

HELP!!!

Q: I don't get the results I think I should when using *Reals* and *Integers* in the same expression.

A: When assigning an Integer expression to a Real variable, the expression is converted to Real. However, the expression itself is calculated as an integer, and you should therefore be aware of possible integer overflow in the expression. This can lead to surprising results. Take for instance:

```
RealVar := 40 * 1000;
```

First, the compiler multiplies integers 40 and 1000, resulting in 40,000 which gives integer overflow. It will actually come out to -25536 as integers wrap around. Now it will be assigned to the RealVar as -25536. To prevent this, use either:

```
RealVar := 40.0 * 1000;
```

or

```
RealVar := 1.0 * IntVar1 * IntVar2;
```

to ensure that the expression is calculated as a Real.

Q: How do I get a disk directory from my TURBO program?

A: Sample procedures for accessing the directory are included in the TURBO Tutor package (see how to order the TURBO Tutor on page 3).

Q: My program works well with TURBO 2.0, but now it keeps getting I/O Error F3 (or TURBO Access error 243)

A: TURBO 3.0 uses DOS file handles. When booting your computer, you should have a CONFIG.SYS file in the root directory of your boot drive. Place the statement:

```
FILES=16
```

in this file and re-boot your system. For more information about file handles, please refer to your DOS reference manual.

NOTE: If you distribute your programs, you should include similar instructions in the documentation that you provide.

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A full-screen WordStar-like Editor You may jot down notes and edit files up to 25 pages long.

A Phone Directory for your names, addresses and telephone numbers. Finding a name or a number becomes a snap.

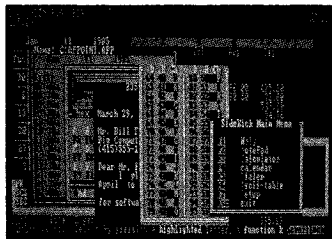
An Autodialer for all your phone calls. It will look up and dial telephone numbers for you. (A modem is required to use this function.)

A Monthly Calendar functional from year 1901 through year 2099.

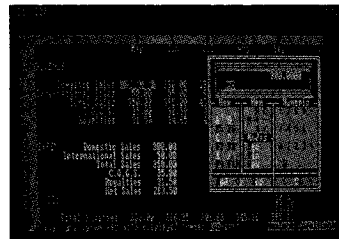
A Datebook to remind you of important meetings and appointments.

A full-featured Calculator ideal for business use. It also performs decimal to hexadecimal to binary conversions.

An ASCII Table for easy reference.



All the SIDEKICK windows stacked up over Lotus 1-2-3. From bottom to top: SIDEKICK'S "Menu Window," ASCII Table, Notepad, Calculator, Datebook, Monthly Calendar and Phone Dialer.



Here's SIDEKICK running over Lotus 1-2-3. In the SIDEKICK Notepad you'll notice data that's been imported directly from the Lotus screen. In the upper right you can see the Calculator.

The Critics' Choice

"In a simple, beautiful implementation of WordStar's™ block copy commands, SIDEKICK can transport all or any part of the display screen (even an area overlaid by the notepad display) to the notepad."

—Charles Petzold, PC MAGAZINE

"SIDEKICK is by far the best we've seen. It is also the least expensive."

—Ron Mansfield, ENTREPRENEUR

"If you use a PC, get SIDEKICK. You'll soon become dependent on it."

—Jerry Pournelle, BYTE

"SIDEKICK deserves a place in every PC."

—Garry Ray, PC WEEK

**SIDEKICK IS AN UNPARALLELED BARGAIN AT ONLY \$54.95 (copy-protected)
OR \$84.95 (not copy-protected)**

Minimum System Configuration: SIDEKICK is available now for your IBM PC, XT, AT, PCjr., and 100% compatible microcomputers. The IBM PC jr. will only accept the SIDEKICK not copy-protected version. Your computer must have at least 128K RAM, one disk drive and PC-DOS 2.0 or greater. A Hayes™ compatible modem, IBM PCjr.™ internal modem, or AT&T® Modem 4000 is required for the autodialer function.



