattern out of sync. Phase shifting has been fixed.

38445 HB17727 45031 CAM Dot matrix masks do not display correctly due to misinterpretation of the mirroring in the display function. Fixed.

38446 HB17728 45018 CAM Unable to generate PAD CENTRE report. Fixed.

38587 HB18474 45555 CAM An offset in the arc center coordinates would generate illegal code for plotting arcs. Fixed.

45472 CAM BDL would not output an unknown component to the bdluk file if the component's notetext was the same as the last unknown component output to the file. Fixed.

BAT00034 43216 SPRIG Merging a burried layer signal to a surface mount pin does not update the breakout via shape to an isothermal.

38600 HB18524 45556 SPRIG Update corrupts memory when you try to substitute a gate where the number of pins of the gate has changed from before (not common).

BAK00563 45210 SPRIG When you delete a burried layer from your design, memory gets corrupted and objects get shuffled from one layer to a new layer. Fixed.

52743 SPRIG Loading in CBDS2 silkscreen files into SPRIG does not always work.

BAK00548 45016 SPRIG Poor connectivity sometimes gives the wrong co-ordinates. This is now fixed.

38367 HB16952 44491 CDB CDB type-to-disk in RT 5080 mode was causing a bus error. Fixed.

00226 44791 ALLCBDS devdes field in SPRIG DF not documented. A discription can be found in section 5.5 of the release notice.

38444 HB17725 44970 ALLCBDS Can't find any reference to 20000 block requirement for /tmp minidisk in installation guide. Now mentioned in the RT PC Installation Consideration section of the release notice.

ATTACHMENT J

Release notice for 04.05.00I (04.04.01I) is attached and reflects all problems corrected in previous release's of CBDS.(Attachment K)

END OF DOCUMENT

ATTACHMENT K (04.04.01I)

CIRCUIT BOARD DESIGN SYSTEM
EMERGENCY FIX RELEASE NOTICE
Release 4.05.00I
Delta from 4.05.00
Document Issue AD21

July 31 1990

Department 5T33
Bell-Northern Research
P.O. Box 3511, Station C
Ottawa, Canada
K1Y 4H7

CIEDS/CBDS Version 4 Release 5
(c) Copyright NORTHERN TELECOM LIMITED 1981, 1990
5664-374 (c) Copyright IBM CORP. 1981, 1990
5601-059 (c) Copyright IBM CORP. 1981, 1990
Licensed Material, Program Property of Copyright Owners.

TABLE OF CONTENTS

1.0 OVERVIEW

This emergency fix (EF) provides solutions to the items described in section 2.0. It incorporates all fixes provided in all EFs since the base 4.05.00 was released:

- 4.05.00A
- 4.05.00B
- 4.05.00C
- 4.05.00D
- 4.05.00E
- 4.05.00F
- 4.05.00G
- 4.05.00H

1.1 Mainframe Version Notes

The tape provided with this EF is a complete software refresh tape containing all required files for CBDS use on the Mainframe, with the exception of the CDB starter database. See section 4.1 below for installation instructions.

The contents of this EF can be used to replace the run-time software from the regular CBDS 4.05.00 run-time software, or it can be installed on a separate EF disk.

A new version of GASP has been incorporated into this CBDS release. Users may receive a warning message if they are accessing an older version of GASP. See section 4.1.2 of this release notice for more information.

1.2 RT PC Version Notes

The tape provided with this EF is a complete software refresh tape containing all required files for CBDS use on the RT PC, with the exception of the CDB starter database. See section 4.2 below for installation instructions.

The contents of this EF can be used to replace the run-time software from the regular CBDS 4.05.00 run-time software, or it can be installed on a separate EF directory (eg. /cbds/40500i).

2.0 DETAILS OF PROBLEMS CORRECTED

Serious problems in the current production release are fixed by this EF. A summary of these problems is shown here. For further information, contact the CBDS Hotline quoting the RFA or PRS number.

2.1 PROBLEMS CORRECTED IN 4.05.00A

The following serious problems in the CBDS 4.05.00 software were corrected in 4.05.00A:

RFA	APAR	PRS	TOOL	DESCRIPTION
36349	HB11649	45187	ALL RT	When sorting files in remotely mounted directories on the RT, the sort operation failed. An AIX limitation has been worked around to enable this capability. Symptom was failing report generation in DS configuration.
37328	HB12004	41990	CAM	In plane fill, small bumps (0.5 mil and less) were appearing along some arc edges. The problem was due to calculation precision when odd line aperture was used to fill the plane.
38007		42413	CAM	Solder paste pads that were assigned to vias were being ignored, if they were defined in the via pad stack. Fixed.
		45183	CAM	Debug code was appearing when reading Cam panel coupons. Code no longer appears.
BAL00039		42553	CAM	The Bill of Materials report was scrambled for very large designs. The report can now handle designs of this size.
99900169		42570	CAM	The mounting hole buried layer increment (MHBLIN) was calculated inconsistently. Fixed.
38041	HB13293	45881	LOKI	There was a problem back-annotating SPRIG data into LOKI. Fixed.

