PEEK(65) BORN!

Welcome to the first issue of PEEK (65)!
PEEK (65) is the unofficial OSI users
journal. Every word in that subtitle is
significant. We are unofficial. The
factory has wished us well and sent us
press releases, but we are not a journal
of the factory. However, we are an OSI
journal. We own OSI equipment. We
beleive in it. We like it. We want to
make it better, and easier to use, and
more fun, and more useful. We are indeed
users. We do not just talk about, or
sell, or think about OSI equipment, we
use it. Every day. And, finally, we are
the journal of the users of OSI gear.
That means we are your journal. If you,
the users of OSI equipment, do not help us
by subscribing to this journal, by writing
articles, programs, stories of your
personal experiences and letters to the
editor, PEEK (65) will die.

The editorial stance of PEEK (65) will be
that of a loyal users journal,
enthusiastic about OSI hardware, anxious
to improve OSI documentation, ready to
share all experiences, good and bad, in
the hope of making it more fun and more
profitable to be an OSI user!

please note that the Small Systems Journal
is no longer being published. For those
of you who did not get the issues that
were published, they are available through
PEEK (65) for $10 for the complete set.

Peek (65) will be published once each
month. It is our intention to mail each
month's issue on or before the 15th. With
your help, we will make it. What kind of
help? Just like I said. Subscriptions,
spreading the word, letters to the editor,
and articles about your personal
experiences with OSI hardware and
software. PEEK (65) is born. It's up to
us, the users of OSI hardware, to keep it
alive!

RUMORS

Rumors are flying around as usual. As a
service to its readers PEEK (65) will pass
along each month the latest rumors. If
you can definitely confirm or deny any
of these or have some other juicy rumors
you have heard, send them in! Current
rumors:
A 10 Megabyte hard disk which will fit in
the same space occupied by an eight inch
floppy is coming in a few months.
OS-DMS is currently being rewritten at the
factory with many of the more time
consuming loops redone in much faster
machine language.
The entire line is being redocumented. An
example is the excellent servicing data
book on the 600 and 610 boards (TM-100,
$7.95 from your dealer or PEEK (65)).

What rumors do you have?

FACTORY BACKING?

Working with OSI is funny. Not funny as
in "ha-ha." Funny as in peculiar. Our
company has worked with IBM, Intertek,
Sanyo, and even Ma Bell. In every case,
we have dealt with a local dealer or
branch, backed by a distributor or other
regional operation, backed, in turn, by
the factory or national headquarters.
With OSI, there is definitly a factory, a
national headquarters, but somehow
"backed" is not the right word. Example:
Two potential customers, living in the
same town, each considering a C3-C
system. Total investment perhaps
$30,000. The dealer reassured them that
OSI was a fine company with great hardware
and good software. The customers were
nervous. They had never heard of OSI. So
they ran a Dun & Bradstreet. D & B

reported that "OSI does not release information." So these two guys, each a President of a manufacturing company with multi-million dollar annual sales, decided they would just phone the factory and talk to somebody in marketing or finance. The switchboard operator told them the factory no longer accepts phone calls from individuals. Never mind that OSI's ads and literature include the factory phone number. Don't try to call. They did manage to get the name of the National Sales Director, a fellow named Cross. They wrote a letter. As of this date, it has not been answered. No D & B. No phone calls. No answer to letter. I am trying to think of a word to use instead of "backed" by the factory. "Opposed" is not quite right. Perhaps "ignored" is the best word. OSI is the only multi-million dollar hardware manufacturer I know of, conducting an energetic world-wide sales campaign, which will not speak to customers considering large systems. Surely a small office somewhere in the factory, with two or three PR flacks to handle phone calls could not be much more expensive than those gorgeous four-color ads?

SOFTWARE SOURCES

There are a few software houses writing games and business programs for OSI computers. Here is the list we know of. Help us make this list grow by telling PEEK (65) of any Software houses you hear about.

