Dear Mindset User,

Welcome to the first issue of the F.M.U.G. newsletter. This is your newsletter. We heartily welcome contributions of articles about both applications and programming, programs, reviews, commentary, etc. from any and all who are interested in the Mindset computer. The newsletter will be issued bi-monthly to begin with, but will move to monthly publication as soon as it's feasible. To join the First Mindset Users Group and start receiving a 12-issue subscription to the newsletter, send $15 to the above address.

NEWS AND NOTES

Compatibility Update

- Good news, Pascal hackers! Borland’s Turbo Pascal, rated top-notch by everyone from Jerry Pournelle to InfoWorld, works on the Mindset. Retail price is a mere $50. Unfortunately, Borland’s Sidekick program is not compatible.

- Lattice-C, an excellent implementation of a fast-rising language, is compatible. Mail-order discount price (see ads in Byte) is about $300.

- Framework from Ashton-Tate is compatible, but doesn’t leave much available working space. It should work fine with the forthcoming Mindset RAM extension module (see New Hardware).

Mindset In Print

So far as we know, only two full-fledged reviews of the Mindset have appeared in the major computer media. The first, which introduced many of us to the machine, was published in the April 1984 issue of Byte magazine. It’s well written, and is so informative that it can be considered auxiliary documentation. InfoWorld magazine published a rather poorly-informed but effectively positive review in its August 13, 1984 issue, and ran three letters of response, including one from your editor, in the issue of October 15.

(cont.)
The issue of Ziff-Davis' PC Magazine of October 16, 1984, printed a review of Lumena under the title "Mindset On Graphics." Unfortunately, the editors neglected to list the article in the table of contents for that issue. It starts on page 194. Written and expertly illustrated (with Lumena) by Tom Christopher, who's almost as good a writer as he is an artist, the article is mostly complimentary. However, like the InfoWorld review, it unfairly blames the Mindset for problems with Lumena.

**Mindset Software Revisions**

Speaking of which, an updated and debugged version of Lumena, revision 1.06, was released to Mindset dealers in July. Also, a new revision of GW BASIC is scheduled to be released in mid to late October. If you've purchased either of these products and are in doubt about whether you have the latest version, contact your dealer.

**New Hardware**

Mindset's digitizing tablet, which makes drawing with Lumena and other graphics programs much easier than with a mouse, is available now by special order through CompuShop. The $595 unit, which is manufactured by Kurta, connects to the Mindset through a special serial port, which is included. The serial port provides a connection for power, so an external power supply is unnecessary. However, this apparently makes the port unusable for connecting a modem.

Mindset has announced that there will be a 128K RAM expansion module for $349, which will enlarge total on-line storage to 384K bytes, not including the 32K frame buffer. This permits the Mindset to run large programs such as Lotus' Symphony. Also, Mindset will produce a hard disk for its computer. We'll print details of these as we receive them.

**The Mindset Logo**

If you haven't seen the animated Mindset logo yet, you're in for a treat. Just turn on your computer without any disks or cartridges (what cartridges?) inserted and wait a few moments. It's an impressive effect!

**THOUGHTS ON LUMENA**

If Lumena and a Mouse were bundled with the Mindset and the fact well publicized, the company would probably sell more computers. Lumena is by far the most sophisticated drawing program available for any factory-standard personal computer today. Despite numerous shortcomings, of which lack of real
animation capabilities is the most glaring, the package allows you a full range of artistic expression, whether you can draw or not.

First of all, Lumena is not MacPaint. It is, in many ways, a professional drawing and design program, and is not designed to be easily learned by computer novices. However, despite its complexity, it’s not difficult to use once you’ve learned the commands and how they interrelate.

Lumena is menu-driven, with "pop-up" menus that are activated by moving the cursor past the bottom edge of the screen. A menu sometimes appears when you don’t want it while drawing low on the screen. Using the Mindset mouse to select from the menus is fairly easy, but drawing anything other than circles and spirals is not. Lumena is best used with a graphics or digitizing tablet. You may view on-line documentation about any specific function while accessing its menu. These instructions are sketchy, and are best used for refreshing your memory about details on how to use a command.

It’d be nice if Lumena featured a true Zoom mode — MacPaint calls it Fatbits. This lets you temporarily enlarge a portion of your picture to four or more times the original dimensions so that individual pixels appear to be large square blocks. It’s like working with a magnifying glass — you have much more control over fine details in your drawing. Ideally, such a mode lets you ‘slide’ the ‘magnifier’ over the entire surface of the drawing. You can return to normal-size drawing whenever you want.

You can use Lumena’s Zoom feature to enlarge an area of your picture, but you can’t work on it in pixel-aligned blocks. However, Zoom does allow you to shrink the enlarged area back to its original proportions. To approximate the true Zoom feature, you could Put your picture to the alternate buffer, enlarge the area you wish to work on, reduce it back to original size when done, then use the Get pen to replace the altered area in the original picture.

Having to type in all file names is annoying. It wouldn’t have been very difficult for the programmers to allow you to select a file to load with the mouse from an onscreen menu. Of course, you might still need to type in names for files to be saved.

Despite Mindset’s claim that Lumena 1.06 is bug-free, we’ve noticed a few problems. We suggest that you avoid rapid cursor movement, as this seems to be the cause of most of these. Occasionally, the program acts as though a key has been depressed, spontaneously rendering a file listing on the screen and prompting you for a filename. Also, the Copy with Options function from the Moves menu doesn’t flip an image if that option is selected.
If you’re using an RGB monitor and have looked at the picture “GLOBE” on the Lumena disk, you may have wondered why it was included — it doesn’t look like much. However, if you connect your Mindset to a TV or composite color monitor, set Lumena for TV by pressing ’D’, then load ”GLOBE,” you’ll wonder no longer. The image uses varying luminances of blue and green for an impressive dimensional effect. It’s interesting to note the differences between Lumena’s TV and DTV modes — you can tell which one you’re in by pressing ’K’ and looking at the line for ’D’. For instance, in DTV mode, thin diagonal lines ’artifact’, or produce bands of alternating inaccurate colors. In TV mode, the same lines appear in their true color, but areas with patterns or fine detail ’shimmer’ in a disturbing way. Unfortunately, the Lumena manual doesn’t provide much information about the differences between the two modes.

Vyper Review

Flight simulation programs are perennial favorites among microcomputer owners. Microsoft’s small plane simulator for the IBM PC, considered by many to be the best example of the genre, has remained near the top of software sales charts for years (an unparalleled feat).

Vyper, from Synapse Software, is about flying, but it’s much more than just a flight simulator. This tour-de-force of personal computer graphics is the first action game program designed for the new Mindset computer from the Sunnyvale, California start-up firm of the same name.

In the game you pilot a Vyper, a fast agile craft that flies repeatedly over and through a city represented colorfully in three dimensions. As you swoop over, around, and through the various structures, you’ll swear you’re actually flying a futuristic ship through an alien city. Practically the entire screen is devoted to the remarkably convincing (but not finely detailed) point-of-view display. Both in terms of graphics power and quality of game play, Vyper easily outpaces any number of commercial coin-operated video games, including some that use laser disks.

The ’experience’ of flying the Vyper, in itself almost worth the package’s price ($50), is nothing less than sumptuous. The joystick controls your speed as well as vertical and horizontal direction of the constantly forward-moving ship. Its response to joystick movement is instantaneous.

Included with this marvelous flight simulator at no extra charge is a thrilling arcade game. The object is to rid all nine dimensions (levels) of the ancient city Kallithor of the rule of
the invading Rhyllian fleets. Zipping over and through the city again and again, you fire your lasers at the Rhyllian Shivfighters as they pass. Each of the fifteen enemy ships is supported by a Power Shroud building in the city. When you hit a ship, its associated Shroud begins to blink, registering temporary vulnerability. Before the blinking stops (about forty seconds), you must switch your weapons system to the high-density Byrellic Projectiles. Then, because these are always fired out directly forward and parallel to the ground, you must swoop down to a very low altitude to use them to destroy Power Shrouds. But your approach is limited because there’s a long high wall immediately ahead of the Shrouds, so skillful flying and deadly accurate firing are a must. If you don’t hit a Shroud before it stops blinking, it resurrects its Shivfighter to play with you again.

You must destroy Shrouds to maintain your energy supply, so you can’t just fly about avoiding the enemy indefinitely. But it’s usually better to delay your attack until the Shivfighters assume their wedge- or cross-shaped attack formations and are travelling in the same direction as you, when they’re particularly susceptible to mass destruction. Enemy tactics can switch rapidly from second to second, making you wish you had an extra hand or two to work the keyboard controls. These are used to switch weapons, change your radar scanner from side to overhead, and to pause the game. The Shivfighters fire two types of weapons which are usually easy to avoid if you keep weaving, though you’ll probably forget to in the heat of battle. They fly very low or close to buildings, often luring you into alarming involuntary head-bashing. Every such collision with a solid surface causes a major energy drain, even more than an enemy hit, and thus is to be avoided at all costs.

In Vyper, strategy is almost as important as hand-eye coordination. It’s easy to pick off just one or two Shivfighters at a time, then slow down, descend, switch weapons, and blast the blinking Shrouds, then return to the aerial battle. But this is slow, and you’re likely to suffer much damage from enemy fire while maneuvering on the ground. It’s much more efficient, but of course infinitely more difficult, to wipe out a half or a third of the squad at once, then hit the associated Shrouds in one or two swoops. Every extra second between successive hits in the air can mean the loss of the vulnerability of a blinking Shroud on the ground — the choice between continuing a chase and descending can often be a tough one.

Once you’ve destroyed every Shivfighter and Power Shroud, the entrance to a warp tunnel to the next dimension opens at the base of a tower. The long, narrow tunnel twists like crazy, and every time you scrape the side you lose energy, so your joystick handling must be most dextrous to make it through. Shivfighters attempting to escape to the next dimension often pass you, and you must blast these before they can get through to assist your next set of enemies. Major differences between levels include the shape of the grouped Power Shrouds (the first is wedge-
shaped, the second is circular, etc.), which affects your ground flying strategy, and more advanced enemy tactics.

The Mindset has both both composite video and RGBI (Red-Blue-Green-Intensity) output, as does our Sears monitor, so we were able to make an interesting observation about Vyper's colors. In RGBI mode, the game has but four colors -- red, blue, purple, and black, and surfaces are varied by the use of textures. Switch the computer and monitor to video mode, and you've added the colors grey, pink, violet, white, brown, green, and indigo to the scenery. Images are sharper in RGBI mode than in composite video mode, but the game isn't as colorful.

We'd also like to comment on the Mindset joystick, which costs $40 and seems to be the only one that works with the computer. It looks somewhat small and fragile, but it has served quite well for extensive and frenetic playtesting of Vyper. It fits quite comfortably in the hand, and it's not difficult to get used to the alternate use of the two buttons on opposite sides (which, incidentally, makes it great for southpaws).

Synapse and the game's designers, Kelly Jones and Dan Browning, are to be heartily congratulated, not only for creating what is undoubtedly one of the finest action games for any home or personal computer, but also for calling forth some truly eye-popping graphics effects from this new machine. In Vyper, Mindset and Synapse have set new standards for computer game and graphics quality.
Hello again! We've made it to the second issue, but are still suffering with a plain face (see above). If you come up with a good logo for the First Mindset Users Group and its newsletter, send it in. If we use yours, you'll have the satisfaction of seeing your design at the top of the first page of your favorite newsletter every month (or two). Speaking of which, the more contributions we receive, the faster we can put out the newsletter. It's not that easy to fill a newsletter with just one person doing all the writing. Since this is a newsletter, not a commercial magazine, your writing need not be of professional quality -- the primary requirement is that you have something to say that's of interest to our readers.

First we'll correct a couple of mistakes in the first newsletter. If your copy said Symphony runs on the Mindset, it's wrong. Actually, Ashton-Tate's Framework program does run on the Mindset, but it's of no practical use unless you install the 128K RAM Expansion Module ($349).

Also, we incorrectly stated that the powered RS-232 module that accompanies the Mindset Graphics Tablet (powered so that you don't need a separate power cord for the tablet) couldn't be used with modems for telecommunications. There is a power switch on the module, and with the switch turned off, it acts just like a regular Mindset RS-232 interface.

Mindset has just announced the release of its Video Production package. For $4000, you get a fully-configured computer (two drives and 256K RAM), a 'genlock box' for combining video signals with computer graphics onto videotape, and the necessary software. The cost of the additional hardware and software to those who've already bought the computer is approximately $2000. We'll cover the system more fully in a future issue of the newsletter. At $4000 and approaching the performance of systems costing ten times as much, if this doesn't sell lots of Mindsets, nothing will. Incidentally, Mindset is developing a color digitizing system in-house, but it won't be ready for some time.

THE MAILBAG

Dear FMUG,
BOFFO! First a fabulous computer, and now a great newsletter for all the wise souls who know a superior product when they see it. 1984 has been one hell of a year! Macintosh, don’t make me laugh. Mindset is the computer for the rest of us.

I work for a large DEC (Digital Equipment Corp.) distributor, and for some time I had considered buying either a DEC Rainbow or a Pro, both of which offer costly graphics options which barely compare with the inborn capabilities of the Mindset. I’m glad I waited. My tongue is nearly bitten clean through from restraining myself from making heretical recommendations to my company’s clients when they come in to see the DEC machines. I’m always inclined to take them aside and say, “Now let’s go to my house for a look at the machine you really want.” The things we do to make a living.

Good Guy of the Month, maybe the Year, kudos to Skip Satterlee at Mindset. While I’ve been getting to know my machine he’s been most helpful in providing a wealth of information, suggestions, hints, and corrections and clarifications to the sometimes fuzzy GW BASIC documentation.

My only complaints stem from the attitudes of dealers I’ve encountered, and the lackluster Mindset advertising campaign. Until I corrected him, my dealer acted like it was a color Mac -- mouse, pull-up Lumena menus, etc. He seems to be only marginally aware of the things that make it a unique machine, like its animation and sound capabilities, 80186 technology, and numerous other features. The Mindset “Pop Demo” and the Lumena Demo are nice, but hardly tell the tale of the machine’s amazing powers. If I were a dealer I would have the Mindset hooked up to an audio system playing music and a projection TV displaying animation effects. Next to this I would have a PC or Mac whose display shows the word “Sorry.” As for the ads that say no printed pictures could do the machine justice, I say “Try.” The tiger picture, a price performance chart -- anything would be better than that dumb ad. Sorry, Mr. B., but I think you could have kept your production people working all summer with a different ad.

One more thing. Two books I’ve found to be quite helpful when working with GW BASIC are Graphics Programming Made Easy for the IBM PC and XI and Fancy Programming in IBM PC BASIC. Both are written by Gabriel Cuellar and published by Reston Publishing. Of course there are no details about the Mindset-specific extensions to GW BASIC like OBJECT, but for most of the other features of the language they are appropriate, and they have numerous program examples that provide a valuable supplement to the GW manual. I strongly recommend them to anyone getting heavily into GW BASIC graphics programming.

Timothy P. Negris
Norcross, GA

The first article about three very disparate systems provides some interesting notes, if not a very useful comparison. For instance the two more expensive systems (NCR,$7250; DEC PRO,$11,100) could show only eight colors at a time, while the $3440 Mindset (prices are for a graphics development system including hard disk (not Mindset) and development software) can show 16. In a speed comparison, the Mindset ran an interpreted BASIC Sieve of Eratosthenes (a classic benchmark involving finding prime numbers) program in 15.3 seconds, while the NCR and DEC took 27.1 and 24.4 seconds respectively. In a test requiring the drawing of 126 circles of decreasing radii, the Mindset took 9 seconds, while the other two took 124 and 27 seconds. In a quadrilateral test involving the drawing of 100 quadrilaterals, the Mindset took 5.8 seconds, and the other two 265 and 25. The Mindset came in second only in the filled quadrilaterals test, taking 102 seconds to draw 100 filled shapes, while the NCR took 4450 seconds and the DEC PRO took 62.

According to David Fournier, the author, the Mindset "represents one of the very few microcomputer products which meet the minimum color display requirements for the NAPLPS (North American Presentation Level Protocol Syntax) videotex and teletext standards. This means that, with appropriate software, it could properly display the frames residing on most videotex systems. It is an excellent candidate for use as a videotex terminal."

He concludes "Overall, the prices seem greatly different, but on closer inspection, the differences seem to be based on the hardware features and software support provided. You get what you pay for." Also, "The speed in displaying its own set of primitives, and the price, color flexibility, and slightly lower resolution of the Mindset make it more suitable for animation, games, and videotex, where cost, drawing speed, and esthetics are of prime importance."

The writer of the August review had access only to a "buggy pre-release version of Lumena" and was using a TV set as a monitor, so wasn't able to provide any new information. He concludes, as have others, the the Mindset "needs only the right amount and the right kind of software support to be a great machine."

The November issue of Computer Graphics World magazine, dealing with PC graphics, has an article about the Mindset in conjunction with a program called ExecuVision, as pointed out by FMUG member Douglas Hoyt. We're trying to get hold of a copy,
and will write about it as soon as we do.

Also, we’re pleased to report that PC World has accepted our review of the Mindset, written at the request of its editors. It will appear in the March 1985 issue in the Compatibles Update column. Watch for it.

CLEAN MACHINE

What? You mean to tell us you don’t wash your hands every time before you sit down at your Mindset? With head downcast, we must also admit to such negligence. As owners of the only personal computer that resides in the collection of New York’s Museum of Modern Art, we have an interest in keeping our machines looking pretty. If your Mindset is starting to lose its pristine appearance, wipe it with a rag moistened with rubbing alcohol. Use a very soft brush to clean between the keys. And always keep those disks covered when not in use!

DISK LIBRARY

Speaking of disks, we’ve started to accumulate a library of disks containing various sorts of programs which are available to members. For each disk you want, send $4 or a blank, formatted disk and postpaid return mailer to the above address. Here are some brief descriptions:

1. C Disk -- Member Warren Leong of Sunnyvale, home of Mindset, has provided a disk full of programs he wrote in Lattice C, most of which require the ANSI.SYS handler and a mouse. The disk includes source code and a compiled executable versions, and there are two source library INCLUDE files for use by various programs. TERMTU is a terminal emulator. ARTILLERY is a two-player cannon game. LIFE1 is Warren’s customized version of the classic computer simulation/game, with user-selectable or default colors and patterns. Other programs include a color demo and a hex/ASCII file dump. There’s also a sample CONFIG.SYS that shows you how to load ANSI.SYS.

Three disks of public domain PC programs were provided by member Dave Mentley:

2. BATCH TUTOR is an extensive, excellent tutorial on the use of batch files. Everything you ever wanted to know about the little buggers is on this disk, presented in friendly, understandable language with numerous examples.

3. UTIL1 includes many utilities, including a program to convert files between WordStar and DOS format. Another lets you print graphics (from PC-standard screens) to a Graftrax printer with the PRT SCN key. BASIC programs include GRAPH, PLOT3D, ADD-LF (add linefeeds to downloaded files), INVNTORY, and AMORT. There’s also a machine-language program that cross-references BASIC programs, and much more.
4. GAMES includes such titles as MORSECOD, KSCOPE, SERPENT, KINGDOM, CRAZY8, BLACKBOX, HANGMAN, WUMPUS, CHASE, BLAKJAK, OTHELLO, and VAMPIRE. Some programs may require fiddling to work on the Mindset.

We’re currently compiling a disk of user-submitted Mindset programs, in GW BASIC or any other language. If you submit a program that’s used, we’ll copy the entire finished disk onto your submission disk and return it to you.

MEETING

The second monthly meeting of the First Mindset Users Group was held from 7 to 10 P.M. at Mission High School in San Francisco. With 18 in attendance, the group almost filled the small classroom we were assigned. As one of the first orders of business, Jeff Patterson of Graphic Reproduction, 981 Mission Street in San Francisco, kindly offered to allow us to hold future meetings at his place of business. Jeff’s company has recently become the first San Francisco retailer of Mindset computers. Even more notably, Graphic Reproduction, a large multi-faceted graphics arts company, has never sold microcomputers before. The fact that this retailing agreement between Graphic Reproduction and Mindset has occurred is strong evidence of the turn away from the standard microcomputer audience by Mindset’s marketing department. It also shows the need the graphics and design industry has of such a machine. Graphic Reproduction will support its customers in many ways that no traditional computer retailer can. For instance, a designer can take lots of time to work out all the major points of a new project on his or her Mindset, then come in to Graphic Reproduction and use very similar software to create a professional finished product on a machine with much higher resolution. Other services include provision of slides, color print-outs, rentals, and more. If you’re interested, contact Jeff at (415) 777-9346.

