NATIONAL IMAGINATION COMPUTER CLUB

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*   515 Shadylane-Barrington-Illinois-60010

NOVEMBER/DECEMBER 1982

URGENT! IMPORTANT! LAST CHANCE! ACT NOW

1. Join the ALL NEW, GREATLY IMPROVED 1983 COMPUTER CLUB
    before 12/25/82 for ONLY $10.00 - SAVE $5.00. If you don't
    send in your club application before 12/25/82, you won't get
    the SUPER-DUPER JANUARY 1983 CLUB LETTER!! It will also cost
    you $15.00 to join after 12/25/82.

2. LAST CHANCE to buy programs and peripherals from Protecto
    Enterprises at CLOSE OUT PRICES!! Limited quantities are
    availabe!

3. New improved sales and service for APF Computer Owners!!!

    Jim and Milly Brewer - Box 1411, Springdale, Arkansas 72764
    Phone 501-756-6394 - will provide complete support after
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    a. The will handle ALL service-
        send your computer to Jim Brewer - 1403 Willard,
        Springdale, Arkansas 72764 - UNITED PARCEL SERVICE
        PREPAID.

    b. They will stock and sell all programs and peripherals
        for the APF computer.

    c. They will also provide NEW PROGRAMS and EXPANSION
        CAPABILITIES.

YOU'LL FEEL LIKE A MILLION!!!!!

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ANSWERS/TIPS/QUESTIONS FROM OTHER CLUB MEMBERS

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FROM BILL LUNQUIST OF WYOMING, MICHIGAN

In the June, 1982 newsletter, there is a letter on how to modify
the MPA-10 for 16K of RAM. The letter is apparently based on
the theory, since it doesn't work as presented. I will now
explain how I did this modification. (The club apologizes to all
members who tried this modification, we were unable to test it
prior to publication.)

Set the MPA-10 upside down on your work surface and remove the
screws which hold the bottom of the case on. After removing the
case bottom, remove the screws which hold the main circuit board
in place. Un-solder the ground strap that comes from the
cassette, where it attaches to the main board cover. Unplug the
four plugs which attach the board to the cassette and keyboard.
Remove the board from the MPA-10 case and set the case aside.
Next, remove the metal shields from the cirucit board. The top
shield can be removed by straightening the bent tabs. The
bottom shield must be un-soldered.

The description of what chips are necessary is correct. You
just need to remove the 8K chips and install the 16K versions.
I installed a 14 pin socket (Radio Shack #276-1999) in the open
area to the right of U4 and U5. The whole board is grounded here
so you need to remove the conducting surfaces on both sides of
the board. I drilled the 14 holes using a piece of project
board as a guide.

Using wire wrap wire, I ran 5 volts to pin 14 of the new socket
from pin 16 of U5. Pin 7 of the new socket should go to the
ground. I did not cut the foil away from that pin, so all I had
to do was solder it to the foil).

The chip which goes in this new socket is a 74LS08, also
available from Radio Shack. As described in the June article,
the inputs to this AND gate (pins 4 & 5) should go to pins 10
and 11 of U5. This is very easy to do with wire wrap wire since
U5 is only about 1 1/2 inches away from the new socket. Pin 6
of the new socket goes to resistor R6. I did this connection by
un-soldering the end of R6 nearest the metal shield and lifting
it up. I then soldered a piece of wire wrap wire to the lifted
end of the resistor. I ran this wire through a hole already in
the board near the new chip and connected the other end to pin 6
of the new chip.

So far this is exactly what was covered in the June article.
There is one more thing to do before the new memory will work.
The jumper which either sent ground or +5 to pin 10 of U3 must
be removed and replaced with another jumper to supply pin 10 of
U3 with the BA13 signal. First remove the jumper that is to the
left of U6. The new jumper, soldered to the underside of thew
board, should go from the old jumper connection nearest to the
memory chips, to pin 26 of the J connector socket. Looking
at the underside of the board, this is the third pin on the top
row of the J connector socket. There is a handy hole just to
the left of the socket which is connected to this pin. You can
use an ohm meter to verify that this is the same connection that
goes to pin 1 of U7.

