

NOVEMBER 1981

NEWSLETTER



PREMIER PUBLICATIONS

LEADING UK101/OHIO SPECIALISTS

12 KINGSCOTE RD ADDISCOMBE CROYDON CR0 7DN

NOVEMBER 81 NEWSLETTER

Our November Newsletter contains many new and exciting products for the UK101/OHIO range, with the promise of more to follow! The most exciting product on the horizon is a VERY cheap floppy disk drive which together with our disk controller card should bring disks within the grasp of the vast majority of our customers. Up to now, investment in a disk unit has meant purchasing a floppy disk unit from OSI, plus their 610 controller board at a cost of around £500.00. Premier's disk system will cost well under half the above, and possibly only a third!

Rumours circulating in the USA are to the effect that a really cheap floppy disk unit is imminent - Premier are chasing these rumours very hard!

We would like to say a huge thank-you to the customers who have patiently waited for their Screen Enhancement Kits. Up to the time of writing (mid-Oct), only one person had cancelled their order in spite of a very long wait. By the time you read this, the SEK should be in stock and fully available.

The SEK has caused many problems, not the least being the theft of the original design work. To speed up the new artwork, we commissioned a computer-controlled PCB artwork designer, but unfortunately the computer must have been feeling ill because it gave a prototype board which took many many hours to coax into life, since a 16 pin socket had been put where a 14 pin was required. With modifications, this board would have worked, but PREMIER did not want to supply customers with sub-standard boards, hence the redraw and exasperating additional wait.

We now have a superb through-hole plated board which gives a rock steady picture on every screen format. Many thanks to Steve the designer of the SEK, Neil, Adrian and Mike Bedford, who have spent an enormous amount of time ensuring that you end up with such a high quality product.

If you purchase one of our products, such as BASIC 5 for instance, and then upgrade from MON02 to CEGMON, thus making your BASIC 5 the wrong type, please write and say so. We will ALWAYS provide a cheap upgrade service to customers buying our products - we do not expect you to pay full price twice for the same product! This offer applies to software as well as firmware.

On a slightly less happy note, if you buy one of our hardware kits and cannot get it to work, returning it will now incur the full building charge (unless the kit is faulty of course). We are sorry to have to do this, but several kits we have received back lately have been so badly built that making them work has taken us longer than actually building from new! If you're none too happy about building a kit, see SPECIAL OFFER in the TES section.

Please note that the postal service goes haywire around Christmas Time - don't leave it until December 20th before ordering goods required for Xmas presents. If in doubt, please ring for an estimated delivery time.

OPENING HOURS

As from November 1st, 1981 our hours are as follows

MONDAY - 9.15a.m. to 6p.m. then 7-9p.m.

TUES, THURS, FRIDAY - 9.15a.m. to 6p.m.

WEDNESDAY - 9.15a.m. to 1p.m.

SATURDAY - 9a.m. to 2p.m.

CUSTOMER SERVICE - Monday evening 7-9p.m. Ring 01-656-6156 for enquiries/moans/a chat!! Either Mike or John will be on hand to answer questions.
Please note that the phone is not manned outside the above hours.

PHONE TECHNICAL ENQUIRIES

We get many phone calls every day concerning technical aspects of the UK101/OHIO range. The motto of PREMIER is 'help the customer all you can', but we would ask that you phone your technical enquiries between 4 and 6p.m., so that Mike can get some design work done!

TES Hardware Expansion Range

The PREMIER Total Expansion System offers value-for-money, highly flexible hardware expansion for all UK101 and OHIO computers. Features include:-

* VERSATILITY - you can start with a single 8K RAM card or EPROM card connected direct to your computer, and expand when you wish up to a full 32K RAM system PLUS 8K of EPROM.

* FLEXIBILITY - the TES 8 slot motherboard accommodates EPROM and RAM cards plus any hardware add-on (sound, disk cards, etc). TES gives you complete freedom to create the computer system you want.

* PROFESSIONAL DESIGN - every aspect of TES has been designed to provide maximum user-convenience and reliability. Please do not confuse TES with limited capability, non compatible expansion boards offered by other companies.

* VALUE FOR MONEY - PREMIER bulk buying allows us to offer TES, using only first grade components, at highly competitive prices. TES cards are supplied as easy to assembly kits with full assembly and operating instructions. Our kits contain ALL you need to finish the kit - you only need a soldering iron, some solder and a few simple tools. All kits are supplied with I.C. sockets. We also supply the boards ready-built for an additional charge, details of which are in the price list.

8K RAM CARD

A compact high-quality PCB accommodating sixteen 2114 static RAM chips. Full address buffering is on-board, with user-selectable RAM location in the memory map. The board is supplied complete with cable and 40 pin plug for direct connection to either your on board J1 socket or our Motherboard.

8K EPROM CARD

This card takes four 2716 2K EPROMS. It is fully buffered and supplied with connection cable and plug. The EPROM card may be powered from your normal supply or a separate one - this is link-selectable.

MOTHERBOARD

This board will take up to EIGHT expansion cards and is supplied complete with a 5v, 5 amp Power Supply (less transformer). The expansion sockets are configured to be equivalent to J1 with link-selectable use of pin 11 as a 5v feed to the expansion cards.

J1 BUFFER BOARD

The UK101/OHIO range are not provided with sufficient address and control line buffering on-board. This obviously can (and does) cause problems when multiple expansion boards are fitted. The J1 Buffer Board has been produced to overcome these problems. It provides buffering for all the address, control, interrupt and bus direction signals. The J1 Buffer Board should be installed as close to the J1 expansion socket as possible.

The board is strongly recommended to those customers who have more than one expansion card.

MINI ROM/EPROM BOARD

The Mini EPROM/ROM board provides a low-cost and elegant way of obtaining 6K of EPROM space (3 x 2716). The board enables you to lift the 8K BASIC-IN-ROM/EPROM from the main board, leaving the old BASIC 1,2 and 3 sockets available for re-addressing for EPROM usage.

The Mini Board is plug-in and does NOT use the J1 expansion socket.

FLOPPY DISK Controller Card (provisional information)

The Floppy Disk Controller Card will be capable of supporting single and double sided 40 track Shugart compatible disk-drives. It is also expected that with minor modifications it will support eight inch drives. The kit will be supplied with all the necessary information for connection to your own drives, or PREMIER PUBLICATIONS will be able to supply suitable disk drives and power supplies at very competitive prices.

PREMIER always has in stock a supply of 2114 RAM at very competitive prices. Our 2114's are low power 200 or 300ns devices, NOT the 450ns high power (consumption) devices sold elsewhere for similar prices. Premier recommend a MINIMUM of 300ns RAM for any memory expansion, whether bought from Premier or elsewhere.

SPECIAL OFFER on built boards

Until 31/12/81, PREMIER offer BUILT 8K RAM, 8K EPROM or MOTHER boards for half the usual building charge - ie, only £5.00 extra. At present, ordering a built card involves only a small additional delivery wait - two extra days is typical - so if you were thinking of expanding your system, NOW is the time to do it.

All the boards reach you fully built, tested and ready to go! simply plug into your J1 socket for an extra 8K of programming power.

HARDWARE RELEASES

SOUND/V.I.A BOARD

The TES II VIA/SOUND kit gives you up to 56 Input/Output lines and programmable sound generation. In order to allow you total flexibility in designing your system, we are offering the kit in low-cost packs.

The Base Kit consists of the PCB, connector, address decoding and buffering, plus IC sockets.

The Sound Pack consists of the superb AY-3-8910 sound chip, amplifier and components and the necessary sockets. The 8910 Sound Generator I.C. is a complex (but easy to program) chip giving three tone generators, noise generators and envelope control allowing anything from laser blasts to music!

The VIA Pack consists of one VIA chip (6522) and sockets. The 6522 is one of the most flexible VIA's available and together with the popular AY-3-8910 gives you a remarkable amount of control and flexibility.

MK II PROGRAMMABLE CHARACTER GENERATOR

Release of this kit has been delayed, the reason being that the designers have had a VERY bright idea which will not only considerably enhance the product, it will also give you mid-res graphics and much more for ONLY about £35.00

We anticipate that the board should now be available around Christmas time. It will contain several features and facilities which no-one has yet implemented on the UK101/OHIO - more details nearer the release date.