Most of the meeting was taken up by software demonstrations. First, Gary Furr, who designed Designer for Datasoft, demonstrated the Video Production software. Next month he will bring the video hardware and demo the entire system. He also gave a brief demo of his Designer program, which is marketed under the Mindset label. His partner, Kevin Furry, demoed two very impressive programs in progress; an animation editor and a sound editor. The sound editor uses the mouse to quickly change various parameters of Mindset’s most flexible mode — three voices with special effects. David Joly, who uses CADDRAFT to design electric circuitry in his business, gave a demonstration of that program. Chris Hall showed some BASIC graphics programs and a couple of nifty Designer animations.

MINDSET MONITORS

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Choosing a monitor for the Mindset computer is a much more important decision than choosing one for an ordinary computer. Sharpness and correct color rendition are particularly crucial in professional graphics work. What follows is a biased first- and second-person report on monitors, and should not be construed as anything else.

Our monitor is a Sears Total Video System TV/Monitor that we bought for several reasons, by no means the least of which was its $340 retail price. The name Total Video System is no misnomer -- the only feature the Sears unit lacks is stereo sound capability. With a 13-inch screen, it's essentially an RGBI (Red-Blue-Green-Intensity) monitor, a composite video (analog) color monitor, and a color TV in one. Convenient buttons on the front let you change modes, effect a 'green-screen' mode, and compress the RGBI display vertically to eliminate scan lines in text displays. The RGBI image is extremely sharp, allowing us to perform word processing easily from four feet away. One minor problem is that color number six (RGBI color, by nature, is capable of only 16 true colors), instead of appearing brown as it's supposed to, is a sickly olive color. Also, with this monitor as well as other 'multi-mode' types (e.g. Sony Profeel), when you change the border color, all screen colors are affected, usually in an undesirable way. Many Mindset demos and programs do change this border color, and if the user can't reset it, his only alternative is to use the program in TV mode. This doesn't happen with RGB-only monitors like the Taxan 420 and the Princeton HX-12. The Sears' video mode is good if you don't mind a bit of color fringing, which results in false colors in fine detail work. The TV works fine but tends to distract one from more important work, a purely subjective consideration. You always bypass the TV mode on the way from RGB to Video, so best to leave the tuner set to an unused channel.

Most Mindset retailers display and package the machine with a standard RGBI monitor like the aforementioned Taxan and Princeton units. If you haven't decided on a monitor yet, or wish to upgrade, we highly recommend Taxan's new 420L monitor, which seems ideally suited to the Mindset, instead. It has an analog video circuit, which means that you can use all of Mindset's 512 colors on an RGB-quality display. What's more, the 420L's interlaced mode can handle Mindset's 640-by-400 ultra-high-resolution mode without flicker. Contact Taxan at 1800S Courtney Ct., City of Industry, CA 91748, (818) 810-1291.

SOFTWARE REVIEW

4 Point Graphics was described at a FMUG meeting recently as "the WordStar of graphics programs." Actually, this is inaccurate, as most current versions of WordStar can be customized to be command or menu-driven, whereas 4-Point is command-driven only. And there are quite a few commands!

All commands, including cursor movement, are entered via the
keyboard. There are sixteen basic commands, and many variations and combinations of these are available. In most cases, commands are single-key mnemonics; for example, press C to begin drawing a circle. Many commands, however, are non-mnemonic (e.g. Shift-F9 to clear the screen), and aren’t easy to remember. A well organized Quick Reference Guide accompanying the manual provides quick access to these, once you’ve become familiar with the program.

The program is named after its cursor, which can vary in form from one to four points. The one-point cursor is used for freehand drawing, and the two-point cursor draws lines and line segments. The three-point cursor creates ellipses, arcs, and triangles, while four points are used for rectangles and for framing areas. Once an area is framed, you can manipulate it in various ways, including erasing all outside or in the frame. You can reduce or enlarge the framed image in different directions, rotate it 90 degrees, move the image, or texture the screen with the framed image. You can also save the framed image on disk.

The use of the cursor is perhaps this program’s most elaborate aspect. With single-key commands, you can move the cursor in any of the eight compass directions in increments that you set. You can mark a cursor location and return to it instantly from anywhere on the screen. You can set cursor wrap on or off. If attached, a mouse can be used for quick cursor movement. The cursor can be set to operate on ‘automatic pilot’, which means that you tell it which direction to move in and how fast to move, and it goes by itself, drawing circles or whatever all the while. Many interesting effects can be created with this mode.

Because 4-Point is meant to be used with RGBI monitors, there is no provision for setting your own palette. The standard sixteen colors are represented twice each in twin parallel color bars under the screen, each with an independent cursor indicating the currently selected color. The top cursor shows the color used for drawing lines, etc. while the bottom color combines with the top for dithered fills. You can set border and background colors to any you desire. Instant on-screen color conversions can be effected by setting a color in the top row to any in the bottom.

Other functions include: Any size image can be captured in a memory buffer, then replaced onto the screen, or drawn with. The Zoom feature offers three levels of magnification for fine detail work. Another feature lets you flip the entire screen vertically. You can texture a selected area or the entire screen with up to four repeating vertical color bars, a feature most likely of interest to those who need to spiff up Lotus 1-2-3 graphs.
Also, you can add text to your images simply by typing on the keyboard (after invoking the proper command). Adjustments may be made to character and line spacing. Another feature of interest to business users lets you create presentation segments and chain them together. A segment is essentially a recording of all commands you give the program and their effects, and may be saved as disk files and linked together for an automated, animated presentation. You can enter predefined images into segments by loading them from disk.

One of 4-Point’s most interesting features is actually an auxiliary utility program called Mindset Graphics Interface, or MGI for short. Briefly, MGI gives 4-Point graphic compatibility with almost any other program you can run on the Mindset. You can save drawings and graphs from programs such as Lotus 1-2-3, load them into 4-Point, manipulate them, and print them in any size from one inch to over 24 inches square on a host of printers. Unfortunately, our Gemini 10X isn’t one of them. However, if you have an Epson, an IDS, a NEC or C. Itoh, an Okidata, a Radio Shack CGP-220, a Quadjet, a Transtar color printer, a PrintaColor TC1040, a HP7475A Plotter, a Diablo C150, or a Tektronix 4695 Ink Jet, you’re set. If you’re printing in black-and-white, you can map MGI’s textures to your colors as you wish, or use a default map. You can also map colors for a color printer. Once MGI is loaded, you can load and run almost any other graphics program and use MGI to load, save, and print pictures and selected portions thereof from within the graphics program. Unfortunately, MGI is incompatible with Lumena, because that program was designed when the projected memory ceiling for the Mindset was 256K. A revision is being considered.

The 4-Point manual is brief but thorough, beginning with an introduction and instructions for getting started. Following this is an eight-lesson tutorial in the basics of drawing with 4-Point. Points covered include the use of the different cursors, the screen layout, different geometric shapes, using disk files, zooming for precision, and creating presentation. The next section, 4-Point In Depth, contains reference material, and given the complexity of the program, is bound to be revisited often by the user. Finally, an extensive section on the use of MGI tells you all you ever need to know about this eminently useful program. If you own one of the indicated printers and have need for its services, MGI alone may be worth the price for 4-Point to you. If you use business graphics, 4-Point gives you an easy way to make full use of Mindset’s palette for presentations.

-- David Duberman
Welcome to our new logo! The above artwork was created by your editor with a two-line BASIC program using the 640 by 400 pixel resolution Screen 7, plus a little typing, and was printed on a Gemini 10X printer using the wonderful MGI (Mindset Graphics Interface) program that comes with 4-Point Graphics Plus. This is by no means the final version, and will change as soon as we or you come up with a better one. See "Printing Graphics" in this newsletter for technical details on the printing process.

The fourth meeting of the First Mindset Users Group will occur at 7:00 P.M. on Monday, January 21 at Graphic Reproduction, 981 Mission St. in San Francisco. Jeff Patterson hopes to have a Video Production System to demonstrate at that time, and we'll have a discussion of peripherals.

Interest in the Mindset computer continues to run constant but at a low level. We get, on an average, about three to five inquiries a week about the computer and/or the Users Group, usually referred by Mindset Corporation. There should be a notice about the group in the February issue of Byte magazine.

Mindset Corporation suffered another series of layoffs January 4, and the entire staff currently numbers about 30. We had been planning to hold the January FMUG meeting at Mindset headquarters in Sunnyvale, so when we heard about the layoffs, we immediately called down to see if this was still feasible, and to find out what this new development means for Mindset users. Jim Crowther of Mindset, who has taken over the departed Skip Satterlee's position of Customer Support, was helpful and informative, though he didn't have much good news to report. At any rate, we'll probably take Jim up on his tentative offer to hold the meeting
at Mindset in February rather than January. The date of that meeting will most likely be February 18 (Washington's Birthday).

Did you know that most existing Mindset systems are incapable of accommodating the new Video Production System? To use the VPS, you must have bought a special genlock-capable system unit which costs about $500 extra, or else the entire VPS system for $4000. Anyway, Mindset had originally planned to offer upgrades to owners of existing units for a fee. Due to the new layoffs, however, this plan has been placed on hold. Also on hold is the long-awaited upgrade to GW BASIC, which is buggy and doesn't perform animation very well. Oh well, we've been meaning to learn C anyway. Another eagerly anticipated item whose development has been placed on hold is the Mindset hard disk drive, which would have been a 10-megabyte drive costing $1200-$1500. Apparently Mindset has pretty much given up on the microcomputer market, and is focusing a last-ditch marketing effort on the commercial video industry. We understand the system is being used by a number of video outfits, and we'll try to get more details about this soon. We'd appreciate a report from any readers having information on this.

WHERE DO WE GO FROM HERE?

Of course, FMUG will continue to support the Mindset computer and its users, even if the unmentionable worst should happen. We're currently discussing plans to offer new commercial Mindset programs to members for reasonable prices, and we're constantly collecting information on compatibility, graphics, special uses and so on. Jeff Patterson of Graphic Reproduction (415-777-9346) has stated his commitment to continue to support Mindset owners no matter what.

However, due to certain other recent developments, we feel a certain broadening of our scope is in order -- specifically, we feel it's appropriate cover computer graphics in general, and not just specifically for the Mindset. For example, many in the microcomputer world are eagerly awaiting an advanced color graphics machine developed by Amiga and being produced by Commodore, called the Lorraine. We fully intend to cover this machine and others when they're available. Here's a report on one such development:

THE NEW ATARI COMPUTERS

The Winter Consumer Electronics Show (CES) in Las Vegas has just closed, and by all accounts one of the most interesting exhibits was Atari Corporation's. Atari was bought from Warner Brothers in July 1984 by Jack Tramiel, founder of Commodore, Atari's chief rival in the home computer field. According to Michael Tomczyk, author of The Home Computer Wars (Compute! Books), Tramiel revolutionized the home computer industry by introducing the first home computer with color graphics in the USA for under $300
-- the VIC-20. Tomczyk's book, by the way, is a fascinating insider's account, and is must reading for anyone interested in Commodore's past or Atari's future, or both. Jack Tramiel was reportedly ousted (or resigned) from Commodore early in 1984 because he wanted to bring his three sons into high-level executive positions within the company, and Irving Gould, the chief stockholder, objected.

Tramiel's Atari Corp.'s announcement of six new computers at CES has the computer world abuzz. There are two series. The XE line is a continuation of the classic 400/800/1200XL/600XL/800XL series and is fully software-compatible with the existing Atari machines. There will be four XE computers. The basic model, the 65XE, is functionally identical to the 800XL. The 65XEM features an "incredible sound synthesis system." The 65XEP (P for Portable) has a built-in monochrome monitor and disk drive for business use on-the-go. The 130XE doubles available memory to allow use of large business applications.

But the real attention grabbers are the two ST computers. ST stands for Sixteen/Thirty-two, because the CPU (Central Processing Unit -- the central microprocessor) is a Motorola 68000 (same as Macintosh), which has 32-bit internal registers and a 16-bit data bus. The ST's have a 32K bit-mapped screen and three graphics modes -- low resolution is 320 by 200 pixels with 16 colors (from a palette of 512), medium resolution is 640 by 200 in four colors, and high resolution is 640 by 400 monochrome. Sound familiar? These are identical to three of Mindset's graphics modes. Also notable is the fact that these computers are equipped with Digital Research's GEM operating system, which works very much like Apple Macintosh's icon-oriented approach. In fact, a typical GEM applications screen resembles a Macintosh screen closely. Some of GEM's features are a two-button mouse controller, icons, drop-down menus, windows, bit block transfer (BLT), vector drawing, and a real-time clock.

Other features of the ST computers include a sophisticated sound generation system including MIDI interface for controlling external synthesizers, a keyboard with one-touch cursor control keys (laid out identically to Mindset's, but near the top of the keyboard), an 18-key numeric keypad, and built-in serial (RS232C) and parallel (Centronics) ports. The two single-unit computers are the 130ST with 128K, and the 520ST with 512K. Associated peripherals Atari will market include three printers: a color non-impact dot matrix, a daisy-wheel letter quality, and an impact dot matrix printer. There will also be single and double-sided 3-1/2-inch floppy drives (250K and 500K respectively), a 7-1/2-inch 10 megabyte hard disk, and two 12-inch monitors: high resolution monochrome, and RGB color.

We don't have prices yet for any of these, but we know that prices will be low. The ST machines have been dubbed "Jackintosh" by those who believe that Tramiel would love to take a big bite out of Apple's market by offering technology similar (or superior) to its Macintosh at approximately a third to a
fourth of the cost. The big question is: Will there be any application software available for the machine in time to promote the ST's success? Tramiel is reportedly actively encouraging software development by third-party houses. Also, since Digital Research has made GEM available to IBM PC software developers, it would probably be easy to port applications developed for the system between computers. That is, any programs written for GEM on the PC will run with little or no alteration on the Atari ST's. And it's a sure bet that there will be significant program development on GEM for the PC, because MS-DOS's (and PC-DOS's) lack of user-friendliness is the chief current stumbling block in sales of PC hardware and software.

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PRINTING GRAPHICS

In the last issue of this newsletter, we reviewed IMSI's 4-Point Graphics Plus including the Mindset Graphic Interface (MGI), and mentioned that MGI doesn't work with our Gemini 10X printer. If you set MGI for Epson MX, RX with SETPRINT, MGI prints out recognizable graphics on the Gemini, but separates each line of graphics with a line of blank space for an unpleasant striped effect. This is due to the fact that Epson's smallest increment of paper advance is 1/172 of an inch, while Gemini's is larger -- 1/144 of an inch. Thus, when the paper is advanced the proper number of increments to print the next line of graphics on an Epson, advancing the same number of (larger) increments on the Gemini moves the paper too far forward.

The solution is to decrease the number of increments advanced for each line. If you have a disk editor such as Peter Norton's Sector Modify Utility, this is simple to effect. NOTE: DO NOT TRY THIS ON THE ORIGINAL MGI.EXE FILE -- USE A BACKUP.

First use SETPRINT to set MGI for Epson MX, RX. Next, go to the 14th sector of file MGI.EXE. You need to change two bytes in this sector. The sector offset of the first byte, which is 17h (hexadecimal), is 437d (decimal) or 1B5h. Change this byte to OFh. The sector offset of the other byte, which is 24h, is 455d or 1C7h. Change the 24h to 18h. In doing this, you're reducing the number of increments advanced for each line of graphics by a third. If, for some reason, you don't find the bytes 17h and 24h at the described locations, look for the text "FRIEZEPRT Epson RX,MX". The first byte comes shortly after this, immediately preceded by the two bytes 1B 33, which mean "ESC 3" to the printer. The second byte should be about 18 (decimal) bytes after the first, and is also preceded by the two bytes 1B 33.

Unfortunately, as we learned from experience, SETCOLOR (for rearranging the correspondence of colors on the screen to patterns on the printer) doesn't work with the modified MGI.EXE file -- you get a mysterious "Template CRC Error" message. This is the reason for retaining the original file. We should note here that, the MGI documentation notwithstanding, black on the screen maps to black on the printer and similarly white maps to white. If you want to avoid using up your ribbon on a few pictures,
reverse these by using SETCOLOR menu Option B to map color 0 to 0 and 15 to 15. and use SETCOLOR menu Option D to save the new default map to the MGI.EXE file, then copy the file and modify it. If you want to use reassign the colors later, use SETCOLOR on another copy of the original MGI.EXE file, then change the two bytes again. By the way, SETCOLOR.EXE and MGI.EXE must be on the same disk.

If you don’t have a disk editor or are nervous about trying this, we’ll be happy to send you a copy of the modified MGI.EXE file if you send a blank disk and postpaid return mailer to the address at the beginning of the newsletter.

MINDSET TELECOMMUNICATIONS

The following was written by Jeff Gortatowsky, a Mindset enthusiast from Rochester, New York, and was downloaded from CompuServe by your editor. Jeff has been alerted about the group and hopefully will contribute further to the newsletter.

The purpose of Mindset Notes is to chronicle on a semi-regular basis my adventures and discoveries with the recently released Mindset PC. First a little background.

The Mindset PC is a sixteen bit computer based on the Intel 80186 CPU. In addition to the main CPU the Mindset design incorporates 2 additional 'co-processors' that control the video output. When bought with the disk expansion unit the Mindset operates under MS-DOS. It therefore has a limited ability to run applications for the IBM PC. When fully configured the Mindset has 2 disk drives (360k each), 256k of main memory, 32k of graphics memory, and a detached keyboard. At this time this configuration costs (approx.) $2500 retail. In addition some hidden costs are almost essential. MS-DOS, BASIC, a printer port, and a serial port are all extra. Total cost after adding these items will run about $3000. A more in-depth description of the Mindset may be found in the April 84 issue of BYTE magazine.

The computer runs fairly hot, especially after several hours of use. This seems to bother me more than it does the computer. I've used it for hours on end, without the slightest hint of trouble, in 90 degree weather. The unit does have a fan installed. While on the subject of the fan, I should tell you that mine has gotten somewhat louder since I bought the computer. Still it seems quieter than the fan in my Columbia MPC.

Physically the computer is quite small compared to the IBM PC. It's about the width and depth of an ATARI 800 and about 1 1/2 times as high. The only problem its size will pose is if like me, you have a fairly large monitor and wanted to place it on top of the unit. Also Mindset warns against putting more than 25 pounds on top of the unit, so I took my 25 inch color TV
off it and bought a Proformance monitor from SEARS Business Center.

Moving along to MS-DOS I've found that the MODE command doesn't always allow you to set the screen mode you ask for. The manual explains that the MODE command can be used to place the machine in either the Mindset Native mode or the emulation mode and leaves it at that. What the difference is between the two is not explained. In addition the Native Mode only seems to work if you define the screen as GRAPHICS not CHARACTERS. Doing so causes the cursor to disappear until you change back to the EMulation mode. The manual is useless on the subject. However it seems that BASIC ignores the DOS screen mode anyway and goes ahead and sets the mode you choose.

In the compatibility department I discovered why most of my excellent IBM terminal programs don't work. All of them seem to manipulate the RS232 control and data ports directly. In the IBM the first port installed maps to I/O address 3f8h. Looking at the DOS data area in the Mindset I've found the port mapped at 8080h. that isn't the only problem however. It appears (though I haven't completely confirmed this) that the data and control registers are not in successive I/O locations like the IBM. Instead they seem to be spaced 2 locations apart from each other. That limits the type of program patching I can do. If a program uses the INC DX instruction, which only takes one byte, then its impossible to put a ADD DX,2 instructions in its place for the Mindset.

The ADD instruction takes two bytes. The increment instruction works on the IBM because of the control ports for the RS232 being in sequential order. For those I've lost I apologize. However for those familiar with the IAPX CPU's, I'm open to suggestions. I've got an idea of replacing the RS232 code completely with a setup then call to the DOS interrupt for RS232 I/O. But it would take alot of work. Then again I could just keep on using PCTALK III in BASIC (ugh) or write my own (when???).

While I was working in the RS232 problem I also found the printer port mapped at 80c0h. So far however I've found none of my programs except VisiCalc to have a problem with this. Perhaps the printer port is mapped twice. I doubt this but it might be possible. A more likely explanation is that a program not finding the printer where it should be decides to use MS-DOS's printer vector instead. Again as with the RS232 port the printers I/O addresses are spaced 2 apart. I could find nothing in the INTEL 186 programmers reference ng mandatory so I don't think it's needed because of the 80186.

Another point I've discovered. The Mindset has a very powerful sound capability. This includes 6 voices, variable attack and decay, and interrupt driven (background) sound. However the Mindset does not send sound information over the video signal. Not even the RF modulated TV output. You must have a separate AUDIO IN jack on whatever type of video
display you’re using. Alternatively you can connect the sound output to a stereo AUX input. Of course if your like me and like to listen while typing that won’t do. So beware when buying monitors for the Mindset. Try and get one with separate audio inputs.

