contact 2

IN USE ▶

disk ll

INTRODUCING
DISK II

DISK II
$495.

This special introductory offer price is in effect until July 31, 1978, to show our appreciation to the existing owners who helped us get started.

The Disk II Floppy Disk Sub-system consists of an intelligent interface card, a powerful Disk Operating System (DOS), and one or two mini-floppy drives. (The computer will handle up to seven interface cards and fourteen drives, for control of nearly 1.6 megabytes of data). The combination of ROM-based bootstrap loader and an operating system in RAM provides complete disk handling capability.

FEATURES

- Powerful Disk Operating Software:
  - LOAD and STORE files by name (Up to 35 Char/Name)
  - BASIC Program Chaining
  - Random or Sequential File Access
- Fast Access Time – 600 msec (Max.) Across 35 Tracks
- Individual File Write-Protection
- Full Disk Capability in Systems with as Little as 16K RAM
- Data Transfer Rates of 156K Bits/sec
- Storage Capacity of 116 Kilobytes/Diskette
- High-Efficiency Subsystem Powered Directly from the APPLE II (Up to 14 Drives)
- Completely Assembled and Tested – Not a Kit
- Packaged in Heavy-Duty, Color-Coordinated Steel Cabinet

SPECIFICATIONS:

Commands:
OPEN, CLOSE, READ, WRITE, LOAD, SAVE, EXEC, RUN, APPEND, LOCK, CHAIN, UNLOCK, DELETE, MONITOR, NOMONITOR, MAXFILES, IN#, PR#, INIT, BLOAD, BSAVE

Access Method:
Random or Sequential – arbitrary record length

Bootstrap Loader Method:
By means of Loader routine in two 256 x 8 PROMs, on-card.

Disk Drive:
Shugart 5¼" floppy disk.

Track Access Time:
Varies with number of tracks crossed. 200 msec (avg.), 600 msec (max. across 35 tracks)

Disk Speed and Latency:
300 rpm, 100 msec avg. latency

Disk Capacity:
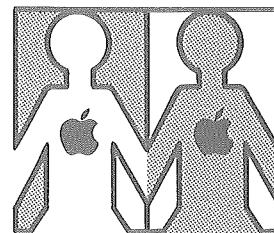116K bytes (formatted), soft-sectored

Data Transfer Rate:
156 bits per second

Physical Dimensions:
Card – 4.5" x 2.75" (not including connector finger): fits inside the APPLE II. Drive – 6.1" x 8.75" x 3.8" (WDH)

Controller Capacity:
Up to two drives per controller. Multiple controllers can be used.

LOCAL USER GROUPS

Apple's still springing up

New local APPLE II user groups continue to form. Again, we remind you that we can list your group only if we know of its existence. If there is no APPLE group in your area and you wish to start one, talk to your APPLE dealer – he'll be able to help.

Here are the new groups we've learned about since Contact #1:

Alabama –

APPLE CORPS
Computer Center, Inc.
433 Valley Avenue Plaza
Birmingham, AL 35209
Terry Woodward
(205) 942-8567

California –

Video Games & Computers
301 Balboa
San Francisco, CA 94118
(415) 221-8500

SILICON APPLE PROGRAMMING SOCIETY
2485 Rossotto Drive
San Jose, CA 95130
Jim Hoyt
(408) 374-3680

Connecticut –

APPLE USER GROUP
ComputerLand of Fairfield
2475 Blackbrook Turnpike
Fairfield, CT 06430
Glen Brennan
(208) 374-2227

Maryland —

MARYLAND APPLE CORPS
Computers Etc.
13A Allegheny Avenue
Towson, MC 21264
Kevin Parks
(301) 296-0520

New Jersey —

Computer Lab of New Jersey
141 Route 46
Budd Lake, NJ 07828
Dan Fischler
(201) 691-1984

Pennsylvania —

APPLE USERS GROUP
Philadelphia Area Computer Society
29 S. New Ardmore Avenue
Broomall, PA 19008
Neil Lipson
(215) 825-3800, x278 (work)
(215) 356-6183   (home)

Texas —

APPLE CORPS
ComputerLand of Austin
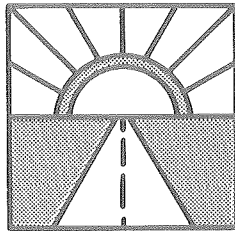3300 Anderson Land
Austin, TX 78757
(412) 452-5701