You are now done. Put the MPA-10 back together. I didn't
bother to re-solder the cover. I don't think it is necessary,
and if you did goof, it would be one more thing you would have
to do to make corrections. You should re-solder the ground
strap, however.

I have made one other change to my APF computer. I have built
a modification for the MP-1000 which causes the computer to go
into a new monitor if a program crashes or you press the reset
key. It means that you no longer loose your BASIC or machine
language programs if an error occurs. The monitor has many
features which are usable by both BASIC and machine language
programmers. It is really great to no longer see "APF BASIC"
appear if I forget a ")" on a BASIC statement. Now I get a
different cursor, press one key, and go back to BASIC with
my program still there. This MP-1000 modification should be
available soon from Bob Eisman.

After you have completed the 16K modification, you will notice
that your 8K tapes don't load correctly. This is because the
computer wants to load all of RAM from tape. To get around this
problem, poke 41446,191. Load your tape, poke 41446,223, and
re-save your program. Memory locations 41446 and 41447 are used
by the APF as indicated end of memory. When you save or load a
tape, the APF looks at these locations to determine how much
memory to load or save.

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PROGRAMS FROM OTHER CLUB MEMBERS

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SQUARE ROOT ONLY
             ............. FROM JOHN PIERCE OF CLAYTON, UTAH



  10   INPUT "NUMBER = ",N
  20   IF N<=0 GOTO 10
  30  X=1
  40  X=.5*(X+N/X)
  50   IF  ABS (X*X/N-1)<.0001 GOTO 70
  60   GOTO 40
  70   PRINT "THE SQUARE ROOT OF ";N;" IS ";X
  80   END




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SQUARE & CUBE ROOTS
             .............ALSO FROM JOHN PIERCE



10   INPUT "NUMBER = ",X
20   INPUT "ROOT (2 OR 3) = ",R
30   INPUT "# OF DECIMMAL PLACES OF ACCURACY",S
40   IF R<0 PRINT "ROOT MUST BE 0 OR LARGER": GOTO 10
50   IF R=0 THEN P=1: GOTO 140
60  P=X/R
70   FOR Y=1 TO 100
80  Z=P
90  RR=R-1
100 P=(X/P^RR+RR*P)/R
110   IF  ABS (Z-P)/( ABS (A)+ ABS (P))<.001 GOTO 130
120   NEXT Y
130 P= INT (P*10^S+.5)/ INT (10^S+.5)
140   PRINT "THE ";R;" ROOT OF ";X;" IS ";P
150   END
```

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SHAPE
....................... from CHUCK RATHGEBER of Virginia
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This program will demonstrate all of the lo-resolution graphics
shapes and paints them in all colors, one shape at a time.

;

```
1    REM    -CHUCK RATHGEBER
10    CALL 17046
20    POKE 24578,54
30    FOR S=1 TO 15
40    SHAPE =S
50    FOR C=0 TO 8
60    COLOR =C
70    FOR X=0 TO 31
80    FOR Y=0 TO 15
90    PLOT X,Y
100    NEXT Y: NEXT X: NEXT C
110    CALL 17046
120    NEXT S
```

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SNAKE
................from RON ROADY of Oxnard, California
```

```
1    POKE 24578,38
2    REM    --RON ROADY
5    CALL 17046
10    DIM R$(1): DIM L$(1)
15    PRINT "DON'T SIT STILL!!!": PRINT "YOU MUST KEEP MOVING!!!": PRINT "PRESS RE
TURN KEY WHEN READY": INPUT S
20    SHAPE =15: CALL 17046
30 XA=31:YA=0:XB=0:YB=15:RC=-3:LC=-3:RFLAG=0:LFLAG=0
40 X1=XA:Y1=YA:X2=XB:Y2=YB
44    IF RC=2ANDLC=2 THEN  PRINT "NOBODY WINS": GOTO 530
45    IF RC=2 THEN  PRINT "RED WINS": GOTO 510
46    IF LC=2 THEN  PRINT "BLUE WINS": GOTO 510
50 R$= KEY$ (1):L$= KEY$ (2)
100    IF R$="N" THEN YA=Y1-1: IF YA<0 THEN YA=0
110    IF R$="S" THEN YA=Y1+1: IF YA>15 THEN YA=15
120    IF R$="E" THEN XA=X1+1: IF XA>31 THEN XA=31
130    IF R$="W" THEN XA=X1-1: IF XA<0 THEN XA=0
150    IF L$="N" THEN YB=Y2-1: IF YB<0 THEN YB=0
160    IF L$="S" THEN YB=Y2+1: IF YB>15 THEN YB=15
370    IF L$="E" THEN XB=XB+1: IF XB>31 THEN XB=31
```

