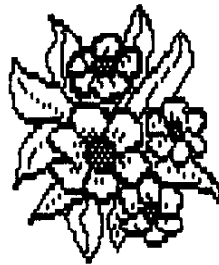


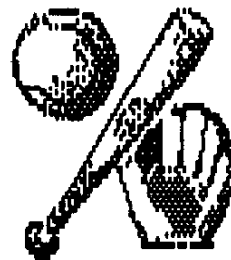
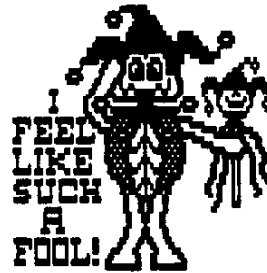
NEWJUG 99ER'S NEWS

NEWJUG 99ER'S NEWS

APRIL 1991



SPRING IS HERE

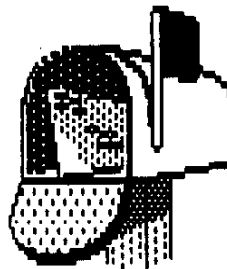


1040 VS Internal Issues/Areas

Issue	Area	Priority	Status
1040	Internal	High	Open
1041	Internal	Medium	Open
1042	Internal	Low	Open
1043	Internal	High	Open
1044	Internal	Medium	Open
1045	Internal	Low	Open
1046	Internal	High	Open
1047	Internal	Medium	Open
1048	Internal	Low	Open
1049	Internal	High	Open
1050	Internal	Medium	Open

Highlights:

Rave Review of the new P80X, 88/4A and 8840 Vendors, Joke of the Month, Editor's Forum, Newsletter Exchange, Practical Application of the T189/4a, CATALOG function in o88 for 40/80 track drives, o8HELL88 Companions



NEWJUG 88ER'S UG
P.O. BOX 1483
BAYVILLE, N. J.
08871-1483

PRACTICAL APPLICATION OF THE TI99/4A

by Gene Soucek

I have owned a TI 99/4a since the end of 1982. I have 3 TI's actually. My set-up includes a 14" Sanyo color monitor, a Panasonic KXP1091 printer, a CORCOMP 9900 expansion unit with built in RS232 card plus 32K plus disk controller, and 2 double-sided, double-density disk drives.

While I no longer use my TI as much as I used to, I also own an IBM compatible. I still use it for an ongoing application which I will describe in a minute. I really love the TI 99/4a and although I am a rank amateur in my knowledge about it and most everything about it when I compare myself to other TI'ers, including my fellow NEWJUG members, I can and do use it for more than playing games, writing an occasional letter, or trying out a piece of software someone else has written so that I can say "LOOK, MY OLD TI CAN DO THE SAME THING AN IBM CAN DO!"

I have a large collection of OLD TIME RADIO PROGRAMS on reel-to-reel tape. My collection exceeds 6000 shows and encompass somewhere between 700 and 1000 reels of tape. I'm not sure exactly because I have not completed the cataloging of my collection.

Being lazy I did not want to write my own cataloging programs, although I could have done it. So I purchased what I considered to be the best Cat the

time) Database program available. It was

"NAVARONNE's DATABASE".

When I bought it, the manual that came with it left a lot to be desired. However, with diligence and persistence (two guys I went to school with), I discovered that the program was really not difficult to use and was quite powerful. With it I was able to create a DATABASE file of my OTR (Old Time Radio) shows which was tailored to my needs. I also could and did create a catalog of my collection. Database also has a fairly powerful, although slow for me, sort program. So I can and do print my catalog in three different sequences - alphabetically, numerically by show number, and numerically by reel number.

The biggest problem I have incurred, is that my collection is so big, I cannot fit it all on one disk. In fact, because of the program limitations, if the file exceeds half the disk space, it cannot be sorted. A minor stumbling block. I wrote one or two 'very' short programs, a split and a merge, that allow me to fill the disk with my file.

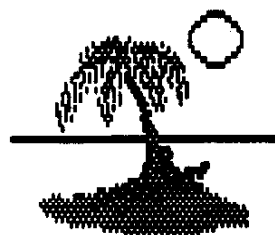
The split program does nothing more than read the file and split it into two files based on the hi-lo condition check which I supply. Example: For the alphabetical file I read the file and then write all records that start with A to K to one file and all records starting with L to Z to another file. I then sort each file. Then using my merge program I write both files out to one file, effectively giving me a completed sorted file. I then print my catalog using this file.

I use this catalog for trading with others to build my collection and also to demonstrate the usefulness of a so-called obsolete computer.

What do you do use your TI for?

Gene Soucek

successful while TIGOFF (Family Computer Show) has trouble drawing vendors? While I like the convenience of the TICOFF show, it looks like the best I could anticipate in the future would be great buys on used TI equipment.



