

**VOLUME 1** 

NUMBER 9

### for the ATARI 400/800

- **Guardian Master**
- Form 1040
- Schedule A
- Auto Line Number
- 6502 Tutorial #3

\$17.95 for disk, \$12.95 for cassette

## programmer'sinstitute

a division of FUTUREHOUSETM 3101/2 West Franklin Street P.O. Box 3470, Chapel Hill, NC 27514

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#### EDITOR'S NOTES - By Andy Hock

The tremendous positive response from our growing number of SUBSCRIBERS, and the request for additional SERVICES has SPURRED the inevitable rapid expansion of our staff and our magnetic magazine.

Beginning with our next issue Vol.1, Number 10, we'll be adding two more series: a beginner's column and an intermediate level programming tutorial. In addition to these two new columns we will be completing our timely mini-series providing programs to 'assist our subscribers with their income tax. In this issue we provide you with programs for completing your 1040 and schedule A, and in our next issue we will include programs for schedule B and G. Our tax assistance mini-series was added at the expense of our DATABOSS series which will continue in Volume 2, Number 1.

Another notable change is that our **GAME OF THE MONTH** is a machine language game. Even though the language is more complex, the benefits, including more efficient processing, more accurate sound and better animation offer some worthwhile advantages. For the less advanced programmer we will continue to offer games in BASIC.

Making all the additions possible are a host of new people on our staff. Our most recent addition to our management team is Bill Hayes, who is joining us as Vice-President - Sales. In addition to his numerous successful projects as an international consultant, Bill has served as marketing director for a high-quality modem manufacturer, and a producer of industrial training tapes. Our editorial staff has also been expanded with the arrival of Gertrude Williams as Assistant Editor; David Hock Associate Editor, and Suzanne Green and Linda Hammer as Editorial Assistants.

We hope you enjoy issue #9. And you'll be happy to know that Volume 1,# 10 and Volume 2,# 1 are almost completed and will be available very soon. Please write us at our NEW ADDRESS, and keep us informed of any suggestions, programs, etc.

#### I-Introduction to the Program

GUARDIAN MASTER: is an action packed 100% machine language game. Your goal is to protect your bases, while shooting down enemy ships. But watch out for the GUARDIAN!

FORM 1040 PART 1, 2, AND 3: covers filing status, exemptions, income adjustments, computation of tax, tax credits, taxes (other), and payments or balance/refund due. Each screen is formatted exactly as the tax form, so all you have to do is input data.

SCHEDULE A: Itemized Deduction. Reviews medical and dental expenses, taxes, interest expense, contributions, casualty/theft losses, miscellaneous deductions, and presents a summary of itemized deductions.

AUTOLINE NUMBER: our utility of the month for Issue #9 automatically numbers your programs for you.

6502 TUTORIAL # 3: third in the 6502 Tutorial series is a lesson on multiplying and dividing numbers in machine language.

#### II-LOADING INSTRUCTIONS

CASSETTE: Advance tape recorder to the specified line counter; type in CLOAD, and press [RETURN] twice. The programs are saved on both sides of the tape. If you should receive an ERROR 138 while attempting to load the programs, advance the tape a counter or two past the indicated number. If an ERROR 143 should appear on your screen, load the program a counter or two before the indicated number. When the programs load, we recommend that you record the line numbers where the programs started on your cassette recorder.

PROGRAM NAMES	COUNTER #
GUARDIAN	10
SCHEDULE 1040-PART 1	46
SCHEDULE 1040-PART 2	134
SCHEDULE 1040-PART 3	191
SCHEDULE A	241
AUTO LINE	301
6502 TUTORIAL #3	309

DISKETTE: Insert the MAGATAR diskette into the disk drive and turn the drive on. Then turn your computer on, and the programs will be loaded through the auto-boot. To load the programs seperately enter the name listed under instruction, and press [RETURN].