HIGH RESOLUTION GRAPHICS

We have been offered a design for a true high-res graphics board for the UK101/OHIO range. The resolution (on a 32x48 UK101) would be 256 x 384. The board would not be available before next year, so please don't bombard us with technical questions yet!

COLOUR BOARD

We have had a lot of requests for a good colour board for the UK101/OHIO, so we are investigating the possibility of tying in the high-res board with a colour system.

HIGH SPEED CASSETTE INTERFACE

We are having great difficulty obtaining regular supplies of this item and would please ask would-be purchasers to phone for a delivery date before ordering. We apologise to customers who have had to wait for this item - it is caused by our supplier, NOT Premier.

PCW SHOW REPORT

Many of our customers were surprised to see us at this year's PCW show with a double stand - we can assure you we were very surprised too!

We were offered the stands at under a week's notice and by the Saturday night were barely able to stand up straight. The show for us was an outstanding success - we met many of our customers face to face for the first time and enticed people who had seen our ads but held back from buying into parting with some money! We apologise to those customers who tried to buy mail-order in early September if they had to wait a few more days than normal for their orders - the PCW show left us completely out of stock of all our best-selling products. PREMIER will most certainly be at the show next year - we hope to meet you there.

SCREEN ENHANCEMENT KIT - at long last!

PREMIER are proud (and extremely relieved) to announce that the Screen Enhancement Kit should now be available ex-stock for the UK101. The final board is double-sided and through-hole plated and is of a superb quality. It allows connection to a UK101 without ANY modification being needed to the main board - simply remove some chips, put them on the new board and plug it in. The SEK does not use the J1 expansion socket, nor does it 'steal' any of your user RAM.

The SEK provides 10 sensible screen sizes, all inverse selectable, making a total of 20 screens. Also, some 'illegal' sizes are available which do weird things to the character display and which somebody will no doubt find a use for!

It should be emphasised that every screen size fills the VDU area - the characters change size according to which screen is selected. The 64x32 display is superb - well shaped figures and a rock-steady picture. All the screens can be obtained by POKEing one location - full details are of course supplied with every SEK.

The release of the SEK means that you should now be able to run virtually ANY UK101/OHIO software. This will be of particular importance to OHIO owners who will now have access to all the UK101 software available.

If you have a SUPERBOARD with a 'fixed' screen enhancement (CIU/E), this will have to be removed before you fit our SEK. Also, some of the SUPERBOARD's ICs are not socketed and this will need to be done before the SEK can become 'plug in'. Please ring Premier before ordering an SEK for an OHIO and we will tell you what sockets to fit.

REPAIR SERVICE

An increasing number of customers are using our Repair Service and we regret that our current turn-round time has increased to 2-3 weeks. Please pack your machine very carefully before sending it to us and also remove the righthand RESET/BREAK keytop - it is very exposed.

We are sorry to announce that we will NOT attempt to repair any more computers which have had a screen mod carried out, unless it is our SEK. This is because the last two computers we mended which had these mods took in excess of 25 man-hours each to fix. Many of the screen mods leave a tangle of wires under the board and sorting them out can be a real nightmare. If we were to charge an economical price for repairing them, it would be cheaper to buy a new computer!

Also, please remember that we will NOT repair unsolicited computers.

ACCESS BARCLAYCARD



Premier now have both the Access and Barclaycard agencies and can accept these credit cards for mail or telephone orders. Please be ready with your card number if you telephone and remember to state your CARD address - we cannot send goods to any address other than the card address.

We will aim to despatch a credit card order the same day if it is received before 12p.m., but cannot guarantee this due to stock levels, pressure of work, Christmas, etc. Please check availability when ordering.

BASICS supercharges programs !

PREMIER'S BASIC5 adds 18 new BASIC words to your UK101/OHIO, making it one of the fastest, most powerful BASICs around. All these new words can be used within program lines - they are NOT simple immediate mode words. All the commands work at incredible speed, thus providing extremely fast graphics generation capability and program execution. The new words which BASIC5 provides are

VLIN - HLIN - SCR - TEST - SET - BLK - GET - INAT - PUTAT

GO - GO\$ - PRNTUSNG - GS - GT - RD - WI - CWI - CWI\$

VLIN, HLIN allow the user to plot horizontal or vertical lines, using any graphic character instantly on screen.

SET, TEST provide a single slot plotting system, ideal for graphs, etc

SCR provides an instant screen clear OR screen fill facility

BLK allows fast generation of blocks of graphics

GET is essential for the UK101/Ohio - a non-halting GETKEY routine

INAT allows you to input a response to the screen at a pre-determined field location

PUTAT is the equivalent of PRINT AT - print non-scrolling anywhere on screen

PRNTUSNG a powerful PRINTUSING function is included in BASIC5. It allows you to specify the format of items in a line of output. For instance, you can specify the number of decimal digits to be printed, the position of the dec. point, or the size of the field. The field may be up to 48 characters wide, allowing great flexibility. Strings or numbers may be formatted. Multiple items can be displayed in one field.

GO, GO\$ allow you to GO to a decimal (\$ hex) address and execute the machine code routine stored there. Range is 0-65535, no minus numbers needed with GO!

GS this incredibly flexible command allows you to GOSUBn where n is a variable or expression. Eg: GSX will GOSUB to the value of X. This allows labels to be used.

GT as GS, but GOTOn where n is a variable/expression.

RD a fast READ DATA function. Extremely useful in DATA based programs.

WI,CWI,CWI\$ are special controls for CEGMON users. CWI(\$) allows you to manipulate (in dec or hex) the CEGMON print window for height and width in one command - something which up to now has required much thought! WI will re-initialise the BASIC 5 pointers if you change your screen format; this is very useful if you have fitted our Screen Enhancement Kit.

We must emphasise that all the above functions (except hex calls) operate either under direct number OR variable control OR using an expression, thus providing total flexibility of programming and program control. Graphics can be speeded up enormously with the new commands, as can DATA-based programs. Calling machine code routines now becomes a very simple matter with GO and GO\$. PUTAT and PRNTUSNG provide a much more comprehensive screen formatting system than the standard PRINT. GS and GT allow labels to be used for subroutines. GET solves many programming problems.

BASIC5 is supplied either in EPROM (9000hex) or on disk (24 or 32K). A tape version is not available. When ordering please state precisely your computer and monitor. BASIC 5 is available for MONO1/2, SYNMON and CEGMON monitors ONLY. PLEASE STATE MONITOR WHEN ORDERING - failure to do so will cause a long delay in delivery. Availability is IMMEDIATE.

PREMIER have sold many hundred BASIC 5's and can recommend it as a superb upgrade to your computer. It will speed up the majority of your programs enormously.

NOTE that if you do not have an EPROM board, one will be needed to fit BASIC 5. Our suggestion is to purchase BASIC5 plus the Mini EPROM/ROM board as a package deal. The Mini board will enable you to fit BASIC 5 very cheaply and also give you two additional sockets for further EPROM expansion.

6502 MACHINE CODE COURSE

For reasons beyond our control, we were unable to hold our planned machine code course. One contributor had a family bereavement and another an imminent arrival, so we have had to temporarily postpone the course. A lot of interest was shown in the course and we fully intend to hold it at a later date.

TOOLKIT II for UK101 and OHIO

Premier's new TOOLKIT for the UK101/OHIO range is now available. It provides your machine with many new facilities, all of which become 'built-in'.

TOOLKIT II's command words are

TRACE - provides a non-scrolling trace function, invaluable for debugging programs. Speed of the TRACE can be increased by single key press.

VIEW - allows you to load the contents of a cassette to screen, but not to memory, thus aiding identification and loading, etc.

MC - a fast way of entering the monitor.

AUTO - produces new line numbers automatically. Start number and increment are user selectable. A star appears if the line already exists.

LIST/ - allows a controlled listing between 1-32 lines at a time. LIST/ also works where you wish to list only part of the program

DELETE - a high speed block line delete function

RENUM - an extremely reliable renumber routine. RENUM will renumber from any start location in any increment. Full error messages displayed where program is incorrect, etc. RENUM will renumber an 8K program in around 30seconds - many times faster than comparable renumbers.

