



FROM PLOWSHARES TO SWORDS: BRINGING PCB DOCUMENTATION OUT OF THE DARK AGES

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A decorative graphic in the top-left corner consisting of several overlapping, colorful triangular shapes in shades of pink, yellow, and blue.

AGENDA

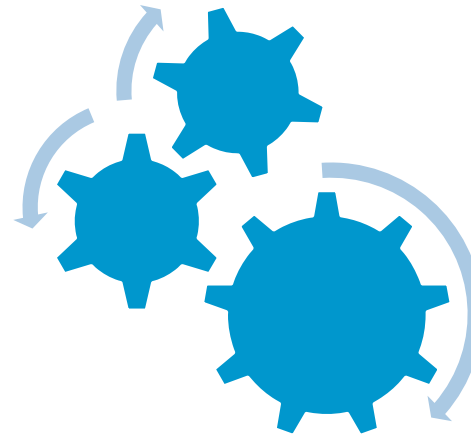
- What is IPC-2581
- Creo View and IPC-2581
- Paperless.....Been there done that. What's next?
- Questions? Comments?

A LITTLE BACKGROUND



- 15 Years at Fujitsu Network Communications in Richardson, Texas
- Support for All Mechanical Software and Processes
- Previously Supported Cadence Tools

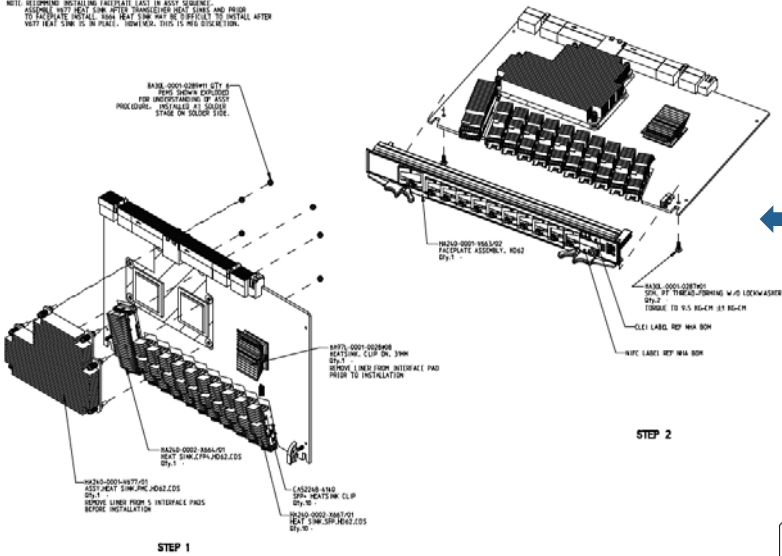
PTC Creo 2.0
PTC Creo View 3.1
PTC Creo View 3.1 ECAD
Cadence Allegro 16.6
IPC-2581 Rev B



FNC CURRENT DRAWING SET FOR MCAD AND ECAD

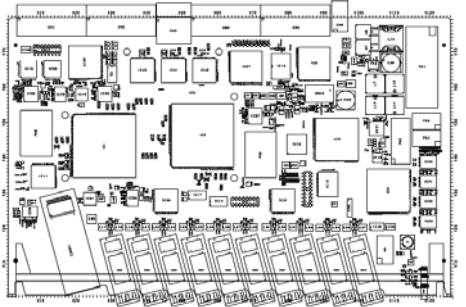
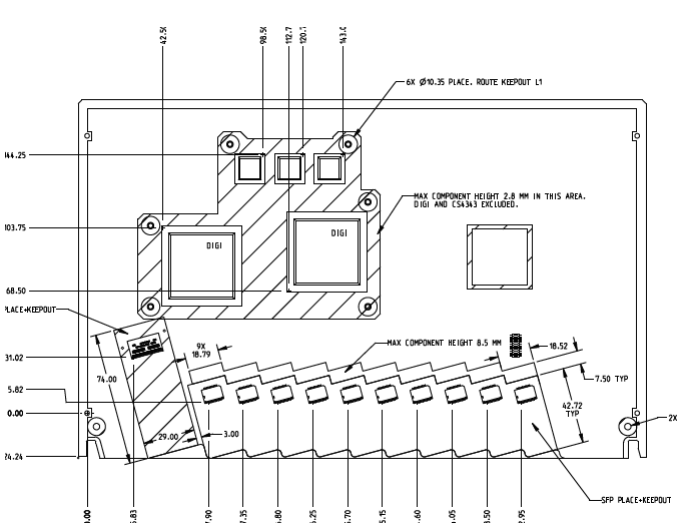


