For TANDY Color Computer Users

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Softgold

THE NEXT PHASE

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CLUBROOM

Welcome To The New Softgold Magazine

As we indicated last month, this magazine is now exclusively for the users of Tandy and IBM compatible computers.

Included in this group are the myriad of Taiwanese clones and the compatibles of other manufacture such as the Commodore PC range.

Softgold can only ever be what you want it to be because we depend on you to supply the articles and programs. Well... that's not quite right as I'm sure our longer term readers will remind me, because Bruce, our very hard working editor currently supplies most of the programs.

But we want the magazine to be a showcase for you, as you learn more about your computer.

Show us what you are learning - either in article or program form - the more you share your knowledge, the more you teach others, and strangely, yourself too.

Printers

You may have discerned a slight difference in print styles between this magazine and last month's.

This is because we have traded in our ever suffering Tandy DMP 130's - which I must say have been absolutely FANTASTIC, and we're now using the Panasonic KX-P1082, a printer which represents probably the best value in the current market because:

* it prints at 160 CPS in draft mode,
* it prints at 32 CPS in NLQ (Near Letter Quality) - this article has been printed in NLQ,
* it has all the normal fonts - Pica, Elite, Semi Compressed, and Compressed as well as elongated and italics forms of the above, and
* it costs just $499.00. There is even a cheaper version for $389.00 which has all the same features but which runs a touch slower!

Look for the Panasonic ad this month for more details.

Whilst on the subject of printers, we've also got a laser printer here, which of course is the precursor to a move to Desk Top Publishing.

We produce our magazines in the current style because we believe it is valid to show you what can be achieved with computers and printers of exactly the same style as the ones you probably operate.

Using that logic, we feel it is now time to take the next step and move into DTP.

The changes will happen slowly because we're going to evaluate system components as we go. The eagle eyed might note some printouts in this magazine which were done on the laser - I believe the Computer Resource Database is to be one of these.

So what are laser printers like I hear you ask.

Well, we have an Impact here - it's not the top of the range, it's about half way and costs about $4800 - expensive yes, but this one does produce a very good quality product and it is quite fast.

We've also been experimenting with graphics on the Impact, and the quality in this area is especially good.

You don't have to go to quite that price to get a laser - there are lasers for well under $3000 these days, and as with most computer componentry, the price pressure is downwards, so expect some nice printers in the next twelve months in about that pricing area.

The Computer Resource Database

We trust you will find the first installment of The Computer Resourse Database of interest.

There is a lot more information on the Computer Resource Database, but because it is too large for the magazine, we put the whole thing on the monthly edition of Golddisk - which also has the programs from each month's magazine on it.

The printout in this magazine

It is a great treat , You will have a real PINBALL BONANZA , Five Pinball Machines to Play with !! You can select from BLACKBOX , CHUTE , DOUBLE , STAR or the ZIPPER , hours of unending Fun !!

I love the **CHUTE** , but our Dispatch staff they love the **ZIPPER** . You can play with Computer only or with two or three friends .

It is an excellent Arcade Game and YES ! it is A MUST for your Library !!

Catalogue # 1006 GAMES

NEWSBASE

The Magazines Database

Did you go through that frustrating experience of searching for that article that you have read , in one of your Journals , Magazines or Periodicals one day !! you Need it NOW !! And the only way to find it is to go through ALL that Pile of old Magazines !!

Here is the solution for You !!

NEWSBASE !!. It is a powerful database program Designed especially to help YOU to KEEP track of the contents of each issue of Your Periodicals , Journals , Magazines , News and Newsletters .

NEWSBASE makes it easy to find a story , editorial or artwork that is related to a Particular Subject.

NEWSBASE allows the user to give a description , headline , synopsis and key words or phrases for the article that is to be stored in a file on data disk . The starting column , page number , volume and number of the periodical and the issue date can also be recorded with the short description .

Afterwards , the search function will look for a particular word or phrase that is entered or list all the articles within a certain time frame in order to find the particular article that is being looked for .

NEWSBASE will allow you to make a Hardcopy of the information to the printer or to ASCII file. It can work with either a Colour or Monochrome Monitor and it can work with Harddisk as well as One or Two Floppy Disk Drives .

The Applications for NEWSBASE is almost unlimited for Personal or Business Use , from Professional Accountant Office to a Solicitor . For Advertisers , NEWSBASE can give an overview of all the ads placed by a certain customer in the Periodical over the last few months.

