

SYDTRUG NEWS

SYDNEY TRS-80 USERS GROUP NEWSLETTER

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December 1983

IN THIS ISSUE

Well, quite a few things have happened over the past month. As those of you who were able to attend the last couple of meetings would already know. For the benefit of those who have been out of touch, an Extraordinary General Meeting has been called for Saturday 11th of February (that is the second Saturday of the month), for the purpose of holding elections. This situation has arisen due to the positions of President and Secretary becoming vacant, because of this the General meeting in November decided to declare all committee positions vacant and these have been filled on a temporary basis until the elections. Nomination forms for all positions are attached to the back of this newsletter, these Nomination forms are to be returned to the acting Returning Officer Mr.K.Black at the groups' postal address no later than December 17th 1983.

Since the last issue I have had the opportunity to attend a meeting of the W.A. 280 Users Group in Perth, while over there I was invited to attend their monthly meeting by Brian Mahoney and greatly appreciate the hospitality I received while there. I will give an expanded account elsewhere in this issue.

Continuing last months hardware mod theme, Geza Dujmovich has written the first of a series of articles on the provision of some extra facilities for those of us who are still using a cassette based system. This month's article deals with providing audible monitoring of data to and from cassette on the Dick Smith SYSTEM-80.

The Committee has appointed Mike Cooper as SYSOP for the group Bulletin Board. Mike is in the final stage of developing the operating software for the system, so that the time has come to call for donations of any gear which could be used to equip or raise funds to setup the system. Any donations will be most appreciated and credit will be given in the signon message of the Board.

You have probably received this issue later than previous issues, I must apologise for the delay but it was unavoidable, as I have had to completely retype it the day before printing was due, after a catastrophic failure occured while I was making a backup (two Backups in future) of the diskette on which I maintain this file. I have learnt a lesson, I hope others may benefit from my experience. I must signoff now until next issue, so have an enjoyable Christmas and best wishes for the coming New Year.

NOTE: DEC. 10th XMAS PARTY
Wives welcome - bring Goodies!

Your Editor
Gary Bryce.

MEETING DATES

The dates for the upcoming monthly meetings for December and January appear below, all meetings commence at approximately 1:00 PM.

<u>December</u>		<u>January</u>
10th	- Monthly General Meeting	14th
17th	- Special Interest Meeting	21st

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SuperSCRIPSIT REVIEW

by Gary Bryce

Having used SuperSCRIPSIT for the last six months, mainly in the production of this Newsletter, I feel that I am now sufficiently conversant with the intricacies of it's operation to be able to write a review of this excellent Word Processor. Indeed, the extensive features of this program do make what I feel is the first true Word Processing System for the Model I/III TRS-80, rather than a glorified Text Editor.

The ability to preset up to ten Tab configurations, twenty Printer coded commands, ten User keys and the fact that you can create and edit a file longer than memory, plus many other facilities which are not present in any other WP system for the TRS-80, add up to make this the most powerful WP program yet available.

You will require a printer connected to a 48K Model I or III, with a lowercase mod and two drives with the Model I. You may scroll through your text file up or down by word, line, paragraph, video page or printed page by use of the four cursor control arrows. Individual lines can have their own Tab, Indent, Margin, Spacing and Length settings.

SuperSCRIPSIT is provided with two manuals, eight lessons on four Audio cassettes and a quick reference card plus two diskettes each for the Model I and III. To learn this system I definitely recommend using the supplied lesson tapes, otherwise you may miss many of the valuable features built into the system. The two manuals consist of the Figures book (a lesson book used in conjunction with the Audio lessons) and the Reference Manual in which information is listed by section or index. Overall, the documentation package is one of the most complete and useful that I have used.

One of the major advantages of the SuperSCRIPSIT package is the support for most TANDY printers. This even extends to the support of proportional print mode for those printers which have this feature (all Newsletters have been printed in this mode). For those printers which are not directly supported you may use the User Print Codes feature to define any of the numeral keys, in both the shift an unshift positions to define a special character or series of characters to send to the printer to enable any features specific to your printer.

Some of the printing features which are supported are :- Mixed type styles, Underscore, Superscript, Subscript, Bold, Proportional, Monoproportional an Nonproportional. Underlining includes spaces between words. Other printing features supported include Lines per page and a printer pause feature, to allow for single sheet printing or changing print wheels on Daisy wheel printers, and a reverse top of form for multicolumn formatting on a single page. Multiple copies of a document may be made when in the Print document mode.

The system includes a built in HELP facility which is displayed by pressing the @H control key combination, it lists all the commands of the system in a series of screen pages. You can page through the command listings by using the up or down arrows or the enter key.