PROGRAM NAMES	INSTRUCTIONS
MENU PROGRAM	RUN"D: MAGATAR"
GUARDIAN MASTER	RUN"D:GUARDIAN"
FORM 1040 PART 1	RUN"D:F10401"
FORM 1040 PART 2	RUN"D:F10402"
FORM 1040 PART 3	RUN"D:F10403"
SCHEDULE A	RUN"D:SCHEDULA"
AUTO LINE NUMBER	RUN"D: AUTOLINE"
6502 TUTORIAL #3	RUN"D: MACHINE3

#### III-PROGRAMS

#### A. GUARDIAN MASTER

The goal of GUARDIAN MASTER is to protect your bases at the bottom of the screen, while shooting down the enemy space ships that are attacking them. You start the game with 3 bases, and get a bonus base everytime you complete 2 levels. There is a guardian constantly moving at the top of the screen who makes sure that you don't keep your finger pressed on the trigger button. Everytime you hit the guardian, you can gain or lose points (though you'll lose more than you gain), so you have to be a good shot!

Some extra hints, are that some of the space ships require more than one hit for a 'kill', and that your base protectors are rejuvenated every second level. Disk users will notice that there is a top ten score saver. We'd like to thank Chris Aiken for this action-packed 100% machine language game (there are many more to come!)

NOTE: To load this program from cassette, a BASIC cartridge is not required. You cannot CLOAD this program! To load, turn off your machine. Press [PLAY] on your recorder. Press the [START] key on your ATARI and turn on the machine with your hand on the [START] key. When you hear the beep, press [RETURN], and the program will load.

#### B.SCHEDULE 11040-PART 1

The menu for FORM 1040-PART 1 appears as follows:

FORM 1040 MENU

- (1) REVIEW FILING SECTION
- (2) REVIEW EXEMPTION SECTION

- (3) REVIEW INCOME SECTION
- (4) 1040 FILE MENU
- (5) RETURN TO MAIN PROGRAM (MAGATAR)

What is your choice ?

#### Important Notes:

- -- The blinking cursor is used to help you locate the cursor on the screen.
- -- Option 4 is to load or save the 1040 file. This file will contain information you have previously entered, and is the same file for all 3 of the 1040 programs.
- $\mbox{--}$  Do not use decimals. Round figures to the nearest dollar. (The IRS allows you to do this).
- -- CASSETTE: follow this procedure to generate your working tax file.
- 1- Load PART 1, input data, save file.
- 2- Load PART 2, load file from PART 1, input data, save file.
- 3- Load PART 3, load file from PART 2, input data, save file.
- -- DISKETTE: files should be maintained on a seperate pre-formatted diskette (see your ATARI DOS manual for formatting instructions). All files will be automatically updated in a central file. Remember to always load in the central 1040 file before making any changes in any of the three programs and then resave that file.

#### 1 - REVIEW FILING SECTION

After selecting Option (1), the following screen will appear:

#### FILING STATUS

(1) Single

(2)	 Married filing joint return (even if only had 1 income)
(3)	 Married filing seperately Name of Spouse Soc. Sec.#
(4)	 Head of household Childs name
(5)	Qualifying Widow(er) with

#### dependent child

ENTER [1] to [5] or [N]ext or [RETURN]

Enter 1-5 to input your applicable situation.

If you enter 1-5, press any key except the (Space bar), and that item will be 'X'ed and recorded. If you enter or press the (Space bar) without making a selection, all applicable information for that item will be erased.

Under category 3, Married Filing Seperately, use the following procedure to input information: Press 3, then any key. A blinking cursor will prompt you to input name of spouse. Input name, then press [RETURN]. Next, input the social security number using digits only (the hyphens are inserted automatically).

Important: You must complete this section for use in further
calculations!

To return to the FORM 1040 MENU, press [RETURN], or to go on to the next page (Exemptions), press [N].

