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PROFESSIONAL

PROGRAMS

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by R. W. BROWN

BASIC SOFTWARE LIBRARY

VOLUME VII

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INTRODUCTION

The programs presented here are set out for the individual who has a specific need in mind. Because a detailed discussion of these programs would require a text several times the present size of this Library it has been omitted. Individuals who have a specific requirement will have to be at least knowledgeable in the area the program is written about; ie: Statistical programs require the user to be familiar with the terms mean, median, etc. This is because the programs are written in the vernacular of their subject matter. With this knowledge alone, no programming experience on the part of the user is required in order to use any of these programs in most systems. Once it is determined that a particular program may be useful the user merely types in a copy of the BASIC source code exactly as it appears in the program listing. Then follow the instructions for running the program as presented in the Instruction portion of the write up, immediately preceding the program. Also included in the write ups are statements that appear in the source code which may possibly need to be changed to run in the user's computer system; ie: RND statements may have to be changed to FRAND in order to compile in certain systems.

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VOLUME ONE

Preface

Part 1 - Business & Personal Bookkeeping Programs

Bond Computes price and interest for bond purchases. Building Analyzes the cost of building design proposals.	NAME	DESCRIPTION
Compound Computes effective compound interest rates. Cyclic Determines seasonal coefficients for two cycles. Decision 1 Makes a lease/buy decision for you. Decision 2 Makes a decision on whether to buy a component or make it. Depreciation Calculates depreciation by 4 different methods.	Building Compound Cyclic Decision 1 Decision 2 Depreciation Efficient Flow Installment Interest Investments Mortgage Optimize Order Pert Tree Rate Return 1 Return 2	Analyzes the cost of building design proposals. Computes effective compound interest rates. Determines seasonal coefficients for two cycles. Makes a lease/buy decision for you. Makes a decision on whether to buy a component or make it. Calculates depreciation by 4 different methods. Cal. the most efficient assignment of resources and/or personnel. Predicts your yearly cash flow. Performs monthly installment accounting. Computes interest accruals, monthly. Computes annual rates of return on investments. Makes a comparison of mortgage terms. Optimizes the layout for a plant, shop, office, etc. Determines your economic order quantity for inventory items. Performs an analysis of a pert network. Computes true annual interest rates. Computes lessor's rate of return for uncertain assets. Computes a lessor's rate of return after taxes.

Part 2 - Games & Pictures

NAME	DESCRIPTION
Animals Four Astronaut Bagel Bio Cycle Cannons Checkers Craps	Teach the computer all about animals. Land your spaceship on another planet. Advanced number game, numbers may be algebraic, few clues. Calculate your Bio-Life Cycle and plan your days. An advanced war game with big guns. Plays a regulation game of checkers. A dice game with hard way odds.
Dogfight Golf	Air fight w/missiles; betweeen a phantom and a mig. Plays any number of holes; inc. obstacle course.
Judy	Have a rap session with Judy via your computer.
Line Up Pony	Simple number game, all you have to do is unscramble them.
Roulette	Authentic horse race, any number of players. Gamblers delight, plays Las Vegas rules.
Sky Diver Tank	Sky dive on another planet
Teach Me	A war game between two tanks. Teach the computer to learn new things.

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VOLUME ONE (CONT.)

PICTURES

DESCRIPTION NAME Introduction He's absolutely MAD! MAD! MAD! A. Newman Our 35th. president. J.F.K. Loveable "Peanuts" character, w/blanket. Linus A modern miss to put a twinkle in your eye. Ms. Santa Former "United States" president. Nixon Christmas or anytime this is a beautiful creation. Noel Noel A true work of art for anyone's gallery. Nude A message for all seasons. Peace True and blue, he's the law. Policeman In banner form, perfect for decorating the mantle. Santa's Sleigh That paragon of Dogdom even plays football. Snoopy A picture you can read as well as see. Virgin

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VOLUME TWO

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Part 3 - Math & Engineering Programs

DECCRIPTION

<u>NAME</u>	DESCRIPTION
Beam Conv. Filter Fit Integration 1 Integration 2 Intensity Lola Macro Max. Min. Navaid Optical Planet PSD Rand 1	Evaluates and selects steel beam sizes. Calculates convolutions. Calculates low pass filter components. Performs interpolations by spline fits. Uses Gaussion Quadrature to do integration. Integrates a function by spline fits. Calc. and plots RF or Acoustic intensities. Calc. Long. and Lat. from interstellar fix or distance. Simulates a language compiler. Calc. the max. & min. values of funct. over a spec. interval. Calc. position from altitude and azimuth of celestial bodies. Calculates Blackbody energies, w/filter look-up tables. Calculates Sun and Moon positions, hourly. Calculates Power Spectral Densities and FFT's. Generates random numbers between 0 and 1.
	Generates random numbers between U and I. Generates random integers between (X) and (Y).
Rand 2 Solve	Solves polynomials by "Bairstows Method".
Sphere Trian	Solves any spherical triangle.
Stars	Locates 50 stars (celestial).
Track	Calc. course and distance and incremental vectors.
Triangle	Solves for all parts of any triangle.
Variable	Finds all variables in Basic programs.
Vector	Calc. final position; given start and motion vectors

VOLUME TWO (CONT.)

NAME

Part 4 - Plotting & Statistics Programs

DESCRIPTION

NAME	DESCRIPTION
Binomial Chi-Sq. Coeff Confidence 1 Confidence 2 Correlations Curve Differences Dual Plot Exp-Distri Least Squares Paired Plot Plotpts Polynomial Fit Regression Stat 1 Stat 2 T-Distribution Unpaired Variance 1 Variance 2	Calculates binomial probability distributions. Applies the Chi-Square test to samples. Calc. coefficients of fourier series to apprx. a function. Calculates confidence limits on linear regressions. Calculates confidence limits for a sample mean. Performs auto and cross correlations with plots. Fits 6 different curves by the least squares method. Calculates difference of means in non-equal variances. Plots two functions on the same sheet. Calculates exponential distributions for a sample. Performs least squares fit by linear, exp., or power function. Compares 2 groups of data using the rank test. Plots 6 equations on the same sheet. Plots data points on standard teletypes. Performs least squares polynomial fit. Performs multiple linear fit with or without transformations. Finds the mean, variance and standard deviation. Computes various stat. measures for a variable. Calculates normal and T-distributions. Compares 2 groups of unpaired data. Performs one way analysis of variances. Analyzes a variance table of one way random design.
XY	Plots functions of X and Y.

APPENDIX A - BASIC STATEMENT DEFINITIONS

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VOLUME THREE

Part 5 - Advanced Business Programs

NAME	DESCRIPTION
Billing Inventory Payroll Risk Schedule 2 Shipping Stocks Switch	Performs posting and billing of accounts. Maintains data for inventory records. Computes payrolls with full set of deductions. Performs a risk analysis on capital investments. Performs the most effi. scheduling of men or resources to loca. Solves the problem of scheduling and assignments. Computes the value of stocks. Calculates the effects of a bond switch.

VOLUME FOUR

General Purpose Programs

NAME	DESCRIPTION
Bingo	An age old favorite. "B9, C23, D4, E13, F21, BINGO!
Bonds	Computes the yields for a bond for different periods.
Bull	If you ever dreamed of being a Matador, here's your chance.
Enterprise	Take charge of the Enterprise while Capt. Kirk is on leave.
Football	Authentic NFL version of this well known sport.
Funds 1	Calculates long-term predictions of funds.
Funds 2	Plots the results of Funds 1.
Go-Moku	Ancient Chinese game of chance.
Jack	Plays Blackjack, Las Vegas style.
Life	Life is truly a battle for survival, a real challenger!
Loans	Calculates annuities, loans and mortgages.
Mazes	Generates unique maze puzzles for you to solve.
Poker	Five card draw - for up to 5 players.
Popul	Performs population projections for defined areas.
Profits	Determines the profitability of a firms various depts.
Qubic	3-Dimensional Tic-Tac-Toe.
Rates	Calc. the effective annual interest rate for stated interest.
Retire	Calculates your Civil Service Retirement benefits.
Savings	Computes savings plan profiles.
SBA	Calculates repayment schedules for SBA loans.
Tic-Tac-Toe	An all time favorite for young and old alike.
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VOLUME FIVE

Experimenter's Programs

<u>NAME</u>	DESCRIPTION
Andy Cap	Draws this famous cartoon character.
Baseball	Plays a full 9 innings of baseball.
Compare	Compares two groups of data.
Confid 10	Determines the confidence limits for a normal population.
Descrip	Provides a description of uni-variant data.
Differ	Computes the diff. of the means for data of equal variance.
Engine	Calculates the otto cycle of engines.
Fourier	This program evaluates fourier series.
Horse	Draws a picture of a horse.
Integers	Computes integers as the sum of other integers.
Logic	Determines conclusions from logic statements.
Playboy	Draws the playboy symbol.
Primes	Factors numbers into their primes.
Probal	Calc. Chi-Sq. and probabilities from 2X2 data sets.

VOLUME FIVE (CONT.)

Experimenter's Programs

NAME	DESCRIPTION
Quadrac Red Baron Regression 2 Road Runner Roulette Santa Stat 10 Stat 11 Steel Top Vary Xmas	Solves quadratic equations Draws a picture of the infamous Red Baron. Calculates linear regressions. "Beep! Beep!" Draws a picture of the Road Runner. Computerized "Wheel of Fortune", plays roulette. Old Saint Nick appears as jolly as ever. Calculates quantities for two groups of paired data. Computes sample statistics. Calculates steel beam capacities. Computes cost for surfacing a road or driveway, etc. Performs an analysis of a vari. table; one-way random design. Generates a "SINGING" Christmas card.

APPENDIX B - STATEMENT CONVERSION ALGORITHMS

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VOLUME SIX

VOLUME SEVEN

A Complete Business System

NAME	DESCRIPTION
Ledger	Maintains ALL Company accounts and generates ALL financial reports. Includes routines for: Pyrl, Inv, Depr, A/R, A/P, Balance Sheets and Profit & Loss statements, etc.
ACBS rev:80	Users Manual - A Proprietary Package

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Profess	ional Programs	
NAME	DESCRIPTION	
Chess	Designed to challenge the average player, fairly comprehensive. Great fun for all, offers a unique opportunity for beginners in need of an opponent.	1105
Medbil	For Doctors and Dentists alike, a complete patient billing system which also permits the maintaining of a patient history record.	1117
Wdproc	Wordprocessing for lawyers, publishers, writers etc. Write, store and change from rough draft to final copy in a variety of formats.	1135

PAGE

VOLUME SEVEN (CONT.)	PAGE
Professional Programs	
<u>NAME</u>	
Utility	1171
Licensing Agreement	1188

PREFACE

The information contained in these pages represents the culmination of a very large project. That of compiling a versatile and complete Software Library that will be of use to a large number of diverse individuals. The programs presented here when combined in a system will represent a very powerful library bank. Such a work as this has been attempted in the past in such areas as cook books, electronic source books, mathematical tables and even computer games. But to date such a collection as this has yet to be offered to the average individual to use as he chooses. The word "attemped" was used as no work is ever considered complete by everyone regar dless of its thoroughness.

The programs presented here were chosen for their uniqueness and general usefulness. There should be at least one program included that will be of use to every type of individual whether they have access to a computer or not. Computers are a wonderful and very useful tool. Through this Library I hope to interest more people into becoming involved with computers. The Library is written so that little or no computer programming experience is required to invoke any of the programs. The programs that are presented here are all written in the computer language called BASIC. Each program has been successfully run on a G.E. 635 computer. The entire source code is presented as well as a short narrative page which defines the pro gram, tells who might be interested in using it, a brief set of instructions or how to get them and then any limitations in the program are noted. In the limitations section the storage length in K Bytes is given so the prospective user will know how much memory to allow for the program. Where possible the amount of memory space required for full execution is given for the programs, this space is independent of the space already oc cupied by your BASIC compiler.

The programs are broken down into five sections or parts. Each part deals with a specific type of program. Part 1 contains business type programs. These programs will be of interest to individuals who have businesses, play the stock market, balance their own checkbooks, do installment buying, figure taxes, etc. There are a total of 20 programs in this section. Part 2 is the lighter side of the Library as it contains 16 games and 12 picture programs. No computer library is complete without some fun. Among the games presented in this section is one called Checkers. The game is rather long but it is virtually machine independent as it doesn't use over lay techniques or use files. Most of the other games included here are as exciting as this version of Checkers. Each was chosen so as not to mimic others that the reader may have seen. The pictures are as unusual in their own way as are the games. Most of the pictures are spread over several pa ges, this was done not only so the reader will need to run the program to see the details of a particular picture but also in the hopes of getting as many of these programs into use as possible. As the picture programs are very simple it is an easy place for the novice to start learning about programming.

Part 3 is comprised of Math and Engineering programs. Some of these programs will be of use to high school students, professional people, sailors, engineers, astronomers, airplane pilots, etc. Most of these programs are very

technical but they can perform every day calculations quickly and easily and they are extremely simple to use. There are 23 general usage programs presented in this section.

Part 4 is made up of Plotting and Statistical Analysis programs. These programs can be readily utilized by a number of people in widely different disciplines from fishermen to statisticians. The data gathered may be from a poll, a census, a test sample or even the number of fish caught on various days. The stat programs will be of invaluable aid to anyone who gathers data of any kind. The plotting routines will be of use to most of the people who use the stat programs or programs in Parts 1 and 3. The plotting is done on any standard teletype or terminal and does not require a special plotter or plotting terminal. There are a tot al of five direct plotting programs and 18 stat programs in this section.

All of the programs presented here may be run by simply typing the source code as listed, exactly as it is, into your computer. Now before the program will run it will have to be converted into machine code. This is done automatically and requires no forethought except to make certain the operating system you are working in is BASIC. In the larger computer systems you are asked what system you want — to this type BASIC; the smaller systems only have BASIC, in these you are 0.K.

Immediately following Part 4 is Appendix A. Here, all of the Basic Statements used throughout these pages are defined. Each statement is explained sufficiently well to enable one unfamiliar with this subset to modify any necessary statements so that the program or programs will compile and execute with the Basic compiler or interpreter available with their particular computer. Most of the Basic compilers available today, that require more then 10K Bytes of storage, will execute all of the programs presented in these volumes with the possible exception of a few of the games and the program "Variable". Multiple line statements are not used in most of the programs and only a few programs use string manipulations extensively. A few of the programs may require more on line storage then is available on some of the small micro computer systems; these longer programs will not be executable due to the limited amount of memory. However most of the programs will execute in 10K Bytes of memory or less, thereby making most of the programs in this Library executable in virtually any Basic speaking computer without any required modifications.

Volume III is comprised of ADVANCED BUSINESS programs, part 5. This volume as well as subsequent volumes are intended to make this Library complete and useful to all individuals.

Each of these programs are written in a subset of the Dartmouth language. The specific subset is that which was used by General Electric on their 635 systems. These programs have operated without problem on a variety of small and large machines even several of the new micro computers. The programs that use string manipulations may require slight modifications before fully executing on some systems. These programs are mainly found in Part 2 — Games.

All of the programs in this Library were written or edited by the author. All of the programs edited by him were given for inclusion, "swapped" for traded, or made public. A few of the original authors of the "swaps" are not known, for this I apologize. The others, unless specifically mentioned in the text, are presented here. In addition I would like to thank the fol lowing for their cooperation in making this work possible.

ACKNOWLEDGMENTS

MY WIFE MARY AND MY FAMILY

DONALD ALVAREZ

GE TIMESHARING

DAVE BEETLE

BILL JONES

MORTON BERGER

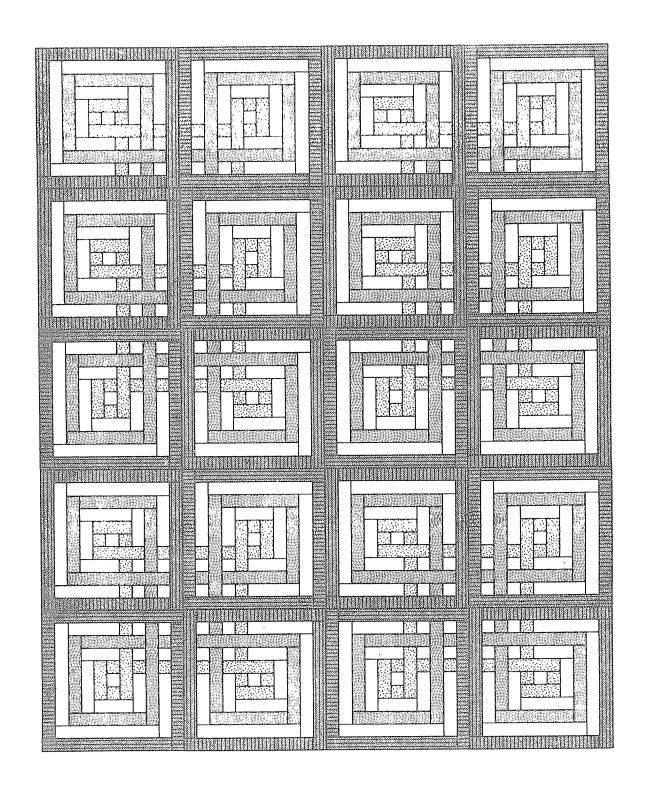
GEORGE LONG

COPY CAT INC

TOM ROSE

ARTWORK COURTESY OF MELISSA

EDITING AND PROGRAMMING SUPPORT PROVIDED BY JOHN SWAIN



PROFESSIONAL

PROGRAMS

E CHESS:

This version of chess is written in Basic and should run in most extended Basics with little or no modification in systems with 12K of free memory. The program plays a beginner's game but with some effort on your part, it can be made to do better.

There appears to be a quirk in the subroutine in line 4330, for the program doesn't always know when it's in "check" so it doesn't defend against the danger. The flag indicating check is C1 located in line 3355 and it is set from the value C1 in line 5170, which doesn't always get set through the conditioned test in line 5140 and so on.

Unlike the brute force approach as used in our Checker game; Volume I, this Chess game takes full advantage of using subroutines to keep track of the entire board thus using a minimum amount of memory. This approach however has two drawbacks: First - it is very difficult to locate bugs within the program and Second - the running time becomes excessive. While our Checker game takes a lot of memory in order to be executed, it can make its moves in about a minute or less under most conditions, whereas the Chess game requires 3 minutes for the first move and progressively more time per move as the game progresses.

I would like to have feedback in the way of letters, as to your suggestions for a better version of Chess. Any patches you find that cure the "check" problem as well as any other problems you may find would be appreciated. You should include in your letter your name, complete address and phone numbers at which you can be reached. If there is sufficient interest, we will compile a newer version of Chess and mail out a copy of the source code to those whose letters we have on file. If you have a version of your own that you would like to share and we find it meets the requirements expressed in the poll better than our versions, we will include it in our mailing. Be sure to include information about the program variables and/or program operation is it isn't clearly defined within the program.

