

NIAKWA

Newsletter

NIAKWA MANAGEMENT SERVICES OF AMERICA INC.
3000 Dundee Road, Northbrook, Illinois 60062
Telephone (312) 291-0850 Telex 3719965 NIAK UB

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This newsletter will be provided as an on-going service to Basic-2C licensees. The purpose of this newsletter is to provide general news and information on procedures, hardware products and software products which may be useful to you in your pursuits with Basic-2C. In cases where a product or service is provided by a third party, we will many times test the product and give our opinion as to it's functionality. Please be advised however that Niakwa assumes no responsibility for the performance of any non-Niakwa products and services discussed.

MS-DOS and MultiPlan are registered trademarks of Microsoft Corporation. LOTUS 123 is a registered trademark of Lotus Development Corporation. IBM is a registered trademark of International Business Machines Corporation. Wang is a registered trademark of Wang Laboratories Inc.. Wang 2200, Wang Basic-2, and Wang PC Basic-2 are or may be registered trademarks of Wang Laboratories, Inc..

GET READY!... THE APC IS COMING!

By now you are sure to have heard about Wang's new multi-user Advanced PC. The APC will immediately support two operating systems, single user MS-DOS and multi-user XENIX. We are pleased to announce that a fully compatible version of the Basic-2C Compiler will be available on the APC under both operating systems. Full details on Basic-2C delivery dates, pricing, performance, etc., will be forthcoming in the very near future.

We have been working on the APC in close cooperation with Wang over the past several months. As a result of our experience with the machine, we feel that the APC represents a serious hardware solution for Basic-2 software authors who target the 2-4 station multi-user market.

For those licensees interested in getting into this dynamic new market with a minimum of delay, we strongly suggest that you get your APC hardware order into the queue with Wang now! Wang is accepting orders. Contact your local Wang ISO representative for APC pricing, configuration, delivery dates, and ordering.

More details to follow.

COMPILER TRAINING SEMINARS

Niakva is pleased to announce Compiler Training Seminars. These seminars are intended to provide the Basic-2C licensee with hands on training in using the compiler. Initial seminars will be geared towards the novice user. Seminars on advanced topics will be added in the future. For further details, see the enclosure on compiler training or contact Mr. Mark Phinick at (312) 291-0850.

HARDWARE PRODUCT REVIEWSMAGNA REMOVABLE WINCHESTER - PRODUCT EVALUATIONProduct Description:

This is a Wang PC compatible removable winchester drive. The primary use of this unit will be to provide superior backup capabilities to systems with fixed storage. The removable is available as an external unit or can be installed internally. The unit is half height, and so may be installed in combination with half-high removable winchesters. Magna also markets half-high non-removable drives in 10/20/30 MB capacities which can be controlled from the same board (no such fixed drive was evaluated).

Features:

- * The removable media is a 10 MB disk cartridge.
- * Supplied with the removable drive is a user-friendly backup/restore utility.
- * The disk controller board includes a battery backed system clock. This makes it easy to keep the correct time and date on the system, which means that modification dates of files can be used to do meaningful partial backups.
- * Quiet operation.
- * Fast power-up and down.
- * The controller board can also handle a winchester drive, available from Magna (not evaluated) or Wang winchester (requires longer cables, not evaluated).
- * The unit has a piggyback power outlet.

Non-features:

- * Controller card switch settings depend on installation slot - a nuisance.
- * A buffering problem with MS-DOS is yet to be resolved (see evaluation notes for detail).
- * The connector cable is a fat one, making installation a bit awkward, but the shielding is probably worth it. There appears to be no way of securing the cable with screws.
- * The removable drive responds to requests for drive D: or E: on my system. I'm not sure this is a good idea.

Evaluation notes:

The removable capacity can also be used for on-line storage, but before using it you should consider how you would make backup copies of data stored on a removable pack. It will probably require clearing off a large amount of the fixed drive so that this can be used as a temporary area. Such a procedure may be too disruptive to be done on a regular basis. Access times to the drive is a little slower than to a fixed winchester, but still respectable for a winchester.

The controller board is quite simple to install (except for switch settings as noted). It may require relocating an existing Winchester controller to slot 4 in order that the PC will boot from the correct drive.

The documentation is well done, overall. It even has pictures! Data transfer rates are very good, approximately 3MB/minute for large (diskimage type) files, approx 30 files/minute for many small files.

