



ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES

IPC-2511A

Generic Requirements for Implementation of Product Manufacturing Description Data and Transfer Methodology

Interim Final

IPC-2511A

September 1999

A standard developed by IPC

Supersedes IPC-2511

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Generic Requirements for Implementation of Product Manufacturing Description Data and Transfer Methodology (MANGN)

1 SCOPE

This standard specifies data file formats used to describe printed board and printed board assembly products with details sufficient for tooling, manufacturing, assembly, inspection and testing requirements. These formats may be used for transmitting information between a printed board designer and a manufacturing or assembly facility. The files are also useful when the manufacturing cycle includes computer-aided processes and numerical control machines.

The information can be used for both manual and for digital interpretations. The data may be defined in either English or SI units.

1.1 Interpretation

"**Shall**", the emphatic form of the verb, is used throughout this standard whenever a requirement is intended to express a provision that is mandatory. Deviation from a **shall** requirement is not permitted, and compliance to test modules (CTMs), developed to check syntax and semantics, is required to ensure the correct relationships between entities in a file.

The words "should" and "may" are used whenever it is necessary to express non-mandatory provisions.

"Will" is used to express a declaration of purpose.

To assist the reader, the word **shall** is presented in bold characters.

1.2 GenCAM Focus

The GenCAM format requirements are provided in a series of standards focused on printed board manufacturing, assembly, inspection, and testing. This standard series consists of a generic standard (IPC-2511) which contains all the general requirements. There are seven sectionals that are focused on the details necessary to accumulate information in the single GenCAM file, that addresses the needs of the manufacturing disciplines producing a particular product. The sectional standards (IPC-2512 through 2518) paraphrase the important detailed requirements and provide suggested usage and examples for the topic covered by the sectional standard.

2 APPLICABLE DOCUMENTS

The following documents contain provisions which, through reference in this text, constitutes provisions of the IPC-2510 series of standards. All documents are subject to revision and parties who make agreements based on this generic standard are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below.

IPC-T-50		Terms and Definitions for Interconnecting and Packaging Electronic Circuits
IPC-2512	(ADMIN)	Sectional Requirements for Implementation of Administrative Methods for Manufacturing Data Description
IPC-2513	(DRAWG)	Sectional Requirements for Implementation of Drawing Methods for Manufacturing Data Description
IPC-2514	(BDFAB)	Sectional Requirements for Implementation of Printed Board Fabrication Data Description
IPC-2515	(BDTST)	Sectional Requirements for Implementation of Bare Board Product Electrical Testing Data Description