SNAKE (continued)

```
180   IF L$="W" THEN XB=XB-1: IF XB<0 THEN XB=0
200   IF   PEEK (512+YA*32+XA)<>128 THEN XA=X1:YA=Y1:RC=RC+1: GOTO 210
205 RC=0
210   IF   PEEK (512+YB*32+XB)<>128 THEN XB=X2:YB=Y2:LC=LC+1: GOTO 300
220   IF XB=XAANDYB=YA THEN XB=X2:YB=Y2: GOTO 300
225 LC=0
300   COLOR =2: PLOT XA,YA: COLOR =3: PLOT XB,YB
310   IF   PEEK (512+(YA+1)*32+XA)=128 THEN   GOTO 400
320   IF   PEEK (512+(YA-1)*32+XA)=128 THEN   GOTO 400
330   IF   PEEK (512+YA*32+XA+1)=128 THEN   GOTO 400
340   IF   PEEK (512+YA*32+XB-1)=128 THEN   GOTO 400
350 RFLAG=1
400   IF   PEEK (512+(YB+1)*32+XB)=128 THEN   GOTO 450
410   IF   PEEK (512+(YB-1)*32+XB)=128 THEN   GOTO 450
420   IF   PEEK (512+YB*32+XB+1)=128 THEN   GOTO 450
430   IF   PEEK (512+YB*32+XB-1)=128 THEN   GOTO 450
440 LFLAG=1
450   IF RFLAG<>1AND IF LFLAG<>1 THEN   GOTO 40
460   IF RFLAG=1AND IF LFLAG<>1 THEN   PRINT "RED WINS": GOTO 510
470   IF LFLAG=1AND IF RFLAG<>1 THEN   PRINT "BLUE WINS": GOTO 510
480   PRINT "NOBODY WINS": GOTO 530
510   MUSIC "104060*1   6 *100"
520   STOP
530   MUSIC "-/50000 -/1000000"
540   END
```