THE APPLE CORPS
Greenhill School
Fulton Building
14255 Midway Road
Dallas, TX 75240
Bobbie Ferrell
(214) 661-1211 (work)
(214) 243-6347 (home)

*And here are two people who'd like
to form groups:*

Earl Keyser
22 Clover Lane
Mason City, IA 50428

R. V. Collins
12502 Bexley
Houston, TX 77099

LOOKING AHEAD

...to how your Apple will grow

DISK II — If you've read this far,
you know the news. Get 'em while
they're hot!

APPLESOFT II — The new APPLE-
SOFT has arrived. It's an expanded
version of Microsoft's floating-point
BASIC, with 9-digit arithmetic and
a large function library that makes
it ideal for business and scientific
programs. Easy to use and powerful,
APPLESOFT II's capabilities
include high-resolution graphics
routines; DATA STORE/RECALL
statements that allow saving vari-
ables to tape; IN# and PR# state-
ments to simplify peripheral use;
and an ONERRGOTO command to
allow user-specified error-handling
routines.
    The tape version (P/N A2T0004)
costs $20, and is available now at
your APPLE dealer. A ROM card
version (P/N A2B0009), which
plugs into slot 0, has hardware and
software switching to select either
Integer or APPLESOFT BASIC. It
frees up 10K of RAM space for
your programs. Available in July,
the APPLESOFT ROM card's
regular price is $200; but through
July 31 only, it will be introductory-
priced at $100 — a genuine bargain.

MACRO ASSEMBLER/EDITOR —
Just a note to let you know that we
are working on a powerful, multi-
pass Macro Assembler and Editor.
This new APPLE II package will
run with either tape or disk storage.
We plan to release it in September,
so look for more details in the
August issue of CONTACT.

PERIPHERALS — As a convenience
to APPLE users, starting in July we
will offer a cassette recorder, a
9-inch B/W video monitor, and two
matrix printers — the Centronics
779 and the MICROPRINTER-PI.
We'd also like to remind you that
we already stock the Heuristics
Speechlab™ voice recognition unit
(P/N A2M0015, $189), and Moun-
tain Hardware's Introl™ a.c.
master control unit (P/N A2M0012),
and a.c. remote controller (P/N
A2M0013, $329).

NEW SOFTWARE — A host of new
software is now available from the
Apple Software Bank. Watch for
description information in
CONTACT No. 3.

APPLE COMPUTER PRODUCTS

*These programs are now available
from your Apple dealer:*

REQ'D MEMORY		
16K	Checkbook Cassette	A2T0001/$20.00
16K	Startrek/Starwars Cassette	A2T0002/$15.00
4K	Color Demo/Breakout Cassette	A2T0003/$7.50
16K	Applesoft II/F.P. Demo (w/Manual) Cassette	A2T0004/$20.00
16K	Hi Res Graphics/Hi Res Shapes Cassette	A2T0005/$7.50
4K	RAM Test Cassette	A2T0006/$7.50
4K	Color Math Demo/Hangman	A2T0007/$7.50
8K	Blackjack/Slot Machine Cassette	A2T0008/$7.50
4K	Biorhythm/Mastermind Cassette	A2T0009/$7.50
48K	Apple II Capabilities Demo Cassette	A2T0010/$20.00
16K	Finance I — 2 Cassette Package	A2T0011/$25.00
8K	Datamover/Telepong Cassette	A2T0012/$7.50

16K   Wari/Othello/Dragon Maze
       . . . . A2T0013/$7.50
24K   Chess
       . . . . A2T0014/$15.00

APPLE-USER CONTRIBUTED PROGRAMS

These programs are the start of an extensive list to be released over the remainder of the year. We have received nearly 300 programs, most without documentation of any sort. As we evaluate and document them, you'll read about them here. We should be ready to supply programs from the Bank by September.