Following the program listing are the first three moves of a game to illustrate proper program operation. For those not familiar with Basic, there are appendices at the end of Volume II and V that define most of the statements used throughout the program.

```
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```
100 REM CHESS PROGRAM WRITTEN IN BASIC
115 PRINT
130 PRINT
145 PRINT
160 PRINT "THIS PROGRAM FLAYS A CHESS GAME."
175 PRINT "BUT IT WILL NOT RECONIZE CAPTURES 'EN PASSE' AND"
190 PRINT "IT WILL NOT ACCEPT CASTLING. IT DRAWS THE UPDATED"
205 PRINT "BOARD AFTER EACH FLAY. IT WILL TAKE ABOUT 3 TO 4 MINUTES
220 PRINT "MAKE A MOVE, SO BE PATIENT. THE LEVEL OF DIFFICULTY"
235 PRINT "IS A BEGINNER. GOOD LUCK... . ..
250 PRINT
265 PRINT *UCC COPYRIGHT - 1977 , BY SCIENTIFIC RESEARCH *
280 PRINT
295 FRINT
310 DIM A(9,9), V(9,150), W(9,9)
325 FOR I=1 TO 8
340 Z8=-1
355 READ J
370 A(8,I)=-J
385 A(7,I)=-1
400 A(2,I)=1
415 A(1,I)=J
430 NEXT I
445 FOR I=1 TO 6
460 READ U(I)
475 NEXT I
490 FOR I=1 TO 4
505 FOR J=1 TO 8
520 W(I,J)=W(I,J)+I
535 W(9-I,J)=W(9-I,J)+I
I+(I,U)W=(I,U)W 022
I+(I-9,L)W=(I-9,L)H
580 NEXT J
595 NEXT I
610 PRINT "WHAT COLOR DO YOU WANT TO BE (WHITE OR BLACK) "$
625 INPUT Z$
640 F=-1
655 IF MID$(Z$,1,1)="W" THEN 700
670 IF MID$(Z$,1,1)="B" THEN 805
685 GOTO 610
700 F=-F
715 REM F IS MINUS IF COMPUTER IS BLACK
730 M1=0
745 GOSUB 970
760 GOSUB 4330
775 GOSUB 1375
790 GOSUB 1975
805 Mi = 0
820 Z8=Z8+1
835 GOSUB 970
850 GOSUB 4330
865 C1=C2
880 F=-F
895 M2=M1
910 GUSUB 4330
925 GOSUB 3310
940 GOSUB 1975
955 GOTO 700
```

```
970 REM THIS SUB GENERATES THE BOARD
985 PRINT
1000 PRINT
1015 GOSUB 1210
1030 PRINT
1045 FOR I=8 TO 1 STEP -1
1060 PRINT TAB(15)) I ; " ;
1075 FOR J=1 TO 8
1090 Z#="BKBQBBBNBRBP WPWRWNWBWQWK"
1105 Z7=ABS(A(I,J)*2+13)
1120 As=MIDs(Zs,Z7,2)
1135 PRINT A$;" I ";
1150 NEXT J
1165 PRINT
1180 GOSUB 1210
                                                     SCIENTIFIC
1195 GOTO 1270
1210 FOR I2=1 TO 41
1225 PRINT TAB(21) 9 "-" 9
1240 NEXT I2
1255 RETURN
                                                    RESEARCH
1270 PRINT
1285 NEXT I
1300 PRINT
1315 PRINT TAB(20) #
                                          F
                                    E
                                               G
1330 PRINT " A
                               Ľ
                    B
                         C
1345 PRINT
1360 RETURN
1375 REM THIS IS THE INPUT SECTION
1390 GOSUB 5650
1405 IF IO<>2 THEN 5785
1420 IF Z8>0 THEN 1480
1435 PRINT "ENTER YOUR MOVE IN TWO PARTS"
1450 PRINT "A STANDARD WHITE OPENING WOULD BE FROM D2"
1465 PRINT "TOO: D4 "
1480 PRINT "NOW ENTER THE SQUARE YOU ARE MOVING FROM ";
1495 Z8=1
1510 INFUT I$
1525 GOSUB 1900
1540 F1=T1
1555 IF F1>99 THEN 1660
1570 PRINT "YOU ARE GOING TOO: ";
1585 INPUT I$
1600 GOSUB 1900
1615 IF A(2,4)=0 THEN 1645
1630 GOTO 1660
1645 V(8,10)=0
1660 FOR I=1 TO M1
1675 IF F1=V(0,I) THEN 1735
1690 NEXT I
1705 GOSUB 1945
1720 GOTO 1375
1735 IF V(8,I)<>9 THEN 1765
1750 GOTO 1690
1765 J=1
1780 IF F1>99 THEN RETURN
1795 IF T1=V(J,I) AND V(8,I)<>9 THEN 1930
1810 J=J+1
1825 IF J<9 AND V(J,I)<>0 THEN 1795
```

```
1840 I=I+1
 1855 IF V(O,I)=F1 THEN 1765
 1870 GOSUB 1945
 1885 GOTO 1480
1900 IF LEN(I$)<>2 THEN 1945
 1915 T1=10*ASC(I$)+VAL(RIGHT$(I$,1))-640
 1930 RETURN
1945 PRINT "ILLEGAL MOVE - TRY AGAIN "
 1960 RETURN
1975 REM THIS SUB SETS UP THE NEW BOARD AFTER BACH MOVE
 1990 IF F1>99 THEN 2230
2005 Z2=F1
                                                 1977
2020 GOSUB 4090
2035 I=Z3
2050 Z4=F1
2065 GOSUB 4150
2080 J=Z5
2095 Z2=T1
2110 GOSUB 4090
2125 I3=Z3
2140 Z4=T1
2155 GOSUB 4150
2170 I5=Z5
2185 A(I3,I5)=A(I,J)
2200 A(I,J)=0
2215 RETURN
2230 IF F1=100 THEN 2320
2245 GOSUB 4285
2260 A(I_{1}1)=0
2275 A(I_{y}2)=6
2290 \ A(I_{3}3)=2
2305 RETURN
2320 GOSUB 4285
2335 A(I_{9}8)=0
2350 A(I,7)=6
2365 A(I_{96})=2
2380 RETURN
2395 IF X<>(4.5-2.5*F) THEN 2935
2410 REM THIS SUB CHECKS FOR THE QUEEN
2425 GOSUB 5260
2440 GOTO 5425
2455 REM THIS SUB CHECKS FOR THE KING
2470 D2=X
2485 D1=Y
2500 FOR X=D2-1 TO D2+1
2515 FOR Y=D1-1 TO D1+1
2530 GOSUB 4630
2545 GOSUB 4930
2560 NEXT Y
2575 NEXT X
2590 RETURN
2605 REM THIS SUB CHECKS FOR THE KNIGHT
2620 D2=X
2635 D1=Y
2650 FOR X=D2-2 TO D2+2 STEP 4
2665 FOR Y=D1-1 TO D1+1 STEP 2
2680 GOSUB 4630
2695 GOSUB 4930
```

3565 Z2=V(0,I)

```
2710 NEXT Y
2725 NEXT X
2740 FOR X=D2-1 TO D2+1 STEP 2
2755 FOR Y=D1-2 TO D1+2 STEP 4
2770 GOSUB 4630
2785 GOSUB 4930
2800 NEXT Y
2875 IF A(X+F,Y)=0 THEN 3130
2890 IF X<>(4.5-2.5*F) THEN 2935
2905 GOSUB 4525
2920 IF A(X+F*2,Y)=0 THEN 3190
2935 FOR D2=-1 TO 1 STEP 2
2950 C5=Y+D2
2965 GOSUB 4195
2980 IF C6=0 THEN 3100
2995 GOSUB 4525
3010 C3=9
3025 C7=A(X+F,Y+D2)
3040 IF SGN(C7)<>F THEN 3250
3055 V(S1,M1)=X+F+10*(Y+D2)
3070 V(8,M1)=C3
3085 GOSUB 4525
3100 NEXT D2
3115 RETURN
3130 V(1,M1)=X+F+Y*10
3145 \text{ V(2,M1)=0}
3160 V(8,M1)=8
3175 GOTO 2890
3190 U(1,M1)=X+F*2+Y*10
3205 V(8,M1)=8
3220 \ V(2,M1)=0
3235 GOTO 2935
3250 IF C7<>O THEN 3280
3265 GOTO 3055
3280 C3=C7
3295 GOTO 3055
3310 REM THIS SUB IS WHERE THE COMPUTER MAKES ITS MOVE
3325 GOSUB 5650
3340 IF IO<>2 THEN 5785
3355 IF C1=1 THEN 3385
3370 GOTO 3445
3385 PRINT
3400 PRINT " IN CHECK "
3415 PRINT
3430 REM
3445 FOR I=M2+1 TO M1
3460 FOR J=1 TO 7
3475 Z2=V(J,I)
3490 GOSUB 4090
3505 X1=Z3
3520 Z4=Z2
3535 GOSUB 4150
3550 Y1=Z5
```

4420 IF SGN(A(X,Y))=F THEN 4480

4435 NEXT Y1

```
4450 NEXT X1
4465 RETURN
4480 X3=ABS(A(X,Y))
4495 ON X3 GOSUB 2845,5260,2605,5425,2410,2455
4510 GOTO 4435
4525 IF V(1,M1)<>0 THEN 4555
4540 GOTO 4585
                               COPYRIGHT
4555 M1=M1+1
4570 V(1,M1)=0
4585 U(O,M1)=X+Y*10
4600 S1=1
4615 RETURN
4630 IF V(1,M1)<>0 THEN 4690
4645 V(0,M1)=D2+D1*10
4660 S1=1
4675 RETURN
4690 M1=M1+1
4705 \text{ V(1,M1)=0}
4720 GOTO 4645
4735 GOSUB 4525
4750 M3=X
4765 M4=Y
4780 X=X+D2
4795 Y=Y+D1
4810 GOSUB 4930
4825 IF C3=0 THEN 4780
4840 X=M3
4855 Y=M4
4870 IF C3=99 THEN 4900
4885 RETURN
4900 C3=0
4915 RETURN
4930 C3=99
4945 C5=X
4960 GOSUB 4195
4975 C7=C6
4990 C5=Y
5005 GOSUB 4195
5020 C8=C6
5035 C9=C7*C8
5050 IF C9=0 THEN 5245
5065 IF SGN(A(X,Y))=F THEN 5095
5080 GOTO 5125
5095 C3=9
5110 GOTO 5185
5125 C3=A(X,Y)
5140 IF C3=6*F THEN 5170
5155 GOTO 5185
5170 C2=1
5185 V(S1,M1)=10*Y+X
5200 S1=S1+1
5215 \text{ V(S1,M1)=0}
5230 V(8,M1)=C3
5245 RETURN
5260 REM THIS SUB CHECKS FOR ROOKS
5275 D2=0
5290 D1=1
5305 GOSUB 4735
```

CHESS

VER. 1

THIS PROGRAM PLAYS A CHESS GAME.
BUT IT WILL NOT RECONIZE CAPTURES 'EN PASSE' AND
IT WILL NOT ACCEPT CASTLING. IT DRAWS THE UPDATED
BOARD AFTER EACH PLAY. IT WILL TAKE ABOUT 3 TO 4 MINUTES TO
MAKE A MOVE, SO BE PATIENT. THE LEVEL OF DIFFICULTY
IS A BEGINNER. GOOD LUCK... . ..

UCC COPYRIGHT - 1977 , BY SCIENTIFIC RESEARCH

WHAT COLOR DO YOU WANT TO BE (WHITE OR BLACK) ? WHITE

		Α		В		С		T)		E:		l .		G		- 	
1	1	WR][WN	I	WB	1.	WQ	I	WK	1.	WB	I	WN][.	WR	
2	1	WP.	1.	WP	I	WP	1.	WP	1.	WP	1	WP	1.	WP	:][WP]
3	1		Ι		I.		I		1		Т.		I		I]
4	Ι		Ι		I		1.		1		J.		I	*** **** **** **	1		.1
5	1		Ι.		1		1		I		I		1		I		1
6	1		1.		Т.		Т.		1		I		1.		1.		.]
7	1.	BP	Ι.	BÞ	I	BP	1.	BP	1	BP	1.	BE	1.	BF	Ϊ.	BP]
3	1.	BR	I	BN	Ι.	BB	I.	BQ	Ι.	BK	. I	BB	Ι		Ι.	BR	

ENTER YOUR MOVE IN TWO PARTS
ASTANDARD WHITE OPENING WOULD BE FROM D2
TOO: D4
NOW ENTER THE SQUARE YOU ARE MOVING FROM ? D2

You are going too: ? <u>D4</u>

CTEM	8	1	BR	Ι	BN	1	BB	1	BQ	I	BK	1.	BB	1	BN	Ι	BR	Ι
ာ ၊	7	1	BP	Ι	Bb	I	BP	I	BP	I	BP	1	Bb	I	BP	1	$\mathbf{B}\mathbf{b}$	J
//61	6	1		1		1.		I.	*** **** **** **	1		Ι		1.		I		1
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	4	I		1.		Ţ		1.	WP	Ι		1.		1		1.]
5	3	1		I		1		I	-co 141 0 18 07 18	1		1.		1		1]
8	2	1	WP	I	WP	1.	WP	1	*** **** **** **	I	WP	1.	WP	1	WP	1.	WF	.]
	1.	1.	WR	Ι.	WN		WB	T.	WQ	 I	WK	I.	WB	I	WN	Ι.	WR	1

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1-1

	***		*** **** 1				*** ****	**** **** **** *	*** ****	**** **** **** *	****	**** **** **** *	*** ****		116.		
8	1	BR	I	BN	1	BB	Ι		Ţ		Ι	BB	Ι	BN	I	BR	I
7	1.	BP	1.	BP	1.	BP	1.		I.	BP	1		Ι	BE	1.	BP	1
6	1		I		ľ		I		I		1	8848 baco Baga ,	1		1		1
5	1		I		I		Ι	BP	I		J.		1		1.		I
4	1		I		1.		1	WP	Ι		1		1.		1		Ι
3	1		1	ele neas tube us	I		1		I		1	**** **** **** **	1		1		1.
2	Ι	WP	I.	WP	I	WP	I		I	WP	Т.	WF	1	WP	1	WP	Т.
1.	1	WR	1	WN	1	WB	1	WQ	1.	WK	1	WB	I	WN	1.	WR	1.
		Α		B		С		ŢI		E.		 :		G		·•	

NOW ENTER THE SQUARE YOU ARE MOVING FROM ? F1
YOU ARE GOING TOO: ? B5
ILLEGAL MOVE - TRY AGAIN
NOW ENTER THE SQUARE YOU ARE MOVING FROM ? D1
YOU ARE GOING TOO: ? D3

	2447.4	*** **** ****															
8	1	BR	1	BN	1	BB	1.	$\mathbf{B}\mathbf{Q}$	1.	BK	I	BB	1.	BN	1	BR	1
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ර	1.		Т.	777 69 20 6424 65	1		Л.		Ι		1.		1		1.		1
5	1		Ţ	*** **** **** **	Ι		1.	ВÞ	1		I		1		1		J.
4	1		ľ		1.		I	WP	1.		1		1.		1.		1
3	1		1	*** 6-04 /660 2/	I		1.	WQ	1		Ι		I		I		1.
2	1	WP	1	WP	1	WP	1		Ι.	WP	1	WP	1.	WF	1	WP	1.
1	I	WR	1	WN	Т.	WB	1		1	WK	Ţ	WB	1.	WN	1	WR	1
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	open 14			*** **** *** **			** **** **					**** **** **	** **** **	** **** **** **	** **** **	** **** **** **	***
8	I	BR	1.	BN	I	BB	1.	$\mathbb{B}\mathbb{Q}$][BK	1	${\bf BB}$]].	BN	Ι.	BR	Ι
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3	I		1.		I		1.	WQ	1.		1.		Ι		1.		Ι.
2]].	WP	Ι.	WIP	I	WF	1.		1.	WP	Ι.	WP	Τ.	WP	Ι.	WP	Ι
1.	I	WR	1	WN	I	WB	I		I.	WK	I		1.	WN	1.	WR	I.
	4418 7	Δ		ï:		r:		Ϋ́ι		E		l::.		G		Ы	

NOW ENTER THE SQUARE YOU ARE MOVING FROM ? DE3

ILLEGAL MOVE - TRY AGAIN
YOU ARE GOING TOO: ? DAS RUB: removes the D

ILLEGAL MOVE - TRY AGAIN
NOW ENTER THE SQUARE YOU ARE MOVING FROM ? D3

YOU ARE GOING TOO: ? B5

	8	1.	BR	Ι	BN	1	BB	1.	$\mathbb{B}\mathbb{Q}$];	BK	1.	BB	1	BN	Ι.	BR	Ι.
RESEARCH INC.	7	1	BP	Ι	BÞ	Τ.	BP	I.		I.		1.	$\mathbf{B}\mathbf{F}$	1.	${\bf B}_{\rm B}$	Τ.	\mathbb{BP}	I
	6	ľ		Т.	bbe urne aren et	1		Ι		I	BF	1.		1.		1.		Ι.
	5	1		1.	WQ	1.		1	BP	1.		Ţ		1		I		1.
	4	I.		1.	400 MAG 4477 47	1		1.	WP	1.		1.		1		1		I
IENTIFIC	3	I		I	*** **** **** **	Ι		I		1		1		1.		1		I
	2	1	WP	Ι	WP	1.	WP	I.		1.	WP	1	WP	I.	WP	I	WF	1
- S(1.	1.	WR	Ι	WN	I	WB	I.		T	WK	1.	WB	1.	WN	I	WR	I
T 1977		****	A	**** **** *	B		С		Ľi		E	101 7070 1	l:	*******	G	eab maga n	- -	****

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MEDRIL:

This program is designed to alleviate some of the costly and troublesome chores that seem to abound when keeping track of numerous patient records. The program version presented here will allow a doctor to review the history file of any patient, previously stored in the data base, as well as permitting a quick check to be made of the payment history for each of these patients, plus several other features. This version does not include a routine for preparing insurance forms nor does it allow immediate invoicing of patients. Those persons interested in a more comprehensive version; MBP rev: 25, should complete a copy of our software licensing agreement included at the end of this volume and return it with an order or contact us directly to obtain more information. This program can be easily adapted for use by either or both doctors and dentists.

With the number of Basics in use today it almost impossible to write a program that can be immediately executed in every system without making any changes to the program. It may be necessary to change the file call statements used in this program to those that will be accepted by your Basic. Listed below are the five (5) file statements used throughout this program:

NAME "file name" AS "new name"

OPEN "I/O", X, "file name"

CLOSE #X

INPUT #X. Variable List

PRINT #X, Variable List

Other than the file call conversions, any other conversions that might be required should be of a very minor nature for most Basics. Should you wish to convert this program and are unfamiliar with the statements used, there are appendices in the back of Volume II and Volume V that define the statements and give specific system conversions. Medbil should execute in most systems having disk extended Basic with at least 12K Bytes of free user memory.

Immediately following the source code listing for the program are sample printouts of the various reports that can be generated. At the end of these report printouts is the source code listing for the "Med" file. This is the creation file for your data base which must be built before you can run MEDBIL. This data file should contain all the patient information that you would like the computer to keep track of for your office.

Before you start entering data there are a few things you should keep in mind, in order to conserve disk storage space. First - you are buildings a data base which is dynamic, this then excludes the use of any kind of contained storage system. Second - you will need disk storage space twice that required for your data base so that you will be able to update the file with new patient data. Third - be brief in the patient history description as this uses up memory very rapidly.

To make all this a little clearer, let's look at a typical case. To set up the file with the name and address of your patient, takes about fifty (50) characters. To describe each visit will require about thirty (30) characters; see the billing report, and approximately fifty (50) characters would be used per line of patient history. Now suppose a patient has been in five times and you have logged three lines of patient history per visit, plus an initial line describing the patient's allergies. To recap all this we have 50 characters for the name and address, 150 characters for the visits (5 visits x 30 xhar.), and 800 characters for the patient's history (5 visits x 3 lines per visit x 50 char. per line) which is only about a quarter of a page when printed out. Conservatively estimated the above example totals out to one thousand bytes of information or 1K per patient.