One of the most powerful features of the program are it's Block action commands, they are the key to SuperSCRIPSIT's editing capabilities. You can define any amount of text as a block and then delete, copy, move, adjust, search, freeze, unfreeze, hyphenate, print or change linespacing within the block. Using the various Block action commands is very easy, all that is required is to mark the block then execute the block action command. Adjusting a block allows the mass changing of line parameters such as Tab and Margin settings. The Search command allows you to perform either a Find, Delete or Replace type search by word or character, ignoring Upper/lowercase if required, the search may also include specified embedded control codes.

Automatic printing of Headers, Footers and Page numbering for odd/even pages is also supported. Specific groups of text up to 127 characters long can be saved and recalled for insertion in the text a any time by using the @S and @R commands, for groups longer than 127 characters these User keys may be chained or looped just as readily.

The main menu of the program gives the options of opening a document for editing, displaying the directory of a specified disk, entering the system setup utility, proofreading a document, compressing a document, converting text between ASCII/SuperSCRIPT modes, exiting to DOS or returning to the current document being edited.

The only negative comments I have about the program are of it's complexity (necessary for the features involved), this is definitely not a program which you can sit down and use immediately, and the fact that as the document length grows a fast typist can loose occasional keystrokes at the end of lines. Apart from these problems I have found this package on of the most useful which I have ever used on my system.

CASSETTE CORNER

by Geza Dujmovich.

With the plummeting of the price of new SYSTEM 80's and the availability of sound, cheap secondhand Model I's, there appears to be more and more cassette users joining the club. In an attempt to respond to these new members, I will, in a series of articles describe a number of modifications, procedures and other helpful hints, which in my opinion come into the "How the Hell did I get by without IT!" category.

Like most of us I started off with a base Mod I TRASH in early '81, and like most of us travelled the hard road of 16K and then 48K inboard upgrades, lowercase, highres, joystick, sound and other mods. However it appears that I persevered with a cassette based system longer than most. I did not get my expansion interface an first disk drive 'till mid '83. That's two and a half years of cassette experience, not due to patience or perseverance, but rather stubbornness, stupidity and plain lack of Bugs Bunny.

The resulting articles are my attempt to pass on some of the ideas which I developed to make my cassette computing reliable and therefore enjoyable, (Yes Virginia cassette computing can be FUN), and I trust they will help those among us who are just starting off, or for other reasons chose to stay with cassette based computers. (Sometimes I wish I had stayed with cassettes when life was simple and problems relatively few - believe me disks multiply the complications, not to mention greatly increased monetary outlay.)

The subjects I intend to cover in this and the next few newsletters are :-

- Cassette Player Modifications.
- Tape Library Organisation.
- Two Cassette Switchbox.
- Internal Sound (Models I/III)
- Adding an ATARI type Joystick.

Cassette Modifications

General

In tape based systems the only indication we used to get (before the later System 80's installed a level meter - still not good enough) that the data was loading correctly, were the two small asterisks in the top righthand corner of the screen. If all was well the righthand asterisk would flash at a rate determined by the incoming program (constant for SYSTEM tapes and varying with line length for BASIC programs).

If however the asterisks didn't appear or if they both came on but didn't flash or if one was really unlucky (as usual) they were flashing but stopped doing so halfway through or you got the dreaded "C" for Checksum error, then you are in big trouble if any of the above problems ocured we couldn't tell what was causing the problem.

General (cont)

1. Was the Program data there on the tape at all?
2. Was it there but Low, High or Varying in level?
3. Were there gaps, breaks in data or crinkles in the tape causing any or all of the above?
4. Was it your sisters' Duran Duran tape - lets see your computer survive that - you probably couldn't.

What is obviously needed is a someway of actually monitoring both audibly (via the speaker) and visually (with a level meter), preferably both the incoming signal from tape to computer and the outgoing signal from computer to tape. The latter being handy to indicate that all is well firstly with your dump procedures and secondly with the output hardware, this is also a handy way to get a sound effects output.

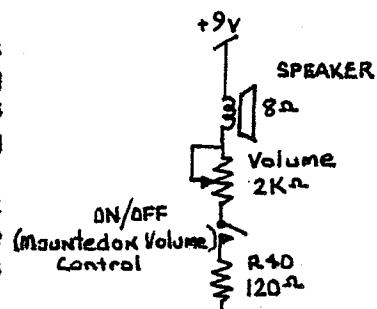
While we are at it another invaluable modification we need to make, is to include a switch to override the cassette motor turn off from the computer (Remote). This will save us having to disconnect the small grey plug every time we are searching for the beginning of a program or for any other reason we want to play the tape forward (duplicate the SYSTEM 80 F1 switch - they sometimes provided some useful differences on these "Clones").