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SuperKey[®]

INCREASE YOUR PRODUCTIVITY BY 50% OR YOUR MONEY BACK

SuperKey turns 1,000 keystrokes into 1!

Yes, SuperKey can record lengthy keystroke sequences and play them back at the touch of a single key. Instantly. Like Magic.

Say, for example, you want to add a column of figures in 1-2-3. Without SuperKey you'd have to type seven keystrokes just to get started. ["shift-@-s-u-m-shift-("]. With SuperKey you can turn those 7 keystrokes into 1.

SuperKey keeps your 'confidential' files...CONFIDENTIAL!

Time after time you've experienced it: anyone can walk up to your PC, and read your confidential files (tax returns, business plans, customer lists, personal letters...).

With SuperKey you can encrypt any file, even while running another program. As long as you keep the password secret, only YOU can decode your file. SuperKey implements the U.S. government Data Encryption Standard (DES).

SuperKey helps protect your capital investment.

SuperKey, at your convenience, will make your screen go blank after a predetermined time of screen/keyboard inactivity. You've paid hard-earned money for your PC. SuperKey will protect your monitor's precious phosphor...and your investment.

SuperKey protects your work from intruders while you take a break.

Now you can lock your keyboard at any time. Prevent anyone from changing hours of work. Type in your secret password and everything comes back to life...just as you left it.

SUPERKEY is now available for an unbelievable \$69.95 (not copy-protected).

Minimum System Configuration: SUPERKEY is compatible with your IBM PC, XT, AT, PCjr. and 100% compatible microcomputers. Your computer must have at least 128K RAM, one disk drive and PC-DOS 2.0 or greater.



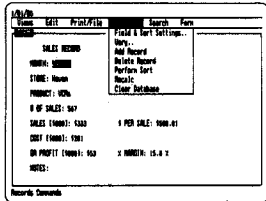
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REFLEX

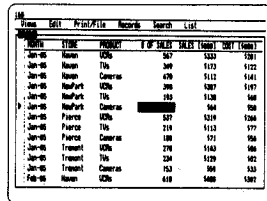
THE ANALYST™

Reflex™ is the most amazing and easy to use database management system. And if you already use Lotus 1-2-3, dBASE or PFS File, you need Reflex—because it's a totally new way to look at your data. It shows you patterns and interrelationships you didn't know were there, because they were hidden in data and numbers. It's also the greatest report generator for 1-2-3.

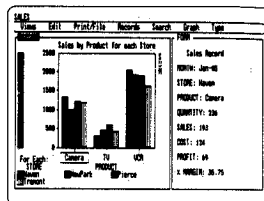
REFLEX OPENS MULTIPLE WINDOWS WITH NEW VIEWS AND GRAPHIC INSIGHTS INTO YOUR DATA.



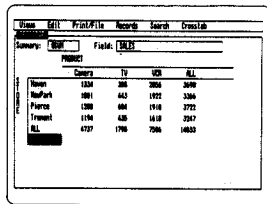
The FORM VIEW lets you build and view your database.



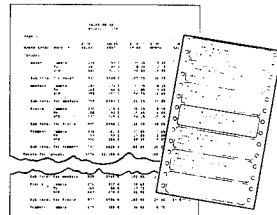
The LIST VIEW lets you put data in tabular list form just like a spreadsheet.



The GRAPH VIEW gives you instant interactive graphic representations.



The CROSTAB VIEW gives you amazing "cross-referenced" pictures of the links and relationships hidden in your data.



The REPORT VIEW allows you to import and export to and from Reflex, 1-2-3, dBASE, PFS File and other applications and prints out information in the formats you want.

So Reflex shows you. Instant answers. Instant pictures. Instant analysis. Instant understanding.