In addition to the patient information stored on the disk your Basic and the source code for MEDBIL must also be kept on the same disk which gives you an overhead of around 30K. If you have a disk which can hold 250K Bytes of information then you will be able to store information for about 110 patients. If you only have 80K on a disk you will only be able to store information for around 25 patients, so be brief. A number of doctors have gotten around this by assigning or reserving blocks of patient numbers to each disk. Then, when a patient arrives for his visit the diskette containing his or her patient number is placed in the computer. This procedure would be required each time a patient whose number was not on the diskette in the computer was seen by the doctor. While this method may not sound very attractive its really very easy to slip a diskette in and out of the computer and the number of times this would have to be done could be minimized by the care with which patients are assigned to each diskette.

```
100 CLEAR 300
11() US="事事事非非非非非非少。非非"
120 DEFDBL B
130 WIDTH 80
140 REM THIS IS THE MEDICAL PATIENT A/R PROGRAM
150 REM FOR FULL MODIFICATIONS LIST THE PROGRAM
160 REM THIS PROGRAM IS WRITTEN IN BASIC
170 REM COPYRIGHT - BY SCIENTIFIC RESEARCH
180 REM WRITTEN BY ROCER BROWN
190 REM THE FOLLOWING VARIABLES ARE USED IN THIS PROGRAM
200 REM NI=NUMBER OF CUSTUMERS
210 REM DS=REPUR! DATE
220 REM N
            #ITEM #
             =ITEM DESCRIPTION (11 CHARACTERS OR LESS PLEASE)
230 REM Es
            = PATIENT ACCOUNT #
                                                                1
240 REM A
             =CUSTOMER NAME (20 CHARACTERS OR LESS)
250 REM N#
             =CUSTOMER STREET ADDRESS
260 REM R#
             =CUSTOMER CITY & STATE ADDRESS
270 REM ST
            = 1 (* OF PALLENTS MER RECORD)
280 REM 5
            - BATE OF VISIT
290 REM A$
            -- (EX $ -- 12/12/25)
300 RtM
            = # OF CHARGES FOR EACH PATIENT
310 REM B
            = Visir CHARGES
320 KEM P
330 REM U TT = CUMULATIVE AMOUNT PAID
             =DATE OF LAST PAYMENT
340 REM US
            EX: 12/21/75
350 REM
             = PATIENTS HISTORY RECORD
360 REM J#
370 REM
380 REM
```

```
440 REM
43058=0
460 REM SSIS THE SALES TAX PERCENTAGE
470 PRINT
             UCC - COPYRIGHT BY . SCIENTIFIC RESEARCH - 1977 "
480 PRINT "
490 PRINT
500 FRINT
510 PRINT
520 PRINT
              THIS IS THE MEDICAL RECORDS AND PATIENT BILLING PROGRAM"
530 PRINT "
540 PRINT
550 PRINT
560 PRINT
570 PRINT "TYPE IN TODAYS DATE, AS: 5/21/76 ";
580 INPUT D#
590 OPEN "I",1,"MED"
400 INPUT #19NL
610 FOR I=1 YO NI
                                 y []
                                      y U事
                                           y B
                                                y J
620 INPUT #19A
                y N#
                      夏民事
                           y S$
630 IF B =0 THEN 670
640 FOR J1=1 TO B
                      yA$ yS yP
                 yN
650 INPUT #1,E$
660 NEXT II
670 IF J = 0 THEN 710
680 FOR 12=1 TO J
```

```
690 INPUT #1,J#
    700 NEXT 12
    210 NEXT 1
    720 ULUSE
    730 PRINT
    240 PRINT
    750 PRINT
    760 PRINT
    770 PRINT "THE FOLLOWING IS A LIST OF REPORTS THAT THIS PROGRAM"
    780 PRINT "WILL GENERATE. TO CHOUSE ONE TYPE IT S NUMBER WHEN ASKED."
    790 PRINT
    800 PRINT "
                   1 - PRINT MAILING LABELS"
    810 PRINT "
                   2 - PRINT PATIENT BILLS"
    820 PRINT
                   3 - PATIENT AZK REPORT
    830 PRINT "
                    4 - PATIENT HISTORY"
    840 PRINT
                   5 - UPDATE PATIENT RECORDS"
    850 PRIN: "
                   5 - STUP PROGRAM"
    860 FRINT
    870 PRINT "WHICH REPORT WOULD YOU LIKE TO RUN: ";
   880 INPUT R
   890 IF ROG THEN 250
    900 II REL THEN 250
   VIO PRINT
    920 IF R=6 (HEN 4100
   930 IF R=1 THEN 1000
    240 IF R=2 THEN 1260
   950 IF R=3 THEN 2190
   960 IF R=4 THEN 2680
   970 IF R=5 THEN 3220
   980 PRINT "UNLY A SINGLE NUMBER PLEASE BETWEEN 1 AND 6 : "
   990 GOTO 800
    1000 REM THIS SUB GENERATES THE MAILING LIST
    1010 PRINT
   1020 PRINT " THIS IS THE MAILING LIST ROUTINE "
   1030 PRINT
   1040 PRINT "WHEN YOU HAVE THE LABELS IN PLACE TYPE A 7: ";
   1050 INPUT Z2
   1060 Z1=5
   1070 FOR I=1 TO Z1
   1080 PRINT
   1090 NEXT I
   1100 LET Z=3
   1110 FOR I=1 TO N1
   1120 PRINT TAB(Z) (A
   1130 PRINT TAB(Z);N$
1977
   1140 FRINT TAB(Z) )R$
   1150 PRINT TAB(Z);S$
COPYRIGHT
   1160 PRINT
   1170 PRINT
   1180 PRINT
   1170 NEXT I
   1200 PRINT
   1210 PRINT
   1220 PRINT
   1230 PRINT "END OF THE MAILING LIST ****
   1240 PRINT
   1250 GOTO 730
   1240 REM THIS SUB GENERATES THE BILLING LIST #2
```

```
1270 B1=0
  1280 B2#0
   1290 B3=0
   1300 REM THE FORMAT OF THE BILL PRINTING IS AS FOLLOWS:
   1310 REM PAGE ONF PRINTS THE MATLING ADDRESS
   1320 REM
                ACCOUNT#
   1330 REM
                 CUSTOMER NAME
   1340 REM
                 STREET ADDRESS
   1350 REM
                LITY STATE
   1360 REM
   1370 REM
   1380 REM
   1320 REW
   1400 KEM DATE CHARGE # DESCRIPTION CHARGES
   1410 REM
             1420 REM
               . . . .
                            . . . . . .
   1430 REM
   1440 REM
   1450 REM TOTAL AMOUNT PAID = $ XXX.XX
   1460 REM DATE OF THE LAST PAYMENT 12/21/75
   1470 REM TOTAL AMOUNT THE - ******* * XXX.XX *******
   1480 REM
   1490 PRINT
   1500 PRINT
   1510 PRINT "IMIS GENERATES THE PRINTING OF THE BILLS"
   1520 PRINT "WHEN THEY ARE IN PLACE TYPE A 7 :";
   1530 INPUT Z
   1540 LET Z=7
   1550 FOR I=1 TO Z
   1560 PRINT
   1570 NEXT I
   1580 LET Z=18
SCIENTIFIC RESEARCH
   1590 OPEN "I",1, "MED"
   1600 INPUT #19N1
   1610 FOR J=1 TO N1
   1620 LET Z2=65
   1630 LET Z=5
   1640 INPU) #1, A ,N# ,R# ,S# ,U ,U# ,B
   1850 INPUT $1, J
   1660 IF B =0 THEN 2050
   1670 PRINT TAB(Z) (A
   1680 PRINT TAB(Z) #N$
   1690 PRINT TAB(Z) R$
   1700 PRINT TAB(Z);5$
   1710 LET Z1=4
   1720 FOR 13=1 TO Z1
   1730 PRINT
   1740 NEXT I3
   1750 REM THIS IS TO SKIP DOWN TO THE STATEMENT SECTION OF THE BILL.
   1760 Z7=65
   1770 PRINT TAB(Z7);D$
   1780 PRINT
    1790 FOR I1=1 TO B
                           9 A $ 9 S
                                        y P
   1800 INPUT #1, E$ ,N
   1810 Z2=3
    1820 PRINT TAB(Z2);
```

```
TIB30 PRINT AS TOUNTTUES TUTTUES TOP
    1840 B2=B2+S xP
    1850 NEXT 11
    1860 PRINT
    1870 PRINT "TOTAL AMOUNT PAID == $"@U
    1880 PRINT "DATE OF LAST PAYMENT = ";U$
    1890 B3=B2*SS
    1900 B3=INT(.5+100*B3)/100
   1910 PRINT
   1920 B2=B2+B3-U
   1930 B2=INT(.5+100*B2)/100
   1940 PRINT "TOTAL AMOUNT DUE = *********
1950 FRINT USING V#9B29
   1960 PRINT " *************
   1970 LET Z5=10-B
   1980 FOR 16=1 TO Z5
   1990 PRINT
   2000 NEXT 16
   2010 REM THIS IS TO SKIP TO THE NEXT BILL HEAD.
   2020 Bi=6
   2030 B2=0
   2040 B3=0
   2050 IF J =0 THEN 2090
   2060 FOR 17=1 TO J
   2070 INPUT #1, J$
   2080 NEXT 12
   2090 NEXT I
   2100 Z=12
   2110 FOR 17=1 TO Z
   2120 PRINT
   2130 NEXT 17
   2140 PRINT "END OF THE BILL PRINTING SEQUENCE."
RESEARCH
   2150 PRINT
   2160 PRINT
   2170 CLOSE
   2180 6010 730
   2170 REM THIS SUB GENERATES THE CUST. AZR REPORT #3
   2200 LET B1=0
   2210 LET B2=0
   2220 LET B3=0
   2230 PRINT
   2240 PRINT
* 2250 PRINT * PATIENT A/R
                                                   REFORT
                                                                     " † D$
   2260 PRINT
  2270 PRINT
   2280 FRINT " ACC# "," A/R # "," PAYMENTS"," LS DATE"," CUST NAME"
  2290 FRINT
   2300 OPEN "I",1,"MED"
   2310 INPUT #1,N1
  2320 FOR I=1 TO N1
  2330 INFUT #1, A
                   yN$
                           yR$ yS$ yU yU$ yB
  2340 INPUT #1, J
2350 IF B =0 THEN 2490
  2360 FOR I1=1 TO B
```

```
2370 INPUT #1, E$ 7 ,N'T',A$ 7 ,S' 7 ,P
  2380 12=8
             *F:
  2390 T2=T2*(1+S5)
  2400 T2=1NT(.5+100*T2)/100
  2410 B3=B3+T2
  2420 NEXT T1
  2430 B3=INT(.5+100*B3)/100
  2440 H1#H1+B3-U
  2450 B2=B2+U
                  y * $ " $ B3-U
                                                        " 3 N $
  2460 PRINT A
                                y " $ " 9 U
                                           9 U$
  2470 LET B3=0
  2480 GOTO 2500
                                                       " 9 N $ ' '
                       00.00"y"$ 00.00"yU$ 7 9"
  2490 PRINT A
                  , n 🚯
  2500 IF J =0 THEN 2540
  2510 FOR 17=1 TO J
  2520 INPUT #1, J#
  2530 NEXT 17
  2540 NEXT 1
  2550 PRINT
  2560 PRIM1
  2570 PRINT
  2580 PRINT "TOTAL PAYMENTS
  2570 PRINT USING V##B2
              "TOTAL ACCOUNTS/REC. = ";
  2600 PRINT
  2610 PRINT USING V$$B1+B2
  2620 PRINT
  2630 PRINT "ACCOUNTS/REC. DUE
  2640 PRINT USING V##B1,
                  *******************
  2650 PRINT "
  2660 CLOSE
  2670 GOTO 730
   2680 REM PATIENT HISTORY
  2690 LET B1=0
   2700 LET B2=0
   2710 LET B3::0
   2720 PRINT
   2730 PRINT
   2740 PRINT "INPUT THE PATIENT'S ACCOUNT # ";
   2750 INPUT N7
   2760 PRINT
   2770 LET Q*=D*
   2780 PRINT
   2790 PRINT
                                                                             " ŷQ$
                                                                     A S :
                         PATIENT
                                            HISTORY
   2800 PRINT
   2810 PRINT
   2820 PRINT
COPYRIGHT
   2830 PRINT "ACC#", "PATIENT NAME"
   2840 PRINT
   2850 OPEN "1";#1,"MED"
2860 INPUT #1,N1
   2870 FOR I=1 TO N1
                                                 y [] $
                                           y U
                                                       y B
                                     9 S $
   2880 INPUT #1, A
                        2 N $
                              9尺事
   2870 INPUT #1, J
```

=0 THEN 2940

2900 IF B

```
2910 FOR II=1 TO B
  2920 INPUT #1, E$
                                        y P
                       9 N
                            ッ A 事
                                   2 B
2930 NEXT 11
2940 IF NZ<>A
                   THEN 3000
                  y NS
  2960 PRINT
  2920 PRINT
  2980 PRINT
                        PAST
                                  HISTORY"
  2990 PRINT
  3000 IF J
              =0 THEN 3070
  3010 FOR 17=1 TO J
  3020 INPUT #1, J$
  3030 IF N7<>A
3030 IF NY<>A 3040 PRINT J#
                  THEN 3050
• 3050 NEXT 17

> 3060 IF N7

■ A

                  THEN 3080
 3070 NEXT [
  3080 PRINT
  3090 PRINT "END OF ")N$"
                            ;" HISTORY FILE"
  3100 PRINT "WHEN YOU ARE READY TO PROCEED TYPE A 1 ";
  3110 INPUT N8
  3120 PRINT
  3130 PRINT "WOULD YOU LIKE TO REVIEW ANOTHER PATIENT'S HISTORY (YES OR NO)";
  3140 INPUT YS
  3150 CLOSE
  3160 IF Ys="YES" THEN 2680
  3170 IF Y#="Y" THEN 2680
  3180 PRINT
  3190 PRINT
  3200 PRINT
  3210 GOTO 730
  3220 REM THIS IS THE UPDATING SECTION
  3230 FOR I=1 TO 8
  3240 FRINT
  3250 NEXT 1
 3260 OPEN "1"919"MED"
  3270 OPEN "O",2, "SCRM"
  3280 INPUT #1,N1
 3290 PRINT "TYPE A - 0 - IF YOU ARE ADDING A NEW PATIENT" :
 3300 PRINT "TYPE A - 1 - IF YOU ARE UPDATING AN OLD PATIENT"
 3310 PRINT "TYPE A - 2 - IF YOU ARE FINISHED"
 3320 INPUT D
 3330 IF D<0 THEN 3290
 3340 IF D>2 THEN 3290
 3350 IF D=1 THEN 3390
 3360 IF D=0 THEN 3780
 3370 CLOSE
 3380 GOTO 730
 3390 PRINT
 3400 PRINT "TYPE IN THE PATIENT ACCOUNT NUMBER ";
 3410 INPUT A
 3420 PRINT #2,N1
```

3430 FOR I=1 TO N1

```
3440 INPUT #1,A1,Ns,R$,S$,U,U$,B,J
3450 IF A=A1 THEN 3600
3460 PRINT #29A19N$$ "9 "$R$$ "9 "$8$ $ "9 "$U9U$ $ "9 "$B9J
3470 IF B=0 THEN 3520
3480 FOR 12=1 TO B
3490 INPUT #1,E$,N,A$,S,P
3500 PRINT #2,E$0","0N,A$0","0S,P
3510 NEXT I2
3520 IF J=0 THEN 3570
3530 FOR 13≕1 TO J
3540 [NPUT #1,J$
3550 PRINT #2,J#
3560 NEXT 13
3570 NEXT I: CLOSE
3580 KILL "MED": NAME "SCRM" AS "MED"
3590 6010 3260
3600 B=B{1
3610 PRINT "HOW MANY LINES ARE YOU GOING TO ADD TO THE HISTORY ";
3620 INPUT L1
3630 PRINT #29A19N$$"9"$R$$"9"$S$$"9"$U9U$$"9"$B9J+L1
3640 FOR IS=1 TO B-1
3650 INPUT #IVESONVASOSOF
3660 PRINT #2,E$;",";N,A$;",";S,P
3670 NEXT 15
3680 PRINT "TYPE IN THE - CHG. #, DESC., CHARGES, & PAYMENT";
3690 INPUT NyAsySyP
3700 PRINT #2,D$;",";N,A$;",";S,P
3210 PRINT
3720 PRINT "ENTER THE "$L1$" LINES OF HISTORY NOW "
3730 FOR T7=1 TO L1
3240 INPUT G#
3750 PRINT #2,6$
3760 NEXT 17
3220 GOTO 3570
3780 PRINT
3/90 PRINT "TYPE IN THE PATIENT #, NAME, ADDRESS, CITY/STATE/ZIP"
3800 INPUT AVNSVRSVSS
3810 PRINT #2,N1+1: PRINT "HOW MANY LINES ARE YOU ENTERING IN THE HISTOR
Y "; $INFUT J
3820 PRINT #2,A,N$$","$R$$","$S$$","$O,D$$","$1,J
3830 PRINT "TYPE - CHARGE #, DESC., CHARGE AMT., PAYMENT "
3840 INPUT NyA$,S,P
3850 PRINT #2,D$;",";N,A$;",";S,P
3860 PRINT "TYPE IN THE "; J; " LINES OF HISTORY "
3870 FOR 19=1 TO J
3880 INPUT K$
3890 PRINT #2,K$
3900 NEXT 19
3910 FUR 18=1 TO N1
3920 INPUT #1,A,N$,R$,S$,U,U$,B,J
3930 PRINT #2,A,N$0","0R$0","0S$0","0U,U$0","0B,J
```

3940 IF B=0 THEN 3990

```
3950 FOR 17=1 TO B
3960 INPUL #1,E#,N,A#,S,P
3970 FRINT #2,E$$,","$N,A$$,","$S,P
3980 NEXT 17
3990 IF J=0 THEN 4040
4000 FOR 16=1 TO J
#Use TUPAR #19U#
4020 PRINT #2,J#
4030 NEXT 16
4040 NEXT 18
4050 CLUSE
4060 NILL "MED"
4070 NAME "SCEM" AS "MED"
4080 PRINT
4090 6010 3260
4100 REM THE END
4110 END
```

UCC - COPYRIGHT BY . SCIENTIFIC RESEARCH - 1977 THIS IS THE MEDICAL RECORDS AND PATIENT BILLING PROGRAM TYPE IN TODAYS DATE, AS: 5/21/76 ? 7/23/77 THE FOLLOWING IS A LIST OF REPORTS THAT THIS PROGRAM WILL GENERATE. TO CHOUSE ONE TYPE IT'S NUMBER WHEN ASKED. 1 - PRINT MAILING LABELS 2 - PRINT PATIENT BILLS 3 - PATIENT AZR REPORT 4 - PATIENT HISTORY 5 - UPDATE PATIENT RECORDS 6 - STOP PROGRAM WHEEL REPORT WOULD YOU LIKE TO RUN: 7 1 TRIS IS THE MAILING LIST ROUTINE YOU HAVE THE LABELS IN PLACE TYPE A 7: 7 7 SCIENT 37116 SAM WALTERS SAM WALTERS
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BALTIMORE MD. 21136 45686 PHIL REMINGTON 1934 SHERWOOD AVE. BALTIMORE MD. 21134

SAM WALTERS 8927 W. CHERRY ST. BALTIMORE MD. 21136

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WOULD YOU LIKE TO REVIEW ANOTHER PATIENT'S HISTORY (YES OR NO)? YES INPUT THE PATIENT'S ACCOUNT # ? 78192 PATIENT A S : ACC# PATIENT NAME 78192 JOHN K. MASSEY PAST HISTORY ALLERGIES - SULFA * AGE 22 * BP 90/135 * HT 5-9 * WT 158 3/76 - FIRST VISIT FEVER 101.8 . BP 85/130. FEELS POOR PRESCRIBED - TETRACYCLINE 250 MG REMOVED WART ON BACK OF LEFT INDEX FINGER. USED A LOCAL AND A HOT WIRE TO REMOVE WART. 2777 - FEVER 101.2 . BP 85/130. FEELS ILL AND HAS HEADACHE HAS CHILLS. PRESCRIBED - TETRACYCLINE AND EMPIRIN #3. END OF JOHN K. MASSEY HISTORY FILE WHEN YOU ARE READY TO PROCEED TYPE A 1 7 1 WOULD YOU LIKE TO REVIEW ANOTHER PATIENT'S HISTORY (YES OR NO)? NO THE FOLLOWING IS A LIST OF REPORTS THAT THIS PROGRAM WIL GENERATE. TO CHOOSE ONE TYPE IT'S NUMBER WHEN ASKED. · 1 - PRINT MAILING LABELS ►2 - PRINT PATIENT BILLS 63 - PATIENT A/R REPORT 4 - PATIENT HISTORY 5 - UPDATE PATIENT RECORDS 6 - STOP PROGRAM WIRE TO RUN: 7 6

```
10 REM MED FILE
20 PRINT
30 PRINT
40 PRINT " THIS PROGRAM WILL BUILD YOUR DATA BASE FOR YOU"
50 PRINT
60 OPEN "0" 11 "MED"
70 PRINT "HOW MANY PATIENTS DO YOU WANT TO PUT IN YOUR DATA BASE ";
80 INPUT N1
90 PRINT #1,N1
 100 PRINT
110 PRINT "TYPE IN THE FOLLOWING INFORMATION FOR EACH PATIENT"
 120 PRINT
 130 PRINT "PATIENT #, NAME, ADDRESS, CITY/STATE/ZIP, # OF VISITS BEING E
NTERED"
 140 PRINT "PLUS THE NUMBER OF HISTORY LINES YOU ARE GOING TO ENTER "
 150 PRINT
 160 FOR I=1 TO N1
 170 INPUT A, NS, RS, SS, B, J
 180 PRINT #1, A,N$$","$R$$","$S$$","$B,J
 190 PRINT
 200 IF B=0 THEN 290
 210 PRINT "TYPE IN THE VISIT INFORMATION AS FOLLOWS: "
 220 PRINT
:230 PRINT "DATE, CHARGE &, DESC., & CHARGES, & PAYMENT "
≥240 PRINT
250 FOR I2=1 TO B
렃260 INPUT E$, N, A$, S, P
₹270 PRINT #1, E$$","$N,A$$","$S,P
₩280 MEXT I2
₩290 IF J=0 THEN 380
300 PRINT
W310 PRINT "INPUT THE PATIENT HISTORY HERE. BE SURE TO ENTER"
□320 PRINT "THE NUMBER OF LINES YOU SPECIFIED ABOVE ...
₩330 PRINT
3340 FOR I3≕1 TO J
^{oldsymbol{\omega}}350 INPUT J^{oldsymbol{\varepsilon}}
1360 PRINT #1,J$
⊆370 NEXT 13
⊆380 PRINT
₩390 NEXT I
る400 PRINT
₩410 PRINT
€420 PRINT
            "ALL FINISHED "
S430 PRINT
440 PRINT
9450 END
 0K
```

WRDPRO:
This pro
of rearr
mats. W This program is designed to allow owners of micro-computers the capability of rearranging text material and then printing it out in a variety of formats. While this version is not quite as comprehensive as our WWP rev:30 program, it should easily run on most systems with disk extended Basic and 15K Bytes of free user memory for execution.

There are a few statements appearing in this program that may not be in the version of Basic you are using. The first is the Console statement, if your Basic doesn't have this command then just remove it everywhere it appears in the program, no other conversion is necessary. Line Input and Instr are two more statements that may not be in the version of Basic you are using. The Instr statement may be replaced by a conversion subroutine using the MID\$ statement, if necessary. A typical conversion for the Instr statement would be similar to the subroutine used on line 4075 on page 243 of Volume I. Here F1 is set equal to one (1) and the SST statement would be replaced by the MID\$ statement; see appendix B, page 925: Volume V.

This program offers nine major modes of operation with a number of submode operations. Individuals requiring a considerably more comprehensive version, should complete a copy of our software licensing agreement included at the end of this volume and return it with an order or contact us directly to obtain more details.