Mindset Notes ——— June 20, 1984

Rumor here in Rochester has it that Computerland will be carrying the Mindset in the future. This could help it get the recognition it deserves. The last issue of PC magazine has a full 2 page ad from Mindset, so it looks as if their ready to push the machine. Also in the magazine department, the July issue of Microsystems has a comparison of the DEC PRO 350, NCR PC, and the Mindset. Although they were only able to test the Mindset briefly I feel for the money it came out very well indeed. There are a few errors in the article. One being the Mindset supports 4 colors in 640x200 and 2 in 640x400 interlaced.

Using Trace 86 and DEBUG I’ve confirmed the serial port is located at 8080 hex. After typing in and trying a short serial driver for the IBM I found the port also seems to answer when addressed as 3f8 (IBM’s port address). It must be designed to answer to both (?). However I could not read from it at 3f8. I found the RS232 service routine (INT 14H) at F800:11A0 hex in the ROM BIOS. Looking through it I found that Mindset’s baud rate divisors are slightly different to the IBM’s. Keep this in mind when doing any writing or patching for the Mindset. The table starts at F800:128A and ends at offset 1299H. It seems to cover baud rates from 134.5 to 9600. As I suspected each register of the Mindset’s serial port is separated from the next by 2 I/O addresses. The entry parameters to the BIOS seem to be totally IBM compatible. That doesn’t help most terminal programs as they don’t use it. I’m working on patches for a couple.

Remember that when disassembling the BIOS, the 80186 has 8 new instructions that most IBM debuggers won’t disassemble. Debug found one of these in the RS232 BIOS routine. It appears as a ‘DB C1’ to DEBUG. However when executed performs a rotate of the DI register left by an immediate value of 4. The 8086/88 don’t have that addressing mode. The worst part of course is it makes a mess of the disassembly listing as the following instructions aren’t in the correct addresses. A word to the wise. Don’t assume you’re looking at data. Make sure it’s not a 80186 specific instruction. I keep the INTEL manual nearby at all times. The best way to get the disassembly straight is to step through the unknown instruction, see what happens, then pick up the disassembly after that point. Of course this could cause a lock up if it’s not a instruction so look up the hex op-code if at all possible.
More assembly ramblings...the End of Interrupt sequence in the Mindset seems to be different. In the BIOS it doesn’t look like it’s IBM compatible. But so much software runs ok that I wonder if Mindset didn’t somehow emulate this also.

Here’s a quick map of the serial port as I’ve found it. I hope this helps some Mindset owners.

COM1: ONLY!

8080H -- TX/RX data register when bit 7 (DLAB) of the Line Control Register (LCR) is false (0)

8080H -- LSB

8082H -- MSB of baud rate divisor when LCR’s DLAB bit is true

8086H -- Line Control Register

808AH -- Line Status Register

808CH -- Modem Status Register

Except for the 2 address spacing, they all seem to operate as described in the IBM Technical Reference Manual (TRM). Also the ROM BIOS entry parameters are IBM compatible. These can also be found in the TRM. The major difference is the I/O locations and the baud rate divisor’s. I guess you’re wondering why I’m going through such great pains to discover the RS232 secrets, you probably never had to work with a BASIC terminal program. Also I believe you should know your machine’s basics before moving on to the more complex features.

That’s all for now. If you’ve found my ramblings interesting or of value let me know. If there’s enough interest I’ll continue. I’m having a ball exploring! Let’s hear from you!

From the Bit Bucket,
Jeff Gortatowsky
CompuServe ID 70516.751
Welcome to the first issue of the FMUG Newsletter to be typeset by computer -- Mindset computer. PC Paintbrush from International Microcomputer Software, Inc. of San Rafael, California, who developed 4-Point Graphics Plus for Mindset, is a MacPaint Clone per excellence. This text is being typed in directly from the Mindset keyboard with PC Paintbrush's 5-by-8 bit font in the 640-by-400 pixel graphics mode. It's not very well suited to word processing, and is not intended to be, but is fine for creating spiffy openings for user group newsletters. For instance, there's no insert, or search and replace, but backspace is destructive and works fine as long as you don't perform some other function while typing. When you hit return, the text cursor returns to where you first positioned it and skips a line. To print this as single-space, I move the cursor up a line every time I hit return. Sometimes while I'm typing the mouse rolls a bit, the cursor moves off the drawing area, and I lose my text cursor. Also, since my Sears monitor flashes in this high-res mode, this sort of writing is not very good for my eyes.

Of course, it would be impractical to set the entire newsletter this way, but I thought it would be fun for readers to see some of the things this marvelously versatile graphics program can do. The fonts used in this box, in order, are Old English, Sanserenf, script, light, computer, Euro, and Roman.
The preceding page contains several representative PC Paintbrush screens. You can see all the tools in the icon menu on the left, and the different pull-down menus named at the top of the screen. Undo is very handy for trying a lot of different things quickly, and there’s also a local Undo for getting rid of part of the last thing you drew without disturbing the rest of your drawing. There are numerous print styles, most of which can be printed in light, medium, or bold, with any or all of the following options: italics, underline, outline, shadow, and kerning (proportional), in any of eight sizes.

The top four icons are used for drawing hollow and filled circles, ellipses, and rectangles. The next two are erasers; the left erases only the current color or pattern, and the right erases everything. The line icon is used for rubber-band line drawing, and the paintbrush is the normal brush, which can be set to a number of different shapes and sizes. The spraycan, also adjustable, is used for an airbrush effect, and the paint roller to fill enclosed areas with a pattern or color. The scissors are used for cut and paste operations with rectangular picture areas -- "clips" are stored in disk files, and you can access any number of clips with the mouse once you’ve typed the names in with a clever rotating pull-down directory system. The "boxes" next to the scissors are used with the "Pick" pull-down menu to mirror, invert, enlarge and reduce, and skew any-sized picture area. This function, a new feature, is implemented quite well -- for instance, the transformed area can be placed anywhere on screen, leaving the original unaltered.

Since the total drawing area is one full screen (unfortunately not higher, as in MacPaint), you must use the hand icon to move the "paper" around underneath the menus to get to the part you want to draw on. Lastly, the "T" icon is used for typin in text. The gauge in the lower left corner sets the size for brush, line, and geometric figure drawing.

PC Paintbrush’s Fatbits display (no suit from Apple over the name?) is depicted on the lower left of page two. There are two levels of magnification for fine-detail work. A tiny box showing the unmagnified area you’re working on is in the upper left corner of the drawing area.

Also shown page two is the Edit Pattern display. As you manipulate bits in an eight-by-eight matrix in the left box, the right box shows the current repeated pattern in true size.

Although PC Paintbrush is by no means perfect -- for one thing, it would be nice to be able to edit fonts -- it’s a great program, and one every Mindset owner should have. It’s the first graphics program for the Mindset that supports all of the machine’s graphics modes, and is very reasonably priced as well. We’ll be giving more coverage to this remarkable program in future issues of the newsletter.
IMPORTANT NEWS--

The next meeting of the First Mindset Users Group will take place at Mindset Corporation headquarters in Sunnyvale, on the evening of Monday, February 11. We will rendezvous at the main office at 517 North Mary at 7:00 P.M., where company representative Jim Hannon will meet us and give us a guided tour of the company facilities. There will be a demonstration of the Video Production System using a video camera, other demos, and possibly some surprises. Call David Duberman at (415) 668-8352 for further information.

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OTHER NEWS

A couple of items in the February issue of Byte magazine are of interest to Mindset owners. Micro Mart, a chain computer retailer in the Southeast, is getting out of the Mindset line, and is advertising a two-drive 256K system including mouse for $1795. Also, Advanced Micro Devices (AMD), a Silicon Valley pioneering chip firm, has come out with a 10-megahertz version of the 80186, Mindset's CPU. Although there was an 8-megahertz version of the chip available at the time, Mindset chose to use the 6-megahertz 80186 because it was more readily available.

We hear the CompuShop, the Texas-based chain of retailers, originally the only retail outlet for Mindset in Northern California, has also decided not to sell the computers any more. Their salespeople are telling prospective customers for the Mindsets being remaindered at prices similar to Micro Marts that the company has decided to market the machine vertically, that is directly to business users. CompuShop stores currently have some great deals on Mindset software and peripheral hardware.

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WE GET LETTERS....

Marinus Lutz of Japan has been in touch several times requesting information for a 3D x-ray project he's working on. He's not yet an owner, but is very much interested in possibly using a Mindset to extrapolate with software a three-dimensional representation of a body area from two sets of x-y-z coordinates, in order to spare medical patients the ordeal and danger of many sets of x-rays. If you have knowledge of such software, contact Mr. Lutz at 202 Watanabe Apts., Sakamachi, Shinjukuku, Tokyo 160, Japan.

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Following is a listing of the FMUG Public Domain Disk Library, compiled by David Mentley. For any or all, send blank formatted disks and a postpaid return mailer or $4 each to: FMUG, 355 15 Ave. #5, San Francisco, CA 94118. Membership in FMUG is $15 a year.
FMUG 1 - UTILITIES

FMUG 2 - C STUFF

FMUG 3 - BATCH TUTORIAL

FMUG 4 - BASIC GAMES

FMUG 5 - POPDEMO

FMUG 6 - BIT BLIT DEMO
FHUG 7 - UTILITIES 02-01-1985
ALPHAHEX.BAS CRCK4.COM LPT12SET.BAS STARTUP.CLR
BLUEBERRY.BAS DIFFORM.BAS MENUMPRT.BAS STARTUP.BAS
BLUEBERRY.DOC EASYWORD.BAS NECLABEL.BAS TASKLIST.BAS
BLUEBRYO.DOC EPSONSET.BAS NICELIST.BAS TEST2ART.BAS
BLUEWIL.BAS ESCKEY.BAS PC-COLOR.BAS TESTWAIT.BAS
BOXINBOX.BAS FILEDATE.BAS PCADD.GRA TESTWRT.DOC
BOXINPUT.BAS GASFORM.BAS PEEKPRINT.BAS TIMESHOW.BAS
BUSCHECK.BAS HEADCLN.BAS PRINTCALL.BAS WEIGHTM.BAS
CALCULATE.BAS HEXPRTNT.BAS PROGHEAD.BAS WORKFILE.BAS
CHINFORM.BAS HEXRAY.BAS QUICKBOX.CLR WORKFILE.DAT
CHAINPRINT.BAS IOMLABEL.BAS RANOSSED.BAS YESCARD.BAS
CIRCLE.GRA KEYSET.BAS SAMPLE.TWO YOURMEML.BAS
COLORSEE.CLR LABELPRO.BAS SAVINGS.BAS ZIPCLEAR.BAS
COMPOUND.BAS LISTSKIP.10P SHOWBOX.BAS 14336 Bytes
CRC.TXT

FHUG 8 - GENEALOGY 02-01-1985
ALPHAPER.BAS DIRECTOR.BAS LISTMAR.BAS REFERENC.BAS
ALPHAPER.BAS DISPLAY.BAS LISTPCI.BAS TABLEOFC.BAS
APPENDIX.BAS FAMILY.BAS LISTPER.BAS UPDATMAR.BAS
CRC.TXT GENERAL.BAS MENU.BAS UPDATORD.BAS
CRCK4.COM INDEXMAR.BAS PEDIGREE.BAS UPDATPER.BAS
CREATMAR.BAS INDEXPC.BAS PRINTMAR.BAS USINGTHE.BAS
CREATOR.D.BAS INTRODUC.BAS PRINTER.BAS 13312 Bytes
CREATER.BAS

FHUG 9 - FREEWILL 02-01-1985
BANNER.ASC FREEWILL.ASC PAGEIX.ASC PRINTING.DOC
C2.BAT FREEWILL.DOC PAGEV.ASC TRUST
CRC.TXT PAGEII.ASC PAGEV1.ASC WILL
CRCK4.COM PAGEIII.ASC PAGEVII.ASC XIII
DISCLAIM PAGEIV.ASC PAGEVIII.ASC 36864 Bytes
THE MINDSET SOUND EDITOR

The ISV Toolkit, the software development package that provides function calls for "C" and Pascal programmers, also includes a graphics editor called Ida, and a sound editor called simply "Editor". The sound editor is an attempt to give the Mindset user easier access to the custom sound chips in the machine. GW Basic permits only limited manipulation of their possibilities. The editor, on the other hand, provides a dedicated "control panel" that permits the user to create virtually any sound or combination of sounds the Mindset is capable of. The control panel displays as a set of "gauges" on the screen that can be adjusted to control frequency, amplitude, attack/decay, AM modulation, FM modulation, and FM frequency ramping. In addition, a noise and sound mask are provided. If you know as little about sound and music as I do some of these terms may seem incomprehensible. That is not terribly important. The tool is designed for learning by doing. A given "gauge", say the frequency gauge, can be adjusted with either the left-right cursor control keys or by simply inputting a number corresponding to the frequency. The resultant note can be played by hitting function key 10. Consequently one does not have to be a musical expert to master the tools. One simply fiddles with the dials and knobs and listens to the results. Of course the musical expert will be able to exploit the system's possibilities more quickly and more intelligently.

Different parameters are selected by moving the up-down cursor keys. The selected parameter is highlighted (The panel is in color) in pink. In addition to the gauges, single letter commands can be issued at the keyboard to build sound lists (sequences of sounds which can be played back at a single key stroke), save the sound list to disk, or load a previously save soundlist back into memory. These commands constitute a crude editor, the limitations of which quickly become exasperating. Altogether, there are 19 single key commands including Append a sound to the soundlist (the sound generated by the current settings of the gauges), Get a previous sound from the soundlist (whereupon the editor prompts you for the numerical position of the sound in the list, and makes it the current sound, adjusting all the gauges to the correct parameters), and Display the soundlist (which displays all the parameter values associated with each sound). The duration of the sound may be specified and a pattern of sounds may be repeated up to 255 times by "looping." Looping involves placing a Begin-loop command in the sound list and an eNd loop command followed by the number of times the pattern is to be repeated. Loops, unfortunately, cannot be nested.

Almost immediately I began wanting commands not on the list. Music, after all, consists largely of repeated patterns, and repeating a pattern of sounds with the editor is a laborious processes, requiring that each sound in the pattern be gotten from the sound list and then append to the end. A tool similar to the "block move" in word processing would be helpful. In
fact, all the standard block options would be an improvement — the ability to create, move, delete, and copy a block within a file or to another file, or the ability to read in a soundlist from disk and append it to the current one. Another nice feature would be the ability to play a block independent of the whole sound list. Listening repeatedly to the entire sound list in order to gauge the effect of the last two or three sounds is a time consuming process.

The problem with such complaints is that there is no alternative. If you are dissatisfied with your wordprocessor, there are 250 on the market. There is only one Mindset sound editor that I know of, so you are stuck. Developing a more complete one for a computer with such a small installed base seems like an exercise in financial gullability unless you do it purely for your own enjoyment.

The editor is not entirely bug free either. If you do not have the stereo module, never, and I repeat, NEVER change channels. It is a fatal error which requires more than a warm boot. You have to turn off the machine and start from scratch. Occasionally some incorrect input has caused the screen display to lose its bearings and creep upward with every carriage return, but this problem can be solved by hitting ESC, which rewrites the screen. I encountered a serious problem attempting to use the noise and sine masks. While the current sound could be altered using the noise mask and played back with F10, the modified sounds would not append to the soundlist, or rather, they could not be played back with F9 (which plays the entire soundlist) despite that fact that the editor clearly said the sounds were being appended. At one point, while using the sine mask, the whole screen became covered with a pattern of dashes and the machine froze. My recommendation for all users is save your files frequently. You never know what might happen next.

The documentation is skimpy, to say the least, about 9 pages. Considering the enormous potential of the hardware, and the complexity of the concepts involved, a few examples would have been helpful (Surely someone down at Mindset has come up with a way to make it sound like a fire engine or violin). I can only reiterate, however, there’s not competition. You pays your money and you takes your chances. All in all, considering the ISV Toolkit comes with a graphics editor as well as the "C" and Pascal routines, and all this for a mere 100 American dollars, you can hardly complain to vociferously. I have spent many evenings creating tiny, if somewhat peculiar, musical inventions using the editor. I say, check it out music lovers. You too may be another Lawrence Welk.

By:

Bruce Skogen
The next meeting of F.M.U.G. will take place at Graphic Reproduction, 981 Mission St. (near 6th), San Francisco, at 7:00 PM, Monday, March 18. Meetings are usually held the third Monday of each month. Here is a list of the next three meetings:

- Monday, March 18, 7:00 PM
- Monday, April 15, 7:00 PM
- Monday, May 20, 7:00 PM

We'd like to thank Jeff Patterson of Graphic Reproduction, who provides his company's facility for our meetings and also prints the newsletter every month, all at no charge. Not coincidentally, Jeff sells Mindsets. In fact, his company placed a handsome ad, which we'll reproduce in an upcoming issue, in a local Bay Area biweekly, Computer Currents. Graphic Reproduction discounts all Mindset hardware and software 20% and intends to continue to sell Mindsets, which is more than can be said about certain computer retailers that are currently closing out the line at large discounts. Contact Jeff at (415) 777-9346.

Mindset Meeting

The February meeting of the First Mindset Users Group was hosted by Mindset at their Sunnyvale offices. Mindset's Jim Hannon had much of interest to show and say. We were treated to an impressive demonstration of the Video Production System used with a live video camera. The most interesting news concerned the announcement of the Video Capture Module, described later in this issue. In other news, we learned that instead of producing the planned hard disk drive (10 megabytes for $1500), Mindset will develop an interface in conjunction with the Xebec disk drive company. Also, owners of standard Mindsets who wish to upgrade to the Video Production System can simply buy a new genlocking base unit and genlock box from Mindset for 30% off list ($1599 + $799). Potential uses for your old base unit are left up to you.
As for the current state of Mindset, Mr. Hannon told us that they are doing quite well with the Video Production System, and are in fairly good shape financially since the recent layoffs. There probably won't be a whole lot of new Mindset software in the immediate future. However, FMUG is going to try to work with Mindset to make available whatever products may have been almost ready available to members. We won't mention any specific products to avoid accusations of 'vaporware', but watch this space. At the end of the meeting, we had a chance to meet and chat with some of Mindset's resident geniuses, also known as engineers, who were very friendly and informative. We thank Mindset very much for the opportunity to meet there, and hope that Sunnyvale meetings will become a regular occurrence.

**Video Capture Module**

This is an edited version of Mindset's press release:

The Frame Capture Module allows you to capture full color video images from any NTSC standard source: VCRs, laser disks, video cameras, and broadcast video. Images are captured in real-time at frame refresh rates. Once captured, images can be manipulated with Lumena and Designer. (We assume that if images can be used with Designer, than they can be saved using MGI - ed.).

The Mindset Video Capture Utility software package provides control over the Module through a menu-driven interface, used with keyboard or mouse. With a single keystroke the utility captures a frame, selects the best color representation from the 512 available colors and displays the image on the screen.

Here are the specs:

Video input (75-ohm): any standard signal from:
- 1/2, 3/4, and 1-inch videotape (consumer or broadcast grade)
- laser disk
- video camera (consumer or broadcast grade)
- TV broadcast

Video output (75-ohm): video loop-thru to allow viewing of image to be captured.

Capture Resolution: 320 x 200 x 12 (4096 colors/pixel)
Display Resolution: 320 x 200 x 4 (16 colors out of 512)
Capture time: 1/60 second
Color mapping time (Video Capture Utility): 3 seconds

Interfaces to Mindset computer via Video Capture Interface Module
Operates with standard Mindset Computer System or Mindset Video Production System
Dimensions: 12" w x 10" d x 1.1" h
Powered by external AC adaptor

That's right folks -- you don't need a genlocking base unit to use this baby! The Video Capture Module should be available in April 1985, and will cost around $1500. We were shown a number of impressive-looking images captured with the Module, although we didn't get to see an actual capture. The price puts it out of range of the casual user, but those using the Mindset for profes-
sional applications, particularly with video, should find it most useful. Contact Mindset at (408) 737-8555 for further information.

New Logo

Notice the new logo? It was provided by member Gary Nickerson of Metairie, who uses a Mindset in his advertising business. Nice work, Gary! We have other logo submissions you’ll be seeing in months to come. Incidentally, we welcome submissions of artwork for publication in the newsletter. As evidenced in newsletter #4, we’ve been getting nice results using PC Paintbrush in the 640-by-400 mode and printing out on an inexpensive Gemini printer. We’ve received some beautiful color slides produced by Bill Hood of San Luis Obispo, California, not to mention a dynamite address label, which we unfortunately can’t reproduce in this medium. We’re considering compiling a disk full of images created by members with Lumena, Designer, etc. to make available to members, if there’s sufficient interest.

Wanna Buy a Vyper?