THE CRITICS' CHOICE:

"The next generation of software has officially arrived."
Peter Norton, PC WEEK
 "Reflex is one of the most powerful database programs on the market. Its multiple views, interactive windows and graphics, great report writer, pull-down menus and cross tabulation make this one of the best programs we have seen in a long time..."

The program is easy to use and not intimidating to the novice... Reflex not only handles the usual database functions such as sorting and searching, but also "what-if" and statistical analysis... it can create interactive graphics with the graphics module. The separate report module is one of the best we've ever seen."

Mare Stern, INFO WORLD

Minimum System Requirements: Reflex runs on the IBM® PC, XT, AT and compatibles. 384K RAM minimum. IBM Color Graphics Adapter®, Hercules Monochrome Graphics Card™, or equivalent. PC-DOS 2.0 or greater. Hard disk and mouse optional. Lotus 1-2-3, dBASE, or PFS File optional.



Suggested Retail Price \$99.95 (not copy-protected)

Reflex is a trademark of BORLAND/Analytica Inc. Lotus is a registered trademark and Lotus 1-2-3 is a trademark of Lotus Development Corporation. dBASE is a registered trademark of Ashton-Tate. PFS is a registered trademark and PFS File is a trademark of Software Publishing Corporation. IBM PC, XT, AT, PC-DOS and IBM Color Graphics Adapter are registered trademarks of International Business Machines Corporation. Hercules Graphics Card is a trademark of Hercules Computer Technology.

If you use an IBM PC, you need

TURBO Lightning™

Turbo Lightning™ teams up with the Random House Spelling Dictionary® to check your spelling as you type!

Turbo Lightning, using the 83,000-word Random House Dictionary, checks your spelling as you type. If you misspell a word, it alerts you with a 'beep'. At the touch of a key, Turbo Lightning opens a window on top of your application program and suggests the correct spelling. Just press ENTER and the misspelled word is instantly replaced with the correct word. It's that easy!

Turbo Lightning works hand-in-hand with the Random House Thesaurus® to give you instant access to synonyms.

Turbo Lightning lets you choose just the right word from a list of alternates, so you don't say the same thing the same way every time. Once Turbo Lightning opens the Thesaurus window, you see a list of alternate words, organized by parts of speech. You just select the word you want, press ENTER and your new word will instantly replace the original word. Pure magic!

If you ever write a word, think a word, or say a word, you need Turbo Lightning.

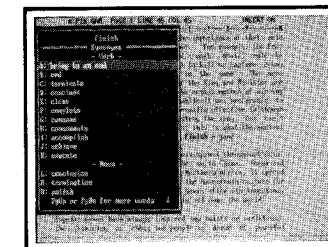
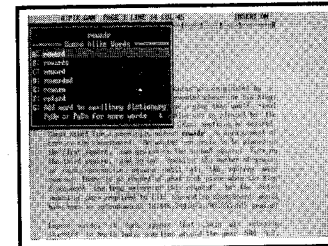
Turbo Lightning's intelligence lets you teach it new words. The more you use Turbo Lightning, the smarter it gets!

You can also teach your new Turbo Lightning your name, business associates' names, street names, addresses, correct capitalizations, and any specialized words you use frequently. Teach Turbo Lightning once, and it knows forever.

Turbo Lightning™ is the engine that powers Borland's Turbo Lightning Library™.

Turbo Lightning brings electronic power to the Random House Dictionary® and Random House Thesaurus®. They're at your fingertips—even while you're running other programs. Turbo Lightning will also 'drive' soon-to-be-released encyclopedias, extended thesauruses, specialized dictionaries, and many other popular reference works. You get a head start with this first volume in the Turbo Lightning Library.

And because Turbo Lightning is a Borland product, you know you can rely on our quality, our 60-day money-back guarantee, and our eminently fair prices.



The Turbo Lightning Thesaurus.



Suggested Retail Price \$99.95 (not copy-protected)

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Minimum System Requirements: 128K IBM PC® or 100% compatible computer, with 2 floppy disk drives and PC-DOS (MS-DOS) 2.0 or greater

SIDEKICK®

SideKick, the Macintosh Office Manager, brings information management, desktop organization and telecommunications to your Macintosh. Instantly, while running any other program.