Following the source code listing for WRDPRO are a series of sample runs which illustrate the usefulness and versatility of the routines contained within this program. It should be noted that this version of WRDPRO rev:1 can only utilize text files that fit entirely into the working memory of the system being used. Therefore, if your Basic requires 20K and you only have 50K Bytes of total memory, then the largest text file you could build and use would only be 15K Bytes long; this would be equivalent to approximately four standard size, single spaced, typed pages of text. While this program does limit the size of your text files to the size of your working memory, it does not limit the number of files you may have, making it quite easy for you to have several files representing seperate portions of the total text material.

```
WRD PROC
              8/11/1977
                                     -- 1 ---
100 PRINT CHR$(26); "WORD PROCESSING TEXT EDITOR REV. 1.1"
110 PRINT*UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH*:PRINT:PRINT
120 REM WORD PROCESSING TEXT EDITOR
130 REM WRITTEN BY JOHN W. SWAIN
140 REM COPYRIGHT BY SCIENTIFIC RESEARCH 1977
150 REM THE FOLLOWING VARIABLES CONTROL CONSOLE FORT ASSIGNMENTS
160 REM C1=CRT PORT ASSIGNMENT
170 REM P1=SWITCH SETTING FOR CRT PORT
180 REM C2=PRINTER PORT ASSIGNMENT
190 REM F2=SWITCH SETTING FOR PRINTER FORT
200 REM SET UP GLOBAL CONSTANTS AND EQUATES
210 DEFINT A-Z:CLEAR 3000:DEFFNZ$(Y$)=CHR$(ASC(Y$)AND 95)
220 LINEINPUT ENTER TODAY'S DATE (MM/DD/YY OR SEPT. 26, 1977)?
                                                                    " # Z 9 $
230 PRINTCHR$(26)
240 ON ERROR GOTO 3420 'SET UP ERROR TRAPS
250 C1=18:P1=1
                                                                          SCIENTIFIC
260 C2=16:F2=0
270 CLOSE: FRINT "WORD PROCESSING TEXT EDITOR
                                                REV. 1.1"
280 PRINT*UCC - COPYRIGHT
                           1977 BY SCIENTIFIC RESEARCH": PRINT: PRINT
290 PRINT "THE FOLLOWING FUNCTIONS AVAILABLE ARE:":FRINT
300 PRINT, " 1 - BUILD THE TEXT OR LETTER"
310 PRINT, 2 - CREATE THE NAME AND ADDRESS FILE"
320 PRINT, " 3 - EDIT THE NAME AND ADDRESS FILE"
330 PRINT, " 4 - EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE
340 PRINT,"
                THE EDITOR IN BASIC) "
350 FRINT, 5 - PRINT A COPY OF THE TEXT.
360 PRINT, " 6 - PRINT A COPY OF THE LETTER WITHOUT THE NAME "
370 PRINT,"
                AND ADDRESS FILE.
                                    SALUTATION ENTERED FOR EACH LETTER"
380 PRINT, 7 - PRINT LETTERS FROM NAME AND ADDRESS FILE.
390 PRINT, 8 - GLOBAL SEARCH AND REPLACE.
400 PRINT, 9 - PRINT MAILING LABELS"
410 PRINT, 10 - END
420 PRINT: INPUT "WHICH WOULD YOU LIKE TO DO" F9: IF F9<1 OR F9>10 THEN 270
430 PRINTCHR$(26):ONF9GOTO 470,760,1090,1560,1690,1940,2270,2750,3020
         END ROUTINE
450 CLOSE: PRINT "EXITING TEXT EDITOR": CLEAR 200: END
460 REM TEXT CREATION ROUTINE
470 LN=1000:PRINT*TEXT CREATION ROUTINE FOR LETTERS AND COPY*
480 GOSUB3390:IF Z=0 THEN 480
490 PRINT"OUTFUT ";:GOSUB3360:IF Z=0 THEN 490
500 GOSUB3220
               'CHECK FOR EXISTING FILE
510 OPEN "O", 1, FZ$, DR
520 GOSUB 3180
                'SET UP HEADER OF FILE
530 PRINT:PRINT:PRINT"FILE HEADER LABEL = ";MID$(A$,INSTR(A$,"'"))
540 PRINT"===== BEGIN TEXT ENTRY ======"
550 PRINT: PRINT
560 LINEINPUT AS:IF AS="END" THEN 630
570 IF LEFT$(A$,1)="?" THEN 590
```

- 580 A1\$=A\$:A\$=STR\$(LN)+"' "+A\$:PRINT#1,A\$:LN=LN+10:GOTO 560
- 590 IF As="?" THEN PRINT:PRINTA15:GOTO 560
- 600 T=VAL(MID\$(A\$,2)):IFT<10RT>132THENPRINT*TAB INCORRECT*:GOTO 560
- 610 Ts="":FOR I=1 TO T:Ts=Ts+" ":NEXT
- 620 PRINTT\$;:LINEINFUTA\$;A\$=T\$+A\$:GOTO580
- 630 GOSUB650: CONSOLE C1,F1: CLOSE: PRINT "EXITING CREATION ROUTINE"
- 640 GOTO 730
- 650 CLOSE: INPUT DO YOU WANT A LISTING OF THE FILE # \$ Z1\$
- 660 IF LEFT\$(Z1\$,1)="N" THEN RETURN
- 670 OPEN"I",1,FZ\$,DR:INFUT"DO YOU WANT LINE NUMBERS LISTED";Z1\$

1250 PRINTTAB(16); 1

```
680 INPUT "HIT (CR) WHEN READY "; ZZ$ : CONSOLE C2, P2: PRINT
690 IF EOF(1) THEN RETURN
700 LINEINPUT#1,A$
710 IF LEFT$(Z1$,1)="Y"THEN PRINTASELSEPRINTMID$(A$, INSTR(A$, "'")+1)
720 GOTO 690
730 PRINT NUMBER OF RECORDS WRITTEN = "$(LN-1000)/10
740 GOTO 270
750 REM CREATE NAME AND ADDRESS FILE
760 LN=1000:PRINT*CREATION ROUTINE FOR NAME AND ADDRESS FILE*
770 GOSUB3390:IF Z=0 THEN 770
780 PRINT OUTPUT ";:GOSUB3360:IF Z=0 THEN 780
790 GOSUB3220 'CHECK FOR EXISTING FILE
800 OPEN"O",1,FZ$,DR
810 GOSUB 3180 'SET UP HEADER OF FILE
820 PRINT:PRINT:PRINT"FILE HEADER LABEL = "$MID$(A$,INSTR(A$,"'")) |
830 GOSUB 840:GOTO 1010
840 PRINT"===== BEGIN TEXT ENTRY ====="
850 PRINT: PRINT
860 LINEINPUT As:IF As<>"END" THEN GOSUB 870:GOTO 860 ELSE RETURN
870 IF LEFT$(A$,1)="?" THEN 900
880 IF F>8 THEN GOSUB 1030:F=0:RETURN
890 A1$=A$:F=F+1:AT$(F)=A$:RETURN
900 IF As="?" THENPRINT:PRINTA1s:RETURN
910 As=MID$(A$,2):GOSUB 920:GOTO960
920 IF LEN(A$)<1 OR LEN(A$)>26 THEN 990
930 FORI=1TOLEN(As):MIDs(As,I,1)=FNZs(MIDs(As,I,1)):Ts=MIDs(As,I,1)
940 IF Ts=>"A" AND T$<="Z" THEN NEXT ELSE 990
950 RETURN
960 Ts=As:LINEINPUT"SALUTATION? "$As:F=F+1:ATs(F)="?"+Ts+"-"+As
970 FOR I=1 TO F:PRINT#1,MID#(STR#(LN),2)+"/ "+AT#(I):LN=LN+10:NEXT
980 F=0:PRINT:PRINT"===== NEXT ENTRY ======":RETURN
990 PRINT GROUP CODES MUST CONSIST OF 1 TO 26 UPPER CASE LETTERS ONLY
1000 LINEINPUT*PLEASE ENTER THE CORRECT GROUP CODE(S)? * $A$:GOTO920
1010 GOSUB650:CONSOLE C1,P1:CLOSE:PRINT"EXITING CREATION ROUTINE"
1020 GOT0730
1030 PRINTCHR$(26):"THE LAST 10 LINES ENTERED:":PRINT
1040 FOR J=1 TO F:PRINTAT$(J):NEXT
1050 PRINT:PRINT"DON'T CONTAIN AN END OF ENTRY MARKER (?)."
1060 PRINT"START THIS ENTRY OVER AT THE FIRST LINE"
1070 RETURN
1080 REM NAME AND ADDRESS FILE EDITOR ROUTINE
1090 PRINT EDITOR FOR NAME AND ADDRESS FILE ": PRINT: PRINT
1100 GOSUB 3390: IF Z=0 THEN 1090
1110 PRINT OUTPUT "; GOSUB 3360:FF$=FZ$:IFZ=OTHEN1110
1120 PRINT"INPUT ";:GOSUB3360;LN=1000;IF Z=0 THEN 1120
1130 OPEN"I",2,FZ$,DR
1140 OPEN"O",1,"..XYZ...",DR
1150 GOSUB3190:LINEINPUT#2,Z1$ 'WRITE UPDATED HEADER TO FILE
1160 PRINTCHR$(26):F=1:GOSUB1460:IF F=0 THEN GOTO 1510
1170 PRINT THIS SECTION OFFERS & MODES OF OPERATION. ":PRINT
1180 PRINT, "1 - ADD A LINE AFTER LINE SPECIFIED"
1190 PRINT, "2 - DELETE LINE SPECIFIED"
1200 PRINT, "3 - REPLACE LINE SPECIFIED"
1210 PRINT, "4 - DELETE THIS ENTRY"
1220 PRINT, "5 - GET NEXT ENTRY"
1230 FRINT, "6 - END"
1240 PRINT:PRINT:PRINTTAB(12); "LINE NO. CONTENTS": FRINT
                           "$AT$(1)$SPC(4)$"(GROUP CODES)"
```

```
1260 FORJ=2 TO F:PRINTTAB(15);J;SPC(5);AT$(J):NEXT:PRINT:PRINT
1270 INPUT*WHICH FUNCTION* #F9: IF F9<10R F9>6 THEN 1170
1280 IFF9<4THENINPUT*LINE NUMBER* #F8 ELSE 1300
1290 IF F8<1 OR (F8+1>10 AND F9=1) OR F8>F THEN 1280
1300 ON F9 GOTO 1380,1360,1340,1160,1330
                                                                         CC
1310 GOSUB 1440
1320 F=1:GOSUB1460:IFF<1THENGOTO1510ELSEGOSUB1440:GOTO1320
1330 GOSUB 1440:GOTO1160
1340 PRINT "REPLACEMENT LINE FOR; "F8; "?"; LINEINPUTAT$ (F8)
1350 IF F8<>1THEN 1170 ELSE A$=AT$(1):GOSUB 920:AT$(1)=A$:GOTO1170
1360 IF F8=>2THEN F=F-1:FORI=F8 TO F:AT$(I)=AT$(I+1):NEXT
1370 GOTO 1170
1380 IFF8<FTHENLINEINFUT"NEW LINE? ";As:F=F+1:FORI=FT0F8+1STEP-1ELSE11
1390 AT$(I)=AT$(I-1):NEXT:AT$(F8+1)=A$:GOTO 1170
1400 INPUT DO YOU WISH TO ADD ANY ADDITIONAL ENTRIES #721$
                                                                         1
                                                                        SCIENJ.
1410 IF LEFT$(Z1$,1)="Y" THEN GOSUB 840
1420 CLOSE: IF FPS=FZS THEN KILLFZS, DR
1430 NAME"..XYZ.."ASFP$,DR:FZ$=FP$;GOSUB650:CONSOLEC1,P1:CLOSE:GOTO 27
1440 AT$(F)="?"+AT$(1)+"-"+AT$(F):FOR I=2 TO F
1450 PRINT#1,MID#(STR#(LN),2)+"/ "+AT#(I):LN=LN+10:NEXT:RETURN
1460 IFEOF(2)THENF=0:RETURNELSELINEINPUT#2,As:As=MIDs(As,INSTR(As,"/
1470 IF LEFT$(A$,1)="?" THEN F1=INSTR(A$,"-") ELSE 1500
1480 AT$(1)=MID$(A$,2,F1-2):F=F+1:AT$(F)=MID$(A$,F1+1)
1490 RETURN
1500 F=F+1:AT$(F)=A$:GOTO 1460
1510 INFUT ARE THE CHANGES CORRECT $Z1$
1520 IFLEFT$(Z1$,1)="N"THENPRINT"ABORTING JOB, NO FILES CHANGED"
1530 IFLEFT$(Z1$,1)="N"THENCLOSE:GOTO270
1540 GOTO 1400
1550 REM SET-UP FOR EDITING USING BASIC
1560 PRINT EDITOR ROUTINE FOR TEXT FILES
1570 PRINT"THIS SECTION WILL SET UP THE FILE FOR EDITING USING THE "
1580 PRINT"EDITOR WHICH IS BUILT INTO BASIC. ":PRINT:PRINT
1590 Z=1:INPUT"FILE NAME TO EDIT";FZ$:GOSUB3370:IFZ=OTHEN1590
1600 Z=1:INPUT*DRIVE NUMBER*;DR:GOSUB3400:IFZ=0 THEN 1600
1610 INPUT DO YOU WISH A LIST OF THE FILE BEFORE EDITING $Z1$
1620 IF LEFT$(Z1$,1)="Y" THEN OPEN "I",1,FZ$,DRELSE 1670
1630 INPUT "HIT (CR) WHEN READY" #ZZ$:CONSOLE C2#P2
1640 IF EDF(1) THEN 1670
1650 LINEINPUT#1,A$:PRINTA$
1660 GOTO 1640
1670 CONSOLE C1,F1:LOAD FZ$,DR
1680 REM PRINT COPY OF TEXT
1690 PRINT"THIS SECTION PRINTS A COPY OF THE TEXT"
1700 GOSUB3390:GOSUB 1880:GOSUB1850:INPUT NUMBER OF COPIES ;NC
1710 INPUT"LINE UP PAPER AND HIT (CR) WHEN READY"; ZZ$; CONSOLE C2, P2
1720 NT=LN:IFNC>OTHENGOSUB1820:NC=NC-1:GOTO 1740
1730 CONSOLEC1, P1: PRINT EXITING COPY PRINT-OUT :: GOTO270
1740 IFLEFT$(Z2$,1)="N"THEN IF NC<1THEN 1720 ELSECONSOLE C1,P1:GOTO1710
1750 IF NT=OTHEN 1720 ELSE IF NT>O THEN PRINT:NT=NT-1:GOTO 1750
1760 NC=NC+1:CONSOLE C1,P1:PRINT:PRINT
1770 PRINT"YOUR DOCUMENT IS TOO LONG FOR THE FORM SIZE SELECTED."
1780 INPUT" DO YOU WANT TO CONTINUE PRINTING"; ZZ$
1790 IF LEFT$(ZZ$,1)="Y" THEN GOSUB 1860:GOTO 1710
1800 INPUT*DO YOU WANT TO RESTART*;ZZ$
1810 IF LEFT$(ZZ$,1)="Y" THEN 1700 ELSE 1730
1820 OPEN"I",1,FZ$,DR:GOSUB 1920
1830 IF EOF(1) THEN CLOSE 1:RETURN
```

```
1840 LINEINPUT#1, As: PRINTMID$ (A$, INSTR(A$, "'")+2): NT=NT-1: GOTO 1830
1850 INPUT "CONTINUOUS FORMS" | Z2$: IF LEFT$ (Z2$,1)="N" THEN RETURN
1860 INPUT "NUMBER OF LINES PER PAGE" $LN
1870 RETURN
1880 PRINT"INPUT TEXT "; GOSUB3360: IF Z=0 THEN 1880
1890 OPEN"I",1,FZ$,DR:GOSUB1920:CLOSE 1
1900 PRINTMIDs(As, INSTR(As, "'")+1); INPUT "IS THIS THE CORRECT FILE " $ Z1 6
                                                                        OPYRIGHT
1910 IF LEFT$(Z1$,1)="N"THEN 1880 ELSE RETURN
1920 LINEINPUT#1, A$: IF LEN(A$)>0 THEN RETURN ELSE 1920
1930 REM PRINT LETTERS WITH SALUTATION ENTER FROM KEYBOARD + ENV.
1940 PRINT PRINT LETTERS WITHOUT NAME AND ADDRESS FILE. ": PRINT: PRINT
1950 GOSUB3390:GOSUB 1880
                                                                        1977
1960 GOSUB 2110:GOSUB2250
1970 INPUT "LINE UP PAPER AND HIT (CR) WHEN READY" $ ZZ$ CONSOLE C2, P2
1980 PRINTTAB(T1); Z8s: PRINT: PRINTTES: PRINTZ5s: PRINT: PRINT
                                                                        SCIENTIFIC
1990 GOSUB 1820: CONSOLE C1, P1
2000 INPUT®DO YOU WANT TO PRINT AN ENVELOPE®$ZZ$
2010 IF LEFT$(ZZ$,1)="Y" THEN GOSUB 2060
2020 INPUT ANOTHER LETTER # ; ZZ$ : IF LEFT$ (ZZ$ , 1) = "N" THEN 2100
2030 INPUT"SAME DOCUMENT"#ZZ$:IF LEFT$(ZZ$#1)="N" THEN GOSUB 1880
2040 INPUT SAME NAME AND ADDRESS $ZZ$: IF LEFT$ (ZZ$,1)="N" THEN 1960
2050 GOTO 1970
2060 PRINT: INPUT "PLACE ENVELOPE IN PRINTER AND HIT (CR) WHEN READY";
2070 CONSOLE C2,P2:PRINTTAB(35);:FORI=1TO LEN(TE$)-2
2080 PRINTMID$(TE$,I,1);:IF ASC(MID$(TE$,I))=10 THEN PRINTTAB(35);
2090 NEXT:FORI=1 TO 5:PRINT:NEXT:CONSOLE C1,P1:RETURN
2100 PRINT'EXITING LETTER PRINTING ROUTINE": GOTO 270
2110 PRINT: PRINT
2120 PRINT ENTER EACH LINE OF THE NAME AND ADDRESS AS IT WILL APPEAR ON"
2130 PRINT THE LETTER. AFTER THE LAST LINE HAS BEEN ENTERED, TYPE A "
2140 PRINT"'?' AND HIT (CR).":TE$=""
2150 LINEINPUTAs: IF LEFTs(As, 1)="?" THEN 2180
2160 IF LEN(TE$+A$)>250 THEN PRINT"NAME/ADDRESS TOO LONG":GOTO 2110
2170 TE$=TE$+A$+CHR$(13)+CHR$(10):GOTO 2150
2180 IF LEN(TE$)<3 THENPRINT"NAME AND ADDRESS TOO SHORT":GOTO 2110
2190 PRINT:PRINT:LINEINPUT "INPUT DATE (CR) USES DATE ENTERED? "#Z8$
2200 IF Z8$="" THEN Z8$=Z9$
2210 INPUT NUMBER OF SPACES TO INDENT DATE (CR) USES LAST ENTRY $27$
2220 IF Z7s="" THEN Z7s=Z6s ELSE Z6s=Z7s:T1=VAL(Z7s)
2230 IF T1<0 OR T1>132 THEN 2210
2240 RETURN
2250 LINEINPUT "SALUTATION? "$Z5$ RETURN
2260 REM PRINT LETTERS FROM NAME AND ADDRESS FILE
2270 PRINT PRINT LETTERS FROM NAME AND ADDRESS FILE"
2280 GOSUB 3390
                  'GET DRIVE NUMBER
                          'GET TEXT NAME AND SAVE TEMP
2290 GOSUB 1880:FX$=FZ$
                          'GET NAME AND ADDRESS AND RESTORE TEMP
2300 GOSUB 2690:FZ$=FX$
                   'GET CONTINOUS FORMS ANSWERS
2310 GOSUB 1850
                   'GET DATE QUESTIONS
2320 GOSUB 2190
2330 GC$="":NC=O:LINEINPUT"GROUP CODES TO PRINT? ";A$:GOSUB 2610
2340 IF LEFT$(ZZ$,1)="N" THEN 2330
2350 INPUT*LINE UP PAPER AND HIT (CR) WHEN READY*$ZZ$:CONSOLE C2,P2
2360 OPEN"I",2,FY$,DR:GOSUB2730
2370 II=1:NT=LN:GOSUB 2530:IF II<1 THEN 2480 ELSE PRINTTAB(T1);Z8$
2380 PRINT:FORI=2 TO II-1:PRINTTE$(I):NEXT:PRINT:PRINTTE$(II)
2390 PRINT:PRINT:NT=NT-(II+6)
2400 GOSUB 1820:NC=NC+1:IFLEFT$(Z2$,1)="N" THEN CONSOLEC1,F1:GOTO2350
2410 IF NT=0 THEN 2370 ELSE IF NT>0 THEN PRINT:NT=NT-1:GOTO 2410
```

```
2420 NC=NC-1:CONSOLE C1,F1:PRINT:PRINT
2430 PRINT YOUR DOCUMENT IS LONGER THAN THE FORM SIZE SELECTED.
2440 INPUT "DO YOUU WANT TO CONTINUE PRINTING"; ZZ$
2450 IF LEFT$(ZZ$,1)="Y" THEN GOSUB 1860:GOTO2350
2460 INPUT DO YOU WANT TO RESTART $ZZ$
2470 IF LEFT$(ZZ$,1)="Y" THEN CLOSE:GOTO2290
2480 CONSOLE C1,P1:CLOSE:PRINT"ENDING LETTER PRINT OUT ROUTINE"
2490 PRINT'NUMBER OF LETTERS PRINTED = ";NC
2500 INPUT*DO YOU WISH TO PRINT MAILING LABELS*;ZZ$
2510 IF LEFT*(ZZ*_1)="N" THEN 270
2520 CLOSE:GOTO 3070
2530 IF EOF(2) THEN II=0:RETURN ELSE LINEINPUT#2,A$
2540 As=MIDs(As,INSTR(As,"/")+2)
2550 IF LEFT$(A$,1)="?" THEN J=INSTR(A$,"-") ELSE 2600
2560 TE$(1)=MID$(A$,2,J-2):II=II+1:TE$(II)=MID$(A$,J+1)
                                                                     1
2570 IF GC$="ALL" THEN RETURN
2580 FOR I=1 TO LEN(GC$):IF INSTR(TE$(1),MID$(GC$,I,1))>O THEN RETURN
2590 NEXTI: II=1:GOTO 2530
2600 II=II+1:TE$(II)=A$:GOTO 2530
2610 IF LEN(As)<1 THEN ZZs="N":RETURN
2620 IFAs="ALL"THENPRINT"YOU HAVE SELECTED ALL OF THE FILE"ELSE 2640
2630 GC$="ALL":GOTO 2680
2640 PRINT:PRINT"YOU HAVE SELECTED THE FOLLOWING GROUP CODES:"
2650 PRINT:PRINTTAB(10):FORI=1TO LEN(A$):T$=MID$(A$,I,1)
2660 IF T$<"A" OR T$>"Z" THEN 2670 ELSE PRINT" ";T$;:GC$=GC$+T$
2670 NEXT
2680 PRINT: PRINT: INPUT "IS THIS CORRECT "; ZZ$: RETURN
2690 PRINT"NAME/ADDRESS "#:GOSUB3360:IF Z=0 THEN 2690
2700 FY$=FZ$:OPEN"I",2,FY$,DR:GOSUB2730:CLOSE 2
2710 PRINTMIDs(As, INSTR(As, "/")+1): INPUT "IS THIS THE CORRECT FILE"; Z1s
2720 IF LEFT$(Z1$,1)="N"THEN 2690 ELSE RETURN
2730 LINEINPUT#2,As:IF LEN(As)>O THEN RETURN ELSE 2730
          GLOBAL SEARCH AND REPLACEMENT ROUTINE FOR WORD PROCESSOR
2750 PRINT GLOBAL SEARCH AND REPLACE ROUTINE :PRINT
2760 PRINT WHEN CHOOSING SEARCH STRING, BE SURE TO PICK ONE WHICH
2770 PRINT"IS UNIQUE TO THE ITEM YOU WANT CHANGED OR YOU MAY CHANGE"
2780 PRINT"AN ITEM THAT YOU DIDN'T MEAN TO CHANGE."
2790 PRINT"THIS SECTION WILL PRINT OUT THE CHANGED REPORT AS IT MAKES"
2800 PRINT"THE CHANGES"
2810 GOSUB 3390:1F Z=0 THEN 2810
2820 FRINT"OUTPUT ";:GOSUB 3360:FF$=FZ$:IFZ=OTHEN2820
2830 PRINT"INPUT ";:GOSUB3360:LN=1000:IF Z=0 THEN 2830
2840 OPEN"I",2,FZ$,DR
2850 OPEN"O",1,",.XYZ..",DR
2860 GOSUB3190:LINEINPUT#2,Z1$ /WRITE UPDATED HEADER TO FILE
2870 LINEINPUT"SEARCH STRING? "#Z2$
2880 LINEINPUT*REPLACEMENT STRING? ";Z3s:PRINT:PRINT
2890 INPUT "READY PRINTER AND HIT (CR) TO CONTINUE # $ Z1$
2900 PRINT A MOMENT PLEASE ": NR=0: CONSOLE C2, P2
2910 IF EOF(2) THEN CLOSE; GOTO2960
2920 LINEINPUT#2,A$:FORI=1TOLEN(A$):IFMID$(A$,I,LEN(Z2$))<>Z2$THEN2940
2930 B$=LEFT$(A$,I-1):C$=MID$(A$,I+LEN(Z2$)):A$=B$+Z3$+C$:NR=NR+1
2940 NEXTT
2950 PRINT#1, A$: PRINTA$: GOTO2910
2960 CONSOLE C1,P1:PRINT"NUMBER OF RECORDS FOUND AND REPLACED = ";NR
2970 INPUT "ARE THE CHANGES CORRECT" $ Z1$
2980 IFLEFT$(Z1$,1)="N"THENPRINT"ABORTING JOB, NO FILES CHANGED":GOTO270
```

