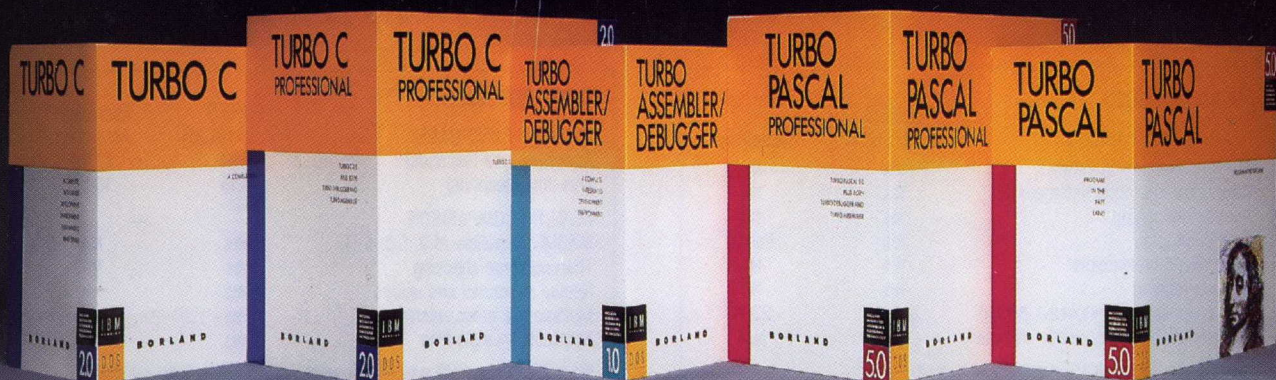


# The Revolution continues with our new . . .



# Turbo Assembler, Turbo Debugger

What started modestly enough in November of 1983 with the launch of Borland's first program, Turbo Pascal® 1.0, became a revolution and it's been going like a rocket ever since.

We've changed the way you program.

We invented integrated environments with Turbo Pascal and we brought them to all our languages. Borland continues to bring you the best programming tools in the world.

## New! Turbo Assembler & Turbo Debugger

Two state-of-the-art development tools in one package for only \$149.95.

### New Turbo Debugger® debugs all sizes

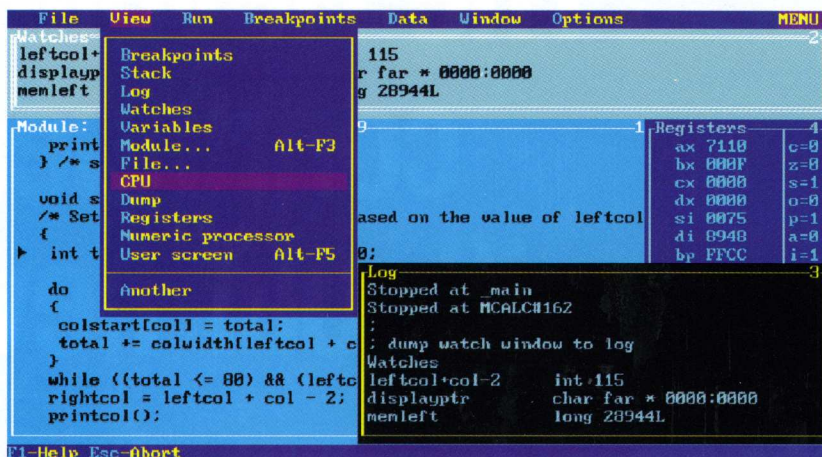
With EMS support, remote debugging, and 386 virtual machine debugging, there's no limit to the size of program you can debug. In fact with 386 virtual machine mode, debugging takes **zero**, bytes of conventional memory!

### See what's happening

Overlapping windows give you multiple views of the program you're debugging: source code, variables, CPU registers, call stack, watches, breakpoints, memory dump, and more. And a new "session-logging" feature tracks and records your every move.

### You're in control

Our breakpoints give you more control than anyone else's. Ordinary debuggers only get you to a stop, then they stop. When our breakpoints are triggered you can simply stop, or you can print expressions, run code, send messages to the session log, or even evaluate an expression with user-defined function calls. And **all** our breakpoints are conditional.



Shown here are views of source code, CPU registers, watch expressions, and a session log.

### Unique Data Debugging

Plain Vanilla debuggers can only give you **code** debugging. Our new Turbo Debugger give you **data** debugging too. You can browse through your data from the simplest byte to the hairiest data structure, inspect arrays, and walk through linked lists. All by point and shoot.

