MIDI is key to system
Electronic music hits all the right notes

by Jackson Hibler
OPCUG

Remember Hugh Chatfield? He gave a thoughtful talk on teleconferencing a few months ago. Well he returned to the OPCUG's August meeting this time setting up a rat's nest of electronic music gear.

"This stuff is bottom-of-the-line and two years old. That means it is totally obsolete! But it serves my purposes," Chatfield explained. Starting with a primitive oscillator that could vary the beat, pitch, and other characteristics of the 'sound envelope' (dripping water with seagulls?) he introduced us to the world of computer assisted MIDI music.

First, MIDI: a hardware protocol that allows electronic music instruments to pass their output to each other in a daisy-chain fashion, adding and combining their work without interference or other hangups.

"Don't get an electronic music instrument that doesn't have MIDI capability!" he cautioned.

Next came the keyboard... a full-sized electric piano board that possessed several important features: always in tune(!); several 'voices' (harpsichord, anyone?); sustain (pedal effect) and velocity (hit the key harder, get a louder note). Then the synthesizer: a Yamaha DX 100 with a miniature, sans-velocity (although potentially 'breath controlled') keyboard that had the essential ability to generate an infinity of sounds using Digital FM Synthesis.

The original music synthesizers used electronic oscillators, that were a compromise between component capability and cost, to generate acceptable sound waves. Digital FM Synthesis uses a digital 'description' of the desired sound wave shape; runs that through a digital/analog converter; filters the result and sends it to the amplifier. Not only is the digital approach cheaper, but it is vastly more capable of generating a specific sound wave, because the wave itself is 'drawn', not generated by oscillators that can never do it quite the way you want it.

Hugh described his $450 Yamaha as primitive, but light years ahead of the original MOOG Synthesizers.

"The modulators do the work: the more modulators, the more expensive the synthesizer... the DX 100 has four," Chatfield said. It has 192 'voices' preset in ROM, with room for 96 of them in RAM at any one time plus 24 more of one's own devising. All 'voices' can be edited (48 parameters!), but rather than inventing every voice, much trading and borrowing seems to be the practice among electronic musicians, in Hugh's experience.

Many of the voices were what I

Flea market...

Computer hardware, software and books are just a few of the items that will be featured at the annual Ottawa IBM-PC User's Group flea market. The market will begin at 1:30 p.m. in the Gatineau Room at the RA Centre, 2451 Riverside Drive, Ottawa, on Sunday, Nov. 6.

If you have a computer or computer-related hardware or software that you no longer need and want to sell or trade then the flea market is your kind of place. To reserve a table or for more information, contact Gord Hopkins at 828 3834 (evenings or weekends).

Doubleheader...

Two guest speakers are scheduled for the Sept. 28 meeting of the Ottawa IBM-PC Users Group meeting. Gus Venditto, the executive editor of PC Magazine will begin the 8 p.m. program with a talk on future developments and the OS/2 system.

Mike Burrows of Ashton-Tate is the second speaker and he'll discuss the features and enhancements of dBASE 4 scheduled for release this month.

Changes increase disk space
Interesting programs planned for Disk-54

by Chris Taylor
OPCUG

Disk-54 is partially completed as the newsletter deadline nears. Although some items may change, here are a few things you can look forward to.

For utilities there are programs that provide a variable sized scroll-back buffer, create custom EGA/VGA screen fonts, branch in AUTOEXEC.BAT depending on the type of boot (first, warm or cold), save DOS commands on a stack and save commands to the F1 to F10 and Shift-F1 to Shift-F10 keys. There are also utilities to convert spaces to tabs and vice-versa, and pause in batch files for up to 24 hours.

Entertainment...

For entertainment, there's a complete craps game and a file for your Epson compatible printer that prints out Escher's lithograph 'Waterfall'.

Applications...

In the applications and applications support area, there are programs to add windows to dBASE III+, use Norton's Text Search program with dBASE III+ for non-case-sensitive fast database file searches and a background dialer/file transfer program using X-Modem.

Specialty library...

To date, additions to the specialty library are light. There is Wampum version 3.2B, an easy-to-use, menu-driven, dBASE compatible database management system and a new version of Nashcat, a disk cataloguing program written by OPCUG's John Nash. If I can find one or two more to fill it up there will also be a disk on EGA games.

Something new in the library this month. As usual, the source code to programs will be archived to save disk space. However, to avoid including ARCE.COM and ARCE.DOC on every monthly disk, the source code will now be in a self-extracting archive file SOURCES.EXE. This will save a few K of disk space for more useful items. SOURCES.DOC describes how to view the contents in the archive and how to extract those files.

And finally, much thanks to John Whelan who gave me 20 disks of programs. There are many interesting goodies in this package.

Microsoft introduces MS-DOS 4.0

MS DOS version 4.0 has now been released in by Microsoft Canada. The company says this latest edition is completely compatible with programs written for MS DOS v3.3.