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DOODLE
                  ....from JOSEPH MIRABITO

```
10 A=8193: POKE A,60
12   POKE A+1,158
13   REM     SETUP SHAPES IN SHAPE TABLE
14 B=512: GOSUB 100: GOSUB 105
16 B=544: GOSUB 101: GOSUB 106
18 B=576: GOSUB 100: GOSUB 106
20 B=608: GOSUB 101: GOSUB 105
22 B=640: GOSUB 101: GOSUB 105
24 B=656: GOSUB 100: GOSUB 106
26 B=672: GOSUB 101: GOSUB 106
27   REM     FILL-IN NON-STANDARD SHAPES
28   POKE 522,85: POKE 570,85
30   POKE 586,5: POKE 602,84
```

```
32  POKE 618,84: POKE 634,5
34  POKE 650,85: POKE 666,85
36  POKE 682,5: POKE 698,84
40  REM     CLEAR SCREEN WITH GREEN FIELD
42  FOR X=0 TO 383
44  POKE X,1: NEXT X
45  REM     PLACE CURSOR IN CENTER OF SCREEN
46 P=176
47  REM     CHANGE COLOR GROP OF CURRENT CURSOR POSITION
48  POKE P,( PEEK (P)+64)
49  REM     IF A KEYBOARD KEY IS PRESSED RETURN TO BASIC MONITOR
50  IF  ASC ( KEY$ (0))=0 THEN 54
52  POKE A,52: POKE A+1,30: END
53  REM     GET A KEY FROM THE RIGHT HAND CONTROL
54 K= ASC ( KEY$ (1))
55  REM     RETURN TO CHECK BOTH KEYBOARDS IF NO KEY PRESSED
56  IF K=0 THEN 50
57  REM     IF KEY IS AN NUMBER KEY BRANCH
58  IF K<65 THEN 80
59  REM     DIRECTION KEY:DECODE AND MOVE CURSOR
60  IF K=69 THEN I=1: GOTO 68
62  IF K=78 THEN I=-32: GOTO 68
64  IF K=83 THEN I=32: GOTO 68
66 I=-1
67  REM     CHECK IF NEW POSITION IS WITHIN FIELD
68 K=P+I: IF K<0 THEN 50
70  IF K>382 THEN 50
71  REM     CHANGE COLOR OF OLD CURSOR, PLAY ANOTE, AND UPDATE CURSOR
72  POKE P,( PEEK (P)-64)
74 P=K: MUSIC "1": GOTO 48
79  REM     DECODE THE NUMBER KEY TO A SHAPE
80  IF K=63 THEN I=10: GOTO 86
82  IF K=33 THEN I=11: GOTO 86
84 I=K-48
85  REM     PLACE THE NEW SHAPE, PLAY A NOTE AND RETURN FOR NEW KEY
86  POKE P,I: MUSIC "7": GOTO 48
99  REM     SET THE UPPER ROW OF DOTS IN TWO ROWS IN SHAPE TABLE
100 C=0: GOTO 102
101 C=4
102  FOR X=0 TO 10
103  POKE B+X,C: POKE (B+X+16),C
104  NEXT X: RETURN
105 C=0: GOTO 107
106 C=4
107  FOR X=11 TO 15
108  POKE B+X,C: POKE (B+X+16),C
109  NEXT X: RETURN
```

Other Special News:

Protecto Enterprizes apologizes for delays in shipping orders. Their objective is always to ship the following day after an order is placed and to give two to seven days delivery on phone orders anywhere in the USA.

The problem on delayed orders was caused when the 28 below zero weather hit the New York area. It froze the water main on the third floor of the warehouse where the 23K IM-1 computers and peripherals were stored on the first floor. This completely flooded the first floor and ruined all the computers and peripherals. We had to bring in all new merchandise to replace the computers causing a 60 to 90 day delay. At the same time we sold out all the computers (several thousand) we planned for this sale! (We planned this sale for six months and sold out in 30 days.)

We are now shipping all orders. We are shipping about two weeks later than we promised. We still have not been able to get any peripherals and do not expect to be able to ship peripherals back orders before June 1, 1982. (BUILDING BLOCKS- RAM CARTRIDGES- RS232 CARTRIDGES- DISKS)
SERVICE MANUAL

We do have all the programs in stock we show on our price list as they were stored in another warehouse and were not affected by the flood. There are a lot of good programs available from other firms, and we will advise club members of these programs in future club letters.

So please have patience. We are dedicated to giving APF IM-1 owners the best possible service and continued program support.

P.S. WE NEED PROGRAMS AND SUGGESTIONS FROM YOU TO MAKE OUR CLUB SUCCESSFUL !!

