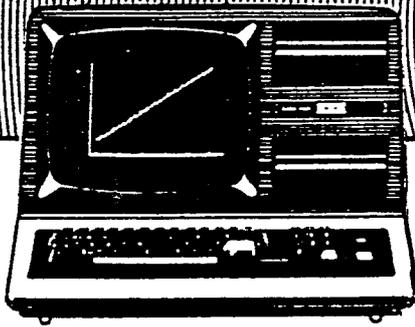


# TRS-80 SYSTEM 80 COMPUTER GROUP

BRISBANE, QLD.



REG. BY AUSTRALIA POST PUBLICATION # QBH 3667

CLUB NEWSLETTER

ISSUE: NOVEMBER 87

## COMMITTEE 1987-8:

PRESIDENT / CHAIRMAN	: B ADAMSON	378 7408	
VICE-PRESIDENT	: A WEST	399 5620	ADDRESS ALL MAIL TO:
TREASURER	: J HANDLEY	397 5872	GEN. SECRETARY,
GENERAL SECRETARY	: F SECCULL	263 6313	41 MONTCLAIR ST.,
NEWSLETTER EDITOR	: W ALLEN	343 5771	ASPLEY,
LIBRARY & TOPICS MGR	: J BIRD	261 1952	QUEENSLAND 4034
PROGRAMS CO-ORDINATOR	: N HODGE	287 5020	
PRINTER	: J MELKSHAM	814 4333	

COMMITTEEMEN: B. ARTHUR (075) 48 2839, P. GOED 880 1136 & B. STOMFAI 300 4129

## MINUTES OF MONTHLY MEETING NOVEMBER 1987

Meeting held at St. Cintra's Hall, Bowen Hills on November 1st 1987 at 2 p.m.

Apologies received:- Barry Adamson, Bert Arthur, John Benfer, Bob Maskiel.

The President, Barry Adamson, being unable to attend, Alf West opened the meeting and greeted members, new members and visitors.

### GENERAL SECRETARY'S NEWS:

The Secretary reported the month's correspondence, which this month included letters to and from NetComm Australia, regarding a modem for operating a bulletin board service for the Group, as well as members requests for programs and some monthly subscriptions.

### EDITOR'S REPORT:

The Editor reported that the Newsletter operation was running smoothly.

### TREASURER'S REPORT:

John Handley presented the monthly report.  
Income \$140 (Subs.), \$543.24 (Library)  
Expenditure \$758.39  
Excess Expenditure over Income \$75.15  
Cash Balance \$5000.98

### PRINTER'S REPORT:

Jim reported the the new photocopier was working well. He is gaining experience with it and can better use its added features.

Dave Clarke asked what was intended to be done with the old machine. Alf West explained that the Committee had made no decision in regard to this machine as the new one was still on trial. We would consider what to do with the old one at a later date.

### PROGRAMS CO-ORDINATOR:

Noel reported that as from the end of this year the date command will not function on the following DOS's:

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TRSDOS 6.00.00 to 6.02.02

LDOS 5.1.3

Any members using the time stamping facility will require an update of the DOS (i.e. TRSDOS 6.3)

The club has a Public Domain program for Model III users that will take care of the date setting. (It works in all DOS's in Mod III environment)

ELECTRIC WEBSTER is now functioning without problems under the following word processors:

LAZYWRITER 3.5 MOD.4

ALLWRITE MOD 4

LE SCRIPT MOD 4

There is also a grammar and hyphenation checker available for all models that integrates with ELECTRIC WEBSTER.

Are there any members interested in a speed up package for the Model 4, giving 6-8 mhz? If we have enough interested members, we will place an order.

#### LIBRARY:

John Bird brought the new books.

The topic for next month is :- Disk Drives.

Alf West introduced the matter of the purchase of a Model 4 for the club as an extension to the System 80 which we already possess. The Committee felt that such a machine would be an advantage for demonstrations as it is more portable than the System 80. Also it would be used for the copying the P.D. disks for the program library, thus saving the wear and tear on a Committee member's personal machine. Such a machine is available from Bill Allen in an overhauled condition for \$900.00. (The Committee would normally make such a decision itself, but as there could be seen to be a conflict of interest involved, the views of the membership present were sought).

After a discussion, Dave Clarke moved that the machine be purchased.

The motion was seconded by George Russell and put to the meeting.

The motion was CARRIED.

## MEMBERS' PROBLEMS - NOVEMBER 1987

### OCTOBER FOLLOW UP

John Aarse (problems backing up disks on a Model I under Multidos and Newdos 80) - still under investigation.

Dave Gillingham (memory location for the poke to change the cursor character) - 4023H for the Model III, 4022H (16418 decimal) for Model I location; syntax POKE 16418,xxx where xxx is the ASCII character code.

Peter Townson (Model IV interface problems) - still under investigation.

John Bird (single key entry of DATA statements in BASIC programs) - still trying to locate early issue of Micro 80 for Peter Hartley program suggested by Lance Lawes.

### NOVEMBER PROBLEMS

George Russell has experienced problems with an external Shugart 40 track SS drive - it won't format a disk correctly. Dave Clarke suggested resetting the PDRIVES to TSR = 3 - the Shugart drives have problems when faster stepping rates are used.

Jack Bognuda is encountering difficulties with Editor Assembler Plus - it has insufficient buffer space for a large assembly language program. Peter Goed suggested using EDAS - it has a larger buffer.

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Barry Keats is having a problem with graphic dumps from an Amstrad to an Epson printer - the occasional alphanumeric character is appearing where it shouldn't. Dave Clarke suggested dumping in hex mode - it is more likely that the computer is sending the incorrect code than the printer getting confused over what has been sent.

Terry McCarthy reported that Typing Tutor on the Model IV has bug in the keyboard scan routine - it won't pick up a keystroke for one of the menu options. Bill Allen has fix and will also patch the Club library copy.

John Hildyard has been trying (unsuccessfully) to replicate dates with Visicalc - it won't replicate a non-numeric cell. Dave Clarke suggested a numeric format for the date and/or a LOOKUP routine to retrieve the appropriate label.

Duncan Cameron has a problem with Superscriptsit on a Model III - a block of text has been frozen for a page range print and won't unfreeze. Jack Bognuda will advise on handling the problem from within Superscriptsit, but if this fails Duncan will use Lazywriter to strip out the control characters inserted by Superscriptsit and reformat.

#### GENERAL BUSINESS

Bulletin Board. Alf asked Peter Goed to speak to the meeting about his proposal to set up a Bulletin Board for the Group. Peter explained that the Tomorrowland board had gone over to 1200 baud for the peak period and that 300 baud was difficult to get until after midnight. There is no other board in Brisbane suitable for our purposes. He proposes to set up a board at his house, using a NetComm 1234sa smart modem and his Model 4P with a 15meg hard drive. There is a suitable program used by Sydney and Perth groups which can be modified for our use. We will have more news as we proceed. We hope that it should be operational about the end of February.

We have a list of new programs for owners with high-res graphics and would like to know if anyone is interested in acquiring them (bulk order in mind).

Also we would like to know if anybody is interested in a speed-up boards, with 256K memory?

John Hildyard asked when we would have a new index for B&B. He would also like to see a somewhat different or expanded index. Alf replied that there would be a new index after Issue no. 60 (i.e. after this issue) and he would see what could be done about changes to its format.

The meeting finished at 3.50 and was followed by a talk by Bill Allen on Newdos86. A most informative talk on a subject that will need a few more sessions. Thanks, Bill!