New features with v4.0 include: enhanced memory and hard drive support including hard disk files larger than 32 megabytes. This feature eliminates the need to partition large capacity hard drives into smaller partitions.

Another new feature is EMS 4.0 or Expanded Memory Specification developed by Lotus Corp., Microsoft and AST Research. EMS 4.0 allows application software and operating environments, such as MS Windows, to access memory above 640k using third-party memory boards.

In its Aug. 5 edition, Business Computer News stated that MS DOS v4.0 includes a DOS shell program - a file directory management system that lets users start applications and management basic DOS functions using a pull-down menu system. The shell can be installed to run in either character or graphics mode. This feature comes with a context-sensitive help feature. The shell for v4.0 is consistent with the shell for MS OS/2 version 1.1.

Microsoft said that v4.0 also has 20 additional enhancements and utilities aimed at supporting new monitors, hardware advances and foreign language translations.

Two-screen feature
Norton Commander is tops

by Chris Taylor

Version 2.0 of the Norton Commander is here and it's terrific! It's the best DOS shell I have ever used. It can turn working with DOS from a chore into a breeze. Those who value their time owe it to themselves to take a look at this program.

The Commander presents two panels on screen, each of which give a file listing for any drive/directory. The scrollable file listings can be brief (filename and extension only), in which case 36 filenames will appear in half-screen mode, or 60 filenames in the new full-screen mode. If you want the file size, date, and time to show, the Commander will show 12 or 20 filenames in each panel. The EGA 43-line and VGA 50-line modes are supported, allowing up to 135 filenames to show in each of the panels. Directories are listed first, followed by hidden and system files, followed by all other files. The sort order can be set to name, extension, date/time, size, or (new to version 2.0) unsorted. You can move to different directories sim-ply by pointing at a directory name an pressing Enter.

You can tag files using the Ins key or choose wildcard groups of files to tag or untag. Tagged files are easily copied, moved (to a different directory on the same disk), or deleted. The bottom lines of the Commander's panels can be turned into mini-status lines. These will show the number of tagged files and total number of bytes in those files. If there are no files tagged, the mini-status line shows the filename, size, and date/time for the currently highlighted file. This is very handy if you use the brief file listing, which doesn't show the file size or date/time.

You can view any file of any size and edit files up to 30K (up from version 1.0's 20K) with the built-in editor. If you don't like the Commander's rather rudimentary editing capabilities or you want to edit larger files, you can tell the Commander to automatically use any editor of your choice.

The Commander provides point-and-shoot capabilities. By moving the highlight bar to a .COM, .EXE, or .BAT file, you can execute the file simply by pressing Enter. In addition, you can define a DOS command to be executed for any other file extension. For example, if the highlighted bar is on a file called NOV-88.ARC and I press Enter, the Commander executes the command PKARC /V NOV-88.ARC, giving me a verbose listing of the contents of the archive. You can use this method to automatically load .DOC files into your word processor, start your communications with a script file, load 1-2-3, or execute any program.

There is a nice menu facility built into the program. Each menu option can consist of many DOS commands to be executed one after the other. There can be a local menu file in each directory and a main one in the root directory. If the Commander fails to find a menu file in the current directory, it automatically uses the main menu file.

There is a fancy new drop-down menu system to handle all the added goodies in version 2.0. One of the nicest additions is the ability to turn one of the panels into a graphic tree representation of your disk. You can use the up/down arrow keys or the grey +/- keys to move around the tree. Press Enter, and you are logged onto that directory and the opposite panel will show the files in that directory. As an additional directory tool, the Commander provides a full-screen directory changing program that includes speed searching for directories.

Single keystrokes can delete, add, or rename directories. The Commander keeps a special file in the root directory called TREEINFO.NCD which allows it to pop directory trees onto the screen very quickly. Any changes to your directory structure made using the Commander will update this file automatically.

The file view command (F3) has two new features that are very welcome. If the highlight bar is on a Lotus spreadsheet file, F3 calls up a special viewer that lets you see the file in spreadsheet format. O.K., you can't re-calc or show a graph, but it lets you quickly see the contents of a spreadsheet file. If the highlight bar is on a dBASE database file, the F3 key calls up the database in a full-screen format. The field names will be along the left edge of the screen. The contents of the fields will be beside them. You can use PgUp and PgDn to scan through

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Free info...

Moorshead Publications Ltd. has been producing a tabloid newspaper aimed at the business computer market. Business Computer News contains industry highlights and new product information covering hardware and software developments.

Business Computer News is published every two weeks and is available free from Moorshead Publications Ltd., 1300 Don Mills Road, North York, Ontario, M3B 3M8.

Norton Commander makes handling DOS easy

the database. You can also jump to particular records, search for text, and get information on record sizes, number of records, field types, and more.