EDITOR'S FORUM

BY DAN GAZSY



JOKE OF THE MONTH

Another local TI Fair has come and gone and the tone of the show is definitely changing. In the beginning (first few years), the shows were something every TI 99 owner looked forward to. Software and hardware vendors were predominantly for the TI. The few other vendors in attendance were mostly selling generic stuff like disks, cables, ribbons and paper. This year, the TI vendor was the exception rather than the rule. At the show I did notice vendors like Rave 99, Asgard Software and Genial Software, but business for them did not appear to be very brisk. There were some tables setup selling used TI equipment and they were the ones doing most of the business. Our club managed to upgrade the club system (O/S O/D controller and RS232 card) at a nominal cost.

Right now my feelings on attending next year's show are rather mixed. I tend to feel that there will be even fewer TI vendors at next year's show unless there is a dramatic turnaround. What makes the shows in Lima OHIO or Fest West on the West Coast so

Two food chain distributors, ShopRite and A&P are finding it hard to stay profitable and are considering a merger. Neither company wants to become the other company's acquisition, so they want a company name which will let the public identify with both. The new proposed name is Shop & P.

Courtesy of Frank Lees

NEWSLETTER EXCHANGE

Our exchange list still continues to grow and it is almost a year since our group started exchanging newsletters. With these last two entries, we now exchange with approximately 95 UG's. If your club exchanges with any UG's not on our list, we'd be very interested in hearing from you via the comments and suggestions on the cover page.

CLUB 99
Mail Stop 1-21
34 Forest Street
Attleboro, MA 02703

North Jersey TI IBM UG
16 Judith Ann Dr.
Ringwood, NJ 07456-1863

Central Garden State UG
61 Country Lane
Hamilton Square, NJ 08690

QB99er's User Group
c/o Frank Crotty
Queensborough Comm College
Bayside, NY 11364

LITI 99er's UG
93 Myers Avenue
Hicksville, NY 11801-2424

Twin TIers UG
c/o R. Sass
RD #1
Rock Stream, NY 14878

Pittsburg User's Group
P.O. Box 8043
Pittsburg, PA 15216

Erie 99'er User Group
2812 West 33rd Street
Erie, PA 16506

Nittany Users of TI
626 Wilshire Drive
State College, PA 16803

MANNERS
15106-A Fredrick Rd.
Suite 136
Rockville, Md 20850

Hampton Roads TI'ers
4701 Atterbury Street
Norfolk, Va 23513

CONNI
181 Heischman Ave
Worthington, OH 43085

N.W. OHIO 99'ers User Group
%First Church Unity
3535 Executive Parkway
Toledo, OH 43606
Attn: Earl W. Hoffsis

Greater Akron 99er's
P.O. Box 3201
Cuyahoga Falls, OH 44223

Lima 99/4a Users Group
P.O. Box 647
Venedocia, OH 45894

Great Lakes Computer Group
P.O. Box 152
Roseville, MI 48066-0152

Milwaukee Area Users Group
4122 N. Glenway
Wauwatosa, WI 53222

Siouxland 99er's
4604 Bluestem Circle
Sioux Falls, SD 57106

Kansas City TI99/4a UG
P.O. Box 12591
No. Kansas City, MO 66416

Dallas TI Home Computer
P.O. Box 29863
Dallas, TX 75229

Net99er HCUG
P.O. Box 534
Hurst, TX 76053

Houston Users Group - HUG
c/o R. Lumpkin
11610 Inga Lane
Houston, TX 77064

JSC TI99 User Group
c/o John Owen
2321 Coryell Street
League City, TX 77573

The FRONT RANGER
P.O. Box 9572
Colorado Springs, CO
80932-9572

TI SLaVes
3818 W. 6540 So.
West Jordan, UT 84084

Southwest Ninety Niners
P.O. Box 17831
Tucson, AZ 85730

Southern Nevada UG (SNUG)
P.O. Box 26307
Las Vegas, NV 89126-0301

Northern Nevada 99'ers
c/o Roland Chapman
7560 Hillview Drive
Reno, NV 89506

LA 99ers Computer Group
P.O. Box 7746
Torrance, CA 90504

North County 99ers UG
P.O. Box 2500
Escondido, CA 92025

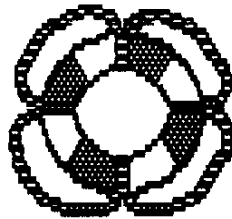
UGOC
c/o Earl G Raguse
17161 Edwards
Huntington Beach, CA 92647

WORDPLAY
The PUNN Newsletter
P.O. Box 15037
Portland, OR 97215

9T9 User Group
c/o Steve Mickelson
15 Kersdale Avenue
Toronto, Ontario
CANADA M6M 1C9

B.C. 99er Users
c/o Ron Warfield
216 10th Ave
New Westminster, B.C.
CANADA V3L 2B2