THE NEXT MONTHLY MEETING IS ON 6th DECEMBER at St. Cintra's Hall, 31 Cintra Rd, Bowen Hills, Brisbane (near the old Cloudland site). at 2 p.m. Hoping to see you there -- in the meantime,

**BETTER COMPUTING, Fred Seccull**

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MEMBERS PLEASE NOTE THAT THE NEXT NEWSLETTER WILL BE SENT LATE IN JANUARY  
-- IN TIME TO REMIND YOU OF THE FEBRUARY MEETING. We don't publish one in December.

Those who have been following the Asylum clues I'm afraid will have to wait for the rest in January, as I ran out of room this time.

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## THE MARKET PLACE

This section for information of our members, as we now are practically the only contacts in our area for material for our machines.

### SOFTWARE

#NEWDOS86 -- Warwick Sands' update package for NEWDOS80 v2 (Model I, System 80, Model III, Model 4/4P in Model III mode), has just about all the extra functions you've always wanted in an operating system, plus very powerful CUSTOM BASIC FOR '80 USERS programming and runtime enhancements to Disk Basic and screen oriented Enhanced Line Editor. Ongoing support always available, being followed up by further enhancements. \$75 for either Model version, \$5 extra for both versions (Installation disk(s) and 150+ page manual). Add \$5 for P&P if by mail in Australia. Obtain from Bill Allen at meetings, or 16 Laver St., Macgregor, Qld. 4109, (07) 343 5771.

#HELPSDISK -- a facility to break into most programs under Newdos80 (or Newdos86) or from Basic or Dos Ready to comprehensively, rapidly and flexibly view information on any of the specially formatted and indexed /HLP files in the system and return with the interrupted status completely restored. Proceeds to CLUB FUNDS. Once only cost: \$10 (contact Bill Allen as above).

#MACASMON -- a very powerful MONITOR program for the Models 1, 3, and 4/4P (in MODEL 3 MODE ONLY). (See review in Bits and Bytes No.47 P.8) Full documentation files on issued disk. Features 6 separate screen displays, excellent disassembler (forwards AND backwards), screen snapshot capability, buffers last 7 executed instructions, calculates and keeps running total of T-states, etc etc etc. (Sold on shareware basis) Bring \$5.00 and pick it up at any meeting (see Bill Allen), or send \$10.00 and I will post it. Glen Mc Diarmid, 28 Marginson St., Ipswich, Qld, 4305 (07) 281 7057

#TIME MACHINE FOR THE 4P (Utility). BARGAIN !!! NOW ONLY \$20 + \$5 pandp anywhere in Australia. Includes Disk and manual. (See review on Page 10, Bits and Bytes No. 45). Add concurrency to Model 3 dos's on the 4P, run 2 programs simultaneously in the machine, cheat like crazy at games (learn to master even the most difficult key control -- e.g. would you believe over 200,000 scored from Volcano Hunter?), plus numerous other VERY USEFUL functions using banked memory and sophisticated key control of the machine available at all times. Contact Peter Goed (07) 203 4882 or Glen McDiarmid (author), (07) 281 7057.

### BOOKS:

#NEWDOS/80 HACKERS HANDBOOK by Kevin O'Hare. Packed with useful info for programming under this DOS and memory usage in our machines, VERY USEFUL FOR OTHER DOS USERS ALSO. \$25 (add \$4.00 if ordered separately by post). Contact Peter Goed at meetings or 203 4882 or Bill Allen.

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**HARDWARE ETC FOR SALE:**

#SYSTEM 80 MK II Educator model computer, highly upgraded -- 5.3meg clock speed, hardware real time clock (perm. time keeping), ROM/RAM built-in monitor program, a whopping 368K memory, \$170. Contact Jakub Szajman, 394 2975

#AT PETER GOED'S 'EMPORIUM' -- 252 5988 day/ 880 1136 night:

This is a NON-COMMERCIAL venture, run by Peter Goed for the benefit of members at his expense. In the past 2 years that this has been running, the revenue has exceeded the costs by a very slight margin indeed. Because of the time, effort and money put into this service, this will be the last Emporium message put into the newsletter. At the February meeting I intend to liquidate all remaining stocks. If not sold then, the remainder will go to the rubbish tip, so I can get back into the computer room.

- 1 SYSTEM 80 Mark II Business model keyboard unit (16K) w/- extra screen memory, so you can swap and/or save screens via a Port call. As new \$100
- 1 Tandon 40t ss dd drive 1/2 hgt 1 hr use only (bare drive) \$140
- 1 Model I Keyboard late series pristine condition \$100.
- 1 Model I expansion unit \$150. 1 Tandy Model I power supply \$10
- 1 Tandy 12" Monitor as new little use \$60.
- 1 Mod I exp unit 32k mem, \$100 1 MPI 40tr ss drive w/case and pwr supply \$150
- 1 Drive cable (for 2 drives) \$30
- 25 rolls thermal paper 95mm wide part # 269-1405 for Quickprinter  
Tandy price \$14, my price \$2 roll.
- 5 RF modulators suit Model I and System 80 Mk II, Channel 1. Was \$15.95, \$1 ea
- 2 Daisy wheels for DWP210, were \$24.95, now \$5 ea
- 4 Daisy wheels for DWP??/Diablo, were \$24.95, now \$5 ea. Check your Part #.

**PRINTER RIBBON CARTRIDGES**

- DMP200 and 120, PART # 26-1483, norm price \$24.95, 14 only @ \$5 ea.
- DWP210 Part # 26-1445, norm price \$16.65 ea, 36 only @ \$3 ea.
- DWP210 Part # 26-1458, were \$24.95, 2 only @ \$5 ea.
- DMP500 Part # 26-1482, were \$29.95, 2 only @ \$5 ea.
- DWP220 Part # 26-1299, were \$13.33, 3 only @ \$5 ea.
- DUST COVERS for various printers, were \$14.95, now \$1 ea. First in gets 'em.

**BOOKS:**

100s 80 Micro Magazines, out they go @ 50c each.

**PROGRAMS:**

100s Original Tape and Disk programs with docs -- make an offer

N.B.: All of these items will be available for sale at the December meeting, so bring your money and yourself.

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LIST OF MEMBERS WILLING TO LEND A HAND

IN NOMINATED CATEGORIES

Level II Basic	Lance Lawes
Disk Basic	Alf West, Bill Allen
NewDos86	Warwick Sands, Bill Allen
NewDos/80	Alf West, Peter Goed, Warwick Sands, Bill Allen
Trsdos 1.3	Bruce Bussenschutt
Trsdos 6.x	Noel Hodge, Paul Clarke, Peter Goed
Multidos	Peter Goed
Osdos (Disk Smith's)	Peter Goed
Assembly Language	Kevin O'Hare, Warwick Sands, Alf West, Bill Allen
Cobol	Chris Watt, Noel Hodge
Pascal	Chris Watt, Graham Leese
Fortran	Bill Stomfai
C	Jakub Szajman
Visicalc	Bob Westerman, Lance Lawes
Superscriptsit	Jack Bognuda, Laurie Lingard
Lazywriter	Alf West, Bill Allen, Warwick Sands
All Write	Bill Stomfai
Lscript	Bruce Bussenschutt
Time Manager etc	Bert Arthur
Databases	Alf West, Bert Arthur
Bulletin Boards	Peter Goed, Brian Collin
Hardware Problems:	
Model I/ System 80	Peter Goed, Chris Watt, John Bird
Model III	Peter Goed, Chris Watt, John Bird, Dave Bramham
Model 4/4P	Peter Goed, Chris Watt
Disk Drives	" "
Printers	Dave Clarke
Eproms & EProgramming	Dave Clarke, Jakub Szajman
Modems	Noel Hodge, Jakub Szajman, Peter Goed

This is never a finite list. We need many more members' names for a member with a problem to call on. Perhaps the chairman could ask at the next meeting? For phone numbers, see September newsletter.