NOTE: RECOMMEND INSTALLING INTERFACE PLATE IN ASSY SEQUENCE. ASSEMBLY MUST BE COMPLETE AFTER TRANSFER/REVERSE HOLES LINES AND PRIOR TO FACING THE BOARD. FROM HERE TO THE END OF THE BOARD TO INSTALL AFTER VERIFY REAL SIZE IS IN PLACE. HOWEVER, THIS IS THE DESIGNATION.

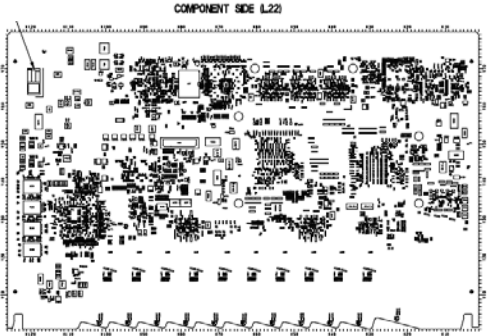


Mechanical Assembly Detail Originates in Creo

Pallet Design Originates in Creo



6 LABEL TYPE
6 NOTE 4,2, 5,2



SOLDER SIDE (L1)

Allegro Assembly DXF Imported in to Creo



WHAT IS IPC-2581

IPC-2581 IN A NUTSHELL

XML base schema that is an export from many PCB CAD Vendors

IPC-2581 would replace RS-274X, ODB++, DXF, PDF



IPC-2581 BENEFITS



- Open, Neutral, Industry standard that was influenced by PCB design and supply chain companies
- ONE File for all PCB Data
 - Manufacturing Assembly (component placement), In-Circuit Test (netlist, test points), Inspection (viewable generation)
- Eliminates data interpretation and re-entry from drawings and documents to drive PCB fabrication, assembly and test operations
- Improves Quality and First-Pass Success
 - ONE source of the truth for all PCB data
 - Reduce interpretation of drawing content and/or re-keying of data



IPC-2581 & CREO VIEW ECAD

CREO VIEW ECAD & IPC-2581



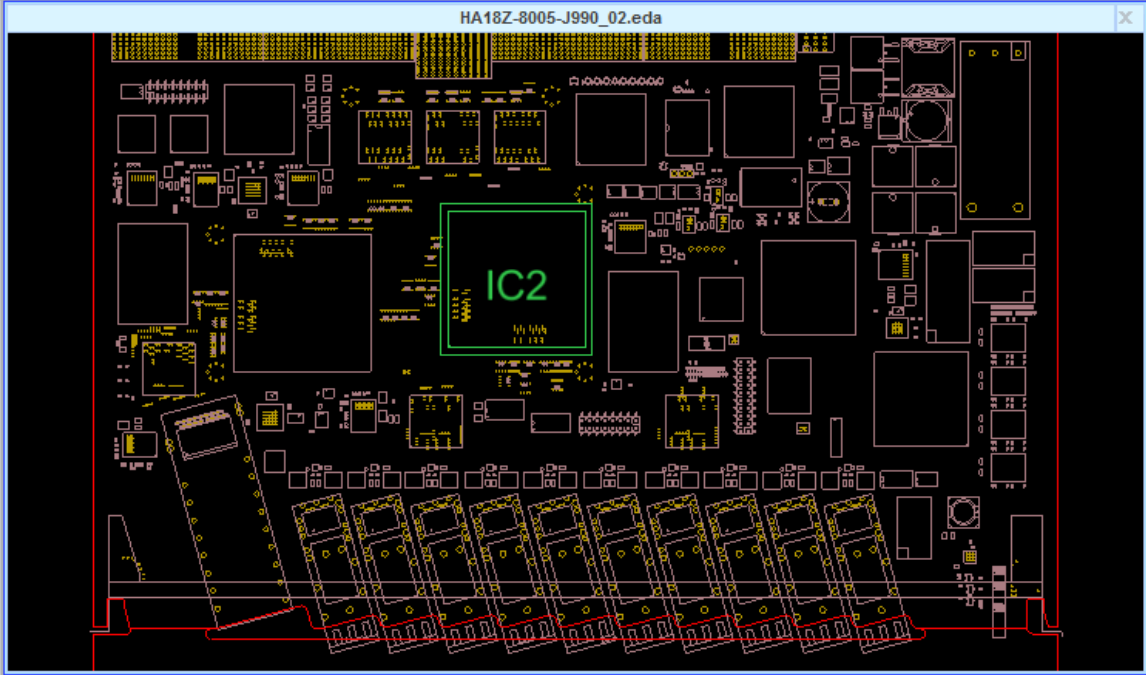
Components by Refdes

Packages

Part Numbers

HA18Z-8005-J990_02....