**99/4A
&
9640
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Haverhill, Ma 01830
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San Diego, Ca 92103
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(619) 278-0155 bbs

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Philadelphia, Pa 19128
(215) 483-1379

Great Lakes Software
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Howell, Mi 48849
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Harrison Software
5705 40th Place
Hyattsville, Md 20781
(301) 277-3467

Hunter Electronics
4 N. 370 Pine Grove
Bensenville, Il 60106
(312) 766-9503

Inscobot Inc.
P.O. Box 29160
Pt Orange, Fl 32029

Jim Leshar
722 Huntley
Dallas, Tx 75214
(214) 821-9274

Alboes Computer Supplies
6298 Hamilton Rd.
36 Main Street Village
Columbus, Ga 31909
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Asgard Software
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(703) 255-3085
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(414) 791-4920 after 6pm
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Toledo, Ohio 43614
(419) 385-5946

Joy Electronics
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 Dallas, Tx 75254
 (800) 420-3892 in Texas
 (800) 527-7438 all others

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 2390 El Camino Real #107
 Palo Alto, Ca 94306
 Catalog #1

LaFlamme & Wrigley Wholesale
 5400 Canotek Road
 Unit #16
 Gloucester, Ontario K1J9H6
 (613) 745-2225

L.L. Conner Enterprise
 1521 Ferry St.
 Lafayette, In 47904
 (317) 742-8146

McCann Software
 P.O. Box 34160
 Omaha, Ne 68134

Micropendium
 P.O. Box 1343
 Round Rock, Tx 78680
 (512) 255-1512

Midwest Engineering
 203 Arcadia Dr.
 Vernon Hills, Il 60061
 (312) 362-9034

Myarc Inc
 2624 Ranier Drive NE
 Birmingham, Al 35215
 (205) 854-5843

Not Polyoptics
 P.O. Box 4443
 Woodbridge, Va 22191
 (703) 499-5543

Oasis Pensive Abacutors OPA
 432 Jarvis Street
 Suite 502
 Toronto, Ontario
 CANADA M4Y-2H3
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Pilgrims Pride
 5 Williams Ln.
 Hatboro, Pa. 19040
 (215) 441-4262

Program Innovators
 4122 Glenway
 Wauwatosa, WI 53222

Quality 99 Software
 1004 Columbia RD #1021
 Washington, DC 20009
 (202) 667-3574

Queen Anne Computer Shoppe
 6102 Roosevelt Way NE
 Seattle, Wa 98115
 (206) 522-6558

Ramcharge Computers
 6467 E. Vancey Dr.
 Brookpark, Oh 44142
 (216) 243-1244 evenings

Rave 99
 112 Rambling Road
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 (203) 871-7824

Joe Ross
 119 Knollwood Terrace
 Clifton, NJ 07012

Tenex
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 (800) 348-2778
 (217) 259-7051

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 Patchogue, N.Y. 11772
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Tex-Comp
 P.O. Box 33004
 Granada Hills, Ca 91344
 (818) 366-6631
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The Bunyard Group
 P.O. Box 62323
 Colorado Springs, Co
 80902-2323
 (719) 488-2572

Tiger Cub Software
 156 Collingwood Ave.
 Columbus, Oh 43213
 (614) 235-3545

Trio+ Software
 P.O. Box 114-A
 Liscomb, Ia 50148

Triton Products Company
 P.O. Box 8129
 San Francisco, Ca 94128
 1-800-227-6900
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 c/o Beery Miller
 5455 Marina Cove #1
 Memphis, Tn 38115

THE RAVE PS/2 EXPANSION BOX

Dave Ratcliffe, Harrisburg, Pa.

At the 1990 TICOFF show, lots of people crowded around the RAVE99 table to get a 'first' look at the proposed RAVE PE/2 expansion box for the TI-99 and Geneve computers. What we saw was a prototype, set up to run a TI-99 and what a wonderful sight it was. NO console, (Rave Keyboard Interface and computer mounted INSIDE the box), hard drive (Myarc HFDC) AND quiet! Several people ordered then and my order was submitted in April. Even though I did NOT receive the unit till January 1991, I am still VERY satisfied. Why? Because every step of the way, Rave's owner, John McDevitt, kept me informed of progress and setbacks. I knew going in that I was buying an as yet unfinished product and the manufacturers openness through the whole process was both refreshing and welcomed. This is the second product I've purchased from Rave (Keyboard interface was the first) and I have yet to be disappointed. Now on to the 'official' review..