GAMES

       Life (Hi-Res Version)
4K   Bagels – A Number Guessing Game
16K   Applevision – An Audio/Visual Hi-Res Demo
4K   Johann S. Apple – Makes Apple a Musical Instrument
4K   Catch – A Ball-and-Paddle Game
4K   23 Bricks – A NIM-like Game of Strategy

EDUCATION

16K   Nations and Capitals – Multiple-Choice Quiz
16K   Differential Equation Solver
8K   Classifier – For Building Decision Trees

UTILITIES

24K   Tax – A Guide to 1977 Forms 1040 and A
16K   Base Conversion – For Hex/Decimal Conversions

MISCELLANEOUS

24K   Rotation – A 3D Cube Rotates With True Perspective

NEW SERVICES – Be sure to watch CONTACT No. 3 for announcement of an industry first – an exciting new service that allows Apple users to get current stock quotes, financial news, and other information over the phone, through the new Communications Interface Card.

## EDITORIAL
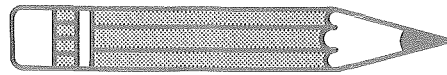
by Phil Roybal, Marketing Mgr.

And now it's your turn

Writing this second issue of CONTACT, I'm reminded of my favorite way to start a lecture – with an analogy. You see, a newsletter (and a lecture) is like a well in the center of a village, a well from which all the villagers draw their water. All who pass the well have an equal chance for the water. And for that chance, all pay the same fee – the journey to the well. But while the fee is the same for all, each leaves the well with a different amount of water. Some get nothing for their trouble, and some merely a cupful. But some leave with a full bucket.

At the well of information, the buckets are questions. And this brings me to the point of this editorial. CONTACT is *your* newsletter. Its purpose is to expand your enjoyment and use of your computer, and to that end CONTACT will feature applications and introduce products of interest to you.

Now, we've done the first two issues of CONTACT by the seat of our pants because the time's been too short to get your feedback. But from now on it's up to you. For CONTACT to grow into a healthy and useful tool it needs your feedback: questions . . . suggestions . . . criticism. With such guidance, CONTACT cannot help but succeed.

On the other hand, if your trip to the well leaves you still thirsty, perhaps it's because you bring only a cup, not a bucket. The moral? If you don't see what you want here – ask for it! (But please, *please,* when you write us, put your full address on your letter, not just the envelope; and if you call, give us your area code. That way, we'll make contact.)
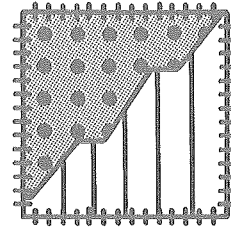
PATCHES AND PROGRESS

. . . wherein program bugs are stomped upon

Had some printer card problems? Here's why, and the fix.

The original printer-card firmware uses the screen window width as the controlling parameter to set the margin for BASIC listings and TAB functions. This means that when your printer's line length is set at 132 columns, for example, the system display is set at 132 characters/line. We didn't think that this would cause a problem, because printer margins greater than 40 characters and screen displays are not allowed to co-exist.

But there's a catch when any screen clear functions are executed. The system uses window width to bound the clearing operations, which is a direct command not detectable by the printer card. But the keyboard input routine executes a "clear to end of line" when it gets a carriage return. Since the window width can be at well beyond the 40 columns, memory from the current cursor position to well past the normal boundary will be set to "space" ($A0). If the cursor is at the bottom of the screen, this can cause addresses from $800-up to be set to $A0. Simply setting the printer width on the keyboard with ^{C}132 N (CR), with the cursor at the bottom of the screen will cause these locations to be bombed because the window width gets set before the (CR) is executed. Since APPLESOFT starts at $800 and Integer BÁSIC variables start at $800, bad things will happen for sure.

So . . . to reduce the possibility of problems with APPLE's Parallel Printer card, do these things:

1— Home the cursor (ESC @, or CALL -936, in BASIC) prior to typing printer control sequences that set the column width past 40 columns.

2— Do not use any screen or line clear operations when using the printer with the column width set past 40 columns. Then be sure to return the line length to 40 columns before turning off the printer card with PR#0.