99900160		45505	CDB	The REPORT command was not working on the RT. Fixed.
37846	HB12757	42175	CDB	When using the ADD macro to add a group to a CDB entry in CDB 5080 5080 mode on the RT, many lines of the same message are dumped. This has been fixed by the additon of a new CDB menu which requests REQUIRED field data from the user. (RT only.)
		45684	SPRIG	Running VERIFY POOR CONNECTIVITY on a large backplane was causing a segmentation fault to occur. Fixed.
37161	HB12005	41759	SPRIG	Verify was not handling a DPS value of 0 properly. If a dielectric was butting a pad but not overlapping, it was still being reported as a violation. The Interactive Verify function now handles zero properly. Auto-verify may still flag the violation, in some circumstances. This problem will be corrected in an upcoming Emergency Fix.
37242	HB12024	41770	SPRIG	The RCS parameter was generating false violations when a track on the primary side ran over a resistor ink on the secondary side. Fixed.
37640	B52MVGL	42014	SPRIG	The algorithm used to generate dielectric puts small triangular tabs in some planes, which must be editted out to avoid peeling during manufacturing. This PRS was reopened after the original fix was found to be inadequate. The functionality has been restored to its original form until a more suitable implementation can be worked out.
37926	B56NGCZ	42313	SPRIG	Surface mount pins with pads on more than one level on the same side of the board were being reported as open ends. This will no longer occur.
37928	B54NGCZ	42314	SPRIG	The verify function was not recognizing overlapping unmerged dielectric planes when verifying crossovers. Verify now merges all overlapping dielectric planes and pads internally when checking for crossover violations.

37940	B50NGDB	42315	SPRIG	Dielectric layers have been removed from the LAYER-SELECT-1 menu for the segment relayer and route-edit relayer functions, as relayering of dielectric layers should not be allowed.
37820	HB12702	45389	RTR	Boards with a large number of unroutable contours required large amounts of virtual memory. Memory usage in these cases has been greatly improved, with no impact on completion or routing strategy. (Mainframe only.)
99900163		46061	Relnote	The new LOKI comment justification method was not documented. See section 5.0 below for explanation. Also, a new X-windows update needed. See section 4.2.2 below.

2.2 PROBLEMS CORRECTED IN 4.05.00B

The following serious problems in the CBDS 4.05.00 software were corrected in 4.05.00B:

RFA	APAR	PRS	TOOL	DESCRIPTION
37789	HB12690	42098	LOKI	MERGE and REPEAT sequences were not working properly when the signal name suffix was zero (0). Fixed.
37829	HB12750	45302	CAM	Specific plane configuration cases were not being filled correctly. Plane filling algorithm adjusted.
BAT00008		42692	CAM	Test point layer generation was giving a segmentation fault when test pads were constructed, rather than flashed. (RT only)
		45988	CAM	Line index assignment in CAM was not functioning correctly between the CAM penfile, CAM software, and the color mix file.
BAL00056		42797	CDB	LOKI text rotation data (TXTSUPP group) was not used when displaying symbols in the CDB Editor. Correct

				text rotation is now displayed.
38086	HB13423	42671	CDB	The VALIDAT1 command always gave an error message when run from a macro, including the RELOAD macro. Fixed.
BAK00175		42710	SPRIG	SPRIG terminated when long component names caused messages to be longer than 120 characters. Fixed.
BAN00002		42675	SPRIG	SPRIG terminated when a track from a SMD pad had a colinear track on it that did not meet it at the endpoint. Fixed.

2.3 PROBLEMS CORRECTED IN 4.05.00C

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00C:

RFA	APAR	PRS	TOOL	DESCRIPTION
38141	HB13756	43038	LOKI	CDB defined border textstrings were not displayed if they were rotated, centre or right-justified, and close to the schematic border. Fixed.
		46486	CAM	The mounting hole clearance factor (on buried layer) is now handled as an increment (MHBLIN), rather than as an absolute value. See section 5.2 below for the related documentation addendum.
37941	B57NGCZ	42316	SPRIG	The auto dielectric function was not recognizing pads in pin pad stacks when isolating crossovers, and was therefore placing dielectric planes over these pads. Now if a dielectric pad overlaps a crossover by any amount, no dielectric will be added, even if the pad does not properly isolate the crossover. Verify will report this.
37161	HB12005	41759	SPRIG	Verify was assuming that if DPS=DPPS=PPPS=0 the board was not a hybrid and, therefore, no dielectric verification was done. Verify now checks for the existence of a dielectric layer to determine if dielectric verification

			should be performed.
BAK00185	43117	SPRIG	When interactive routing on hybrids, SPRIG was snapping to the centre of the pad. This will no longer occur for hybrid boards (but will continue to occur for normal PCBs).
BAK00214 BAK00229	43011 43012	SPRIG	Subnet calculations were incorrect when copper objects were butted against each other. Fixed.
	46309	Megapel	On Megapel machines, all CBDS modules were coming up with incorrect colors. An upcoming X-Window fix will completely correct this problem, but in this release any crosshair movement will correct the colors.
38024 B343479	42414	Megapel	LOKI could not use filled circle for connect symbols, on Megapel machines only. Fixed.