There are 2 versions of the RAVE PS/2, the A and the B series. I purchased the A series, designed for the Geneve computer. The B version allows the use of both the TI/99 AND Geneve computers IN THE SAME BOX, or just the TI alone. Since mine is for a Geneve, the following description is of the PS/2-A version except where noted:

The cabinet is made by Magitronics and contains a 200 watt fully regulated power supply. There is room for 3 5.25" 1/2-height drives and 1 3.5" floppy drive all in externally accessible drive bays. The 3.5 floppy space is NOT available if the Rave Keyboard interface is used (PS/2-B version). The 5.25" area CAN hold 1 full height and 1 1/2 height if desired. Additionally, there is internal space for a vertically mounted 3.5" hard drive behind the front panel and adjacent to the 5.25" bay. Let me assure you, the power supply is fully capable of running ALL of these devices as well as the CPU and all related cards. While the power supply contains a cooling fan, RAVE saw fit to install a second fan in front of the card rack that moves air directly across the expansion cards providing extra cooling capacity.

The card rack is a well designed unit and even includes a removable section to make room for the internal 3.5" hard drive. The backplane shows good design and workmanship and all jumpers are laid out well with easy access. 1 bad note here, while the documentation refers to numbered pins at the jumper selection points, NO numbers are printed on the board. After a quick call to John I found out that the pin closest to the front at ALL jumper locations is pin #1. For the Geneve, there is a small wiring harness that requires a

bit of soldering to install. It will connect the front panel reset switch to the Geneve card to provide a HARD reset when needed. An additional connection provides for use of the front panel KEVLOCK switch.

The backplane comes with 5 16 bit slots (#'s 1, 2, 6, 7 and 8) and 3 8 bit slots (#'s 3, 4 and 5). There is a reason for this. You have the option of removing your cards from the clamshells or leaving them in. If you choose the latter, you'll need to use slots 3, 4 and 5 since the clamshells have no opening for the extra connectors in the other positions. Those 3 positions CAN be made into 16 bit if desired. I purchased the extra connectors with my unit but have not installed them yet. One note here. At present, there exists no hardware to utilize the full 16 bit backplane. This is provided as a possible expansion route for the future.

The front panel contains 2 push button switches, 1 Keylock switch and 3 LEDs. The 2 buttons are RESET (obvious purpose) and TURBO (inactive with the Geneve, used to PAUSE the CPU in the TI version). The Keyswitch is used to disable the system when locked. 2 Keys are provided with the unit. The TURBO LED (yellow) indicates bus activity. Since all cards are in the BACK of the box, there is no way to see their respective activity lights. This LED is a suitable replacement. The HDD LED (red) indicates hard drive activity. A pigtail with plug is provided to connect this to your hard drive. The POWER LED (green) serves an obvious purpose. The power switch is at the lower right front corner of the box.

The rear apron contains the openings for the card rack, a jack for the AC line, a jack for running power to a monitor, a 110/220 VAC selector switch, the power supply cooling fan and 2 Knockouts for DB-25 and DB-9 connectors (not used).

With the exception of the front panel, the ENTIRE box is heavy gauge steel and VERY rugged. There are 4 rubber feet attached to the bottom. Dimensions of the entire unit are 7" H x 15" W x 16 1/4" D.

Many existing expansion cards will have to be modified for use in the RAVE expansion box but the mod is VERY simple and requires only 2 solder joints per card and a bit of wire. Here's the explanation. The TI Pbox was a power monster. It put out WELL over the 12 volts needed by the cards. In order to keep the cards from self-destructing, the manufacturers installed voltage regulators on their cards to hold the incoming voltage at 12. The excess voltage was bled off as heat. The RAVE box uses a tightly regulated supply that requires no such extra regulation. Extra regulators can, in fact, cause minor problems. So, a jumper is installed across the existing regulator to take it 'out-of-circuit'. Cards modified this way CANNOT BE USED IN A TI PBOX UNTIL THE MOD IS REMOVED! Removal, however, is as simple as cutting a wire. The manual contains adequate descriptions of how to do the mod and what to look for as well as a list of cards that DO require the change.

Now comes the critique. Internally, the unit is well laid out with plenty of room for running cables and maneuvering. Airflow is adequate for keeping things cool. The box, while a bit large compared to the TI Pbox, is attractive. My documentation for the unit is admittedly preliminary and John tells me it will be improved so I'll skip over that.

I have only one nit to pick with RAVE. The manual recommends the removal of the clamshells around cards to help them remain cool. Unfortunately, the clamshells are also used to hold the cards in place in the card rack. Without the clamshell, the cards tend to wobble in the edge connectors. With nothing inside the cover to hold the cards in place and nothing to keep them from moving sideways, it is possible for a card to come partially out of the socket with disastrous results. This is more of a danger to cards with cables connecting them to the outside world, like Geneves and serial cards. My solution was to glue 2 strips of resilient foam inside the cabinet cover, OVER the edge connectors and perpendicular to the cards. This effectively HOLDS the cards in their sockets and keeps them from moving sideways as well. Since I set my PBox up in a 'Tower' configuration, this modification was doubly necessary. I sent John a sample of the material I used in hopes that he will add it to future versions.