It is avery good program and highly recommended , we use it already in our Office !!

Catalogue # 1007 APPLICATION

BONZO WARE

The Adult Oriented Game

This is an adult-oriented Game ! which means we recommend it for Adults ONLY !!

In Colour and Sound BONZO WARE features TRIVIA GAMES , for one or two players , actually it is a version of STRIP TRIVIA , STRIP POKER and is a Poker Machine like they have in LAS VEGAS !!!.

The questions covered by TRIVIA range from entertainment , sport to science and sexually related questions !!.

Penalties for missing a Question or Losing a hand in either the Strip Games range from Removing an article of Clothing , Telling a Stupid Joke to trying to say a tongue twister !

Although you may play the game to Their Ultimate Outcome !!!! , You may also play them without removing the clothing , as it is up to you to do what you want to do !!.

Some of the questions asked by the TRIVIA are of a Sexual Nature , but are handled with surprising decorum and tact !! Hopefully !!!!

Catalogue # 1008 GAMES

LETTER WRITER

The Electronic Address Book

Welcome to the World of Office Automation !! LETTER WRITER is an Electronic Address Book and a whole lot more !.

With Your PC and LETTER WRITER you can control all your mailing and write all your Letters to all your correspondents .

LETTER WRITER will print Your Letters , Mailing Labeles , List of Addresses and Envelopes ! .

You may organize your lists of addresses into as many files as YOU choose .

You can have UP to 2500 addresses per file and there is no limits to the number of files in LETTER WRITER , the only limits come from your Hardware !!

LETTER WRITER comes with its Documentation on the Disk , with all the information you will need to use . However , it is so easy to use that many people say they do not need the Documentation at all !

You can configur LETTER WRITER to run on either a Monochrome or Colour Monitor . If you have Colour Monitor , you can select the colours YOU WANT of any of Sixteen Colours !!

A Great Program to have in Your Library !

Catalogue # 1009 APPLICATION

INSTANT CALC

The Pop-Up Spreadsheet

INSTANT CALC is the Ultimate memory resident Spreadsheet Program you can have .

Let's say you are creating a document using your favourite Word Processor , and you decide YOU NEED to include

$14.25 each, postage and packing included!!

You may guard one of six levels on board . You are IN CHARGE , as Chief Security . LABBITS and VOLDRONS is a very good Video Arcade Game . You must have in Your Library !!

Catalogue # 1024 GAMES

DOTS MANIA

The Dots Lovers Games

DOTS is a complex version of the Game played by School Kids over at least the last Half-Century .

It is difficult to pin down just when the Game originated , but it remains a popular lunch break pastime in many schools across the country .

When the Game is played on paper , ROWS of dots are drawn on a blank sheet to form ten to twenty dots a square

The first player draws a line between any two dots , then the second player does the same . Play continues in turn as each tries to draw lines that will KEEP the OTHER from completing all sides of a Box .

If a player succeeds in completing a BOX , HE marks it with his initials to claim it and then takes another turn .

When ALL of the dots have been used and no more lines can be drawn play ends . EACH Player then counts the number of BOXES claimed . The player with the highest score wins !!

DOTS MANIA is played by the same rules , but the grid of dots is substantially larger and the Computer automatically MARKS each box claimed and tallies the scores as play proceeds .

Because of the size of the GRID it becomes possible to develop EXTREMELY Complex STRATEGIES to claim boxes later on in the Game !! , which can take up to 45 Minutes to play !!

It Superb STRATEGY GAME !! You will enjoy Hours and Hours of Fun !! It is a MUST HAVE Game !!

Catalogue # 1025 GAMES

L.Q. PRINTER UTILITY

The Ultimate Printer Utility

L.Q. is an Impressive Printer Utility which allows you to use your Inexpensive Dot Matrix Printer to PRINT a variety of FONTS in near letter quality

L.Q. may be loaded as a Memory Resident Program to filter the data from Your Word Processor or other Programs !! , or it may be used as stand alone to process individual files . The Memory Resident Mode is the most convenient way to use L.Q. !!

L.Q. comes with a large assortment of predefined FONTS including COURIER , GREEK , HELVETICA , ROMAN and many others including ITALICS for each Font !! .

A Character Editor is also provided to ALLOW YOU to MODIFY or CREATE Your Own Fonts Sets . Each Font character is 10 by 24 dots so there is enough resolution to make some pretty decent Fonts - I played around with OLD ENGLISH !!- .