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**BITS & BYTES**

ISSUE NO. 60

HOW I GOT STARTED AND WHERE I AM LOOKING

by Barry Adamson

Aeroplanes were always my thing. I drew them until I was old enough to afford Balsa wood and be allowed to handle a modelling knife and then I made models of them. I had my first pilot licence two weeks after I turned 16 and my unrestricted private licence 12 weeks later, although the paperwork for it didn't arrive until I turned 17. The trouble was, by then I wanted to go straight on to a Commercial Licence and head for the airlines, but they didn't seem to be short of pilots at all.

So, after a mark-time pause teaching and a stint at St. Lucia, I went to Melbourne as an Air Traffic Controller -- if only the young kids now had the opportunities we had -- and met many interesting people including Max. Max had a cupboard full of white coats that reached down below his knees, and I saw where he worked. It was a huge room with lots of pastel coloured filing cabinets with huge tape recorders on top of them. I never did work out why the filing cabinets had coloured lights on them.

Everybody wore white coats -- even the few girls there -- and the language! I don't know whether it was actually blue, because I didn't understand it anyway. People seemed to be either changing tapes all the time -- probably looking for one with some music recorded -- I don't think they ever found it -- or examining the stock market reports but it seemed to annoy them most of the time. Anyway it wasn't the stuff that fires the imagination. Max now lives in Silicon Valley and still speaks strange dialects but apparently his linguistic abilities are in great demand and he is very happy.

About this time my younger brother went off to St. Lucia -- no-one stayed to help Dad milk the cows, so Dad joined the Ag. and Stock Department (which pleased the bank manager), and one of the subjects which he made plain he disliked was Data Processing on computers. For some reason I inherited his text book on the subject and it is not surprising that people who understood it wore white coats and kept to themselves pretty much.

So I knew about computers from the early 60's but I had other interests, like being invited to instruct at the Royal Victorian Aero Club. A Queenslander was probably a novelty to them. I was delighted because it was said to be a defacto entrance to TAA.

Sure enough TAA said "yes" seven months later and also asked if I would like to go overseas. Wow! Well, New Guinea IS overseas! It turned out to be the adventure of a lifetime and very interesting.

Computers didn't really surface again until I'd won a Gurnsey, some years later, and was flying a Fokker across from Cairns to Gove and Darwin one day. My First Officer was a former Air Force pilot who had got interested in electronics in the Forces and they had fostered his interest. He was telling me about this small computer he had in his home -- a Model I with 16K of memory. I had made enquiries to the Marconi Wireless School in Sydney when I was in Uni, out of interest in electronics. This probably stemmed back to the days when I was actually allowed to take what I wanted from an old Avro Anson wreck in High School days, and I had grabbed some switch banks which I had incorporated into a hi-fi setup.

Anyway this talk of a home computer immediately fired my enthusiasm and I spoke to my wife when I got back home about this conversation. She responded that the local P&C had a basic computer programming introduction course about

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to start at the children's school. Tony Melius was conducting it (then of Software 80 at Taringa -- now at Milton) and I found it fascinating. I bought a Model I at the completion of the course.

For some reason, the mental exercise of reducing some normal decision making process down to a logical series of individual steps appealed to me probably in the same way that people enjoy learning the many involved strategies to play chess at competitive level. Also, it is essentially an individual pursuit which has obvious appeal to someone who spends almost half his life in hotel rooms -- upstairs! Ok, mostly upstairs.

After a while, Basic wasn't enough when I became aware that machine language was up to 300 times faster. So I wanted to learn that. No sooner did I try to learn that, than I started to ponder the link between hex instructions and how the computer actually processed this stuff.

That overrode the actual desire to learn machine language -- or rather, has temporarily replaced it. Finally, I did what I had nearly done over 25 years ago and enrolled in an electronics course. I am in fourth year now of evening studies with another two years to go. Mostly it has been analogue work up till this year and this semester was the start of pure digital work. At the moment we are studying the basic building blocks of flip flops, shift registers, counters, memory circuits, and the circuitry that links them together. Next year we get on to the study of microprocessors, including the Z80. All this has meant that I do not do much actual programming at the moment, but assembly language is very much part of next year so that will soon be rectified.

I contacted Lance Lawes quite early on in the life of the club, but what with being right across town and Sundays I rarely have at home -- so, if I did get one, it was properly spent with the family. A couple of years later, I ran into Don Budge and he insisted I come along with him. You don't say "No" to a Scot. I have always enjoyed the club meetings and talking to fellows who do their own thing. I find it a source of encouragement to find fellows older than myself who can learn so much. Maybe there is hope for me yet.

When I look at a beautifully designed house in very impressively landscaped grounds, I can admire the skill of the architect and the landscaper -- but it tells me nothing about the person who lives there except that maybe he is very clever at something. I enjoy meeting people who are not so full of themselves that they cannot talk to anyone and everyone, and who are enthusiastic about their particular interests and hobbies -- whether that happens to be a shared interest or not. It is one way of being exposed to new ideas. The thing I like about this club is that there are many skilled people who are willing and able to talk about diverse aspects of computing. It is there for the asking.

I asked at the October meeting for people to drop a note and tell us how you got into computing and what you want from the club individually or hope for. The response so far has been very thought provoking and well presented. Please scribble a short note or, better still, something for the newsletter yourself. Don't leave the club direction to others -- it might not be what you want at all.

The club started quite small on a self help basis and grew to its present size. In doing so, as some have expressed it, we have become rather commercial, with some members conducting their own business related to computing from within the informal part of our meetings. I view this as a natural part of our gathering and, in fact, as an attraction. No one is compelled to participate in this aspect, while the prices are invariably bargains to those who do. It is said that the meetings are becoming too formal -- that is always a danger -- but to co-ordinate 150 or so members needs some organisation. Most of our meeting procedure is member benefit directly -- i.e. members' problems; discussion of newsletter and general business. I welcome any discussion on what can be cut out.

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As to the future -- one problem I see straight off is a drop off in young boys who regularly attend meetings. We used to have a strong contingent at Lindum. Should we have spent more time teaching them fundamentals of designing their own games? Lance did pursue that area just before I joined.

I see the club as having a computer introductory and training role if we are to survive mid to long term. I have an IBM machine and 30MB hard disk which I use to produce staff rosters for the crowd I work for at present. I still have my Model I, because there are more books on the workings of it than there are on my other home computer and besides you have to walk before you run -- 8-bit first then 16-bit etc. I knew computers would encroach on my 'office' so I prepared for it and as a result it was an interesting experience -- not a nightmare.

We should perhaps push that idea to others. The IBM has some very obvious advantages over the Model I -- in other ways it can't touch it! In 1957 I flew a Tiger Moth all the time -- I wish I had one now -- they are even more popular. It is not what the machine has -- it is what you do with it that counts.

I see myself purely as an interim President of the club. I will help out as you wish but the obvious problem of regular attendance at meetings and access to the rest of the committee creates problems. You really need someone with all the time to devote to the club. If I can help find what direction you want the club to go ready to hand that on to the next President, then I will consider that I have played my small part. You are fortunate in having a very good committee, but some have carried a heavy weight for a number of years and you must allow them the luxury of a rest if they wish.

As corny and unoriginal as it sounds, now is the time for you to consider what YOU can do for your club. Please start by telling us what you would like the club to do for you.

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REPORT ON JOINT TANDY/AMIGA GROUP WORKSHOP

by Peter Goed

Our joint workshop with the Amiga User Group on 15th November, at which disk drive alignment was the main item, was rather poorly attended by our members. 15 people in all had their drives tested, of these 15, 8 drives needed attention. This means that about 50% of drives inspected had some problem. On the Tandy drives looked at, 2 drives had a bad Radial Alignment, (would not format a disk that you could read properly in a good drive), 2 drives were improperly installed in a model 3 and 2 drives were beyond repair at the workshop. And all this (6 drives) from only 4 members.