Synapse Software of Richmond, California has kindly agreed to allow the First Mindset Users Group to make Vyper available to its members for $25. If you’ve seen this arcade game in action, you know that it’s easily the most impressive demonstration available of the Mindset’s graphics and animation capabilities, not to mention a hell of an exciting game. For further information, see the review in issue #1 of this newsletter.

A Mindset joystick ($40) is required to play Vyper. If you’re interested, send a check for $27 (including $2 shipping) to the address above. By the way, FMUG makes nothing on this -- the whole $25 goes to Synapse, the one company that had faith enough in the Mindset to invest their time and energy into developing this great game.

Thanks to member Mark Hapner for this long contribution. We welcome articles, reviews, commentary, or anything else you’d like to contribute to the newsletter.

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Modula 2 and the Mindset
by Mark Hapner

The Modula 2 Language on the Mindset

The Modula 2 language is a relatively recent arrival on the scene of computing. Recently there has been quite a lot of information published about it. The reference list contains a few sources of information. This article contains some of the things I think
are significant about the language and some of my impressions of its use on the Mindset with the Logitech compiler. I will contrast Modula 2 with both C and Pascal since all are trying to meet the same need.

In order for you to put my views in perspective I'm including the following info on my background. I have been interested in computer languages for a long time. I've used Fortran, Cobol, PL/1, Pascal, and several assembly languages extensively. I also attended several government sponsored meetings on Ada and have a high degree of familiarity with it (although I have not actually programmed using it). I have scanned the C manual and talked to users, but have not used it myself.

Until recently, performance on micros required assembly language. Good C compilers for the PC have recently become available and applications using C are just beginning to enter the commercial market. C is not an assembly language because it hides the architecture of the machine from the programmer. It is not considered a high level language because it lacks features like data structuring. It makes up for this by providing more freedom and higher efficiency. The freedom is provided whether you want it or not (in much the same way that assembly provides freedom). Since it has been accepted by developers, extensive libraries of functions for windowing, B-tree files, etc. now exist.

C does not contain a single feature which is considered to have advance the state of the art in programming. In fact it ignores several features which are considered to be highly important, like Pascal's strong typing. Its major contribution to computing is that it has the requisite facilities for system level development and is portable. Its simplicity allows it to be rehosted without a significant loss of efficiency. Its acceptance has spawned a beneficial spiral of interest and availability.

The problem with C is that it contains little of the technology which assists in the development of complex software (to be fair, some of the tools within Unix do make up for this to a small extent). The net result is that software written in C is inherently less reliable and more complex than it need be.

The benchmark data in the PC Tech reference compares Microsoft Pascal and C compilers. It shows that they are about the same in execution efficiency. This illustrates that inclusion of Pascal's data structuring and strong typing does not force a loss of performance. It's the quality of the compiler that makes the difference.

The reason that Pascal is not used more for commercial software is that it contains restrictions that limit its application to smaller non-system level problems. Some implementations have tried to improve this situation by extending the language. These extensions suffer from lack of portability and poor design.
Modula 2 is not Pascal with some new features tacked on. It is a completely new language which is designed to handle problems of broader scope. It keeps some of the technology pioneered by Pascal and drops some of the features of Pascal which limited its application. Some have criticised Modula 2 for the lack of a pet feature. It is not perfect. Modula 2 is far more than the sum of its parts. The integration of its features into a minimal but highly functional whole is its best feature.

The basic hypothesis of Modula 2 is that software can be developed at a higher level with no significant loss of efficiency. Just as Unix was written in C, Wirth (the designer of Pascal and Modula 2) wrote an operating system for his Lilith computer in Modula 2.

Both Modula 2 and Ada attempt to take up where Pascal and C left off. They are designed to help the programmer to develop modules with well defined interfaces. The user of a separately compiled module gets the same level of type checking as procedures within his own unit. In addition, a method of naming is introduced so that two modules that contain an identifier of the same name can both be used without conflict. In addition both languages provide system level facilities to escape type checking and access hardware when needed.

Ada, with present implementations, cannot begin to challenge C in performance or cost. Modula 2 can and does. Until Ada can make this challenge (and compile on its target machine) it is not worthy of much discussion.

The Logitech Modula 2 compiler (Modula-2/86) release 1.10 is a high quality professional software development system for all MS-DOS based machines. It is a later version than is tested in the PC Tech reference. Its major enhancements are improved compilation speed (it was slow, now its well within reason), 8087 emulation (needed by us since Mindset designed out the 8087), and improved speed of pointer dereferencing (the only major inefficiency found in the benchmark). I ran the PC Tech benchmark on the Mindset and found that the times for Logitech Modula 2 met or bettered the times for Microsoft Pascal. This is to be expected since the Mindset is faster than the IBM PC used for the benchmark.

Logitech Modula 2 includes full access to DOS facilities and several other modules for IO and other useful things. Its cost is $495 and a runtime debugger costs an additional $250. Most of the complaints in the PC Tech review have been addressed in the 1.10 release.

As an example of the capability of Modula 2, I have included a Module I wrote to interface to the Mindset display processor operations. The complete interface produced 287 bytes of code and consists mainly of moving parameters from the Modula 2 parameter stack to registers and back. Its major benefit is that
it provides a highly symbolic and thoroughly type checked interface to the functions.

This example consists of two compiler listings. The first is the compilation of the definition of the display processor module (DSP). This must be produced and compiled before users of the module can compile and before the implementation of the module can be written. When it is compiled it produces a symbol dictionary for the module which is referenced when the definition is referenced. Other languages usually require copy files which must be parsed each time they are referenced. The second listing is a simple program that sets a few of the display parameters.

The implementation of the module is not shown since its a bit too long for this article. Typically each operation required three or four lines of code. Most statements were assembly code inserted using the Logitech facility for execution of data values. The implementation of the display processor module is not portable. Its definition is potentially portable.

When a module interface is compiled it is assigned a unique id. When it is recompiled this value is changed. If either an implementation or a user of the module has not compiled with the latest version of the interface the linker reports an error. This prevents the loss of interface validation caused by interface revision. The implementation of the module can be changed at any time without recompiling users as long as it uses the current version of the interface. This assumes that the implementation has remained faithful to the intent of the interface. Since the compiler cannot judge this, it does not attempt to do so. When a change in intent occurs, it is up to the developer to determine the code affected.

Rather than continue to discuss generalities, I have heavily annotated the example. Those familiar with Pascal should have no trouble picking up Modula 2. For those interested in experimenting with Modula 2, the $50 interpreter noted in the references is a cheap alternative. Performance is about 15 times slower than Logitech version but about the same as Pascal on the P system. The Volition Modula 2 is a definite loser in price/performance ratio. I have no knowledge of the other two compilers referenced.

Packages with the same facilities as those offered for C should appear soon for Modula 2. I do not know of any commercial products yet written with Modula 2; however, given the quality of the Logitech compiler I would expect some soon.

The runtime debugger provided by Logitech is an excellent example of a quality tool. It will debug up to a 90k program with overlays on a 256K system. No special compilation is needed, it uses reference files produced as a normal part of compilation to support breakpoints at the statement level and to query and set data values. This is done with the full text of the program visible on screen; no reference to listings is required.
If you are contemplating buying a C compiler for $350, spend an extra $150 and get Logitech Modula 2. It's a superior tool in every respect. Interface Technologies Modula 2 might also be worth checking out. They make some strong claims. Rumor has it that Borland is about to announce a Modula 2 compiler.

References


PC Tech December 1984 reviews three Modula 2 implementations - Logitech, Volition, and Modula Research Institute.

Byte August 1984 has several articles on Modula 2

Implementations on IBM PC and compatibles


Modula-2(Interpreter) release 0.3p for UCSD P system, Volition Systems, P.O. Box 1236, Del Mar, Ca., 92014, $395.

M2M-PC(Interpreter) release 1.34, Modula Research Institute, 1673 West 820 North, Provo, Utah, 84601, ph. 801/375-7402, $40.

Modula 2 integrated with syntax directed editor, compiler, linker, and utilities, Interface Technologies, 3336 Richmond, Houston, Texas, 77098, ph. 800/922-9049, $249.

Modula 2(Interpreter), Modula Corp., 950 N. University Ave, Provo, Utah, 84604, ph 801/375-7400 or 800/LILITH2, $90.

-----------------------------------------------------------------------------------

(*)
The following is an example of a Modula 2 program which uses the Mindset display processor module to set the graphics mode and initialize the palette. This is done only when the Mindset is in Genlock status. This is a main program module because it does not state that it is either a DEFINITION or IMPLEMENTATION module.

*) MODULE EXAMPLE:

(*)
The import line lists the modules referenced by this module. This method of import gets all identifiers exported by the module. To reference them in this module requires that they be
proceeded by their module name. Another form of import allows a
specific list of identifiers to be named. These are made local
to the routine (as long as no conflicts exist) and can be
referenced without the module name prefix. Every use of a DSP
identifier is cross checked against the content of the
definition module. This is accomplished efficiently because the
compiler produced a symbol table for the definition when it was
compiled.
*)
IMPORT DSP;
(*
The variables needed for the program are declared
VAR
myPalette : ARRAY[0..3] OF DSP.ColorS;
oldMode : DSP.ScreenModeE;
oldStatus : DSP.StatusS;
oldBitsPerPixel : CARDINAL;
BEGIN
(*
The current screen mode is queried.
*)
DSP.GetScreenMode(oldMode,oldStatus,oldBitsPerPixel);
(*
The IN operator tests for the existence of Genlock in the
oldStatus set variable.
*)
IF Genlock IN oldStatus THEN
   DSP.SetScreenMode(M320x400x2);
   myPalette[0] := DSP.Red;
   myPalette[1] := DSP.Green;
   myPalette[2] := DSP.Blue;
   myPalette[3] := DSP.Black;
(*
The four entries in myPalette are placed in the first four
entries of the Mindset palette. Entry three (Black) is chosen as
the background color.
*)
DSP.SetPalette(0,4,0,3,myPalette);
END;
END EXAMPLE. (*

This is the definition of the Mindset Display Processor module.
It defines the interface to all available Mindset display
processor primitives.
*)
DEFINITION MODULE DSP;
The export list of a definition module lists all the identifiers that can be referenced by a user of the module. This implies that some identifiers may be used in the definition but can only be referenced by the implementation. This is not done in practice. Wirth has recommended that the export list be dropped from the language. I agree.

Note - Case is significant in Modula 2, also the underscore cannot be used in the language because it is not in the ascii character set.

EXPORT QUALIFIED
  ScreenModeE, StatusE, StatusS,
  GetScreenMode, SetScreenMode,
  Monitor, ColorTV, BWTV, SetDispDevice,
  SyncFeatureE, SyncFeatureS, SetSyncFeatures,
  ScanLineC, ScanDiagnosticE, SetIntScanLine,
  ColorE, ColorS,
  SameBorder,
  Black, Grey, Scarlet, Ochre, Forest, Turquoise, Navy, Violet,
  Steel, White, Red, Yellow, Green, Cyan, Blue, Magenta,
  SetPalette, GetPalette,
  Done, WaitIntRtn, Wait, SetIntRtn, DisableInterrupt,
  SwitchActiveBuf,
  BorderIndexC, ColorIndexC, ColorTableLengthC, InterruptPR;

The types used in general are listed here. The types used exclusively with a particular function are listed with the function. The only restriction is that they are declared before they are used.

TYPE

These cardinal types are declared with restricted subranges. Checking to verify that the subrange is not violated can be optionally included at compile time.

BorderIndexC = [0..16];
ColorIndexC = [0..15];
ColorTableLengthC = [0..16];

This declares a procedure type with no parameters as an interrupt procedure. Modula 2 allows procedure types (implemented as addresses) to be be declared and passed as parameters, used as fields in a record, etc.

InterruptPR = PROCEDURE;
This is an enumerated type that contains a symbol for each Mindset display mode. The order is significant. It determines that the mapping of the value used by the compiler will correspond to that required by Mindset. In this case M320x200x1 will be assigned a value of 0 because it is first in the list. This is like Pascal.

`ScreenModeE = (M320x200x1, M320x200x2, M320x200x4, M640x200x1, M640x200x2, M320x400x2, M640x400x1);`

This is an enumerated type that contains a list of status values for the Mindset. Here order is important for another reason. The value assigned by the compiler determines the bit position used for the enumerated value when a Set(bit vector) of the type is defined. In this case ApaMode is assigned the second least significant bit position. The values DSPS1, DSPS2, etc. are used as place holders for bit positions unused by Mindset in the status word. Once this is defined to correlate with Mindset the user of the module does not need to worry about position. He simply tests for the existence of the status values using set constants similar to Pascal.

`StatusE = (DSPS1, ApaMode, CharMode, DoubleBuf, H250, DSPS2, Interlaced, DSPS3, ExternalSync, Genlock, Buf2Displayed, Col180, DSPS4, PAL, TV, BlackWhite);`

These are procedures to set and get the screen mode. The types and mode of each parameter is defined. VAR means the parameter can be used for output and is passed by address. Lack of VAR means that the parameter value serves to initialize the corresponding parameter in the called routine. Any changes to its value are invisible to the calling routine.

`PROCEDURE SetScreenMode(Mode: ScreenModeE);`
`PROCEDURE GetScreenMode(VAR Mode: ScreenModeE;`
`VAR Status: StatusS;`
`VAR BitsPerPixel: CARDINAL);`

The constants are defined below so that the appropriate combinations of elements in the device set are used for the desired purpose. The user could provide the set literal himself, but having the constants makes it a bit easier.

`CONST Monitor = DeviceS(MonitorDev);`
ColorTV = DeviceS{};
BWTV = DeviceS{BlackWhiteDev};

PROCEDURE SetDspDevice(Device: DeviceS);

TYPE
SyncFeatureE = (GenLock, SF1, InterlacedSync, FixedPhase);
SyncFeatureS = SET OF SyncFeatureE;

PROCEDURE SetSyncFeatures(SyncFeatures: SyncFeatureS);

TYPE
ScanLineC = [1..199];
ScanDiagnosticE = (On, Off);

PROCEDURE SetIntScanLine(ScanLine: ScanLineC;
Diagnostic: ScanDiagnosticE);

TYPE
(* These are the bit definitions of the palette entry.
Since the Monitor colors are defined as constants later on, the normal
user would not refer to them when in Monitor mode. If ColorTV
mode is used more constants could be added or direct manipulation
of the bits can be done. *)
ColorE = (TR1,TR2,TR3,TG1,TG2,TG3,TB1,TB2,TB3,TK,UU1,UU2,
MB,MG,MR,MI);
ColorS = SET OF ColorE;

CONST
SameBorder = 16;

(* These are the color constants. Note that they include both
Monitor and ColorTV bit values. The ellipsis(...) means an
inclusive range of values. *)
Black = ColorS{);
Grey = ColorS{TR1,TR2,TG1,TG2,TB1,TB2,MR,MG,MB};
Red = ColorS{TR1,MR};
Ochre = ColorS{TR1,TG1,MR,MG};
Forest = ColorS{TG1,MB};
Turquoise = ColorS{TG1,TB1,MB,MI};
Navy = ColorS{TB1,MR};
Violet = ColorS{TG1,TB1,MB,MR};
DKGrey = ColorS{TR1,TG1,TB1,MI};
White = ColorS{TR1..TB3,MB..MI};
Red = ColorS{TR1..TR3,MR,MI};
Yellow = ColorS{TR1..TR3,TG1..TG3,MR,MB,MI};
Green = ColorS{TG1..TG3,MB,MI};
Cyan = ColorS{TG1..TG3,TB1..TB3,MB,MI};
Blue = ColorS{TB1..TB3,MB,MI};
Magenta = ColorS{TB1..TB3,TR1..TR3,MB,MR,MI};

(*)
The user controls the palette by declaring an array of colors of any length desired, setting a range of entries in the this array to the colors desired and mapping this range into the Mindset Palette. As an example, if I wanted the palette to contain Scarlet, Navy, Cyan starting at entry 5, I would do the following:

VAR
MyPalette : ARRAY[0..2] OF ColorS;
MyPalette[0] := Scarlet;
SetPalette(0,3,5,SameBorder,MyPalette);
*)

PROCEDURE SetPalette(SourceIndex: ColorIndexC;
SourceLength: ColorTableLengthC;
TargetIndex: ColorIndexC;
Border: Border IndexC;
VAR Palette: ARRAY OF ColorS);
PROCEDURE GetPalette(SourceIndex: ColorIndexC;
SourceLength: ColorTableLengthC;
TargetIndex: ColorIndexC;
VAR Palette: ARRAY OF ColorS);

VAR
Done: BOOLEAN;

PROCEDURE WaitIntRtn;
PROCEDURE Wait;
PROCEDURE SetIntRtn(IntRtn: InterruptPR);
PROCEDURE DisableInterrupt;
PROCEDURE SwitchActiveBuf;

END DSP.

Low-Cost Modems

Byntel, 530 Plyon Dr., Raleigh, NC 27606 (919) 828-4626, offers a 1200-baud refurbished modem for $130. Contact them for further details. Also, Business Computer Network, 2533 S. Hwy. 101, Ste. 210, Cardiff-by-the-Sea, CA 92007, offers a 1200-baud modem plus software and literature for $200. Phone 1-800-446-6255 or 1-800-442-0982. Caveat emptor on both of these, of course.
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USER GROUP NEWS

Due to a recent change of employment and address by your editor (please note new address and phone above), this newsletter will be brief -- our apologies. By the way, we're currently working for Atari Corp., so if you have any questions about Jackintosh, get in touch.

The next meeting of F.M.U.G. will take place at the home of member Virginia Dean, 1830 Woolsey St. in Berkeley near the Ashby BART station. From Route 80 take the Ashby exit east, then take a right turn on Martin Luther King Jr. Drive (formerly Grove), then take a right turn two blocks down onto Woolsey and park. There is no set topic for the meeting, so please bring anything you'd like to talk about. Meeting time is 7:30 P.M. Many thanks to Virginia for providing her home for this meeting.

For various reasons, including conflict of interests, F.M.U.G. meetings will no longer be held at Graphic Reproduction. We welcome suggestions for nonpartisan alternatives.

COMPATIBILITY UPDATE

A great new strategy game for IBM PC that doesn't lock up too often on Mindset is The Ancient Art of War from Broderbund Software, San Rafael CA. We're not particularly fond of war games, but this one is special. We'll print a review soon.

Also, Mindwheel, a great new text adventure from Synapse, is available now. If you like Infocom games, you should find Synapse's 'Electronic Novels' intriguing.

TECH TALK
by Jeff Gortatowsky

I have a couple of corrections to make regarding the published notes I uploaded to CIS. The information on RS232 port locations was only valid if you had your RS232 module installed in the system unit's left slot (looking from the back). In my own defense that artical was written long before I ever received my ISV or PDL. I gleaned the info by tracing the RS232 interrupts and DOS location 0040:0000 hex. By the way, that DOS location is as good as any for determining if a RS232 port is available. Or you can use the GET_MODULE_ID function of the extended BIOS. My guess that certain IBM RS232 ports were shadowed in the Mindset was confirmed in the ISV tool kit documentation. I'm continuing work on Mindcom. Mindcom is my own idea of how a terminal program should work. I've scrapped most of my initial assembler code for C. So it looks like it will still be sometime before Mindcom comes to the public domain.
Now that I've finished the corrections, time for some reflections. I received my ISV toolkit with no licensing agreement so until someone sends me one or tells me I don't need one I'll have to write my own routines. Looking at some of code that comes with the ISV I believe I can do better anyway (don't all programmers!). Some day I hope to use the PASCAL code with TURBO, but I haven't investigated how much modification is needed. Any takers on that one? Another disappointment with the tool kit is the triviality of the example code. No animation, no VBLANK examples, and no source for the editors. More disappointments, no GCP instruction set or MASM macros for it, no 186 macros, no internal port locations, and no ROM source. Come on Mindset! If IBM can release this information, you can too. All that public domain stuff out there just waiting to be enhanced on the Mindset, and we can't get the information needed to really make the machine shine. I think the success of the APPLE IIe and IBM-PC prove that an open system is the way to go. Are Mindset sales that good? Is Mindset so rolling in dough that releasing this information is not necessary? I think not. Drop the price and open the machine up! Do away with the Macintosh attitude. The machine is just too damn good to die a slow death because of 'closed system' thinking at Mindset.

Any Hardware people out there?

I got ahold of a 80186-3 (8mhz) and a 16 meg crystal. The problem is I don't have the nerve to try it! Aside from the obvious baud rate divisor problems, etc., would the machine run? Could the GCP handle the heat? Would the DCP timing be off? Is the DCP clocked off the CPU? Anyone who has the answers to these pressing questions, I'd like to hear from you.