LIST LINE ON ERROR - (not MON02) when any BASIC error message is generated, TOOLKIT will display the whole of the offending line on the screen, and if CEGMON is resident it will turn on the screen editor too! Allows high speed debugging.

FIND/ - will find anything within a BASIC listing and highlight it. The area of the search may be specified as per normal LIST syntax

REPLACE - the star of TOOLKIT II. REPLACE gives the user a powerful word-processor type Global Search and Replace facility. Anything within a BASIC listing can be found and modified instantly. Selective internal renumbering of subroutines becomes a simple, fast exercise. Correcting errors or altering lines becomes a pleasure instead of a chore!

REPLACE is the most powerful feature of TOOLKIT II - once used you'll wonder what you ever did without it!

DUPL - allows you to DUPLICATE the contents of one line into another, thus speeding programming.

In addition to the above, TOOLKIT II corrects the BASIC warm start stack error, allowing immediate mode commands without OM error directly after a RESET. TOOLKIT also unmasks the second letter of the error messages, so S/ ERROR becomes SN ERROR, etc. This TOOLKIT replaces our earlier version, which is no longer available.

TOOLKIT II is supplied in a single EPROM, located at 8000h, only. If you do not have an EPROM board, we would suggest that you purchase TOOLKIT in conjunction with our Mini EPROM/ROM board, as the UK101/OHIO range have no on-board EPROM space.

TOOLKIT will work quite happily with our BASIC 4 and 5 products. Availability is immediate. PLEASE STATE YOUR MONITOR TYPE WHEN ORDERING - failure to do this will cause a long delay in delivery. Versions of TOOLKIT II are available for all CEGMON based machines, MON01, MON02 and SYNMON. Please note that the non-CEGMON versions do NOT have the list line on error feature as something had to be sacrificed to find the extra code space! A disk version for OS65D users will also be available shortly.

Owners of the original TOOLKIT should send back BOTH their original TOOLKIT 1 EPROMS, plus £7.50+85p P&P for an upgrade.

PREMIER MASTER PACKS

These packs all contain at least three programs and are exceptional value for money. Every program in our MASTER PACK Series has been tried, tested and is up to our normal high standard - we have NOT sacrificed quality for quantity!

Most Packs will run with any of the three regular monitors and any Packs containing 'B5' as part of the title can be supplied either in BASIC5 format for faster running, or the normal format unless otherwise stated. All 'B5' packs will run on the CIE/U as well as those listed in the price list (if BASIC5 is resident).

MASTER PACK THREE (B5)

This pack contains Hyper Block, Scabble and Spy Trap.

Hyper Block is a graphics strategy game for two players, with the computer adding its own brand of chaos. Scabble is a word game for up to seven players where you have to gain points by making up words from a random 'bank' of letters. Spy Trap is an exciting graphics strategy game involving the CIA, foreign embassies, etc. All three games are supplied with full documentation. Available for BASIC 5 format ONLY.

MASTER PACK FOUR

This pack contains Patience, Word Square and a superb Hangman.

Patience features really clever graphics and an easy to use card move system. Word Square generates a confusing block of letters on screen, from which you have to pick out 12 words. There is either a choice of many different categories of words, or the program allows you to input your own words, then either try to find them or get your friend/wife/husband/children to do so!

The Hangman game is the best one we have seen. The idea of the game requires no explanation, but our version features hilarious graphics and is a REAL-TIME game - as well as a limited number of guesses, you are also fighting the clock to guess the word. Needs CEGMON resident to run.

MASTER PACK FIVE

This pack contains three light-hearted games - Moon Madness, Super Car and Outies. All three games feature fast-action graphics and are ideal for those occasions when you want to relax with your computer and enjoy yourself for a while! Needs CEGMON resident to run.

MASTER PACK SIX

This pack contains three graphics games, GOLF, Modern Basilisk and Microbound. Golf is a full-graphics game (NOT a simple 'PRINT' program), with much skill being needed to negotiate the course successfully. The golf course features many hazards, plus an interesting perspective view of the land ahead.

Microbound features a tank with which you have to flatten a castle. The main drawback is that the occupants of the castle fire back at you! Intelligent control of your tank and a correct firing pattern are needed to achieve the goal set.

As a child you must at some time have played Shove Ha'penny. Microbound allows you to play it in a new, novel way. Full-screen graphics and a thoughtful layout provide an absorbing game for two players.

MASTER PACK SEVEN (B5)

contains Executive Jigsaw, Square Solitaire and Nine-in-a-line. Formerly our Strategy Games Pack, selling at almost double the price, Master Pack 7 will give you hours of intrigue. Executive Jigsaw presents you with a collection of pieces which you have to fit into a shape. Various devious rules help to make this 'simple' task extremely difficult.

Square Solitaire is a modern version of the popular favourite. Featuring slow motion action replay, superb graphics and many other user-features, Square Solitaire has become a firm favourite with many of our customers.

Nine-in-a-line challenges you to sort a random set of numbers back into order. Four options give differing ways of achieving this, from relatively easy to frustratingly hard. The computer comments (usually disparagingly!) on your performance at the end of each game. Available in BASIC5 or normal format.

MASTER PACK EIGHT

contains Roulette, Twixt Twister and Super Fruit Machine.

Roulette is the full, casino standard game, with both the betting table and the wheel displayed simultaneously. You have complete freedom in placing your bets: high or low numbers, odd and evens, red and black, columns, rows, blocks, plus any specific number or numbers.

Twixt Twister is an exciting card game whereby you are given two cards and you have to bet on the chances of the third card being between the first two in value. You are given an initial 'bank' and this must be increased (by skilful betting) in order to beat the set 'target'. You will need a strong nerve to play this game, because as you near your target other rules are applied which add to your problems! Full graphics

The last game in this Master Pack, Super Fruit Machine, uses your computer's graphics to great effect to give an exciting one-armed bandit which will take all your money off you every time you play it (just like the real ones!)

MASTER PACK NINE

is a set of Utility programs especially developed for the UK101/OHIO. See catalogue under 'Utilities' for details of this Pack's facilities. This pack is NOT recommended to BASIC5 customers, as most of the routines in UTILITIES are now in BASIC5!

MASTER PACK TEN (B5)

contains Flak, Splat and Twogether.

Twogether is a strategy game for two players, who have to get to the top of the mountain first, blocking and obstructing their partner as they go. Flak is an aerial warfare game, featuring a rotating cannon and a very accurate enemy bomber! Splat challenges you to SPLAT flies and eventually trap one of them among the dead bodies! Available in BASIC5 or normal format.

MASTER PACK ELEVEN (B5)

is a bumper pack containing a Calendar generator, Days between Dates, Day of the year, Games Scoreboard, a Binary Decimal Hex converter and an Alphabetical Sort utility. The BDH converter is worth the money alone! Available in BASIC5 and normal format.

MASTER PACK TWELVE

contains Table Tennis, Table Football and Breakout. These three games popular arcade games will give you many hours of relaxation, without the worry of having to think too hard - the perfect antidote to a hard programming session!! Available in CEGMON or normal monitor format.

MASTER PACK THIRTEEN (B5)

contains our popular Personal Computing Information program - Biorhythms, Diet and Weight. This menu-driven BASIC5 program provides a fascinating insight into your life style and health.

The use of biorhythms to determine the days on which you're likely to be at your best, and those on which you need to take extra care, has become increasingly popular in recent years. They are used by many industrial companies and most major airlines to reduce accidents and ensure peak performance. Our BIORHYTHMS program provides an easy-to-read graphical display of physical, emotional and intellectual cycles for any month of any year, based on any birthday, past, present or future.

The DIET program analyses your life style by activities and recommends the number of calories you should consume each day. It is interesting to watch how a change in life style could affect your energy needs.

The WEIGHT program asks for your height then displays the recommended weight for men and women - useful if your husband/wife etc is always telling you you're overweight - WEIGHT will prove it! Available in BASIC5 or normal format.

MASTER PACK FOURTEEN (B5)

contains Codebreaker, Scrambler and Line-Up-Four. All three games are 'you against the computer'.

Codebreaker devises a coded message, then gives you some clues to help you to break

it. Amateur cryptologists will love this game. Since there are around 10E27 combinations, this game should keep you occupied for a while!