- Components
 - D34 { BOTTOM }
 - FS1 { TOP }
 - FS2 { TOP }
 - IC1 { TOP }
 - IC2 { TOP }**
 - IC3 { TOP }
 - IC4 { TOP }
 - IC5 { TOP }
 - IC6 { TOP }
- Packages
 - ▶ FBGA689_100_3100SQX246 (1)
 - ▶ FBGA900_100_3100SQX254 (1)
 - ▼ FBGA1894_100_4500SQX390 (2)
 - IC1 { TOP }
 - IC2 { TOP }**
 - ▶ HA49L_0001_0001_13 (1)
 - ▶ HA240_0001_V663_03 (1)
 - ▶ PS5_762_5867X2301X10 (1)
 - ▶ PS5_2030X1143X630 (3)
- Part Numbers
 - ▶ TA46898-0308F1
 - ▶ TA46898-0315G1
 - ▼ TA46898-0316F1
 - IC1 { TOP }
 - IC2 { TOP }**
 - ▶ TA46898-0318F1
 - ▶ TA46898-0319F1
 - ▶ TA46898-0320G1
 - ▶ TA46898-0322F2
- Placed Symbols



Design Data | Bill Of Materials | Component:IC2

Name	Value
HUMIDITY	4
Pin Count	1896
CATEGORY	ELECTRICAL
COMP_CLASS	IC
HEIGHT	3.900 mm

All Associated Parametric Attributes

CREO VIEW ECAD & IPC-2581




Preset Views

Color and Visibility

The screenshot displays the CREO VIEW ECAD interface for a PCB layout. The main window shows a top-side view of a board with components labeled IC1 through IC6, PS1 through PS8, and connectors CN1 through CN5. A large connector labeled CM68 is highlighted in pink. Annotations include a yellow callout box pointing to IC1 with the text "Part Number TAxxxx-xxxx end of Life Use CAxxxx-xxx" and another white callout box at the bottom stating "CM68 Must be manually assembled to the PCB". The left sidebar shows the "Color and Visibility Controls" panel with options for Global, TOP, and BOTTOM views, including checkboxes for Board Outline, Holes, Non-thru-hole Vias, Drill Figures, Planes, Pin Pads, Via Pads, Attributes, Refdes, Silkscreen, Package Assembly, Package Boundary, Pin Numbers, and more. The top toolbar contains icons for Find, Selection Mode, Cross-Select Mode, Crosshair, Zoom, Center, Highlight, Isolate, Bring to Top, Invert Layers, Color and Visibility, Show Attributes, and Preset Views. The status bar at the bottom indicates "Middle=Pan", coordinates "X: -123.13, Y: -80.59", "Rotation: 0", "Top Side View", "Layer Order: Default", and the file name "HA18Z-8005-J990_02.eda".

Annotations

A small yellow arrow pointing towards the text.

PAPERLESS....BEEN THERE
DONE THAT, WHAT'S NEXT?

DRAWINGLESS

DRAWINGLESS ENVIRONMENT



- You can fully implement Model Based Design or a simplified version of MBD
- Use Combination Views along with Creo View to create a Drawingless environment
- PDF files can be created if necessary.
- Links can be placed on the view to enable the user to reach information outside the design

Example graphic

EXAMPLES OF VIEWABLES



Example graphic

EXAMPLES OF VIEWABLES



Example graphic

EXAMPLES OF PDF



Example graphic



QUESTIONS, COMMENTS?

A decorative graphic consisting of several thin, colorful lines and shapes in shades of blue, green, yellow, and purple, scattered around the text.

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TAKE A FRESH LOOK AT THINGS

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A large, colorful geometric graphic on the right side of the page, composed of various triangles and polygons in shades of blue, green, yellow, and purple, arranged in a fan-like pattern.