2990 IF FF\$=FZ\$ THEN KILLFZ\$,DR

```
3000 NAME"..XYZ.."AS FF*, DR:GOTO 270
3010 REM PRINT MAILING LABELS
3020 PRINT "PRINT MAILING LABELS"
                 'DRIVE NUMBER
3030 GOSUB3390
                 'GET NAME AND ADDRESSS FILE NAME
3040 GOSUB 2690
3050 GC$="":LINEINPUT"GROUP CODES TO PRINT? ";A$:GOSUB 2610
3060 IF LEFT$(ZZ$,1)="N" THEN 3050
3070 INPUT LINE UP LABELS AND HIT (CR) WHEN READY #7ZZ$: CONSOLE C2, P2
3090 FORI=1T08:FORJ=1T020:PRINT"X";:NEXTJ:PRINT:NEXTI:CONSOLE C1,P1 G
3100 INPUT" IS THE LINE UP CORRECT";ZZ$:IF LEFT$(ZZ$,1)="N" THEN 30704
3110 CONSOLE C2, P2:OPEN"I", 2, FY$, DR:GOSUB2730
                                                                         1977
3120 II=1:GOSUB 2530:IF II<1 THEN 3160
3130 PRINT:FORI=2 TO II-1:PRINTTE$(I):NEXT
                                                                         8
3140 FORI=II-1 TO 8:PRINT:NEXT
3150 NC=NC+1:GOTO 3120
3160 CONSOLE C1,F1:PRINT"END OF MAILING LABEL ROUTINE"
3170 PRINT NUMBER OF LABELS PRINTED = "$NC:GOTO 270
3180 As=STR$(LN)+"/ "+"FILE NAME "+FZ$+" CREATION DATE: "+Z9$:GOTO32154
3190 A$=STR$(LN)+"' "+"FILE NAME "+FF$+" REVISION OF: "+FZ$
                                                                         С
                              "+Z9$:GOT03210
3200 As=As+* DATE REVISED:
3210 PRINT#1,A$:LN=LN+10:RETURN
3220 OPEN"I",1,FZ$,DR:CLOSE:PRINT"FILE ALREADY EXISTS USING THAT NAME
3230 GOSUB3340
3240 INPUT DO YOU WISH TO RENAME OR REPLACE THE EXISTING FILE $Z1$
3250 IFLEFT$(Z1$,1)="N"THENPRINT"NEW OUTPUT ";:GOSUB3360:IFZ=OTHEN325区
3260 IF LEFT$(Z1$,1)="N" THEN RETURN
3270 INPUT "WHICH (REN OR REF)" $ Z1$
3280 IF LEFT$(Z1$,3)<>"REN" THEN IF LEFT$(Z1$,3)<>"REP" THEN 3270
3290 IF LEFT$(Z1$,3)="REP" THEN RETURN
3300 PRINT"CHANGE NAME FROM "#FZ$#" TO"#:INPUTFF$
3310 Z=1:GOSUB3370:IF Z=0 THEN 3300
3320 NAME FZ$ AS FP$,DR
3330 RETURN
3340 PRINT THE FILES AVAILABLE ON THIS DISC ARE: ": PRINT: FILES DR: PRINT
3350 RETURN
3360 INPUT"FILE NAME" #FZ$:Z=1
3370 IF LEN(FZ$)<1 OR LEN(FZ$)>8 THEN PRINT"ILLEGAL FILE NAME": Z=0
3380 RETURN
3390 INPUT DRIVE NUMBER # DR: Z=1
3400 IF DR<O OR DR>15 THENPRINT"ILLEGAL DRIVE NUMBER": Z=0
3410 RETURN
3420 IF ERR=56 THEN CLOSE: PRINT "MOUNTING DRIVE " FDR: MOUNT DR: RESUME
3430 IF ERR<>53 THEN 3540
3440 IF F9=1 THEN RESUME 510
3450 IFF9=4 THEN GOSUB 3340:RESUME 1590
3460 IF F9=8 THEN GOSUB 3340:CLOSE:RESUME 2830
3470 IF F9=3 THEN GOSUB 3340:CLOSE:RESUME 1120
3480 IF F9=2 THEN RESUME 800
3490 IF F9=5 THEN GOSUB 3340:CLOSE 1:RESUME 1700
3500 IF F9=6 THEN GOSUB 3340:CLOSE 1:RESUME 1950
3510 IF F9=7 AND ERL=1890 THEN GOSUB3340:CLOSE 1:RESUME 2290
3520 IF F9=7 AND ERL=2700 THEN GOSUB 3340:CLOSE 2:RESUME 2300
3530 IF F9=10 AND ERL=2700 THEN GOSUB 3340:CLOSE 2:RESUME 3040
3540 IF ERR=58 THENPRINT OUTPUT FILE ALREADY EXISTS :: GOSUB3560: RESUME
3550 ON ERROR GOTO 0
3560 GOSUB 3340:INPUT DO YOU WISH TO REPLACE THE FILE $Z2$
3570 IF LEFT$(Z2$,1)="Y" THEN KILLFF$,DR;RETURN
```

3580 LINEINPUT"NEW OUTPUT FILE NAME? "#FP# 3590 IFLEN(FP#)<10RLEN(FP#)>8THENPRINT"ILLEGAL FILE NAME":GOTO3580 3600 RETURN

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RUB:

WORD PROCESSING TEXT EDITOR REV. 1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

ENTER TODAY'S DATE (MM/DD/YY OR SEPT. 26, 1977)? AUG. 12,1 1977 WORD PROCESSING TEXT EDITOR REV. 1
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THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 1

TEXT CREATION ROUTINE FOR LETTERS AND COPY DRIVE NUMBER? 1 OUTPUT FILE NAME? LETTER1 FILE HEADER LABEL = ' FILE NAME LETTER1 CREATION DATE: AUG. 12, 1977 **BEGIN TEXT ENTRY** Indent 5 spaces error 25 WE HAVE REVIEWED YOUR PROPOSED PLANS OF THE INSTALLATION OF YOUR

3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR

WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

IN C-2 THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES

TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS

IN EXCESS OF NORMAL REQUIREMENTS.

CON R-5 CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF

APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL RUB: removes 0 MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS. SECTION C-2 THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES 714 714 SECTION 714 APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL 714 EXTEND THE COMPLETION TERM BY A LENGTH OF TIME 714 DESIGNATED BY THE CONTRACTOR. 75 WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER OR WILL CONSIDER YOUR OFFFER WITHDRAWN. 7.45 SINCERELY YOURS, 245 error RUB: LEONARD ROGERS 745 removes NAMANAGER OF PURCHASING END

DO YOU WANT A LISTING OF THE FILE? Y DO YOU WANT LINE NUMBERS LISTED? N HIT (CR) WHEN READY?__

FILE NAME LETTER1 CREATION DATE: AUG. 12, 1977

WANT A LISTING OF THE FILE? Y
WANT LINE NUMBERS LISTED? N

NAME LETTER1 CREATION DATE: AUG. 12, 1977
WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR
3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR
1970
WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS. MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

- THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES SECTION C-2 TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.
- CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF SECTION R-5 APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFFER WITHDRAWN.

SINCERELY YOURS,

LEONARD ROGERS MANAGER OF PURCHASING

EXITING CREATION ROUTINE NUMBER OF RECORDS WRITTEN = 29 WORD PROCESSING TEXT EDITOR REV. 1.1 1977 BY SCIENTIFIC RESEARCH UCC - COPYRIGHT

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC)
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME SALUTATION ENTERED FOR EACH LETTER AND ADDRESS FILE.
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 2

CREATION ROUTINE FOR NAME AND ADDRESS FILE DRIVE NUMBER? 1
OUTPUT FILE NAME? NAME

FILE HEADER LABEL = ' FILE NAME NAME CREATION DATE: AUG. 12, 1978

JOHN W. SWAIN

1923 TOPANGO PLACE

CROFTON, MD. 21114

PACGK

SALUTATION? DEAR JOHN,

THE COMPT_UTRAN CORPORATION

15 S. MAIN ST.
FRANKLIN, NEW YORK 11388

?_JLMN

SALUTATION? GENTLEMEN:

SCIENTIFIC RESEARCH INST.

1717_2 FARMINGTON CT.

CROFTON, MD. 21114

?CLQ
SALUTATION? GENTLEMEN:

==== NEXT ENTRY =====

END

DO YOU WANT A LISTING OF THE FILE? Y
DO YOU WANT LINE NUMBERS LISTED? Y
HIT (CR) WHEN READY?___

1000' FILE NAME NAME CREATION DATE: AUG. 12, 1977

1010' JOHN W. SWAIN

1020' 1923 TOPANGO PLACE

1030' CROFTON, MD. 21114

1040' PACGK-DEAR JOHN,

1050' THE COMPUTRAN CORPORATION

1060' 15 S. MAIN ST.

1070' FRANKLIN, NEW YORK 11388

1080 / TULMN-GENTLEMEN:

1090' SCIENTIFIC RESEARCH INST.

1100' 1712 FARMINGTON CT.

1110' CROFTON, MD. 21114

1120' ?CLQ-GENTLEMEN:

EXITING CREATION ROUTINE

NUMBER OF RECORDS WRITTEN = 13

WORD PROCESSING TEXT EDITOR REV. 1.1

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THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU to
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME
 AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETGER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 3

EDITOR FOR NAME AND ADDRESS FILE

DRIVE NUMBER? 1
OUTPUT FILE NAME? NAME
INPUT FILE NAME? NAME

THIS SECTION OFFERS & MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO. CONTENTS

- 1 ACGK (GROUP CODES)
- 2 JOHN W. SWAIN
- 3 1923 TOPANGO PLACE
- 4 CROFTON, MD. 21114
- 5 DEAR JOHN,

WHICH FUNCTION? 1

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LINE NUMBER? 2 NEW LINE? PRESIDENT _OF SWAIN ELECTRONICS THIS SECTION OFFERS 6 MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO.	CONTENTS	FNITFIC
1 2	ACGK (GROUP CODES) JOHN W. SWAIN	•
3 4	PRESIDENT OF SWAIN ELECTRONIC 1923 TOPANGO PLACE	
5	CROFTON, MD. 21114 DEAR JOHN,	EARCH
		Н

WHICH FUNCTION? 3
LINE NUMBER? 4
REPLACEMENT LINE FOR; 4 ?1923 TOPANGO PL.
THIS SECTION OFFERS 6 MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED

DEAR JOHN,

- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO. CONTENTS 1 ACGK (GROUP CODES) 2 JOHN W. SWAIN 3 PRESIDENT OF SWAIN ELECTRONICS 4 1923 TOPANGO PL. 5 CROFTON, MD. 21114

WHICH FUNCTION? 2

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LINE NUMBER? 2 THIS SECTION OFFERS 6 MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

TNE NO.	CONTE			
1	ACGK	CGROUP	CODES)	

- 2 PRESIDENT OF SWAIN ELECTRONIC
- 3 1923 TOPANGO PL.
- 4 CROFTON, MD. 21114
- 5 DEAR JOHN,

WHICH FUNCTION? 3 LINE NUMBER? 2 REPLACEMENT LINE FOR; 2 ?SWAIN ELECTRONIN_CS THIS SECTION OFFERS 6 MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO. CONTENTS

- 1 ACGK (GROUP CODES)
- 2 SWAIN ELECTRONICS
- 3 1923 TOPANGO PL+
- 4 CROFTON, MD. 21114
- 5 DEAR JOHN,

WHICH FUNCTION? 5

THIS SECTION OFFERS & MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO. CONTENTS

JLMN 1 (GROUP CODES) THE COMPUTRAN CORPORATION

- 15 S. MAIN ST.
- SCIENTIFIC RESEARCH FRANKLIN, NEW YORK
- **GENTLEMEN:**

WHICH FUNCTION? 5

THIS SECTION OFFERS & MODES OF OPERATION.

- 1 ADD A LINE AFTER LINE SPECIFIED
- 2 DELETE LINE SPECIFIED
- 3 REPLACE LINE SPECIFIED
- 4 DELETE THIS ENTRY
- 5 GET NEXT ENTRY
- 6 END

LINE NO. CONTENTS

- CLQ (GROUP CODES)
- SCIENTIFIC RESEARCH INST.
- 1712 FARMINGTON CT. 3
- 4 CROFTON, MD. 21114
- 5 **GENTLEMEN:**

WHICH FUNCTION? 6 ARE THE CHANGES CORRECT? Y DO YOU WISH TO ADD ANY ADDITIONAL ENTRIES? Y ===== BEGIN TEXT ENTRY =====

SIMPLEX TIME RECORDER CO.

25 S. LINCOLN ST.

GARDNER ..., MA. 01440

SALUTATION? <u>DEAR SIR:</u>

==== NEXT ENTRY =====

END

DO YOU WANT A LISTING OF THE FILE? Y DO YOU WANT LINE NUMBERS LISTED? N HIT (CR) WHEN READY?

FILE NAME NAME REVISION OF: NAME DATE REVISED: AUG. 12, 1977 SWAIN ELECTRONICS 1923 TOPANGO PL. CROFTON, MD. 21114 ?ACGK-DEAR JOHN, THE COMPUTRAN CORPORATION 15 S. MAIN ST. FRANKLIN, NEW YORK 11388 ?JLMN-GENTLEMEN: SCIENTIFIC RESEARCH INST. 1712 FARMINGTON CT. CROFTON, MD. 21114 POLQ-GENTLEMEN: SIMPLEX TIME RECORDER CO. 25 S. LINCOLN ST. GARDNER, MA. 01440 ?Z-DEAR SIR: WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

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- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC)
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 5

THIS SECTION PRINTS A COPY OF THE TEXT DRIVE NUMBER? 1
INPUT TEXT FILE NAME? LETTER1
FILE NAME LETTER1 CREATION DATE: AUG. 12, 1977
IS THIS THE CORRECT FILE? Y
CONTINUOUS FORMS? N
NUMBER OF COPIES? 2
LINE UP PAPER AND HIT (CR) WHEN READY?

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

SECTION C-2 THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.

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SECTION R-5 CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WIL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFFER WITHDRAWN.

SINCERELY YOURS, SINCERELY S

LINE UP PAPER AND HIT (CR) WHEN READY?

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES 0-2SECTION TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.

CC COPYRIGHT CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WIL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME

Sp.

SECTION R-5

WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFEER WITHDRAWN.

DESIGNATED BY THE CONTRACTOR.

5 p.

SINCERELY YOURS,

LEONARD ROGERS MANAGER OF PURCHASING INC.

1977

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SCIENTIFIC

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

1 - BUILD THE TEXT OR LETTER

2 - CREATE THE NAME AND ADDRESS FILE

3 - EDIT THE NAME AND ADDRESS FILE

(NOTE: PROGRAM EXITS AND YOU USE 4 - EDIT THE TEXT FILE THE EDITOR IN BASIC)

5 - PRINT A COPY OF THE TEXT

6 - PRINT A COPY OF THE LETTER WITHOUT THE NAME SALUTATION ENTERED FOR EACH LETTER AND ADDRESS FILE.

7 - PRINT LETTERS FROM NAME AND ADDRESS FILE

8 - GLOBAL SEARCH AND REPLACE

9 - PRINT MAILING LABELS

10 - END

WHICH WOULD YOU LIKE TO DO? 8

GLOBAL SEARCH AND REPLACE ROUTINE

WHEN CHOOSING SEARCH STRING, BE SURE TO PICK ONE WHICH IS UNIQUE TO THE ITEM YOU WANT CHANGED OR YOU MAY CHANGE AN ITEM THAT YOU DIDN'T MEAN TO CHANGE. THIS SECTION WILL PRINT OUT THE CHANGED REPORT AS IT MAKES THE CHANGES DRIVE NUMBER? 1 OUTPUT FILE NAME? LETTER1 INPUT FILE NAME? LETTER1 SEARCH STRING? FEF REPLACEMENT STRING? FF

```
A MOMENT PLEASE
 10101
              WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF Y
OUR
 1020' MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR
 1030' OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.
 10401
                                                                                    CC
 1050' SECTION C-2
                         THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES
 10601
                         TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS
                         TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS
IN EXCESS OF NORMAL REQUIREMENTS.

CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL
 10701
 10804
 1090' SECTION
                 R--5
 11001
 1110'
                         EXTEND THE COMPLETION TERM BY A LENGTH OF TIME
                                                                                    1977
 11201
                         DESIGNATED BY THE CONTRACTOR.
 1130'
 11401
              WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN
                                                                                    ı
 1150' ACCORDANCE WITH STANDARD INDUSTRY PRACTICES.
                                                                                    SCIENTIFIC
                                                               IF YOU WISH TO
 1160' RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE
 1170′
        WILL CONSIDER YOUR OFFER WITHDRAWN.
 11801
 11901
                                                             SINCERELY YOURS,
 12001
                                                                                    RESEARCH
 12101
 12201
 12301
 12401
                                                             LEONARD ROGERS
 12501
                                                             MANAGER OF PURCHASING
NUMBER OF RECORDS FOUND AND REPLACED =
ARE THE CHANGES CORRECT? Y
WORD PROCESSING TEXT EDITOR
                                  REV. 1.1
UCC - COPYRIGHT
                  1977 BY SCIENTIFIC RESEARCH
```

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: FROGRAM EXITS AND YOU USE THE EDITOR IN BASIC)
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 4

EDITOR ROUTINE FOR TEXT FILES
THIS SECTION WILL SET UP THE FILE FOR EDITING USING THE
EDITOR WHICH IS BUILT INTO BASIC.