Be prepared to do some waiting though ! . Since L.Q. uses graphics mode to print the Fonts , printing goes a whole lot slower than regular text printing - That is the price for high quality - .

L.Q. provide some aid by providing a print spooler which is optimized for graphics data .

L.Q. has a bonus too for you !

It comes with a Program named BIGPRINT which allows you to print out large letter BANNERS on Your Printer (using any of the same fonts that L.Q. uses !!).

As an extra YOU get a scheduling Calendar Program which You can put in your autoexec file to remind you when upcoming appointments are near !!!

Without any doubt , I will get a copy for my own library !! It is a MUST !!

Catalogue # 1026 APPLICATIONS

FOLK SPELLER

The Spelling Checker

" Welcome to FOLKSPELLER , a text file Spelling Checker Program that will allow you to correct Misspelled Words as they are found in the file . If you use Your Computer for writing letters , articles , books or documentation and have as much trouble with spelling and Fat Finger errors in typing as I do ! , you will find FOLKSPELLER a Handy Tool to have ! .

FOLKSPELLER stores the correctly spelled words in a dictionary , and looks up Each Word in a Document to verify the spelling .

It has a few more functions that make it an EXCELLENT TOOL for a Writer .

It will display HOW MANY WORDS were checked in a document and also add Your OWN WORDS to the dictionary or use special word list . " That is what Fred Guymon the Author of FOLKSPELLER said and I found it accurate .

The FOLKSPELLER Dictionaries are capable of storing 100,000 + Words

on a Hard Disk or 40,000 + on a Floppy Disk . Since FOLKSPELLER uses data compaction and suffix extraction , the actual number of Words stored on either medium is not able to be determined .

Theoretically , the dictionary can STORE 1,800,000 different words or 370,000 on diskette !!!

Simply , FOLKSPELLER is A MUST for a Writer !!