Scrambler is an anagram game. You are given progressively more difficult words which you have to unscramble in a set number of moves.

Line-Up-Four asks you to place four counters vertically, horizontally OR diagonally before your opponent (the computer) manages to do it. WARNING! The computer plays a pretty smart game and is quite capable of humiliating you! Available in BASIC 5 format only.

CHRISTMAS GAMES PACK

Christmas Computer fun from PREMIER. Three games full of seasonal flavour, and featuring multiple skill levels to entertain youngsters and challenge adults.

* REINDEER ROUNDUP - can you catch Santa's reindeer in time for him to make his Xmas deliveries? It's not as easy as it looks, and at the higher levels of play it's downright difficult.

* SUPER SANTA - now you've caught the reindeer, it's time to pop the presents down the chimneys, or at least it's time to try to! Once again, great graphics, some neat twists, and a deceptively simple game to enthrall (and hopefully keep quiet!!) youngsters of all ages.

* TOBOGGAN RUN - Can you steer your way down the toboggan run, avoiding the Abominable Snowman, without missing a gate or breaking the odd arm or leg?

Three fun-packed games at a Christmas gift price - only £7.95, for all three games. Order your Xmas games fun NOW. Available for UK101, Superboard 24x24, CIE and CIU. State which when ordering.

COMPACT >>>>> COMPACT

This useful machine code program provides UK101/OHIO users with a utility that they have been waiting for - a BASIC line compactor.

COMPACT looks at the resident BASIC program and adds lines together wherever feasible, thus aiding running speed and saving memory space. COMPACT will only add lines together where it will have no adverse affect on the program - it avoids crucial items like IF ... THEN statements etc. It is therefore an extremely reliable way of compacting your program. COMPACT is a machine code program which lives at the top end of your memory and will run with any monitor - please state memory size when ordering. Price is as per the current price list.

KAMIKAZE INVADERS

You wanted a 'Galaxians' type of Invaders game - here it is! When this program arrived in the post for evaluation we thought 'we already have an incredible INVADERS program - who needs another one!'. Luckily we took the trouble to look at KAMIKAZE INVADERS and we were amazed!

Written in BASIC with machine code inserts for fast running, KAMIKAZE INVADERS provides a novel slant on the Invaders theme. All the Invaders arrive by spaceship and march into various 'holding areas'. A few Invaders will start to attack you but when the areas are full, the overflow Invaders begin to attack you en masse! This makes for a very fast, exciting game. A totally different strategy is needed to play Kamikaze Invaders - INVADERS fans will love this game since it gives new life to a well-tried game. Graphics are excellent. Kamikaze Invaders requires a UK101 or CIU with a 32x48 screen, CEGMON monitor and new BASIC 1 or BASIC 5. State machine when ordering.

ANGLING

Angling allows the fishermen amongst you to catch a variety of fish without the bother of buying bait or getting up at unheard-of hours. Varying play options, different categories of bait, the weather and other factors add to make this game great fun to play. Full-screen graphics. During initial testing, this program was passed to an ex-angler for his comments - the game impressed him greatly.

CARTOON CAPERABILITY

CARTOON CAPERABILITY gives the user the facility of making up and storing onto tape frames of a cartoon. Easy on-screen prompts allow you to draw your cartoon using any character in the UK101/OHIO character sets. Once one frame has been drawn it can be stored for later retrieval and the next frame begun.

After a series of frames have been designed and stored they can be run in any order with a user-selectable delay between frames. Frames can be easily moved left or right without redesigning them, thus allowing maximum flexibility. Animated cartoons become very easy to implement. A diagram from a book can be input and brought to life with some movement - during testing we drew and made move realistically an internal combustion engine!

CARTOON CAPERABILITY comes complete with comprehensive documentation and a demonstration program. It is written in BASIC and machine code and requires CEGMON. A non-CEGMON version will not be released since this program makes extensive use of CEGMON's split and freeze screen facilities. Price is as per enclosed price list. State machine type and screen size when ordering.

CATACOMBS/B5 for BASICS Users

Our popular 3D maze program is now available in BASICS format. It generates the graphics many times faster than before, giving you the capability of travelling along the corridors of the maze very quickly indeed.

CATACOMBS/B5 will run on any UK101/OHIO which has a BASICS EPROM resident, except the 24x24 Superboard (insufficient screen-width for the corridors!). Price is as per the price list.

SPECIAL OFFER If you have already bought the original CATACOMBS from PREMIER, send back the cassette plus £1.00 service charge with your next order to PREMIER and we will send you the new version. This offer ends 31/12/81 and only applies if you are ordering something else!!

SHEEP PEN

Can you round up all the sheep with your dog before the pens close. Once you've tried Sheep Pen, you'll know whether you should be a farmer or not!!

B.L.S.F.H file handler/fast loader for machine code

This program gives you the facilities you have wanted for machine code tape work.

1/ An extremely fast 'Byte Dump' routine which, without ANY hardware mods, reduces the time needed to save/load a machine code program by two thirds; ie. the routine is three times faster than the standard routine!

2/ A File Handler. Machine Code programs can now be saved onto and retrieved from cassette using program names (as per BASIC4 in BASIC). The program will search the cassette and only load the specified 'name'.

3/ A 'VERIFY' command which enables you to check that the progra you have recorded to cassette will load again! The verify is of course non-destructive.

4/ All the routines are immediately accessible from a prompt message, giving BLSFH great convenience in use. BLSFH takes a mere 600 bytes of your user RAM.

BLSFH (Byte Load/Save File Handler!) is available on cassette from Premier Publications from Nov 15th, 1981. See Price List for cost. State machine and monitor when ordering.

UK101 and OHIO Memory Map

Below is a memory map for the UK101/Ohio range. It is by no means complete, but should give a good overall idea of what is where.

HEX ADDRESS	Notes
0000 - 00FF	RAM Page 0 Scratch area, pointers etc
0100 - 01FF	RAM Page 1 Stack
0200 - 023F	RAM Part of Page 2 used by system monitor
0240 - 02FF	RAM Spare RAM area - unused by BASIC
0300	RAM Start of BASIC workspace
1FFF	RAM end of on-board 8K RAM
3FFF	RAM end of 16K RAM
5FFF	RAM end of 24K RAM
7FFF	RAM end of 32K RAM
8000 - 8FFF	EPROM Used by Premier (and OSI) for EPROMS
8000	EPROM Premier Toolkit 2
8800	EPROM Premier Codekit or Word Wizard
9000	EPROM Premier Basic 5
A000 - BFFF	ROM BASIC in ROM/EPROM
C000 - C0FF	- used by OSI Disk system
C100 - CFFF	- Unused
D000	RAM Start of Video Ram
D3FF	RAM end of 1K screen
D7FF	RAM end of 2K screen (Premier/OSI)
D800 - DEFF	- Unused
DF00 - DFFF	I/O Keyboard
E000 - EFFF	- Unused - used by Premier for P C G
F000 - F0FF	I/O ACIA
F100 - F7FF	- Unused
F800 - FFFF	ROM/EPROM Monitor - Cegmon, MONO1/2, Synmon.

It is recommended that if you intend purchasing expansion hardware/firmware you check first that the product is absolutely addressed. We have come across several products (NOT OURS !) that do not use this method. One rival 2K EPROM product was installed such that it appeared FOUR times in the memory map! This is both bad practice and unnecessary, especially as it was not pointed out in the instructions and caused the customers concerned great difficulty when installing our BASIC 5 (because the rival product overwrote 9000 as well as its own address).

Another example of bad planning is the use of just a small part of a 4K block when using a sound board, etc. A rival Sound Board uses the first four locations ONLY of the 9000 - 97FF block thus wasting the rest of those locations and making fitment of BASIC5 or anything else at that address range needlessly awkward. OSI's use of C000 for the disk system strikes us as less than intelligent too, since the majority of 'C' page is wasted.

At PREMIER, we always try to plan where our expansions, software switches, etc are put so as to cause the least problems. For instance, the software switch for the Screen Enhancement Kit and probably the PCG MK II is in a wasted part of the keyboard area. The UK101/OHIO memory map is rapidly filling up and unless care is taken as to where devices are placed, conflicts and non-compatibility are bound to result.

