BASIC-2C

for the Wang 2200/CS User

NIAKWA

BASIC 2C

THE BASIC-2 LANGUAGE

Basic-2 is a high level programming language based upon the original Dartmouth BASIC. Wang Laboratories incorporated many extensions beyond the Dartmouth specifications into Basic-2C including operating systems-like specifications not normally found in programming languages. The result is that Basic-2C programmers are more efficient and the applications that they develop are often more powerful and complete than competitive applications.

Basic-2 became the standard programming language/operating system for the Wang 2200/CS minicomputer. All applications operating on the Wang 2200/CS series of minicomputers (VP, MVP, LVP, SVP, Micro VP, CS) were developed and are maintained using the Basic-2 language.

By 1989, Basic-2 was in use at over 70,000 end-user sites making it and the Wang 2200/CS one of the computer industries true success stories.

THE BASIC-2C IMPLEMENTATION

Over the years it has become clear to 2200/CS users that the most expensive element of their computer installation is not the hardware, but their investment in software, data files, historical information, operator training, documentation and peripheral devices.

2200/CS users now face a common dilemma - How to use today's high powered, low cost computer technology - while preserving their investment in software, data files, training and documentation?

Niakwa has solved the dilemma with the introduction of Basic-2C. Basic-2C is an enhanced implementation of the Basic-2 language that allows Wang 2200/CS users to operate their software on over 100 of the industry's most popular computers, under seven major operating systems (MS-DOS, Novell Netware, SuperDOS, SCO Xenix V, Altos System V, VMS and Unix V). The transition to Basic 2-C is painless and fast because most programs are fully compatible.

This portability and compatibiliy allows you to choose the hardware and operating system environment which best suits your everchanging and expanding needs while preserving the data processing investment you've already made.

Sound too good to be true? It's not. There are over 30,000 Basic-2C installations, all using software originally developed for the Wang 2200/CS.

Your data processing investment will always be protected because Basic-2C applications are fully object and source code compatible from one machine to the next.* For example, if you outgrow your computer, simply replace it with larger more current equipment and your programs and data files will be fully compatible. Basic-2C users will never have to rewrite programs, rekey data files or retain personnel again.

No other language offers this level of portability and compatibility.

*Dependent upon consistent use of external call feature.

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ENHANCEMENTS FOR THE 2200/CS USER

RELEASE 3

Niakwa's goal is to make Basic-2C not only the most portable language but also the most powerful language available. To that end, we have made numerous enhancements such as:

More terminals - You can have one, a few or a few hundred concurrent workstations on Basic-2C supported hardware platforms.

More disk space - Basic-2C gives you access to the larger, less expensive disk drives that are now readily available.

Larger disk files - Depending upon your application software, your disk files can be up to 4096MB in size. You will never have to split your files onto multiple platters again.

Improved performance - Test results show that Basic-2C is one of the best performing Basic languages. When combined with today's high-performance processors, your applications will run faster than you ever imagined possible, making your computer more productive and your operators more efficient.

2200 peripherals support - Your existing Wang terminals and cabling can be connected to SuperDOS based systems and Altos systems, dramatically reducing your upgrade costs.

Enhanced debugging capabilities - New statements such as LIST STACK, LIST STACK DIM, CONTINUE NEXT/RETURN/LOAD, and extensions to statements such as LIST, HALT/STEP, and TRACE make Basic-2C an even better development language.

Larger partitions - The size of the user partition is limited only by the physical or logical memory made available by the host operating system.

Access to the native environment - $SHELL allows a temporary exit from the Basic-2C environment allowing you to interface with the native operating system. You will always have access to the latest utilities.

Improved security - Our "Gold Key" concept protects your applications from unauthorized duplication.

Printer translation - Non-English character sets are fully supported.

Built-in math coprocessor support - More number crunching power is available and more transcendental functions such as LOG, EXP, SIN, COS, TAN, ARCSIN, STN, LGT, A B are supported.

Help screens - Operator help screens can be added to any Basic-2C program.

Expanded Color/Graphics support - Basic-2C applications have the ability to fully utilize color control sequences to access up to 16 colors.

External call capability - The Basic-2C programming now has the capability to access subroutines and modules written in languages other than Basic-2C from within the Basic-2C program.

