

Fujitsu Software BS2000

Pascal-XT V2.2

The Pascal-XT programming system is the BS2000 variant of the Pascal-XT compiler family.

Topics

Product characteristic

Thanks to the front-end common to all the compilers of this family, Pascal-XT program sources can be compiled on all computers supported.

The most significant characteristics of Pascal are:

- simple and systematic block-oriented structure,
- clear control structures,
- extensive data concept with user-defined, structured and dynamic data types,
- ease of learning,
- support of software engineering, and
- high runtime efficiency.

In addition, by means of suitable language elements and a high-performance programming system, Pascal-XT supports the efficient development of extensive software products with a long service life. It also has an integrated debugging aid.

The Pascal-XT programming system provides the user with a convenient environment for developing, compiling and testing programs interactively, without leaving the programming system.

Pascal-XT meets the requirements for Level 1 of the Pascal standards ISO 7185: 1983 and DIN 66256-1983.



Pascal-XT programs can access service functions of BS2000 via predefined packages. These include the execution of BS2000 commands, process switches, DMS (particularly ISAM), error handling and UTM access. Programs written in other languages can be called from Pascal-XT programs. Conversely, Pascal-XT programs can be called by programs written in other languages.

Functional description

The main language extensions of Pascal-XT compared with standard Pascal are:

- modular concept and separate compilation analogous to Ada (packages).
- exception handling: error conditions at runtime can be handled by the application program

- string processing, using an approach similar to that of UCSD Pascal
- static expressions and structured constants
- inline procedures and functions with high-efficiency code
- predefined data types 'short integer', 'long integer', 'short real', 'long real' and generic file and pointer types
- any function result (all types other than file)
- ELSE in the CASE statement and in the variant declaration
- arbitrary declaration sequence
- EXIT statement for premature termination of a loop
- extensive set of additional standard procedures and functions

Via predefined packages, Pascal-XT programs are able to access BS2000 service functions. These include, amongst others, execution of BS2000 commands, process switch, DMS (in particular ISAM), error handling and UTM interface.

Pascal-XT programs can call programs written in other languages. In the opposite direction, programs written in other languages can call Pascal-XT programs.

The following facilities can be used in BS2000:

- Connection of PLAM program libraries,
- Convenient management of a software project (management of interface definitions among modules, semi-automatic recompilation, dependence information about modules, etc.),
- Menu-driven operation via SDF command processor,
- Comprehensive compiler listings: source program listing, error listing, cross-reference listing and memory address listing,
- Expansion options for programming system by means of individual user commands,
- Generation of optimized object code,
- Code generation for runtime tests,
- Maximum precision in standard mathematical functions SIN, COS, ARCTAN, EXP, LN and SQRT, Accuracy to 1 ulp (unit in the last place).
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Debugging aid and generated code:

The Pascal debugging aid allows Pascal-XT programs to be tested symbolically without the object code being known. The essential functions are:

- symbolic referencing of program blocks,
- setting of breakpoints,
- displaying and modifying of program data,
- output of the dynamic call chain,
- testing of recursive procedures and functions,
- conditional execution of debugging commands.

If no debugging commands are activated, this has no effect on the runtime of the programs.

The compiler-generated code

- is reentrant,
- is virtually error-proof,
- includes runtime tests (optional),
- can be optimized, if desired,
- detects runtime errors.

Program description

The Pascal-XT programming system comprises the following parts:

- Pascal-XT compiler (Pascal-XT)
- Pascal-XT runtime system PAS-XT-LZS
- programming environment
- integrated symbolic debugging aid at the Pascal-XT language level (PATH).

The Pascal-XT programming system can be installed in two ways:

- Static linking:
 - The compiler is linked to a phase with the programming system, runtime system and debugging aid. Each caller loads his own programming system.
- In the common memory pool:
 - The code modules of the compiler, programming system, runtime system and debugging aid are placed in the common memory pool and can be used jointly by various callers.

Technical Details

Requirements

Technical Requirements Hardware	BS2000 Business Server
Technical Requirements Software	BS2000 OS DX V1.0 BS2000 OSD/BC V11.0, OSD/XC V11.0
User Requirements	Knowledge of Pascal and BS2000

Installation

Operating mode	Batch and interactive mode
Implementation language	Pascal-XT and Assembler
User Interface	English and German
Installation	Please refer to the relevant release notices.

Documentation and Training

Documentation	The manuals for Pascal-XT are available on the manual server .
Training	See course offer (German only)

Purchase and Delivery

Conditions	This software product is provided to customers under the terms and conditions for the use of software products in return for ongoing or one-time payment.
Order and Delivery	This software product may be obtained from your local Fujitsu regional office.

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2022-05-20 EM EN

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