Backup program is excellent. In combination with the battery backed clock, a great deal of flexibility is provided. Some small corrections would make the program even better (see section at end).

Removable cartridges must be formatted prior to using with backup program. The format time is about 10 minutes with standard format program. Media cost for the cartridges is about \$100 each, which is comparable to floppies assuming you get full use from each cartridge.

Overall, addition of the drive to any system opens up a large number of possibilities. As a backup device it wins hands down over floppies or tape drives, in my opinion.

The only serious problem:

MS-DOS does not recognize changing of removable packs on the Magna. This could cause a serious problem in that MS-DOS uses a buffering technique to minimize physical disk I/O. Since changing of packs is not recognized, buffers are not cleared and subsequent reads may return information which has been retained in a buffer and is actually from the disk previously mounted.

This problem can be minimized by setting the BUFFERS option in the CONFIG.SYS file to a low number (8 or 10). The lower the number of buffers allocated, the lower the chance that information from the removable pack will actually be stored in the buffer (MS-DOS uses several buffers for its own use). However, this in itself may be a problem since the 1.01.05 release of networking recommends BUFFERS=30. I would point out that this may be a problem that MS-DOS has in general with removable winchesters, rather than with the Magna drive itself. Regardless, it is cause for concern and until the problem is resolved, keep the number of buffers to a minimum (8 is probably the maximum which is safe).

Please note, this buffering problem does NOT affect the use of the Magna removable as a backup device. Only on-line use of the removable could be affected by this problem.

Comments on backup program

- * The backup program will not create the main destination directory on the removable pack (a minor inconvenience).
- * There does not appear to be any provision for multivolume backup of extremely large files. Consequently backing up a disk image file which is larger than 10MB will require software other than that provided.
- * If a cartridge is write protected, diagnostics are not very informative.
- * It is probably not a good idea to call this program BACKUP.EXE, since use of the standard backup programs (for data transport to other systems) may still be required. Also, the new Wang operating system release (2.01) has a BACKUP.MSG file, which results in a direct name conflict.

Summary

Except for the few problems noted, the drive is a useful addition to the Wang PC product.

WANG PRINTER PM014

Wang's serial daisy wheel printer PM014 has a unique design feature which makes it unusable with compiled Basic-2C programs. In order to support non-English character sets, Wang designed the printwheel of the PM014 so that the characters 1 (number 1) and \$ (dollar sign) do not exist. The PM014 comes with a special printer driver which will translate the number 1 into a lowercase L (l) and will translate the dollar sign into slash (/), backspace, lowercase S (s). This works fine for programs such as Wang WP which utilize the character translation feature of the standard printer driver. Unfortunately, Basic-2C prints in transparent mode. That is, the character translation feature is NOT used by Basic-2C. The result is that wherever a Basic-2C program attempts to print the number 1 or a dollar sign, characters from the non-English character set are printed instead. Many other programs, including LOTUS 123, will have the same problem with this printer. There is no good solution other than to avoid configuring systems with the PM014.

IBM EMULATION CARD FOR THE WANG PC

Use of the IBM PC Monochrome Emulation Option on the Wang PC has no adverse effect on the Wang version of the compiler and RunTime programs. All screen handling routines, including graphics if a graphics board is present, work the same as on a standard monochrome controller.

Note to users of 30 meg drives and IBM Emulation: in order to use IBM Emulation, you must partition your 30 meg drive. This requires that you use version 2.01 of the Wang PC Operating system.

APPLICATION STATUS

This section of the newsletter deals with the status of various applications packages running under Basic-2C. Much of the information in this section has been provided by Basic-2C licensees. Niakva accepts no responsibility for the accuracy of this information or the performance of the applications discussed.

AIMS (Advanced Information Management Systems) release 4.0 is currently available and compatible with Basic-2C.

IDEAS: Users of the Wang IDEAS Utility should note our bug bulletin for Rev. 1.03. The bug in the implementation of the \$GIO microcommand 7105 particularly affects IDEAS applications. See the bug bulletin included with all Rev. 1.03 compiler upgrades and shipments for details.

IDEAS 2: Some users of Wang IDEAS 2 have reported that there is some code generation logic in this utility. Has anyone worked around this?