FILE NAME TO EDIT? <u>LETTER1</u>
DRIVE NUMBER? <u>1</u>
DO YOU WISH A LIST OF THE FILE BEFORE EDITING? <u>Y</u>
HIT (CR) WHEN READY?___

```
1000' FILE NAME LETTER1 REVISION OF: LETTER1 DATE REVISED:
                                                                AUG: 12: 197
7
            WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF Y
10101
OUR
1020' MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR
 1030' OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.
                     THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES
 1050' SECTION C-2
                                                                          CC
                     TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS
 10601
                     IN EXCESS OF NORMAL REQUIREMENTS.
                                                                          COPYRIGHT
 10701
 10801
                     CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF
 1090' SECTION
                R-5
                      APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WI
 1100'
                      EXTEND THE COMPLETION TERM BY A LENGTH OF TIME
 1110'
                      DESIGNATED BY THE CONTRACTOR.
                                                                          1977
 11201
 11301
            WE FELL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN
 1140'
                                                                          9
 1150' ACCORDANCE WITH STANDARD INDUSTRY PRACTICES.
                                                      IF YOU WISH TO
                                                                          SCIENTIFIC
       RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE
 1170' WILL CONSIDER YOUR OFFER WITHDRAWN.
 11801
                                                      SINCERELY YOURS,
 11901
 1200'
                                                                          RESEARC
 12101
 12201
 12301
                                                      LEONARD ROGERS
 12401
                                                      MANAGER OF PURCHASI™G
 1250'
                                                                          INC.
0K
_EDIT1140
            WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN
1140 /
LIST
                                                                 AUG . 12, 197
1000 / FILE NAME LETTER1 REVISION OF: LETTER1
                                                 DATE REVISED:
7
            WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF Y
1010 '
OUR
1020 / MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR
1030 ' OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.
1040 '
                      THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES
1050 ' SECTION C-2
                      TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS
1060 '
                      IN EXCESS OF NORMAL REQUIREMENTS.
1070 '
1080 '
                      CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF
1090 / SECTION
                R-5
                      APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL
1100 ′
                      EXTEND THE COMPLETION TERM BY A LENGTH OF TIME
1110 '
                      DESIGNATED BY THE CONTRACTOR.
1120 '
1130 '
             WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN
1140 '
       ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO
1150 /
       RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE
1160 '
        WILL CONSIDER YOUR OFFER WITHDRAWN.
1170 (
1180 '
                                                       SINCERELY YOURS,
1190 /
1200 '
1210 '
1220 /
1230 ′
                                                       LEONARD ROGERS
1240 '
                                                       MANAGER OF PURCHASING
1250 '
OK
```

1155

SAVE"LETTER1",1,A

RUN'WRD PROC WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

erros Rub:

ENTER TODAY'S DATE (MM/DD/YY OR SEPT. 26, 1977)? <u>AUG.1∲ 12, 1977</u>

WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC)
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 PRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 5

THIS SECTION PRINTS A COPY OF THE TEXT
DRIVE NUMBER? 1
INPUT TEXT FILE NAME? LETTER1
FILE NAME LETTER1 REVISION OF: LETTER1 DATE REVISED: AUG. 12,
IS THIS THE CORRECT FILE? Y
CONTINUOUS FORMS? Y
NUMBER OF LINES PER PAGE? 66
NUMBER OF COPIES? 1
LINE UP PAPER AND HIT (CR) WHEN READY?

UCC COPYRIGHT 1977 - SCIENTIFIC RESEARCH INC.

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

- THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES SECTION C-2 TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.
- CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF SECTION R-5 APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

JCC COPYRIGHT 1977 - SCIENTIFIC RESEARCH INC.

WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH THE FOLLOWING FUNCTIONS AVAILABLE ARE: 1 - BUILD THE TEXT OR LETTER 2 - CREATE THE NAME AND ADDRESS FILE 3 - EDIT THE NAME AND ADDRESS FILE 4 - EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC) SCIEN. 5 - PRINT A COPY OF THE TEXT 6 - PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER 7 - PRINT LETTERS FROM NAME AND ADDRESS FILE 8 - GLOBAL SEARCH AND REPLACE RESEARCH INC 9 - PRINT MAILING LABELS 10 - END WHICH WOULD YOU LIKE TO DO? 6

PRINT LETTERS WITHOUT NAME AND ADDRESS FILE.

DRIVE NUMBER? 1
INPUT TEXT FILE NAME? LETTER
FILE NAME LETTER CREATION DATE: 10/9/1977
IS THIS THE CORRECT FILE? N
INPUT TEXT FILE NAME? LETTER1
FILE NAME LETTER1 REVISION OF: LETTER1 DATE REVISED: AUG. 12, 1977
IS THIS THE CORRECT FILE? Y

ENTER EACH LINE OF THE NAME AND ADDRESS AS IT WILL APPEAR ON THE LETTER. AFTER THE LAST LINE HAS BEEN ENTERED, TYPE A '?' AND HIT (CR).

COMPUTER RESEARCH
8256 ESSEX ST.

BOSTON, MA. 01256
?

COMPUTER RESEARCH 8256 ESSEX ST. BOSTON, MA. 01256

DEAR SIR:

AUG. 12, 1977

JTER RESEARCH
ESSEX ST.
DN, MA. 01256

SIR:

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR
TRADE COMMISSION AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES SECTION C-2 TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.

CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF SECTION R-5 APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

LEONARD ROGERS MANAGER OF PURCHASING

DO YOU WANT TO PRINT AN ENVELOPE? Y

PLACE ENVELOPE IN PRINTER AND HIT (CR) WHEN READY? COMPUTER RESEARCH 8256 ESSEX ST. BOSTON, MA. 01256

ANOTHER LETTER? N EXITING LETTER PRINTING ROUTINE WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

THE FOLLOWING	FUNCTIONS AVA					JCC
	1 - BUILD TH 2 - CREATE T 3 - EDIT THE 4 - EDIT THE THE EDIT 5 - PRINT A 6 - PRINT A	E TEXT OR L HE NAME AND A TEXT FILE OR IN BASIC COPY OF THE COPY OF THE ESS FILE. TTERS FROM EARCH AND R ILING LABEL) TEXT LETTER WIT SALUTATION NAME AND AI EPLACE	HOUT THE N	IAME JR EACH LE'	COPYRIGH 1977 上SCIENTIFIC
	FROM NAME AND	ADDRESS FI	, 			RESEARCH
DRIVE NUMBER? INPUT TEXT FII	1 CE NAME? <u>LETTE</u>	<u>R1</u>				RCH
FILE NAME LE	TTER1 REVISION	OF: LETTER	L DATE REV	ISED: AUG). 12, 1977	NC NC
	DRRECT FILE? <u>Y</u> FILE NAME? <u>NAM</u>		BAD F	ILE NAME e	error	• '
THE FILES AVA:	TLABLE ON THIS	DISC ARE:				
MWP7 MWP9 TEMP LET	1 MWP2 9 WPTE TER FILE NAME? NAM	NAME	MWP8 LETTER1			
FILE NAME NAME IS THIS THE CO CONTINUOUS FOR	ME REVISION OF DRRECT FILE? Y	NAME DATI	E REVISED:	AUG. 12,	1977	

YOU HAVE SELECTED THE FOLLOWING GROUP CODES:

G L

IS THIS CORRECT? Y LINE UP PAPER AND HIT (CR) WHEN READY?____

UCC COPYRIGHT 1977 - SCIENTIFIட்டு இ

AUG. 12, 1977

SWAIN ELECTRONICS 1923 TOPANGO PL. CROFTON, MD. 21114

DEAR JOHN,

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YADDROFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

- SECTION C-2 THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES
 TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS
 IN EXCESS OF NORMAL REQUIREMENTS.
- SECTION R-5 CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

THE COMPUTRAN CORPORATION 15 S. MAIN ST. FRANKLIN, NEW YORK

GENTLEMEN:

AUG. 12, 1977

COMPUTRAN CORPORATION

MAIN ST.

KLIN, NEW YORK 11388

LEMEN:

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR TO BE A STANDARD WITH YOUR TO BE A STAN MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

- THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES SECTION C-2 TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.
- SECTION R-5 CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

AUG. 12, 1977 SCIENTIFIC RESEARCH INST. UCC COPYRIGHT 1977 - SCIEN

1712 FARMINGTON CT. CROFTON, MD. 21114

GENTLEMEN:

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION O邑 YOUR MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

SECTION C-2 THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES

TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS

IN EXCESS OF NORMAL REQUIREMENTS.

SECTION R-5 CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILD EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

ENDING LETTER PRINT OUT ROUTINE NUMBER OF LETTERS PRINTED = 3 DO YOU WISH TO PRINT MAILING LABELS? Y LINE UP LABELS AND HIT (CR) WHEN READY? - SCIENTIFIC RESEARCH INC XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX ××××××××××××××××××××× IS THE LINE UP CORRECT? Y SWAIN ELECTRONICS 1923 TOPANGO PL. CROFTON, MD. 21114

THE COMPUTRAN CORPORATION 15 S. MAIN ST. FRANKLIN, NEW YORK 11388

SCIENTIFIC RESEARCH INST. 1712 FARMINGTON CT. CROFTON, MD. 21114

END OF MAILING LABEL ROUTINE
NUMBER OF LABELS PRINTED = 3
WORD PROCESSING TEXT EDITOR REV. 1.1
UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

UCC COPYRIGHT THE FOLLOWING FUNCTIONS AVAILABLE ARE: 1 - BUILD THE TEXT OR LETTER 197 - CREATE THE NAME AND ADDRESS FILE - EDIT THE NAME AND ADDRESS FILE PROGRAM EXITS AND YOU USE - EDIT THE TEXT FILE (NOTE: THE EDITOR IN BASIC) 5 - PRINT A COPY OF THE TEXT 6 - PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. FIC 7 - PRINT LETTERS FROM NAME AND ADDRESS FILE 8 - GLOBAL SEARCH AND REPLACE 9 - PRINT MAILING LABELS 10 - END WHICH WOULD YOU LIKE TO DOT 7 PRINT LETTERS FROM NAME AND ADDRESS FILE DRIVE NUMBER? 1 INPUT TEXT FILE NAME? LETTER1 FILE NAME LETTER1 REVISION OF: LETTER1 DATE REVISED: AUG. 12, 1977 IS THIS THE CORRECT FILE? Y NAME/ADDRESS FILE NAME? NAME FILE NAME NAME REVISION OF: NAME DATE REVISED: AUG. 12, 1977 IS THIS THE CORRECT FILE? Y CONTINUOUS FORMS? Y NUMBER OF LINES PER PAGE? 66 (CR) USES DATE ENTERED?_AUG. 25, NUMBER OF SPACES TO INDENT DATE (CR) USES LAST ENTRY? GROUP CODES TO PRINT? M YOU HAVE SELECTED THE FOLLOWING GROUP CODES:

M

IS THIS CORRECT? Y
LINE UP PAPER AND HIT (CR) WHEN READY?____

THE COMPUTRAN CORPORATION 15 S. MAIN ST. FRANKLIN, NEW YORK 11388

GENTLEMEN:

AUG. 25, 1977

COMPUTRAN CORPORATION

MAIN ST.
KLIN, NEW YORK 11388

LEMEN:

WE HAVE REVIEWED YOUR PROPOSED PLANS FOR THE INSTALLATION OF YOUR 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR THE TOP T MODEL 3309 COMUPACK AND WHILE WE ARE IN GENERAL AGREEMENT WITH YOUR OFFER, WE SPECIFICALLY QUESTION THE FOLLOWING TERMS AND CONDITIONS.

- SECTION 0-2THE CLIENT SHALL SUPPLY ADDITIONAL POWER LINES TO SUPPORT TEMPORARY ELECTRICAL LOAD CONDITIONS IN EXCESS OF NORMAL REQUIREMENTS.
- CHANGES IN WORK PERFORMANCE REQUIRED BY LACK OF SECTION R-5APPROVALS OR OTHER DELAYS CAUSED BY THE CLIENT WILL EXTEND THE COMPLETION TERM BY A LENGTH OF TIME DESIGNATED BY THE CONTRACTOR.

WE FEEL THAT THESE SPECIFICATIONS AND TERMS ARE NOT IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES. IF YOU WISH TO RECONSIDER THESE TERMS, PLEASE REPLY BY SEPTEMBER 1, OR WE WILL CONSIDER YOUR OFFER WITHDRAWN.

SINCERELY YOURS,

ENDING LETTER PRINT OUT ROUTINE
NUMBER OF LETTERS PRINTED = 1
DO YOU WISH TO PRINT MAILING LABELS? N
WORD PROCESSING TEXT EDITOR REV. 1.1
UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH

THE FOLLOWING FUNCTIONS AVAILABLE ARE:

- 1 BUILD THE TEXT OR LETTER
- 2 CREATE THE NAME AND ADDRESS FILE
- 3 EDIT THE NAME AND ADDRESS FILE
- 4 EDIT THE TEXT FILE (NOTE: PROGRAM EXITS AND YOU USE THE EDITOR IN BASIC)
- 5 PRINT A COPY OF THE TEXT
- 6 PRINT A COPY OF THE LETTER WITHOUT THE NAME AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER
- 7 PRINT LETTERS FROM NAME AND ADDRESS FILE
- 8 GLOBAL SEARCH AND REPLACE
- 9 FRINT MAILING LABELS
- 10 END

WHICH WOULD YOU LIKE TO DO? 9

PRINT MAILING LABELS

DRIVE NUMBER? 1

NAME/ADDRESS FILE NAME? NAM3/E

FILE NAME NAME REVISION OF: NAME DATE REVISED: AUG. 12, 1977

IS THIS THE CORRECT FILE? Y

GROUP CODES TO PRINT? ALL

YOU HAVE SELECTED ALL OF THE FILE

IS THIS CORRECT? Y
LINE UP LABELS AND HIT (CR) WHEN READY?

THE COMPUTRAN CORPORATION
15 S. MAIN ST.
FRANKLIN, NEW YORK 11388

SCIENTIFIC RESEARCH INST. 1712 FARMINGTON CT. CROFTON, MD. 21114

SIMPLEX TIME RECORDER CO. 25 S. LINCOLN ST. GARDNER, MA. 01440

END OF MAILING LABEL ROUTINE NUMBER OF LABELS PRINTED = 4 WORD PROCESSING TEXT EDITOR REV. 1.1 UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH THE FOLLOWING FUNCTIONS AVAILABLE ARE: 1 - BUILD THE TEXT OR LETTER 2 - CREATE THE NAME AND ADDRESS FILE 3 - EDIT THE NAME AND ADDRESS FILE 4 - EDIT THE TEXT FILE (NOTE: FROGRAM EXITS AND YOU USE PRINT A COPY OF THE LETTER WITHOUT THE NAME IN AND ADDRESS FILE. SALUTATION ENTERED FOR EACH LETTER PRINT LETTERS FROM NAME AND ADDRESS FILE GLOBAL SEARCH AND REPLACE PRINT MAIL THE COMMENT OF THE PRINT MAIL THE PRIN 5 - PRINT A COPY OF THE TEXT 6 - PRINT A COPY OF THE LETTER WITHOUT THE NAME 7 - PRINT LETTERS FROM NAME AND ADDRESS FILE 8 - GLOBAL SEARCH AND REPLACE 9 - PRINT MAILING LABELS 10 - END WHICH WOULD YOU LIKE TO DO? 10 EXITING TEXT EDITOR

OK

UTILITY:

This utility program is designed to enable the user to manipulate disk files. The program responds to seventeen (17) different commands and is fully instructional. For a detailed listing of all the available instructions, just list the program. Utility will require 10K Bytes of free user RAM for storing the source code and should execute within 14K Bytes in most systems with disk extended Basic.

While most Basics are very similar there usually are a few minor differences, so you may find it necessary to convert the file calls used in this program to those recognized and accepted by your Basic. As an example: the Sine Input statement used in this program, if not recognized by your version of Basic, may be replaced with the Input statement, however this means you can not use commas or colons in the inputed statements. When making conversions it is always wise to check the effect, as simple statement substitutions does not always mean that data will be handled in the exact same way.

660

```
100
     REM WRITTEN BY JOHN W. SWAIN
110
     PRINTCHR$(26); "DISC UTILITY PROGRAM REV. 5.1"
120
     INPUT "DO YOU WANT INSTRUCTIONS";Q$
130
     IF LEFT$(Q$,1)="Y" THEN GOSUB 2720
     CLEAR 0:X=FRE(0)-1500:IF X<0 THEN CLEAR 600:GOTO 170
140
150
     IF X>24000 THEN CLEAR X ELSE CLEAR 200:END
160
     Z1$=CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)
170
     DIMA$(255)
180
     DIMT2(15): GOSUB 3490
     CLOSE: PRINT UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH
190
200
     ON ERROR GOTO 3450:PRINT"COMMAND?";:LINEINPUTB$
210
     IFBs=""THENCLEAR 200:END
220
     IF LEN(B$)>3 THEN C$=RIGHT$(B$,LEN(B$)-3) ELSE C$=B$
230
     B$=LEFT$(B$,3)
240
     IFBs="DAT"THEN1630
250
     IFBs="COP"THENZX=0:ZY=76:GOTO 2220
     IFB$="FLS"THEN ZX=6:ZY=76:GOTO 2220
260
     IFB$="BAS"THEN ZX=0:ZY=5:GOTO 2220
270
280
     IFB$="END"THEN CLEAR 200:END
290
     IFB$="LIS"THEN F=0:FB=0:GOTO1750
300
     IFBs="PAG"THEN1850
310
     IFB$="DIR"THENF=-1:GOTO 1200
320
     IFB$="SRT"THEN F=0:GOTO 1200
330
     IFB$="HEX"THEN2460
340
     IF B$="MEM" THEN 3300
350
     IFBs="MNT" THEN 2640
360
     IF B$="UNL"THEN 2680
     IF B$="IMS" THEN F=-1:GOTO 1750
370
380
     IF B$="LLI" THEN F=0:FB=-1:GOTO 1750
390
     IF B*="LPA" THEN 3530
     IFB$<>"CPF"THENPRINT" COMMAND ERROR":GOTO190
400
410
     PRINT'THIS SECTION COPIES ONLY ASCII SEQUENTIAL FILES OR RANDOM F
     ILES."
420
     PRINT"IT WILL NOT COPY COMPRESSED BINARY PROGRAM FILES."
430
     INPUT "INPUT FILE NAME" $ 1 $
     INPUT INPUT DRIVE NUMBER # $11
440
     INPUT OUTPUT FILE NAME $0$
450
460
     INPUT "OUTPUT DRIVE NUMBER" $12
470
     IF LEN(I$)<8 THEN FOR I=LEN(I$)+1 TO 8 ELSE 490
     I$=I$+" ":NEXT I
480
490
     C$=STR$(I1)
500
     GOSUB 3920
510
     FOR S=0 TO 31
520
     A$=D$KI$(17*$ AND 31)
530
     A$=LEFT$(A$,135)
540
     A$=RIGHT$(A$,128)
550
     FOR TT=0 TO 7
560
     B$=LEFT$(A$,(TT+1)*16)
570
     B$=RIGHT$(B$,16)
580
     N$=LEFT$(B$,8)
590
     IF N$=I$ THEN Z=ASC(RIGHT$(B$,6)):GOTO 650
600
     IF ASC(N$)=255 THEN 630
610
     NEXT TT
     NEXT S
620
     PRINT"FILE NAME "$1$$" NOT FOUND. CHECK FILE NAME"
630
640
     GOTO 190
650
     IF Z<>2 THEN 930
```

NT=O:FRINT*COPYING ASCII SEQUENTIAL FILE "; I\$

```
670
      NR=1
      OPEN " I " y 1 y I $ y I 1
680
      OPEN"O",2,0$,12
690
      IF EOF(1) THEN GOTO 750
700
                                               CC
      LINEINFUT #1, A$
710
720
      PRINT#2, A$
      NR=NR+1
730
      GOTO 700
740
750
      CLOSE
      OPEN"I",1,I$,I1
760
      OPEN "I",2,0$,I2
770
780
      IF EOF(1) THEN 890
      LINEINPUT #1,A$
790
      LINEINFUT #2, B$
800
      IT A$=B$ THEN 780 SC NT=NT+1 FRINT*RECORDS DO NOT MATCH*
IF NT<5 THEN CLOSE:GOTO 670 FRINT*COPY FAILED 5 TRIES. ABORTING COPY*
810
820
830
840
 850
860
      CLOSE
 870
      KILL O$vI2
      GOTO 190
 880
 890
      CLOSE
      PRINT"DONE"
 900
      PRINT NUMBER OF RECORDS COPIED
 910
 920
      GOTO 190
 930
      NT=0
      PRINT"COPYING RANDOM FILE "#1$
 940
 950
      NR=1
       OPEN "R",1,1$,I1
 960
       OPEN "R",2,0$,12
 970
       FIELD #1,128 AS A$
 980
 990
      FIELD #2, 128 AS B$
1000
      NR=1
      FOR I=1 TO LOF(1)
1010
1020
       GET #1,I
       LSET B$=A$
1030
1040
       PUT #2,I
       NR=NR+1
1050
       NEXT I
1060
       FIELD #1,128 AS C$
1070
       FIELD #2, 128 AS D$
1080
1090
       FORI=1TO LOF(1)
1100
       GET#1,I
1110
       GET#2,I
       IF C$<>D$ THEN 1150
1120
1130
       NEXT I
1140
       GOTO 900
       PRINT RECORDS DO NOT MATCH"
1150
1160
       NT=NT+1
1170
       IF NT<5 THEN 980
1180
       CLOSE
1190
       GOTO 850
1200
       GOSUB 3920
1210
       PRINT: GOSUB 3490
       PRINT DIRECTORY DISK # # A : PRINT : PRINT
1220
                                                SCT",
                            "$"TYPE"$" TRK
1230
       PRINT "NAME " # "
                                                SCT":PRINT:I=O
```

"\$"TYPE"\$" TRK

FRINT "NAME" # "