2.4 PROBLEMS CORRECTED IN 4.05.00D

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00D:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAK00279		43316	CAM	The testpoint layer was not processing panel pads. Fixed.
NVC00021		43353	CAM	An internal buffer was overflowing while processing Change Strap records from the Design File (DF). This was causing other variables to be overwritten, making CAM abend. Fixed.
BAK00220		42938	CDB	Type-to-disk in CDB was not accepting new file names after prompting them from the user (5080 mode only). A menu now requests the name.
HB14083	38187	43373	IGES	CBDSIGES now properly handles gerber files referencing more than 24 apertures during gerber file translation. In addition, the WIDE LINE gerber translation was exceeding an

			IBM limit of 100000 entities in an IIF file. The limit has now been increased to 300000.
HB14276	38204	43392 IGES	Contour outlines has start points duplicated as end points in PRG file from the CBDSIGES modeller translation.
		46402 LOKI	Typing 'LOKI ?' was sometimes causing LOKI to hang. LOKI now returns the parameter list help description when a question mark is entered (RT only).
BAK00296		43358 SPRIG	SPRIG was not gracefully handling large memory requests on the mainframe when a large design was originated on a workstation. Correctly checks now.
BAT00057		43414 SPRIG	An internal buffer was too small for large components for update operations.
37445	HB12211	42337 RT	Problems with the precision of floating point calculations on certain versions of RT hardware resulted in the colour mix facility working improperly. This hardware problem has been worked around by a code change. (RT only)

2.5 PROBLEMS CORRECTED IN 4.05.00E

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00E:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAK00075		42273	SPRIG	When running UPDATE, if you select a DDF file that is from a previous release, SPRIG will now terminate appropriately.
BAK00412		48602	SPRIG	SPRIG fetch-bypass-CDB failed if the CDB AUDIT group contained a pound sign. Check added.
BAK00425		44079	SPRIG	SPRIG inserted nulls into PCVIO section of DF when miscellaneous pin and SMPPTH violations occurred. Fixed.

BCD00097	43773	RTR	The router missed vias in ROUT file in rare circumstances.
38249 HB15182 BAK00120	44032 42435	CBDSDDF	An initialization error was causing CBDSDDF to fail under certain circumstances. Fixed.
	48504	CAM	On workstations, wirewrap '.wwp' output files were being generated as binary files, difficult to transfer the mainframe. They are now character files with lrecl 80.
38163 HB13940	43155	CAM	The CAM report generator did not wrap the component description/device designation field in the Bill of Material report. This field is identified by the token '!6' in the report profile. Fixed. Note that the device designation will always begin on a new line.
38246 HB15149	43937	CAM	An internal buffer was overflowing when processing PSEUDO_APERTURES when a large contour is present (248-278 segments). The buffer size has been doubled.
38223 HB14668	43596	CAM	See Documentation Errata section for clarification of coupon origins.
38225 HB14696	43635	CAM	CAM's tool file PLOT_BORDER statement has been enhanced to provide increased control over plot/display windows. See Documentation Errata section for new documentation.
	48687	CAM	The limit on the number of coupons allowed in CAM has been increased from 10 to 25.
99900206	43954	LOKI	In the LOKI Symbol-Builder environment ORIGIN symbols could not be included in new symbols. Fixed.
38243 HB15080	43934	LOKI	The description of the A+ option has been improved in the LOKI CONFIG file.
NSL00004	43739	LOKI	Double lines were being drawn when plotting assembly drawings. Fixed.
NCD00022	43734	LOKI	A menu display problem was occurring when component version mismatches were detected during DF generation. Fixed.

38186	HB14081	43393	LOKI	A graphics error occurred when the auxiliary plot menu was displayed. Fixed.
		46906	LOKI	The LINE ENDPOINT attribute of user-defined BCON symbols was not working properly on BCONs that had two connect lines attached to them - only one connect line would be shortened. Now both connect lines shorten properly.
38220	HB14597	43611	NETLIST	While in gate mode, components with more than 30 assigned signal pins were not added to the design file correctly. Fixed.
38205	HB14310	43992	PLOT	Plots produced on pen plotters with either the BNR HP driver or the IBM ISPC driver could have spurious lines from the end of a text string to another point in the plot. Only a small number of text strings caused this.
38188	HB14112	43232	PLOT	Unable to add more than 17 plotters in PADMIN when on a 24-line 3270 terminal. Fixed. (Mainframe only)
37845	HB12753	42214	PLOT	An inadvertant reference to VFORTLIB TXTLIB remained in the code. Fixed. (Mainframe only)
		47880	PLOT	Linestyle array sizes have been increased for release compatibility.