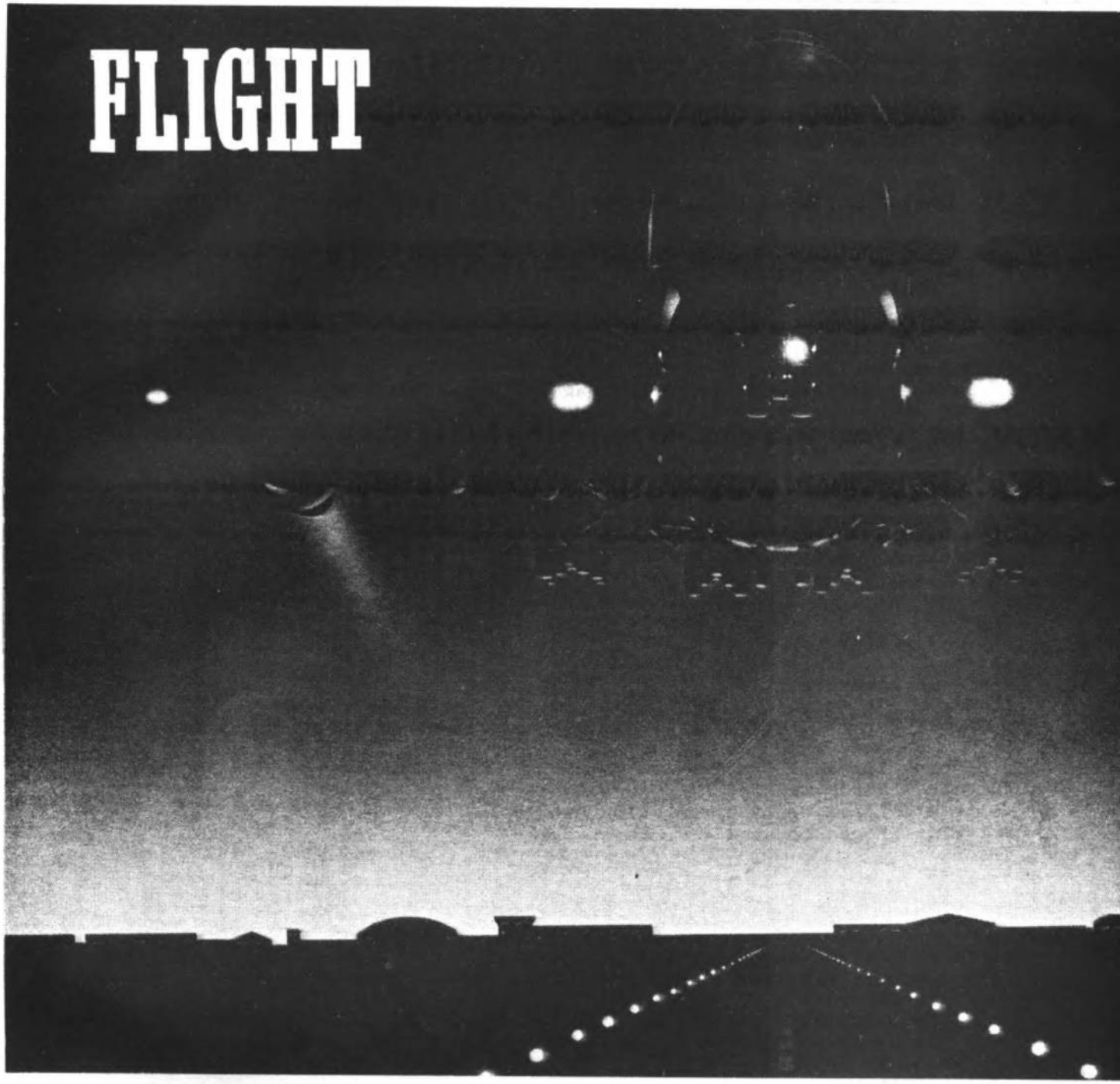
Catalogue # 1028 APPLICATIONS

$14.25 each, postage and packing included!!

```
    Write ('Enter outside wheel step (1-360) [',Step1,'] : ');
    Num := GetNum;
    if (Num > 0) and (Num <= 360) then
      Step1 := Num
    else if ResetProg then Exit;

    { 1- 100 for best effects on size }
    Write ('Enter inside wheel size (1-100) [',Size2,'] : ');
    Num := GetNum;
    if (Num > 0) and (Num <= 160) then
      Size2 := Num
    else if ResetProg then Exit;

    { 1- 100 for best effects on size }
    Write ('Enter outside wheel size (1-100) [',Size1,'] : ');
    Num := GetNum;
    if (Num > 0) and (Num <= 160) then
      Size1 := Num
    else if ResetProg then Exit;

    Write ('Enter mode (1=draw, 2=plot) [',Mode,'] : ');
    Num := GetNum;
    if Num = 2 then
      Mode := 2
    else
      Mode := 1;
    if ResetProg then Exit;

    Writeln;
    Writeln ('While drawing pressing "Q" will abort the program.');
    Writeln ('Pressing any other key will bring you this screen.');
    Writeln;
    Write ('Press any key to continue : ');
    Read (Kbd, Ch);
    Writeln (Ch);
end; {GetParam}



procedure Initialize;
begin
     HiRes;
     Step1 := 4;
     Step2 := 183;
     Size1 := 100;
     Size2 := 100;
     Mode := 1;
     ResetProg := True;
end; {Initialize}



begin
   Initialize;                                  { Reset variables }
   repeat
     repeat
       if ResetProg then
         GetParam;                              { Get parameters for pattern }
     until not ResetProg;
     HiRes;                                     { Put into high graphics mode }
     i1 := 0;     i2 := 0;                      { Reset degrees }
     x2 := -1;    y2 := -1;                     { Second x and y coordinates are
                                                  invalid the first time around }
     repeat
       Polar (Size1,i1,0.5,x,y);                { Call for x and y coord }
       x := x + 320;    y := Abs (y - 100);     { relative to the centre of
                                                  screen }
```

continued overleaf

FLIGHT



The 747 program lets the pilot activate the control surfaces of the jet aircraft, adjust engine thrust, and tune the navigational radio equipment by pressing a set of keys.

The program responds to the key press commands by adjusting aircraft attitude to match the control surfaces and updating the the instrument panel display every four seconds as the trajectory of the airliner is tracked through space by the computer.

The instrument panel gives the pilot all the flight information he needs to take off, navigate, and land an aircraft using standard flight procedures and radio facilities established for modern-day flying.

The panel functions to reveal what the aircraft is doing and where it is located, so that after a short period of training the pilot knows instinctively how to scan and interpret the panel data.

Position tracking, a vital ingredient in the simulation, is performed in real time to keep the flight situation up to date.