A full-screen editor/mini-word processor lets you jot down notes and create or edit files. Your files can also be used by your favorite word processing program like MacWrite™ or MicroSoft® Word.

A complete telecommunication program sends or receives information from any on-line network or electronic bulletin board while using any of your favorite application programs. A modem is required to use this feature.

A full-featured financial and scientific calculator sends a paper-tape output to your screen or printer and comes complete with function keys for financial modeling purposes.

A print spooler prints any text file while you run other programs.

A versatile calendar lets you view your appointments for a day, a week or an entire month. You can easily print out your schedule for quick reference.

A convenient "Things-to-Do" file reminds you of important tasks.

A convenient alarm system alerts you to daily engagements.

A phone log keeps a complete record of all your telephone activities. It even computes the cost of every call. Area code hook-up provides instant access to the state, region and time zone for all area codes.

An expense account file records your business and travel expenses.

A credit card file keeps track of your credit card balances and credit limits.

A report generator prints-out your mailing list labels, phone directory and weekly calendar in convenient sizes.

A convenient analog clock with a sweeping second-hand can be displayed anywhere on your screen.

On-line help is available for all of the powerful SIDEKICK features.

Best of all, everything runs concurrently.

SIDEKICK, the software Macintosh owners have been waiting for.

SideKick, Macintosh's Office Manager is available now for \$84.95 (not copy-protected).

Minimum System Configuration: SIDEKICK is available now for your Macintosh microcomputer in a format that is not copy-protected. Your computer must have at least 128K RAM and one disk drive. Two disk drives are recommended if you wish to use other application programs. A Hayes-compatible modem is required for the telecommunications function. To use SIDEKICK'S autodialing capability you need the Borland phone-link interface.



SIDEKICK is a registered trademark of Borland International, Inc. Macintosh is a trademark of McIntosh Laboratory, Inc. MacWrite is trademark of Apple Computer, Inc. IBM is a trademark of International Business Machines Corp. MicroSoft is a registered trademark of MicroSoft Corp. Hayes is a trademark of Hayes Microcomputer Products, Inc.

TURBO DATABASE TOOLBOX™

Is The Perfect Complement To Turbo Pascal.

It contains a complete library of Pascal procedures that allows you to sort and search your data and build powerful applications. It's another set of tools from Borland that will give even the beginning programmer the expert's edge.

THE TOOLS YOU NEED!

TURBOACCESS Files Using B+Trees - The best way to organize and search your data. Makes it possible to access records in a file using key words instead of numbers. Now available with complete source code on disk ready to be included in your programs.

TURBOSORT - The fastest way to sort data—and TURBOSORT is the method preferred by knowledgeable professionals. Includes source code.

GINST (General Installation Program) - Gets your programs up and running on other terminals. This feature alone will save hours of work and research. Adds tremendous value to all your programs.

GET STARTED RIGHT AWAY: FREE DATABASE!

Included on every Toolbox disk is the source code to a working database which demonstrates the power and simplicity of our Turbo Access search system. Modify it to suit your individual needs or just compile it and run. Remember, no royalties!

THE CRITICS' CHOICE!

"The tools include a B+ tree search and a sorting system. I've seen stuff like this, but not as well thought out, sell for hundreds of dollars."

—Jerry Pournelle, BYTE MAGAZINE

"The Turbo Database Toolbox is solid enough and useful enough to come recommended."

—Jeff Duntemann, PC TECH JOURNAL

TURBO DATABASE TOOLBOX—ONLY \$54.95 (not copy-protected).

Minimum system configurations: 64K RAM and one disk drive. 16-bit systems: TURBO PASCAL 2.0 or greater for MS-DOS or PC-DOS 2.0 or greater. TURBO PASCAL 2.1 or greater for CP/M-86 1.1 or greater. Eight-bit systems: TURBO PASCAL 2.0 or greater for CP/M-80 2.2 or greater.



