

# PORT FE

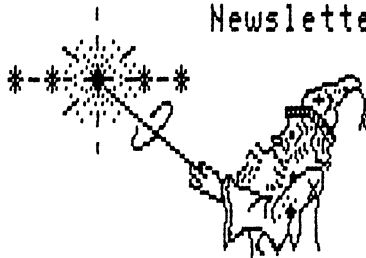
SORCERERS USERS' GROUP

(Toronto)

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S O R C E R E R

Newsletter



The Toronto Sorcerer Users' Group was founded in the Spring of 1979, a handful of willing and eager to learn members.

This newsletter shall at all times keep in mind the goal at its conception. To spread the seeds of knowledge.

Articles printed in this newsletter shall be free for all Sorcerer Users' groups to reprint or comment on as they see fit.

Articles submitted for this newsletter must be in no later than the beginning of the 1st of every month.

January 13, 1981

HAPPY NEW YEAR TO ALL

I (we) wish to introduce ourselves to all of you as the new editorial staff of PORT FE, Alas our previous editor ran out of words.

Tony Lautenbach (myself)  
Tony Bagshaw (himself)

Now that winter has really set in this gives us a chance to do some serious programming and reading about all the things we would like to do on our sorcerer (but unfortunately the funds won't allow).

We have been in touch with other sorcerer users' groups in other parts of the world and have asked for reciprocal exchange rights with them in regard to the inclusion of some of the materials in our newsletter. Trusting this will not take too long.

Our sincere condolences to our previous editor for being unable to continue with the fine work that he set out to do. Possibly by spring his computer will have endowed him (or parted with) more information. He is running on a (shaky) disc system at the moment. God forgive him!!

Well for some very good news for those people who are/were contemplating buying the I.D.S. 460 Paper Tiger.

THE GRAPHICS PRINT OUT ROUTINE HAS MADE ITS  
MARK ON PAPER AND WHAT A MARK. EVERYONE  
WILL BE ENVIOUS OF ANY OWNER THAT HAS A 460

---IT IS SUPERB---

AT THE TOP OF THIS NEWSLETTER IS A SAMPLE

Later we shall let you know who the author of this fine piece of work is but for now we shall keep it a dark secret. By the way he is presently very much buried in a Z80 assembler which is almost finished. Then you may want to throw away your development pac. Chuckle chuckle. With this fine piece of work IT'S ALL DONE IN MEMORY no more second tape passes. I like mmm mmm

We would like, at this time to formally thank one fine person who has and always is doing his best to add a little knowledge to the far reaches of the known sorcerer world. This person is a member of the SORCERER COMPUTER USERS OF AUSTRALIA.

Devin Trussell - Thank you (from all)

We can thank him for one of the largest care packages for the sorcerer that I have ever seen. It will take me at least a month or so to digest some of this information. And as soon as we have reciprocal exchange rights with them we can print some excerpts from the FILE.

He has also sent us some of the software developed in that region of the world known as AUSTRALIA. I trust that we have not lost anyone! so far. Great games coming from that region - Keep up the good work fellows/gals.

## Technical Review of the I.D.S. 460G

I have had the opportunity to use one of the first units ever to enter Canada, and also to pull one apart.

During the course of the first couple of days, all the programming functions were checked under the control of a program called SWORD (Sorcerer Word Processor). This proved to be quite the ticket, having been involved with the program during its development. With the mixture of power that SWORD and the I.D.S. 460 have I wasn't quite sure which to use, -- let SWORD do such things as text justification or should I let the printer do it. Well I tried both ways, this led to a little confusion when the printer did it. SWORD was also sending it carriage returns when the printer wasn't finished justifying the line. This is a typical example of what can happen if you try to use too much power by mixing command capabilities of both (the program and the machine).

Well, I must say that lesson was a little time consuming and it goes without saying it will not be repeated. During the course of more tests I learned that the 460 was indeed a very powerful machine. I decided that this was the machine for me.

The 460 has something that I've never noticed in any other printer, the ribbon goes across the page at an inclined angle. After close examination this revealed that the impact print head went straight, and with the ribbon at that angle, would literally go over every square inch of the ribbon. A little brain food went into that one. (Hurray)... That's the reason for better print, for a much longer period of time.