Although the pilot completelycontrols the motion of the aircraft, wind forces that vary with altitude can influence the flight.

The program uses an analytical combination of jet and wind motion to solve the "wind triangle" that is formed whenever an aircraft is aloft and moving through layers of air.

The wind-triangle solution yields the "true" motion of the jet relative to the earth's surface.

When simulation begins, the aircraft is poised for takeoff on the runway at Philadelphia International Airport.

The geographic coordinates of Philadelphia mark the starting point of the flight. The computer fixes this initial position in memory and outputs a new longitude and latitude 15 times a minute.

The pilot controls the path of the aircraft during the takeoff roll down the runway. If everything is done correctly in the cockpit, this path will lead to a takeoff with room to spare.

Once airborne, the aircraft is tracked against a grid of meridians and parallels, an

COMPUTER RESOURCE DATABASE

Goldsoft Publishing endeavours to place current data into the Computer Resource Database. However, Goldsoft Publishing makes no claims as to the accuracy of the information supplied for use in this database.

Prices quoted were current at the time of entry. Where two suppliers have differing prices, we have quoted the highest price.

The Database is a free service of Goldsoft Publishing. If you market a product for use with the computers we service in this magazine, you can forward information to:

CRD Manager
Goldsoft Publishing
PO Box 1742
Southport. Qld. 4215.

Please note that many programs have fuller descriptions on the monthly disk which partners this magazine. (See contents page for details of this disk.)

FACTORS TUTOR	B	16K COCO2	27.95	@@@
METEOR MULT'N	B	128K T1000	66	@@@
ALLIGATOR MIX	B	128K T1000		@@@
MEMO WRITER	B	T1000 128K	112.00	@@@
CHILD SPELLER	B	128K T1000	112.00	@@@
NEWSROOM	B	256K T1000	112.00	@@@
DBASE III+	B	T1/3000	1470.00	@@@@
DATAFLEX	B	T1/3000	*248.00	@@@
M'SOFT RBASE	B	T1/3000	1017.00	@@@
REFLEX	B	T1/3000	414.00	@@@
MATH BLASTER	C	COMPAT	90.65	@@@
SPEED READER II	C	COMPAT	125.00	@@@
SPEED RDR DATA	C	COMPAT	39.00	@@@
CHEM LAB	A	COMPAT	69.95	@@@
CREATURE CREATR	A	COMPAT	59.95	@@@
CRYPTO CUBE	A	COMPAT	59.95	@@@
DECIMAL DUNGEON	A	COMPAT	49.95	@@@
DONALD DUCK	A	COMPAT	59.95	***
EUROPE NATIONS	A	COMPAT	59.95	@@@
FRACTION ACTION	A	COMPAT	49.95	@@@
MATH MAZE	A	COMPAT	59.95	@@@
MICKEYS ADVENTU	A	COMPAT	69.95	@@@
MISSION ALGEBRA	A	COMPAT	59.95	@@@
CAR RITHMATIC	A	COMPAT	49.95	@@@
REMEMBER	A	COMPAT	89.95	@@@
SHIPS AHOY	A	COMPAT	59.95	***
SPELLAGRAPH	A	COMPAT	59.95	@@@
SPELLAKAZAM	A	COMPAT	59.95	@@@
SPELLICOPTER	A	COMPAT	59.95	***
TEN LITTLE ROBO	A	COMPAT	49.95	@@@
WINNIE THE POOH	A	COMPAT	69.95	@@@