What does everyone think about most expensive 128k expansion board ever devised? 400 dollars! Current 4164 RAM prices are $2.50. Let's see.....we'll need 16 of 'em. At $2.50 apiece that's....wait....umm.....well I come up with $40. That's single quantity price by the way. $360 bucks for a new backplane and a pc board, labor, etc.? Oh well, when it's the only game in town..... . Bring on the AMIGA. (and Jackintosh - ed.)

Don't get me wrong. I love the computer! It's the company that irks me. All the programmers and users I've shown the machine to love it. But I feel obligated to tell them that it's a closed system. The smiles leave their faces, especially the programmers, and they all head back to their IBM's. SIGH... I don't want to make the newsletter my personal gripe forum. But being in New York it's the only way to communicate with other Mindset owners.

Next time I hope to have some code for you.

Jeff Gortatowsky
CIS [70516,751]

PS. If I can write so can you! Let's help Dave out.

(to which we add Amen! Please send in graphics, articles, reviews, or anything else to help fill this newsletter.) Thank you, Jeff.
FIRST MINDSET USER GROUP
c/o David Duberman
333 Escuela Ave. #305
Mountain View, CA 94040
(415) 961-7051
Newsletter #7 -- May 1985

MAY MEETING & NEWS

The next meeting of the First Mindset User Group will take place Monday, May 20 at 7:30 P.M. at the home of Josepha Haveman. The address is 47 Del Mar in Berkeley. From University Ave. heading east, go north about four blocks, then right on Cedar. Take Cedar to the end, or top, then left on La Loma. Take La Loma to the end, then right on Glendale. At the end of Glendale, turn right on Del Mar. Josepha’s is the second driveway on the right side.

Please note the change of address and new phone number above. The apartment number differs from that printed in the previous newsletter, as does the telephone number -- last month’s number was incorrect. We understand some mail has been returned “Addressee unknown” -- the problem with the post office should be straightened out by the time you read this, so please try again. If you are owed any back issues, please let us know -- two moves in one month tends to scatter records. Please keep in mind that back issues are in short supply. If you’re receiving this newsletter but haven’t paid your dues ($15), this may be your last issue. Please send a check to the address above.

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MY LIFE WITH THE MINDSET AND OTHER REVIEWS
by Greg Wood

I think I bought the Mindset over other computers because I’m really more of a visual person rather than verbal. However, Jeff Gortatowsky’s call for the rest of us FMUGgers to write woke me up. So I would like to express my views on some of the software I’m using and also leave some questions for someone to answer since I’m stuck down here in L.A. (Santa Monica to be exact 213-453-2936) By the way, couldn’t FMUG list members with area of interest and phone numbers? (It’s in this newsletter -- ed.)

First off I want to recommend a word processor to anyone who has not bought one yet since this one is only $25 and seems to do what you want although I’m no expert. It’s called My Word! and it’s available by mail from TNT software, 34069 Hainesville Road, Round Lake, IL 60073. The author, Bruce W. Tonkin, claims it’s better than wordstar and it may be. Phone is 312-223-8595.

Next software I can totally recommend is Odesta chess for the Mindset. It seems a bit expensive: around $75 but if you like chess at all or want to learn about chess this program is fantas-
tic. The pieces actually leap around the board in 3D with a shadow moving along under the piece. There is a menu with all kinds of features like taking back moves or playing back the whole game. There is also a library of about 30 famous or interesting games that you can play back and study. And you can store your own games on a separate disk if you want. So far I have done as well as level 3 and I’m somewhere between a novice and an unrated player. I’m sure it will challenge most, except the super high rated master types. Besides all the great features I have not even mentioned yet there is one thing that I consider a drawback. There is no way to get a screen dump of the chess board because the program is copy protected. If someone has an answer I wish they would let me know. I think it would be the ultimate way to play chess by mail (or over the phone?). By the way, My Word! mentioned above is not copy protected. Odessa’s address is 3186 Doolittle Drive, Northbrook, IL 60062. Phone is 312-328-7101. To order: 800-323-5423. One other thing: instead of a mouse it uses the arrow keys and return which works just fine.

I’m not sure whether to recommend this next item or not but I feel it’s at least worth knowing about. The HP Thinkjet is a pretty neat printer. However if you want to hook it up to a Mindset it doesn’t work correctly unless you put a buffer in between. I was getting transposed letters like w instead of s until I put a Quadram parallel in/parallel out buffer in between the computer and the printer. However, I managed to write a nifty screen dump program in GW Basic which takes a high resolution image (640x400), peeks the screen buffer, and sends those little byte critters out to the printer which has a resolution of 640 dots (or double if you want) by whatever you want. I discovered that the printer works better in the HP mode settings than the IBM settings. So all in all for $500 (or less if you search) (then $120 for the buffer) it’s working out okay. The thing I really like is that it is quiet--much more quiet than an epson. And it’s very compact. However, not without its problems in fact if you really send out a complicated picture some of the dots get shifted so it’s okay but I shouldn’t recommend it. Of course it’s not color either. Hey--I’m cheap!

Let’s face it—you get more color in Vyper on your TV, and I’m writing this on an Amdek video-300 green screen.

Moving right along. I’ve been working on a perspective program for the Mindset that would be similar in concept to a program called Mega Cadd for the IBM. I figured a great graphics engine like the Mindset would have some cool perspective software, but noooooo. (I know Lumena has a perspective tool but I need more than that) Mega Cadd thinks it’s not worth the time and this brings me to another question for someone out there: Why is it so hard to adapt an IBM program to Mindset? Anyway I gave up waiting and started writing my own perspective program in GW BASIC and being a novice makes it pretty difficult but so far I can use my mouse to draw a simple floor plan and then pick a point to view it from with the mouse and come up with a perspec-
tive shot of the plan. Then I print it out on my Thinkjet. If I
could just make it a bit more sophisticated I might be able to
actually use the program in my work which is, you guessed it,
arbitrary illustration--mostly technical stuff for other
illustrators. I would welcome any input from
other members on this subject.

Along the way to understanding programing, I’ve picked up a
few books which have answered many questions. Here is a bibliog­
raphy with comments:

THE MBASIC HANDBOOK by Walter A. Ettlin and Gregory Solberg,
Osborne/McGraw-Hill. 1983. This book answers many of the ques­
tions unanswered by the GW BASIC documentation for the Mindset.
I guess MBASIC is a subset of GW BASIC.

IBM GRAPHICS FROM THE GROUND UP by David E Simon, Hayden Book
Company. 1984. Has the best explanations of how to make music
and how to write a screen dump program in BASIC plus lots of
graphics info. Seems to all work in GW BASIC. Except for the
BSAVE/BLOAD bug. Does anyone know a simple way to write a spe­
cial BSAVE/BLOAD DEF FN? Will it ever be fixed?

MICROCOMPUTER GRAPHICS FOR THE IBM PC by Roy E. Myers,
Addison-Wesley Publishing Company, 1984. Best explanation of the
geometry of computer graphics with a good section on perspective.

GRAPHICS MADE EASY FOR THE IBM PC AND XT by Gabriel Cuellar,

ASSEMBLY LANGUAGE PRIMER FOR THE IBM PC AND XT by Robert
Lafore, (the Waite Group), New American Library, 1984. I only
wish I had more time to discover all the great stuff in this
book. I’m sure it would open the key to understanding the Pro­
grammer’s Development Library by Mindset. Lafore really wants
you to understand what’s going on. In contrast, I find THE 8086-
8088 PRIMER by Stephen P. Morse to be totally confusing. Its for
people who already know what’s going on and why would they need
it?

I don’t know if you will be reading this in time but the
COMPUTER GRAPHICS ’85 will be at the Los Angeles Convention
Center June 25-27, 1985. Last year I got my first peek at Mind­
set. If Mindset shows up again it will be another opportunity to
figure out what they’re up to. The show last year was computer
graphics heaven. Sponsored by the National Computer Graphics
Association (703) 698-9600. The cheapest way to go is to send in
an application and $10 fee for non-member exhibits only.

So that’s the end of this article. One other question:
What’s the highest level anyone has made it to on Vyper? (I’ve
gotten to the 3rd).

(Ed. note -- Thanks to Greg for the above interesting article.
Incidentally, Greg, not a hardware hacker by any means, recently
replaced one of his disk drives that had gone bad with a $100
mail-order Shugart DSDD drive at a substantial savings over
repair cost. We expect to print Greg’s article describing the
experience soon.)
COMPATIBILITY UPDATE

Vic Wong has volunteered to help coordinate the task of maintaining the list of commercial MS DOS programs that work with the Mindset computer. If you come up with an interesting discovery please drop a line to: Victor L. Wong, 2 Panoramic Way, Apt. 206, Berkeley, CA 94704, or call (415) 841-7106. Vic wants to know about all software tested, even programs that don’t work, with comments on small incompatibilities and necessary patches. Here is a list provided by Vic of software we’ve discussed at recent meetings:

1. Sidekick (Borland) -- Compatible
   Non-copy-protected version only. Leaves blinking residue on screen occasionally upon exit.
2. MaxThink (MaxThink) -- Compatible
   Non-copy-protected version only. Available only from MaxThink, Oakland, CA.
3. Pop-Up Desk Set (Bellsoft) -- Compatible
   No obvious problems.
4. Smartkey (Software Research Tech.) -- Compatible
   No obvious problems.
   Version 2.0 works. Version 3.0 should.
6. AutoCad (Autodesk) -- Compatible
   Locks up after save (save is successful) and on call to help.
7. Electric Dragon (Baen) -- Compatible
   Computer version of I Ching. Menu selection depends on highlighting unsupported by Mindset.
8. Copy II PC (Central Point) -- Incompatible
   Used on an IBM PC can make backup copies usable on the Mindset, but locks up when used on Mindset. (Also CopyWrite - ed.)
9. dBase III (Ashton-Tate) -- Incompatible
   Locks up on full-screen commands.
10. Word Challenge (Proximity) -- Incompatible.

We can make a couple of additions to the list. Last year Atari began a division called AtariSoft that makes (mostly game) software for computers other than its own. Most of the PC versions of AtariSoft games don’t run on the Mindset, but Pac Man does. Also, a new program called Mindreader, from Businessoft, Inc., 703 Giddings Ave., M-4, Annapolis, MD 21401 seems to run on the Mindset. The program is described on the box as a complete writing system for business people who write but don’t like to type. You can type the first few letters of a word, then press a function key and let the program pretty much take over and finish typing the word from its built-in dictionary. Mindreader has an "Artificial Intelligence" mode that keeps track of how often you use certain words, deletes unused words, and makes it easier to use the commonly used words. Frankly, we find it easier just to keep typing, but this may be useful for someone that really hates using a keyboard. Mindreader is copyprotected, but allows you to make a copy for data backup purposes.
Josepha Haveman, instructor at the College of Arts and Crafts in Oakland, is resuming classes and workshops in computer art to be offered at her studio in Berkeley. Currently planned are weekend workshops in May and June, with possible repetition in July. These are open to anyone interested in computer art. There will be demonstrations and hands-on practice with Mindset computers with a wide collection of graphics software.

Workshops are held on Saturday and Sunday from 10 A.M. to 5:30 P.M. Dates are May 25-26, June 8-9, and June 22-23. Contact Josepha Haveman, 47 Del Mar, Berkeley, CA 94708. Telephone (415) 848-3776. The cost is $50 per person per weekend.

FIRST MINDSET USER GROUP MEMBER LISTING

Please send a one-or-two-word description of your interests and any corrections for the next listing.

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MEGAMEETING PLANNED FOR JUNE!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

by Tim Negris

The next FMUG monthly meeting will take place at the new Mindset corporate offices in Sunnyvale on June 24th at 7:00 pm.

The new office is located at 965 Maude Ave., near the junction of Hwy. 101 and Rte. 237. Take either of these routes to Mathilda. Take Mathilda towards Sunnyvale about a mile to Maude. Turn right on Maude. The office is on the right, just past Mary Ave.

This meeting promises to be one of the best yet, with something for everyone. The agenda includes new product demonstrations, a presentation on animation techniques, and some important announcements by Mindset. So, as the late, great showman Sam Goldwyn used to say... "DON'T MISS IT IF YOU CAN!"

Here is some of what you will see and hear:

* Demonstration of the new Mindset Frame Grabber. This is a real time color video image digitizer which allows you to use a standard video camera and a standard Mindset to capture images on disk for use with Lumena and other programs.

* Demonstration of the new Mindset 10 megabyte hard disk unit. It's not just much bigger, but also much faster than floppies. It makes short work of loading and saving picture files.

* A presentation on Mindset graphics and animation. Dusty Park and Ed Critchlow of Inter/Action Inc. will preview a new training course their company is offering which teaches advanced animation techniques using C on the Mindset. They will also discuss the interactive videotex system they have developed and built which combines the Mindset with a videodisc player and touchscreen for use in public access information applications.

* An announcement of the end of the "closed system" policy. Mindset officials will reveal their plan to make detailed technical information concerning the internal design and specifications of the Mindset system available to end users.

The meeting will begin promptly at 7:00 and a large group is expected, so please be on time.
For FMUG’ers outside the bay area and those local folk who can’t make it, a videocassette of the meeting will be available for a nominal charge. Watch for an announcement in the July issue.

Tim Negris responds to Greg Woods

To get a screen dump of your Odesta chess games, you may be able to use the Frieze printer driver, which is included with the PC Paintbrush drawing package. It can be used in a stand-alone mode to capture, store, and print graphic images from a variety of sources. I have used it with GW Basic on the Mindset and with Lotus and Framework on a PC.

It is a “background” program and only seems to have a problem coexisting with other background programs, like Prokey and Sidekick. It seems to work fine otherwise.

Frieze also lets you change the size of the image when you print it, print sideways, and map screen colors to texture patterns on a dot matrix printer. It allows for Replace, Or, And, and Xor, logical image combination modes on screen.

If all that isn’t enough, it uses a very clever run length encoding scheme for image storage which crunches a full 32K screen down to well under 10K on disk. It sure beats BSAVE and Lumena PSAVE.

Alas, it won’t work in cooperation with Lumena. So, I am in the process of writing a file conversion program in C which will let me convert Lumena format files to PC Paintbrush/Frieze format and vice versa. In spite of Lumena’s ponderous abilities, I find Paintbrush to be much more elegant for certain types of operations and it includes a decent set of basic fonts. By converting files back and forth I can use both programs to work on the same image. I will be writing an article on this subject, and on how to call Frieze and use run length encoding in higher level language programs, in an upcoming issue.

Concerning your inquiry about the BLOAD/BSAVE bug, Mindset circulated a memo many months ago which provided a get-around that will probably work, although I never actually tried it.

It is not complicated, but the explanation and examples are lengthy, precluding exposition here. If you, or anyone else with this problem, will send me a S.A.S.E. I will happily pass it along.

ADVENTURES IN HARDWARELAND
by Greg Wood

This article chronicles my experiences with replacing a broken disk drive on the Mindset. Drive A was fine until one day I
wrote a program that told the drive to whir forever. The keyboard would not respond so my only hope was to turn the machine off. Unfortunately, this rendered the drive and computer useless. All I could get was four grunts from the drive and the Mindset logo on my screen. I've never really wanted to take something like this apart but what the hell it was out of warranty and I knew Computerland would charge a mint. They had dropped Mindset anyway and never had been very helpful as soon as they got my money. Enough griping. I got my Phillips screwdriver and went to work.

Basically, you've got to pretend that you're a secret agent or a thief and take things apart as if a bomb would go off with any sudden moves. No forcing. Just prowling like a cat. I would love to just talk and talk about how I took everything apart but it would take a long time to explain. Just remember these tips: Unplug the machine first. Remove cartridges and back modules. Write down each step and include diagrams if necessary to remember the order and position of each part or connection. Keep the screws and disassembled components organized. The screws for getting the cover off of the expansion unit are deeply recessed except for two long screws near the front corners. Leave in the eight screws that look like they might be holding the drives and leave in the three screws that are in a line between the two long ones. If anything is not coming apart find out why before continuing. I found that it was basically like a Chinese wooden puzzle where one could not remove a piece until another had been removed.

It's really pretty easy and it didn't take too long to expose the drives. My first experiment was to switch the drives. I did this by putting the whole unit a bit out over the edge of the table and just holding it with one hand while I unscrewed the four screws per each drive. Before you do this carefully take the handles of the drives off. Then you have to switch the metal casings on each drive. And then put the whole unit back together again. This first experiment was fairly successful. Now the machine would grunt from the B drive four times and then read the A drive. So now I was at least partially functional.

I decided to go for it and try to find a new drive somewhere and put it in. Out of three ads in May Byte magazine that carried the Shugart SA455 drive one was here in Los Angeles. Computer Components Unlimited (p.461, Byte) has a retail store in Inglewood and a salesman there named Danny was extremely helpful. It turned out the new drive was almost identical except for some minor things: The cover and handle had to be removed. The Mindset extension shaft piece had to be removed from the bad drive and added to the new one. I used some little screwdrivers to wedge that little metal piece off from the shaft itself. Then it fit snugly on the new drive shaft. The only other difference was a jumper on the new drive that wasn't on the old one. Jumpers are these tiny little boxes that connect two little prongs together. There were about ten on both drives in identical positions and identically set. But the new one was near the
center of the board and away from the others. I discovered later
that this jumper was a switch for making the drive read only.
There are three little prongs in a row and the two closest to the
back of the drive should be connected with the jumper if you want
reading and writing. One other difference were three little
squares of metal nearby that were connected differently on the
new and old drives. The new jumper is probably related to this.
I had gleaned from a Computerland serviceman that the resistor
pack should be the same and it was. Its located at the back and
looks a bit like a inch long cockroach See diagram accompanying
this article. I couldn’t believe it when I finally reassembled
everything (remember--like a thief) and turned it on and it
worked. What a good feeling. Computerland would have charged at
least $200 and kept my old drive. My new drive was only $95 and
I have the old one which someday I may learn how to repair. I
should note that I put the B drive back in the B location and the
new drive in the A location. Please don’t hold me responsible
if the above information screws up your computer. To be safe you
should go to your Mindset dealer for repairs. The only one in
Southern California is Computer Solutions. Phone is (818) 996
9666.

Switching from hardware to software: I bought Typing Tutor
for my girlfriend so she could learn to type and relate to "Mindy"
better. Unfortunately the letter invaders game doesn’t work.
However the rest of the program is a good teacher. My girlfriend
is not quite as jealous of "Mindy" now.

SOME MS/PC DOS SOFTWARE and The Mindset
by Josepha Haveman

At a recent meeting we were discussing SIDEKICK. Does it
work, or doesn’t it? Some said no, and some said yes.
Actually, it is probably fair to warn you that it does not
work very well, though it can be used, with caution.
SK is supposed to be loaded into memory just prior to
whatever program you are about to run. Then by pressing
CTRL-ALT, a Sidekick menu appears which lets you choose your
option: a calendar, a notepad, a telephone dialer, an ASCII
translation table, or...a calculator.
Well, we can forget the calculator right off, since we don’t
have the IBM numeric keypad. Too bad too.
I use the calendar just about daily, though it pulls some
funny tricks. With some programs it appears just from the
slightest pressure on the CTRL key, and then it may, or may
not leave when you press ESC. It does other odd things and
it seems to affect some other programs which may finally
lock up.
But even when I use it straight, just from the DOS disk, it
may act weird. The last stunt was locking the keyboard in an
upper case mode so that no (period) was accessible, and
the arrow keys (needed to move around the calendar) yielded
NUMBERS, like on a numeric keypad!
The program is fun to use, especially if you like surprises, but do so with caution! UCP avail.

While on the subject of software experience, I’ll share some observations about other programs:

VOLKSWRITER de LUXE

I have used this for more than 6 months and found it to be glitchy. It worked, and it is a very nice wp, but I kept having certain formatting problems, among others, so I did not recommend it for use with the MS.
Now it turns out that I had a manual for a different version than the one I was using! Having a better match, I am happy to report that the program works fine on the Mindset, and that I think it is also very good as well as reasonably simple. On this version some screen response seems slightly slow, but that isn’t much of a problem for me.
VW de Luxe is probably a best buy at discount prices.

WORD PERFECT

This wp is command driven (VW has some menus to guide the user along), and the commands are printed on a keyboard overlay that comes with the package, a la Framework and Lotus 1-2-3, except that it uses all the function keys and also the whole top row, ESC through +/- . If you have access to an IBM it isn’t too much of a problem to translate the IBM template into one for the Mindset.

I could xerox the template I made to use as both a cutting and label guide for those who don’t think they can make their own. WP is a very nice wordprocessor and seems to run well on the MS, although I have used it only experimentally, while thinking that VW de Luxe wasn’t performing properly.

CHECKBASE

This is an excellent simple bookkeeping program for non-accountants. It keeps track of all kinds of accounts as if each one were a checkbook. It invites you to mark every entry with a "tax code" (such as 'c' for every computer expenditure, 'o' for office supplies etc.), and it has a superfast sort of the list of entries by these, or many other categories, such as date, check number etc. Works like a charm on the Mindset.