If you're using the revised printer card with PROM P1-02, add this:

3— To perform the vertical tab in Integer or APPLESOFT BASIC on the printer, the command
POKE 36, (Tab distance) should be used in place of the TAB or VTAB command.
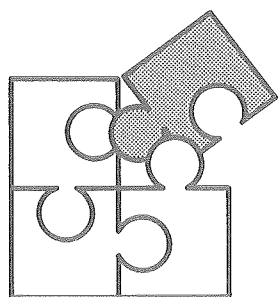
BITS AND PIECES
. . . things about Apple, handy to know

The good earth

APPLE II *must be grounded* — either via its three-wire power cord inserted into a properly grounded three-wire outlet, or by a wire inserted between APPLE's metal base plate and one of the plate's mounting screws. In the latter case, you must run the ground wire to a (preferably very close) ground — a long, long metal rod driven into the earth, and connected to APPLE via a heavy wire, or a wire connection to the cold-water system (but make sure you have metal piping). Grounding eliminates any possibility of the existence of a floating potential, which can be detrimental to you, to APPLE, and to proper tape cassette operation.

Get your head straight

Cassette tape recorders — whether expensive or inexpensive — often suffer a misalignment of their playback head during shipping and other handling. Such misalignment causes azimuth error, which is death to the high-frequency response (particularly on units without a tone control) so necessary to accurately transfer data. But any audio shop technician can readjust the azimuth alignment; a skilled ear alone is often sufficient to do the job. Your original APPLE pre-recorded tapes are excellent alignment references, because they are recorded with professional equipment maintained to the highest professional standards.
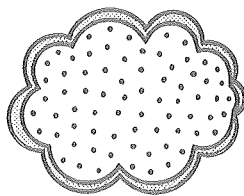
OUT OF THE MIST....
. . . clearing up things thought already clear

Errata for the errata

Okay, okay — so we've got the correct our corrections. The errors we're taling about show up in our memo of April 17, 1978, "APPLE-SOFT II", on pages 5 and 8.

Page 5 of the memo discusses commands for APPLE II's HIRES graphics video mode. The items to be corrected concern themselves with the commands HGR and HGR2, and their descriptions.

The HGR command must be used *only* with ROM. Why? You'll find out when we finish the sentence we left unfinished in HGR's descriptive paragraph. The third sentence should read, "DO NOT use this command with cassette tape (RAM) version of APPLE-SOFT as it **will wipe out APPLE-SOFT itself, which resides in page 1 of HIRES graphics between 8K and 16K**. Besides finishing the third sentence, make it the last one in the HGR paragraph by deleting, "Example 20 sets . . . bottom of screen."

As for the HGR2 command — it *is for use with the RAM version.* Our error? To the beginning of the last sentence of HGR2's descriptive paragraph we cleverly added two simple words that reversed our meaning — "DO NOT. . . ". Please delete these words; the last sentence should read, "Use this command with cassette tape (RAM) version."

Finally, on the last page (page 8) of the memo, the opening sentence of Section IV reads, ". . . depress 'RETURN' key — or you have accidentally depressed the 'RETURN' key, then type:" Well, if you do what that sentence tells you to do, nothing will happen. "RESET" is the word intended; simply delete both "RETURNs", replace each with "RESET", and the corrections to the memo are finished.

P.S. If you haven't got a copy of the memo in question — please write and we'll send you one (with corrections, of course).
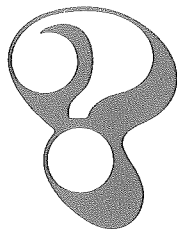
HOW TO

...things your manual never told you

LISTINGS – A LITTLE AT A TIME

There is a way to stop APPLE II's LIST operation. You must go into the MONITOR and enter the following bytes of hex:

```
3DA:A9 E3 85 36 A9 03 85 37
    60 RETURN
:48 AD 01 C0 10 08 AD 11 C0
    AD RETURN
:01 C0 10 FB AD 11 C0 68 4C
    F0 RETURN
:FD 4C DA 03 RETURN
```

After loading the hex code, press CONTROL Y to activate this StopList routine.

Now we try listing memory by entering 0.FFF RETURN. Let some lines go by, then press any key. If you've done everything correctly, the scrolling will halt. Now press any other key and the lines will again scroll. This routine will still work when you go back into BASIC. But if for any reason you press RESET, you must reactivate the routine by going back into the MONITOR and pressing CONTROL Y.

How does it work? Well, to print a character on the screen, APPLE II uses a routine located in MONITOR. APPLE goes to the routine by finding its address in locations 54 and 55 (36 and 37 in hex). But entering a CONTROL Y replaces this address with the address of the Stop List routine. You catch APPLE because it always checks for a Stop List command before printing any character. Software engineers call such a feature a hook, and use it to make programming just a bit more handy.