Perhaps none of you have any drive problems? But judging from what I have seen recently, may I suggest that you probably ALL have drive problems. The majority of drives that I inspected had never had the Rails cleaned and lubricated and more than 80% of drives inspected had not had the Heads cleaned EVER. It is imperative that the heads on a drive be cleaned on a regular basis with a good quality head cleaner at least once every 6 weeks. This will prevent a build up of oxide on the head and damage to your disks. The rails on any drive should be cleaned and lubricated with a good quality Teflon Based oil every six months. This ensures a quiet and reliable drive, that gives years of service. The difference in life span of drive heads can be diminished by as much as 60% because of lack of cleaning.

If you feel that another workshop on drive alignment is warranted, you will have do a lot of convincing before I would be prepared to put in the effort and expense to hold another one.

[You may have got the message that Pete is more than a little disgruntled by the POOR response to the opportunity to get your drives into perfect order

for the extremely small charge -- just try to get them done by the trade! For many months, a large number of the people reporting problems on their computers have been advised to have their drives seen to. Where are these people with drive problems? Had they already had them fixed at an exorbitant trade cost? I doubt that many have had them fixed! There's no need to put up with incessant errors and bombouts -- the devices are capable of operating flawlessly, but only if they are serviced properly. We have now obtained a bulk supply of the proper cleaning fluid for drives for attending members to buy, so you'll have no excuse for having dirty drives -- you'll have to supply a suitable container (well sealed, as the fluid is volatile). It's mostly sold by Tandy in 110ml strong plastic containers, but it's pricy from them -- about 10 times what this lot will cost by comparison. Another point to consider is that I doubt that even most brand new drives will have as attention paid to their perfect alignment as when someone is servicing them -- they're in too much of a hurry to get them through to keep up the day's quota. -- Ed.]

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### A BULLETIN BOARD OF OUR OWN AT LAST!!!

by Peter Goed

At last we have pulled the finger out and organised a Bulletin Board of our own. The main reason that this was not instigated previously was the lack of members with RS232's on their machines. Now that a majority of members have this facility, it becomes feasible to create a BBS (Bulletin Board Service) of our own.

The system will be run by me as Sysop, with Bill Allen as remote assistant sysop, on a Model 4p with 2 40track single sided, 2 80track double sided and at least 15 Meg of hard drive operating initially under Newdos 80 version 2.5 and ultimately under Newdos86 HD version, using a Netcomm 1234sa modem (supplied at a substantial discount by Netcomm) and be capable ultimately of all speeds from 300 to 2400 baud. The BBS program will be the OMEN program that has been running successfully for years in Sydney, Perth and Darwin. It will be online for 24 hours a day, 7 days a week on a number that will be announced as soon as the system is up and running. This will be February 1st 1988 (if all goes to plan).

This system will carry upload and download facilities for Public Domain programs, articles for the newsletter can be uploaded and a general message area will be available, as well as special interest group areas. In keeping with standard practices adopted by other club BB systems, we will open the facility to all persons of good repute, no matter what their computer type. An approach has been made to Tandy for funding to cover part of our cost in setting up the BBS -- hopefully they will respond in a positive manner. (I have been led to believe they will).

The one item of hardware that is lacking is a dedicated printer for the BBS. The system needs a printer to be across the line at all times to facilitate ease of operation. If any club member has a printer that they do not use lying about, then how about lending it to the club on a semi-permanent basis. It need not be anything more than a plain Jane printer that takes normal size paper and as long as it does not sound like an express train roaring through Roma St station. (Just remember that I will be living in the house with the BBS.)

For those people that have never accessed a BBS before, I will be writing an article for inclusion in the January Newsletter that will take you step by step into the depths of OUR BBS. This will be YOUR BBS and I hope that you will all make good use of it. No matter how much of a novice you are, you cannot stuff it up by trying, so give it a go.

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I would like to take this opportunity to thank all the members of the committee and the members generally on the support that I have received to get this project under way. Although it is costing the club in the vicinity of \$1000 and a large contribution on my part by providing the computer and hard drive and especially the TIME, I feel that it will be a rewarding experience for all concerned, I know that the benefits to be gained FAR outweigh the costs involved and the personal satisfaction to see this project up and running will be very rewarding to me personally, as I have had this in the back of my mind for over three years.

Your Sysop, Peter Goed.

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### MODEM COMMUNICATIONS BY A BEGINNER

by L.M. Mundy

It all started before Christmas 1986 at the October Club Meeting. Noel Hodge stated that he had available made up AEM 4600 Dual speed Modems which he was selling for \$280.00. Up to this time, I had been hearing about Modem communication at the Club meetings from different people, and I was becoming more and more interested. There had been discussion about getting RS232 boards for members who did not have this facility on their machines, and investigations were going on with a bloke in Adelaide who had been making them.

Now I do not know where I got the impression that I already had an RS232 board on my Model III, but thinking this, I entered into negotiations with Noel to pay off, over the next few months, the cost of a Modem. So, after receiving my new Modem in Feb. 87 at the Club Meeting, I rushed home to start immediately talking to the world.

But this proved difficult to achieve, because, when I went to plug the cable into my computer, I found that I did not have an RS232 board. This, of course, led to an outbreak of profanity and a feeling of frustration.

So at the next meeting I talked to John Bird, who had been carrying out the investigations into the availability of an RS232 board. I told him that I was interested, and asked if anything had been happening about the procuring of these boards. John said that he had sent a cheque away to Adelaide but he had not heard anything as yet.

This continued for the next few meetings with John replying in the negative to my question, until he rang me at home saying he had received the board from Adelaide, and would I like to be the first to try installing the board on my computer. Now, I am not any type of Electronic Handyman, in fact as far as Electronics go I'm a great Plumber -- so I dubiously agreed to try it out. After picking up the unit at John's work and having a long discussion with him, I went home to do a bit of study on the board.

Now this study involved reading the instructions supplied with the board, also reading the TRS-80 Model III Technical Reference Manual which I had acquired when I had bought my Computer. The instructions told you what to do and what parts you had to buy and they also assumed that you had some knowledge of the way they had to be put to use. Following this intensive reading and with my work becoming more hectic, I put the project to one side, and -- to be truthful -- with some relief, as I doubted my ability to do the job properly.

This state of affairs continued for some time until last month (Sept. 87), when Tandy started their October sale, and I received in the post a Tandy Brochure which had a RS232c board for sale at the incredible price of \$69.99. That week I bought a board and took John's board back to him, thanked him very much for the opportunity, but I did not think that I would take him up on his kind offer (phew!).

Now we could start doing something constructive. Once home it was unplug everything and take the case off the computer to see what was what. Using the

---

Technical Reference Manuals it was easy to see where everything went, but this brought to light a small problem. When I had bought the computer it was only a cassette load model and subsequently I had two disk drives installed by Chris Watt. Now Chris had done a pretty good job of installing the disk drives, but the difficulty I had found related to the power supply for the disk drive controller. Chris had made up a power supply for the two drives but had plugged the power lead for the controller into the only point left on the computer power supply board.

This circumstance led me to ring Bill Allen who, at the time, just happened to be looking at the innards of a Model III. So a quick trip over to Bill's place and I could see what my problem was, and after talking to Bill, how to fix it. By cutting off the plug for the disc drive controller power lead, and stripping the cover off the three corresponding leads on the RS232c power supply lead, I could then solder the leads together. This should work as long as I did not mix the leads up. After doing the job, I plugged it into the power board and switched it on.