I have been asked how much I paid. My answer is that it is no longer a valid price. I paid for the unit in April of '90. SEVERAL modifications and upgrades have since been made to the initial design that have changed the price upwards. Those of us who pre-paid were locked in with no further charges. For an accurate CURRENT price, contact:

RAVE99 Co.
112 Rambling Road,
Vernon Ct 06066

or Call John McDevitt AFTER 7pm at (203)871-7824

Finally, the grade. I can't grade the documentation properly since what I recieved was VERY preliminary. On that basis, I'd say:

Documentation - B+

On the PS/2-A, taking into account workmanship and functionality, I'll say:

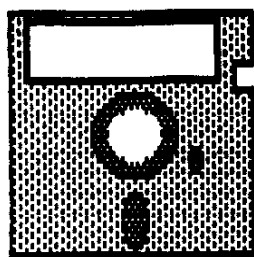
Product - A

On RAVE's customer relations, counting willingness to communicate, honesty and willingness to listen, a definite:

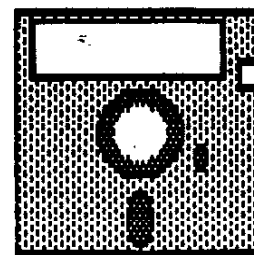
Customer Relations - A+

Do I like what I got? Yes
Would I recommend it to others? Yes
Was it worth the wait? YES!

>> Dave <<



CATALOG FUNCTION in c99 for 40/80 trk drives



BY DAN GAZSY

Quite awhile ago, Tom Wible disassembled Clint Pulley's SD (Show directory) program and converted it into a callable c99 function. The only parameter the user was required to pass the function was an integer containing the number of the disk drive to catalog. The best features of this function was it's speed and it's ability to display up to 40 filenames on a screen.

The code provided was written before 80 track drives ever showed up for the 4a user, so there wasn't any foreseeable problems with the function. I have since modified the code to properly catalog 40 or 80 track drives and I also corrected some deficiencies I found in the source code.

The program did not properly indicate fractured files and files which were protected would display as filetype "-" instead of their proper entry. I added the ability to abort the catalog function after every 40 filenames are displayed, where the original function required you to go through the entire catalog <yuK>. Code was added to insure that an existing device was selected for a catalog by validating a few bytes from sector 0 of the disk. If the bits aren't found, you get a safe error and avoid a potential lockup.

The original source code had few if any comments in the code, so you should be quite happy with the number of comments I provided with the source now. To make use of the function provided from within your program you would need code like the following:

```
extern dgdire();

main() /* this is your program */
{ int x;
  while(1)
    {putchar(12);
     puts("Enter drive number to catalog:");
     x=getchar();
     if(x==48)
       break;
     dgdire(x-48);
    }
}
```

The code which follows only has to be assembled and provides the function referred to as dgdire() in the prior mentioned c99 program. The following code assumes that the video chip is in text (40 column) mode when it's called.

The catalog function uses one letter to define filetypes in the catalog. Capital "I" and "D" are fixed files while lowercase "i" and "d" are variable type files. File protection is not displayed whether its on/off.

* Derivative of Clint Pulley's disk directory
 * Using sector reads and writes
 * 00/10/01 default mode should be text

DEF DGDIR
 REPT UMBW,UMBR,USBR,USBW
 REPT DSRLNK,KSCAN

USRWSP EQU >0300
 VOPPAR EQU >0F00
 SCTBUF EQU >2000
 S1BUFF EQU >2100
 MAPTR EQU SCTBUF+>38

SECTOR ZERO & File Descriptor BLK
 SECTOR ONE Buffer
 START ADDR OF DISK MAP

* dgdir(disk-no)
 * int disk-no;

DGDIR MOU @2(R14),R4
 SWPB R4
 AT R4,>3000
 MOVB R4,@DSKNO
 BL @USMBW

GET THE DRIVE NO FROM THE STACK
 PUT IT IN THE HIGH BYTE
 CONVERT BYTE TO ASCII NUMBER
 PUT IT IN THE OUTPUT HEADER
 FILL VOP ADDR (PARAM1) WITH VALUE
 (PARAM2) FOR PARAM3 BYTE

DATA >0000
 DATA >0020
 DATA >00C0
 CLR R3
 BL @SCTRED
 DATA SCTBUF
 JEQ @S016
 B @DSPEERR
 LI R0,SCTBUF
 LI R1,DSKNAM
 LI R2,>000A
 BLWP @UMBR
 LI R1,FILNAM
 R R2,R0
 BLWP @UMBR

VOP ADDR
 SPACE CHAR
 CHAR COUNT
 R3 GETS SECTOR TO READ
 GO READ SECTOR ZERO
 NO ERROR
 ERROR ON READ

S016

GET DISK NAME FROM SECTOR 0

*
 *
 *
 MOU @FILNAM+4,R1

READ NEXT TEN BYTES OF SECTOR 0
 INTO FILNAM
 GET LAST TWO BYTES OF 'DSK' IF
 IT'S THERE
 IS IT THERE?