HEXadecimal Primer < There's too much hex these days ! >

Hexadecimal, base 16, is one of the most complex (when viewed from outside) hurdles that a budding programmer has to try to comprehend. Usually the idea of leaving decimal and gaining six extra numbers leaves most people cold (and confused !) so let's have a careful look, from the beginning - the origins of hexadecimal, usually shortened to Hex, or H as a number suffix.

In your computer information travels around as a row of eight digital signals. These signals can only have two states, logic 0 (signal below 2.1 Volts), and logic 1 (signal above 3V). Since the eight Binary digits (BITS) are all involved in an operation at the same time it is easy to refer to the potentials as, for example, 11111111 (all BITS at logical 1).

Now we're stuck with Man, counting from 0-9, and this simple-minded computer counting from 0-1. A method of conversion is needed.

Let's assume that we want to convert 10010111 to decimal, here's how...

First, starting from the right, label the first bit 1 and then continue doubling the number last used to gain the next one eg $1 \times 2 = 2$, then $2 \times 2 = 4$, this results in

128	64	32	16	8	4	2	1
---	---	---	---	---	---	---	---
1	0	0	1	0	1	1	1

You now make the conversion by multiplying the binary digit, and the number above it, and repeating that for each bit and finishing by adding all the results together....

$$\begin{aligned}
 128 \times 1 &= 128 \\
 64 \times 0 &= 0 \\
 32 \times 0 &= 0 \\
 16 \times 1 &= 16 \\
 8 \times 0 &= 0 \\
 4 \times 1 &= 4 \\
 2 \times 1 &= 2 \\
 1 \times 1 &= 1
 \end{aligned}$$

$$\text{total} = 151 \longrightarrow 10010111 \text{ binary} = 151 \text{ decimal}$$

It soon occurred to those with short tea-breaks that talking binary numbers was time consuming ! by the time you'd said one-nought-nought-one-nought-one-one-one it's hard to remember the first few BITS, let alone drink a cup of tea !

The solution (pun not intended !!) chosen was to split the eight bit value into two blocks of four (called < you won't believe me but it's true.. > nibbles). The two nibbles are then converted to decimal giving a decimal representation of the binary digits. Now that's fine up as far as 1001, but after that things could get muddled .. if you had 1011 0011 it would be converted to 112, but on second reading is it 11 2 or 1 12 ???.

Instead of using 10-15 the letters A to F are used (A=10, B=11,...,F=15). Thus the value 1011 0011 would be written as B2 (Hex), eliminating confusion to the initiated.

Conversion from decimal to hex soon becomes a matter of knowing "marker" values. There is a specific method which will convert a decimal number into base 16. We'll use this method to convert 26870 decimal into hex. The method consists of dividing the number by the powers of 16 and noting the result in different places. (The powers of 16 are 4096,256,16 and 1).

Divide 26870 by 4096 : Integer = 6, Remainder = 2294

Divide 2294 (remainder from above) by 256 : Integer = 8, Remainder = 246

Divide 246 (remainder from above) by 16 : Integer = F (15), Remainder=6

Divide 6 by 1 : Integer = 1, no remainder.

You can now read off the Hex value by reading down the Integer column, which gives 68F6, the hexadecimal value of 26870

Converting hexadecimal to decimal uses the same technique as for binary to decimal - except that the sequence is multiplied by 16 rather than by 2 ie 1, 16, 256, 4096.

We still have left some KSR/MSR/ASR printers - full details are in our August newsletter. Customers who have purchased these printers have been universally delighted with the quality of print, etc. If you are interested in purchasing one of these printers, please phone for availability and delivery time. We have a few KSR (£175.00) printers left, but not many MSR with tape units. The KSR is a simple connection to your computer and features full upper/lower case. With slight hardware mods, you can even use the KSR keyboard to drive your computer. If you would like a print sample, please send an SAE marked 'Print Sample 1', or alternatively ask for a sample when you order goods from us.

If you are contemplating getting ANY printer, please ring PREMIER for a quote (even if we don't advertise that particular make) before you buy. If you tell us the lowest price you can purchase the printer you want and where it's being sold for that price, PREMIER will try very hard to quote a lower price! We have an excellent printer supplier and can normally obtain the required printer within two hours of receiving the order. If you come to collect personally, we will also ensure that the printer interfaces to your computer BEFORE you take it away - how's that for service!

CEGMON X - 32x64

A special CEGMON for SEK owners will very shortly become available exclusively from Premier. It will power up in the 32x64 mode and also contain a software switch to convert the scrolling from 64 to 32 characters. This will be especially useful to SUPERBOARD owners who have lots of software for the 24x24 screen. Although it will run on a 32x64 screen, PRINTING would be neater with CEGMON X.

CEGMON X is NOT essential to run the SEK if you have a UK101 or CIE/CIU, but it does make life easier, since after power up no POKEing is needed to the screen addresses in Page 2 to convert CEGMON to 32x64. If you have a 32 scrolling CEGMON (SUPERBOARD) or no CEGMON at all, then CEGMON X becomes vital - the SEK without CEGMON is a waste of money!

Present owners of CEGMON will be offered CEGMON X at a special upgrade price of £5.00. (plus 85p for P & P). If you bought your original CEGMON from us, all you need do is return the EPROM plus service charge and an SAE jiffy bag and a CEGMON X will be sent to you by return of post. If you bought elsewhere, you MUST provide proof of purchase (a receipt) - without this we cannot alter your EPROM. If you are unable to prove where you bought CEGMON, we regret that our licence agreement does not allow us to provide CEGMON X.

CEGMON X will become available in the near future. Please ring for availability before ordering.

When returning EPROMS, please pack them carefully and ALWAYS use a jiffy bag. We have had a few back in envelopes (one with NO protection for the legs!) - this is a dodgy way of sending them, since they tend to wear a hole in the envelope and drop out. Mangled EPROMS will be returned to their owners!

HIGH BAUD RATE FOR PRINTERS

The ACIA is programmable on the UK101/OHIO, there is no need to output to printer at the standard 300 baud, unless that is all your printer will handle.

POKE 61440,16 will output at 4800 baud to the printer
POKE 61440,17 returns ACIA to normal

The printer will of course have to be adjusted to accept the new baud rate. If you have a 600 baud cassette output on-board, switching to this position will give a 9600 baud rate!

One small 'glitch' to the above information is that sometimes you will 'lockup' the computer when poking the ACIA, and will have to reset to try again. If any clever person has found out why this happens, we would like to know!

BASIC HINTS AND TIPS

MON02 CASSETTE INPUT FIX

This routine will fix the screen-scroll on input when loading from cassette which occurs with the MON02 + New BASIC 1 combination.

```
10 DATA 32,172,251,41,127,96
20 FOR N=580 TO 585 : READ A : POKEN,A :NEXT
30 POKE536,68 : POKE537,2 : NEW : REM This line MUST be as shown, not split onto two lines.
```

This routine will load into PAGE 2 of the memory map, and is not lost through a cold or warm start. However, if a cold or warm start are used, the POKEs in line 30 will have to be entered to reactivate the routine. This can be done in one line in the immediate mode, but both POKEs must be made together or the machine will hang. The POKEs at 536 and 537 redirect the BASIC input routine to pass through the new routine.

SINGLE KEY BASIC ENTRY

A little known fact about CEGMON-based machines is that single key BASIC entry is available for quite a number of BASIC words. It is accessed via the REPEAT key. Simply press REPEAT N in a program line, and a graphic will appear on the screen. LIST the line and the graphic will have turned into NEXT. Many other words can be generated in this way - we suggest you experiment.

UK101 owners should at this point be shouting 'but I don't have a REPEAT key!'. Here's where to put one. First of all, purchase a suitable key and keytop, and fix it to your board, preferably to the left of key 'Q'. Now attach one key contact to the line which connects key 'Q' to key 'W' and the other to the line which connects the two shift keys together.

The Superboard also has an ESC key. To plumb that one in, attach one contact to the shift line as above and the other one to the track which connects keys 'Z' to 'V' or 'V' to 'F'.