APF

Product Catalog and Price List

COMPUTER PRODUCTS JANUARY 1, 1982	LIST PRICE	*FACTORY PRICE
23K APF IM-1 COMPUTER. Includes 14,000 Bytes ROM with BASIC built in, 9000 Bytes User RAM, Color, Sound. Professional 53 keyboard, Two controllers, Two 10 key numeric pads, High speed cassette, A. C. adapter, R. F. Modulator, T.V. switch box. Accepts TAPE-DISK-PLUG in cartridges. It is plug in expandable. 90 days parts and labor warranty, Owners guide, BASIC language manual, Beautiful Black & White Console Case.	$599.00	$239.00
23K APF IM-1 COMPUTER FACTORY PACK. Everything you get for $239.00 plus "BASIC TUTOR program" on two tape cassettes with manual to teach you how to cut programming time, "PROGRAMMING AND TECHNICAL ASSISTANCE MANUAL" for Graphics, Machine Language-Memory maps, Schematics and Parts List. Also you get the popular "SPACE DESTROYERS Program."	698.00	289.00
BB-1 BUILDING BLOCK INTERFACE. This plug in interface allows you to use the 23K IM-1 computer to its fullest degree. It contains 4 universal ports to add: RAM memory, Printers, Telephone Modem, and Floppy Disk drives. (5.00 shipping)	199.00	79.50
8K-RAM EXPANSION. Plug into interface port to increase your RAM memory 8192 Bytes. (3.00 shipping)	129.00	79.50
SI-232 SERIAL INTERFACE. Plug in to interface port to connect printers and telephone modems. (3.00 shipping)	149.00	79.50
MX-80 EPSON LINE PRINTER. Deluxe quality: Impact dot matrix-bi-directional, 40-80-66 132 columns-uses regular paper. Includes serial port. (20.00 shipping)	726.00	499.00
TM-150 TELEPHONE MODEM. Best quality: Transmit receive full duplex, switches! Originate-off-answer. (4.00 shipping)	199.00	129.00
FI-100 DISK INTERFACE. Plug into interface port - allows you to connect the floppy disk drive. ($3.00 shipping)	149.00	79.50
D-100 MINI FLOPPY DISK DRIVE. Plugs into interface - has its own power supply and controller - uses no RAM memory, give you 72,000 Bytes of additional data storage, plus instant loading and accessing of data. (7.50 shipping)	599.00	399.00

PROGRAMMING AND LANGUAGE AIDS	FACTORY PRICE	**CLUB PRICE
BASIC TUTOR. This program includes two cassette tape programs with a 243 page manual - Teaches you how to use the simplified Level II BASIC cuts programming time - a must for beginners and professionals.	49.95	29.95
PROGRAMMING AND TECHNICAL ASSISTANCE MANUAL. 100 pages, graphics, memory maps, machine language, schematics, and parts list.	19.95	14.95
6800 MACHINE LANGUAGE EDITOR AND ASSEMBLER. This disk program is used to create source code file - this file is then used as the assembler - simplifies entry or editing, adding, deleting, change in lines, etc.	59.95	29.95
6800 MACHINE LANGUAGE DISASSEMBLER. This disk enhances creation, debugging, and recording of machine language.	19.95	14.95
DISK COPIER PROGRAM. Allows you to make duplicate copies of all disk programs written for the APF-IM-1.	19.95	9.95
**NATIONAL COMPUTER CLUB MEMBERSHIP. Allows special discount prices - programming assistance-new developments-program exchange-factory sponsored.		15.00

We ship C.O.D., Honor Visa and
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  C.O.D., add $5.00 more.
**Add $3.00 for postage - if
  C.O.D., add $2.00 more.