Aardvark Technical Services
1609 Bolton
Walled Lake, MI

Progressive Computing
3336 Avondale Ct.
Windsor, Ontario
Canada N9E 1X6

Dwo Quong Fok Lok Sow
and
Structured Program Designers
Both at
371 Broome St.
New York, NY 10013

DBMS, Inc.
62 Southgate Ave.
Annapolis, MD 21401

BPS
322 W. 57th St. #9C
New York, NY 10019

You can contact any one of these places directly for information concerning OSI Software available. In general, Aardvark specializes in game programs and programs for the polled keyboard, cassette tape machines, Dwo Quong has written WP-6502, a cursor-oriented machine language word processor which which looks very interesting (we hope to have a full review in next month's PEEK (65)), DBMS specializes in business programs and systems, BPS has a machine-language sort/merge for OS-65U, a data-base system, payroll, resequencer and program compressor. Philip Goth of BPS has promised to send PEEK (65) a sample of the sort/merge program, so we should be able to review it next month.

Edward H. Carlson, 3872 Raleigh Dr., Okemos, Mi 48864, has written a 50-page BASIC manual which has been reported to be a complete manual for OSI BASIC-IN-ROM, which may be published by the factory. Ed is also working on a memory map for the BASIC-in-ROM machines. If any one else is working on a similar project, send along your notes to PEEK (65) and we will attempt to put the whole thing together in a future issue.

CORKY'S CORNER

By Corky Kirk

Greetings: I'm reminded of the old fire dog that just couldn't stay away from the fire...and I feel a little like that ol' dog when this new pub called PEEK (65) is about to be born. So, as we go forward, I will try to bring you a few of the tips that I have learned the hard way (much because OSI didn't take into account that there were dummies like me out here) on the C2-4P, C1P and the C3-1P that reside here in this place where my typewriter and I spend a lot of time.

First, a pub by the name of PEEK (65) wouldn't be complete without a program named "PEEK WRITER". So here's the listing:

```
10 FOR X=1 TO 25: PRINT " ": NEXT

20 Print" . . . . PEEK WRITER . . . "

30 PRINT:PRINT

40 PRINT"THIS PROGRAM TAKES A PEEK
AND LISTS OUT WHAT IT SEES"

50 PRINT"TO STOP THE PEEK, USE  'CTRL
C'."

60 PRINT:PRINT

70 INPUT"START OF PEEK"; I

80 PRINT I; PEEK(I);

90 I=I+1

100 GOTO 80
```

PEEK WRITER will tell you what is in each of the locations in your machine, and when you set "I" to a specific spot, the program will tell you what is there and what is in all subsequent locations.
-- note : Also   try   the   following additions/changes:

```
80 IF PEEK(I) > 31 AND PEEK(I) < 128
THEN PRINT CHR$(I)

85 IF I/100 = INT(I/100)  THEN  PRINT
I:PRINT
```
Run it both ways!

This mini-program is the idea child of Bill Ried who has an immense stock of these types of things that can be shared with all OSI users as the months go on. If any of you out there want to share a program or two, send it to Corky Kirk, c/o PEEK (65).
See you next month!

KIMSEL

SELECTRIC/SUBERBOARD MARRIAGE

by Chuck Popenoe

Using a KIM-1 single board computer as an intelligent interface, the task of mating a   variety   of   parallel-input Selectric-mechanism   word-processing typewriters to computers with serial ASCII output   ports   can be   reduced   to   near triviality.   Other   than   cabling,   no hardware need be constructed nor is there any requirement to modify the Selectric or put software patches in the I/O routines of the computer. After loading the interface program into the KIM, it is only necessary to key in any desired changes   in   the   code   table   (for non-standard typeballs) before producing letter-quality printed output.

The beauty of the KIM approach lies mainly in the self-contained nature of the typewriter together with its "smart" interface which behaves exactly like an expensive Diablo or NEC.

It is, of course, possible to accomplish the same interfacing functions with dedicated hardware techniques using a variety of LSI chips such as UART's, FIFO's and code converters along with a bunch of TTL thrown in to make everything work.

KIMSEL was originally conceived as a quick and easy interface between an Ohio Scientific Superboard (which has no provision for parallel output) and an ITEL Model 853 "word processor". This model has a 50-pin connector on the rear panel for an auxilliary paper tape reader and uses 5 volt DTL logic. Some earlier machines such as the ITEL/DURA Mach 10 use relay logic and must be opto-isolated before using KIM's PIA port. For an example of this, see "Kilobaud", Dec., '78.   Other   Selectric — based   word processors with some sort of provision for parallel input can probably be interfaced to KIM with a little study.