CI R1,>534B
 JEQ TRKS
 B @DSPEERR
 TRKS MOVB @FILNAM+7,R1
 SRL R1,13

YES
 NO
 GET TRACKS IN R1
 CONVERT VALUE TO SECTOR INCREMENT
 $40/80 = 1/2$

*
 *
 *
 MOU R1,@SMBC
 MOU @FILNAM,R6
 MOU R6,R0
 DECT R6

SAVE THE VALUE
 GET TOTAL SECTORS VALUE IN R6
 PUT A COPY IN R8
 DEDUCT SECTOR 0 & 1 FROM TOTAL
 SECTORS

*
 *
 *
 *
 SRL R0,3
 CI R1,>0002
 JNE S040
 SRL R0,1

COMPUTE # BYTES IN SECTOR MAP
 80 TRACK DRIVE?
 NO
 YES, DIVIDE BYTES IN SECTOR MAP
 BY 2

*
 S040 CLR R7
 LI R6,MAPTR
 S020 MOU R5,R0

RESET FREE COUNT (R7)
 SET UP R5 WITH MAP ADDR PTR
 PUT MAP ADDR IN R0

	INC	R5	INCREMENT PTR
	BLWP	@USBR	MSB OF R1 CONTAINS SECTOR USAGE
S019	LH	R0,>0008	SET UP BIT LOOP COUNT
	SLA	R1,1	
	LOCA	S010	SKIP IF SECTOR IN USE
S018	DF	@SMBC,R7	ADD TO FREE SECTOR COUNT
	DF	R0	DECREMENT LOOP COUNT
	DF	S010	LOOP TILL 8 BITS CHECKED
	DF	R0	DECREMENT MAP COUNT
	DF	S020	MORE SECTOR MAP BYTES TO CHECK
	S	R7,R6	COMPUTE SECTORS USED
	LH	R0,USED	
	MOU	R0,R0	CONVERT INTEGER TO ASCII DIGITS
	LH	@SPNUM	
	MOU	R0,FREE	
	LH	R7,R0	
	MOU	@SPNUM	CONVERT FREE SECTORS TO ASCII DGTS
	CLR	R0	
	LH	R1,DSKHOR	DISPLAY SECTOR ZERO STATS AT TOP
	LH	R2,>0026	
	BLWP	@CMBE	
	BLWP	@USMBW	
	DATA	>00200	START VDP ADDR=40 LINE 2 COL 1
	DATA	>00200	CHAR TO DISPLAY "-"
	DATA	>00200	BYTES TO WRITE=40
	BLWP	@USMBW	
	DATA	>00370	START VDP ADDR=80 LINE 23 COL 1
	DATA	>00300	CHAR TO DISPLAY "L"
	DATA	>00200	BYTES TO WRITE=40
	LH	R0,>0001	SET UP R3 TO READ SECTOR 1
	BLWP	@SCTRED	READ THE SECTOR
	DATA	S1BUFF	VDP BUFFER FOR SECTOR 1
	JNE	DSPERR	ON ERROR, DISPLAY ERROR MSG AT
			BOTTOM
X	LH	R0,S1BUFF	SET UP R0 WITH READ SECTOR PTR
TOP	LH	R0,>0050	SET UP R0 WITH VDP DISPLAY PTR
XZXT	MOU	R0,R0	SET UP R0 WITH FILE DESCRIPTOR
			BLOCK TO READ
	INCT	R0	PUSH TO NEXT FILE DESCRIPTOR BLOCK
	LH	R1,USRWSP+6	SET UP R1 WITH RAM ADDRESS OF R3
	LH	R2,2	INDICATE TWO BYTES TO TRANSFER
	BLWP	@UMBR	MOVE SECTOR ID FROM VDP TO RAM
	MOU	R0,R5	ARE WE DONE?
	JEQ	DSPDUN	YES
	BLWP	@SCTRED	NO, READ THE SECTOR FOUND IN R3
	DATA	SCTBUF	PUT FILE DESCRIPTOR HERE
	JNE	DSPERR	ERROR ON READ, ABORT CATALOG
	LH	R0,SCTBUF	
	LH	R1,FILNAM	
	LH	R2,>0012	
	BLWP	@UMBR	TRANSFER FIRST 18 BYTES OF FDB
			INTO RAM
	MOU	R6	SET UP R6 FOR FILE TYPE INDICATOR
	MOU	@FILLEN+2,R6	PUT FILE TYPE IN MSB
	MOU	@FILTYP-1,R3	PUT FILE SIZE IN R3
	MOU	@SMBC,R0	GET TRACK INDICATOR
	CH	R0,>0002	00 TRACK DRIVE?
	JNE	TRK40	NO
	INCT	R3	YES, FIRST OFF ACCOUNT FOR THE
			FILE DESCRIPTOR
X	MOU	R3,R0	SET UP R0 FOR SOME BIT MANIPULATION