PART .1 - SYSTEM 80 Modifications

Due to the internal arrangements of the SYSTEM-80 being quite different to that of an external player (eg! the SYSTEM-80 uses three OP AMPS in the play direction and one in the record direction all contained within Z1.), it is too much trouble to reliably provide the facility of visual (level meter) monitoring of computer to cassette data flow. Those of you with SYSTEM-80's without the internal level meter amplifier and speaker will find the circuit details in the SYSTEM-80 Technical manual (parts may be ordered from Dick Smith stores). This leaves us the modifications required to provide audible monitoring of data to and from the cassette player.

Mod .1 - Monitor Record.

The first modification, to provide audible monitoring of data from computer to cassette, is relatively easy to perform. On looking at the SYSTEM-80 technical manual, the internal amplifier is disabled by a low from Z6 pin 3 which turns off Q11 via D15. During normal sound output (ie! Games) Z6 pin 3 is high thus enabling Q11 and permitting output from the speaker. All that is required to permit monitoring of the data being sent to cassette, is to open circuit one end of the diode D15, thus enabling transistor Q11 at all times. This having been done another addition to the sound output circuit is required. A 2K ohm potentiometer (with integral switch) should be inserted in series with the speaker to provide a volume control and sound on/off switch, (see Fig. 1)



- Fig. 1 -

Mod.2 Monitor Play

Having thus obtained sound output during cassette saves, all that is needed to enable monitoring of sound from the cassette, is to switch the input to the speaker amplifier (via C33) from the computer output (junction of R30 & R31) to the output of the cassette player at K1 terminal "R". The circuit in Fig.2 indicates where these modifications inserted in relation to existing circuitry.

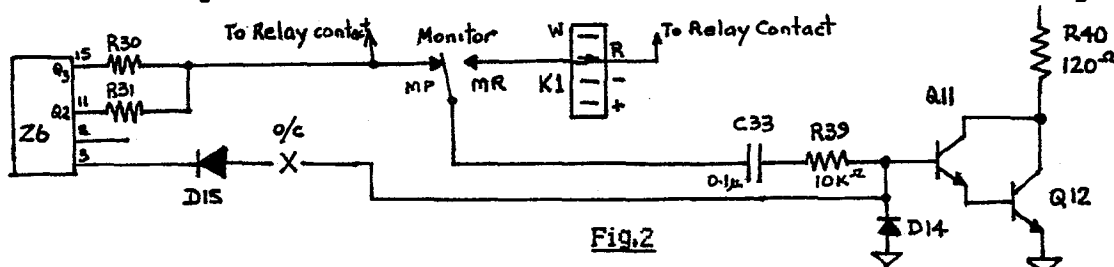


Fig.2

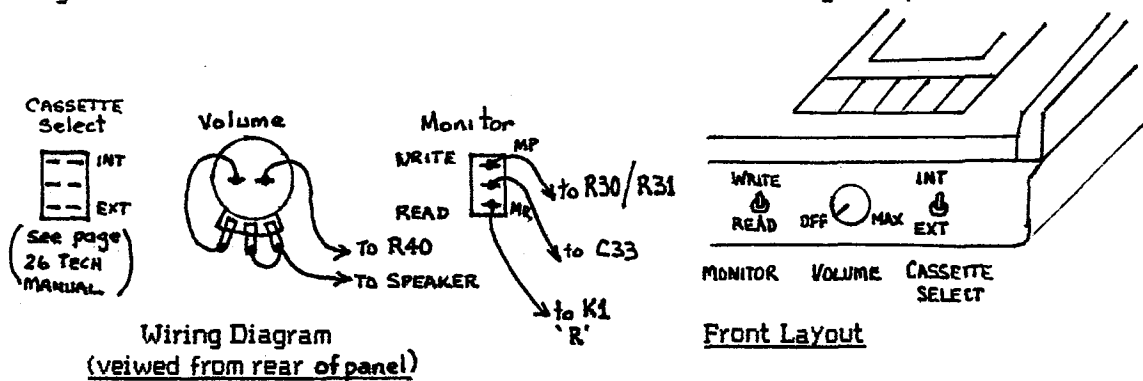
SYSTEM-80 Modifications (cont)

Making it all fit

The actual hardware wiring for the two mods is clear if you follow the circuit in Fig.2.

- (1) To open circuit D15, unsolder, lift and insulate the Black wire leading to D15 (finding D15 is probably the most difficult part due to inadequate and conflicting circuits in the manual).
- (2) The 2K ohm switchpot is wired in series anywhere between the 120 ohm R40 and the speaker.
- (3) To wire the switch for monitoring, cut the track running between C33 and the contact of Relay 1, run a wire from the C33 side to the centre terminal of a changeover switch, run another wire from the Relay 1 side of the cut to an outside terminal of the switch (the one that is closed when the switch is in its' normal position), from the unused switch terminal run a wire to the "R" terminal of the K1 connector to the cassette.