Even if you must buy a new KIM, which have been advertised recently for as little as $150, KIMSEL   can   provide   a   serial ASCII/parallel CORRESPONDENCE interface for about one-third the going rate. We are also developing a simpler standalone 6502 based interface which should be ready in early '80.

The KIMSEL software package is available as a listing for $20, as KIM paper tape for $22 or on KIM compatible cassette for $25.   All   options   include   complete intructions and a heavily annotated source code listing.   Send orders or a self addressed   and   stamped   envelope   for additional details to:

POPENOE ASSOCIATES
6307 Wisconsin Avenue
Washington, D.C. 22016

TECH NOTES

by Dick McGuire

The subject of this month's TechLetter is Garbage Collection in Nine-Digit Basic. The source for this TechLetter is OSI's copywrited Tech Newsletter #19.

Basic keeps track of all string variables (both simple and subscripted) in a variable descriptor which requires seven bytes for a simple variable and at least eleven bytes for a subscripted string variable. A simple string variable descriptor contains the name of the variable (2 bytes), the length of the string (1 byte) and the location of the string (2 bytes). There are two unused bytes. A string array descriptor contains the name of the array (2 bytes), the total lentgh of the array (2 bytes), the number of dimensions (1 byte), the maximum subscript + 1 (2 bytes for each dimension), the length of the string (1 byte) and the address of the string (2 bytes). The simple variable descriptors are located immediately following the BASIC program and the array descriptors are located immediately following the simple variable descriptors.

If the string variable acquired a value as a result of a DATA statement or was equated to a quoted string (A$="12345") in the BASIC program then the pointers in the descriptors will point to an address in the BASIC program. If, however, the variable acquired its contents via an INPUT statement or thru a string manipulation such as LEFT$ or CHR$ then the pointers in the descriptors will point to a location in string space which begins at the top of memory and works down toward the array descriptors.

String descriptors that point to the program space do not cause any problem. It is the ones that point to string space that cause garbage collection. A garbage string will be created if

   ...a string is equated more than once to a string in string space.

   ...a string concatenation occurs.

   ...a string manipulation such as LEFT$ or MID$ occurs.

When any of the above take place BASIC builds a new string and updates the pointer in the descriptor to indicate the new location of the string. The old string is abandoned. As more and more of this abandonment occurs the amount of memory available grows less and less. When a certain minimum is reached (FRETOP-STREND=256) garbage collection takes place.

Garbage collection is a function of the operating system and what happens is that the operating system moves all the active strings together at the top of memory and squeezes out all the inactive (garbage) strings.

BASIC does this by looking at all the descriptors and finding the one which points closest to the top of memory. It then moves that string to the top of memory and updates its pointer. The it looks at all the descriptors again to find the one next closest to the top and moves it. It is a very slow (several seconds) process.

There are two new verbs available which can cut garbage collection down significantly. The first is the PACK verb which will accomplish the same thing as RIGHT$(SP$+A$,N) where SP$ is a string of spaces, A$ is a string variable and N is a number larger than LEN(A$). The PACK verb does not cause garbage. The second is the PNTR verb which can be used to find the location of a variable descriptor which can then be marked as inactive if no longer needed. this is done by POKEing its length to zero. There is one other technique whereby the number of variables can be reduced and that is the reuse of variables for a purpose other than the one for which they were declared.

SOFTWARE EXCHANGE

My OSI computer is lots of fun. Running the programs supplied by the factory is fun, too. What's even more fun is writing my own programs, in fact, my partner and I have been writing programs like crazy ever since we got our first machine, and I think we come up with a few dandies. It occurs to me that there are lots and lots of guys writing lots of programs.

Therefore, PEEK (65) intiates The Software Exchange. Got a super duper program which will revolutionize OSI computing? Send the details along with your name and address, price (if any), machine, system and RAM requirements and we will announce it for you, free. If you send us a copy of the program, we will even try it out and review it. Need a program to interface your C4P with your 360/70? Write to The Software Exchange and we will publish your request. Somebody may have written just the software you need and might be willing to share it free or at a reasonable price.

Since this is the first issue the initial offerings and requests are sparse. Come on you guys, get out your pencils and paper and let's make this one of the biggest parts of PEEK (65).