THINKTANK

The unprotected demo works, the actual program which is protected, does not run on the MS. The joke is, of course, that the protection schemes do not stop us from making back-up copies, but they do limit the number of MS DOS computers the programs run on! The same was true of:
MAXThink
A similar, but more elaborate outlining program that now sells for under $60.00. The free demo (call 415 428-0104) runs, though a little fast because of our hot chip, but the protected version of the program does not. THEY WILL SELL AN UNPROTECTED VERSION TO MS USERS (check on the price of this version, it may be higher,) which runs ok. One warning; I believe that MaxThink is basically a good program, but unfortunately it seems to have been designed by someone who had a desperate need for it! This means that the program seems to outline and sort fine, once you have figured out HOW. The manual very badly needs exactly the kind of outlining and logical organization that the program professes to promote.
The whole user interface is badly designed, though the screen, (as is often true, unfortunately) looks better on the IBM--in color.

Sidekick, Copywrite and MaxThink are examples of programs with nice color screen lay-outs (or options) that do not show on the MS.
Here we own the "ultimate" graphics computer, 16 color capability, but these programs are reduced to b/w because of the different graphics access involved. Who goofed?

IBM LOGO
This is probably the best LOGO around so far, and it runs well on the MS, IF you avoid the graphics mode, which cannot run on the MS system. Even without the turtle, this Logo is a very nice programming language.

DR. LOGO
DRI's version, uses Gary Kildall's (in)famous CP/M-86. The disk must therefore be booted, and there is no conventional DOS access at all. setd "B:" will get you the B drive, and getfs shows the directory. Dr. Logo uses lower case throughout. The turtle runs, it works, it is ok, though sensitive to errors, and it locks up easily.

Some other programs that work well, as many people already know are:

WORDSTAR 3.3
dBASE II
LOTUS 1-2-3

Does anyone know how well the later versions function on the Mindset?

I'd like to hear about Wordstar 2000, dBase III, and I am afraid I know the bad news about SYMPHONY and FRAMEWORK. I have used Framework on the IBM and I think it is a really versatile program. The original version is the only one I have had access to, and it will boot up on the Mindset, but
then it locks up. The story about the built in worm eating programs on a disk in either drive seems to be true. In trying to use Framework on the MS, it actually wiped out my DOS disk!

Scuttlebut has it that a later version works on more compatables. Who knows the answer?

Some other disappointments and warnings:

INTUIT, from Noumenon in Alameda. An affordable ($89.98) integrated program that looks like it would do big jobs. Won’t run on the MS.

QBASE (Versaform), from Applied Software Technology, Los Gatos, has everything I want for doing a versatile once-and-for-all mailing list. Wouldn’t boot. Written in UCSD p-System, with, wouldn’t you know... excellent documentation, very well designed!

Who has tried Adam Osborne’s Paperback software?

Next month let’s hear from someone else.

TURBO PASCAL AND THE GRAPHIX TOOLBOX
by Victor L. Wong

A previous newsletter has already noted the compatibility of Borland Industries’ Turbo Pascal Version 2.0 on the Mindset, but some updating is now warranted: that earlier mention may have been based on Borland’s contention that its generic MS Dos version (and not the IBM-PC version) would be the only one usable on the Mindset. I know that I and at least one other user had been using the generic version with success, after a somewhat non-intuitive installation procedure involving the ANSI.SYS driver and the T.I. Pro emulation.

I’ve recently discovered, however, that the IBM-PC version of Turbo Pascal version 3.0 does work on our computer without modification, contrary to what Borland’s technical staff believes. This is somewhat momentous news for the non-system programmers among us since this version has some powerful graphics capabilities built in, and not available in the generic version, such as windowing and turtle graphics.

More importantly, the Turbo Graphix Toolbox also works on the Mindset, and this makes available a whole host of graphics tools to the Pascal programmer. The 250 page manual details over 120 procedures for creating and manipulating windows, setting the graphics screen, plotting and fitting curves, creating pie charts and histograms, drawing shapes and even animating pictures (through the ability to draw to a ram screen and to flip screens). The Toolbox manual is well organized with sufficient examples (and source codes for all of these on the disk).
If you’re still using the generic Turbo, you’ll have to upgrade to the IBM-PC version; programs written with the Toolbox can only be compiled to disk with this version (although they can be compiled to memory with the generic model). Borland’s trade up policy while fair may not be the best way to go; Conroy-LaPoint, for one, is selling Turbo Pascal 3.0 for $39 without a trade-in (the Graphix toolbox should be in the $35 to $45 range). In any case, the combination of utility and price makes both these packages well worthwhile (it shouldn’t be necessary for me to beat the drum on the attractiveness of the Borland programs, but let me add for the non-programmers that this language with this implementation is a great introduction into programming).

EDITOR’S NOTES

Many thanks to Tim Negris, Greg Wood, Josepha Haveman, and Vic Wong, whose efforts comprise the bulk of this issue. Congratulations on a great newsletter, folks.

Among recent comments received by mail:

Lawrence Newberg of Beaverton, Oregon recommends Comtek International as a Mindset dealer in the Portland area. “They have bent over backwards in their efforts to serve me and get my system the way I want it.” Mr. Newberg reports that Comtek recommends the Panasonic DT-M140 monitor, but that it doesn’t support the high-res 640x400 graphics mode.

Richard Malzahn of Long Beach, California writes:
To comment on Mr. Gortatowsky’s column in the April newsletter, obviously Mindset’s marketing strategy fell a bit short of its intended target. But the company is indeed on its own feet and has good reason for the closed architecture policy. Machine-dependent software makes future upgrades incompatible with available software for future improved machines, the software must be written to certain specs. Don’t be so hard on them. They try hard and have produced a remarkable product. To ensure their security and thus our own, users’ support and backing is critical at this point. When they are rolling in the dough is the time to impale them with your scorching pen (or printer).

Mr. Malzahn also reports that he uses Microsoft Word for a word processing program, which he prefers to WordStar. His high score on Vyper is 130,000+ at Level Seven and "boy, those little Shrouds get hard to hit." Also, "UniForth from Unified Software seems to run fine though Forth-32 balks in the screen editor. Neither File Express (a user-supported file program) nor CopyWrite 1.1 seem to run, but Borland Turbo Pascal 3.0 runs great."

See you next issue!
Most everyone agrees that the Mindset PC is an excellent product. Why didn’t it sell well on the retail market?

When we rolled the product out in May 1984, graphics was our key area for product differentiation among PCs. Unfortunately our concept of quality graphics on a microcomputer really didn’t take hold, nor could we cause it to happen. People who used PCs for general office operation did not place a premium on graphics performance. It wasn’t an important consideration in their purchasing decision.

Also, windowing software didn’t develop last year like we, and a number of people, thought it would. We found, too, that special purpose graphics applications such as presentation graphics, CAD and graphics design aren’t appropriate for distribution through retail outlets. The computer retail business has become very brand-name driven. It is best at selling commodity items as opposed to specialty application products.

Mindset really didn’t have a good fit. We’re good at the special graphic applications and computer retail is good at selling brand-name products at aggressive prices.

Do you think it’s possible to sell a PC in the retail market by primarily emphasizing a feature such as graphics or do you absolutely have to have a name from the beginning?

I feel the main driving force in the retail market is brand name. I think without brand recognition, a better mouse trap may not sell. We’ve seen a few large companies come out with products that emphasize some product differentiation. However, these companies haven’t done very well at retail. I think Hewlett-Packard and Texas Instruments are probably two examples of that. They went out with something different and found they couldn’t make it in a big way in computer retail.

Where do you see the PC market for graphics going in the next five years or so?

Let me speak from Mindset’s perspective. We see a lot of vertical market opportunities for graphics. Areas such as interior design,
education, video post-production, product design and graphic art. These areas, not the retail business, are where we see big growth for our company.

I do think graphics will get sold, certainly in the next five years, in the retail environment. This will happen as some of the application categories become more commodity-oriented and have broad market appeal. I think presentation graphics is the logical candidate there. It really fits into the office environment for people making slides, foils, marketing communication pieces and other materials.

How are you now marketing the Mindset PC?

Primarily those people involved in video production, education and graphic design.

We see small broadcasters using the system. For instance, a local station in San Jose uses one of our systems on live TV show. In industry, our products are used for training tapes, sales communications, presentation materials and to do post-production work. Resellers of our equipment are achieving some success in education environments where it is being used for video production training. It is also being used to teach computer-aided design at several schools.

Graphics design is a big area for us. This includes preparing marketing communication materials, presentation graphics, slides, brochures, advertising, that type of thing. Interior designers, landscape designers, those type of people, are using our product as well.

Do you see more markets eventually developing for the machine?

Yes. For instance, we’ve had some people incorporate the machine into interactive video products. I see that as being a potential area for our product.

There are a lot of applications for computer graphics now and I think we have a product and a price/performance range that can get us into a lot of areas. I think as we learn how to market it better and bring out more software tailored to specific application areas, we’ll be able to build a very significant business. Right now we’re just getting arms around the technology and beginning to apply it to other applications.

Is your marketing movement generally toward increasing capabilities in chosen application areas or producing a lower-cost product?

I would say as we understand the application areas better, we will provide capabilities more tailored to the end-user’s needs. Of course I think we’ll continue to try to offer systems and system solutions that are very aggressive from a price/performance standpoint. We have to market a product that does the job at a price that causes the customer to buy it and not find an alternative solution.
Do you think graphics will ever become a major selling feature in the retail market?

It could. You see, graphics is important in a number of different areas. It can increase office productivity by improving the user interface. I think that as graphics becomes important to users and the way they use their computers, graphics quality will become a factor in the buying process. In the future, some graphics applications such as presentation graphics could gain broad market appeal and become commodity products sold at retail.

ASSEMBLY LANGUAGE TUTORIAL
by David Duberman

Why learn to program in assembly language? For one, it's the only way to really learn how the computer works. Even a relatively low-level compiled language like C hides much of the machine's internal workings from the programmer. Also, if you're interested in real-time 3D animation, as many Mindset owners are, it's the only way to go. Vyper could not have been written in anything but assembly language.

That said, the question remains -- where do you start? Why, at the bottom, of course. Read and commit to memory, if possible, the Programmer's Development Library (PDL), and a good book on assembly language programming, such as Assembly Language Primer for the IBM PC & XT from the Waite Group. Type in the sample programs, assemble and link them, and see what they do. Then, using that knowledge, read and try to follow the following simple graphics program. Its structure was derived directly from sample programs contained in that book.

Here's what the program does: First it calls the routine INIT, which first sets up the double buffered four-color Mindset graphics mode. INIT then gets the addresses of the two buffers, necessary for the SWAP routine that switches the display between the two. The first buffer is shown while a triangle is drawn in the second buffer, then the display is switched to the triangle while a circle is drawn in the first, then the display switches back to the circle. From then on, you can flip back and forth between the two by pressing any key -- press letter keys and they will appear on the screen in blue.

;GR2.ASM

;EQU STATEMENTS

GRAF EQU OEFH
BDOS EQU 21H

;******************************************************************************************

3
st_seg segment stack ; set up stack segment
db 20 dup ('stack')
st_seg ends

;****************************************************************
data segment
FRAME DB 1 ; initial value -- used to determine which
; buffer is being displayed
SCR1 DW ? ; used to hold address of buffer 1 -- to be
; set later
SCR2 DW ? ; ditto for buffer 2
SIZ DW ?

TRIDAT1 DW 160,10,80,180,240,180,160,10 ; x & y coordinates
CIRCDAT DW 160,100,50,50,0,50,1,50
PALET DW 0,11CBH,2020H,4004H ; see GW BASIC manual p. 6-169
data ends
;****************************************************************
prognam segment
;-------------------------------------------------------------------main proc far
assume cs:prognam, ds:data, es:data

start:
; set up stack for return
push ds
sub ax, ax
push ax ; set up stack for FAR RET

; set DS reg to current data seg
mov ax, data
mov ds, ax
mov es, ax

; MAIN PART OF PROG

; set screen to mode 1 (BASIC SCREEN 1 -- 320 X 200 X 4 Colors)
call INIT

; BLT POLYGON -- INT EFH (AH) = 19H (ref. 4-59)
mov al, 1 ; BLT ID #
mov cx, 4 ; # of parameter groups (pairs of points in data)
        ; four points for a triangle
mov dh, 1 ; even color index
mov dl, 2 ; odd color index
mov si, 0 ; x origin
```
mov di, 0 ; y origin
mov bx, offset TRIDAT1 ; relative address of coordinate data
mov ah, 19h ; blt polygon
int graf ; do it

CALL SWAP ; Show triangle (switch active buffer), swap GCP dest.

; BLT FILLED ELLIPSE -- INT EFH (AH) = 1AH (ref 4-61)

mov al, 2 ; BLT 10 *
mov cx, l ; * of parameter groups
mov dh, 3 ; even color index
mov dl, 2 ; odd color index
mov si, 0
mov di, 0
PUSH DS
POP ES
mov bx, offset circdat
mov ah, 1ah
int graf

call swap ; display circle

; wait for keypress, PRINT IT, then display triangle again, etc.

AGAIN:

mov ah, 08h ; read keyboard, return char in AL
int 21h

; WRITE TELETYPewriter -- INT 10H, (AH) = 0EH (ref. 3-21 manual 2)
mov bh, frame ; current GCP target
mov bi, 1 ; blue text
mov ah, 0eh ; function
int 10h
CALL SWAP
JMP AGAIN ; endless loop -- ^C to end
ret

main endp ; end of main program segment

; INIT proc

MOV AH, 0 ; SET SCREEN MODE
MOV AL, 1 ; TO 320 X 200 X 4 COLORS (2BITS/PIXEL)
INT GRAF ; DO IT
MOV AH, 0EH ; GET BUFFER ADD AND SIZE (ref 4-19 man. 2)
INT GRAF ; DO IT
MOV SCR1, BX ; ADDRESS OF FIRST BUFFER
MOV SCR2, DX ; ADDRESS OF SECOND BUFFER
MOV SIZ, CX

; set palette
MOV AL, 0 ; BORDER COLOR INDEX
MOV CX, 4 ; # OF WORDS IN PALETTE
MOV DX, 0 ; OFFSET IN PALETTE AT WHICH TO WRITE
MOV BX, OFFSET PALET ; ADDRESS OF PALETTE DATA
mov ah, 0ah ; SET PALETTE
```

---

5
The FMUG Disk Library
by Dave Mentley, Disk Librarian

We now have a few more and a few less programs in our FMUG library. After copying off hundreds of disks during the past six
months, I have decided that it is time for a change. First, we will only have Mindset-specific programs in the library. These will be programs which use some specific features of the machine. There were nine disks in the library, of which six were public domain disks which I bought at the PC User Group meeting in San Francisco. I am not going to be copying those disks any more. You can choose from over 300 disks for $6 each from:

PC-SIG (Software Interest Group)
1125 Stewart Court Suite G
Sunnyvale, CA 94086

Their catalog costs $4.95. I just don't have time to copy all of these disks on a volunteer basis and they are available in many other places. Since I have only received two program donations, from Warren Leong and Kevin Furry, I assume there are not too many other people interested in contributing.

I have reorganized the disks into four, labeled A to D. The directories are printed below.

FMUG A - POPDEMO, the retail store point-of-purchase Mindset demo. This disk shows off all of the tricks which the big blue machine can't do.

FMUG B - BIT BLT DEMO, demonstrates the block transfer (animation) functions, including assembly language source code.

FMUG C - C STUFF, source and compiled programs by Warren Leong. There are some games and useful utilities. These programs are in a constant state of flux and improve monthly.

FMUG D - UTILITIES. These programs come from the June FMUG meeting at Mindset and from ace programmer Kevin Furry (Designer). The Mindset Loader Interface (MLI) by Kevin will automatically decode and load any graphic file from Designer, 4-Point, MGI, or Lumena and return he SACREEN and PALETTE data to user-specified addresses in memory. It uses an Epson JX80 or Tektronix color printer for hard copy output. Documentation is on the disk.

That's it. Send your programs in!!! One more thing. If you want to get the disks, please send a formatted disk with return postage. If you don't send a formatted disk it may be several months before you hear from me. Send disk orders, submissions, etc. to:

Dave Mentley
P.O. Box 325
El Cerrito, Ca 94530

MINDSET BBS

New York member James Pallack writes that he is starting an electronic Bulletin Board for Mindset users. Called the S.M.U.G. BBS, the telephone number is 212-924-3522. The reason for the name is that
James may start the "Second Mindset User Group." The BBS rules are:

1. Only Mindset owners have access to the file section.
2. Only Mindset owners and those interested in the Mindset can enter the message base.
3. All files to be uploaded should be squeezed before uploading.
4. This board is specifically intended for images created with Lumena, Designer, 4-Point Graphics Plus, and PC Paintbrush. I will not keep utilities or programs on line, except for those specifically intended for Mindset.

My system is currently floppy-based, which is why I must set these limits. I am working on obtaining a hard disk drive, although I may not be able to interface it to my system.

I am looking for all types of images, from scenic to nudes. Please begin the names of all images with nudes with X (e.g. "X_LOVERS.PIC"). The system is set up so that only people interested in these types of images will be able to download them.

Please pass along this information to other Mindset owners. Let them know that they should have the serial number of their base unit and the name of the store where purchased handy when logging on, as I use this information to confirm Mindset ownership. If only interested in the Mindset, they should let me know in a comment and I'll give them the ability to leave messages, so they can ask questions about the Mindset.

There will be a list of PC-compatible titles online. If you know of other compatible (or semi-compatible) titles, leave a comment. Tell what does or doesn't work, and how to make it work. I will also leave the list on The Source. If you have a subscription, retrieve a copy by entering the following:

TY SFILES>BCY475>COMPAT.MST

I can be contacted at any of the following:

The Source: BCT475
CompuServe: 72636,2123
Greenwich Ave. Ste. 152
New York, NY 10011-8307
WELCOME BACK!

The transition of leadership which has occupied the past two months is now complete and this issue represents a return to a regular publication and meeting schedule for the First Mindset Users Group.

Owing to other pressing commitments, David Duberman has stepped down as the group's president and has been replace by Tim Negris. Please direct future correspondence and communication to the following address:

FMUG C/O Tim Negris
138 Village Ct. #6
Walnut Creek, CA 94596
(415) 934-1448

In case you may have thought otherwise, the group is healthier than ever, having now passed the 100 member mark, and continues to grow at a steady pace. This issue includes a current list of all the group members.

By now you may have heard about Mindset filing for Chapter 11 protection. Don't be concerned. This was a smart move by the company, intended to enhance its ability to take advantage of some exciting new business opportunities which are currently in the works. In this issue you will find a reprint from Computer System News which should set the record straight concerning this development and provide some interesting historical information about the company and shed some light on its future direction.

This issue also features a letter from Dennis Peabody which contains some colorful reflections on computing and some useful tips for Lumena users. Also, Josepha Haveman has contributed a review of Paperback Software products and a proposal for some ways we might broaden the scope of the group in the future. We thank these members for their contributions and encourage others to continue to participate with reviews, suggestions, and insights concerning the group, the system, and any other topics you may feel would be of interest to members.

We are considering a thematic approach for future newsletters, e.g. Animation Primer, Unusual Languages, Programming with MSDOS, Freeware and Shareware, etc. Ideas???

The November theme will be Graphics Peripherals, with specs on some new, inexpensive hardware we saw at the SIGGRAPH show held recently in S.F., and a report on a project we are working on with Mindset to release the previously unavailable Technical Specifications for the Mindset system to FMUG members. That's right, the system is open at last and we will tell you more about it next month. Hardware Hackers take note!
Mindset has expressed a willingness to work more closely with the Users Group in the future, listening to what we have to say, keeping us up to date on what's happening in Sunnyvale, contributing to the Users Group Program Library, and improving the level of support offered to Mindset owners. They are anxious for everyone in the group to know that it is limited resources, and not corporate indifference, which has contributed to past misunderstandings concerning their ability to support the system.

Mindset employs a small, brilliant, and dedicated staff for whom there are never enough hours in the day to do as much for us as they would like. This does not mean, however, that you must suffer as a result of these limitations. It simply means that the Users Group must take a more active role in the support process by fielding questions and problems from its members and presenting them to Mindset in a consolidated form and delivering responses through the newsletter. In this way we can eliminate the endless duplication of the same support scenarios over and over again.

If you have a question or a problem, instead of calling Mindset, please submit it IN WRITING to the Users Group and we will get the answer or solution for you and publish it in the newsletter. If you indicate that a more timely response is needed, we will try to call or write to you as quickly as we can with the answer. Please be fair and exercise this latter option with reasonable discretion.