By using external calls, popular languages such as "C" and Pascal may be used to streamline Basic-2C applications. At the same time, powerful third party utilities such as graphics packages and data bases may be used to enhance Basic-2C applications.

LANGUAGE COMPATIBILITY CHART

The compatibility chart lists all Wang 2200 Basic-2 statements (through MVP Operating System version 2.3 with some statements from higher operating system versions).

For each command, instruction, and function of the language, the implementation status is indicated with the following fields.

Yes indicates that the command is implemented.

Partial indicates that the command syntax is recognized by Basic-2C as a convenience, but that it is effectively ignored at runtime.

No indicates that the command is unrecognized by Basic-2C.

A complete compatibility chart showing Command extensions and Syntax, Hardware, and Runtime Variances is available upon request.

Niakwa has taken due care in the preparation of this chart. To date, many thousands of Wang 2200 Basic-2 programs of varying scope and complexity have been ported successfully to Basic-2C. It is however the sole responsibility of the programmer to ensure that the required instruction set of the given application software is in fact satisfied by Basic-2C through proper testing procedures.

Command	Implemented Y	Part	N
ABS	X	---	---
ADD [C]	X	---	---
ALL	X	---	---
AND	X	---	---
BIN	X	---	---
BOOL	X	---	---
CLEAR	X	---	---
COM	X	---	---
COM CLEAR	X	---	---
& (Concatenation)	X	---	---
CONTINUE	X	---	---
CONVERT	X	---	---
DAC	X	---	---
DATA	X	---	---
DATE	X	---	---
DEFFN	X	---	---
DEFFN'			
keyboard input def.	X	---	---
subroutine entry point	X	---	---
DEFFN @ PART	---	X	---
DIM	X	---	---
DO/ENDO	X	---	---
DSC	X	---	---
ELSE	X	---	---
END	X	---	---
ERR	X	---	---
ERR$	---	---	X
ERROR	X	---	---
EXP	X	---	---
FIX	X	---	---
FOR...TO	X	---	---
GOSUB	X	---	---
GOSUB'	X	---	---
GOTO	X	---	---
HALT/STEP	X	---	---
HEX	X	---	---
HEXPACK	X	---	---
HEXPRINT	X	---	---
HEXUNPACK	X	---	---
IF...THEN	X	---	---
IF END...THEN	X	---	---
IMAGE (%)	X	---	---
INIT	X	---	---
INPUT	X	---	---
INPUT SCREEN	X	---	---
INT	X	---	---
KEYIN	X	---	---
LEN	X	---	---
LET (Alpha Assignment)	X	---	---
LET (Numeric Assignment)	X	---	---
LGT	X	---	---
LINPUT	X	---	---
LIST (D,#,V,',T)	X	---	---
LIST DT	X	---	---
LIST I	---	---	X
LOG	X	---	---
MAT + (addition)	X	---	---
MAT CON (constant)	X	---	---
MAT CONVERT	X	---	---
MAT COPY	X	---	---
MAT = (Assignment)	X	---	---
MAT IDN (identity)	X	---	---
MAT INPUT	X	---	---
MAT INV (inverse)	X	---	---
MAT MERGE	X	---	---
MAT MOVE	X	---	---
MAT* (multiplication)	X	---	---
MAT PRINT	X	---	---
MAT READ	X	---	---
MAT REDIM	X	---	---
MAT ()*			
(scalar multiplication)	X	---	---
MAT SEARCH	X	---	---
MAT SORT	X	---	---
MAT - (subtraction)	X	---	---
MAT TRN (transposition)	X	---	---
MAT ZER (zero)	X	---	---
MAX	X	---	---
MIN	X	---	---
MOD	X	---	---
NEXT	X	---	---
NUM	X	---	---
ON ERROR	X	---	---
ON/GOTO	X	---	---
ON/GOSUB	X	---	---
ON/SELECT	X	---	---
OR	X	---	---
PACK	X	---	---
PLOT	---	---	X
POS	X	---	---