2.6 PROBLEMS CORRECTED IN 4.05.00F

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00F:

RFA	APAR	PRS	TOOL	DESCRIPTION
38341	HB16753	44511	All MF	Problems with applications appearing to hang were diagnosed as tier pricing authorization delays. The re-authorization time-out has been reduced to 1 minute (from 2) and a message is now output alerting the user of a

				possible problem with the CBDSAUTH userid. Original authorization checks remain as-is, with a 2-minute time-out. (Affects mainframe customers with tier pricing other than 'unlimited'.)
38361	HB16859	44630	CatiaBrg	Due to changes in file locations in CATIA 3.1 PTF3 (RT), the CBDS-CATIA bridge failed to link. This update accommodates this change and will still operate with pre-PTF3 CATIA. (RT only.)
38308	HB16456	44235	CBDSIGES	Generating assembly drawings with the use-subfigures parameter set to no caused the translator to abend. Fixed.
38309	HB16457	44236	CBDSIGES	Circles were being drawn inside surface mount pads. An enhancement was made to allow these to be excluded when the SURFACE MOUNT PADS option is turned on.
38407	HB17360	44811	CBDSIGES	Board mounting holes and targets are now included. Also, device designations are now tagged with same layer as associated devices. (Enhancements)
38244	HB15089	43933	PLOT	PADMIN would fail to create a plotrout control file if none was already present. Fixed.
BAL00143		44192	LOKI	Validation of the number of connect nodes on builder symbols in the LOKI Symbol Builder environment is now suppressed. This will make all builder symbols available for use.
38404	HB17197	44737	LOKI	LOKI abended when generating if all border symbol text nodes were populated. Fixed.
38429	HB17638	44935	LOKI	LOKI will now provide the user with an opportunity to correct some types of data corruption detected at file time.
NIE00020		44677	CAM	There was a display problem with the notes layer when mirrored. Fixed.
BAT00136		44394	CAM	A diagonal 10mil wide track could not be constructed with an 8mil aperture. Warnings are now output to the log file when this type of problem occurs.

BAL00175	44490	CAM	A problem existed when routing panels with rotated images. Fixed.
BAK00468	44396	CAM	CAM would fail to generate BOTH testpoint layers when only the secondary layer exists. Fixed.
BAL00155	44273	CAM	When more than one hole was specified at a given x-y location, some CAM outputs were recognizing all holes, but others were discarding duplicates. CAM has been changed for all drill-related output to discard duplicated holes and use only the largest hole at any one x-y location.
	49141	CAM	CAM would not display secondary testpoint masks when the nlayr was greater than 9 (eg fname.gt10m). (Mainframe only)
	48945	CAM	Dot matrix masks do not contain coupon holes when FLASHREC layer is not equal to 0. Fixed to find layer pairing.
38422 HB17593	44875 51242	CAM	The PHASE function was not working with PATTERNs on CAMPNLs. Fixed.
BAK00534	44836	CAM	Incorrect messages were being output when isothermals could not be constructed to small planes. Fixed.
38402 HB17170	44693	CAM	The definition of coupon holes on IPC layer 00 has been changed to plated holes, since these holes were being incorrectly represented as non-plated tooling holes.
38401 HB17169	44692	CAM	The default IPCRT file was incorrect. Fixed.
38400 HB17168	44691	CAM	The handling of IPC IMAGE parameters has been corrected.
NSL00029	45010	CAM	Physical pin numbers were being truncated when output to section 26 (connectivity) of the neutral file. Fixed.
38380 HB16975	44632	SPRIGRTR	The router contained a limit to the number of tracking grid points that a via could impact. This limit was increased from 100 to 512.