### Feature highlights

#### Breakpoints

- Actions: stop, run code, log expression
- Break on condition, memory changed
- Software ICE capabilities
- 386 debug register support
- Support for hardware debuggers

#### Debug any program

- Turbo Pascal, Turbo C, Turbo Assembler
- EMS support
- 386 virtual machine and remote machine debugging
- Supports CodeView® and .MAP-compatible programs

#### Data Debugger

- Follow pointers through linked lists
- Browse through arrays and data structures
- Change data values

### New Turbo Assembler® lets you write the tightest, fastest code

Turbo Assembler is faster than other assemblers, and you can use it on your existing code. It's fully MASM compatible, 4.0, 5.0, and 5.1; even MASM can't say that. Turbo Assembler takes you beyond MASM, with significant new Assembly language extensions, more complete error checking, and full 386 support.

Turbo Assembler is designed for easy interfacing with high-level languages like Turbo Pascal and Turbo C. We use Turbo Assembler on Quattro,® our best-selling spreadsheet program; now you can write your own best-seller with Turbo Assembler!

### Feature highlights

- Faster than other assemblers
- MASM compatible (4.0, 5.0, and 5.1)
- Significant new assembly language extensions
- Easy interfacing with high-level languages including Turbo C and Turbo Pascal
- Full 386 support

TURBO DEBUGGER	TURBO DEBUGGER	CodeView*
FEATURE COMPARISON		
Multiple overlapping views	Yes	No
386 virtual-86 mode debugging	Yes	No
Remote debugging	Yes	No
Data debugging	Yes	Partial
Generalized breakpoints	Yes	No
Session logging	Yes	No
Conventional memory used—80386	Zero K	230K
Conventional memory used—remote	15K	N/A

Turbo Debugger version 1.0, Microsoft CodeView version 2.2.

TURBO ASSEMBLER	TURBO ASSEMBLER	Microsoft* Assembler
BGIDEMO BENCHMARK		
Assembly time (seconds)	9.34	27.46
Link time (seconds)	4.15	10.51
FEATURE COMPARISON		
MASM compatible (4.0, 5.0, 5.1)	Yes	No
Thorough type checking	Yes	No
Nested structures and unions	Yes	No
Multimodule cross reference	Yes	No
Assemble multiple files	Yes	No

Run on IBM PS/2 model 60 using Turbo Assembler version 1.0, Turbo Linker version 2.0, Microsoft Macro Assembler version 5.10, Microsoft Overlay Linker version 3.64.

# Debugger, Turbo Pascal 5.0

## New! Turbo C® 2.0 with integrated source-level debugger

New Turbo C 2.0 is the *one* C compiler that does it all; nothing is half done or not done at all—instead, your every programming need is met. We wrote our best-selling word processor Sprint® with Turbo C; now you can write your own best seller with Turbo C 2.0.

At better than 16,000 lines a minute,\* Turbo C 2.0 compiles your code 20-30% faster than its predecessor Turbo C 1.5 which was already faster than any other C compiler.

## Make bugs bug off

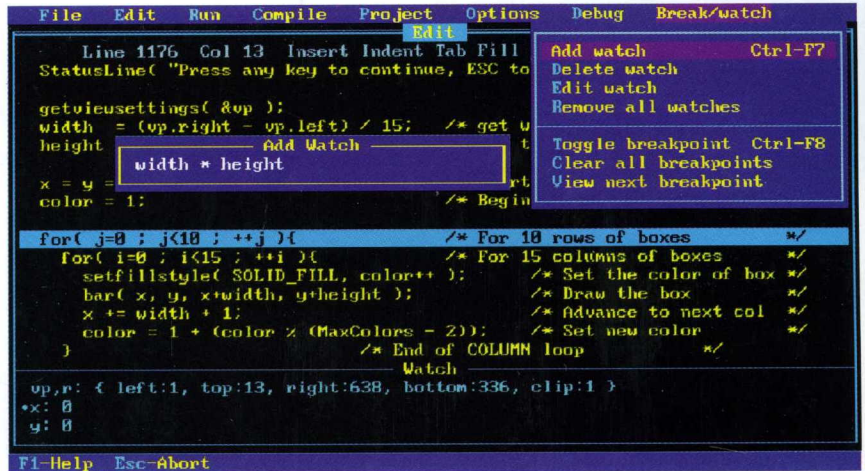
Nice bugs are dead bugs, and Turbo C 2.0's integrated source-level debugger lets you find them and flatten them in a flash. You can set multiple breakpoints, watch variables and evaluate expressions—all from inside your integrated C environment.