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SRC      R0,1          GET LSB IN CARRY BIT
JNC      TRK00        NO CARRY, FILE SIZE IS ALREADY EVEN
TRK40   INC      R0    40 TRACK, F00 OR 00 TRACK FILE WAS
*        *          AN ODD NUMBER
TRK00   LI      R0,FILLEN SET UP R0 WITH WHERE TO PUT
*        *          CONVERTED VALUE
BL      @DSPNUM      CONVERT NUMBER TO ASCII VALUE
CLR     R01          SET UP R1 FOR FRACTURE INDICATOR
LI      R02,>20020    SET UP R2 FOR UNFRACTURED FILE
LI      R0,SCTBUF+>1F
BLWP    @USBR        CHECK FILE DESCRIPTOR FOR MULTIPLE
*        *          CLUSTERS
MOV     R1,R1        FORCE THE STATUS BIT SET IF STILL 0
JMO     R0,R0        ONLY ONE CLUSTER
S023   MOVB     R02,>20A20 SET R2 TO INDICATOR A FRACTURE
*        *          PUT IT RIGHT AFTER THE FILE SIZE
SINC    @H30C00,R6   RESET ALL THE UNWANTED BITS
CIN     R0,>0100     IS PROGRAM FILE BIT SET?
JNE     S024        NO
LI      R01,PROG     THIS IS A PROGRAM FILE
LI      R02,FILTYP   PASS THE RAM ADDRESS
S025   MOVB     R01+,R2+ INDICATE 4 BYTES TO COPY
*        *          MOVE A BYTE
DMOVB   R0          DECREMENT LOOP COUNT
JNZ     S026        LOOP WILL DONE
JMP     S026        DONE WITH FILE TYPE
H3C00   S024   MOVB     @FILTYP+2,R3 GET LOGICAL RECORD SIZE
*        *          MOVE IT TO LSB AND TRASH THE OTHER
LI      R0,FILTYP    SET UP R0 WITH FILTYP ADDRESS
BL      @DSPNUM      PUT IT FILETYPE AREA
CLR     R0           SET UP R0 FOR UPPERCASE FILE TYPES
SLA     R0,1        PUT FIX/VAR 0/1 FILE BIT IN CARRY
JNC     S027        JUMP IF IT WAS A FIXED DATA FILE
S027   SRL     R0,>2000 PUT LOWERCASE INCREMENT IN R0
*        *          SET UP R6 AS AN INDEX OF 0 OR 1
MOVB    @TYPTAB(R6),R1 GET THE BYTE TO SIGNIFY FILETYPE
A       R0,R1       ADD LOWERCASE INCREMENT ID
MOVB    R1,@FILTYP PUT THE FILETYPE INDICATOR IN THE
*        *          BUFFER
S026   MOV     R0,R0  GET VDP ADDRESS FOR DISPLAY
LI      R1,FILNAM    GET RAM ADDRESS FOR DISPLAY
LI      R2,>0013     SET UP R2 WITH 19 BYTE TRANSFER
BLWP    @UMBW        PUT THEM ON THE SCREEN
AI      R0,>0020     PUSH VDP ADDRESS TO NEXT LINE
CI      R0,>0037     END OF FIRST COLUMN? (ROW 23 COL 2)
JNE     S028        NO
*        *          YES, SET VDP ADDRESS FOR 2ND HALF
S028   CI      R0,>0385 (ROW 23 COL 22)
*        *          END OF 2ND COLUMN? (ROW 23 COL 22)
JNE     NXT        NO, GET NEXT FILE
MOV     R5,R0       END OF SECTOR 1 LINKED LIST?
JMO     R5,R0       YES, GET READY TO EXIT
LI      R1,MOORE    NO, GET MORE MESSAGE AT BOTTOM
BL      @DSPMSG     PUT IT ON THE SCREEN
BL      @USMBW      CLEAR THE SCREEN
DATA   >000500     START OF VDP ADDRESS
DATA   >000200     SPACE CHARACTER
DATA   >000200     BYTES TO WIPE
JMP     TOP        LOOP TO TOP FOR MORE

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```

DSPERR  LI  R1,ERROR
        JMP S032
DSPDUN  LI  R1,DONE
S032    BBL @DSPPMSG
STOP    B   XR19          EXIT TO CALLER

SMBC    BSS  R0
DSPMSG  LI  R0,>039A     SET UP VDP ADDRESS
        LI  R2,>0005     SET UP BYTES TO DISPLAY
        BFLWP @UMBW
        LI  R2,R0        SET UP NEW VDP ADDRESS
        LI  R1,TRSNAN4   GET RAM ADDR
        LI  R2,>0020     GET MSG LENGTH