A lot of people usually wait until someone else has bought an item before they go out and spend a lot of money to find out it doesn't work just the way they thought it would/or should operate. Items of electronic nature have what we, in the field, call a teething period. This is usually the time it takes to get all the unforeseen bugs out. Most manufacturers experience this with any new item, regardless of how sure they (thought) they were. I.D.S. is by no means an exception to this rule of thumb. Bugs have existed with/in all types of printers from day one. They used to be mechanical at one time, so now they usually take the form of firmware or ie: software control of mechanical operations. The 460 is by this printing time probably on revision #8 of their firmware, -- revision #7 hasn't been released as of this time. The existing machines, if purchased through one of the local distributors, is probably revision #6. Although one, that I know of, is getting them through other sources. I pity any one who buys a 460 there because they're probably only revision #5 models. At least I know mine will be updated when the new proms come in.

The problems that exist with the printer are very minor in nature and don't bother me in the least. The benefits that are true attributes of this printer by far outway any problems that are present.

On the following page I will list the attributes of the I.D.S. 460 and also the problems that have shown up. I will let you be the judge of whether my own personal appraisal of the 460 should warrant its purchase.

There have been many people who have asked whether or not the 460 has true descenders. Yes. The best way to put it is, it looks like the characters used by the Sorcerer. This newsletter is printed by the 460. !!!!

At first the print struck me as being rather small but it didn't take long to see that what was really happening was, I am saving paper. Just think for a moment, THIS page is over 90 lines!! Can you imagine trying that with some of the other printers. I have my doubts about that. Yes indeed we are conserving paper. The old paper eater won't get the best of me now. Think of all those reams (streams) of listings that come forth at one time or other. They could be shorter with the I.D.S. 460.

## Software control features.

PROGRAM HEX CODE	FUNCTION
04	Enter text justify mode
05	Text justify off
09	Horizontal TAB
10	Select PROPORTIONAL character spacing
06	Select fixed character spacing
0B	Vertical TAB to next tab position
0C	Form Feed
0D	<CR> to same line if 'auto feed' enabled
01	Enter ENHANCED print mode
12	Vertical ADV 1 (no <CR>)
14	Vertical ADV 2 (no <CR>)
19	Vertical ADV 3 & <CR>
02	Enter NORMAL print mode
0A	Vertical ADV 1 & <CR>
0E	Vertical ADV 2 & <CR> "Graphic line feed"
1D	10 CPI character select
1E	12 CPI character select
1F	16.8 CPI character select
13	Deselect printer
11	Select printer
1B	ESCAPE code for printer programming

Programming functions which allow you to reset any of the software controlled parameters are as follows:

PROGRAMMED FUNCTION	FUNCTION CODE	# UNITS	VALUE UNITS
Vert ADV 1	B	1	1/48 inch
Vert ADV 2	C	1	1/48 inch
Vert ADV 3	D	1	1/48 inch
Vert TABS	E	1-8	1/48 inch
Horizontal TABS	F	1-8	1/120 inch
L/R Margins	J	2	1/120 inch
Set FORM size	L	2	1/48 inch
Interchar SPC	P	1	1/24 inch

## PROBLEMS WITH THE I.D.S. 460

1. Firmware not in it's final state.
2. 5 volt power supply causes random printing of characters when hooked up in parallel interface mode.
  - a. This is not a problem when used in the serial mode of operation.
  - b. Problem is cured by running a grounding strap (jumper) to chassis ground from the common of the 5 volt regulator.
3. If the printer is sent the Deselect code it does not return with the handshaking acknowledgement. (computer may lock and wait)
  - a. If this happens just turn printer off and on.
4. Mixing enhanced characters and proportional character spacing can on rare occasion (if justify mode off) blow a fuse. This is caused by a firmware bug which blows (or loses) it's character count.

I.D.S. have been made aware of these problems and are working on (or have solved) these already.

Well now I have outlined the good points and the bad. They're not all that bad, as you can see, and are curable. The two programs that are perfect mates for this printer are from Northamerican Software, SWORD a word processor and for those of you that like graphic printouts of what's on your screen, then use the Super Graphic Scratch Pad Ver. 2.2. As you've seen from the front page it's not bad.

SUBJECT: Cassette interface test procedure for Sorcerer II

PROBLEM: Unreliability of cassette interface circuit.

SOLUTION: Proper procedure for setting up cassette interface.