Minimum system requirements: For the IBM PS/2™ and the IBM® family of personal computers and all 100% compatibles. PC-DOS (MS-DOS) 2.0 or later. Turbo Debugger minimum 384K. Turbo Assembler minimum 256K. Turbo C and Turbo Pascal minimum 448K (256K comment line version).

\*Customer satisfaction is our main concern; if within 60 days of purchase this product does not perform in accordance with our claims, call our customer service department, and we will arrange a refund.

Prices and specifications subject to change without notice.

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Debugging in the Turbo environment: shown here an expression is being added to the Watch window in Turbo C. The Execution Bar highlights the next line the debugger will execute.

### TURBO C 2.0

HEAPSORT BENCHMARK	TURBO C 2.0	Microsoft® C 5.1
.OBJ size (bytes)	843	945
.EXE size (bytes)	6896	7731
Execution time (seconds)	8.1	12.2

### FEATURE COMPARISON

Integrated debugger	Yes	No*
Inline assembly	Yes	No
Auto dependency checking	Yes	No
EMS support for edit buffer	Yes	No
Device-independent graphics	Yes	No
Number of memory models	6	5
Price	\$149.95	\$450.00

Heapsort compiled with full optimization. Benchmark run on an IBM PS/2 Model 60. \*Integrated debugger included with Quick C.

## Turbo C and Turbo Pascal owners, upgrade now! CALL (800) 543-7543

If you're a registered Turbo C and/or Turbo Pascal owner, you can upgrade and get the latest version of your favorite language, plus both Turbo Assembler and Turbo Debugger, all at special upgrade prices. Whether you order by phone or mail, be sure to include your old Turbo Pascal and/or Turbo C serial numbers and the code PL02.

Mail coupon to: Borland, Attn: Dept. PL02, 1800 Green Hills Road, P.O. Box 660005, Scotts Valley, CA 95066-0005.

**UPGRADE OFFERS** For registered Turbo Pascal® and Turbo C® owners! (Unregistered owners, see below\*)

Name \_\_\_\_\_  
 Shipping address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Telephone \_\_\_\_\_

To qualify for the upgrade price you must give the serial number of the equivalent product you are upgrading.

Turbo Pascal Serial Number \_\_\_\_\_

Turbo C Serial Number \_\_\_\_\_

### Upgrades for registered Turbo C and Turbo Pascal owners

Please check box(es)

	Suggested Retail	Upgrade Price
1 <input type="checkbox"/> Turbo C 2.0 Professional (Includes both Turbo Assembler and Turbo Debugger)	250.00	99.95
2 <input type="checkbox"/> Turbo Pascal 5.0 Professional (Includes both Turbo Assembler and Turbo Debugger)	250.00	99.95
3 <input type="checkbox"/> Turbo Pascal with 5.0 upgrade manual and disks	N/A	49.95
4 <input type="checkbox"/> Turbo C with 2.0 upgrade manual and disks	N/A	49.95

Please specify diskette size: Either  5¼" OR  3½"

Total product amount \$ \_\_\_\_\_

CA and MA residents add sales tax \$ \_\_\_\_\_

In US please add \$5 shipping/handling for each product \$ \_\_\_\_\_

In Canada please add \$10 shipping/handling for each product \$ \_\_\_\_\_

Total amount enclosed \$ \_\_\_\_\_

Payment:  VISA  MC  Check  Bank Draft Credit card expiration date: \_\_\_\_/\_\_\_\_/\_\_\_\_

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Name as it appears on card \_\_\_\_\_

\*If you have not registered your Turbo Pascal or Turbo C, you may qualify for the special price by including your completed registration card with this coupon and payment. Offer good September 1 through November 30, 1988. Coupon must be postmarked before December 15, 1988. Offer good in U.S. and Canada only. This offer limited to one upgrade per valid product serial number. Not good with any other offer from Borland. CODs and purchase orders will not be accepted by Borland.

