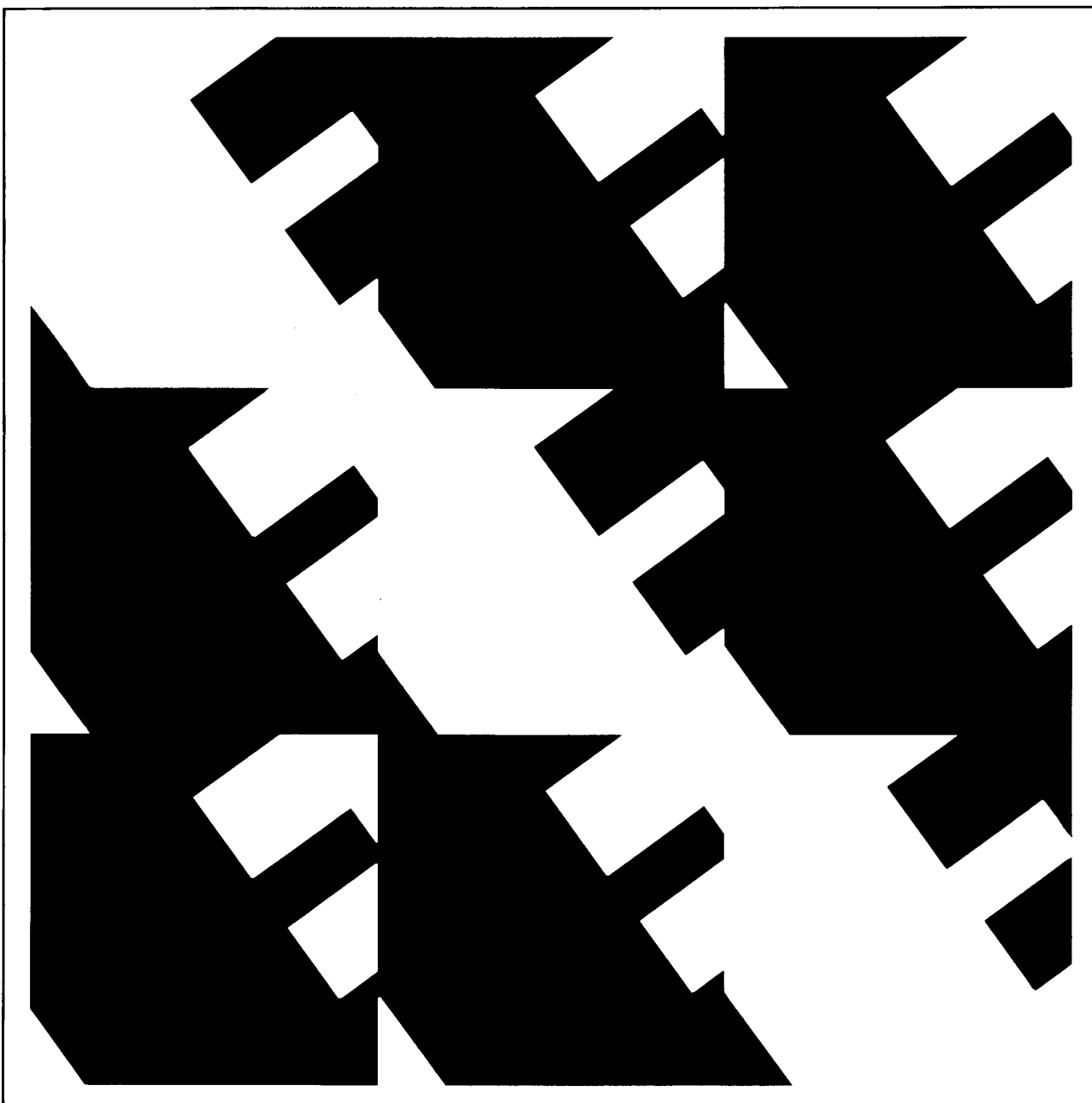


IEEE Trial-Use Standard for Extending High-Level Language Implementations for Microprocessors

IEEE Std 755



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Draft American National Standard
**IEEE Trial-Use Standard for Extending
High-Level Language Implementations for
Microprocessors**

Sponsor
**Technical Committee on Microprocessors and Microcomputers
of the
IEEE Computer Society**

Draft American National Standard

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USA

Foreword

(This Foreword is not a part of IEEE Std 755, IEEE Trial-Use Standard for Extending High-Level Language Implementations for Microprocessors.)

This standard represents the consensus of the P755 Working Group of the Microprocessor Standards Committee, under the sponsorship of the Computer Society's Technical Committee on Microprocessors and Microcomputers.

While microprocessors are not qualitatively different from the more traditional computer systems (minicomputers and larger mainframes), their applications tend to be characterized by the need to interface to an arbitrary and inflexible environment. That environment may manifest itself in external hardware requirements or in pre-existing software. The failure of high-level languages (HLLs) to deal with this environment has historically precluded their use from such microprocessor applications.

Two reasons for the use of HLLs are the following:

(1) To enable the application to be conceived and encoded in a language more oriented to the application than to the machine on which it is implemented

(2) To facilitate the transportation of encoded programs from one environment to another

To the extent that microprocessor applications are entangled in the environment, this second purpose is defeated. This normally occurs, however, in only a small part of each well-coded application program; this part needs recoding for any transportation, regardless of the other constraints.

The purpose of this standard is to extend existing standard languages (which already afford a degree of portability and problem-orientation) in order to facilitate their interface to the inflexible environment of microprocessor applications. These extensions should not do violence to the language and should be implementable with minimal changes to the language processor. With most HLLs these extensions consist primarily of a set of predefined (library) subroutines and functions, which therefore require no language changes at all.

Suggestions for improvement of this standard are welcome. Readers are particularly encouraged to suggest implementations for items (a) through (e) of 1.3. All comments should be sent to:

Secretary
IEEE Standards Board
Institute of Electrical and Electronics Engineers, Inc
345 East 47th Street
New York, NY 10017

The working group members responsible for developing this standard were:

Richard E. James III, *Chairman*

Richard Karpinski
Dennis Paull
Tom Pittman
Harry Stewart
Robert G. Stewart

When the IEEE Standards Board approved this standard on March 21, 1985, it had the following membership:

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