Try the following program

```
10 PRINT PEEK(57100);:GOTO10
```

Run the above and try pressing any of the CTRL, SHIFTS, SHIFTLOCK, ESC and REPEAT keys. You will notice that the values on screen change when the keys are depressed. With a little thought, you can use PEEK(57100) in games situations where only a limited range of keys is wanted. This is especially useful where left and right keys are needed, since pressing left and right SHIFTS produces different values. This routine will work for any of the usual monitors.

Here are a couple more memory saving hints.

1/ Quote marks are not needed at the end of a BASIC PRINT statement if there is nothing else on the line. Eg:-

```
10 PRINT"This is a line of printing
```

2/ Quote marks are not needed at all in DATA statements!

```
10 DATA"one","two","three","four"
becomes
10 DATAone,two,three,four
```

Further to our piece in the last newsletter saying that programs run faster if the subroutines are at the start, this is not always the case! Talking to Peter Rihan, the writer of BASIC 5 and TOOLKIT II, he revealed that BASIC first looks through to the end of the program for a GOSUB before it starts looking from the beginning. The moral would seem to be to write your program so that the GOSUBs are as soon after the place they are called from as possible.

For POKE collectors, here are two more for you to experiment with.

Locations 133 and 134 contain the low and high byte of the end of memory pointer. In an 8K machine, 134 will normally contain 32 unless Memory Size has been set. POKE134,28 will reserve 1K of memory at the top and take 1K off your FREE(X) test. This can be useful for memory testing, as the memory locations above 134 will be zeroed out.

from a BASIC DATA listing (or where you have forgotten to set Memory Size on power up).
BASIC does no checking when it does its FRE(X) test. Try POKEing 134 with 128 then
PRINT FRE(X) - the result is not what it seems to be!

LOADING MACHINE CODE

As you will know, loading machine code into a UK101/OHIO simply entails pressing 'L' when in the monitor.

What you may not realise is that if any tape noise/garbage is interpreted as code it will load into page zero, thus possibly ruining the BASIC warm start jump which is located at 0000,0001 and 0002hex. There are two ways of avoiding this problem.

1/ Don't press 'L' until you hear a clear header tone on the tape.

2/ Display a ROM address before you start loading the machine code - eg AAAA , which is a BASIC ROM address. Since a ROM cannot be altered, any garbage attempting to corrupt AAAA will fail utterly and leave page zero alone too!

While on the subject of machine code loading, several customers have written/phoned asking how to save machine code to tape. If you have CEGMON, the routine is already built-in, but with MON01/02/SYNMON you will need to load a separate routine.

The CEGMON machine code SAVE routine has proved to be totally reliable - more so than the checksum format! If you have the extended monitor or Assembler editor on tape, rerecording them using the CEGMON save will give a much shorter load time. Our new BSLFH program (see Software section) plus the High Speed Cassette Interface enables you to load the 6K OSI assembler in ELEVEN seconds!!

SPECIAL OFFER

If you have MON02 in EPROM and wish to upgrade to CEGMON, PREMIER will, up to Dec 31st 1981, allow a £2.00 trade-in price on your ORIGINAL MON02 chip, provided that the chip is an EPROM in working order.

CEGMON is a straight plug-in replacement for MON02. The only facility of any importance that you lose with CEGMON is the DATA save to cassette feature, which can be achieved with a very short BASIC program (see next issue). What you gain is a full-screen editor, a proper machine code monitor, a typewriter type keyboard decode, split/freeze screen facilities, a floppy disk bootstrap, access to some superb software, and much more. CEGMON also puts back the keyboard debounce routine which for some inexplicable reason was removed from MON02 causing double characters to appear with monotonous regularityyyyyy!.

Premier Publications long ago adopted CEGMON as a 'standard' monitor. All our programmers use it and new firmware releases always appear for CEGMON first. Also most of our new software will use CEGMON features. If you are contemplating buying our Screen Enhancement Kit then CEGMON becomes vital - it is the only monitor which has a flexible enough screen format to cope with differing screen widths/heights.

OTHER MONITORS

A last word on this subject. We have had several letters from customers who have bought ??MON and are pleading with us to release a BASIC4/5/TOOLKIT/CODEKIT/WORD WIZARDetc for it. We regret that the answer is NO. Already, there are enough monitors on the market and we cater for the three major ones CEGMON, MON02 and SYNMON (MON01). While we think CEGMON to be vastly superior to the other two above, at least MON02 and SYNMON have no nasty bugs in them - which is more than can be said of ??MON !!!!!

STRING HANDLING BUG

As you will probably know, there is a serious bug in the original BASIC 3 ROM as supplied with the UK101 or OHIO range. Many customers have rung/written asking if they need our new BASIC1/3 which cures the bug and our answer has always been 'buy it when you need to!'. For those with a sadistic streak, here is a little program that is guaranteed to screw up your string handling routine if it is suspect. The symptoms produced will be a twitching screen and a locked up computer.

10 DIMA\$(90),B\$(90),C\$(90)

20 PRINT"MEMORY SPACE AVAILABLE IS ";FRE(X)

30 RUN

The part which causes the lock up is FRE(X). BASIC is attempting to check up on how much memory is free, but cannot make its mind up due to an incorrectly calculating pointer. The lock-screen problem will occur frequently if you have a program which handles a lot of arrayed strings. There are various 'bodge' ways out of it, but the only reliable way is the new BASIC1/3 combination.

As a matter of interest, OSI are not the only company with this problem. The Apple and PET computers both have fragile string handlers.

SAVE £2000 with Scientific Pack

This is a true story! One of our regular customers bought our Scientific Pack and used the Statistics programs at his place of work. One particular part of the program gave answers which were very much at variance with the company computer's results. Our customer maintained that HE was right and the company computer was wrong - the company eventually believed him and up to the present have saved over £2000 by following the results from Scientific Pack instead of their own results! Who says the UK101 is only a toy....

A tip for CEGMON users. If you want to know the ASCII number of anything displayed on the screen, turn on the editor, place the edit cursor over the appropriate spot, then PRINT PEEK(560). Location 560 holds the value under the edit cursor.(This won't work on the Superboard 3, which uses the 6502 registers to store the cursor position.)

2mhz Modification (UK101 only)

IC8, pin 37 comes from IC29 (7493) pin 11. Change to IC29 pin 8.

This mod can be made switchable, but if the switch is used with a program resident, the RESET (BREAK) keys should be depressed during switch-over or the program may be lost.

This mod will double the speed of the processor. Please note that problems may occur if you have slow RAM, ROM or EPROMS. The 2716 EPROM is only rated at 450ns, but most will run happily at double speed. Also, your keyboard will become very sensitive at this speed, due to the reduced debounce delay. If you use MON02, this mod is NOT recommended as keyboard debounce becomes a major headache.

If you want a non-scrolling PRINTAT statement to use in BASIC the following one line routine will give you a slow but useful way of doing it.

10 Z=LEN(Z\$):FORN=1TOZ:POKESC+SI+N,ASC(MID\$(Z\$,N)):NEXT:RETURN

The variable Z\$ contains the string you want to print, SC is the top left-hand corner of the screen (53260 for all UK101, 53248 for CIE, anything between the two for CIU), and SI is the position on the screen you want printing to start at. Remember that the true screen width is 64, so if you want to print the next line directly under the last one, 64 must be added to SI. Also remember to ALWAYS declare the value of SC before entering the routine for the first time or you will write the message into page zero and crash the program. Here is a 'working' example for UK101 owners. CIE owners should remove 12 from the values of SC.

```
10 SC=53260:INPUT"What is the message to be printed":Z$  
20 INPUT"Which line to print on (1 - 16)":LN  
30 SI=LN*64-64:IF SI>960 OR SI<0 THEN 30  
40 GOSUB90  
50 END  
90 Z=LEN(Z$):FORN=1TOZ:POKESC+SI+N,ASC(MID$(Z$,N)):NEXT:RETURN
```

RTTY

An appeal to owners of teleprinters who are eager to tie in their computer hobby with their transmitting hobby. We have been offered a superb suite of routines/hardware which greatly simplify RTTY operation, integrating computer with transceiver and would like to know how many of our customers would be interested. If you are interested, please write and let us know. Expressing interest is of course no commitment on your part.

BASIC 4 and 5 HINTS and TIPS

First of all a puzzle. Type in this line, run it and then see if you can work out why it gives an SN ERROR when it looks grammatically correct.