Circle 48 on Reader Service Card (DEALERS: 49)

# and Turbo C 2.0!

## Turbo C 2.0 has the best of everything

- Includes the compiler, editor, and debugger, all rolled into one
- Integrated source-level debugger lets you step code, watch variables, and set breakpoints
- Develop and debug production-quality code in all six memory models
- Inline assembler support
- Support for Turbo Assembler and Turbo Debugger
- Make facility with automatic dependency checking
- Over 430 library functions, including a complete graphics library
- Only \$149.95

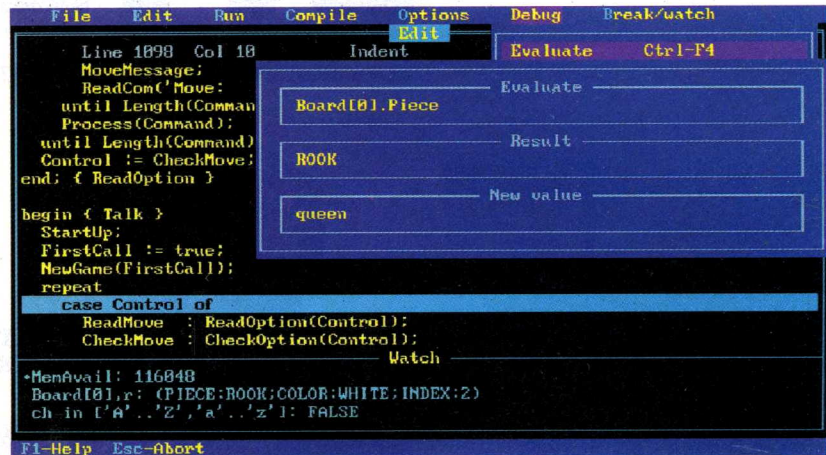
## New Turbo C Professional

Turbo C 2.0 plus *both* Turbo Assembler & Turbo Debugger: all three programs rolled into one—the *one* C package that has everything. A complete set of tools that caters to every level of programming expertise. Turbo C Professional: \$250. Includes coupon for free T-shirt (while supplies last).

## New! Turbo Pascal® 5.0 with integrated source-level debugger

Turbo Pascal, the worldwide favorite with over a million copies in use, just got even smarter. The best got better. Meet Version 5.0. In a word, it's revolutionary.

Not only do you go code-racing at more than 34,000 lines a minute,\* you also now go into a sophisticated debugging environment—right at source level.



Shown here is the Evaluate/Modify window of Turbo Pascal: look at expressions, examine structured data types, change variables on the fly.

It's completely integrated and bullet-fast.

Turbo Pascal's new integrated debugger takes you inside your code for fast fixes. You step, trace, set multiple breakpoints. You modify variables as you debug and watch full expressions at runtime.

## Separate Compilation

Break your code into units. Your separately compiled units can be shared by multiple programs and linked in a flash with Turbo Pascal's built-in Make utility and smart linker. We give you a powerful library of standard units including the spectacular Borland Graphic Interface and our state-of-the-art overlay manager.

## Feature highlights

- Includes the compiler, editor, and debugger, all rolled into one
- Integrated source-level debugger lets you step code, watch variables, and set breakpoints
- Overlays, including EMS support
- 8087 floating-point emulation
- Support for Turbo Assembler and Turbo Debugger
- Procedural types, variables, and parameters
- Smaller, tighter programs: Smart Linker strips both unused code and data
- Constant expressions
- EMS support for editor
- Only \$149.95

## Debugging: The inside story

Turbo Pascal's new integrated source-level debugger takes you inside your code to fix errors fast. Don't worry about errors, everyone makes them; but with the right debugger, this one, it's a fast fix.

## Turbo Pascal Professional®

Turbo Pascal 5.0 plus *both* Turbo Assembler & Turbo Debugger: all three programs rolled into one—the *one* Pascal package that has everything. A complete set of tools that caters to every level of programming expertise. Turbo Pascal Professional: \$250. Includes coupon for free T-shirt (while supplies last).

TURBO PASCAL 5.0	TURBO PASCAL 5.0	Turbo Pascal 4.0
SIEVE BENCHMARK		
.EXE size (bytes)	1440	1504
Execution time (seconds)	6.15	7.25
FEATURE COMPARISON		
Integrated debugger	Yes	No
Overlays, including EMS support	Yes	No
8087 floating-point emulation	Yes	No
Turbo Debugger support	Yes	No
Procedural types, variables, parameters	Yes	No
Smart linking of code and data	Yes	No
Constant expressions	Yes	No
EMS support for editor	Yes	No

Benchmark (25 iterations) run on an IBM PS/2 Model 60.

60-day money-back guarantee†

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