Command	Implemented Y	Part	N
PRINT	X	---	---
-AT function	X	---	---
-BOX function	X	---	---
-HEXOF function	X	---	---
-TAB function	X	---	---
PRINTUSING	X	---	---
PRINTUSING TO	X	---	---
READ	X	---	---
REM	X	---	---
RENUMBER	X	---	---
RESET (key)	X	---	---
RESTORE [LINE]	X	---	---
RETURN	X	---	---
RETURN CLEAR	X	---	---
RND	X	---	---
ROUND	X	---	---
ROTATE	X	---	---
RUN Command	X	---	---
RUN Statement	X	---	---
SELECT			
DEGREES, RADIANS, GRADS	X	---	---
ERROR (>error code)	X	---	---
LINE	X	---	---
[NO] ROUND	X	---	---
PAUSE [digit]	X	---	---
CI, INPUT	X	---	---
CO, PRINT, LIST	X	---	---
PLOT, TAPE, DISK	X	---	---
#file/device-address	X	---	---
ON [dev adrs [GOSUB line]]	---	X	---
ON CLEAR	---	X	---
OFF [dev adrs [GOSUB line]]	---	X	---
DRIVER	---	X	---
TC	---	X	---
TERMINAL	---	X	---
SELECT @ PART	X	---	---
SGN	X	---	---
SPACE	X	---	---
SPACEK	X	---	---
Special FN keys			
(function calls)	X	---	---
SQR	X	---	---
STMT NUMBER key	---	---	X
STOP - statement	X	---	---
STR	X	---	---
SUB (C)	X	---	---
TIME	X	---	---
TRACE [OFF]	X	---	---
Trig functions			
SIN,COS, TAN, ARCSIN,			
ARCCOS, ARCTAN, ATN	X	---	---
UNPACK	X	---	---
VAL	X	---	---
VER	X	---	---
XOR	X	---	---
$ALERT	---	X	---
$BREAK	X	---	---
$CLOSE	X	---	---
$DISCONNECT	---	X	---
$FORMAT	---	X	---
$GIO	X	---	---
$IF ON/OFF	X	---	---
$INIT	---	---	X
$MSG	X	---	---
$OPEN	X	---	---
$PACK	X	---	---
$PSTAT	X	---	---
$RELEASE PART	---	X	---
$RELEASE TERMINAL	X	---	---
$SELECT	X	---	---
$TRAN	X	---	---
$UNPACK	X	---	---
#ID	X	---	---
#PART	X	---	---
#PI	X	---	---
#TERM	X	---	---
Disk Commands			
COPY	X	---	---
DATA LOAD BA	X	---	---
DATA LOAD BM	X	---	---
DATA LOAD DA	X	---	---
DATA LOAD DC	X	---	---
DATA LOAD DC OPEN	X	---	---
DATA SAVE BA	X	---	---
DATA SAVE BM	X	---	---
DATA SAVE DA	X	---	---
DATA SAVE DC [END]	X	---	---
DATA SAVE DC CLOSE	X	---	---
DATA SAVE DC OPEN	X	---	---