#### 2- Review Exemptions Section

After selecting Option (2) on the main menu, (or pressing [N] after completing option (2)), the following screen will appear:

#### EXEMPTIONS

6A Yourself 65 or over Bil	na
6B Spouse 65 or over Bli	nd
6C Enter dependent children's names	
6D Total # of other dependents	
6E Total # of exemptions claimed	
Enter (6A)-(6D) or [N]ext or [RETURN]	
Enter 6A - 6D as your situation applies.	

NOTE: This is the only section in the package not equipped with a blinking cursor to guide you on each line. To input data on lines 6A and 6B, press 6, then A or B, then any key but (Space bar) to flag each category. For example to declare yourself as exempt, press 6 then A, then any key; an X will appear next to yourself. Next, press (Space bar) twice to ignore the other two categories.

To input dependents names press 6, then C. A cursor will appear prompting you to input first dependents name. The return key is then used to skip to the next line. Up to five (5) dependents are allowed.

To return to the FORM 1040 MENU, press [RETURN], or to go to the next page (Income), press [N].

#### 3- REVIEW INCOME SECTION

After selecting Option (3) on the FORM 1040 MENU, or pressing [N] for the next page, the following screen will appear:

#### INCOME

7 Wages, Salaries, etc.	
8 Interest Income	
9A Dividends	
9B Exclusion	
9C (9A-9B)	
10 State & Local Tax Refund	
11 Alimony Received	
12 Business Income (Loss)	
13 Capital Gain (Loss)	
14 40% not included in 13	
15 Supplemental Gains	
16 Taxable P & A not on 17	
17A Other Pers. & Amnuities	
17B Taxable Amount	
18 Rents, Partnerships, etc.	
19 Farm Income (Loss)	
20A Unemployment Comp.	
20B Taxable Amount	
21 Other Income	
22 Total Income	

Enter (07\*) - (21\*) or [RETURN]

You must enter 3 keys. For example, to enter item 13, key in 130; for 20A, etc. After selecting the items, key in the amounts, then press [RETURN]. For negative amounts, include the minus sign.

Items 9B, 9C, 20B, and 22 are inaccessible, because these are calculated for you.

If you should accidentally input a value in the wrong line, re-open the line and type in either [0] or the correct value, then press [RETURN]. Follow this procedure with the other programs as well.

After all the data for the INCOME option has been entered, press [RETURN] to return to the FORM 1040 MENU.

#### 4- 1040 FILE MENU

You are now ready to save your tax files. To load or save the 1040 file, select Option (4) on the main menu. The following will appear: 1040 FILE LOAD

- (1) Cassette load
- (2) Diskette load
- (3) Cassette save
- (4) Diskette save
- (5) Return to FORM 1040 MENU

What is your choice?

Choose the appropriate option to either load or save the tax data.

Note: When saving tax data, the program will prompt you to load 1040 File into storage device. Remember to insert a pre-formatted disk or cassette in your drive or tape recorder. Then press any key to save the tax file.

#### 5- RETURN TO MAIN PROGRAM

- --Diskette: select this option to return to the main program menu (MAGATAR).
- -- Cassette: select this option to exit from the program.
- C. SCHEDULE 1040 PART 2

The menu for FORM 1040 - PART 2 appears as follows:

FORM 1040 MENU

- (1) Review Adjustments to Income and Tax Computation
- (2) 1040 FILE MENU
- (3) Return to main program (MAGATAR)

What is your choice?