Tony Hughes
THE APPLE CORE
San Francisco, Calif.

AN APPLESOFT CONVERT PROGRAM

Programs written in APPLE-SOFT BASIC and saved on tape cannot be LOADed and RUN with APPLESOFT II. But there is a way to use them without retyping – by means of our CONVERT program, which we list below.

The CONVERT program runs in Integer BASIC, accepts a tape in APPLESOFT BASIC, and produces a new tape in APPLESOFT II BASIC. To use CONVERT, LOAD the CONVERT tape. It will ask you if the old program (written in APPLESOFT BASIC) used OPTION 1 or OPTION 2.

– OPTION 1 was GRAPHICS COMMANDS WITHOUT LET OR REM STATE-MENTS
– OPTION 2 was LET OR STATEMENTS, BUT NO GRAPHICS

After you answer you will be prompted to play the old program tape. After CONVERT has finished reading and processing the old tape, it will ask you to record a second tape. This second tape will be your original program converted into APPLESOFT II. If any errors are discovered during the conversion process, you will be given self-explanatory messages.

CONVERT

```
0 TEXT : CALL -936: VTAB 3: PRINT "APPLESOFT CONVERSION PROGRAM: "
2 PRINT "
CONVERTS OLD APPLESOFT PROGRAMS TO": PRINT "APPLESOFT ]C FORMAT"
3 PRINT "
COPYRIGHT 1978 APPLE COMPUTER, INC.
"
4 PRINT "
" POKE 34,10
5 PRINT "WAS PROGRAM WRITTEN IN OPTION 1 OR": PRINT "OPTION 2?
": PRINT "OPTION 1: GRAPHICS COMM
    ANDS WITHOUT"
6 PRINT "            LET OR REM STATEMENTS": PRINT "
OPTION 2: LET AND REM STATEMENTS BUT NO
        GRAPHICS "
7 INPUT "OPTION #",O: IF O<>1 AND O<>2 THEN 7
10 CALL -936: PRINT "PUT APPLESOFT PROGRAM TAPE IN RECORDER,": POKE 60,Z: POKE 61,Z: POKE 62
    ,2: POKE 63,Z:F=1536:B=4096
20 INPUT "PRESS THE PLAY BUTTON, THEN HIT RETURN",A$: CALL -259
25 IF PEEK (1)<128 THEN 30: PRINT "
TAPE READ ERROR!": PRINT "TRY RE-ADJUSTING VOLUME CONTROLS ON
        TAPEPLAYER, THEN RE-RUN THIS PROGRAM"
30 POKE 60,Z: POKE 61,16:E= PEEK (Z)+ PEEK (1)*256-6657: POKE 62,E MOD 256: POKE 63,E/256: CALL
    -259
35 CALL -936: PRINT "
CONVERTING... "
40 IF B>=E THEN 1000:A= PEEK (B)+F MOD 256: POKE B,A MOD 256: POKE B+1, PEEK (B+1)+F/256+(A>
    255)
50 FOR B=B+4 TO B+999:T= PEEK (B): IF T<133 THEN 250: IF T<>135 AND T<>142 OR O=2 THEN 200:
    C=B
55 IF T<>142 THEN 60:T=137: GOTO 250
60 C=C+1:U= PEEK (C): IF U=32 THEN 60: IF U=67 OR U=71 OR U=72 OR U=80 OR U=86 THEN GOTO U:
    PRINT "BAD STATEMENT IN PROGRAM": GOTO 250
67 T=160: GOTO 90
71 T=136: GOTO 90
72 T=142: GOTO 87
80 T=141: GOTO 90
86 T=143
87 CC=Z: D=B
88 D=D+1: IF PEEK (D)<>44 AND PEEK (D)<>58 AND PEEK (D) THEN 88: IF PEEK (D)=44 THEN 89: PRINT
    "BAD STATEMENT IN PROGRAM!": GOTO 250
89 CC=CC+1: IF CC=1 THEN 88: POKE D,197
90 POKE C,32: GOTO 250
199 REM :MAP OLD TOKENS TO NEW
200 IF T>195 THEN 250: T=T+1+(T>134)*34+(T>139)+(T>160)+(T>177)*2
250 POKE B,T: IF B/500*500=B THEN PRINT "STILL CONVERTING!"
251 IF T<>0 THEN NEXT B: B=B+1: GOTO 40
878 CC=Z: D=C
1000 CALL -936: POKE 60,Z: POKE 61,Z: POKE 62,2: POKE 63,Z: PRINT "DONE!
": INPUT "START RECORDING,
        THEN HIT 'RETURN'",A$
1001 POKE E-2,Z: POKE E-1,Z: POKE E,Z
1005 D=E-4096: POKE Z,D MOD 256: POKE 1,D/256: POKE 2,Z: CALL -307
1010 POKE 60,Z: POKE 61,16: POKE 62,E MOD 256: POKE 63,E/256: CALL -307
1020 PRINT "O.K.
": PRINT "THE TAPE JUST RECORDED CAN NOW BE LOADED INTO APPLESOFT ]C.": END
```