The December newsletter will focus on Resources. It will include a form you should use in the future for submitting any questions or problems you may have. It will feature an update on the Users Group Program Library with a descriptive listing of the many useful and interesting programs now contained therein. It will also present a listing of useful books and publications which may help you get more from your machine. Please submit anything you would like to see mentioned in this issue no later than November 15th.

THE OCTOBER MEETING OF THE USERS GROUP WILL TAKE PLACE ON MONDAY, OCTOBER 28TH, AT THE HOME OF VIRGINIA DEAN IN BERKELEY, CA. VIRGINIA HOSTED A MEETING EARLIER THIS YEAR AND HAS GRACIOUSLY OFFERED TO DO IT AGAIN. THE ADDRESS IS 1830 WOOLSEY, NEAR THE BIG BERKELEY BART STATION.

In closing... In light of the looming Atari/Amiga media blitz we feel that a policy statement is in order concerning the future focus of the Users Group, so here it is:

**FMUG** is devoted to graphics and all other aspects of computing in the context of the Mindset System and all compatible peripherals. We have only begun to understand the capabilities of this system, and, until we have learned everything there is to know about it, we cannot broaden our focus to include other systems without also diminishing the depth of our understanding. Unless a majority member vote dictates otherwise, we will not abandon this charter.
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Hi Dave;

I'm starting this letter for the third time since my keyboard has been freezing up when I mis-strike the SHIFT key somehow. Haste makes waste, right? Here's a long overdue note to say that I really enjoy the newsletter although feel it could be better with more contributions from readers. Don't want to preach cuz even this is tough to get out (and isn't out yet). One main hesitation has been 'fear' that since I'm not doing heavy programming for the Mindset my contributions won't matter or will be scoffed at. Paranoia runs in my family...

So big booming Hartford, stuck (!) half-way between NYC (2.5 hours) and Boston (2 hours) has little to offer if you're not a pyramid builder. Sadly lacking culturally as well. One recent art gallery opening requested 'creative dress'. Let's just say that the creative dressers wore stripes on their ties...

Here I was a recent Mindsetter working as a Database Administrator feeling my eyes had just been pried open with these incredible graphics. Then creating video tapes and trying to convince management that these machines would be an asset. What do I run into? Politics... Computer Science Division doesn't talk to Corporate Communication and visa versa... to make a long story short I left to pursue self-employment and recuperation. Do appreciate the savings plan and training I received but couldn't hack the structure. Five year of stone blocks was a lot and many folks aren't as free to leave as myself.

Presently my time is divided between computer work and artwork. I work with stained glass and have gotten some large commission pieces lately. Many small creative tangents as well from electronic jewelry to batik and horticulture. A graphics oriented PC is still relatively unknown in this area since number crunching and work processing are the bread and butter in the insurance industry. I'll try to capitalize on that while providing a worthwhile service. Difficult alone though.

Find LUMENA a joy to work with although there are bugs. More inconsistent in the FONTS menus and ANIMATION than the main LUMENA menus. I do not have a video ready unit. Do feel a digitizing pad is crucial to any serious design efforts.

Have used lumena for about 8 months. Infrequently use EDGES,ROTAT,PERSPETIVE, OR THE LAYOUT menus but am sure they will come in handy in some future applications. Have you ever tried....
1. make background white
2. create filled black box
3. create custom brush containing black box
4. change option to nxor and draw

or

1. create cell with perhaps a word
2. create a shadow(copy/shadow) in color 1
3. create another shadow in color 2
4. create the next shadow in color 3
5. etc, etc...
6. choose a map and cycle in animation menu
   This is especially effective after fading
   all but a few colors in the map to black.

With some help from Inga at Mindset I
found that cycle events can be used in the
events list of an animated sequence. However
if the image is not in a lettered cell the
cycling does not stop. Once the image is
contained in a cell, the length of time the
image cycles is determined by the length of
time you let the event cycle after pressing
GO before stopping it and inserting in the
events list.

However it seems that the cycling speed
of an event in a list is faster than cycling
in just the cycle menu. For instance, to see
something cycle really fast...
1. create a good image perhaps with cycle
brush
2. save entire screen in a cell (cstor)
3. get back into cycle...choose your map
4. move cycle speed indicator to 1 (fastest)
5. press go...cycle for a few seconds and stop
6. back out...enter EVENT and insert event
7. now play and you will see a much faster cycling

The above will work without creating a cell
but as I have mentioned your event list will
not proceed since the cycling event does not
stop for some reason and must be stopped
with the Escape key.

Another thing I always wondered about was
the algorithm for fills. It was funny the
way certain parts of an area would fill before
others. Decided to use this for special effects
and started making mazes for slowing down
and playing with the fillin option. Try it
and see. An especially beautiful effect (at
least I think it is) can be achieved by using
MIX...
1. start with a blank screen
2. select MIX (under FILLS) using the entire
screen and choose any two colors.
3. use 15% (or less) of the first color and
0% of the second. We are just trying to lay down a fine spray of 'obstacle' points.
4. select FILLIN and any color but the color of the 15% spray. Press anywhere on the screen to observe an interesting use of the mindset fill ability. Try starting your fill in different corners of the screen.

Just a passing thought. Why don’t we start a LUMENA cookbook for different techniques using the newsletter as a forum? We probably all deal with wanting to hoard our own discoveries for understandable reasons but we would all benefit from sharing ideas...comments?

I will continue to try and find freelance work with some of the smaller video production firms around here while continuing my artwork. Start next week an informal class for a half dozen computer illiterate persons/artists who have expressed a desire to learn to at least bring up the machine and use LUMENA. Eventually on a rental basis which could help me recover my outlay for this equipment and possibly justify purchasing more.

Until then will continue to work towards the up coming (sept 6-8) Italian Festival here in Hartford. (a big event) Plan to have computer art, stained glass and batik. Presently creating an entire line of MONA CLONES. Will be manning the LEONARDO DA VINCI booth outside the ART cinema if anyone happens to be in the neighborhood (ha ha).

Just some final thoughts...did you ever put a roll of rice paper into your printer and print some of those great chinese characters? Can anyone tell me the meanings of the individual characters or a reference I could find out?

Did you ever put on your 3D glasses and try to create some 3D images on your 2D screen? Lots of programming ideas I’d like to share. My strong point is imagining the end result and like everyone (?) find it more difficult to do the technical dirtywork. Has anyone ever accessed the D/A converter directly? I’ve read everything I could about it but still can’t grasp it. Haven’t been too persistent. Anyways, if I don’t stop soon I’ll prattle on forever...
Mindset Computer Files For Chapter 11 Relief

By Jenny McCune

SUNNYVALE, CALIF. — Mindset Computer Corp., saddled with an advanced graphics microcomputer that impressed hackers but didn’t sell well in the retail channel, filed for Chapter 11 protection from its creditors last week.

The company owes $1.3 million in secured debt to approximately 12 primary investors and about $1.5 million in unsecured debt, which is divided between 80 to 100 unsecured creditors, said Thomas Given, Mindset’s lawyer. The company has $800,000 in assets.

(Continued from Page 1)

“...to complete before leaving the obligations.”

The personal computer vendor, which initially attracted an impressive array of venture capitalists, has already submitted a reorganization proposal to its creditors. The plan was mailed out eight days before the company initiated bankruptcy proceedings.

Mindset has been negotiating with creditors and investors since the beginning of the year. Once the reorganization plan is approved by the U.S. Bankruptcy Court here, the company will be effectively out of Chapter 11, Given said.

“We hope to have it approved by the end of September,” he added.

Berg said the company does not plan any layoffs or other cost-cutting measures in the near future. The company staff will remain at 35 employees.

Mindset already has had two layoffs: In January, it dismissed half of its then 67-person work force, and last Au-

gust it let go of 43 workers from a 128-member work force.

Mindset, like many of its competitors, suffered financial ills due to poor sales. Its main product, an 80186-based personal computer with two VLSI Technology Inc. graphics chips, was introduced with much fanfare in March 1984. It initially attacked the retail market, but met with little success.

The company, established by former Atari Inc. and Intel Corp. executives, sold its personal computer through CompuShop, a retail chain, which was the first company to market the system.

The Mindset personal computer failed to make a splash in the horizontal market because its graphics capabilities didn’t spark general interest. Meanwhile, start-up and operational costs put the company into debt.

In an attempt to salvage sales, Mindset changed marketing directions. Last summer, the company shifted its focus more on vertical markets such as computer graphics design and video graphics design where the machine’s color graphics capabilities would be better suited. It also began marketing graphics software and peripherals to make the system more attractive to those markets.

Mindset is not looking for a buyout or for additional investors, Berg said, although it will attempt to raise additional funds from its original investors once the reorganization is complete. All the company’s major investors have agreed to put more money into the company, he added.

Mindset initially was capitalized at $18.5 million in two rounds of financing. The initial five investors responsible for $4 million worth of financing were: Asset Management, Palo Alto, Calif.; Oak Investment Partners, Westport, Conn.; and Technology Venture Investors, Institutional Venture Partners, and Beasmer Venture Partners L.P., all three of Menlo Park, Calif.

An additional $14.5 million was raised with approximately seven other investors in November 1984, Berg said.

According to Berg, the company’s investors and most of its creditors are enthusiastic about the reorganization plan.

“The creditors have been very cooperative. They are convinced the company has a business to build,” he said.

Some investors agreed with Berg. “A lot of companies get into Chapter 11 to find a solution. We’re going in with a solution,” said Robert Field, a partner with Beasmer Venture Partners.

Field confirmed his company would reinvest in Mindset once it emerged from bankruptcy proceedings.
Berkeley Sept. 26 1985

Dear Tim,

I have been thinking of possible formats/formal structures for the F-MUG group, and the following idea has come to mind. I am sure that it is bigger than anything we meant to envision, but it could come off and be really useful all across the board:

F-Mug could become the core of an active computer graphics RESEARCH/CONSULTATION/EDUCATION center, if we have the right talent and interest in the group.
We may do enough business to support a permanent space, equipped with some Mindset computers, of course, and from here project all our activities.
New Mindset users could be directed there for consultation and assistance; we could run some classes in computer literacy, graphics, and probably programming, and perhaps take in someone who wants to act as a dealer.
The "center" could function as a non-profit organization as a proper user's group should, but the space could support "concessions" for the income bearing activities.
Actually, even a non-profit organization can be in these business as long as the money then goes to salaries, rent, advertising, and general perpetuation of the cultural activities.

I have experience with this sort of set up in photography, (I was the founder, president and exec. director of The IMAGE CIRCLE Inc. for 10 years), and would do it again within certain limits. I would rather not have to run anything like that again, but I can help organise it, teach in it etc.

We could even change the name to MIND/SIG, or something less weird.

Just an idea.........I have them all the time.

Enclosed also a proposal for the Video equipment, to print in the newsletter so that our members can mull it over ahead of time.

and a bit of review on Paper Back Diffuser
The last time I reviewed software for F-Mug, I ended with a question about the compatibility of Adam Osborne's Paperback Software with the Mindset. Since no one seemed to know, I decided to find out.

My main observation is, that it is worth knowing about:

1. All three (protected) programs I tried ran fine on The Mindset. The are: Executive Writer, Executive Filer, and Draw-it.
2. The price is right: ranging from about $30.00 to near $80.00, with a Lotus like spreadsheet now also announced for $99.00!
   Back-up disks are $5.00, unprotected copies are also available.
3. The concept is right. Adam Osborne, being one of the original micro computer innovators, himself the only readable author on the subject in the old, old days (4 years ago ?), and publisher (?) of the Osborne/McGraw-Hill series, now publishes paperback books, off the shelf, that are in fact computer software manuals with the program disk in the back.

One criticism:
The books are paperback bound and have a very stiff cardboard holder in the back for the disk. This may work in the store, but is lousy on your desk. A book that is soft in front, rigid in the back is very unhandy to work with, and worse, it won't stay open on a needed page.
This should be re-designed. Computer manuals should have spiral backs or equivalent, so that they will lay flat. They also should be of minimum size, to occupy little desk space. The Mindset manuals are excellent that way.
I am tempted to tear off the cardboard back and have the spine cut off right close to the text. Then punch the pages for simple rings. Either that, or memorize the text and throw away the manuals.

I'll describe the actual software some time later, just some insights now:
DRAW-IT is an amazingly full functioned graphics package, but the drawing is limited to the use of the cursor keys. Too bad, if it would respond to a mouse and/or joystick, we would have a super bargain.
EXEC WRITER/FILER can be merged to re-create what used to be sold (for much more) as THE IDEA PROCESSOR, a combination writer and file card system.
It works. You can write all you want, and file each text to a card for very easy recall. Sorted by key words you indicate. Just what I needed.
So why did I write this on Volkswriter de Luxe?
Ask me next time!
PROPOSAL FOR CO-OPERATIVE OWNERSHIP OF MINDSET VIDEO-PRODUCTION EQUIPMENT.

by Josepha Haveman, 9/85

At a meeting several months ago, I proposed that some of us, members of the Mindset user's group who share an interest in using the new video production equipment, get together and acquire this equipment co-operatively. At that time several people came forward who were interested in pursuing this idea, and now that summer is over, we should discuss the options at our next meeting.

The equipment we are talking about could include as much as a VIDEO PRODUCTION SYSTEM (the modified lower system unit), at list $1599.00 (or one with analog mon. capability at list $1799.00, or go all out and get a whole separate computer, adding another 1299.00 (3100.00 for the latest computer ?)

Then we need the VIDEO PRODUCTION MODULE, $799.00 and the IMAGE CAPTURE MODULE, $1499.00 LUMENA and maybe VIDEO PRODUCER software.

The complete package would also include a video camera $650.00, and a VCR with 4 heads, and ideally video and audio dubbing etc. another $650.00 at discount prices. That would be the maximum acquisition.

I would rather suspect that anyone who wants to pursue this line would get his own Mindset updated, and most people seem already to have VCR's. That would indicate a minimum group purchase of just the Mindset VIDEO PRODUCTION and IMAGE CAPTURE Modules, with a good camera. Or a camera/vcr combination in a single unit.

If Mindset (or someone else) can get us the modules @ 25% discount, we should be able to get the 2 modules and a good camera for under $2500.00.

With five people sharing the equipment, we would each end up with plenty of access @ $500.00 per person. Access could be simply alternating months. Each person keeps the equipment for one month...but if someone needs it for a day or so, this could be negotiated with whoever has priority that month. Or something like that.

The way this stuff is used, I anticipate needing most of it only some hours at a time, until the imagery is firmly on disk. After that, manipulation with Lumena, with a VCR etc. can be done separately.

On 10 people could come in, and we would still have plenty of access, at a very minimal investment. Think about it!
I also propose that this video production co-operative form a formal "VID-PRO SIG"
and meet monthly to share experience, expertise and to iron out the inevitable bugs.
As a photographer I can help with camera work; I hope to see others involved who have video or animation experience, and of course, we need some tekkies to plug it all in correctly!
If we formalize the organization properly, we could aim at a business structure, making the investment potential for tax credits.
Anything is possible.
#include <stdio.h>
define black 0x0000 + 0000 /* color map of 16 */
define dkblue 0x1000 + 0500
define dkgreen 0x2000 + 0050
define dkcyan 0x3000 + 0550
define dkred 0x4000 + 0005
define dkmagent 0x5000 + 0505
define dkyellow 0x6000 + 0055
define dkwhite 0x7000 + 0555
define dkgray 0x8000 + 0222
define blue 0x9000 + 0700
define green 0xa000 + 0070
define cyan 0xb000 + 0770
define red 0xc000 + 0087
define magenta 0xd000 + 0707
define yellow 0xe000 + 0077
define white 0xf000 + 0777
#define ms_v_int 0xef /* mindset graphics */
define i_io_int 0x10 /* ibm compatible video io interrupt */

struct regs {
    int ax;
    int bx;
    int es;
    int cx;
    int dx;
    int si;
    int di;
    int ds;
    int flags; /* define registers to be transfered */
    /* upon interrupt */
};

struct xypair { /* x and y coordinate pair */
    int x;
    int y;
};

int palette[16] = {
    black, dkblue, dkgreen, dkcyan, dkred, dkmagent, dkyellow, dkwhite, dkgray, blue, green, cyan, red, magenta, yellow, white
};

static struct xypair squaref] = {
    { 000, 000}, { 020, 000}, { 020, 007}, { 000, 007}
};

main()
{
    int ecolor, ocolor, x_org, y_org;
    int hit;
    setmode(2);
    setpalette(0,15,0,&palette);
    do {
        ecolor = 0;
        ocolor = 0;
        x_org = 0;
        y_org = 192;
        for(x_org = 0; x_org < 320; x_org += 20)
        {
            polygons(0,4,ecolor,ocolor,x_org,y_org,&square);
            ecolor += 1;
            ocolor += 1;
        }
        hit = 0;
        hit = kbhit();
    }
}
while (hit == 0);
setibm(); /* and of main */

setpalette(border, count, index, offset)
char border; /* which table color is border color */
int count; /* number of colors to set */
int index; /* first of colors to set */
int offset; /* pointer to palette table */
{
    struct regs myregs;
    myregs.ax = 0xa00 + border;
    myregs.bx = offset;
    myregs.cx = count;
    myregs.dx = index;
    myregs.es = data_seg();
callbios(ms_v_int, &myregs);
return;
}

setmode(video_mode) /* set IBM video display mode */
int video_mode: /* argument for BIOS call */
{
    struct regs myregs: /* structure from USER.INC */
    myregs.ax = video_mode; /* set 80186 register AX = mode */
callbios(ms_v_int, &myregs); /* actual call to BIOS */
return;
}

setibm(video_mode) /* set IBM video display mode */
int video_mode: /* argument for BIOS call */
{
    struct regs myregs: /* structure from USER.INC */
    myregs.ax = video_mode; /* set 80186 register AX = mode */
callbios(i io_int, &myregs); /* actual call to BIOS */
return;
}

polygons(id, count, evencolor, oddcolor, xorigin, yorigin, coords)
char id: /* id number for blts */
int count: /* number of points */
char evencolor, oddcolor: /* color for even and odd pixels */
int xorigin, yorigin: /* x and y origin for destination */
int coords: /* pointer to coordinate table */
{
    struct regs myregs:
    myregs.ax = 0x900 + id;
    myregs.cx = count;
    myregs.dx = (evencolor << 8) + oddcolor;
    myregs.s1 = xorigin;
    myregs.s1 = yorigin;
    myregs.bx = coords;
    myregs.es = data_seg();
callbios(ms_v_int, &myregs);
return;
}
OFFICIAL BUSINESS...

Happy Birthday to us. The Group is now one year old and still going strong. Please be advised that your subscription ends with this issue. Once again the annual subscription rate will be $15. If you are new and you want the back issues from 1985, they are $10 for the set. The Disk Library now contains 8 volumes and is available for $2.50 per disk. (more about this later) Also, in 1986 the newsletter will be published every other month with an according increase in the page count. This is so that those of you who wish to contribute to an upcoming issue theme will have enough time to get it together and enough space to treat your subject in detail.

THE THEME IS RESOURCES...

This issue will focus on various tools and other resources which will help you get more out of the Mindset computer, company, and users group. Included in this issue you will find the following:

* PC Software Compatibility Update by Vic Wong.
* Mindset SIG on the Source by James Pallack.
* Tips for the Advanced Lumena User by Inge Infante.
* The New and Improved Mindset II by Mindset Corp.
* New and Used Mindset Hardware Sources.
* Disk Library Catalog.
* Omnimograph file conversion program for the Mindset.

IN THE MAILBAG...

Stephen McCaughey, a Captain in the Air Force and a heavy duty hardware hacker, writes that he is developing a reasonably priced hard disk interface and wants to know who would be interested. The question is "Who wouldn't?" Contact him at 1422 Territory Tr., Colorado Springs, CO 80919, 303/598-7381 or Compuserve 75146,3657.

Reid Kearl would like to hear from other Pascal programmers, especially those who have been successful with bit-blt operations. He has modified PC-TALK to run on the system under the GW-BASIC interpreter and would like to compile it. Does anyone know about the compatibility of Quick BASIC or other compilers with GW code? Contact him at Box 181 Rt 3, Deer Park WA, 99006, 509/276-5659.
Bob Solem at the Milwaukee Institute of Art and Design informs us that his school is a hotbed of Mindset activity, with student work available on disk or video. He would like to swap work samples and shop talk with other artists. You can reach him at 342 N. Water, Milwaukee, WI, 414/276-7889. He may now have a modem at 414/276-2949.

LUMENA TIPS...

Inge Infante is currently an artist-in-residence at Mindset. She recently contributed the following procedure as a convenient means of clearing the EFX, Path, and Chain Buffers in Lumena.