1240

```
1250
      FORS=OT031
1260
      A$=DSKI$(17*SAND31)
1270
      A$=LEFT$(A$,135)
1280
      A$=RIGHT$(A$,128)
1290
      FOR TT=0 TO 7
      B$=LEFT$(A$,(TT+1)*16)
1300
                                                                    COPYRIGHT 1977
1310
      B$=RIGHT$(B$,16)
      N$=LEFT$(B$,8)
1320
1330
      B$=RIGHT$(B$,8)
1340
      X=ASC(B$):B$=RIGHT$(B$,7):Y=ASC(B$)
1350
      B$=RIGHT$(B$,6):Z=ASC(B$)
1360
      IFASC(N$) = OTHEN1420
1370
      IFASC(N$)=255THEN1440
1380
      R$="S":IFZ<>2THENR$="R"
                                                                    ı
1390
                            "$R$$" "$X$" "$Y,:GOTO 1410
      IF F THENPRINTNS;"
      A$(I)=N$+" "+R$+" "+STR$(X)+" "+STR$(Y):I=I+1
1400
1410
      IF POS(0)>45 THEN PRINT
1420
      NEXT TT
1430
      NEXTS
      IF F OR I=OTHENPRINT:PRINT"AMOUNT OF FREE SPACE = * DSKF(A) GOTO 1
1440
      90
1450
      IF I=1 THEN 1510
1460
      SW=0
1470
      FOR J=0 TO I-2
1480
      TF A$(J)>A$(J+1) THEN SWAP A$(J),A$(J+1):SW=-1
1490
      NEXT J
1500
      IF SW THEN 1460
      FOR J=0 TO I-1 STEP 2
1510
1520
      (I+L)&A((L)&A TMIRT
1530
      NEXT J
1540
      PRINT: PRINT "AMOUNT OF FREE SPACE = ";DSKF(A):GOTO190
1550
      IFT2(A)<>-1THEN1590
1560
      IF(INF(8)AND64)=OTHENT2(A)=0:GOTO1590
1570
      WAIT8,2,2:0UT9,2
1580
      GOT01560
1590
      IFT2(A)=TTHENRETURN
1600
      D=1:IFT2(A)>TTHEND=2
1610
      WAIT8,2,2:OUT9,D:T2(A)=T2(A)-2*(D-1.5)
1620
      GOT01590
1630
      INPUT"TRACK" #T:IF T<0 THEN 190 ELSE INPUT"SECTOR" #S
1640
      GOSUB1710:GOSUB1550
1650
      A$=DSKI$(S):FORI=OTOLEN(A$)-1
1660
      T1$=OCT$(ASC(RIGHT$(A$,LEN(A$)-I)))
      T2$=LEFT$(" 000",5-LEN(T1$))+T1$:PRINTT2$;"
1670
      IF I MOD 8=7 THEN PRINT
1680
1690
      NEXT I: PRINT
1700
      GOTO 1630
1710
      A=VAL(C$)
1720
      IFA<OORA>15THENPRINT"ERROR":GOTO190
1730
      OUT8,128;OUT8,A
1740
      RETURN
1750
      GOSUB1710:GOSUB 3490
      C$=RIGHT$(C$,LEN(C$)-1+(A>9))
1760
1770
      IFASC(C$)<>&054THENPRINT"ERROR":GOTO190
1780
      C$=RIGHT$(C$,LEN(C$)-1)
1790
      OPEN"I",1,C$,A
1800
      IFEOF(1)THENCLOSE1:GOTO190
1810
      LINEINPUT#1,A$
```

```
IF A$="" THEN 1800
1820
      IF F THEN PRINTZ1$$A$ ELSE IF FB THEN LPRINTA$ ELSE PRINTA$
1830
      GOTO 1800
1840
      GOSUB 1710:GOSUB 3490
1850
                             (<15 CHARACTERS) # # Q$
1860
      Qs="":INPUT"COMMENTS
      INPUT NUMBER OF PRINT POSITIONS - SHOULD BE BETWEEN 72 AND 132 # P
1870
      INPUT "IS THIS A LISTING OF A PROGRAM OR FILE
                                                     (P OR F)" # Z$
1880
      C$=RIGHT$(C$,LEN(C$)-1):IF ASC(C$)<>&054THEN PRINT"ERROR":GOT0190
1890
      C$=RIGHT$(C$,LEN(C$)-1)
1900
1910
      T1=0:F1=1
      OPEN "I",1,C$,A
1920
      GOSUB 2160
1930
      CC=6:IF EOF(1) THEN 2200
1940
      LINEINFUT#1,A$
1950
      TF As=" THEN 1940
1960
      IF T1=65 THEN GOSUB 2140
1970
      IF Zs="F" AND LEN(As)<=FP THEN 2120
1980
      IF Z$="F" AND LEN(A$)>PP THEN FOR I=1 TO LEN(A$) ELSE 2030
1990
      PRINTMIDs(As,I,1);:CC=CC+1:IF CC=PP THEN PRINT:T1=T1+1:CC=6:ELSE
2000
      2020
      IF T1=65 THEN GOSUB 2140:PRINT"
                                               11 ĝ
2010
      NEXTI:PRINT:T1=T1+1:IF T1=65 THEN GOSUB 2140:GOTO 1940 ELSE 1940
2020
      FOR I=1 TO 6:IF MID$(A$,I,1)<>" " THEN NEXT I
2030
      Bs=LEFTs(As,I):As=MIDs(As,I):IF LEN(Bs)>5 THEN 2060
2040
      FOR I=LEN(B$) TO 5:B$=" "+B$:NEXT I
2050
      PRINTB$;:IF LEN(A$)+LEN(B$)<=PP THEN 2120
2060
      FOR I=1 TO LEN(A$):PRINTMID$(A$,I,1);:CC=CC+1
2070
      IF CC=PP THEN PRINT:PRINT"
                                         ";:T1=T1+1:CC=6:ELSE 2100
2080
      IF T1=65 THEN GOSUB 2140:PRINT"
2090
      NEXT I:PRINT:T1=T1+1:IF T1=65 THEN GOSUB 2140
2100
2110
      GOTO 1940
      PRINT A$:T1=T1+1
2120
2130
      GOTO 1940
      IF EOF(1) THEN 2200
2140
      PRINT:PRINT:PRINT
2150
      PRINT; "---":PRINT:PRINT
2160
                     "$Q$$TAB(35)$"-"$P1$"-"
2170
      PRINTC$;"
2180
      PRINT
2190
      T1=7:P1=P1+1:RETURN
      FOR J=T1 TO 67:PRINT:NEXT J:PRINT"---":PRINT:PRINT
2200
      GOTO 190
2210
2220
      GOSUB1710:B=A
      INPUT DO YOU WISH A LIST OF REWITE AND REREAD ERRORS # 9 Q $
2230
      Qs=LEFT$(Q$,1)
2240
      Cs=RIGHTs(Cs,LEN(Cs)-1+(A>9))
2250
      IFASC(C$)<>8054THENPRINT"ERROR":GOT0190
2260
      Cs=RIGHT$(C$,LEN(C$)-1):GOSUB1710:C=A
2270
      PRINT'FROM ")B)" TO ")C)
2280
2290
      INPUTAS: IFASC(AS)<>ASC("Y")THEN190
2300
      FOR T=ZX TO ZY
2310
      OUT8,128;OUT8,C
      A=C:GOSUB1550:OUT8,128:OUT8,B:A=B:GOSUB1550
2320
2330
      FORS=OTO31
      OUT8,128:OUT8,B:B$=DSKI$(S)
2340
      Fs=DSKIs(S):IFFs=BsTHEN2370 ELSEIFQs="N" THEN 2340
2350
       PRINT "RE-READ DISC #" # B # TRACK # " # T # SECTOR # " # S : GOTO 2340
2360
2370
       OUT 8,128; OUT 8,C
```

```
2380
      DSKO$B$,S:C$=DSKI$(S):IFC$=B$THEN2400 ELSE IFQ$="N" THEN2330
2390
      PRINT "REWRITE DISC #";C;" TRACK #";T;" SECTOR #";S:GOTO 2330
2400
      NEXTS
2410
      GOSUB 2450
                                                                            CC
2420
      NEXTT
2430
      PRINT DONE "
                                                                            COPYRIGHT 1977 - SCIENTIFIC
2440
      GOT0190
2450
      PRINTT: RETURN
      INPUT "TRACK " # T : IF T < O THEN 190 ELSE INPUT "SECTOR " # S$
2460
2470
      Z$="0"
2480
      FOR J=1 TO LEN(S$)
2490
      IF MID*(S*,J,1)="-" GOTO 2510
2500
      NEXT: S1=VAL(S$): S2=S1: GOTO 2520
      S1=VAL(LEFT$(S$,J-1)): S2=VAL(MID$(S$,J+1))
2510
2520
      PRINT "
                  0 1 2 3 4 5 6 7 8 9 A
                                                     \mathbf{B}
                                                         C
                                                            D
                                                               E
2530
      FOR S=S1 TO S2
2540
      GOSUB1550
2550
      A$=D$KI$($): T$="": K=0
2560
      FOR I=0 TO 135
2570
      C%=ASC(MID$(A$,I+1,1)):IFC%<=15THENZ1$=Z$+HEX$(C%)ELSEZ1$=HEX$(C
2580
      IF(IMOD16)=0 THENPRINT:PRINT K::K=K+1
2590
      PRINTUSING"\\";Z1$; :PRINT" ";
2600
      NEXT
2610
      NEXT
2620
      FRINT: FRINT
2630
      GOTO 190
2640
      GOSUB 1710
2650
      GOSUB 3490
      MOUNT A
2660
2670
      GOT0190
2680
      GOSUB 1710
2390
      GOSUB 3490
2700
      UNLOAD A
2710
      GOTO 190
2720
      PRINT THE LIST OF POSSIBLE COMMANDS ARE AS FOLLOWS:
2730
      PRINT" 'DAT' DATA OFF OF DISC IN OCTAL"
2740
      PRINT"'COP' COPIES WHOLE DISC"
2750
      PRINT"'FLS' COPIES ONLY THE FILES (TRACKS 6-76)"
      PRINT"'BAS' COPIES ONLY BASIC (TRACKS 0-5)"
2760
2770
      PRINT"'END' ENDS PROGRAM"
2780
      PRINT"'LIS' LISTS ASCII SAVED FILES (NO PAGING)"
2790
      PRINT"'PAG' LISTS ASCII SAVED FILE WITH PAGING"
2800
      PRINT "'DIR' LISTS THE DIRECTORY WITH HEADINGS"
      PRINT"'SRT' PRINTS SORTED DIRECTORY WITH HEADINGS"
2810
2820
      PRINT" 'HEX' PRINTS DATA OFF OF DISC IN HEX"
2830
      PRINT " 'CPF' COPIES DATA FILES"
2840
      PRINT"'MEM' RUNS MEMORY TEST BETWEEN TWO LIMITS SET."
2850
      PRINT " / MNT /
                    MOUNTS DISC NUMBER SPECIFIED"
2860
      PRINT " 'UNL '
                    UNLOADS DISC NUMBER SPECIFIED"
      PRINT"'IMS' USED TO PUNCH TAPE IN IMSAL BASIC FORMAT"
2870
2880
      PRINT"'LLI' SAME AS 'LIS' EXCEPT USES LINE PRINTER"
2890
      PRINT"'LPA' SAME AS 'PAG' EXCEPT USES LINE PRINTER"
2900
      PRINT:PRINT"THE COMMAND STRUCTURE IS AS FOLLOWS FOR THE FOLLOWING
2910
      PRINT COMMANDS:
2920
      PRINT, "DAT"
2930
      PRINT, "DIR"
```

```
PRINT, "SRT"
2940
2950
      PRINT, "HEX"
2960
      FRINT, "MNT"
2970
      PRINT, "UNL."
                              WHERE 'XXX' IS THE COMMAND AND 'Y' IS THE
      PRINT:PRINT"XXXY
2980
      DRIVE NUMBER®
                                                                             COPYRIGHT
      PRINT: PRINT "FOR THE FOLLOWING COMMANDS, THE COMMAND STRUCTURE IS
2990
      AS FOLLOWS:"
3000
      PRINT, "COP"
      FRINT, "FLS"
3010
      PRINT, "BAS"
3020
3030
      PRINT
                         WHERE 'XXX' IS THE COMMAND, 'Y' IS THE FROM"
3040
      PRINT"XXXY,Z
                         DRIVE NUMBER, AND 'Z' IS THE DESTINATION"
3050
      PRINT "
                                                                             SCIENTIFIC
                         DRIVE NUMBER"
      PRINT"
3060
3070
      PRINT
      PRINT FOR THE FOLLOWING COMMANDS, THE COMMAND STRUCTURE IS AS FOL
3080
      LOWS"
3090
      PRINT, "LIS"
      PRINT, "PAG"
3100
      PRINT, "IMS"
3110
3120
      PRINT, "LLI"
3130
      PRINT,"LPA"
                                     WHERE 'XXX' IS THE COMMAND, 'Y' IS TH\widehat{\Sigma}
      PRINT: PRINT "XXXY, ZZZZZZZ
3140
      E DRIVE NUMBER*
                                     AND 'ZZZZZZ' IS THE FILE NAME TO BE PO
      FRINT"
3150
      RINTED."
      PRINT:PRINT FOR THE FOLLOWING COMMANDS THE STRUCTURE IS AS FOLLOW
3160
      5 1 "
      PRINT:PRINT, "END"
3170
3180
      FRINT, "MEM"
      PRINT, "CPF"
3190
                         WHERE 'XXX' IS THE COMMAND"
      PRINT"
3200
                          (1) IF THE FOLLOWING COMMANDS: 'DAT', 'COF', 'FL
3210
      PRINT:PRINT
      84,
                        'BAS', 'HEX', OR 'CNV' ARE USED, YOU MUST FIRST"
3220
      PRINT"
                        UNLOAD (UNL) AND THEN MOUNT (MNT) THE DRIVE YOU"
3230
      FRINT"
                        WANT USE THE FOLLOWING COMMANDS ON 'LIS', 'PAG',"
3240
      FRINT"
3250
      PRINT"
                        'DIR', OR 'SRT' OR YOU WILL GET A DISC I/O ERROR.
                    (2) THEN COMMANDS 'LIS', 'IMS', AND 'PAG' WORK "
3260
      PRINT"
                        ONLY ON ASCII SEQUENTIAL FILES."
3270
      PRINT"
3280
      FRINT
3290
      RETURN
       PRINT "MEMORY TEST ROUTINE"
3300
       INPUT "UPPER LIMIT TO TEST" JUP
3310
       INPUT "LOWER LIMIT TO START" $LO
3320
3330
       J=()
       FOR I=LO TO UP
3340
3350
       POKE I,J
      NEXT I
3360
3370
       FOR I=LO TO UP
       K=PEEK(I)
3380
       IF J<>K THEN PRINT" MEMORY LOCATION "#I#" IS BAD"ELSE 3410
3390
       PRINTU; "WAS WRITTEN, AND " | K | WAS READ"
3400
       NEXT I
3410
       IF J=0 THEN J=J+1 ELSE J=J*2
3420
       IF J>129 THEN PRINT"DONE":GOTO 190
3430
```

```
3440
      GOTO 3340
3450
      IF ERR=53 THEN PRINT*FILE NOT FOUND*:RESUME 190
3460
      IF ERR=56 THEN PRINT DISC # " # A # " NOT MOUNTED " : RESUME 190
      IF ERR=60 THEN PRINT"DISC #"$A$" ALREADY MOUNTED":RESUME 190
3470
3480
      ON ERROR GOTO O
3490
      FOR Y=0 TO 15
3500
      T2(Y)=-1
3510
      NEXT Y
3520
      RETURN
3530
      GOSUB 1710: GOSUB 3490
3540
      Q$="":INPUT"COMMENTS
                             (<15 CHARACTERS)"#Q$
      INPUT "NUMBER OF PRINT POSITIONS - SHOULD BE BETWEEN 72 AND 132";P
3550
3560
      INPUT*IS THIS A LISTING OF A PROGRAM OR FILE
                                                      (P OR F) # # 2 $
      Cs=RIGHT$(C$,LEN(C$)-1):IF ASC(C$)<>8054THEN PRINT*ERROR*:GOTO190
3570
                                                                            SCIENTIFIC RESEARCH
3580
      C$=RIGHT$(C$,LEN(C$)-1)
3590
      T1=0:F1=1
3600
      OPEN "I",1,C$,A
3610
      GOSUB 3850
3620
      CC=6:IF EOF(1) THEN 3890
3630
      LINEINFUT#1,A$
3640
      IF As=" THEN 3620
3650
      IF T1=65 THEN GOSUB 3830
3660
      IF Z$="F" AND LEN(A$)<=FP THEN 3810
3670
      IF Z$="F" AND LEN(A$)>PP THEN FOR I=1 TO LEN(A$) ELSE 3720
      LPRINTMIDs(As,I,1);:CC=CC+1:IF CC=PP THEN LPRINT:T1=T1+1:CC=6:ELs S
3680
      E 3700
3690
      IF T1=65 THEN GOSUB 3830:LPRINT'
3700
      NEXTI:LPRINT:T1=T1+1:IF T1=65 THEN GOSUB 3830
3710
      GOTO 3620
      FOR I=1 TO 6:IF MID*(A*,I,1)<>" " THEN NEXT I
3720
      B$=LEFT$(A$,I):A$=MID$(A$,I):IF LEN(B$)>5 THEN 3750
3730
3740
      FOR I=LEN(B$) TO 5:B$=" "+B$:NEXT I
3750
      LPRINTB$$$IF LEN(A$)+LEN(B$)<=PP THEN 3810
3760
      FOR I=1 TO LEN(A$):LFRINTMID$(A$,I,1);:CC=CC+1
      IF CC=PP THEN LPRINT:LPRINT*
3770
                                            "#:T1=T1+1:CC=6:ELSE 3790
3780
      IF T1=65 THEN GOSUB 3830:LPRINT"
3790
      NEXT I:LPRINT:T1=T1+1:IF T1=65 THEN GOSUB 3830
3800
      GOTO 3620
3810
      LPRINT AS:T1=T1+1
3820
      GOTO 3620
      IF EOF(1) THEN 3890
3830
3840
      LPRINT: LPRINT: LPRINT
3850
      LPRINT # "---" : LPRINT : LPRINT
3860
      LPRINTC$ # "
                      "#Q$#TAB(35)#"-"#P1#"-"
3870
      LPRINT
3880
      T1=7:P1=P1+1:RETURN
3890
      FOR J=T1 TO 67:LPRINT:NEXT J:LPRINT"---":LPRINT:LPRINT
3900
      FOR J=1 TO 25:LPRINT:NEXT J
3910
      GOTO 190
3920
      GOSUB1710:OPEN"O",1,".....RR",A
3930
      PRINT#1,1:CLOSE1:KILL"....RR",A:RETURN
```

```
RUN"UTILITY"
DISC UTILITY PROGRAM REV. 5.1
DO YOU WANT INSTRUCTIONS? Y
THE LIST OF POSSIBLE COMMANDS ARE AS FOLLOWS:
'DAT' DATA OFF OF DISC IN OCTAL
'COP' COPIES WHOLE DISC
'FLS' COPIES ONLY THE FILES (TRACKS 6-76)
'BAS' COPIES ONLY BASIC (TRACKS 0-5)
'END' ENDS PROGRAM
'LIS' LISTS ASCII SAVED FILES (NO PAGING)
'PAG' LISTS ASCII SAVED FILE WITH PAGING
'DIR' LISTS THE DIRECTORY WITH HEADINGS
'SRT' PRINTS SORTED DIRECTORY WITH HEADINGS
'HEX' PRINTS DATA OFF OF DISC IN HEX
'CPF' COPIES DATA FILES
'MEM' RUNS MEMORY TEST BETWEEN TWO LIMITS SET
       MOUNTS DISC NUMBER SPECIFIED
/ MNT /
       UNLOADS DISC NUMBER SPECIFIED
'UNL'
'IMS' USED TO PUNCH TAPE IN IMSAL BASIC FORMAR CILT' SAME AS 'LIS' EXCEPT USES LINE PRINTER
'LLI' SAME AS 'LIS' EXCEPT USES LINE PRINTER
'LPA' SAME AS 'PAG' EXCEPT USES LINE PRINTER
THE COMMAND STRUCTURE IS AS FOLLOWS FOR THE FOLLOWING
COMMANDS:
               DAT
               DIR
               SRT
               HEX
               TUM
               UNL.
            WHERE 'XXX' IS THE COMMAND AND 'Y' IS THE DRIVE NUMBER
XXXX
FOR THE FOLLOWING COMMANDS, THE COMMAND STRUCTURE IS AS FOLLOWS:
               COP
               FLS
               BAS
            WHERE 'XXX' IS THE COMMAND, 'Y' IS THE FROM
XXXYyZ
            DRIVE NUMBER, AND 'Z' IS THE DESTINATION
            DRIVE NUMBER
FOR THE FOLLOWING COMMANDS, THE COMMAND STRUCTURE IS AS FOLLOWS
               LIS
                PAG
                IMS
                LLI
                LFA
```

XXXY,ZZZZZZZ

WHERE 'XXX' IS THE COMMAND, 'Y' IS THE DRIVE NUMBER

AND 'ZZZZZZ' IS THE FILE NAME TO BE PRINTED.

END MEM CPF

WHERE 'XXX' IS THE COMMAND

(1) IF THE FOLLOWING COMMANDS: 'DAT', 'COP','FLS',
'BAS', 'HEX', OR 'CNV' ARE USED, YOU MUST FIRST
UNLOAD (UNL) AND THEN MOUNT (MNT) THE DRIVE YOU
WANT USE THE FOLLOWING COMMANDS ON 'LIS', 'PAG',
'DIR', OR 'SRT' OR YOU WILL GET A DISC I/O FRROR

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'DIR', OR 'SRT' OR YOU WILL GET A DISC I/O ERROR.