HOW TO SET LOMEM WITHOUT HARDLY TRYING

LOMEM is the start of the variables storehouse; HIMEM marks the top of the program store. Between the two is your working space. Entering BASIC with B^C will set LOMEM to 2048, the normal default value. But there are times (when using the Heuristics Speechlab™ for instance) when LOMEM must be set to a different value. The pro will incorporate such an operation right into his programs, rather than leaving it to chance.

Well, then, is there an easy way to reset LOMEM inside a program? The answer is yes, and we guarantee that your life will be simpler as a result. The few statements shown below will set a new LOMEM within an existing BASIC program. Of course, doing so will destroy existing variables, so do it before any are defined in the program. You can, in fact, insert this little routine at the start of your program so that it conveniently does the whole job for you. Actually, POKE statements 30 and 40 are the ones that do the work, the rest of the program is shown as an example, and figures out what data to POKE.

```
0 REM  HOW TO SET LOMEM INSIDE A B
    ASIC PROGRAM (THIS DESTROYS ANY
    VARIABLE DEFINITIONS)
10 INPUT "NEW LOMEM",A
20 B=A/256:C=A MOD 256: REM  SEPARA
    TE NEW LOMEM INTO LOW AND HIGH B
    YTES.
30 POKE 204,C: POKE 205,B: REM  RES
    ET POINTER FOR VARIABLE TABLE
40 POKE 74,C: POKE 75,B: REM  RESET
    LOMEM POINTER
50 PRINT "LOMEM RESET": END
```

STRING + STRING = CONCATENATION

A string is a series of characters, zero to 255 characters in length. To symbolize that it is a string being operated upon, a string-variable name ends with the $ symbol. APPLE can operate on string variables, in whole or in part, just as it operates on numeric variables. And this ability to manipulate strings – to reformat them, etc. – is a powerful tool.

Concatenation is an important facet of string manipulations. To concatenate strings means to append one to another, to "series connect" hitherto independent character sets in order to operate upon them as a single entity. The concatenation function does exist in APPLESOFT and APPLESOFT II BASICs but, unfortunately, not in Integer BASIC.

There is, however, a simple routine that will let you concatenate strings with Integer BASIC. It's listed below, and operates by defining each string, finding the length of the first, and telling APPLE to tack the start of the second string to the end of the first string, and so on down the line. The example shown here is for two strings only; the maximum length of any concatenated string is, of course, limited to 255 characters.

```
0 REM  EXAMPLE OF STRING CONCATENA
    TION IN INTEGER BASIC
10 DIM A$(40),B$(40)
20 A$="ABCDEF": REM  BUILD A$
30 B$="GHIJKL": REM  BUILD B$
40 PRINT "A$=";A$, "B$=";B$
50 L= LEN(A$): REM  FIND LENGTH OF
    CONTENTS OF A$
60 A$(L+1)=B$: REM  ADD B$ ON AFTER
    LAST CHAR IN A$
70 PRINT "A$=";A$, "B$=";B$: END
```

HOW TO GIVE A NUMBER SOME CHARACTER

Both APPLESOFT and APPLESOFT II contain the functions ASC and CHR$. These are opposites – complementary functions, if you will – in that ASC returns the decimal ASCII number equivalent of its designated string-variable argument, while CHR$ returns a single character equivalent of its designated decimal-ASCII number argument.