10 N=10: &PUTATN,N,20,"This won't print!"

Now try replacing the variable N with Z and run again. This time no error. Put back N and run again. The same fault again! Now stop and think before you read the solution in the next paragraph. A clue for you is 'math function'.

The reason why N in the above line gives an error is that BASIC sees PUTATN as PUT:ATN, and since ATN is a BASIC word, the interpreter tries to use ATN as its math function. For the same reason don't use the variable 'T' with HLIN or VLIN - BASIC will see &HLINT as &HL INT and tokenise the INT as an integer function. There are a few others to watch, so be careful.

When BASIC 5 was being written, we had hoped to use the word PRINTAT instead of PUTAT, but BASIC tokenised the PRINT part of PRINTAT and tried to PRINT the variable 'AT'! INPUTAT and PRNTUSNG are mangled for the same reason.

Some customers have had slight problems with our GET key command, not because it does not work, but because it's so fast.

If you use GET right at the start of a program and are testing for a key closure, GET will possibly 'see' the RETURN key entry you typed after RUN. To avoid this, put a small delay loop at the very start of the program to give yourself time to release RETURN. (FORN=1TO999:NEXT will do). In normal programming the delay loop is undesirable since it would slow down the GET routine and make it little faster than the old fashioned method of poking the keyboard matrix!

We have carried out some timing tests and found that BASIC 5 GET KEY scans the entire keyboard for a key depression nearly 150 times a second!

The introduction of BASIC 4 has meant that BASIC 5 becomes truly 'built-in' since the first thing BASIC 4 does is to go and look to see if 5 is resident. However, there may be an occasion when you wish to disconnect BASIC 5. Here is a simple way of doing it. Follow this sequence exactly.

RESET C OLD RETURN RESET W should give you OK instead of READY.

One of the most useful features of BASIC 4, apart from its named files to cassette is the OLD command. This allows you to recover from almost any crash and retain your BASIC program intact. Note that OLD cannot help where you have POKED into the BASIC workspace and mangled your program or where you have typed NEW!

When you answer MEMORY SIZE with OLD, it can be abbreviated to O (alphabet O NOT ZERO 0).

The BASIC 4 memory scan is non-destructive so that machine code programs stored in BASIC workspace (usually at the top of RAM) will now survive even a complete cold start.

BASIC 4 owners should note that the old screen-handler at BF2D is no longer there! If you have software which uses BF2D, the routine should be changed to F836 (CEGMON) or F837 (Superboard III). If you do not have CEGMON, change references to BF2D to your new screen handler address.

If you bought an early version of FLOPTRAN, which used BF2D, a simple change is all that is needed.
LINE 1050 - change 45 to 54 and 191 to 248.

TOOLKIT 2 a useful hint

When TOOLKIT renumbers a program, if it finds a line calling a non-existent line it stops, prints an error message and refuses to renumber! Unfortunately there is not enough room in TOOLKIT to print out the line number which is at fault. Having had a quick (2 mins!) chat with Peter Rihan, here is a way of finding out which two lines are giving all the trouble.

When the LF error occurs, enter the monitor and examine locations 11 and 12hex. These two locations contain the NON-existent line number (NOT the line doing the calling). The information is stored high byte/low byte so will need to be converted to decimal. To do this, convert both values to decimal, then multiply the second value by 256 and add on the first value. You now have the line number which does not exist.

All that needs to be done now is to use FIND/ to discover which line(s) call your value.

Sadly, you cannot shorten your work by PEEKing locations 11 & 12 when LF occurs, since PEEK uses 11 and 12 itself and immediately overwrites the information you wanted!

WORD WIZARD update (or 'How to go slowly crazy')

After a long, uphill struggle, we now have a version of Word Wizard II that will run on OHIO CIE and CIU machines. We now supply a BASIC program which modifies the main machine code part according to the CEGMON fitted.

The problems have stemmed from a lot of customers not being quite sure which computer they have - CIE or CIU. A lot of CEGMONs labelled CIE turn out to be CIU and vice-versa. Add to this the fact that the CIU seems to have several screen formats, ranging from 53248 to 53260 as a top left theoretical location and you can begin to appreciate why we nearly went crazy!! The CIU version we sent out originally worked fine on the machine we borrowed, but on a lot of customers' machines the text was displaced to the left. This left us very puzzled until we investigated further. It turns out that there are TWO versions of the CIU machine, one with a screen starting at 53248 and another with a screen anywhere from 53255 to 53262.

If you are thinking of ordering WORD WIZARD for your machine, please make sure that a version for your screen size/keyboard/memory size/disk/cassette system is available (see table below). We find it very difficult to keep up with every new variation of machine! If you have an early CIE/CIU version of WWII which does not use the correct part of your screen, please return the tape plus stamped jiffy bag for a free upgrade.

If you have purchased WORD WIZARD I or II and BASIC 4, please note that your 'Terminal Width' message is not available when you enter WW, since WW tries to use the message which is no longer in BASIC 4. Instead you will get 1? or similar - simply answer as if it were the normal message - operation of WW is not affected.

AVAILABILITY OF Word Wizard

WORD WIZARD II Cassette

UK101	16 line
UK101	32 line
UK101	32x64 (SEK version)
CIE/CIU	plus conversion program CEGMON only
Superboard III	plus conversion program, 14x48 format CEGMON only
SUPERBOARD 24	for 24/32 line CEGMON machines

WORD WIZARD I EPROM

UK101	16 line
UK101	32 line
UK101	32 x 64 (SEK version)
CIU	32 x 64 (SEK version)
SUPERBOARD 24	for 24/32 line CEGMON machines

Word Wizard in EPROM is normally supplied addressed to 8800hex. Other addresses are available to order for £1.00 extra. Note that Word Wizard 1 omits some of WW II facilities, notably the 'output control characters to printer' routine. The EPROM version does however enable you to use 7500 bytes for text storage in an 8K machine! The EPROM version works with CEGMON or MON01/SYNMON, but not MON02.

STOP PRESS - next issue will contain mods to enhance/move WWIII.

DISK NOTES

Response to the disk notes in our last newsletter has been very good - many of our customers can now at last load their cassette programs onto disk for the first time! If you want to go the opposite way, from disk to cassette, here is the way to do it.

POKE23,255 : REM sets line width

POKE21,8 : REM insert nulls - vital for cassette operation

LIST#1 : REM program will output to tape, but NOT the screen.

The manual supplied with the OSI system pays scant attention to such important functions as creating a new disk. SCOPYM solves that problem completely, but for those of you who are hard up at the moment, here is the procedure for initialising a new disk and putting enough information on it to make it useable. Before you begin, however, WRITE PROTECT YOUR MASTER DISK. Do it now, before you forget!

First of all EXIT to the kernal, and insert your virgin disk. Now type IN to initialise it - answer ARE YOU SURE with 'Y'. After this operation is complete, insert your Master disk and type CA 0200=13,1 . This calls the zero track copier from track 13 into memory. Now type GO 0200 to enter the routine.

A menu will appear, and you should answer with '2'. Next type 'R4200' to read the track zero information to memory. Now remove your Master and insert the new disk. Type 'W4200/2200,8' and track zero will be written onto the new disk.

Once you have reached this point, the next operation is to transfer track 12 (Directory information) over. Put in your Master disk, and type the following

```
CA 4000=12,1  
CA 4800=12,2  
CA 5000=12,3  
CA 5800=12,4
```

Now insert your new disk and type

```
SA 12,1=4000/1  
SA 12,2=4800/1  
SA 12,3=5000/1  
SA 12,4=5800/1
```

This completes the operation. Note that the contents of the directory of the Master disk will be transferred over - you will need to DELETE unwanted entries.

To copy over the DOS (tracks 1-6), insert the master and type

```
CA 4000=01,1  
CA 4800=02,1  
CA 5000=03,1  
CA 5800=04,1  
CA 6000=05,1  
CA 6800=06,1
```

Now put in the new disk and save the information onto the new disk as follows

```
SA 01,1=4000/8  
SA 02,1=4800/8  
SA 03,1=5000/8  
SA 04,1=5800/8  
SA 05,1=6000/8  
SA 06,1=6800/1 : REM note last digit is 1 not 8 for track 6 !
```

All that needs to be transferred now to make the disk complete are BEXEC* and DIR. The above information assumes 32K RAM; if you have less, you will need to do more swaps when transferring the DOS over. Of course for users with SCOPYM all the above can be achieved in 1.25 minutes.....