GETKEY  BFLWP @CHK0E     CHECK ENTIRE KEYBOARD
        BFLWP @CHK0E     SET UP R4 FOR STATUS BYTE
S036    BFLWP @K0SCAN    GET A CHARACTER
        LI  R4,>03C,R4   PUT STATUS IN R4
        LI  R4,>2000     MASK CHARACTER ENTERED STATUS
        BFLWP @CHK0E     NOTHING ENTERED
        LI  R4,>075,R4   PUT CHARACTER IN R4
        LI  R4,>700     SAME KEY AS BEFORE?
        BFLWP @S030     YES
        LI  R4,>S030     S KEY?
        BFLWP @S030     YES
        B   XR11        EXIT TO CALLER

SCTDAT  DATA >0110
SCTRED  LI  R0,COPPAR    SET UP PAB FOR SECTOR READ/WRITE
        LI  R1,SCTDAT
        LI  R2,>0002     TWO BYTES TO TRANSFER
        BFLWP @UMBW
        MOVW @R2(R14),R2  PUT DRIVE IN R2
        MOVW @R2,>834C   PUT IN MSB
        MOVW @SREAD,>834D DISK # GOES HERE
        *      MOVW @SREAD,>834D INDICATE WE ARE DOING A READ
        *      MOVW @R11+,>834E  TELL US WHERE TO PUT IT
        *      MOVW @R3,>8350    IDENTIFY THE SECTOR
        *      MOVW @R0,>8350    TELL US WHERE THE PAB IS FOR DSRLNK
        *      BFLWP @DSRLNK    MAKE SURE ERROR CODE WORD IS EMPTY
TEN      MOVW @R0,>000A     SUBPROG 10
        MOVW @R0,>8350,R0   PUT ERROR CODE IN R0
        B   XR11        RETURN

USMBW   MOVW @R11+,R0     SET UP VDP ADDR
        MOVW @R11+,R1     SET UP THE CHARACTER
        MOVW @R1,R0       PUT CHAR IN HIGH BYTE
S034    MOVW @R11+,R2     SET UP CHAR COUNT
        BFLWP @USBW       WRITE THE BYTE
        BFLWP @R2         DECREMENT COUNTER
        LI  R0,S033       DONE
        LI  R0,S034       PUSH VDP ADDR
        JMP  S034         LOOP
S033    B   XR11        EXIT

DSPNUM  LI  R1,>0003
        LI  R2,>2020
S037    MOVW @R2,XR0+
        DEC  R1
    
```


compatible with TIARTIST. It contains many basic drawing features such as lines, circles, rectangles, triangles, erasing, text insertion, and printing with horizontal tabs. In keeping with the concept of expandability, Shell-art is also a shell program which will run programs for the bitmap environment. A program module may be loaded and executed and have access to all the routines within cSHELL99 and Shell-art allowing for very intricate designs. Also with the package comes a slightly updated version of Jay Holovacs' c99 bitmap library which now allows for sprites and I/O functions.

Any registered cSHELL99 user who does not have the above additions may obtain them by sending \$2.00 to myself at the following address.

Joe Ross
119 Knollwood Terrace
Clifton, NJ. 07012

Now I'd like to discuss some future software for cSHELL99.

Coming soon from UMC Software will be "HyperPages" a hypertext utility that will allow for the creation of smart books with a HyperPages Editor and play back with a HyperPages Reader. Sounds very interesting. The address for UMC Software is:

UMC Software
PO Box 326
Cambria Hts. NY 11411

During the past few months I've communicated with Tiers who have and are interested in the cSHELL99 environment and in the c99 language in general. Some desires are for more useful companion programs for cSHELL99 and for help in learning to program in the c99 language. Also some users have expressed an interest in updating cSHELL99 for addition hardware they own. I am presently creating more programs for cshell99, in particular a simple hands on c99 interpreter to be used within the cSHELL99 environment. It will allow a user to execute c99 functions from an immediate mode similar to the BASIC language. It also will allow for multiple statement entry in a sort of semi immediated mode. Finally it will allow the user to execute small programs from a text file containing c99 source code. The purpose of this interpreter will be basically as a learning tool to help in the learning of c99 and the cSHELL99 environment.

Other programs currently in the works by myself and others are a printing utility that will take TIArtist compatible pictures from a supplied text list and print them up to two across and four down on a page to make a complete printed page as in PagePro but with TIArtist pictures, a calendar/note reminder utility and calculator program.

Just as a last note. If you have created any programs for cSHELL99 that you wish to market send me some information on the product and I will distribute the information with cSHELL99.