OFFERINGS:

KYUTIL -- The complete key file utility. KYUTIL creates, loads and sorts multiple-field key files compatible with OS-DMS. Advantages: Multiple-field; condtional load, making shorter, faster running key files; and machine-language sort. this sort, written by Jim Sanders, works by moving the pointers on a subscripted array and is faster than greased lightning. It is a separate program on the KYUTIL disk, and can be used in any program you have or might write under OS-65U.
Requires OS-65U, OS-DMS, C-2/3, 48K.
Available from: DBMS, Inc.
                62 Southgate Ave.
                Annapolis, Md. 21401
Price: $50 to each end user. OSI dealers
                can obtain demonstration
                disk for $25.
Lawyers' Package: A menu-driven system, designed for use by legal secretaries with no knowledge of programming, the Lawyer's Package maintains disk files of lawyer's time and expenses, billings, clients and much more. The package prints monthly bills, activity reports, producer's reports, and time analyses. An information retreival system, combination word and data processor, docket/scheduler and more are in the works.
Requires OS -65U, OS-DMS, C-2/3, 48K.
Available from: DBMS, Inc.
                62 Southgate Ave.
                Annapolis, Md. 21401
Price: $200 to each end user. OSI dealers
                can obtain demonstration
                disk for $100.

WANTED:

A 6502 Assembler single-step trace utility would be very useful.

Many people would like to see programs that would interface OSI gear with other types of hardware. Examples include a program to allow files to be dumped to standard 800 or 1600 bpi, 9-track tape drivers. The drives themselves are commonly available from many of the mail order houses for very little.

How about a word processor which works under OS-65U, is cursor-oriented rather than line oriented like WP-2, and shows changes made to text on the screen as they're made?

OS-DMS and other BASIC programs seem to me to spend a lot of their time in a very few loops. Some of you 6502 machine-languagers out there could sell me some simple routines to replace the time-consuming loops, such as Master File Create, Master File Merge, etc.

Using OS-65D to create and assemble a small routine, then LOAD 48 to bring it into 65U allows you to write your own new BASIC commands. SWAP is an example. What else can you think of?

Most computer games seem to revolve around just a few themes: balls or cars or tanks or something bounce around the screen; more things simulate combat with each other; any colors you want form any patterns you want; or the game simulates a human game, such as chess. How about some really different and challing games, games which pit your vocabulary against the computer's, or teach you how to play bridge, showing you your hand and what you would really see in a real situation, with a dummy, and bids?

What about a program which would read real IBM or other brand media (floppy disks) and translate the data into OS-65U-readable for recording onto our diskettes? That would help me sell some business systems!

What do YOU need? What do YOU have to sell or give away to the OSI community. Come on and get out your programming pad, or belly up to that old console and start pecking at the keyboard. Let's help each other.

USER REVIEWS

C-3A With NMHZ System

We have just acquired a new C-3A with the
new single-sided faster siemens floppy
drives and the two MHz 6502 chip. Our
experiences have been almost universally
positive. FDUMP was the first program we
tried with the new machine, since we had
noticed it was slow with the old one MHz
system. Wow! our terminal is set at 9600
baud, and the high speed system almost
kept up with it. Other loops which BASIC
seemed to spend interminable amounts of
time in now run, not surprisingly, twice
as fast. File creation, file loading,
master file merge: all run quite noticably
faster. In fact, it makes the difference
between almost unacceptably slow and
quite fast enough, thank you. We are
delighted with the operating system, very
happy to have the chip running at
something like its potential speed, and
have not noticed any disturbing bugs in
the software.

However, the resonance we were warned
about in the disk drive stepping motor is
quite noticable. We have tried POKEs to
BEXEC*, the CHANGE for the "adaptive
stepping rate" suggested in a recent
technical newsletter, and still find that
when we boot up, there is sometimes an
alarming vibration from drive A. We
are still working on it, and will publish
the definitive answer in a future issue of
PEEK (65), if someone sends it into us.