Command	Implemented Y	Part	N
DBACKSPACE	X	---	---
DSKIP	X	---	---
IF END THEN	X	---	---
LIMITS T	X	---	---
LIMITS T (Name)	X	---	---
LIST DC T	X	---	---
LOAD Command	X	---	---
LOAD Statement	X	---	---
LOAD DA Command	X	---	---
LOAD DA Statement	X	---	---
LOAD RUN	X	---	---
MOVE	X	---	---
MOVE END	X	---	---
MOVE FILE	X	---	---
RENAME	X	---	---
RESAVE	X	---	---
SAVE	X	---	---
SAVE DA	X	---	---
SCRATCH DISK	X	---	---
VERIFY	X	---	---
$FORMAT DISK	X	---	---
Other Commands			
DATA LOAD BT	---	---	X
DATA SAVE BT	X	---	X
Other considerations			
GLOBAL PARTITIONS	---	---	X
LOCAL PRINTERS	X	---	---
Basic-2C Commands/System Variables (not supported on Wang 2200 Basic-2)			
CONTINUE LOAD (Rev. 2.00)	X	---	---
CONTINUE NEXT (Rev. 2.00)	X	---	---
CONTINUE RETURN (Rev. 2.00)	X	---	---
$BOXTABLE (Rev. 1.03)	X	---	---
DELETE (Rev. 3.00)	X	---	---
$DEMO (Rev. 2.00)	X	---	---
$DET (Rev. 3.00)	X	---	---
$DEVICE (Rev. 1.02)	X	---	---
$END (Rev. 1.03)	X	---	---
#GOLDKEY (Rev. 1.03)	X	---	---
$HELP (Rev. 1.02)	X	---	---
$HELPINDEX (Rev. 1.03)	X	---	---
$KEEPREMS (Rev. 2.00)	X	---	---
$KEYBOARD (Rev. 1.03)	X	---	---
LIMITS INDEX (Rev. 3.00)	X	---	---
LIST DIM (Rev. 2.00)	X	---	---
LIST STACK (Rev. 2.00)	X	---	---
LIST STACK DIM (Rev. 2.00)	X	---	---
LOAD BOOT (Rev. 2.00)	X	---	---
$MACHINE (Rev. 1.03)	X	---	---
NEXT CLEAR (Rev. 3.00)	X	---	---
$NUMBERS (Rev. 2.00)	X	---	---
$OBJECT (Rev. 2.00)	X	---	---
$OPTIONS (Rev. 1.03)	X	---	---
$OSERR (Rev. 3.00)	X	---	---
PRINT SCREEN (Rev. 3.00)	X	---	---
PRINT TO (Rev. 3.00)	X	---	---
$PRINTER (Rev. 2.01)	X	---	---
$PROGRAM (Rev. 3.00)	X	---	---
READ DC (Rev. 3.00)	X	---	---
REM $PC (Rev 1.02)	X	---	---
$REV (Rev. 3.00)	X	---	---
SAVE BOOT (Rev. 2.00)	X	---	---
SELECT LISTLINE (Rev. 3.00)	X	---	---
SELECT LOG (Rev. 3.00)	X	---	---
SET DATA (Rev. 3.00)	X	---	---
SET PROGRAM (Rev. 3.00)	X	---	---
$SHELL (Rev. 2.00)	X	---	---
$SCREEN (Rev. 1.03)	X	---	---
$SOURCE (Rev. 2.00)	X	---	---
SPACEF (Rev. 3.00)	X	---	---
SPACEP (Rev. 2.00)	X	---	---
SPACEV (Rev. 2.00)	X	---	---
SPACEW (Rev. 3.00)	X	---	---
STEP (Rev. 2.00)	X	---	---
STEP # (Rev. 2.00)	X	---	---
STEP OFF (Rev. 2.00)	X	---	---
$TAB (Rev. 3.00)	X	---	---
TRACE # (Rev. 2.00)	X	---	---
TRACE ' (Rev. 2.00)	X	---	---
TRACE V (Rev. 2.00)	X	---	---
UNSCRATCH (Rev. 3.00)	X	---	---

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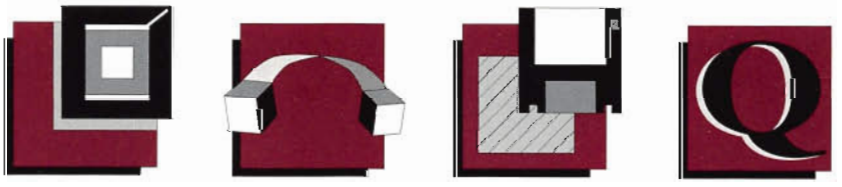
BASIC-2C



The cover design, created by Frank Scribano and John Meneely of Available Business Printing, depicts the four cornerstones of Niakwa's strategy – Portability, Compatibility, Capability, and Quality & Service.

Introduction

As a software author, you face difficult decisions every day. One of the most critical is choosing the development environment in which you will create your application software.

A wrong choice here could mean lost productivity, loss of your competitive edge or potential entrapment by a particular technology.

Basic-2C minimizes your risk with a four-part strategy that will help you deal with the ever-changing needs of your customers.

Portability

Basic-2C operates on an impressive range of workstations, PCs, minicomputers, microcomputers and networks while supporting an equaly broad number of operating systems. Basic-2C's portability allows you to choose the environment best suited to your market. It provides its users with the security of knowing their software investment will be protected when moving applications from one operating environment to the next.

Compatibility

Portability, in its truest sense, provides the means to easily support a wide range of hardware and operating system technologies through a common set of application source code.*

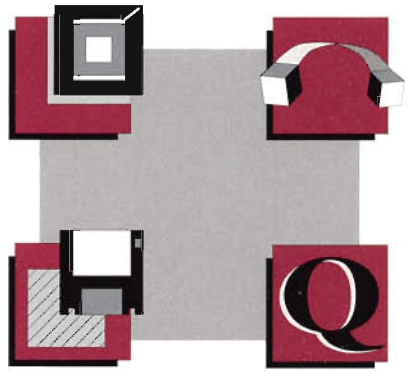
Basic-2C has achieved this goal — it is fully object binary compatible across all supported platforms. This means that Basic-2C applications never need expensive conversions, translations or ports when they are moved from one hardware/operating system technology to another. Just load the programs and run!