1. Jumper C82 to R66.
  - a. LED will go out.
2. a. Use Digital Multimeter (Fluke 8010A or Equivalent) (Do not use Oscilloscope)
  - b. Check 14F pin 11 for 2.0 v.
  - c. Adjust VR1 for 2.0 volt setting.
3. Check 1B (LM324). If batch is Taiwan 7919AB or Malaysia 7919AB, remove and replace with Malaysia 7945AB.
4. Check that R35 has a 270K resistor. If any other value, then replace resistor with a 270K.
5. Disconnect jumper from cassette interface. Circuit should now be functional. If problems still exist, contact Exidy customer service.

#### CASSETTE INTERFACE MODIFICATION

Modification to the cassette transmitter section improve signal to noise ratio, output waveform, and signal level.

The modification included changing two resistors in the Divider network. R23, R24 and R65, R63, in Sorcerer I and II respectively. Most AGC (automatic gain control) tape recorders will now operate with this change.

The receiver section of the cassette interface required re-design. Since the 4046 PLL is sensitive to noise, but not to harmonics, the front end filter was changed.

The front end filter now has a gain of approx. 2. The 3.3 meg. off set resistor was removed to improve the signal swing to the positive side.

The PLL itself was given a new lock/capture range, that takes into account drag on record and less drag on playback. The PLL can now handle plus or minus 20% tape speed variation from normal.

The filter on the PLL was changed to increase attack time and reduce the amount of time to lock on to a frequency, which is necessary for 1200 baud. Also, a different criteria for setting the offset is necessary to reduce the capture time and jitter. This is the method of setting the Pot connected with the PLL.

The transmitter circuit originally has the voltage at 500 mv. Though this is adequate for well grounded systems, it provides low signal/noise ratio for most home hobbyist systems.

The new transmitter section increases the output 3 times and allows most grounding problems to be overlooked. The microphone output has been increased to EIA standard, to eliminate as much noise as possible.

A basic advantage of the receiver is it's inherent harmonic rejection. This is accomplished in the designed use of the 4046 PLL. Noise is the worst enemy of the PLL, therefore extremely high amplification of the filter is not designated. Low amplification and high volume of the tape is the ideal situation.

#### RECEIVER CHANGES

			Sorcerer I	Sorcerer II
13K	to	4.7K	R4	R62
270K	to	10K	R6	R35
1000pf	to	620pf silver mica	C16	C67
1000pf	to	330pf Disc Ceramic	C18	C66
REMOVE	3.3 meg resistor		R5	R34

#### TRANSMITTER CHANGES

10K	to	1K	R23	R65
470 ohm	to	4.7K	R24	R63

## SORCERER / TRS 80 LEVEL II EMULATOR

This program emulates the TRS 80 on the Sorcerer as closely as possible considering the systems' hardware differences. This is done by a combination of the program and the hardware cassette interface design specified later.

To use this Basic successfully a RADIO SHACK LEVEL II BASIC REFERENCE MANUAL is required.

Except for a few Command Mode Control Keys this program behaviour is as specified in that manual.

Most Radio Shack Basic programs will behave correctly except those which use direct PEEKING or POKING of screen, IN, OUT to cassette functions, or reading of the keyboard memory. That is, programs which are written in such a way as to be intimately associated with the particular hardware of the TRS 80.

SYSTEM i.e. assembler tapes may be read but in general will not execute correctly because they tend to write directly to the screen, hence requiring modification to their I/O.

At present this program uses the hardware cassette interface to permit reading and dumping of tapes in Radio Shack format but the intention is to produce a later version which will dump and load in Sorcerer format.

To execute use LOG or LO BASIC, GO 0.

### COMMAND KEY DIFFERENCES...

#### TRS 80...

ENTER  
←  
SHIFT ←  
↓  
→  
CLEAR  
SHIFT @  
BREAK  
DELETE CHARACTER  
NONE\*  
SHIFT ↑

#### SORCERER...

RETURN  
SHIFT ←, CTRL ←, CTRL A, CTRL H  
CTRL D (DELETE LINE)  
LF or CTRL ↓ or CTRL Z  
SHIFT →, CTRL →, TAB/SKIP, CTRL S  
CLEAR, CTRL G, SHIFT HOME  
RUN/STOP, ESC  
CTRL B  
No physical delete, omit SHIFT RUB  
CTRL Y-Return to Sorcerer Monitor  
SHIFT ↑, CTRL W

To re-enter the Basic from the Sorcerer Monitor without losing a program created previously in the Basic use...

GO 1A19H or (better) GO 6CCH

NOTE:-Do not attempt to use this program while Sorcerer Basic PAC is in or program may be corrupted. Also when Memory Size appears protect the Sorcerer stack area.  
e.g. If using 32K machine type 30000 (decimal).