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MANAGEMENT PROGRAM TAPES	FACTORY PRICE	**CLUB PRICE
ELECTRONIC FILES This is a computer filing system that allows you to keep track of names, addresses, and other records.	$ 29.95	$ 19.95
BAR CHARTS Color charts for comparisons, year to year category by category - See your situation at a glance!	19.95	14.95
TYPING TUTOR Learn typing at your own speed-unique program-Computer designs and changes to fit your ability.	29.95	19.95
CHECK BOOK BUDGET MANAGER Faster way to balance your check book- Balance your budget - Keep tax records, etc!	29.95	19.95
BUDGET MANAGER Day by day, week by week, 3 categories, including food, medical, automotive - even summary reports.	19.95	14.95
PERSONAL BUSINESS MACHINE Calculate loans, interest, principle payments, loan payments, etc.	29.95	19.95
BILLBOARD Great for creating messages in sound, color, and graphics with a beautiful display.	19.95	14.95
SPACE SIZE AND SURFACE GUIDE Great for home improvements, figure your material needs - How much Paint - Carpeting - Fertilizer, etc.	29.95	19.95
MATH TUTOR Great for improving math skills at any age level, based on personal ability - a private tutor with lots of fun.	29.95	19.95
THE WORD FACTORY A spelling game that's fun - spell name of object pictured - great to improve your kids spelling skill and adult to!	19.95	14.95
SPELLING DUEL Challenging and educational. Great fun with combination spelling and crossword game!	19.95	14.95
JUMBLED UP THINGS Create words from jumbled up letters against the clock - Great educational program to improve your memory.	29.95	19.95
PERCEPTION Learning game - Two players any level compete - Improves your ability to solve problems.	19.95	14.95
ARTIST AND EASEL Great color art program for those who like to paint, doodle - Save your masterpiece - Use your imagination.	19.95	14.95
MUSIC COMPOSTER Practice on keyboard, select key and tempo, write a tune and record it.	19.95	14.95
SPACE DESTROYERS The most popular space game played - Hold off the invaders, save the earth from destruction!	29.95	19.95

GAME CARTRIDGES	FACTORY PRICE	**CLUB PRICE
HANGMAN Tic-Tac-Toe, Doodle. Two competitive games, plus the electronic art of Doodle.	$ 19.95	14.95
U.F.O. Shoot-a-Lot, Sea Monsters, Break-it-Down. Two great adventures in space and the deep, and two challenging carnival games.	19.95	14.95
SHOOTING GALLARY Brickdown-it takes smart shooting to get all bricks, and a steady aim.	19.95	14.95
PINBALL Blockout, Dungeon Hunt, Electronic flippers and tricky ball speed changes in pinball. In Dungeon, search and score.	19.95	14.95
CASINO Roulette, Keno, Slot Machine. All games are played by the real Las Vegas rules. Even has the authentic sounds of the casino, too!	19.95	14.95
BLACK JACK Great practice! You'll really clean up at the real thing! Smart decisions, not always luck, determine if you beat the machine.	19.95	9.95
BASEBALL THE GREAT American pastime can still be great - even when the weather isn't.	19.95	14.95
BOXING Features 2 boxers battling toe to toe like Dempsey and Firpo! 6 variations.	19.95	14.95
BACKGAMMON This ancient game has never been more popular - and it really comes to life in all the colors of your TV screen.	19.95	14.95
CATENA Surround your opponent, but watch out for the last minute reverses	19.95	14.95

WARRANTY - 90 DAYS PARTS AND LABOR If unit fails within 90 days of purchase, send unit and sales receipt prepaid via United Parcel Service to PROTECTO ENTERPRIZES at address shown. We will ship you a replacement unit within 48 hours of receipt prepaid.

SERVICE MANUAL Detailed service instructions and pictures for those who want to service their computer.	19.95	14.95

APF-IM-1 OWNERS

SANTA CLAUS SALE!!

<u>LIMITED QUANTITIES</u> - ENDS 12-25-82

1. ALL TAPE PROGRAMS AND CARTRIDGES 1/2 PRICE!

   Now you can afford to give your computer a Christmas present,
   (get the complete library of tapes and cartridges available)

2. ALL EXPANSION PERIPHERALS ONLY $49.50 EACH

   Building Block! 8K RAM Cartridges! RS232 Cartridges!
   FI 100 Disk Interface Cartridges!

3. FLOPPY DISK DRIVE ONLY $299.00
   (While they last!)

4. ALL NEW 1983 COMPUTER CLUB

   A. New name "IM-1 in a Million"

   B. New Club President - Milly Brewer
      P. O. Box 1411, Springdale, Arkansas 72764

   C. Guaranteed delivery - will refund $1 for any month you
      don't get your club letter.

   D. Money back guarantee. You can cancel any time and be
      refunded $1 per month you don't get the club letter.

   E. Guaranteed clear copies - if you can't read the club
      letter we'll refund $1 for any issue.

   F. Monthly - technical and service articles!

   G. EARLY CLUB MEMBERSHIP SIGN UP BONUS $5.00 - if you submit
      your new 1983 club application and fee direct before
      12-25-82 to Milly Brewer (new 1983 president) you pay
      only $10.00 instead of the regular $15.00 annual fee.