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LEARN PASCAL FROM THE FOLKS WHO INVENTED TURBO PASCAL® AND TURBO DATABASE TOOLBOX®.

Borland International proudly introduces **Turbo Tutor**®. The perfect complement to your **Turbo Pascal** compiler. **Turbo Tutor** is *really* for everyone—even if you've never programmed before.

And if you're already proficient, **Turbo Tutor** can sharpen up the fine points. The 300 page manual and program disk divides your study of Pascal into three learning modules:

FOR THE NOVICE: Gives you a concise history of Pascal, tells you how to write a simple program, and defines the basic programming terms you need to know.

ADVANCED CONCEPTS: If you're an expert, you'll love the sections detailing subjects such as "how to use assembly language routines with your **Turbo Pascal** programs."

PROGRAMMER'S GUIDE: The heart of **Turbo Pascal**. This section covers the fine points of every aspect of **Turbo Pascal** programming: program structure, data types, control structures, procedures and functions, scalar types, arrays, strings, pointers, sets, files and records.

A MUST. You'll find the source code for all the examples in the book on the **accompanying disk** ready to compile.

Turbo Tutor may be the only reference on Pascal and programming you'll ever need!

TURBO TUTOR—A REAL EDUCATION FOR ONLY \$34.95.

(not copy-protected)

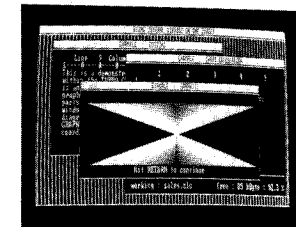
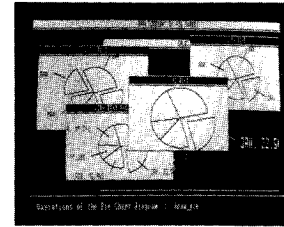
*Minimum System Configuration: **TURBO TUTOR** is available today for your computer running **TURBO PASCAL** for PC-DOS, MS-DOS, CP/M-80, and CP/M-86. Your computer must have at least 128K RAM, one disk drive and PC-DOS 1.0 or greater, MS-DOS 1.0 or greater, CP/M-80 2.2 or greater, or CP/M-86 1.1 or greater.



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TURBO GRAPHIX TOOLBOX™

HIGH RESOLUTION GRAPHICS AND GRAPHIC WINDOW MANAGEMENT FOR THE IBM PC



Dazzling graphics and painless windows.

The Turbo Graphix Toolbox™ will give even a beginning programmer the expert's edge. It's a complete library of Pascal procedures that include:

- Full graphics window management.
- Tools that allow you to draw and hatch pie charts, bar charts, circles, rectangles and a full range of geometric shapes.
- Procedures that save and restore graphic images to and from disk.
- Functions that allow you to precisely plot curves.
- Tools that allow you to create animation or solve those difficult curve fitting problems.

No sweat and no royalties.

You can incorporate part, or all of these tools in your programs, and yet, we won't charge you any royalties. Best of all, these functions and procedures come complete with source code on disk ready to compile!

John Markoff & Paul Freiberger, syndicated columnists:

"While most people only talk about low-cost personal computer software, Borland has been doing something about it. And Borland provides good technical support as part of the price."

Turbo Graphix Toolbox—only \$54.95 (not copy protected).

Minimum System Configuration: Turbo Graphix Toolbox is available today for your computer running Turbo Pascal 2.0 or greater for PC-DOS, or truly compatible MS-DOS. Your computer must have at least 128K RAM, one disk drive and PC-DOS 2.0 or greater, and MS-DOS 2.0 or greater with IBM Graphics Adapter or Enhanced Graphics Adapter, IBM-compatible Graphics Adapter, or Hercules Graphics Card.