The disk drives started up. As there was no smell of burning I turned it off and reassembled the whole lot back together. I then connected the Modem to the computer and turned it all back on. After loading the program Modem82 into the computer, I looked at the instructions in Bill Allen's article, Tomorrowland Bulletin Board, on Page 9 of Bits and Bytes No 49. O.K., I dialled the phone number and switched the Modem from phone to modem when the high pitched tone started, and I was on. But hold on a minute! Everything was going past at such a speed, I could not answer any of the questions.

After thinking about this for a moment, I tried Bill's number and he said that other members had been having trouble getting on to the Board as well. But not to worry, we could try out my Modem by my sending a program to him. This was accomplished with no mishaps and now I have another facility on my Model III.

[Ed's. note. I always advise anyone who is starting up a modem operation for the first time not to hit a bulletin board cold. It's best to first ring someone who has compatible gear and a bit of experience to lead you through the initial stages and with that someone do a bit of terminal work plus some uploading and downloading of files to familiarise yourself with the operation. It's marvellous what a difference a human at the other end makes, when you are a raw recruit! After this initial experience, it should be a piece of cake.]

-----<BNB>-----

### MODEMS - GETTING STARTED

by Terry McCarthy, 398 1487.

After a visit to the Computer Expo, I have now joined the band of club members using a modem. I did quite a bit of enquiring prior to making my choice - Bit Blitzer 12E - purchased from Fred Hoe on special at \$370 (\$380 inc. RS232 cable). It is an external, stand alone asynchronous modem, capable of 1200 bps CCIT V.22/Bell 212A; 300 bps CCIT V.21/Bell 103; automatic dial; automatic answer; automatic baud rate selection and uses AT command protocol.

The main factor which influenced my choice was price. This was the cheapest modem I could find capable of 1200/1200 (full duplex). Sure it doesn't have 1200/75 or 75/1200, but several of the distributors I contacted convinced me that most public services (Viatel, etc) are changing to 1200/1200 as a minimum.

Most modems I had set eyes on to date, had a series of switches on the front to change the various modes of operation for transmitting and receiving, but this modem, apart from 10 dip-switches on the underside of the unit, only has a series of condition indicating lights across the face. Full control of the modem is from software.

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Club members helped me out with a program capable of driving these so-called smart modems, and supporting the AT protocol required. A well documented and comprehensive manual is also supplied with the modem. After reading fully the manual and having a fiddle with the software, I set about my first attempt at communications a-la-modem.

I chose Noel Hodge to be my first guinea pig, or should I say I was the guinea pig Noel had to train. Having already mentioned that it came with a good manual you'd have thought it would be a piece of cake, but unfortunately, as with most computer projects, you have to grasp a little from each section of the manual to make things happen (happen properly that is).

After many frustrating attempts the first night, all I could achieve was one connection, and this was using an automatic dial function and Noel having his modem at the ready waiting for my call. Now this is fine providing everyone you call using the modem is expecting you, and has their modem on, and in answer mode. What needs to happen is after phone conversation with the other party, you need to be able to switch to originate, or answer mode without having to hang up. This didn't appear to be covered in the manual (wrong). It was there but not in chapter 3 with the initial explanations and set-up -- it was covered in chapter 3 under general commands.

To cut a long story short, I seem to have mastered the basic operation of originating and answering and successfully connecting to Noel's modem and transferring files. What I found was - the software needs to instruct the modem at what baud rate you wished to send (originate) for connection. 300/300 was the only compatible baud rate we both had, so this was used. I also found I needed to enter or re-establish this parameter each time I run the modem program, which then switched off my hi-speed light and was ready to communicate at 300.

This also enabled the modem to send result responses for a series of AT commands for testing. If your modem does not respond with these result codes, sure as eggs you will not be able to communicate to the outside world. So if you experience this, go to your modem software and reverify your baud rate, data bits, parity and stop bits. It worked for me.

With the modem responding to you, you can now dial your number. Let's do it the simple way with the phone and establish voice link. Done. This is where I had problems converting to an 'on line state'. Thus far in the manual a command 'ATD' was always followed by a phone number. AT meaning the attention prefix of the command protocol and D for dial, but having already dialed the number, I thought this command was of no relevance to establish 'on line state' - wrong again.

ATD (enter) is the command to originate a signal in command mode which takes the modem off hook and send a carrier. You'll need to tell the second party to place their modem in answer mode, a connection should then be established, and you can send/receive files etc.

Remember ATD (enter) = ORIGINATE.

The vice-versa to this is to have your modem in answer state and the other party to be the originator. In this situation the command protocol AT is suffixed with an A. So ATA (enter) places your modem in answer mode.

ATA (enter) = ANSWER.

There will be more to this story, but this should, hopefully, help you if you are contemplating using an automatic modem, for the first time.

P.S. I have sent this file to the editor via modem. BEUDY, EH?

P.P.S. Could the club compile a list of modem users and capabilities?

[I think it's high time we did. -- Ed.]

-----<BNB>-----

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## MORE ON PSEUDO-SYSTEM FILES

by Warwick Sands

Last month I showed you how to access DOS functions from inside Pseudo-System Files. I explained the technique required to string several modules together. This month I have the listing of a file which will do this for you, simplifying the procedure. I've called the program MAKELIB. This file can be used under standard NewDos80 but it has obvious potential for creating overlay-based Pseudo-System Files.

The assembly listing should provide enough explanation for you hackers out there. MAKELIB/CMD is not a Pseudo-System File. After assembly simply give the command from ND86 Ready:-

```
MAKELIB
```

It will prompt you for an output filename. This file holds all the modules. Then input filenames are prompted for. Each file is appended to the output file. When you have finished entering the filenames, hitting <break> returns you to DOS.

To give you an idea of how the routine could be used, type in the following commands:-

```
MAKELIB
TEST
BASIC
SUPERZAP
LMOFFSET
```

end the session by hitting <break>

The file TEST/CMD now has 3 separate and independent routines. If you type:-

```
TEST 0 PRINT "success"
      activates BASIC
TEST 1
      invokes SUPERZAP while
TEST 2
      invokes LMOFFSET.
```

These routines could also be invoked from another machine code routine. The following is one way of doing this:-

```
LD    H,0           ;flag no parsing
LD    L,VALUE       ;L=routine to load. 0 signifies the
                        ; first routine
CALL  4433H         ;go activate the routine.
```

Providing the called routine doesn't overwrite the calling routine, control should return to the calling routine after the overlay has done its job.

