

KARATE

KARL's Automatic Test Extractor

Product Information (Change Without Notice)

AUTOMATIC GENERATION OF FUNCTIONAL TESTS FROM HIGH LEVEL HARDWARE DESCRIPTIONS

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KARATE's Concepts

KARATE is a new CAE Tool of the **KARL-3** digital hardware design environment which also supports integration of functional test pattern development into early phases of the design process. It features Test Pattern Generation and Testability Analysis based on RT Level, Gate Level and Switch Level circuit description sources. **KARATE** uses three basic concepts to cope with circuit complexity:

- **Exploitation of the Hardware Description's Structure and Hierarchy**
- **Symbolic Computation**
- **Heuristic Search**

Although the system is still running in a test version, it proves to be a promising innovative approach to automatic test generation.

Features of KARATE

- Supports ATPG from sources at levels above gate level.
- Supports Design For Testability (DFT) at early phases of the design process.
- Supports the integration of ATPG and conceptual design.
- Multi Level Hardware Description Input (RT level, Gate level and Switch level) either as KARL-3 text files or through the MLED¹⁾ graphics editor.
- ATPG not only for combinational but also for sequential circuits by a powerful new concept for symbolic Pattern representation.

- Test Pattern generation supporting different fault models including user-defined fault models
- Support of designs based on DFT and BIST techniques
- Support of (standard) cell libraries
- Testability Analysis identifies badly controllable and/or badly observable hardware modules and data paths already at very early design phases
- Automatic generation of testprograms expressed in various output formats, including testprograms written in EDIF ²⁾ and SCIL-3 ³⁾, the KARL ⁴⁾ system's language for stimuli and test description
- Capability of making the user's test-related knowledge available to the system
- Highly interactive, menu driven user interface
- Comfortable help functions

Availability, System Requirements

KARATE is currently being used for an in-house pilot application test. The release of Version 1.0 is planned for Summer 1988.

KARATE is implemented in VAX-11 PASCAL under the VAX/VMS operating system (version 4.x). The current **KARATE** version requires the KARL-3 environment for the compilation of hardware descriptions.

- 1) ask for MLED info flyer
- 2) ask for PAGE info flyer
- 3) ask for SCIL-3 info flyer
- 4) ask for KARL-III info flyer and a list of KARL related literature

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Support / Maintenance / Updates

- The standard license agreement allows the use of the **KARATE** system on one CPU only.
- Attractive site licenses offered upon request.
- Substantial discount for non-profit educational research institutions.

License

- currently no warrenty offered
- phone hot line service during office hours
- user group organisation ABAKUS
- delivering of software updates upon request
- info on updates and new versions mailed to registered users

We are looking for partners

KARATE can be adapted to any nonprocedural hardware description language. We are looking for partners who are interested to include **KARATE** into their own design environment and to develop test methodologies.