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TURBO GAMEWORKS

**Secrets And Strategies Of The Masters Are
Revealed For The First Time**

Explore the world of state-of-the-art computer games with Turbo GameWorks™. Using easy-to-understand examples, Turbo GameWorks teaches you techniques to quickly create your own computer games using Turbo Pascal®. Or, for instant excitement, play the three great computer games we've included on disk—compiled and ready-to-run.

TURBO CHESS

Test your chess-playing skills against your computer challenger. With Turbo GameWorks, you're on your way to becoming a master chess player. Explore the complete Turbo Pascal source code and discover the secrets of Turbo Chess.

"What impressed me the most was the fact that with this program you can become a computer chess analyst. You can add new variations to the program at any time and make the program play stronger and stronger chess. There's no limit to the fun and enjoyment of playing Turbo GameWorks' Chess, and most important of all, with this chess program there's no limit to how it can help you improve your game."

—George Koltanowski, Dean of American Chess, former President of the United Chess Federation and syndicated chess columnist.

TURBO BRIDGE

Now play the world's most popular card game—Bridge. Play one-on-one with your computer or against up to three other opponents. With Turbo Pascal source code, you can even program your own bidding or scoring conventions.

"There has never been a bridge program written which plays at the expert level, and the ambitious user will enjoy tackling that challenge, with the format already structured in the program. And for the inexperienced player, the bridge program provides an easy-to-follow format that allows the user to start right out playing. The user can "play bridge" against real competition without having to gather three other people."

—Kit Woolsey, writer and author of several articles and books and twice champion of the Blue Ribbon Pairs.

TURBO GO-MOKU

Prepare for battle when you challenge your computer to a game of Go-Moku—the exciting strategy game also known as "Pente"™. In this battle of wits, you and the computer take turns placing X's and O's on a grid of 19X19 squares until five pieces are lined up in a row. Vary the game if you like using the source code available on your disk.

Minimum system configuration: IBM PC, XT, AT, Portable, 3270, PCjr, and true compatibles with 192K system memory, running PC-DOS (MS-DOS) 2.0 or later. To edit and compile the Turbo Pascal source code, you must be using Turbo Pascal 3.0 for IBM PC and compatibles.

Suggested Retail Price: \$69.95 (not copy-protected)



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TURBO EDITOR TOOLBOX

**It's All You Need To Build Your Own Text Editor
Or Word Processor.**

Build your own lightning-fast editor and incorporate it into your Turbo Pascal programs. Turbo Editor Toolbox™ gives you easy-to-install modules. Now you can integrate a fast and powerful editor into your own programs. You get the source code, the manual and the know how.

Create your own word processor. We provide all the editing routines. You plug in the features you want. You could build a WordStar®-like editor with pull-down menus like Microsoft's® Word, and make it work as fast as WordPerfect™.

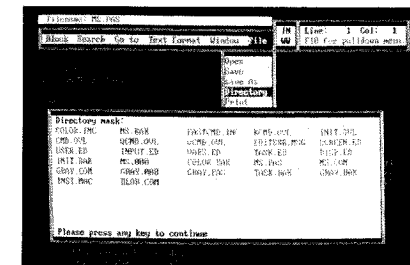
To demonstrate the tremendous power of Turbo Editor Toolbox, we give you the source code for two sample editors:

Simple Editor A complete editor ready to include in your programs. With windows, block commands, and memory-mapped screen routines.

MicroStar™ A full-blown text editor with a complete pull-down menu user interface, plus a lot more. Modify MicroStar's pull-down menu system and include it in your Turbo Pascal programs.

The Turbo Editor Toolbox gives you all the standard features you would expect to find in any word processor:

- Word wrap
- UNDO last change
- Auto indent
- Find and Find/Replace with options
- Set left and right margin
- Block mark, move and copy.
- Tab, insert and overstrike modes, centering, etc.



MicroStar's pull-down menus.