1- Review Adjustments to Income and Tax Computation
After selecting Option (1), the following screen will appear:
ADJUSTMENTS TO INCOME B/F
23 Moving Expense
24 Exp. Business Expenses
25 Payments to an IRA
26 Payments to Keough Plan
27 Interest Penalty on E/W
28 Alimony Paid
29 Marriage Deduction
30 Disability Income Exp
31 TOTAL ADJUSTMENTS
32 Adjusted Gross Income
TAX COMPUTATION
34A Itemized Deduction
34B Allowable Contribution
35 (32-34A) or (32-34B)
36 \$1,000 * # of Exempt (6E)
37 Taxable Income (35-36)
38 Tax
39 Additional Taxes
40 TOTAL (38 + 39)
Enter (23*)-(39*) or [RETURN]

Again you must enter 3 keys. For example, to enter items 23, key in 230. After selecting the item, key in the amount, then press [RETURN]. For negative amounts include the minus sign.

Items 31, 32, 34B, 35, 36, 37, 38, and 40 are inaccessable because they are calculated for you.

At the completion of this option, press [RETURN] to return to FORM

1040 MENU.

#### 2- 1040 FILE MENU

Select Option (2) to save/load this tax data. This procedure is identical to that of 1040 PART 1.

Diskette: your TAX FILE will be automatically updated.

Cassette: This file now becomes your working file. You will load this into PART 3.

#### D. SCHEDULE 1040-PART 3

The menu for FORM 1040-PART 3 appears as follows:

FORM 1040 MENU

- (1) Review Tax Credits orOther Taxes
- (2) Review Payments or Balance/Refund Due
- (3) Form 1040 File Load
- (4) Return to Main Program (MAGATAR)

What is your choice?

#### 1-REVIEW TAX CREDITS OR OTHER TAXES

After selecting Option (1), the following will appear on the screen:

	TAX CREDITS - Bal.Fwd.	
41	Credits for Elderly	
42	Foreign Tax Credit	
43	Investment Credit	
44	Credit for Debit Contr.	
45	Credit for Child & Dep.	
46	Jobs Credit	
47	Resid.Energy Credit	
48	Other Credit	
49	TOTAL CREDITS	
50	BALANCE	

OTHER TAXES

51 Self-Employment Tax
52 Minimum Tax
53 Alternative Min.Tax
54 Tax From P/Y Invest Cr.
55 FICA Tax on Trips
56 Uncollectable RRTA & FICA
57 Tax on an IRA
58 Advanced Earned Inc.Cr.
59 TOTAL TAX (50 THRU 58)
Key (41*)-(58*) or [N]ext or [RETURN]
Enter data in the same manner as before, but this time, use only 2 digits. When done, key [N] to go on to the next page (PAYMENTS) or [RETURN] for FORM 1040 MENU.
2- REVIEW PAYMENTS OF BALANCE/REPUND DUE
After selecting Option (2), the following screen will appear:
PAYMENTS-BAL.FWD
60 Total Income Tax W/H
61 Ext. Payments this year
62 Earned Income Credit
63 Amt.paid W/FORM 4868
64 Excess FICA & RRTA W/H
65 Credit for Tax on Oil
66 Reg.Inv.Co.Credit
67 TOTAL (55 THRU 61)
68 BALANCE DUE (AMOUNT OVERPAID)
ENTER (60)-(66) or [RETURN]
Note: If you have overpaid your taxes, line 68 will read AMOUNT OVERPAID. If you owe taxes, it will read BALANCE DUE.
3- FORM 1040 FILE LOAD

After entering data, select Option (3) on the FORM 1040 MENU to

save/load the tax file. This is now your Master Tax File.

#### E. SCHEDULE A - ITEMIZED DEDUCTIONS

Schedule A can be used in conjunction with the other tax scedules. The program is divided into sections in the same manner as the actual Schedule A form. We suggest that you refer to the IRS instructions to determine which items you are allowed to deduct.

The first screen in the program is the main menu, which appears as follows:

#### SCHEDULE A MENU

- (1) Review Medical and Dental Expenses
- (2) Review Taxes and Interest Expense
- (3) Review Contributions and Casualty/Theft Losses, Miscellaneous Deductions
- (4) Review Summary of Expenses
- (5) File Maintenance
- (6) Return to Main Program (MAGATAR)
  What is your choice?