Obviously using this technique to invoke BASIC or SUPERZAP is somewhat pointless. But you can see the advantages if you had a large program that you wished to run as a series of overlays. Or if you had many small programs that you wished to be able to group into one file to save disk space. Particularly if these programs had similar syntax and you wished to use a common routine to parse the parameters before passing control to the desired routine. This can be achieved simply. Next month I will provide the source code for a TRSDOS compatible parser which could be used for this application. What follows is the source code of MAKELIB. This is available from Bill Allen via the usual means if you wish to save yourself some typing.

```

00100      TITLE    '<makelib>'
00110      SUBTTL   '<W. S. & D. S. Sands>'
00120      ;
00130     MODEL   EQU      3
00140      ;
00150     ;$PAD_IT allows you to fill an area of memory with
00160     ; any character
00170     $PAD_IT MACRO    #LEN_1,#LEN_2,#CHAR=0,#ERROR=-1
00180             IFGT    #LEN_1,#LEN_2
00190             IF      #ERROR
00200             ERR      CODE TOO LONG
00210             ENDIF
00220             ELSE
00230             IFNE    #LEN_1,#LEN_2
00240             DC      #LEN_2-#LEN_1,0
00250             ENDIF
00260             ENDIF
00270             ENDM
00280      ;
00290     ;DOS_CHK tests the DOS model
00300     $DOS_CHK      MACRO
00310             LD      A,(442BH)          ;get identity byte
00320             CP      MODEL              ;correct DOS ?
00330             ENDM
00340      ;
00350     ;To cope with the differences between Model 1 & 3
00360     ;we use equates. These values are static. They will
00370     ;not be changed in later versions.
00380      ;
00390             IFEQ    MODEL,1
00400     D4      EQU      4363H          ;video stats
00410     SYSBUF  EQU      4200H          ;DOS SYSTEM buffer
00420     K102    EQU      4369H          ;DOS flags
00430     K132    EQU      4317H          ;DOS overlay byte
00440     K140    EQU      4CD5H          ;check e.o.statement
00450     K142    EQU      4C28H          ;load a file
00460      ;
00470             ELSE
00480     D4      EQU      4270H          ;video stats
00490     SYSBUF  EQU      4300H          ;DOS SYSTEM buffer
00500     K102    EQU      4289H          ;DOS flags
00510     K132    EQU      4288H          ;DOS overlay byte
00520     K140    EQU      4C7AH          ;check e.o.statement
00530     K142    EQU      4BCDH          ;load a file
00540             ENDIF
00550      ;
00560      ;
00570     F_STRT  EQU      1              ;offset to first file
00580     WBUFF   EQU      5200H          ;output buffer
00590     RBUFF   EQU      WBUFF+256      ;input buffer
00600     PBUFF   EQU      RBUFF+256      ;program buffer
00610     WEOF    EQU      4451H          ;write eof into DIR
00620      ;
00630     P_ORG   EQU      PBUFF
00640             ORG      P_ORG
00650     ;The first requirement is to provide an accessing
00660     ;mechanism. This is done automatically and uses the
00670     ;first sector of the file.
00680      ;
00690     ;This file can accessed using the 4433H vector. On entry:-

```

```

00700 ;      L = routine number required.  H = 0
00710 ;      DE = FCB with the filespec of this file
00720 ;      The routine numbering starts at 0
00730 ;      the total number of routines is limited to about
00740 ;      80 individual routines by the table size.
00750 ;
00760 ;if entered as a DOS command:-
00770 ;      HL -> command line
00780 ;      the command line has the following format:-
00790 ;          xx/CMD 0-9 parameters
00800 ;          xx/CMD is the LIB file
00810 ;          0-9 selects one of 10 routines
00820 ;          params are passed to loaded routine
00830 ;      e.g:-
00840 ;          TEST 1 fred
00850 ;          the second routine is loaded and on
00860 ;          entry HL-> fred.
00870 ;
00880 ;First thing to do is set up the code for sector 0
00890 ; of the LIB file.  This parses the input and handles
00900 ; the selection and loading of the required routine.
00910 ;
00920 ;
00930 ;      DB      01          ;set up the loader data
00940 ;      DB      250        ;bytes to load
00950 ;      DW      SYSBUF     ;load into sector buffer
00960 ;
00970 ;Now for the actual code
00980 SELECT
00990 ;      LD      C,L          ;store value in case
01000 ;      LD      A,H          ;no parsing is required
01010 ;      OR      A            ;H = 0 indicates
01020 ;      JR      Z,NO_PARSE  ;no parsing required
01030 ;      LD      A,(HL)       ;get the character
01040 ;      SUB     '0'          ;bring into range
01050 ;      CP      10          ;must be a number
01060 ;      JR      NC,BAD_DATA ;else error
01070 ;      LD      C,A          ;store the value
01080 ;      INC     HL           ;skip the number
01090 ;      CALL   K140         ;check e.o.statement
01100 ;      JP      C,4409H     ;go if error
01110 NO_PARSE
01120 ;      PUSH   HL           ;save entry value
01130 ;      PUSH   DE           ;save the FCB address
01140 ;      LD      B,0         ;BC = entry value
01150 ;      LD      HL,K102     ;flag DOS o'lay used
01160 ;      SET    6,(HL)
01170 ;      LD      HL,$TAB     ;HL => routine addresses
01180 ;      LD      A,C         ;check the size
01190 ;      CP     TAB_LEN
01200 ;      JR      NC,BAD_DATA
01210 ;      ADD    HL,BC        ;now point HL at the
01220 ;      ADD    HL,BC        ;Routine address
01230 ;      LD      E,(HL)     ;extract the sector offset
01240 ;      INC    HL
01250 ;      LD      D,(HL)     ;into DE
01260 ;      POP    HL          ;HL = FCB address
01270 ;      PUSH   HL          ;save it again
01280 ;      INC    HL          ;bump to byte 1
01290 ;      LD     (HL),2DH    ;set access levels

```

```

01300 LD BC,9 ;offset into FCB
01310 ADD HL,BC
01320 LD (HL),E ;update the FCB
01330 INC HL
01340 LD (HL),D
01350 LD A,D ;check for bad entry
01360 OR E
01370 JR Z,BAD_DATA
01380 POP HL ;reget the FCB
01390 XOR A
01400 LD (K132),A ;zero DOS RST presence
01410 LD BC,26D3H ; EX (SP),HL - RET
01420 PUSH BC
01430 LD BC,4408H ;DOS exit
01440 PUSH BC
01450 JP K142 ;re-load and execute file
01460 ;
01470 BAD_DATA
01480 LD A,2DH ;BAD FCB data
01490 JP 4409H ;go to error
01500 ;
01510 TABLE DW F_STRT ;first entry in sector 1
01520 $TAB EQU TABLE-SELECT+SYSBUF
01530 ;
01540 $PAD_IT $,P_ORG+252 ;make some space
01550 TAB_LEN EQU $-TABLE/2
01560 DW 0202H ;flag the load
01570 DW SYSBUF ;and entry address
01580 ;
01590 WFCB
01600 DC 32,0
01610 RFCB
01620 DC 32,0
01630 ;
01640 ;
01650 READ_WR
01660 CALL READ ;read the byte
01670 WRITE
01680 PUSH HL
01690 LD HL,WBUFF ;set up write
01700 WADD EQU $-2
01710 LD (HL),A ;store chr
01720 INC L ;adjust ptr
01730 LD (WADD),HL ;save address
01740 POP HL
01750 RET NZ ;exit if sector not full
01760 WSEC
01770 PUSH AF
01780 PUSH DE ;save ptr
01790 LD DE,WFCB
01800 CALL 443CH ;write the sector
01810 JP NZ,ERROR
01820 POP DE
01830 POP AF
01840 RET
01850 ;
01860 ERROR
01870 OR A ;set the flags
01880 JP 4409H
01890 ;

```

```

01900 ;
01910 READ
01920     PUSH     HL
01930     CALL    READ1
01940     POP     HL
01950     RET
01960 ;
01970 READ1
01980     LD      HL,RBUFF+255
01990 RADD   EQU    $-2
02000     INC    L           ;adjust ptr
02010     LD    A,(HL)       ;get chr
02020     LD    (RADD),HL
02030     RET    NZ          ;exit if OK
02040 RSEC
02050     PUSH   DE
02060     LD    DE,RFCB
02070     CALL  4436H        ;read the sector
02080     POP   DE
02090     LD    A,(HL)       ;get chr
02100     RET    Z
02110     JP    ERROR
02120 ;
02130 ZSEC
02140     LD    HL,(WADD)
02150     XOR   A
02160 ZSEC1
02170     LD    (HL),A
02180     INC  L           ;bump counter
02190     JR   NZ,ZSEC1    ;fill sector with 00's
02200     RET
02210 ;
02220 INPUTB EQU    P_ORG+1C0H    ;user input buffer
02230 ;
02240     $PAD_IT $,P_ORG+200H
02250 ;
02260 ENTRY
02270     LD    HL,D4        ;enable the 80x24
02280     LD    A,(HL)       ; video routine if
02290     AND   5           ; it has been
02300     LD    (HL),A       ; installed
02310     LD    HL,$HEAD    ;header message
02320     CALL  4467H        ;print header
02330     $DOS_CHK          ;correct version ?
02340     LD    A,39H       ;termination reqd
02350     JP    NZ,4409H    ;goto error
02360     CALL  INIT        ;initialise file
02370 MLOOP
02380     CALL  NAME         ;get filespec to append
02390     JR    C,EXIT      ;if <break> hit
02400     CALL  XFER        ;transfer code
02410     JR    MLOOP      ;go until done
02420 ;
02430 EXIT
02440     LD    DE,WFCB     ;rewind to the start of
02450     CALL  443FH       ; the file so we can
02460     LD    HL,PBUFF    ; install the code and
02470     LD    DE,WBUFF    ; the overlay address table
02480     LD    BC,256      ; into the file and write
02490     LDIR             ; it to disk