And Turbo Editor Toolbox has features that word processors selling for several hundred dollars can't begin to match. Just to name a few:

- RAM-based editor.** You can edit very large files and yet editing is lightning fast.
- Memory-mapped screen routines.** Instant paging, scrolling and text display.
- Keyboard installation.** Change control keys from WordStar-like commands to any that you prefer.
- Multiple windows.** See and edit up to eight documents—or up to eight parts of the same document—all at the same time.
- Multi-Tasking.** Automatically save your text. Plug in a digital clock... an appointment alarm—see how it's done with MicroStar's "background" printing.

Best of all, **source code is included for everything in the Editor Toolbox.** Use any of the Turbo Editor Toolbox's features in your programs. And pay no royalties.

Minimum system configuration: The Turbo Editor Toolbox requires an IBM PC, XT, AT, 3270, PCjr or true compatible with a minimum 192K RAM, running PC-DOS (MS-DOS) 2.0 or greater. You must be using Turbo Pascal 3.0 for IBM and compatibles.

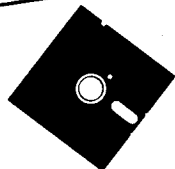
**Suggested Retail Price \$69.95
(not copy-protected)**



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HOW TO BUY BORLAND SOFTWARE

Notes:



BORLAND
INTERNATIONAL

NOT COPY-PROTECTED

For The
Dealer
Nearest
You,
Call
(800)
556-2283



To Order
By Credit
Card,
Call
(800)
255-8008

In California (800) 742-1111

Notes:

Installation of MS-DOS 3.31

Installation of Borland

Cursor arrow ← (ESC)

page

after H

Column selection

after H

Insertion

Control

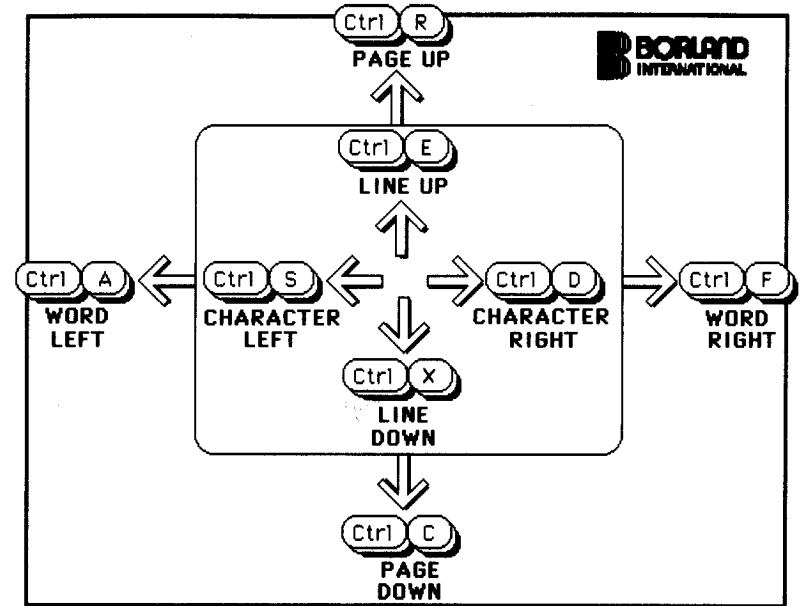
Control

Control

Control

Control

EDITOR QUICK REFERENCE



DELETE		FIND		BLOCK	
Ctrl G	DELETE CHARACTER	Ctrl Q F	FIND	Ctrl K B	← Ctrl K K
Ctrl T	DELETE WORD	Ctrl Q A	FIND & CHANGE	MARK BEGINNING	MARK END
Ctrl Y	DELETE LINE	Ctrl L	REPEAT LAST FIND	Ctrl K T	MARK WORD
		OPTIONS: U = UPPER/LOWER CASE W = WHOLE WORDS ONLY B = BACKWARDS G = GLOBAL N = NO QUESTION		Ctrl K C	COPY BLOCK
				Ctrl K V	MOVE BLOCK
				Ctrl K Y	DELETE BLOCK
				Ctrl K D END EDIT	