This is our first C-3. That means that it
is our first opportunity to try Z-80
software. We have been in touch with
Lifeboat Associates in New York, and find
them quite helpful. We were particularly
curious about Wordstar. The polite
receptionist put us on the phone with
Phillip somebodyorother, a lifeboat
Programmer and OSI technical rep. He said
there might be a problem driving our NEC
Spinwriter with wordstar, but he would
write us a note about what to do. At
first, I was a little disappointed that
he didn't simply tell me what to do on
the phone; but when a machine language
source code for a CA-6 output driver

arrived in the mail a few days later, I
was quite happy. Herewith the routine for
anyone else in the same position.

```
        ORG     100H
;
LOOP:  CALL    IN1     ;GET ONE
       AND     7FH     ;STRIP
       MOV     C,A     ;FOR OUT
       CALL    OUT1
       JMP     LOOP
;
;
IN1    LDA     0FB05H
       RAR
       XTHL
       XTHL
       JNC     IN1
       LDA     05B03H
       STA     0FB07H  ;CLEAR ?
       RET
;
OUT1:
       LDA     0FB05H
       RAL
       XTHL
       XTHL
       JNC     OUT1
       MOV     A,C
       STA     0FB04H
;
       END     LOOP1
```

The ORG address should probably be BF29H
and, of course a JMP will have to be
inserted in the JMP TABLE at BEOFH.

try this out and let us all know how it
works.

OS-DMS Payroll Package

I have been amazed by the OS-DMS modules as
we have implemented them. Sometimes we are
amazed at how s l o w l y some of the loops
run; sometimes we are amazed at what OSI has
done with BASIC and really a few utilities
which keep coming up in module after module.
Sometimes, we find we have to modify many a
program quite heavily to make them fit well
together; the payroll package was one of the
best yet. About all we had to do was con-
vert the state tax section from Ohio state
tax rates to our state tax rates, and it was
ready to run. We do plan to add a section,
perhaps two, to do 941's and accumulate two
or three more totals, but it was really use-
ful just like it came out of the box.

OSIO

THE ORGANIZATION FOR OWNERS
OF OHIO SCIENTIFIC COMPUTERS

By Wallace Kendall

OSIO is a nonprofit educational organization incorporated in the District of Columbia. The formation of other chapters in other areas is encouraged.

The organization grew out of a love-hate relationship with Ohio Scientific. All of us had bought a computer from OSI (and many had bought more than one). Early in 1979, about forty of us got together and learned:

First, each of us had studied the market carefully before buying OSI equipment. Each thought he or she had chosen the best equipment available at the time for the price. Nearly all still think so, and our number has grown steadily.

Second, no one was satisfied with the OSI documentation, nearly all had tried without success to get more information, and a few were exceedingly annoyed over their inability to get answers to questions they considered absolutely vital to the operation of their OSI equipment or the proper running of their OSI software.

Now, to keep the matter in perspective, it must be admitted that the purchase of a computer does not entitle the purchaser to a university course in computer science to be administered by phone or mail by the manufacturer or over the counter by a dealer. There is indeed a limit to the amount of assistance the conscientious manufacturer or dealer can provide.

OSIO, as an organization of many OSI owners in many states, can expect a little more assistance from Ohio Scientific than an individual owner could expect, and of course, it will make available to its members whatever assistance it does receive. Further, and perhaps even more important, among the OSI owners there are many highly qualified scientists, programmers, and technicians who are "amateurs" only in the sense that they enjoy working with their own equipment, expanding what might have been considered its limits, and are willing to spend some time teaching and helping other OSI users.

A membership directory is planned. We hope in some way to arrange that a member who has a certain piece of equipment may learn what other members also have the same equipment, and how he can get in touch with any who live nearby. We will study ways of accomplishing this without broadcasting the information widely to people who have no need to know.

OSIO dues are $15 per year. By special arrangement, you can join OSIO and subscribe to PEEK (65) for a special combined price of only $20. If you want to take advantage of this special offer, send $20 to PEEK(65), 62 Southgate Ave., Annapolis, Md. 21401.

[ ] Please send PEEK(65). I enclose $8.00 for 12 issues.

[ ] Please enroll me in OSIO. I enclose $15 for 1 year membership.

[ ] Please send PEEK(65) AND enroll me in OSIO -- special price: only $20

NAME_____ STREET_____

CITY_____ STATE____ ZIP_____

OSIO, the national OSI Owner's Organization, and PEEK(65) BOTH need your support. Please join, subscribe, send ideas, articles, PEEKs and POKEs you have discovered, software you would like to share or sell and letters!!