BAT00044	43219	SPRIG	CBDSDDF/CBDSCCF outputs corrupt records in PCSHAPE section when ">;" part wraps around. Fixed.
BAK00491	44451	SPRIG	UNROUTE was causing memory corruption under certain circumstances. Fixed.
38322 HB16702	44279	SPRIG	Using area command, devices on the secondary layer were rotated the wrong way. Fixed.
BAL00168	44412	SPRIG	Placing devices may cause a bus error when placing on a board with carbon ink layers. Fixed.
BAT00133	44335	SPRIG	Board Statistics may segmentation fault when calculating the area of a composite pin. Fixed.
	49820	SPRIG	Fetching DFs sometimes will miss adding testpads onto breakout vias.
	49809	SPRIG	If pattern changes layers and you save the pattern and load in the pat file, orientations are reversed. Fixed.
38280 HB15273	43993	SPRIG	Using area command, deadbug devices have their flying lead text randomly placed over the board. Fixed.
38286 HB16247	44439	SPRIG	Hybrids were not working on the RT. Fixed.
	51047	SPRIG	CBDSDDF/CCF does not work when the data in the PCBOARD section is an exact multiple of the internal data record. Not common. Fixed.
38389 HB17165 NSL00026	44690 44856	SPRIG	SPRIG may abend when displaying if there are planes with zero-length edges. Fixed.
BAK00057	51625	SPRIG	All tidy functions will now operate on .NC. signals. This enhancement allows improved manufacturability.
	51540	SPRIG	Fetch was enchanced to use less CPU during placement of devices with breakouts.

2.6 PROBLEMS CORRECTED IN 4.05.00G

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00G:

RFA	APAR	PRS	TOOL	DESCRIPTION
		52321	PLOT	With RSCS 2.3 installed, multi-cpu cadplot networks failed. RSCS 2.3 is now supported (Mainframe only)
		51883	IGES	Text string height and length were being improperly interchanged at 90 and 270 degree angles. Fixed.
38484	HB18216	45236	CBDSIGES	Board outline is now flagged as being on layer 0, and when IGES subfigures are not being used, the device outline entities is flagged with the layer that the device is placed on.
38624	HB18666	45636	NETLIST	In device mode, a multiple entry is outputed to the DATA1 file for common shared pin. If the DATA1 file was appended to the data file and rerun, Netlist went off into an infinite loop. Fixed.
38602	HB18538	45614	LOKI	Buffer overflow within a repeat group was caused by too many points within a shape in the PCSHAPE section. Fixed.
38268	HB15279	45171	CAM	A problem existed with location of reference designators. Fixed.
BAK00576		45190	CAM	CAM leaves openings in constructed large tracks when there is a difference between the desired width and the width of the largest available line aperture. Fixed.
NBW00018		45150	CAM	Physical font has incorrect symbol for percent sign. Fixed.
BAL00211		45134	CAM	The damming pattern infringes into board, (i.e. diagonal line crossing board). Fixed
BAL00213		45095	CAM	A problem existed in both the routing plunge and retract points for the routing of board cutouts. Fixed. Note: It is very critical that the proper router bit size be specified by the ROUTEBIT command in the TOOL file.
BAL00232		45273	CAM	A problem with rotated flashed iso's was

			causing a system abend while generating printed circuit layers. Fixed.
BAL00231	45238	CAM	Rectangular pads and cross hatch pattern out of sync. Phase shifting has been fixed
38445 HB17727	45031	CAM	Dot matrix masks do not display correctly due to misinterpretation of the mirroring in the display function. Fixed.
38446 HB17728	45018	CAM	Unable to generate PAD CENTRE report. Fixe
38587 HB18474	45555	CAM	An offset in the arc center coordinates would generate illegal code for plotting arcs. Fixed.
	45472	CAM	BDL would not output an unknown component to the bdluk file if the component's notetext was the same as the last unknown component output to the file. Fixed.
BAT00034	43216	SPRIG	Merging a burried layer signal to a surfac mount pin does not update the breakout via shape to an isothermal.
38600 HB18524	45556	SPRIG	Update corrupts memory when you try to substitute a gate where the number of pin of the gate has changed from before (not common).
BAK00563	45210	SPRIG	When you delete a burried layer from your design, memory gets corrupted and objects get shuffled from one layer to a new layer. Fixed.
	52743	SPRIG	Loading in CBDS2 silkscreen files into SPRIG does not always work.
BAK00548	45016	SPRIG	Poor connectivity sometimes gives the wrong co-ordinates. This is now fixed.
38367 HB16952	44491	CDB	CDB type-to-disk in RT 5080 mode was causing a bus error. Fixed.
00226	44791	ALLCBDS	devdes field in SPRIG DF not documented. A discription can be found in section 5.5 of the release notice.
38444 HB17725	44970	ALLCBDS	Can't find any reference to 20000 block requirement for /tmp minidisk in installation guide. Now mentioned in the RT PC Installation Consideration section

of the release notice.