Other useful POKEs for CEGMON based disk users are:-

POKE8955,89 : POKE8956,254 : X=USR(X) : REM instant screen clear

POKE8955,43 : POKE8956,37 : X=USR(X) : K=PEEK(9059) : REM a halting get-key, identical to PEEK(531) in ROM BASIC.

PEEK(12925) : REM gives number of tracks needed to store a BASIC program onto disk.

GO FC00 : REM boots disk from kernal - use with care!

2547hex : REM warm-start re-entry point, puts you back into kernal; RE B to get back to BASIC in RAM.

To make ASM or EM scroll x16 instead of x24, change 18DA from 17 to 0D.

SCOPYM a single disk copier

SCOPYM is the most important disk utility Premier have yet produced. It provides a fast, foolproof method of creating a new, useable disk from a Master. As any disk user will know, creating a new disk is a time-consuming occupation, involving several careful transfers.

SCOPYM will copy the first fourteen tracks of a disk in around 1.25 minutes. This time includes initialising the new disk! Only two disk swaps are needed to copy the DOS, BASIC, DIR, BEXEC*, ASM and EX-Mon (if resident), and track zero. All copying is automatic; all the user has to do is press the space-bar when asked and answer one simple question (is ASM resident?). SCOPYM provides a safe, simple and extremely fast and efficient way of creating a new disk. It is supplied complete with comprehensive notes. The price of SCOPYM is as in the price list, and will normally be supplied on cassette with instructions for loading onto disk. However, it can either be supplied on disk for an additional £2.00 or it will be put onto your supplied disk for the cassette price (please CREATE a file two tracks long called SCOPYM).

LINK 65

This superb new suite of routines for the OS65D disk system will simplify your disk operations enormously. The new commands are all called from BASIC, and being written in machine code, do not cause the loss of the resident BASIC program. The new words are:-

DISK!"DD" - gives a double-column screen display of the disk directory contents, in under one second

DISK!"DU" - allows you to DUMP a program to disk without having to create disk space for it - LINK65 does all the work for you

DISK!"DE" - allows you to DELETE a program from the directory

DISK!"RN" - allows you to RENAME a directory entry

DISK!"CR" - allows you to CREATE a file space for the resident BASIC program without losing it!

DISK!"ID" - one simple command allows you to set up indirect files - you can now have two BASIC programs with conflicting line numbers in BASIC workspace, and access either

DISK!"BU" - allows you to set up buffers

DISK!"ZE" - a ZERO file name facility

During extensive testing of these routines, their value to the programmer has become more and more apparent. No longer do you have to put your BASIC program in a temporary store while you create the correct track length file for it - simply type DISK!"DU PROG1" and LINK65 will create a file for the program and then dump it onto disk. If there is insufficient disk space or the program name already exists, you'll be informed.

Finding the contents of a disk has up to now required a BASIC program to be called - DISK!"DD will almost instantly produce a neat, double column listing of your disk contents without disturbing resident programs.

Indirect files now become a simple command - you can have two BASIC programs in workspace at once, use either one or merge them into one program.

In addition to the above features, LINK65 also produces FULL disk error messages, not simply a number which you have to look up! If the disk you are trying to write to is write-protected, LINK65 will tell you.

All of LINK65's routines can be used either from BASIC, the Assembler or the kernel - 'DD' from the kernel will produce the above mentioned directory display.

LINK65 comes complete with a comprehensive user-booklet which will enable you to get the most from the routines. Availability is immediate. CEGMON must be resident.

In the next Disk Notes we will be giving an extensive list of entry points to the DOS and RAM BASIC.

GREEN SCREENS

We have recently found a source of supply of rigid green perspex which makes an excellent green screen to cover your VDU/TV. It normally comes in four foot square sheets and so is rather uneconomical to buy for a single screen. We bought a couple of sheets to cover all our monitors and have had so many enquiries from personal callers that we have decided to market the material cut to size.

PREMIER are offering the perspex, cut to approximate size for the price stated below. Please allow up to 28 days for delivery and note that if you send us the wrong measurements it's your hard luck! All measurements must be metric.

GREEN PERSPEX - 1 pence per square centimetre

Minimum order is 150 square cm. VAT is included and Post and Packing is free for this item.

The perspex gives a relaxing display to a VDU display, and helps with eye strain, since it filters out most of the glare. The perspex is rigid and cannot be bent to shape. However, it does respond well to a fairly smooth file, so when you order please allow a couple of millimetres on width and height so that you can tailor it exactly to fit over your screen area.

COMPETITION

Our August competition elicited many interesting replies and the winner and his winning program are shown on the next page.

For this month, the competition is a no holes barred BASIC or machine-code type. Simply write a program which will accurately add, subtract, multiply and divide to TEN places of decimal. You may use any underhand, despicable trick to achieve this aim! The winner will be the person who can do it in the least number of bytes. The program must ask for the two numbers, give the option of which math function is to be done, display the answer on the screen, then request another one. It must also run on any UK101/OHIO. Apart from those constraints, it's all yours. Closing date for entries is 15/1/82. The winner will receive a £10.00 voucher to spend on any of our products.

PREMIER NEWSLETTER

This newsletter is sent free to REGULAR Premier customers. If you have an 'L' in the bottom left-hand corner of your address label, this will be the last newsletter you receive until you buy something! As we have explained before, this newsletter takes an enormous amount of time to write, print, collate and send out - so our Company Computer will now quite mercilessly cut you off!

Customers who buy on a regular basis need have no fears - they will continue to receive newsletters.

INVADERS - CIE - CIU - SOUND

A version of our best-selling INVADERS program is now available for the SUPERBOARD CIE, at the same price as the UK101 version. It uses ALL the screen to play the game. If you have a CIU which displays 53260 as the top left-hand corner, INVADERS will run on that too. (To test for that, home the cursor (PRINTCHR\$(12)), then type POKE53262,161 (RETURN). A block should appear in the top left corner of the screen). If it does, our INVADERS will run in the top half of your screen.

Incidentally, for those SUPERBOARD 3 owners who are desperate for an INVADERS program, our UK101 version will run perfectly except that you will not be able to see the score as it's off the top of the screen!

For those trying to implement sound with the INVADERS program, here's a few tips.

Throughout the program there are JSR\$0F68 (20 68 0F) commands. At the location 0F68 there is an RTS (60). The author has inserted the JSR command at the various points in the program that he considered sound was appropriate. One method of tying in your own sound routines is to replace the JSR 0F68 with a call to your own sound routines. The following should be noted when implementing your own routines.

1/ Your routines must always end with an RTS .

2/ While your sound routines are being serviced, the INVADERS graphics will be stationary, therefore your routines should be kept as short as possible and avoid the use of long loops.

3/ To find which JSR 0F68 relates to which action on the screen, it is possible to replace each JSR 0F68 in turn with a breakpoint. By inserting breakpoints one at a time a table of the relevant call locations/graphic action can be built up. After a breakpoint has been inserted and used, don't forget to restore the JSR 0F68 !

COMPETITION RESULT

The winner of our August Competition , and a £10.00 discount voucher, is Mr A Pink of Surrey. Here is his winning entry, which was considerably shorter (only 175 bytes) than its nearest rival

```
2 &TESTR,C,P1&SETR,C,232
4 &PUTATO,9,12,STR$(R)+STR$(C)+STR$(54220-R*64+C)+" "
6 &GETA$:A=2*VAL(A$)-5:IFA*A>9THEN:A&GT6
8 &SETR,C,P:IFA*A=1THENR=R-AAND15:&GT2
10 C=C+A/3:C=C-48*INT(C/48):&GT2
```

Note that the quote mark can be left off the end of line 4, but the space after the first quote is needed. Our congratulations to Mr Pink for a very good piece of compact programming.

This newsletter was written by John Hooker, Mike Bedford and Alan Glover. It was generated using Word4Word and Word Wizard, printed on a CENTRONICS 737 printer, then photo-reduced by 50%.

The next newsletter will be around Feb '82.

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