In an actual Basic program text the Sorcerer characters [ \ ] ^ are the characters or ↑ [ , ↓ ← → in the TRS 80. See page C/2 Radio Shack Reference Manual.

The Cassette Interface is essentially the same as the Radio Shack Computer and it plugs into the PARALLEL PORT of the Sorcerer and draws its power from it. A LM3900 circuit is required from the Radio Shack Reference Manual and a schematic is provided for necessary hookup to the parallel port.

This program was received from Devin Trussell of the Sorcerer Users Group (Australia). He informs me it may have a few bugs but I am sure at least one of our members is able to debug this unusual program.

Any member interested in obtaining a copy of this program, please contact Tony Bagshaw for details at 881-1532 after 6p.m.

## THE LATEST FROM EXIDY

Last week we received a request from Exidy from their Service Administration Dept. enquiring whether it is possible for them to obtain a complete list of PORT FE Newsletters which the Sorcerer Users Group of Toronto have published since its inception. In response we have agreed to submit all copies with the provision that they in return submit to us all technical bulletins from the initiation of the Sorcerer 1 right up to date, including Sorcerer 2 and beyond.

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The following excerpt appeared in the 'Sorcerer's Apprentice' issued Nov. 1980.

Exidy Data products Division is alive and well. Paul Terrell, the Domestic marketing manager for Data Products Division, stated Exidy has decided not to sell the division as was rumored last Spring. The thrust of future marketing plans will be into small business systems. New sales channels are being developed with office equipment dealers already serving as outlets. Although Exidy plans to continue supporting hobbyist interests (with product offerings like the new \$99 Rom-Pac Smart Terminal soon to be available), they will concentrate their efforts on business equipment including disk based peripherals and software.

COMPUTER SYSTEM NEWS dated Monday, November 10, 1980 reports... "Exidy's overseas sales currently account for about 80% of it's Data Products Division business, according to Vice President Leslie Hauser. Plans are underway to aggressively pursue the small business market in the U.S. with the new 48K Model II Computer, Video Disk System and a choice of printers (daisywheel or dot-matrix). The package prices will vary between \$6,000 and \$10,000 for the complete system, including software. A change in how the systems will be distributed is also contemplated."

During a telephone conversation between Fred Langhorst (SORCERER'S APPRENTICE) and Bob Freeman (Engineering liaison, Exidy) it was revealed that the 1.1 version, Monitor ROM's (reviewed SA 2.4 Aug-Sep 1980), are currently in production. No availability date was given. Also, Exidy has reduced its service backlog substantially and is now offering 24 to 48 hour turn-around service. The normal (48 hr.) fee is \$45/hour plus parts and \$55/hour plus parts for 24 hour service.

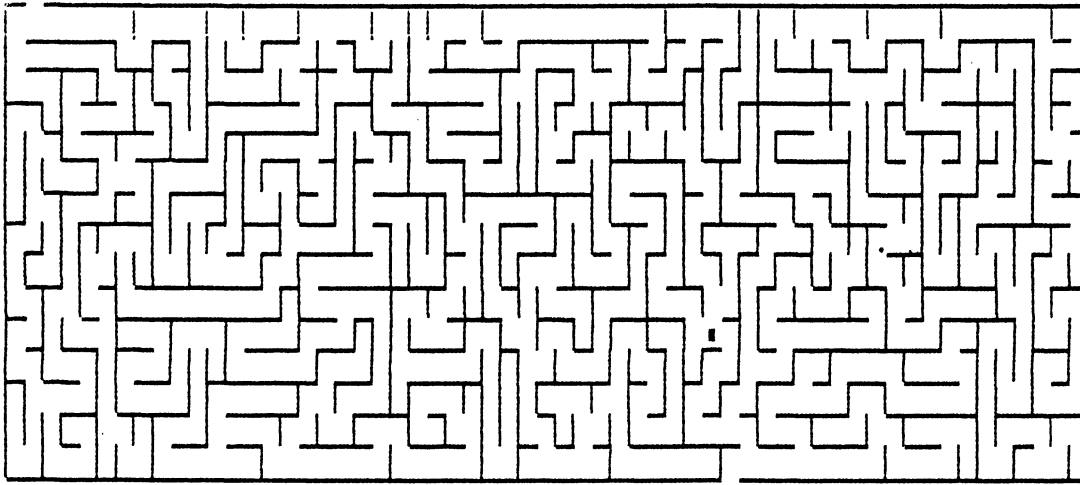
EDITORS NOTE: We feel that Exidy is presently undergoing some positive changes which will result in much better service and support for all present and future owners of their product. It is our sincere hope here at SORCERER'S APPRENTICE that Exidy has finally realized the potential of their product and will support it with renewed vigor for the benefit of all.