2.7 PROBLEMS CORRECTED IN 4.05.00H

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00H:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAL00249		45675	CAM	Symbols were missing from the drill-graphics mask so that it did not correspond to the drill-tape. This was an initialization problem which occurs only when the drill graphics mask is created after the drill tapes. The problem did not occur if the drill graphics mask was generated first.
38704	HB19141	45896	ALLCBDS	Users of GASP using applications will get a warning message if they have switched to a later version of GASP. Solution is for us to rebuild the modules with the latest GASP (1.3.5M).
38766	HB19530	46170 54121	NETLIST	NETLIST was sometimes changing a user-specified gate designation to a 'Gn' designation. The DATA file had to be device input mode with gate designations included, and with missing pins from a DATA1 file appended.
38607	HB18598	45777	NETLIST	Improvements were made to NETLIST so that more errors are caught in the first pass processing of a DATA file, thus reducing the number of passes required to get a design file generated.
38749	HB19402	46034	NETLIST	NETLIST was going off in an infinite loop when a DATA file, coded in device input mode and specifying gate designations, had common pins duplicated for each gate the pin belonged to. The common pin had to be duplicated three or more times for the problem to occur.
		53587	CAM	The following enhancements have been made to the Bill of Materials report: new tokens have been added for COMPVAL (!11) and COMPFAM (!12), and the user has the option of sorting the report

			by Component or Device designations.
BAL00267	45774	CAM	The aperture listing in the header of a GERBER photoplot file was improperly labelling a rectangular flash as SQUARE. A rectangular flash will now be labelled as RECT.
	53905	CAM	Mask increment/decrement did not work for carbon ink layers. Increment handling has been corrected for all non-solder primary and secondary mask types.
BAL00260	45754	CAM	This was a plane filling problem caused by round-off errors.
BTA00113	45737	CAM	Plane window perimeter was not correctly generated when the plane size was not an exact multiple of the plane window spacing. This has been fixed so that plane windowing works as in previous versions of CBDS4. This does not affect solid planes.
38642 HB18783	45736	CAM	Devices located on the primary side of the board were not output correctly in the Placement Report. This was caused by the fact that the primary side was layer number 3, and the secondary side was layer number 4, instead of 1 and 4 as CAM was expecting.
NIE00036	45996	CAM	In certain cases, CAM will not generate BDL files. This problem was caused by CAM losing track of where it was in the PCPAD section of the DF. It subsequently thought it could not find any pins for a device and aborted execution.
BAL00302	46192	CAM	CAM's WIRE-WRAP TEST FIXTURE output was binary, making it awkward to transfer from workstation to mainframe. The output is now normal text.
	54108	SPRIG	Using the command MOVE BOARD ORIGIN, cutouts on the solder resist are offset. This is now fixed.
	53129	SPRIG	Board Statistics segmentation faults if the user has misc pins with pads only on the FLYING LAYER. This is rare and

				is fixed now in 40500H.
38762	HB19419	46098	SPRIG	Fetching in designs with a large number of arcs in the board outline causes SPRIG to overflow the 350-point maximum. This is now fixed.
38384	HB17103	45599	ALLCBDS	When using any version of GASP, CMS6 does does not clear store until the application is finished. By default, CMS6 clears after each SVC 202 call. To avoid this problem, all affected CBDS application EXECs set (and restore later) the STORECLR value.

2.8 PROBLEMS CORRECTED IN 4.05.00I

The following serious problems in the CBDS 4.05.00 software are corrected in 4.05.00I:

RFA	APAR	PRS	TOOL	DESCRIPTION
BAL00301		46219	CAM	The bill of materials report truncated device designations if they were longer than 4 characters. The device designations may now be up to 12 chars long.
		47870	CAM	The placement report was not finding the board side when components were neither primary nor secondary (eg piggyback components). Fixed.
BAK00776		55363	CAM	The hole and land report has been expanded for sequence numbers up to 6 digits (was 4).
BAK00730		55101	CAM	CAM abends under strange conditions. Fixed.
		46292	PENFILE	The penfile utility had peculiar colors. Fixed.
38783	HB19711	55285	NETLIST	Netlist has been enhanced to issue warning messages for devices and gates that are defined in .DD and .DG statements, but never used subsequently in the connectivity

			being defined.
BAK00649	46157	DDF	When running CBDSDDF, if the only differences are between the CDBDATA sections, then no DDF file is created. This is now fixed.
BAK00690	46259	DDF	Update a DDF file with a '@' for LOKI entries in the CDBDATA section causes severe data errors and UPDATE aborts. This is now fixed.
BAK00691	54927	DDF	Update a DDF file with a '@' for devices placed on the secondary side gets the pads mixed up and placed on the primary side. This is now fixed.
	46855	SPRIG	Surface mount connectors are not getting a fhs = 0. This is now fixed.
BTB00109	46212	SPRIG	Memory is sometimes corrupted when user is in route-edit mode causing SPRIG to return to the UNIX window. This is now fixed.
BLI00419	47772	SPRIG	When adding a lattice over a track with a larger than normal signal spacing, that track spacing is ignored causing violations. Fixed.
	47778	SPRIG	When update encounters a CDBDATA section and the database size is smaller than the current smf/svf db, the expansion gets confused resulting in an error. Fixed.
BAK00762	55309	SPRIG	If there is a surface mount pad to device violation (SMPBDY), the layer is reported as the device layer and not the violating pad's layer. Fixed.
38905 HB20302	55364	SPRIG	When rotating pads on non-90 degree angles, the pad may get smaller and smaller since we are dealing with 1mil accuracy. Rounding is now fixed so the pads will not get smaller.
BLI00442	55401	SPRIG	If you are performing a PIN-PAD-SHAPE-ASSIGN and you type * for the PINS option, memory gets corrupted. Fixed.
BAK00787	55440	SPRIG	Update fails when the DDF is between two SPRIG DFs and there is an entry in the PCSTACK section. Fixed.