Basic-2C's compatibility, combined with its portability, protects the investment made not only in software but in data files, operator training and procedures.

Capability

Basic-2C provides developers with the tools needed to develop robust applications quickly and efficiently. These applications are often the leaders in their respective markets. This is possible because Basic-2C's advanced program development aids enable programmers to become more productive and applications more competitive.

In addition, Niakwa Gateways "opens" the Basic-2C language to the capabilities of the native hardware and software technologies encountered through portability. For example, if there is a third party utility that is perfectly suited to your application, Basic-2C probably provides access to it.



Quality & Service

Portability, compatibility, and capability — three cornerstones of a strategy that will keep your applications at the forefront for years to come.

Niakwa completes the foundation of a solid strategy with rigid quality and service standards that have earned the respect of our customers worldwide.

**Assuming consistent use of external calls.*

Portability

Basic-2C is one of the world's most portable languages.

The entire Basic-2C environment is portable. The rich library of proven Basic-2C software, the power of Basic-2C development, the ease of Basic-2C support and the speed of Basic-2C execution are available on over 100 of the computer industry's most popular computers, supporting six major operating systems — MS-DOS, Netware, SuperDOS, UNIX, VMS and XENIX.

For the software author and end-user alike, portability ensures immunity from the ebbs and tides of hardware and operating system favor. It provides an ever-widening freedom of choice and protects investments made in software, data and training.

An additional benefit of Basic-2C's portability is increased sales potential for software authors by providing them with the ability to rapidly and economically explore new and promising hardware and systems software technologies.

Finally, Basic-2C's portability reduces your application's dependence on any one technology, thereby contributing significantly to the application's long term viability.

True portability is just one reason Basic-2C has become the development environment of choice for software developers worldwide.

Compatibility

To have portability, compatibility is a must.

Your application may target a mix of PCs, local area networks (LANs), minis and mainframes with combinations of operating systems. However, you cannot easily support your application on multiple platforms or grow into new platforms unless your application is compatible on all target environments.

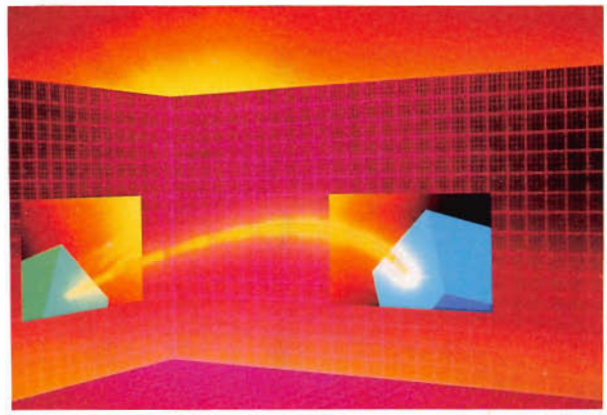
Basic-2C has achieved compatibility by maintaining a standard of implementation. Applications operate the same regardless of the hardware and operating system platform on which they are being used.*

Niakwa's compatibility permits shared applications among departments using different processors or upgrades to new technology with virtually no changes. You will never have to rewrite programs, rekey data files, or retrain personnel when you choose Basic-2C as your development environment.

An added dimension to Basic-2C's compatibility is its compatibility with other popular software products and utilities. Through the use of Niakwa Gateways Basic-2C developers have access to products not written in Basic-2C that may be used to enhance their application or add capabilities needed to be compatible with other environments.

As an example, PC users can use MS windows to enhance their application while other users may use Niakwa Gateways to access additional communication products necessary to interface with remote offices.

Basic-2C's unique compatibility means that you will not have to rely on a single supplier for software innovation. If a software product has been developed, Niakwa Gateways and Basic-2C will likely provide you access to it.



Assuming consistent use of external calls.

Capability

Basic-2C provides developers with the tools necessary to produce robust applications quickly and efficiently.