Another new gem is the Find File command. This will scan your entire disk looking for files meeting a given file specification. You can even scroll back and forth in the list as the search proceeds. Press Enter on a highlighted filename, and you are instantly logged onto that directory!

Although the Commander can be used very easily with a keyboard, you can also use a mouse to move the highlight bar, change directories, execute programs, pull down the menus, select options and more.

One of the things I like most about the Commander is that you always have the DOS prompt at the bottom of the screen. If you want to perform actions not available within the Commander, you can just start typing as if the Commander wasn't there. Actually, you are a little better off as the Commander gives you better editing control on the DOS line and a history buffer of your last 16 commands. As well, you can turn off one or both panels with a single keystroke if you want to work strictly at the DOS prompt.

Version 2.0 uses approximately 140K of memory, up from 100K in version 1. If this leaves you with too little memory to run your applications, Socha has included a special version of the program called NCSMALL. This dumps the majority of the Commander out of memory when your application runs, leaving a small 12.5K reloader in memory. When your application finishes, the main part of the Commander is reloaded from disk. On a hard drive this

is a practical solution, but it is not recommended for floppy disk based computers, both because the main NC.EXE file must always be accessible and because of the time it takes to reload the program from floppies. The Norton Commander will take approximately 100K of disk space. Another 68K of disk space is required for the Lotus and dBASE viewers.

There is a 30 page quick start manual as well as a 113 page main manual. They are very easy to read and contain many screen shots. Both 5.25" and 3.5" disks are included in the package. Version 2.0 of the Norton Commander was written by John Socha in C and assembly language, using Microsoft's C compiler, version 5.0, and Microsoft Macro Assembler, version 5.0. The source code consists of approximately 32,000 lines of C and 15,000 lines of assembly code.

The Norton Commander provides

something for everyone. It tames many aspects of DOS and can make life a lot easier for the novice. It speeds operations for the novice and expert alike. Re-organizing a hard disk without a program such as the Commander can be a daunting task; with the Commander it's easy. It's a real lifesaver for people like me who must spend a lot of time using DOS shuffling files around.

The list price is $89 U.S. The upgrade (for version 1.0 users) is $33 U.S. You might want to shop around. Mail order prices on Norton products generally offer substantial discounts.

Available from Peter Norton Computing Inc., 2210 Wilshire Blvd., Santa Monica, California, 90403. Phone (213) 319-2000

3.5 inch size   720k capacity

Library features new format

by Chris Taylor

Library diskettes on 3.5 inch, 720K media are now available. The cost for diskettes in this new format will be $6 each. Available by advance order only, users may specify any two of the regular diskettes to be placed on each 3.5 inch diskette.

The contents of each 5.25" diskette will be placed in a subdirectory on the smaller media. As the directories themselves take up disk space, and the monthly disks generally have zero bytes free, some of the menu support files may be removed from one of the monthly disks, if required.

If you want to place an order for library disks on 3.5 inch media, please allow at least three days prior to the monthly meeting. To order, phone the IBM-PC User's Group's voice line at 723-1329. Just leave your name along with the list of disks you would like. They will ready for you at the monthly meeting.

MIDI is key that makes system work

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would call 'sort-of-likes', but not quite like the real thing... after all, how close to a bowed violin can a keyboarded sound get? But the bells, drums, pipes, and musical broken glass... wow! (And some of the sounds generated by the audience in response to those generated by the DX 100 were pretty impressive, too!)

Next came the SuperQuartet, a 'sound envelope generator' with four independent voices: set one up to be the rhythm section, another for the strings (much more realistic than those from the DX 100, too) and we're starting to see a little orchestra forming up here. Finally, to drive that beast, a dedicated computer called the Roland MC 500 Microcomposer. The Roland is a very capable digital 'recorder/playback' microcomputer that can put a musical sequence onto a floppy disk in digital form, whereupon you can edit it, play it back, coordinate several sequences playing back together... change the speed (the beat of the music) on the fly without changing the pitch...

"You see, I've now got 10 + 4 + 8 + infinity and only 10 fingers, a pedal and a breath controller..." Chatfield explained, "so I needed a computer to control it."

That was a bit of modesty. The MC 500 computer was the sequencer that kept all the drums and violins and pipes to the beat and pitch, sure enough. But it was Chatfield that composed, performed, edited and orchestrated the final music.

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Club elections are drawing near

Election fever is in the air. Yes, it's been a year since the current executive was elected into office and come November the membership will have the opportunity to elect its executive.

Persons wishing to run can nominate themselves and nominations will remain open until election night... Nov. 30.

Terms are for one year and those elected to the executive will be expected to attend at least 10 executive meeting during the year.

Elected positions include: president, treasurer, secretary, membership chairman, publicity, software librarian and newsletter editor.

For more details or to submit a nomination, you may contact Anne Moxley at 592 4933.