99900328	55468	SPRIG	Applying technology with devices rotated at non-90 degree increments causes the pads to all have 0 degree rotations. Fixed.
BAK00746	55324	SPRIG	SMPPTH violations were inconsistent due to floating point errors. Fixed to be consistent with mf.
38920 HB20513	55502	SPRIG	SPRIG sometimes generated illegal PSTAT values in the PCPAD section of the DF. Fixed.

3.0 COMPATIBILITY AND MIGRATION

All design files, plot files, SPRIG working files, or other CBDS output files will continue to operate with this EF installed.

4.0 INSTALLATION

4.1 MAINFRAME INSTALLATION

4.1.1 Highlights

CBDS 4.05.00I is a complete refresh tape.
Use the regular CBDS installation procedure described in the CBDS Installation Guide.

4.1.2 Mainframe Installation Considerations

The customer must decide whether to use this EF to overwrite an existing 4.05.00 installation, or to install in on a separate disk.
Only one version should be accessed by the user at runtime.

Basic support software levels have not changed since the CBDS 4.05.00 release.
See the CBDS 4.05.00 Release Notice (R40500 NOTICE) for current levels of support software.

RSCS 2.3 is now supported for multi-cpu plotting networks.

CBDS is not fully supported in a CMS6 environment at this point (4.05.00I). A number of issues have been resolved, but problems resolving FORTRAN incompatibilities prevent full support at this time.

GASP 1.3.5M is now supported. Users accessing earlier versions of GASP may receive warning messages when operating 3270 sessions of CBDS tools.

4.1.3 Mainframe Installation Procedure

CBDS 4.05.00I is a complete refresh tape.
Use the regular CBDS installation procedure described in the CBDS Installation Guide.

4.2 RT PC INSTALLATION

4.2.1 Highlights

This EF is provided as one streaming tape or a set of diskettes.
The installer must be fully familiar with the installation instructions detailed in the INSTALLING CBDS ON AN AIX WORKSTATION manual.
The tape/diskettes for the EF are in exactly the same format as the original CBDS 4.05.00 release and must be installed following the same 'installp' procedure.

4.2.2 RT PC Installation Considerations

Since the RT PC version of CBDS 4.05.00I is a complete refresh of CBDS software, it can either replace an existing CBDS installation on an RT PC, or can be installed in conjunction with a previous release.

If the CBDS user wishes to be able to quickly revert to a previous CBDS release, two or more releases of CBDS can be installed under the /cbds directory and accessed using the cbds shell script.
If this is not desired, or disk space is at a premium, this EF can replace any previous CBDS release installed.
See the INSTALLING CBDS ON AN AIX WORKSTATION manual for details.

Note that the X-Windows Samples that come with the X-Windows diskettes should be installed only in a user's own directory, not in /usr.
If the X-Windows Samples are installed in /usr inadvertantly, X-Windows should be re-installed without the Samples, after clearing the X11 directory (rm -r /usr/lpp/X11).
CBDS 4.05 will not operate correctly with the Samples installed in /usr.

Please also note that
Fortran77 (IBM product number 5669-054, Version 1.1.1) is required on the RT for installation of the Catia Bridge.
The original 4.05.00 release notice did not refer to this requirement.

The same amount of disk space is required for this EF as the original CBDS 4.05.00 software.

It is recommended that at least 10000 blocks of disk space be allocated to /tmp. At least 50000 blocks should be allocated to paging

space. Refer to the "INSTALLING AND CUSTOMIZING THE AIX OPERATING SYSTEM" manual for planning considerations.

The following table indicates the update levels used when testing this release:

Item	IBM Number	VerRelMod	Update Level
AIX Base Op Sys	5669-061	2.2.1	2706
VRM		2.2.1	1710
X-11	5601-125	2.2	1735
DS		2.2.1	1709
SNA		2.2.1	2706
TCP/IP		2.2.1	2706
CATIA3 (base)	5612-101	3.1.0	PTF3 UB01966 + crit PTF UB02569
IGES	5601-200	1.1.0	
Fortran77	5669-054	1.1.1	1236

AIX update package 2706 MAY be equivalent to the AIX, VRM, DS, SNA and TCP/IP levels indicated above. Please contact your IBM representative for details regarding substitutions.