Examples: Say, M$="M" is some string variable of interest to us in APPLESOFT. When you tell APPLE to PRINT ASC (M$), APPLE responds with a "77" on its screen. (Remember, first character only; decimal 77 in ASCII corresponds to the letter "M".) On the other hand, tell APPLE to PRINT CHR$ (77), and you get the letter "M".

A rather simpleminded example of the use of this pair of functions could be to associate them with the RaNDom function in a program to generate random alphanumeric sequences.

Except that you cannot do it in Integer BASIC, because, alas, Integer contains only the ASC function. But don't despair, for all is not lost. Below we give you a very short routine that gives Integer BASIC the equivalent of a CHR$ function. *Insert it in your programs wherever you wish to and – presto! – you can convert decimal numbers to their ASCII character equivalents.*

```
0 REM  CREATEING A 'CHR$' FUNCTION
    , WHICH CONVERTS A NUMBER INTO I
    TS ASCII CHAR. EQUIVALENT
10 A$="": REM  MAKES A$ THE FIRST V
    ARIALBE DEFINED IN THE PROGRAM,
    SO WE KNOW WHERE IT IS
20 INPUT B: REM  GETS THE NUMBER TO
    BE CONVERTED. PRINTING CHARACTE
    RS ARE 161 AND UP
30 POKE 2053,B: REM  INSERTS NUMBER
    INTO THE STRING VARIABLE 'A$',
    SO IT CAN BE PRINTED AS A CHARAC
    TER
40 PRINT B;" CORRESPONDS TO '"
    ;A$;"'"
50 GOTO 20: END
```
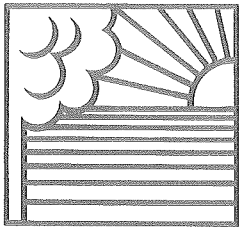
apple computer inc.

10260 Bandley Drive
Cupertino, California 95014
(408) 996-1010

contact 2/the user group newsletter for june 1978

apple computer inc.

OUTSIDE THE ORCHARD

NEW PRODUCTS

...of interest to Apple users

FROM VIDEO TO UHF — Another modulator unit, this one from ATV Research, is available to transform APPLE II's video output to a video-modulated UHF signal. For B/W or color, the unit — called the Micro-Verter model MVX-500 — outputs a signal tunable to one of four channels above television channel 14. It does not require direct connection to your television receiver's antenna terminals, and it is powered by four AA cells, which the manufacturer claims will last in excess of 1000 hours. Suggested price: $35, from dealers or factory direct. ATV Research, 13th and Broadway, Dakota City, NE 68731; (402) 987-3771.

HARD-COPY GRAPHICS TERMINAL — The Panographic-84 is a precision x-y plotter with 100-step resolution in both directions; it is driven by zero-drift, adjustment-free stepping motors. Plotter programs can be written in BASIC or machine-language. Interface to APPLE is via our Parallel Printer card. Soon to be available is a chart reader that will allow you to use the plotter as an input device. The assembled plotter, with computer-operated pen lifter and molded cover, sells for $1400 (delivery 60 days ARO); as a kit, without lifter and cover ($995 (90-days delivery); the pen lifter kit is $85; the cover, also $85. Pan Dynamics, Inc., 2950 Nebraska Ave., Santa Monica, CA 90404; (213) 829-2332.

CO-RESIDENT ASSEMBLER — Microproducts has introduced a co-resident Assembler claimed to be much more powerful than MOS Technology's Assembler for the 6502 MPU, and thus better able to exploit APPLE II's advanced features. The new Assembler has two-pass implementation, and incorporates a ten-command text editor, and a Microproducts printer driver for which the company makes an APPLE II/PR-40 printer interface. One of the features of the Assembler is that it permits the text file to be saved or loaded from tape. Micro-products, 1024 17th Street, Hermosa Beach, CA 90254; (213) 374-1673.

TAPE RECORDER CONTROL — ROR and Candex Pacific have announced a relay activator to start and stop audio tape recorders via the REMOTE jack. The activator plugs into the GAME I/O connector on the Apple II, and is controlled with PEEK and POKE commands. Its connector allows the game controls to plug into it so that both devices can be used simultaneously. Retail price is $24.95, and quantity discounts are available. Delivery is 30 days ARO. Technical questions should be addressed to Candex Pacific, 693 Veterans Blvd., Redwood City, CA 94063; (415) 364-8427.