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FOOTNOTE: Devin Trussell informs me that Exidy have now written a cassette Basic which has all the present ROM PAC Basic plus many new abilities. In fact, it is supposed to be equivalent to Microsoft Extended Disk Basic without the disk related instructions. He says it looks good!! As soon as we have reciprocal publishing rights from the Australian Sorcerer Users Group, we shall release more information.

## WANTED

32K Sorcerer with Monitor and Cassette Recorder  
Call Tony Bagshaw 416-881-1532 after 6 pm.



As you can see to your left, is the LABYRINTH, a visual 3-D game. The object is to get out.

This should be accomplished in as few steps as possible. This can be quite a challenge, even with a small maze.

In this game you do not always get a look at the plan view. Just sometimes if, you're lucky.

Can you imagine wandering these corridors for any period of time. YOU can get lost very easily.

This program will develop and tax your co-ordination center to its fullest.

If it doesn't then there is something dreadfully wrong with you.

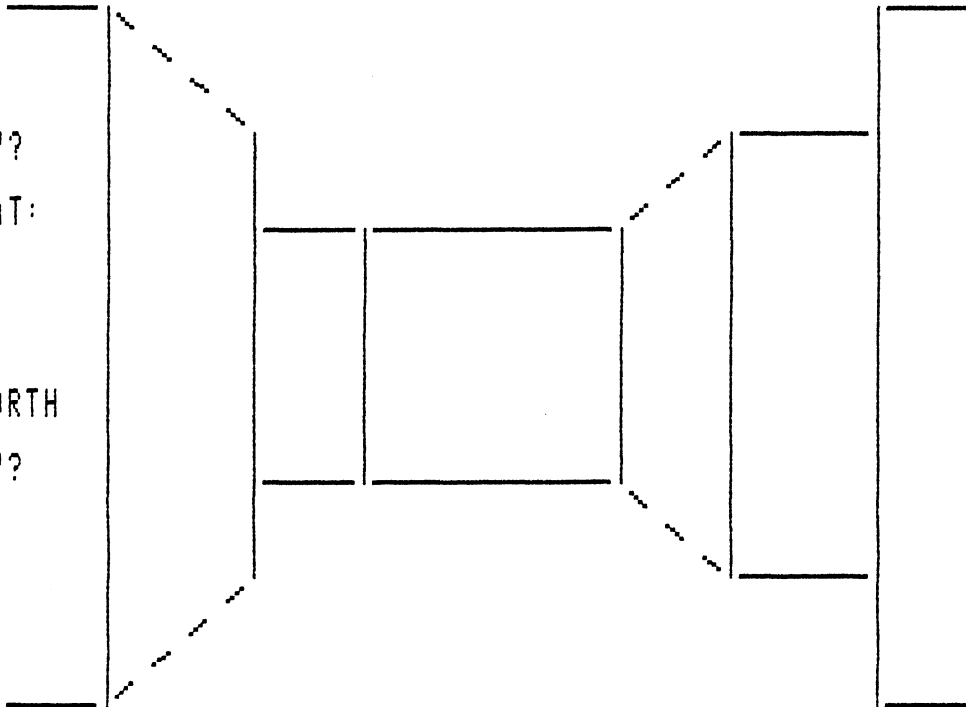
For those interested there is only one way to the exit point. All other roads lead to nowhere, or dead ends.

Try this one for size.

Contact Tony Bagshaw for a copy if interested.

SCORE: 249

WHICH WAY?  
YOU ARE AT:  
39 EAST  
NORTH  
FACING: NORTH  
WHICH WAY?



## VOLUNTEERS NEEDED

We would like to to get some volunteers to write up some reviews on the subject programs listed.

BKOUT - A Racecar Graphic Game	SRRND - Two player game
SNAKE - Single player game	CHASE - Robots vs YOU
EVADE - Maze & enemy & YOU	CLUDO - Inspector Clueso

All volunteers shall receive complimentary admission tickets to the next computer show held in ST. HELENA S. Atl. or an all expense paid (bus fare only) DINNER for (ONE) at the restaurant of your choice within a 50 mile radius of ST. HELENA S. Atl. Contact Tony Bagshaw or myself.