The power of Basic-2C is apparent in the applications developed with it. Basic-2C has been used to develop spread sheets, data base systems, word processors and even fourth generation languages, not to mention the thousands of business, engineering and scientific applications utilized by end-users worldwide.

Basic-2C programmers can produce more powerful applications in less time than other languages because it is an easy-to-use interactive development environment that is loaded with programmer-friendly features.

Basic-2C Interpreter

As an incremental compiler, Basic-2C provides the programmer with the productivity features of an interpreter while providing execution performance close to that of a compiler.

This interpretive development environment reduces development time by eliminating the compilation step. Source code is 'compiled' as it is entered with immediate syntax checking. 'Compiled' code is stored internally in a psuedo code format and is ready for execution and testing immediately. No "compile, correct, recompile, execute" syndrome. Just enter the program and run!

Immediate Mode

Basic-2C's powerful immediate mode provides superior testing and debugging capabilities. Because all immediate mode capabilities can work directly with Basic-2C 'object' code, they can also be utilized to trouble shoot specific end-user problems during development. Immediate mode provides the following capabilities:

- ☐ Program listing functions: variable, line number, and subroutine cross reference features.
- ☐ Program renumbering and merging.
- ☐ Specification of line number range when saving programs.
- ☐ Halt programs at any time.
- ☐ Examine or modify variables at execution time.
- ☐ Display status of internal variable stack or subroutine stack at execution time.
- ☐ Set break points based on line number range, variable range, or subroutine range.
- ☐ Single step through programs with the ability to temporarily turn off step mode during execution of for/next loops, subroutines, or even entire programs.
- ☐ Generate diagnostic trace output showing program logic flow, variable status and/or subroutine usage.

Good Prototyping Capability

The interactive development of Basic-2C provides an excellent method of quickly developing application prototypes.

Technology Gateway

The computer industry is continually producing new and exciting products that developers and end-users alike can use to improve their data processing systems. With Basic-2C, there is no need to wait to reap the benefits of this new technology because Basic-2C offers gateways to the new technology.

Software Gateway

Niakwa Gateways provide you, the software developer, with the capability to access subroutines and modules written in languages other than Basic-2C from within your Basic-2C program. Using Niakwa Gateways, popular languages such as "C" and Pascal may be used to streamline Basic-2C applications. Powerful third party utilities such as graphics packages, access methods and data bases may be used to enhance Basic-2C applications. In addition, you will be able to incorporate third party library routines for functions such as enhanced communications capabilities, mathematical functions and routines that fully utilize co-processors.

Hardware Gateway

Advances in hardware technology constantly present users with opportunities and choices — opportunities to improve capacity and performance with new innovations; choices between uninterrupted software use and system conversion. Basic-2C operates on over 100 of the computer industry's most popular platforms and is fully compatible from one machine to the next.

Basic-2C allows developers to incorporate the latest hardware and software technology into their applications. In short Basic-2C gives you access to today's advanced hardware and software technology unmatched in the software industry.

Powerful Utilities

An unique characteristic of the Basic-2C language not found in other languages is the incorporation of many operating system-like specifications in its language definition. As a result, Basic-2C is more powerful and applications developed with Basic-2C are often stronger and more portable.

One example of this, is a detailed and flexible protocol for controlling external devices (such as work-stations, disk devices and printers) and communica-tions devices that are formalized as an integral part of the Basic-2C language itself.

Specifications such as these, which are internal to the Basic-2C language, tend to form a consistent "shell" around applications written in Basic-2C. This "shell" contributes significantly to their portability to new operating systems and hardware.

Support for International Applications

Basic-2C is an excellent choice for developing applications in languages other than English. This is because Basic-2C allows remapping of the keyboard, screen, and printer. Remapping may be accomplished by use of language-level statements or by user-friendly utilities that are provided in the Basic-2C Development Package.