DON'T MISS THIS SALE - REMEMBER LIMITED QUANTITIES ARE AVAILABLE!

(See other side for 1983 Club Application)

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IM-1     MILLION
        in a
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Club Member

AT THE END OF THE CURRENT SUBSCRIPTION YEAR THE NATIONAL
IMAGINATION COMPUTER CLUB WILL BECOME THE 'IM-1 IN A MILLION'
UNDER TOTALLY NEW MANAGEMENT.

THE NEW POLICY IS TO UPGRADE EVERYTHING THAT HAS GONE BEFORE.
THE 'IM-1 IN A MILLION' WILL MAINTAIN THE MINIMUM OF 10 PAGES
PER ISSUE, ISSUED MONTHLY. HOPEFULLY, AS SUBSCRIBERS CONTACT US, EVEN
MORE. WE'LL TRY TO CONTINUE THE CLUB DISCOUNT (DEPENDING ON FACTORY)
AVAILABILITY) ON BOTH HARDWARE AND SOFTWARE. AS NEW ITEMS BECOME
AVAILABLE WE'LL ADD THEM TO OUR LIST.

OF COURSE WE'LL KEEP PRINTING FREE PROGRAMS WRITTEN BY
OWNERS SPECIFICLY FOR THE IM-1. WE PROMISE TO PERSONALLY
ANSWER EVERY LETTER YOU WRITE.

SOME NEW DEPARTMENTS HAVE BEEN ADDED, SO LOOK FOR THEM IN
THE FIRST ISSUE, JAN 1983.

   ADDED: THE WANT ADS; HERE IS A PLACE FOR SUBSCRIBERS TO
          BUY AND SELL PROGRAMS, USED EQUIPMENT OR ANY
          ASSOCIATED MATERIALS (COST MINIMAL).
   ADDED:MAINTENANCE AND REPAIR ADVICE PLUS INFORMATION
          ON ANY UPGRADES IN THE FUTURE.

WHETHER YOU USE YOUR MACHINE FOR HOME, BUSINESS OR
ENTERTAINMENT, WE WILL HAVE SOMETHING FOR YOU.

REMEMBER, SUBSCRIBE NOW FOR 1983 FOR ONLY $10.00, AFTER
DEC 25,1982 THE RATE GOES BACK TO $15.00. WE WILL GIVE YOUR
MONEY BACK ANYTIME YOU ARE NOT COMPLETELY SATISFIED WITH
THE CLUB LETTER, PRORATED OF COURSE!

MEMBERSHIP APPLICATION
FOR 1983
1-1-83 to 12-31-83

NAME=_____

STREET ADDRESS=_____

CITY=_____

STATE=_____ZIP=_____

ENCLOSED IS MY $ 10.00 FEE (SPECIAL PRICE)

```
        MAIL TO:  EDITOR
                  MILLY BREWER
                  P.O.BOX 1411
                  SPRINGDALE,
                  ARKANSAS 72764
```

APF

FANTASTIC!

SANTA CLAUS SALE!!
(GIVEAWAY PRICES!)

Product Catalog
and Price List
UNTIL 12-25-82

LIMITED QUANTITIES!!

COMPUTER PRODUCTS	~~JANUARY 1, 1982~~	LIST PRICE	SANTA SALE ~~FACTORY~~ PRICE
23K APF IM-1 COMPUTER. Includes 14,000 Bytes ROM with BASIC built in, 9000 Bytes User RAM, Color, Sound. Professional 53 keyboard, Two controllers, Two 10 key numeric pads, High speed cassette, A. C. adapter, R. F. Modulator, T.V. switch box. Accepts TAPE-DISK-PLUG in cartridges. It is plug in expandable. 90 days parts and labor warranty, Owners guide, BASIC language manual, Beautiful Black & White Console Case.		$599.00	$239.00
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