I also recommend that the additional modifications suggested on page 26 of the manual be performed. This will allow the choice of sending all cassette functions to an external recorder. The Monitor, Internal/External select and Volume/On/Off switches can be mounted under the front righthand side of the SYSTEM-80 case where there is no shortage of space.



Conclusion

I developed the mods described here and those to appear in later articles on my original CTR-80 back in 1981 and more recently on a friends' SYSTEM-80 (still going Denis?), and have had practically no problems loading or writing tape programs since.

Over the last two years I have bought numerous original software packages (ie! Hellfire & Star Warrior, Temple of Apshai, Galaxy Invasion, and many others) from the "Scrap" box of a number of Dick Smith stores for very cheap sellout prices (\$1 - \$10), usually depending on the generosity of the local store manager.

These originals were in "Scrap" boxes because average people having paid good money for expensive commercial programs, then found that they would not load reliably or at all into their computers. The reason for this seems to be due to the fact that most commercial software is duplicated on fast multi tape copiers, often giving low and/or varying levels on the recorded tapes. Most of these "unloadable" tapes were then quite rightly returned to the stores where they were sold as "Bad copies", nobody having the patience (or properly modified cassette recorders or system) to persevere and see if they really were unusable. I have had very little problem loading these "faulty" tapes providing I had a listen on my modified cassette player, looked at the level meter and persevered with various volume settings until the program loaded (approx 90% did), after which it was only a matter of writing myself a reliable copy onto a good quality tape.

Coming Articles

- (1) CTR-80 cassette mods
- (2) Organising and cataloging tape libraries.
- (3) External Dual cassette switchbox.
- (4) Add internal sound to your Model 1.
- (5) Adding an ATARI type joystick to your system.

PERTH USERS

by Gary Bryce.

While in the Fair city of the West last month, I had the opportunity to attend a meeting of the W.A. Z80 Users Group. TRS 80's and SYSTEM-80's seem to be the predominant choice of members and a variety of these were on show (Model IV Dual Disk system, DMP 200 printer, Model I cassette system and a SYSTEM-80 Disk system). As the group is just now beginning to seriously formalise it's direction, they have taken a similar route to that of SYDTRUG in surveying members' interests and equipment.

After introductions and a general chat about our own group the group finally got down to the major business for the night, this being a lecture, conducted by one of the members, on Introduction to Assembly Language Programming. The lecture commenced with a short introduction to the basic components of ROM, RAM and the Z80 CPU, progressing through the architecture of the CPU and it's registers leading to an explanation of Mnemonics and Opcodes, continuing on to working through a short demonstration Assembler program and equating these to similar Basic statements.

Having been in contact with Brian Mahoney, one of the group's members, on a previous visit to Perth, I came prepared with a copy of Alan Johnstones' mods to NEWDOS/80 ver 2.0 and gave a short demonstration of the extra facilities which Alan has made available to us all. As those members still in attendance were quite impressed I left a copy of the mods and Alans' excellent documentation.

Anyone wishing to contact the group should write to :-

W.A. Z80 Users Group
c/o Trevor J. Jones,
20 Beaumont Way,
Greenwood
W.A. 6024

PROFILE PATCH

by Gary Bryce.

While in Perth I was asked whether there was any way to extend the record space available to Profile when used with disks having more than 35 tracks. This may have been documented elsewhere, but if it has I cannot remember where, so I did a bit of investigation through the various files used by Profile and discovered a table in the INIT file which specifies the number of sectors available to the system on each drive. The position of this table may vary with different versions of the program, but it should not be hard to locate as the pattern is easily recognisable.

INIT	Sector 3, Byte 98,	95,00	Drive 0 Table
	Sector 3, Byte 9A,	49,01	Drive 1 Table
	Sector 3, Byte 9C,	49,01	Drive 2 Table
	Sector 3, Byte 9E,	49,01	Drive 3 Table

These bytes load into RAM from address 7388 to 738F. You will notice that less space is available in the Drive 0 Table, this is due to the space taken by System and Program files. The bytes in this table are in the normal LSB, MSB format (ie 49,01= 0149H = 329 Decimal), and as the system uses Zero numbering, 330 sectors are available on drives 1,2 & 3 in a 35 track system.

You may have to experiment a bit to ascertain the correct values for the table to suit your particular system, but the information above should enable you to make use of the extra disk space available to those of you with 40 and 80 track, single/double sided and/or single/double density systems.