#### 1- REVIEW MEDICAL AND DENTAL EXPENSES

After selecting Option (1), the following screen will appear:	:
MEDICAL AND DENTAL EXPENSES	
010 Medicare and Drugs	
020 1% F1040 line 33	
030 LINE 1 - LINE 2 (M/B]0)	
040 Total Ins.prem.paid	
050 a. Doctor,dentist,etc	
051 b. Transformation	
051 c. Other (itemize)	
053	
054	
055	
056	

057
058
059
060 Total (3 thru 5c)
070 Enter 3% F1040,line 33
080 LINE 6-7 (M/B>0)
090 1/2 of line 4
100 TOTAL MEDICAL EXPENSES
Enter (010-090) or [N]ext or [RETURN]
You must enter 3 keys. For example, to input medical and drug expenses, key in 020. A blinking cursor will appear at line 020 prompting you to enter the appropriate amount. After entering the amount, press [RETURN]. Follow the same procedure when entering all data.
Lines 030, 060, 070, 080, 090, and 100, are inaccessible because they are calculated by the program.
After all data has been entered, press [RETURN] to return to SCHEDULE A MENU, or [N] to go on to the next section (TAXES AND INTEREST EXPENSE).
2- Review Taxes and Interest Expense.
After selecting option (2) or [N], the following screen will appear.
TAXES
110 State and Local Income
120 Real Estate
130 a. General Sales
131 b. General Sales or MV
140 Other
141
142
143
TOTAL TAXES (11 thru 14)

INTEREST EXPENSES
160 a. Home Morgage-Final Int
161 b. Home Morgage-Individual
170 Credit and Charge Cards
180 Other
181
182
183
184
TOTAL INTEREST EXPENSE
Key (110-185) or [N]ext or [RETURN]
Same rules apply as before.
3- REVIEW CONTRIBUTIONS AND CASUALTY/THEFT LOSSES
After selecting Option (3), the following will appear on the screen.
CONTRIBUTIONS
CONTRIBUTIONS
CONTRIBUTIONS  200 a. Cash Contributions
CONTRIBUTIONS  200 a. Cash Contributions  201 b. Cash Cont. = 3,000
CONTRIBUTIONS  200 a. Cash Contributions
CONTRIBUTIONS  200 a. Cash Contributions
CONTRIBUTIONS  200 a. Cash Contributions  201 b. Cash Cont. = 3,000  202  203  210 Other than Cash
CONTRIBUTIONS  200 a. Cash Contributions

262
263
TOTAL CAS/THEFT & MISC.LOSS
Key (201-263) or [N]ext or [RETURN]
The same rules for entering data apply. After selecting [N] for next page, the following screen will appear:
Select one (1) of the following situations.
(1) Single tax payer or unmarried head of household.
(2) Married filing jointly or qualifying widows and widowers.
(3) Married filing seperately.
What is your choice?
4. REVIEW MISCELLANEOUS DEDUCTIONS AND SUMMARY
Select the category that applies. The final screen will automatically appear with the previously inputed data adjusted in the summary itemized deductions. This screen appears as follows:
SUMMARY OF ITEMIZED DEDUCTIONS
A. Total medical line 10
B. Total taxesline 15
C. Total interest line 19
D. Total contrib. line 23
E. Total misc/casual line 27
280 Add lines 10,15,19,23,27
290 From filing status
300 ITEMIZED AMT (28-29) M/B>0
After entering data, press [N] for next page, or [RETURN] for SCHEDULE A MENU.
5- FILE MAINTENANCE MENU
Select Option (5) to save the tax information. The screen will appear as follows:
1040 FILE LOAD
(1) Cassette load

- (2) Diskette load
- (3) Cassette save
- (4) Diskette save
- (5) Return to main menu

#### 6- RETURN TO MAIN PROGRAM

--Diskette: select this option to return to the main program menu (MAGATAR).