```

02500	CALL	WSEC	;write the sector
02510	LD	DE,WFCB	;now to
02520	CALL	4428H	;close the FCB
02530	JP	ERROR	;exit with error displayed
02540	;		
02550	GETINP		
02560	LD	B,40	;max chars to get
02570	LD	HL,INPUTB	;place to put filespec
02580	PUSH	HL	;save the place
02590	CALL	40H	;go get input
02600	POP	DE	;DE -> name
02610	LD	A,B	;buffer length to A
02620	RET	C	;exit if break
02630	OR	A	;check length
02640	RET		
02650	;		
02660	INIT		
02670	LD	HL,MESSGE	
02680	CALL	4467H	;print it
02690	NAMEL1		
02700	CALL	GETINP	;get filename
02710	JP	C,4030H	;if break
02720	JR	Z,INIT	;if null
02730	PUSH	DE	;save the name
02740	LD	HL,NAME1\$	;HL -> "CMD"
02750	CALL	4473H	;add the default ext
02760	POP	HL	;get the filespec
02770	LD	DE,WFCB	;set fcb
02780	CALL	441CH	;extract filespec
02790	LD	B,0	;sector size = 256
02800	LD	HL,WBUFF	;the buffer address
02810	LD	(WADD),HL	;update the place
02820	CALL	4420H	;open file
02830	JP	NZ,ERROR	
02840	LD	B,F_STRT	;make the space for the
02850	I_LOOP		
02860	CALL	WSEC	; header code
02870	DJNZ	I_LOOP	
02880	EX	DE,HL	;set up the FCB so
02890	INC	HL	;that file is not
02900	SET	6,(HL)	;truncated at close
02910	RET		
02920	;		
02930	;		
02940	NAME		
02950	LD	HL,PROMPT\$	;print the
02960	CALL	4467H	; prompt
02970	NAMELP		
02980	CALL	GETINP	;get the file to append
02990	RET	C	;exit if break
03000	JR	Z,NAME	;if null
03010	PUSH	DE	;save name
03020	LD	HL,NAME1\$	
03030	CALL	4473H	;add the default
03040	POP	HL	;get the filespec
03050	LD	DE,RFCB	;set fcb
03060	CALL	441CH	;extract filespec
03070	LD	B,0	;sector size = 256
03080	LD	HL,RBUFF+255	;update buffer address
03090	LD	(RADD),HL	

```

03100      INC      L           ;HL-> buffer
03110      CALL    4424H        ;open file
03120      JP      NZ,ERROR     ;if error
03130      LD      HL,WFCB+10    ;get the next field
03140      LD      E,(HL)        ;get the values
03150      INC     HL            ;of start in file
03160      LD      D,(HL)        ;into DE
03170      LD      (NXT_FLE),DE  ;store it
03180      RET
03190 ;
03200 XFER
03210      CALL    READ          ;go read a byte
03220      LD      B,A           ;into B
03230      CP      20H          ;loader valid ?
03240      JP      NC,BFDERR
03250      DJNZ   TEST1         ;check loader info
03260 LOAD01
03270      CALL    WRITE         ;write the byte
03280      CALL    READ          ;get bytes to move
03290      LD      B,A           ;
03300      DEC     B              ;adjust for
03310      DEC     B              ; two bytes written
03320      CALL    WRITE         ;write it too
03330      CALL    READ_WR       ;copy the header info
03340      CALL    READ_WR
03350 COPYLP
03360      CALL    READ_WR
03370      DJNZ   COPYLP        ;move the sector
03380      JR      XFER
03390 ;
03400 TEST1
03410      DJNZ   SKIP1         ;go if not 02
03420 LOAD02
03430      CALL    WRITE         ;write the 02
03440      CALL    READ_WR       ;copy over the
03450      CALL    READ_WR       ; xfer
03460      CALL    READ_WR       ; address
03470      CALL    ZSEC          ;zero the buffer
03480      LD      HL,(WADD)     ;get sector ptr
03490      LD      A,L           ;is the buffer
03500      OR      A              ; empty ?
03510      CALL    NZ,WSEC        ;final sector if not
03520      LD      HL,WBUFF       ;now reset the
03530      LD      (WADD),HL     ; buffer ptr
03540      LD      HL,TABLE      ;ptr to the data
03550 TAB_PTR EQU      $-2
03560      LD      DE,F_STRT     ;offset into file
03570 NXT_FLE EQU      $-2
03580      LD      (HL),E         ;store the start of this
03590      INC     HL              ; file into the table
03600      LD      (HL),D         ; stored in the first sector
03610      INC     HL              ;HL -> next entry
03620      LD      (TAB_PTR),HL  ;update it
03630      RET
03640 SKIP1
03650      CP      1FH           ;comment ?
03660      CALL    READ          ;bytes to skip
03670      LD      B,A           ;
03680 BYTLP
03690      CALL    READ          ;skip all comment

```

```

03710      JR      XFER      ;go load some more
03720 ;
03730 BFDERR
03740      LD      A,1      ;BAD FILE DATA
03750      JP      ERROR
03760 ;
03770 $HEAD
03780      DEFB    1CH,1FH      ;CLS
03790      DB      'File Appending Utility for PSF files version ',MODEL+'0'
03800      DB      '.0 ',10
03810      DB      ' (C) W. S. & D.S. Sands, 1987',10,10
03820 ;
03830      DB      'This program takes a series of files ';
03840      DB      'and appends them ',10
03850      DB      'forcing each file module '
03860      DB      'to start at a sector boundary.',10
03870      DB      'The transfer address for each module '
03880      DB      'is taken from its',10
03890      DB      'source file.',10,13
03900 ;
03910 MESSAGE
03920      DEFM    'Please enter OUTPUT filespec '
03930      DEFB    03
03940 PROMPTS
03950      DEFM    'Input file to append '
03960      DEFB    03
03970 NAME1$ DEFM    'CMD'
03980 ;
03990 ;
04000 ;
04010      END      ENTRY

```

### ROUTE PRINTER OUTPUT TO DISK FILE

[A point that may be of interest to readers:- As the above source code was received as a plain EDAS file via modem from about 1400 km away, there were a few things to be done before it was in a nice printable form. EDAS saves the file without line numbers or TABs, but you can have it save it with line numbers by specifying the \$ option, but you still have the tab problem. However, Warwick gave me full instructions on how to use NewDos86's expanded ROUTE functions and DEVICE to easily overcome the hurdle, so I reproduce the exact method for NewDos86 users and for myself to look up in the future.

```

DEVICE *PD=MAKELIB/BNB:3 <enter> (create Phantom Device with my choice of
                                filename)
ROUTE *PR *PD <enter> (route Printer output to Phantom Device)
EDAS <enter> (go into Edas -- or whatever applications program)
LMAKELIB/ASM <enter> (load the /asm file)
HT,B <enter> (instead of going to the printer it is written to the
              Phantom Device file MAKELIB/BNB)
B <enter> (exit Edas to ND86 Ready)
ROUTE *PD <enter> (this closes the Phantom Device file)
ROUTE CLEAR <enter> (restore the normal status -- finished)

```

In short, this is a complete solution to sending printing output from any applications program to a disk file to print at leisure at this spot or transport it on a disk to wherever for printing on someone else's computer/printer or whatever. Nice gear, eh? -- Ed.]