4.2.3 RT PC Installation Procedure

If this is the first time you have installed CBDS on your RT PC, you do not need to install the original, base level CBDS software first; simply use the tape/diskettes provided with THIS release instead.
Use the original starter database tape/diskettes.

If you already have CBDS installed on your RT PC, install the new tape/diskettes provided with this release, but retain the starter database already installed.

In either case, this EF tape is installed as a complete software release, following the instructions in the INSTALLING CBDS ON AN AIX WORKSTATION manual.

5.0 DOCUMENTATION ADDENDUMS

5.1 LOKI COMMENT JUSTIFICATION

The following explanation for LOKI comment justification was inadvertantly omitted from the 4.05 documentation:

LOKI COMMENT Command
The COMMENT command no longer
uses slashes before and after the text string to indicate justificatior
Now, when the menu item JUSTIFICATION is selected, the text
justification is toggled to LEFT, CENTRE, or RIGHT.
This change
allows text strings to be added to the design which contain leading
or trailing slashes ("/").

5.2 MOUNTING HOLE BURIED LAYER INCREMENT (MHBLIN)

The MHBLIN (mounting-hole-buried-layer-increment) tech file parameter was treated inconsistently in CBDS 4.05.00 and was also documented incorrectly. The MHBLIN parameter now (as of CBDS 4.05.00C) specifies an ABSOLUTE INCREMENT (NOT a percentage increment) to the finished hole size (FHS) for generating pads on buried layers for mounting holes. This applies to both device mounting holes and holes on boards. Note that the MHBLIN increment is applied only to
holes with no pads already manually specified
through pin pad assign.

Users who had adjusted their tech file MHBLIN parameter as a percentage of the mounting hole size will need to change the value to represent the appropriate absolute increment required in mils, then re-apply the Tech file in SPRIG.

Users should make a note of the documentation change for MHBLIN in Section 1.1.12 (Board Clearance, Increments) of the CBDS Technical Reference Manual (SPRIG section).

5.3 COUPON ORIGIN IN CMPNL

A clarification to COUPON locations:

The X,Y location specified in the CMPNL COUPON statement
defines the placement location of the lower left-hand corner of
the coupon REGARDLESS OF THE ORIGIN DEFINED IN THE CDB COUPON ENTRY.

Normally, coupons are coded with the origin at the lower left, so this is not a concern.

5.4 NEW TOOL FILE PLOT BORDER CAPABILITIES

CAM's tool file PLOT_BORDER statement has been enhanced to provide increased control over plot windows.
In addition, a DISPLAY_BORDER statement has been added to provide similar control over display windows.

The PLOT-BORDER syntax is now:

PLOT_BORDER=<PANEL|BOARD>,SIZE;

The PANEL option sets the plot window around the entire panel. This is similar to the old functionality.
The BOARD option sets the window around the first image, as defined in the panel file REPEAT statement.

If PANEL is selected, the window coordinates are:

low_window_x = PANSIZE_low_x - SIZE
low_window_y = PANSIZE_low_y - SIZE
high_window_x = PANSIZE_high_x + SIZE
high_window_y = PANSIZE_high_y + SIZE

(where PANSIZE coordinates are specified in the panel file)

If BOARD is selected, the window coordinates are:

low_window_x = STARTX - SIZE
low_window_y = STARTY - SIZE
high_window_x = STARTX + BOARD_EXTENT_X + SIZE
high_window_y = STARTY + BOARD_EXTENT_Y + SIZE

(where STARTX and STARTY are defined in the REPEAT statement, and the BOARD_EXTENT_X/Y coordinates are calculated from the board outline subject to any REPEAT statement rotation.)

The syntax for the new DISPLAY_BORDER statement is:

DISPLAY_BORDER=<PANEL|BOARD>,SIZE;

where the PANEL, BOARD, and SIZE parameters are defined as above. As before, the resultant window coordinates are scaled to match the screen dimensions.

5.5 DESIGN FILE FORMAT

A clarification of the DEVDES field in the design file:

The DEVDES field that is referenced in the PCLINE, PCTEXT and PCPLANE sections defines the device's designation value.

In the PCLINE section, it is the device's designation if line is associated with a device, for example in the case of silkscreen line.

In the PCTEXT section, it is the device's designation if text is associated with a device, for example in the case of silkscreen text.

In the PCPLANE section, it is the device's designation if plane is associated with a device, for example in the case of silkscreen targets and vision targets.

This field can be ignored if it is not used and does not require special handling. It is mostly used for silkscreen related information.

6.0 CBDS HOTLINE

Queries concerning the contents of this release, or the installation of this software should be directed to:

CBDS Hotline
Department 5T32
Bell-Northern Research
P.O. Box 3511, Station C
Ottawa, Canada
K1Y 4H7

Telephone: (613) 763-4176
FAX: (613) 763-2661

Telex: 053-4753

CURMEM9V88