SORT 4: In our previous newsletter (11/28/84) we noted that the Wang Sort 4 Utility had some program generation logic and asked our licensees to contribute suggestions for solutions. We have received responses from several vendors. The general solution to this problem involves the following steps:

- I. During development of a Sort 4 application, for each different sort required:
 - A. Allow Sort 4 to generate code as normal.
 - B. Capture the generated code.
 - C. Compile the generated code, using a unique name for the output compiled program.
- II. For actual end use:
 - A. Modify Sort 4 so that instead of generating a program and then loading it and executing it, Sort 4 will directly load and execute the pre-compiled program created in step I above.

Mike Pollack of DME Systems, Inc., Tampa, Florida, has provided Niakva with a letter detailing this procedure. Mike also reports in his letter that the same technique must be used with the Reorganize/Rebuild subsystem under KFAM. Please contact Harry Cohn at Niakva for a copy of this letter. Thanks, Mike!

Raleigh Mangus of Archway Systems has advised us that Archway Systems can also provide details to the solution of the Sort 4 problem. For further information, please contact:

Raleigh Mangus
Archway Systems
5220 NE Sandy Blvd.
Portland, OR. 97213
(503)-287-7365

The Office Manager (TOM) SPEED I Utility release 2.2 is currently available and compatible with Basic-2C. This release contains many enhancements over release 2.1.

PORTING TO THE PC - UPDATE

In our first newsletter, we presented three alternative methods of porting programs and data from a Wang 2200 to a Wang PC for use with our compiler. Here is an update on these methods along with some suggested methods for porting from the 2200 to the IBM PC.

2275 5-1/4" DISKETTE DRIVE

Use of 5-1/4" diskettes remains the quickest and most reliable method of porting programs and data from the 2200 to the PC. The Basic-2C Compiler and RunTime programs have the ability to access 5-1/4" diskettes in 2200 format on both the Wang and IBM version. A set of backup and file copy utilities is provided with the development package to make the port as smooth as possible. If you do not have access to a 5-1/4" diskette drive on your 2200, you will have to use a telecommunications program to perform the transfer. Several such programs are reviewed below.

THE WANG PC 2200 SUPPORT UTILITIES

This Wang product is intended to allow the user to transfer files from a 2200 to a Wang PC and back via asynchronous communications. See our first newsletter for a detailed review. Unfortunately, although this product is listed in the Wang price book (part # PC-SS017-X) and Wang has been taking orders for it, actual delivery of the product has been extremely slow. This product is for the Wang PC only.

"THE CABLE"

"The Cable" is a transfer package developed by Basic Computer Services, Inc. (BCS), and SR Squared Computer Software, Inc.. The original version of this product which transferred files from a Wang 2200 to a Wang PC was reviewed in our first newsletter. Since then, BCS has made two significant enhancements to this product:

1. BCS has announced that a version of "The Cable" for file transfer to the IBM PC and compatibles will soon be available. A review of a preliminary version of this product shows that the same ease of installation, ease of use, and reliability as the Wang version has been maintained on the IBM version. The IBM version of "The Cable" does require an asynchronous communications package which supports XON/XOFF on the IBM PC. BCS is able to supply appropriate Asynch software.
2. Both the Wang and IBM versions of "The Cable" now will work with an MXE board or a 2227 telecommunications board on the 2200. Previously it worked only with the 2227 board.

For further information on "The Cable", please contact:

Basic Computer Services, Inc.
3699 Sauk Trail
Richton Park, IL. 60471
(312)-748-7290

McCARTHY & ASSOCIATES

McCarthy and Associates has developed a terminal emulation and file transfer program for the IBM PC. In addition to a good 2200 terminal emulation package, the software includes a file transfer capability which allows you to transfer 2200 files or disk platters to the IBM PC for use with our compiler. A review of a preliminary version of the file transfer program shows that it is easy to use and install. It also supports baud rates up to 19200 for both terminal emulation and file transfer.

A particular advantage of this program is that no special hardware or software is required. The IBM PC may be connected through it's serial port to a standard terminal port (MXD or MXE) on your 2200 using a standard 2200 terminal cable with the special connector (gender swapper) provided with the package.

This product is currently not available for use on the Wang PC.

For further details, please contact:

McCarthy & Associates
5909 Carter Avenue
Bakersfield, CA. 93308
(805) 324-4291

SHARING DATA BETWEEN BASIC-2C FILES AND MS-DOS PROGRAMS

One of the primary advantages of our compiler is that it allows programs written in the Wang Basic-2 language to operate on industry compatible hardware. In order to further increase the marketability of 2200 applications, it is essential that not only do the applications operate on PCs, but that they are capable of sharing data with the vast number of successful MS-DOS programs such as LOTUS 123.