-----<BNB>-----

SOME ZAPS FOR NEWDOS86 RELEASE 2

by Warwick Sands

Changes to PDRIVE for the Model I.

The 'N' flag wasn't being set if the 'M' flag was specified. I suspect finger trouble.

```
SYS16/SYS
Sector number 4
Change from:-
CB    CB EACB EDCB
To:-
      CB EACB EBCB
```

```
DOSFILE/PDF
Sector number 10
Change from:-
11    CB EACB EDCB
To:-
      CB EACB EBCB
```

Changes to PDRIVE for the Model III

```
SYS16/SYS
Sector number 4
D2    CB E3CC 9000
To:-
D2    CB E3C9 0000
```

```
DOSFILE/PDF
Sector Number 12
Change from:-
89    CB E3CC 9000
To:-
89    CB E3C9 0000
```

Finger trouble again. The dreaded keybounce turned a C9 into CC90. As near as I can tell the only symptom is that the 'A' or 'B' options were disabled if TI=xM was specified.

PROBLEMS WITH PROT,dn,RUF

When processing other DOS's with a Double Density Double Sided format, the RUF option was somewhat random. DOS was still getting the length of the DIRectory from Byte 1FH of the HIT sector even though the disk was flagged non-Newdos. There is no zap space provided in DOSFILE/PDF to accommodate these changes, so you will have to use CREATE/BAS as documented below to update DOSFILE/PDF.

Changes for the Model I.

```
Processing SYS7/SYS
Sector number 0
Change from:-
B0    FE 59 28 06 FE 4E 20 1C 0E 00 C3 55 4E 00 00 00
C0    00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
D0    00 00 00 00 3E 2F 18 8A EB AF CD 76 47 C0 AF CD

To:-
B0    FE 59 28 06 FE 4E 20 1C 0E 00 C3 55 4E 3A 11 43
C0    E6 20 3A 0E 43 20 05 3A 1F 42 C6 0A 3D FE 22 30
```

```
DØ    FB 3D C9 ØØ 3E 2F 18 8A EB AF CD 76 47 CØ AF CD
Sector number 2
Change from:-
3Ø    ØA 49 CØ 3A 1F 42 C6 Ø8 32 66 4F AF 4F CD 36 49
To:-
3Ø    ØA 49 CØ CD B9 4D ØØ ØØ 32 66 4F AF 4F CD 36 49
```

Model III

Processing SYS7/SYS

Sector number Ø

Change from:-

```
CØ    ØØ C3 5C 4E ØØ ØØ
DØ    ØØ 3E 2F 18 8A EB
To:-
CØ    ØØ C3 5C 4E 3A 87 42 E6 2Ø 3A 84 42 2Ø Ø5 3A 1F
DØ    43 C6 ØA 3D FE 22 3Ø FB 3D C9 ØØ 3E 2F 18 8A EB
```

Sector number 2

Change from:-

```
3Ø    Ø3 11 96 42 3E Ø1 CD AF 48 CØ 3A 1F 43 C6 Ø8 32
To:-
3Ø    Ø3 11 96 42 3E Ø1 CD AF 48 CØ CD CØ 4D ØØ ØØ 32
```

We recently discovered a problem with the installation of the sound routine on a Model III. The Model 4/4P worked ok, but no one reported the Model III problem because not many seem to use sound on that model. The following zaps are to be applied to the M3 Master (Dosfile only) or your WSS1 master processed disk and working disks (SYSØ/SYS).

For sound fix on Model III version:

DOSFILE/PDF

FRS6

MOD84

Change 3A283ØFE293E to  
3A293ØFE373E

SYSØ/SYS

FRS14

MODCØ

Change 3A283ØFE293E to  
3A293ØFE373E

CHANGES TO CREATE/BAS.

These changes will allow you to extend the zap file.

```
8ØØ CLS:OP$=STRING$(24,32):INPUT@[8,1Ø],"Output filespec:- ";
TO OP$
8Ø2 WAIT@[1Ø,Ø],"
    <E>xtend a current file
    <N>ew file
    "+CHR$(15); FOR "NE":EX$=INKEY$
8Ø5 PRINT@[12,25],EX$:ON (EX$="E")+2 GOSUB 4992,499Ø
83Ø INPUT@[13,1Ø],"Filespec to process:- ";TO NM$;USING K$
499Ø EX$="Ø"
4992 CLOSE 3:OPEN EX$,3,OP$+FCS,"MU":RETURN
```

Changes outlined:-

Line 800 loses the GOSUB 4990 from the end of the line.  
Line 802 is new and prompts the user for file action. Use <^G> to store line 802.  
Line 805 prints response and GOSUB's to open the file in the selected mode.  
Line 830 changes the PRINT@ position to cope with the new prompts.  
Line 4990 becomes line 4992. DO NOT USE RENUM to do this. We wish all other lines currently accessing 4990 to continue to do so. Otherwise EX\$ will not be initialised to the correct value. You could use DI 4990,4992 to do the move. The only change to 4992 is that the "O" has been replaced by EX\$. This allows us to open the file in Extend mode.  
The new line 4990 sets EX\$ to "O" thus forcing normal usage to create a new file.

The problem with PROT raised another related problem in that I had made no real provision to allow zapping of the /PDF zap files. To overcome this problem there are a few changes to make to CREATE/BAS. These changes will allow you to append changes that you may need to make to a zap (/PDF) file without having to totally recreate the file.

How do you use it? Let's use as an example the zaps listed above. I assume that you will have at least 2 working copies of ND86 with DOSFILE/PDF on them. Put copy number 2 to one side for the moment.

Put copy number 1 into drive 0. This disk is going to be our zapped disk. First thing to do is to reset the update flags with a PROT,0,RUF. (PROT works fine with ND86 SYSTEM disks.) Then make the changes to CREATE/BAS. Don't do the zaps to SYS16/SYS yet, since there is a DOSFILE zap provided. At this stage you need only do the zaps to SYS7 (and SYS0/SYS on a Model III).

Put the unzapped copy into drive 1. Run the updated CREATE/BAS. It will first ask you for the WakDos drive number. Hit 0. It will then ask you for the reference drive number. Hit 1. Finally it will ask you for the output drive number. Hit 0.

The menu will now be displayed. Select option 5. You will be prompted for an output filename, type DOSFILE/PDF and hit <enter>. You will then be asked if you wish to <E>xtend a current file or <N>ew file. Hit E for extend. It will then ask for the input filename. Type over DOSFILE/CMD with SYS7/SYS and hit <enter>.

The drives should whir away and when all is done the main menu will be re-displayed. Select option 6 to look at the file. This will cause LOOK/BAS to be loaded and RUN. Select option 1. After each sector is displayed the program will pause until you hit the space-bar or <enter>. As you display the file you will see zaps to SYS7/SYS displayed. Keep going, after SYS21/SYS is displayed you should see another reference to SYS7/SYS. This reference should be the patches that you have just applied. If they aren't, go back and check that you have done the patches correctly.

Once DOSFILE/PDF has been updated in this fashion it is time to apply the provided zaps to SYS16/SYS and DOSFILE/PDF. Do a DIR 0 U. You should see displayed: CREATE/BAS, DOSFILE/PDF, SYS7/SYS and SYS16/SYS.

Now do a NEWDATE,0,=11/20/87,U

You will need to update all your other ND86 System disks now. This is easily done with the copy command.

COPY 0,x,,CBF,NFMT,DFO,UPD,E  
where x is the destination drive number.

-----<BNB>-----