Do this once:

1. Power up the system, boot DOS, and run Lumena.
2. Go to ANIM menu, then to FILE sub-menu.
3. Type a 1 and enter the file name EMPTY, followed by RETURN.
4. Move cursor to SAVANM and press pen.
5. Move cursor to EMPTY on file list and press pen.

The above steps create an blank file called EMPTY.AN. Whenever you wish to begin a new animation sequence, save any work in progress and then do the following:

1. Type a 1 and then the file name EMPTY followed by RETURN.
2. Select ANIM menu, then FILE sub-menu.
3. Select LOADANM.
4. Select the file name EMPTY.

This procedure loads the empty .AN file created above and, as a consequence, clears the Path and Chain memory as well as the EFX buffer. The contents of the Cell buffer is not affected. You may wish to place EMPTY.AN on your Lumena program disk, rather than your work disk, so that it will always be handy for doing this procedure.

COMPATIBILITY WATCH...

Vic Wong is a founding member of the Users Group who has made something of a personal mission of keeping tabs on PC programs and their compatibility with the Mindset. The following list is his latest update. Please note that the selected programs are ones which do not appear on the list published by Mindset Corp. Contact Mindset for a copy of its list.
<table>
<thead>
<tr>
<th>name</th>
<th>manuf.</th>
<th>type</th>
<th>compat.</th>
<th>notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Art of War</td>
<td>Broderbund</td>
<td>game</td>
<td>yes</td>
<td>occasionally locks up</td>
</tr>
<tr>
<td>AutoCad</td>
<td>Autodesk</td>
<td>cad</td>
<td>yes</td>
<td>locks after a successful save and on help call</td>
</tr>
<tr>
<td>Checkbase</td>
<td>IMSI</td>
<td>accounting</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Computerized Atlas</td>
<td>Software Conc.</td>
<td>atlas</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Copy II PC</td>
<td>Central Point</td>
<td>copy</td>
<td>no</td>
<td>copies made on IBM-PC will work on Mindset</td>
</tr>
<tr>
<td>CopyWrite</td>
<td></td>
<td>copy</td>
<td>no</td>
<td>copies made on IBM-PC will work on Mindset</td>
</tr>
<tr>
<td>DBase III</td>
<td>Ashton-Tate</td>
<td>database</td>
<td>no</td>
<td>locks on full screen commands</td>
</tr>
<tr>
<td>Electric Dragon</td>
<td>Baen</td>
<td>selfhelp</td>
<td>yes</td>
<td>menu selection depends on bolding (unavail. on Mindset)</td>
</tr>
<tr>
<td>Fancy Font</td>
<td>Softcraft</td>
<td>font edit</td>
<td>yes</td>
<td>based on their demo disk</td>
</tr>
<tr>
<td>FirstTime</td>
<td>Spruce</td>
<td>editor</td>
<td>yes</td>
<td>only the Turbo Pascal version tested</td>
</tr>
<tr>
<td>Framework</td>
<td>Ashton-Tate</td>
<td>integrated</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Gato v2.0</td>
<td>Spectrum Holo</td>
<td>game</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Gem Desk</td>
<td>DRI</td>
<td>window</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Home Accountant</td>
<td>Continental</td>
<td>accounting</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>IBM Logo</td>
<td>IBM</td>
<td>interpreter</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Intuit</td>
<td>Noumenon</td>
<td>integrated</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>MaxThink</td>
<td>MaxThink</td>
<td>outliner</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Mindreader</td>
<td>Businesssoft</td>
<td>word proc</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Mindwheel</td>
<td>Synapse</td>
<td>game</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Modula-2</td>
<td>Logitech</td>
<td>compiler</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Norton Utilities</td>
<td>Norton</td>
<td>file util</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>PC Paintbrush</td>
<td>IMSI</td>
<td>paint</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>PC-Write</td>
<td></td>
<td>word proc</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>PFS: Access</td>
<td>Soft., Publish.</td>
<td>telecom</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Fac Man</td>
<td>AtariSoft</td>
<td>game</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Pop-Up Desk Set</td>
<td>Bellesoft</td>
<td>desk util</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Qbase</td>
<td>Applied Soft.</td>
<td>database</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>RBase 5000</td>
<td>Microrim</td>
<td>database</td>
<td>yes</td>
<td>requires 384k</td>
</tr>
<tr>
<td>Sidekick</td>
<td>Borland</td>
<td>desk util</td>
<td>yes</td>
<td>non-copy-protected version only; occasional garbage on exit</td>
</tr>
<tr>
<td>Sign Art</td>
<td>Techart Assoc.</td>
<td>signmaker</td>
<td>yes</td>
<td>Menu selection not visible, but works with trial and error</td>
</tr>
<tr>
<td>SmartKey</td>
<td>Software Res.</td>
<td>key macro</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Superkey</td>
<td>Borland</td>
<td>key macro</td>
<td>no</td>
<td>Loads but locks up frequently</td>
</tr>
<tr>
<td>Symphony</td>
<td>Lotus</td>
<td>integrated</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Thinktank</td>
<td></td>
<td>outliner</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>True Basic</td>
<td></td>
<td>compiler</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Turbo Graphix Tool</td>
<td>Borland</td>
<td>library</td>
<td>yes</td>
<td>can only be compiled with the IBM-PC version of the compiler</td>
</tr>
<tr>
<td>Turbo Pascal 3.0</td>
<td>Borland</td>
<td>compiler</td>
<td>yes</td>
<td>the IBM-PC version works, as does the generic version</td>
</tr>
<tr>
<td>UniForth</td>
<td>Unified Soft.</td>
<td>compiler</td>
<td>yes</td>
<td>screen editor balsky</td>
</tr>
<tr>
<td>Word Challenge</td>
<td>Proximity</td>
<td>game</td>
<td>no</td>
<td>screen is jumbled</td>
</tr>
<tr>
<td>XyWrite II</td>
<td>XyQuest</td>
<td>word proc</td>
<td>no</td>
<td>based on their demo disk</td>
</tr>
</tbody>
</table>
DISK LIBRARY...

The users group disk library now has 8 volumes which are as follows:

1. POPDEMO

This is the original Mindset demo disk, featuring a broad assortment of interesting animation and transitional effects. It is good for showing off the machine, but, due to the fact that source code is not included, you can't learn anything from it.

2. BIT-BLT DEMO

This disk is also mostly effects demos, but, unlike the first, contains all the assembler source as well as executable modules and a few BASIC programs. The program names are cryptic and I don't read assembler too well, but as near as I can tell it is an anthology of all the standard Mindset effects.

3. MORE DEMOS

This disk contains yet more Mindset demonstration programs. They are in executable form only. These demos have a narrower focus, showing off the Vyper game, assorted animation effects, color dithering, and a videotext screen sequence.

4. BASIC STUFF

This disk contains about 80 BASIC programs which run the gamut from graphics demos along the lines of those mentioned above, through things like mouse control routines, the telecom program PC-TALK, trig functions, and more.

5. UTILITIES

This disk contains lots of useful programs, in both assembler source and executable form, plus documentation for their use. Included are programs for installing a RAM disk, changing video modes in a manner more convenient than with the DOS Mode command, manipulating the system color palette, and more. These programs were written by John Blair at Mindset. They are clean, easy to use and well documented.

6. REAL TIME CUBES

This disk is a work of art by a programmer named Ralph Russell. The program is simple. After a stunning rotating title graphic comes up on the screen, you select a number from 1 to 9. The according number of 3D cubes proceed to bounce around inside a 3D cubical bounded space. The motion is so smooth its hypnotic. Also, the disk includes well documented assembler source.
7. C STUFF - SOURCE

This disk contains an extensive collection of programs written in Lattice C by Warren Leong. It includes games (Othello, Life, and Artillery) as well as functions for controlling virtually all of the BIOS graphics interrupts, both IBM compatible and Mindset specific, and some highly original transitional effects and menu display techniques.

8. C STUFF - EXECUTABLE

This disk contains the compiled version of programs on disk 7.

HARDWARE SOURCES...

Occasionally we hear of people selling new and used systems and peripherals for sale, some at really great prices. Here are some of the sources we have recently learned of.

Used systems with assorted software:

Erik Eason, 9608 NE 40th Ave., Seattle, WA 98115 206/526-8195

Bob Cakebread, 509 Prospect Ave., Redondo Beach, CA 90277 213/376-1169

New 1st generation systems and assorted software and peripherals:

Rich Dixon, 3343 Cuesta Dr., San Jose, CA 95148 408/274-2625

Michael Moore, 6091 W 75th Dr., Arvada, CO, 80003 303/429-9423

Hardware dealers:

Art Johnson, California Video Sales, 330 Townsend, SF, CA 94107 415/896-0682

Glen Brock, 900 Ashford, #1206, Arlington, TX 76006 817/861-3577

FILLER...

Mindset has recently hired a fellow named Andy Soderberg as a Technical Marketing Specialist to act as a liaison between the company and system users. Andy will be working with us in the months ahead to improve user support and documentation. Thanks, Mindset.

Several of you are already signed up for another year in the Users Group. Thanks for your early response to Reid Kearl, Malcolm Orr, Glenn Brock, Wilbert Beebe, and Greg Welz.

Everyone else, your dues are due.
OMNIGRAPH IS HERE...

Omnigraph is an important new graphics file conversion utility program created exclusively for the Mindset. With Omnigraph you can convert files between 4Point, Designer, Lumena, and all versions of PC Paintbrush. With Omnigraph you can also convert files created with other programs and saved to disk with MGI or Frieze to any of the drawing program formats.

You can select source files to be converted using DOS pathnames and wildcards. For example, if you specify "B:\MYPICS\*.PI?" in response to the source file prompt, the program will select Designer (.PIC), and Lumena (.PIX) drawing files in the subdirectory \MYPICS on drive B for conversion. The program will disregard files which are not pictures. For example, it knows that although Lumena Cel file names take the form filename.PIC they are not pictures and will not try to convert them. The program will disregard any files which are not valid drawing files.

You can select to either view the files as they are converted or not. In fact, you can even use the program to view files without converting them.

You can specify a common output file type, or a different output type for each file being converted. If you specify an output path which doesn't exist, the program will create the path automatically and store the output files in the new subdirectory.

If the selected output type is one which stores palette data and the source is one which does not, the default palette for the output type is selected, otherwise source palette data is transferred.

The program checks free disk space on the destination drive before each conversion operation. If there is not enough space there for the output file, you are given the chance to change disks and continue. The program creates a subdirectory on the new disk matching the one specified for the original output.

If you do not select to view files as they are converted, you may use the program to convert Mindset files on an ordinary IBM PC. This is because the program uses the Mindset-unique bit-bit operation for display.

You may purchase Omnigraph for $25 per copy from Tim Negris at 138 Village Court #6, Walnut Creek, CA 94596.

CALLING ALL SOFTWARE DEVELOPERS...

Omnigraph represents the first in what will hopefully be a broad selection of commercial-quality applications produced by Mindset users for Mindset users. Other such submissions are welcome.
January 3, 1986

First MINDSET Users Group
C/O Tim Negris
138 Village Ct - #6
Walnut Creek, CA 94596

RE: Computer Conference on The Source
Borland Turbo Lightning
December, 1985 Issue?

Dear Tim,

Around five(5) months ago I tried to start a BBS for the MINDSET computer. It did not go very far. There was mainly three(3) reasons the system failed. First and mostly was the fact that I could not get the software running. Second not enough storage space was available for running the BBS. The third was the fact that there seems not to be much of an interest in the BBS, but this could be wrong due to the software problem. To all the people that tried, sorry.

Another idea came to mind. There is a communication service called "THE SOURCE" which has available a program called "PARTICIPATE". I have started a conference called "MINDSET PC EXCHANGE". The IBMSIG on "THE SOURCE" was gracious enough to allow us to use there SIG as a meeting place. This is where our conference is located. We can use this area for software trading, news, etc. My conference is located via entering "4" and RETURN at the IBMSIG command prompt. (or "PARTI" at THE SOURCE command prompt) At that point type ' R "MINDSET PC EXCHANGE" ' (don't include the ' or ') but do include the ' ) to get you into our conference. At that point you can type "P C" to see a list of CONFERENCES available. You should type "J" to join the conference. This will send all NEW messages to your mail box when you log on the PARTI. You should also do this for all sub-conferences you want messages from. Also, please feel free to leave any message you would like. You can even create your own conference if you wish. I have created four(4) conferences so far. They are as follows:
At prompt

<table>
<thead>
<tr>
<th>Type</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 2</td>
<td>SHOULD WE</td>
<td>Discussing on starting our own SIG.</td>
</tr>
<tr>
<td>R 3</td>
<td>COMPATIBLE</td>
<td>Question and Answers to compatible software and Hardware. Also a list out of the current compatibility list.</td>
</tr>
<tr>
<td>R 4</td>
<td>HACKERS CORNER</td>
<td>You guessed it.</td>
</tr>
<tr>
<td>R 5</td>
<td>GRAPHICS</td>
<td>Discussing Lumena, Designer, and all the rest of the graphics software or idea's.</td>
</tr>
</tbody>
</table>

I am starting this conference as a trial. If I get enough users we might be able to start our own SIG.

Sorry to say this service is not free. If you have a modem all you need to do is either purchase a starter kit at your Computer Store, or give a call to THE SOURCE at 1-(800) 336-3366. [1-(703) 821-6666]. You can charge your membership fee and usage to a major credit card or via CheckFree service.

Program: Turbo Lightning
by Borland Int'l
Price: $99.95

This program which checks your spelling for you and/or looks up Synonyms, is a really neat program. And it works on the MINDSET.

I have run only into 1 problem. Once in a while after jumping into Lightning, the cursor would not be visible. To solve this problem I created a small TurboPascal (Begin; NormVideo; end.) program. I use the "R" command to run the program. Since the "R" command returns to WS after running the external program. You don’t have all that much to do. I’m sure someone could create an small program (machine Language) that would run during Vertical Interrupt, and reset the cursor.

Since I don’t have an Hard Disk I had to create two(2) disks plus one for Data. Here is an example of the listing of each Disk.
Disk 1: Drive A

COMMAND COM | DOS
RAM1 DIC | 1 of 3 Ram Resident Dictionaries available
AUXI DIC | Your private created dictionary. You can have
| more than one. 1 for TurboPascal, 1 for Word
| Processing, etc.
FLP-THES DIC | The Thesaurus (Floppy version)
LIGHT HLP | Turbo Lightning Help File
LIGHT TRN | Dictionary of Words w/Transposed letters
FLP-DISK DIC | The Dictionary (Floppy version)
RAMDISK SYS | Ram Disk for WordStar overlay(OVR) files and
| the TurboPascal program to reset the cursor.
| Contains the following:
| echo off
| copy b:*.ovr c:
| copy b:cursor.com c:
| b:light
| b:wsi

CONFIG.SYS | Contains the setting for the Ram Disk as Follows:
| device=ramdisk.sys 85

Disk #2: Drive B: | Can be removed after Wordstar is running.
LIGHT COM | The Turbo Lightning Program
WSI COM | WordStar (Inverse Video)
CURSOR COM | The TurboPascal Program(Resets Cursor)
WSOVLY1 OVR | WordStar Overlay file
WSMSGS OVR | WordStar Overlay file

(The above three files are copied to the Ram Disk for faster access)

Disk #3 only contains the "WSI.COM" file, plus your data(programs, letters). After Wordstar is loaded, change disk
#2(drive B:) to your data Disk. The reason "WSI.COM" file has to
be available is that in order to use the "R" command. There are
two reason not have that program on drive A: First is there is
not enough space on Disk #1, and the second is that I’m usually
logged ("L" command) onto drive B:, and when you use the "R"
command you have to have "WSI.COM" available on the default
drive.

Hope all of you have a great 1986!!!

Thank you.

Sincerely,

James Pallack
S.M.U.G.
December 19, 1985

Dear Mindset Dealer:

Mindset is pleased to announce a new system product—the Mindset II Advanced Professional Videographics System. The Mindset II offers three major areas of enhancement: increased resolution, smooth multiple-object real-time animation, and larger system memory.

**Increased Resolution**

Mindset II offers a 640x400, 4-color resolution mode which is interlaced. Characters and graphics created in this mode are extremely sharp and clear and achieve a broadcast quality appearance.

**Smooth Real-Time Animation**

The video display buffer in Mindset II has been increased to 128K. This permits double buffering of the 640x400, 4-color mode and quadruple buffering of the 320x200, 16-color mode. The result is smooth, flicker-free, real-time animation of multiple objects.

**Larger System Memory**

The Mindset II comes equipped with 512K bytes of system memory, enough for any video or non-video application.
Software

Along with Mindset II, Mindset is announcing three new software products that take advantage of the system's advanced capabilities.

**Video Titler II**

This is a high-resolution version of Video Titler that uses the 640x400, 4-color mode. It offers the same advanced features and easy-to-use pop-up menu interface.

**Video Animator**

This powerful, easy-to-use program answers the need for smooth, multiple-object, real-time animation. Video Animator works in conjunction with Lumena Animation and optimizes the system's animation performance by executing flicker-free animation as well as executing multiple events simultaneously. The program also sequences up to 1000 animation events and includes many helpful tools such as a real-time clock and frame counter.

**Chalkboard II**

This is a high-resolution version of Chalkboard that uses the 640x400, 4-color mode. The high resolution makes the freehand video annotation crisp and clear.

Of course, Mindset II is fully compatible with all software running on existing Mindset systems.

**Pricing and Availability**

Mindset II sets another price/performance standard. Priced at $3495 list, Mindset II comes complete with two disk drives, 512K System RAM, 128K Video Frame Buffer, and analog RGB cable.

Software products are priced as follows:

<table>
<thead>
<tr>
<th>Software</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Titler II</td>
<td>$299</td>
</tr>
<tr>
<td>Video Animation</td>
<td>$299</td>
</tr>
<tr>
<td>Chalkboard II</td>
<td>$ 99</td>
</tr>
</tbody>
</table>
Mindset II and the new software products will be available for shipment in January and can be ordered immediately. Dealer discount levels for these products are the same as for existing products.

Mindset II represents an opportunity for you to expand your Mindset sales to customers for whom resolution has been an issue and for whom smooth, multi-object animation offers new advantages. It is an ideal complement to the current Mindset system.

As 1985 draws to a close, we at Mindset want to thank you for your business and support during the past year. Looking ahead to 1986, we are convinced that the combination of a burgeoning non-broadcast video equipment market, and Mindset's increased product offerings, will result in an exciting and profitable year for Mindset and its dealers.

Sincerely,

Christopher B. Berg
Marketing Manager

CBB:rm1
Mindset II Specification

Processors: 16-Bit 80186 (6MHz)
Mindset Proprietary Graphics Processor
Mindset Proprietary Display Controller

System Memory: 512K Bytes

Video Display Memory: 128K Bytes

Display Output: Analog RGB, Composite, RF-TV

Video Standard: NTSC

Expansion Slots for I/O Modules: 4

Dual 360K 5 1/4" Floppy Disk Drives

Color Palette: 512 Colors

Resolution Modes:

320x200  16 colors
*320x200  16 colors (quadruple buffered)
*320x400  16 colors (double buffered; interlaced)
320x400  4 colors (interlaced)
640x400  2 colors (double buffered)
640x200  4 colors
640x400  2 colors (interlaced)
*640x400  4 colors (double buffered; interlaced)

*Modes unique to Mindset II

Compatibility: Mindset II is fully compatible with all software running on other Mindset systems.
April 4, 1986

Dear FMUG member:

We got together recently to discuss ways to reactivate the First Mindset Users Group which, as you have probably noticed, has not had a meeting since December.

We are inviting you to join us in reactivating FMUG by 1) creating a steering committee to plan and carry out FMUG activities; 2) continuing and improving the newsletter; 3) scheduling quarterly meetings with concrete topics and presentations announced in advance; and 4) taking advantage of the new Mindset users bulletin board to increase the exchange of ideas and information between members.

To that end, we hope you will come to the first FMUG meeting in 1986 which is scheduled for Monday, April 28. It will feature Andrew Soderberg from Mindset Corporation who will describe the bulletin board recently set up at Mindset which is available to FMUG members and accessible with a modem hook-up. Andy will also have the Mindset II and some new software to show us. Please join us to learn how we can best take advantage of this new opportunity to improve communications between members!

The meeting will be at PC Time, 1875 Mission St., San Francisco, starting at 7 p.m. The agenda is as follows:

7:00 p.m. meeting opens - come early to visit and browse - FMUG member Josepha Haveman has an exhibit of computer art on display.

7:30 - 9:00 p.m. - Presentation and questions and answers by Andy.

9:00 - 9:30 p.m. - coffee break.

9:30 - 10:00 p.m. - steering committee meeting (open to all interested persons)

Hope to see you there!

Sincerely,

Virginia Dean

Josepha Haveman

Dave Joly

Vic Wong