-- Cassette: select this option to exit from the program.

#### F. AUTO LINE NUMBER

Our utility of the month allows you to automatically line number your programs. We know it will be a great aid to the ever-present problem of not putting enough space between program lines.

When you RUN the program you are asked for a starting line number, and an increment. Ater entering these numbers, the first line number appears, with aprompt for you to enter the program line. All you have to do is type in the line, and press [RETURN]. Remember that when the screen is filled it will be cleared, and the new line to be entered will be at the top of the screen.

#### G. 6502 TUTORIAL # 3

Our 6502 Tutorial this issue expands on multiplying and dividing using 6502 commands. Also explained is the art of using BCD (Binary Coded Decimal) numbers in machine language.

Admit it. When you were desperately trying to justify the purchase of your personal toy...uh....computer, you had absolutely NO idea it could be used for endless hours of game playing, learning, and personal aid. You swore that you would learn how to program in BASIC, and maybe even learn machine language.....

Well, it's two years later, and you've probably got 30 or 40 disks of unfinished games, applications, etc., sitting around and collecting dust. Maybe there's a few finished ones in there too, but they're aging along with the rest of your unfinished masterpieces.

Now's your chance. We're the only software house that's able to accept quality programs and publish them in two different mediums. One (acceptance for publication in our magazine), will get your software published, and hopefully get you on the way to letting your computer pay for itself. The other possibility is that you've been sitting on a goldmine, and you are accepted for one of our top prices....there's no limit to the financial reward.

Maybe you're not interested in programming, that's okay. We market and develop software for the TRS-80 Color (extended BASIC), ATARI 400/800, VIC 20, COMMODORE 64, and the IBM PERSONAL COMPUTER. So tell your friends too!

#### THE FORMAT

All programs should be presented on magnetic media, with instructions or documentation on how to load the program, play the game, etc., with some notes on special or interesting techniques used and a commented listing. Please include a short explanation of what mode you decided to purchase in your computer.

#### THE DEADLINE

Entries must be sent to:

PROGRAMMER'S INSTITUTE PROGRAM CONTEST P.O. 3470 CHAPEL HILL,NC 27514.

It must be postmarked by AUGUST 31, 1983. The results will be published in the OCTOBER, 1983 issue.

#### THE FINE PRINT

.The contest will be judged by our editorial staff.

.Program submissions cannot be returned unless they are accompanied by a return envelope with sufficient postage on it.

.The contest is open to anyone except employees or immediate family of FUTUREHOUSE and it's subsidiary PROGRAMMER'S INSTITUTE. Void where prohibited by law.

.There is no limit to submissions per contestant.

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#### THE LEARNING CENTER

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Fred D'Ignazio, Educational Editor—Compute!, Associate Editor—Softside, Author of bestseller—Katie and the Computer

We hope you've been using your ATARI for more than just games ... it is, and can be, a valuable educational tool for you and your children.

Bruce and Dianne Mitchell realized this potential and designed a series of programs for use in their Small World Preschool & Kindergarten located in Durham, N.C. Presented on TV's PM Magazine these unique educational programs will introduce your 3-9 year olds to the era of learning with computers. Using the graphics and sound capabilities of the Atari, each program develops a particular skill and reinforces correct responses with happy faces and music.

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SPECIAL SKILLS	Preschool	K	1	2
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Name That Color		•	•	
* Like Shape Identification	•	•	•	
Different Shape Identification	•	•	•	
Cave Game	•	•	•	•
MATH AND NUMBER SKILLS				
Count With Me	•	•		1
Number Recognition	•	•	•	
Addition		•	•	-
Subtraction		•	•	
Add.—Vertical/Horizontal		•	•	
Sub.—Vertical/Horizontal		•	•	
Advanced Addition/Subtraction		•	•	•
Ones and Tens			•	•
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NOTE: All software requires 8K cassette/16K disk

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