PROGRAMMING METHODS

Revision 1.03 of Basic-2C has provisions which will allow standard MS-DOS files to be read into a Basic-2C program via \$GIO input statements. See section 5-3, \$GIO, of the Reference Guide for details.

Basic-2C also has provisions to allow data from a diskimage file to be spooled to MS-DOS. This method involves defining a Basic-2C print address as an MS-DOS filename (using the \$DEVICE statement) and then printing to that address. Thus, the output from any report can be spooled to a standard MS-DOS text file and be available for access by any MS-DOS program. However, most MS-DOS programs require that the data they access be organized in a particular fashion. This would require that the Basic-2C print programs be modified to conform to the format requirements of the MS-DOS program.

PC-LINK

Pc-Link is a software product offered by General Data Processing which will transfer data from TOM SPEED I based applications to a variety of MS-DOS formats. Supported output formats include LOTUS DIF format, LOTUS generalized import format, and Multiplan SYLK format. Data is extracted from the SPEED based data files by means of a report generator type of set up procedure. Up to 14 fields can be extracted. The output can be sorted by up to 7 fields. Our review showed that the PC-LINK software is easy to install, easy to use, and works well. Use of PC-Link avoids the need to modify report programs to spool to MS-DOS formats. Also, PC-Link allows the end user to define their own interface. Gary Patrick, president of GDP, has informed us that future versions of PC-LINK will support extraction of data from AIMS files.

For further information on PC-LINK, please contact:

General Data Processing
5242 Horton
Mission, Kansas 66202
(913) 384-9310

WANG LIO RELEASE 1.01.05

This is Wang's first 'production' release of the Wang Local Interconnect support software. Areas of the software which have changed since the previous 'controlled' release (1.00.02) of the software will not have a significant effect on Basic-2C applications using the RunTime Package. Points of immediate interest are:

Performance does not appear to be substantially different from the previous release.

The new release requires the concurrent installation of a new version of the operating system (release 2.01).

Reliability of the networking software overall is much improved. Some specific problems noted on the previous release have been corrected. In particular it is possible to reference printers by their 'device names' (e.g. /dev/prn) even when the currently selected drive is a network drive. Also, the spurious "Drive Z: not Ready" problem appears to have been solved (except when accessing a local drive through the network - see below).

Problems in using LIO with the RunTime Program:

1. Testing of the new release of LIO uncovered a bug in the 1.03.01 release (labeled 1.03.00) of the RunTime Package when running under LIO. The bug concerns the '\$OPEN with exit if busy' form of disk locking. This problem particularly affects TOM software. See bug report 02 for details. A patch program for Rev. 1.03 of the Wang RTP is available on request to fix this problem. Please contact Cyndee Philyaw if you require this. There is no charge. Instructions on installing and using the patch program will be included with the diskette.
2. It is possible to access device drivers of other nodes by means of the special network paths, provided the nodes have been properly configured. This makes on-line printing to another node's printer a possibility. Unfortunately, file locking is ignored when applied to such special paths, so that \$OPEN and \$CLOSE directives can not be used to avoid printer sharing conflicts among multiple users.
3. Nodes which have winchesters should avoid referencing them through the network, since doing this appears to introduce timing problems and 'Drive Z: not ready' messages. For example, if node FF's winchester drive C is a network resource, it may be accessed by all nodes on the network (including node FF) as 'Z:/nodeff/c'. But to avoid problems, node FF should reference the drive as C: instead.
4. With release 1.01.05 of Wang LIO loaded, both the Compiler and the RunTime programs will generate a "Drive A: Not Ready" message if there is not an MS-DOS diskette in the drive at the time of execution. This is due to a bug in the networking software which causes it to look on drive A: when attempting to reference device drivers which are not in memory (DOS should simply return an error code which the software can recognize and handle). If this problem occurs, place any MS-DOS diskette in the drive and re-try. The diskette is not written to.

NEW TELEX NUMBER

Effective July 8, 1985, our new Telex number is:

3719965 NIAK UB

Please note, this change was imposed upon us without notice by the telex company. Therefore much of our printed material still references our former telex number. Please disregard that number and use the new Telex number above.