Language Features

Basic-2C is a highly enhanced version of Dartmouth Basic. The richness of the language allows for development of much more sophisticated applications than can be developed with more traditional Basic languages:

- Matrix support. Sophisticated instructions allow complex manipulation of matrix data including search, sort and merge for alphanumeric data and mat math statements for numeric data.
- Sophisticated data conversion statements allow for easy conversion of data between internal numeric, alphanumeric, binary and floating point formats. In addition, IBM Display format, IBM USACII format and IBM packed decimal format are fully supported.
- Bit level manipulation such as Boolean operations and Rotate are fully supported. In addition, statements for binary addition and subtraction are present.
- A complete math package suitable for development of scientific or engineering applications is incorporated with accuracy to 13 significant digits.
- Blocked IF/THEN statements are supported with nesting up to any level.
- INPUT SCREEN/ PRINT SCREEN allows for easy development of pop-up type features.
- Direct access to non-Basic-2C data files is easily accomplished in Basic-2C. A Basic-2C application can easily exchange data with non-Basic-2C applications.

Product Level Features

Basic-2C includes a comprehensive set of features requiring little or no 'programming' that enhance the salability and friendliness of Basic-2C developed applications.

Help

Basic-2C developed applications can be "user-friendly" through the use of a comprehensive HELP sub-system. This sub-system may be used to implement on line documentation and "help" screens with minimal programming effort.

Basic-2C allows for the execution of user-specified programs via a SHELL interface. This can be invoked either under program control or directly by the end user through the HELP sub-system.

The Demonstrator

If you are a reseller, Basic-2C helps sell your application with its "demonstrator" capability.

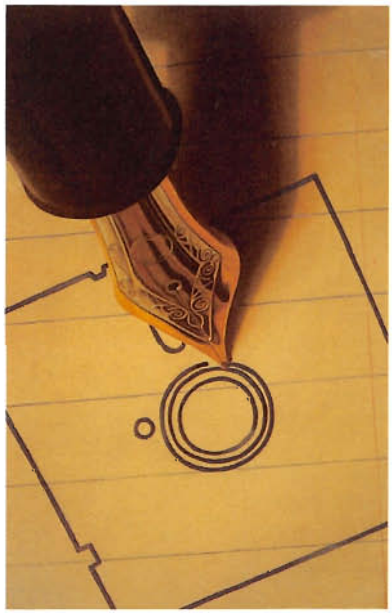
The Basic-2C's "demonstrator" allows developers to build a self-running demonstration of their application by "remembering" key strokes in an ASCII file and allowing special syntax to be placed in the files that is later displayed as special information during the demonstration. The result — a customized demonstration of your software on a limited use basis. It is perfect for reaching prospects where you do not have a sales office.

Some creative Basic-2C users have used the Basic-2C "demonstrator" capability as an educational tool by creating self-running training courses.

Utilities

The Basic-2C Development Package includes a comprehensive set of utilities that easily and efficiently handle the everyday yet critical tasks associated with the maintenance of application software.

- ☐ End-users and developers alike can protect their software investment with easy to use backup and restore utilities especially designed to work with Basic-2C diskimage files.
- ☐ Disk management is simplified with a suite of utilities allowing for the creation, listing, and modification of Basic-2C diskimage files.
- ☐ New hardware/operating system environments can be quickly and easily supported through the use of Niakwa's utilities. Utilities for modifying screen, keyboard and printer mapping are provided.



Quality & Service

Niakwa has established Basic-2C as one of the world's most portable languages by making it source and object code compatible on all platforms it supports.

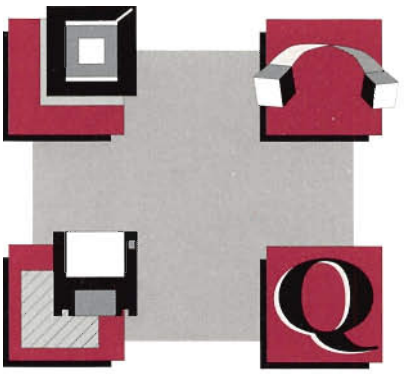
Additionally, Basic-2C is one of the finest development environments available, as is evidenced by the applications developed with it. From order entry systems to engineering applications, from spread sheets to fourth generation languages, the thousands of applications developed in Basic-2C are solid — often leaders in their markets.

To round out the Basic-2C story, Niakwa has established rigid quality and service standards that have earned the accolades of Basic-2C users worldwide. As one user put it, "Basic-2C is like a Swiss watch — it never breaks."