(2) THEN COMMANDS 'LIS', 'IMS', AND 'PAG' WORK

ONLY ON ASCII SEQUENTIAL FILES.

UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH COMMAND?

	DATO						
TRACK?	0						
SECTOR							
200	000	1.34	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	000	000	000	000	000
000	000	000	377	000	000	000	000
000							
TRACKY	1						
SECTOR	P 31						
201	000	134	120	302	212	035	173
245	157	174	242	311	376	074	302
225	035	173	255	157	174	252	311
376	062	302	242	035	173	255	057
157	174	252	057	311	175	057	243
057	157	174	057	242	057	311	053
327	310	317	054	001	254	035	305
366	257	062	214	012	106	315	322
024	332	303	013	257	117	327	332
315	035	315	322	024	332	330	035
117	327	332	316	035	315	322	024
322	316	035	021	377	035	325	026
002	376	045	310	024	376	044	310
024	376	041	310	026	010	376	043
310	170	326	101	346	177	137	026
000	345	041	354	012	031	126	341
053	311	172	377	052	000	000	000
000		•	•		**		V V V
TRACK?	-1						

```
UCC - COPYRIGHT 1977
                   BY
                       SCIENTIFIC RESEARCH
COMMAND?HEXO
TRACK? 0
SECTOR? 5
              4
                 5
                   6
                      7
                         8
                            9
                              Α
                                 B
                                    C
                                      D
                                         E
   0
      1
        2
           3
00 00 00 00 00
          00 00 00 00 00 00 00 00
  00 00 00
                  00 00 00 00 00 00 00 00
          00 00 00
  00 00 00
                  00 00 00
                                        00
                                           00
          00 00 00
                           00
                             -00
                                00
                                   00
                                     00
 3
  00 00 00
                           00
                             00
                                00
                                   00
                                     00 00
                                           00
                  00
                     00 00
  00 00
       00
          00
             00 00
                                           00
  00 00 00 00 00 00
                   00 00 00 00 00
                                00
                                   00 00 00
  00 00 00 FF 00 00 00 00
                       SCIENTIFIC RESEARCH
UCC - COPYRIGHT 1977
                    BY
COMMAND?HEXO
TRACK? 1
SECTOR? 24
                                         E
                            9
                                 B
                                    C
                                       D
                                            F
                      7
                         8
                               Α
    0
      1.
         2
            3
              4
                 5
                    6
 O 81 OO 5C 28 41 E3 EB E5 2A E6 OA E7 C2 DF 14 D1
                                   40
                                     E1 C9
             04 40 E1
                     11 06 OB
                             CD 04
 1 E1 E3 D5 CD
                                   OA C3 B6 1D
                      OA 3E 01
                              32 C7
                32 09
     D7 78 FE
             AF
                                      B7 C2
                                           5A
                                C9
                                   OA
             4D OB
                   OB OB OB
                           OB
                              3A
  32 C7 OA
          44
                      1A 02 13
                              03 02
                                   43
                                      14 OB 60
     19 EB 2A
             E8 0A E7
                7E FE 2C CO D7 C3 21
                                   14 F5 EB
                                           19
             E 1.
     22 E8 0A
   69
                      06 D2 FA 73 14 78 CD 38 27
                   23
                09
          00
             09
  EB
     4E
        06
  CD 38 27 C3 80 14 OE 04 CD 2E 27 B8 C2 73 14 OD
 8 C2 75 14 FF 74 00 00 00
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UCC - COPYRIGHT	1977	BY	SCIENTIFIC	RESEARCH
COMMAND?MNT1				
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UCC - COPYRIGHT	1977	BY	SCIENTIFIC	RESEARCH
COMMAND?UNL1				
UCC - COPYRIGHT	1977	BY	SCIENTIFIC	RESEARCH
COMMAND?MNT1				
UCC - COPYRIGHT	1977	BY	SCIENTIFIC	RESEARCH
COMMAND?SRTO				

DIRECTORY DISK O

NAME	TYPE	TRK	scr	NAME	TYPE	TRK	SCT
A/P	S	36	8	AZP PROG	S	76	24
AZP1	S	37	8	AZR	S	36	16
AZR PROG) S	42	24	A/R1	S	37	16
ACBD	S	67	()	ACBS	S	48	24
ACBS1	S	73	16	CHES	S	30	24
CHESS	S	28	8	CHK	S	37	0
CHK NUM	S	33	16	CHK PROG	S	58	16
CHK1	S	35	0	COEFF	S	57	24
CURVE	S	54	24	DATACOFY	S	57	16
DTEMP	S	34	8	EIN PROG	S	47	8
EINV	S	35	16	EINV1	S	38	16
EP1	S	46	0	FILSTRUC	S	68	16
FIN PROG		52	0	HELP	S	50	1.6
LEASTSQU	***	72	24	MBP	S	32	8
MED	S	27	24	MEDFILE	S	26	()
MENU	S	57	O	MER PROG	S	55	8
MINLEDGR		46	24	VNIM	S	38	24
MINV1	S	38	8	MISC	S	33	0
MISC1	S	36	0	MWF1	S	25	8
MWP2	S	22	8	MWF 4	S	21	8
MWP5	S	23	O	MWP6	S	20	16
MWP7	S	19	8	MWP8	S	24	0
MWP9	S	1.8	8	MWPMENU	S	26	8
PAY	S	34	16	PAY PROG	S	60	0
PAY2	S	39	24	FIP3	S	71	0
TEMP11	S	30	16	TEXTEDIT	S	9	24
UTILITY	S	17	8	WPTE	S	53	24

AMOUNT OF FREE SPACE = 7

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DIRECTORY DISK O

NAME	TYPE	TRK	SCT	NAME	TYPE	TRK	SCT	1977
PIP3	S	71	0	LEASTSQU	S	72	24	1
ACBS1	Š	73	16	A/P PROG	S	76	24	SC
FILSTRUC		68	16	ACBD	ŝ	67	0	H
PAY PROC		60	0	CHK PROG	S	58	16	3
MENU	S	57	0	DATACOPY	S	57	16	SCIENTIFIC
COEFF	S	57	24	MER PROG	S	55	8	IC
CURVE	S	54	24	FIN PROG	S	52	0	æ
HELP	S	50	16	ACBS	S	48	24	RESEARCH
EIN PRO	3 S	47	8	EF1	S	46	0	EΑ
MINLEDGE	R S	46	24	A/R PROG		42	24	R
PAY2	S	39	24	TEMP11	S	30	16	
MINV1	S	38	8	EINV1	S	38	16	INC.
VMIM	S	38	24	PAY	S	34	16	Ĵ
A/P1	S	37	8	A/R1	S	37	16	
MISC1	S	36	0	A/P	S	36	8	
AZR	S	36	16	CHK1	S	35	0	
EINV	S	35	1.6	CHK	S	37	0	
DTEMP	S	34	8	CHK NUM	S	33	16	
MISC	S	33	0	WPTE	S	53	24	
MBP	S	32	8	CHES	S	30	24	
CHESS	S	28	8	MED	S	27	24	
MEDFILE	S	26	0	MWPMENU	S	26	8	
MWP1	S	25	8	MWP8	S	24	0	
MWF5	S	23	0	MWP2	S	22	. 8	
TEXTEDI:		9	24	MWP4	S	21	8	
UTILITY	S	17	8	MWP6	S	20	16	
MWP7	S	19	8	MWP9	S	1.8	8	

AMOUNT OF FREE SPACE = 7
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COMMAND?PAGO,UTILITY
COMMENTS (<15 CHARACTERS)? REV 5.1
NUMBER OF PRINT POSITIONS - SHOULD BE BETWEEN 72 AND 132? 72
IS THIS A LISTING OF A PROGRAM OR FILE (P OR F)? P

UCC - COPYRIGHT 1977 BY SCIENTIFIC RESEARCH COMMANDTBASO,1 DO YOU WISH A LIST OF REWITE AND REREAD ERRORS? Y 1 ? Y FROM O TO 2 4 5 DONE 0 3 1 UCC - COFYRIGHT 1977 BY SCIENTIFIC RESEARCH COMMAND?LISO;A/P 11 SUBURBAN TRUST, 165, 25 23618.71 1 295.72 LAFAYETTE ELEC., 190, 18 2383.12 4 87.63 0 ALLIED ELECTRONICS, 185, 5 11871.16 4 347.25 FORD CREDIT, 110, 2 3119.81 2 187.5 0 CHEMICAL BANK, 115, 30 912,67 2 67.21 0 CASH EXPENDITURE, 10, 0 117, 25 117,25 0 AGING - 30 DAYS,30, 0 5 4 Ö Ö AGING - 45 DAYS, 45, 0 0 4 0 0 AGING - 60 DAYS, 60, 0 0 4 0 O AGING - 90 DAYS, 90, 0 0 4 0 0 AGING - OVER 90,99, 0 7.5 4 0 UCC - COFYRIGHT 1977 BY SCIENTIFIC RESEARCH COMMAND?PAGO,A/P COMMENTS (<15 CHARACTERS)? AS OF 7/21/1977 NUMBER OF PRINT POSITIONS - SHOULD BE BETWEEN 72 AND 1327 72 IS THIS A LISTING OF A PROGRAM OR FILE (P OR F)? F

A/F AS OF 7/21/1977 - 1 -

11 SUBURBAN TRUST, 165, 25 23618.71 1. 295.72 0 LAFAYETTE ELEC.,190, 18 2383.12 4 87.63 0 ALLIED ELECTRONICS, 185, 5 11871.16 4 347.25 FORD CREDIT, 110, 2 3119.81 2 187.5 0 CHEMICAL BANK,115, 30 912.67 2 67.21 0 CASH EXPENDITURE, 10, 0 117.25 4 117,25 0 AGING - 30 DAYS, 30, 0 5 4 0 0 AGING - 45 DAYS, 45, 0 0 4 0 Ö AGING - 60 DAYS, 60, 0 0 4 0 0 AGING - 90 DAYS, 90, 0 0 4 0 0 AGING - OVER 90,99, 0 7.5

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COMMAND?CPF
THIS SECTION COPIES ONLY ASCII SEQUENTIAL FILES OR RANDOM FILES.
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INPUT DRIVE NUMBER? O
OUTPUT FILE NAME? A/P11
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NON-PROFIT

SOFTWARE LICENSING

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SCIENTIFIC RESEARCH NONPROFIT USE LICENSE AGREEMENT FOR SOFTWARE PRODUCTS

THIS AGREEMENT is entered into by and between SCIENTIFIC RESEARCH, located at 1712 Farmington Court, Crofton, Maryland 21114 and

Licensee (Dealer, Distributor or Contractee) hereinafter referred to as "LICENSEE".

Name		

	State	
County		
	terms and conditions:	

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Scientific Research agrees to grant and licensee agrees to accept a nonexclusive license to use and to sublicense to customers, limited to the provisions of Exhibit "B", others to use the programs listed on Exhibit "A". both attached hereto and incorporated herein by reference, subject to terms and conditions contained herein. Licensee shall pay Scientific Research within five (5) days of the date of receipt of the licensed software the sum of Fifteen Thousand Dollars (\$15,000.00) as a partial consideration for said license and the limited right to sublicense in addition to other payments provided herein.

2. TERM

This agreement and the license and right to grant sublicenses hereunder shall be effective for a period of one (1) year from the date on which it is accepted by Scientific Research, and will automatically be renewed for additional one (1) year periods thereafter, pursuant to the terms of SCHEDULE "A", unless terminated according to Paragraph 8 hereof or upon written notice from either party to the other given no less than ninety (90) days prior to the expiration of any such one (1) year period. Any sublicenses granted during the term hereof shall continue indefinitely irrespective of the termination of this agreement, unless a sublicensee is in violation of the obligations contained in Paragraph 5.3 of this agreement of Schedule "A" or Exhibit "B", in which case said sublicense shall immediately terminate and licensee shall notify said sublicensee of such termination.

3. MATERIALS

Scientific Research shall furnish one (1) each of the following items per Data Processing System purchased by licensee under contract:

- 3.1 Machine readable programs of the licensed software identified in Exhibit "A".
- 3.2 Reference manual for the licensed software, if available as of the date hereof.
- 3.3 Updated versions of Items 3.1 and 3.2 when released by Scientific Research, for a period of one (1) year from the initial date of this agreement.

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- 4.1 Title and full ownership rights to the software licensed hereunder shall remain with Scientific Research, or its licensor, where applicable.
- 4.2 Licensee shall not assign or otherwise transfer its rights in the licensed software except by sublicense provided herein, and any such attempted transfer is void and has no effect.

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- 5.7 In the event that this license is terminated in accordance with the terms contained herein when there are valid sublicenses in effect, each and every such sublicense shall automatically be assigned to Scientific Research and licensee shall notify each sublicensee of said assignment. In the event that Scientific Research's rights have been obtained by license from a third party and its license is terminated by the third party, this license shall continue as to such licensed and sublicensed programs owned by the third party and Scientific Research's rights hereunder as to such programs shall inure to the benefit of said third party. This license agreement for any other programs shall continue unaffected.

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6.1 Licensee agrees that Scientific Research's liability hereunder for damages, regardless of the nature of the action, shall not exceed the charges paid by the Licensee for the particular Licensed Program(s). Licensee further agrees that Scientific Research will not be liable

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In the event that licensee shall at any time neglect, fail or refuse to comply with the terms of this agreement, Scientific Research may terminate this agreement by serving upon licensee a notice of termination for default unless licensee shall cure the condition of default within ten (10) days after receipt of said notice.

9. TAXES

Licensee shall promptly pay any taxes arising out of or under this agreement except for those taxes levied upon the net income or personal property of Scientific Research or its licensors.

10. ASSIGNMENT

This license is personal to the signed Licensee and the Licensee shall not assign this license or any interest therein or any rights hereunder except as provided herein, without the prior written consent of Scientific Research.

11. MERGER

This agreement constitutes the entire agreement between the parties concerning the subject matter hereof and merges all prior agreements and negotiations, both written and oral, of the parties.

12. CONTROLLING LAW

This agreement shall be governed by, subject to and construed according to the laws of the State of Maryland and may not be modified except by a writing signed by each party.

13. ADDITIONAL TERMS

Additional terms and conditions appearing on Schedule A are herewith included and incorporated in this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year written below.

ACCEPTED: SCIENTIFIC RESEARCH	AGREED: LICENSEE (Dealer, Distributor or Contractee)
Ву	By
Title	Title
Date	Date

SCHEDULE "A"

ADDITIONAL TERMS:

14. YEARLY RENEWAL

In addition to the term of the license as set out in Paragraph 2, the licensee will in addition tender a nominal yearly fee of \$150.00, or a one time charge of \$15,000.00 as set out in EXHIBIT "A", to be paid on or before January 15 of each year to Scientific Research. This renewal fee is required annually to keep the license agreement in effect. Failure to timely remit the renewal fee by the stipulated date will automatically terminate this license as set out in Paragraph 8 and 5.7 and any other applicable sections included in this agreement. Renewal of a terminated license, from above reasons, shall cost \$1,000.00 and is conditional to reacceptance by Scientific Research.

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Volumes: VII only

Programs covered: MEDBILL, and WRDPRO

FEES for Non-Profit licensing and sublicensing.

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If any of the provisions of this Agreement are finally declared invalid under any applicable statute or rule of law, this agreement shall be terminated unless Scientific Research consents in writing to the continuation of this agreement with the invalid provisions deleted.

This is the complete exclusive statement of the agreement between the parties, which supersedes all proposals, oral or written, and all other communications between the parties relating to the subject matter of this Agreement and the provisions of SCHEDULE "A".

CUSTOMER/SIGNER	SUBLICENSOR/DEALER
Ву	. By
Title	
Company	Company
Designated System:	Date:
Location:	
**	

SCIENTIFIC RESEARCH NONPROFIT USE LICENSE AGREEMENT FOR SOFTWARE PRODUCTS

THIS AGREEMENT is entered into by and between SCIENTIFIC RESEARCH, located at 1712 Farmington Court, Crofton, Maryland 21114 and

Licensee (Dealer, Distributor or Contractee) hereinafter referred to as "LICENSEE".

Name			
City	State	Zip	
	terms and conditions:		

under the following terms and conditions:

1. LICENSE

Scientific Research agrees to grant and licensee agrees to accept a nonexclusive license to use and to sublicense to customers, limited to the provisions of Exhibit "B", others to use the programs listed on Exhibit "A", both attached hereto and incorporated herein by reference, subject to terms and conditions contained herein. Licensee shall pay Scientific Research within five (5) days of the date of receipt of the licensed software the sum of Fifteen Thousand Dollars (\$15,000.00) as a partial consideration for said license and the limited right to sublicense in addition to other payments provided herein.

2. TERM

This agreement and the license and right to grant sublicenses hereunder shall be effective for a period of one (1) year from the date on which it is accepted by Scientific Research, and will automatically be renewed for additional one (1) year periods thereafter, pursuant to the terms of SCHEDULE "A", unless terminated according to Paragraph 8 hereof or upon written notice from either party to the other given no less than ninety (90) days prior to the expiration of any such one (1) year period. Any sublicenses granted during the term hereof shall continue indefinitely irrespective of the termination of this agreement, unless a sublicensee is in violation of the obligations contained in Paragraph 5.3 of this agreement of Schedule "A" or Exhibit "B", in which case said sublicense shall immediately terminate and licensee shall notify said sublicensee of such termination.

3. MATERIALS

Scientific Research shall furnish one (1) each of the following items per Data Processing System purchased by licensee under contract:

- 3.1 Machine readable programs of the licensed software identified in Exhibit "A".
- 3.2 Reference manual for the licensed software, if available as of the date hereof.
- 3.3 Updated versions of Items 3.1 and 3.2 when released by Scientific Research, for a period of one (1) year from the initial date of this agreement.

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- 5.7 In the event that this license is terminated in accordance with the terms contained herein when there are valid sublicenses in effect, each and every such sublicense shall automatically be assigned to Scientific Research and licensee shall notify each sublicensee of said assignment. In the event that Scientific Research's rights have been obtained by license from a third party and its license is terminated by the third party, this license shall continue as to such licensed and sublicensed programs owned by the third party and Scientific Research's rights hereunder as to such programs shall inure to the benefit of said third party. This license agreement for any other programs shall continue unaffected.

6. LIMITATIONS OF LIABILITY

6.1 Licensee agrees that Scientific Research's liability hereunder for damages, regardless of the nature of the action, shall not exceed the charges paid by the Licensee for the particular Licensed Program(s). Licensee further agrees that Scientific Research will not be liable

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8. TERMINATION

In the event that licensee shall at any time neglect, fail or refuse to comply with the terms of this agreement, Scientific Research may terminate this agreement by serving upon licensee a notice of termination for default unless licensee shall cure the condition of default within ten (10) days after receipt of said notice.

9. TAXES

Licensee shall promptly pay any taxes arising out of or under this agreement except for those taxes levied upon the net income or personal property of Scientific Research or its licensors.

10. ASSIGNMENT

This license is personal to the signed Licensee and the Licensee shall not assign this license or any interest therein or any rights hereunder except as provided herein, without the prior written consent of Scientific Research.

11. MERGER

This agreement constitutes the entire agreement between the parties concerning the subject matter hereof and merges all prior agreements and negotiations, both written and oral, of the parties.

12. CONTROLLING LAW

This agreement shall be governed by, subject to and construed according to the laws of the State of Maryland and may not be modified except by a writing signed by each party.

13. ADDITIONAL TERMS

Additional terms and conditions appearing on Schedule A are herewith included and incorporated in this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year written below.

ACCEPTED: SCIENTIFIC RESEARCH	AGREED: LICENSEE (Dealer, Distributor or Contractee
Ву	By
Title	Title
Date	Date

SCHEDULE "A"

ADDITIONAL TERMS:

14. YEARLY RENEWAL

In addition to the term of the license as set out in Paragraph 2, the licensee will in addition tender a nominal yearly fee of \$150.00, or a one time charge of \$15,000.00 as set out in EXHIBIT "A", to be paid on or before January 15 of each year to Scientific Research. This renewal fee is required annually to keep the license agreement in effect. Failure to timely remit the renewal fee by the stipulated date will automatically terminate this license as set out in Paragraph 8 and 5.7 and any other applicable sections included in this agreement. Renewal of a terminated license, from above reasons, shall cost \$1,000.00 and is conditional to reacceptance by Scientific Research.

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Volumes: VII only

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FEES for Non-Profit licensing and sublicensing.

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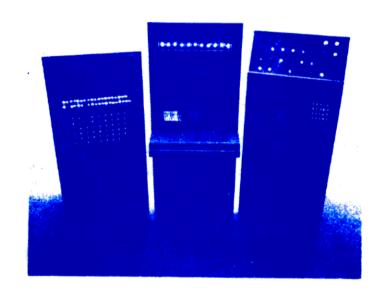
GENERAL

If any of the provisions of this Agreement are finally declared invalid under any applicable statute or rule of law, this agreement shall be terminated unless Scientific Research consents in writing to the continuation of this agreement with the invalid provisions deleted.

This is the complete exclusive statement of the agreement between the parties, which supersedes all proposals, oral or written, and all other communications between the parties relating to the subject matter of this Agreement and the provisions of SCHEDULE "A".

CUSTOMER/SIGNER	SUBLICENSOR/DEALER
Ву	_ By
Title	Title
Company	_ Company
Designated System:	Date:
Location:	

RELIABLE COMPUTER SOFTWARE



FOR YOUR DOWN TO EARTH TASKS