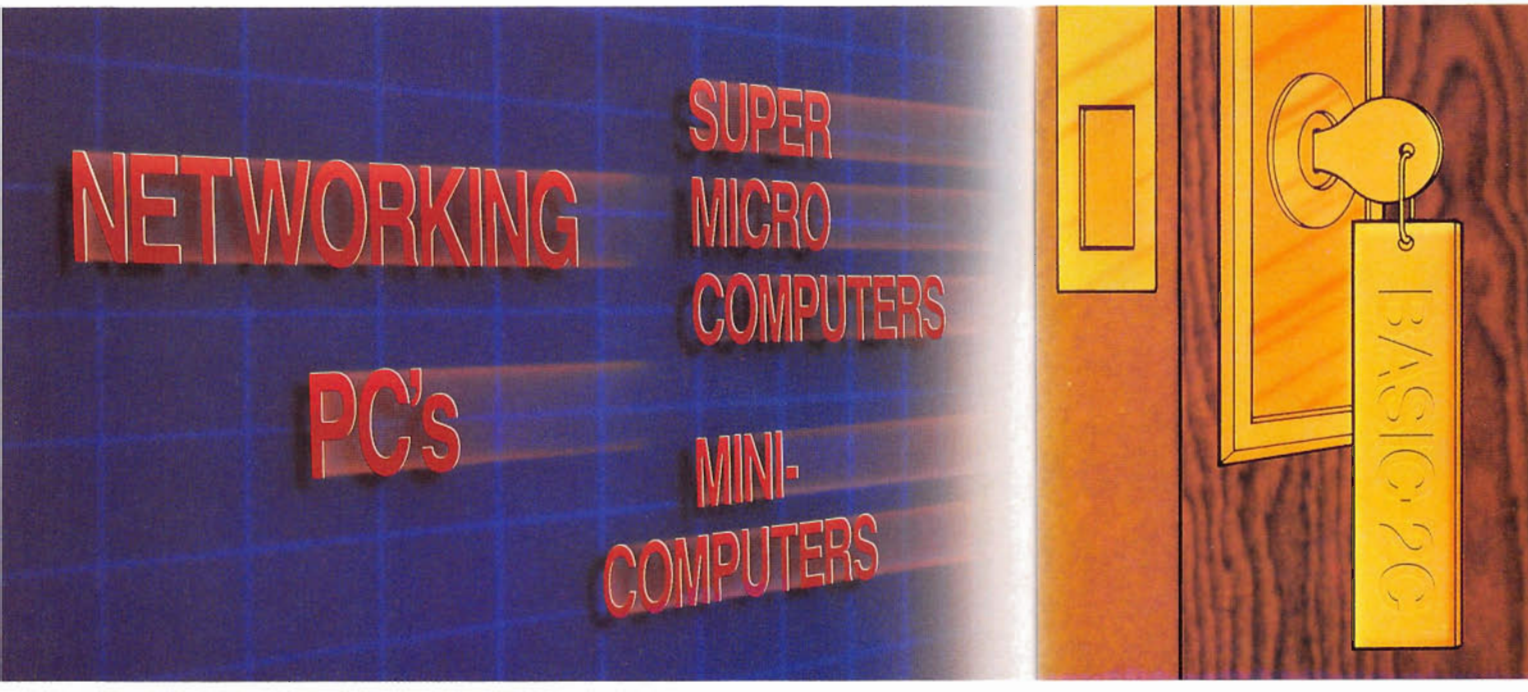
Niakwa has built a reputation for on-time product deliveries, solid technical, sales and administrative support, and a high quality product that we strive to maintain every day.

As a result, Basic-2C has become one of the world's leading Basic languages with over 70,000 users.

Basic-2C — the development environment of choice for software developers worldwide.



What Language Opens the Door to All of These Technologies?



Basic-2C From Niakwa!!!

Basic-2C is an enhanced implementation of the Basic-2 language that allows Wang 2200 users to operate on over 100 of the industry's most popular computers, under six major operating systems -- SuperDOS, MS-DOS, Novell, Xenix, Unix, and VMS from Digital.

This portability allows you to choose the hardware and operating system environment which best suits your ever-changing and expanding needs. Because Basic-2C is fully compatible from one machine to the next, your data processing investment will always be protected. You will never have to rewrite programs, re-key data files or retrain personnel again.

No other language offers this level of portability and compatibility.

Niakwa Management Services of America, Inc.,
23600 N. Milwaukee
Mundelein, IL 60060
(312) 634-8700
Gentlemen, please rush me information on Basic-2C

Name _____ Title _____
Company _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Ext _____

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