UTILITY

Name	Source	Hardware	Price	Rating
DD DIAGNOSTIC	B	1000	59.95	@@@@
DD ANALYZER	B	3000HL/HD	49.95	@@@@
FORTAN	B	T1/2/3000	249.95	@@@
PASCAL	B	T1/3000	676.00	@@@
PASCAL	B	T 2000	549.00	@@@
MASM	B	T 1/3000	449.00	@@@
COCO-UTIL	B	T1000 2 FDD	65.95	@@@
SIDEKICK	B	T1/3000	155.00	@@@
LETTRIX	B	T1/3000	190.00	@@@
M'SOFT CHART	B	T1/3000	654.00	@@@
M'SOFT PROJECT	B	T1/3000	881.00	@@@
SUPER PROJECT	B	T1/3000	932.00	@@@
DOSMATE	C	COMPAT	89.00	****
WSHELP 3	C	COMPAT WS 3	69.00	@@@
WSHELP 4	C	COMPAT WS 4	89.00	@@@
MS-DOS 3.3	C	COMPAT	195.00	@@@
PROKEY	C	COMPAT	195.00	@@@
INSIDE TRACK	C	COMPAT	85.00	@@@
PRINTMASTER	C	COMPAT	96.35	@@@
ART GALLERY 1	C	PM & COMPAT	56.65	@@@
ART GALLERY 2	C	PM & COMPAT	56.65	@@@
NEWSROOM	C	COMPAT	101.95	@@@
CLIP ART 1	C	COMPAT	50.95	@@@

```
1072 IF FA<0 THEN F(6)=0
1074 GOTO 1099
1076 IF F(6)=0 THEN AX=AL:F(6)=1
1077 IF TR=6 GOTO 1080
1078 IF FA<2 THEN RC=-1800:GOTO 1099
1079 FA=2:FL=1:RC=-1800:GOTO 1099
1080 FA=1:FL=1:RC=-300:GOTO 1099
1082 IF AL<20 THEN AF=9:GOTO 3000
1084 TR=3:FA=0:FL=2
1086 AF=10:GOTO 3000
1090 IF XN<-9750 OR ABS(YN)>100 GOTO 1094
1091 IF ZS>0 GOTO 1099
1092 AF=0:GOTO 3000
1094 AF=9:GOTO 3000
1099 GOTO 1700
1100 REM:UPDATE FUEL
1102 FU=FU-(14-TR)*TJ:IF FU<0 THEN FU=0
1104 FP=FU/3120:RETURN
1106 IF F(7)=1 THEN RC=0:RETURN
1107 IF F(6)=1 THEN RETURN
1108 RC=ZS*SIN(ABS(FA/KR))*101.6
1110 IF FA<0 THEN RC=-1*RC
1112 RETURN
1114 REM:UPDATE ALTITUDE
1115 IF F(7)=1 THEN RETURN
1116 AL=AL+TJ*RC/60
1118 IF AL<0 THEN AL=0:RETURN
1120 IF AL>45000! THEN AL=45000!
1122 RETURN
1124 REM:UPDATE AIRSPEED
1125 ZS=800-100*TR
1126 ZS=ZS-2*FA
1127 IF BR=10 THEN RETURN
1128 ZS=ZS/3+20:RETURN
1130 IF F(5)=1 GOTO 1132
1131 IF F(2)=1 GOTO 1142
1132 IF RA=0 THEN RT=0:RETURN
1133 IF RA<0 THEN J=-1 ELSE J=1
1134 RA=ABS(RA):IF RA=1 THEN RT=1:GOTO 1137
1135 IF RA=2 THEN RT=10:GOTO 1137
1136 IF RA=3 THEN RT=20 ELSE RT=30
1137 RT=J*RT:RA=J*RA
1138 CC=CC+RT
1139 IF CC=>360 THEN CC=CC-360:RETURN
1140 IF CC<0 THEN CC=360+CC
1141 RETURN
1142 IF RA=0 THEN RETURN
1143 IF RA<0 THEN CC=CC-1 ELSE CC=CC+1
1144 RA=0:GOTO 1139
1145 REM:UPDATE RUDDER POSITION VALUE
1146 RP=40+RA+RA:RETURN
1200 REM:COMPUTES DIST & BEARING TO A KNOWN POINT LOCATION
1202 VL=ABS(LB-LC):BL(5)=-1:IF LB=>LC THEN BL(5)=1
1204 VG=ABS(GB-GC):BL(4)=1:IF GB=>GC THEN BL(4)=-1
1206 LA=LC:GOSUB 2400
1208 M1=MP
1210 LA=LB:GOSUB 2400
1212 M2=MP:DM=ABS(M2-M1)
1214 IF DM=0 GOTO 1220
1216 QO=VG/(DM/60):IF QO>114.59 GOTO 1220
1218 CA=KR*ATN(QO):DR=VL*(1/COS(CA/KR)):GOTO 1222
1220 CA=90:DR=VG*COS(LC/KR)
1222 DR=DR*60:IF BL(5)=-1 GOTO 1226
1224 IF BL(4)=1 THEN CR=CA ELSE CR=360-CA
1225 RETURN
1226 IF BL(4)=1 THEN CR=180-CA ELSE CR=180+CA
1228 RETURN
1250 REM:GET WIND VECTOR FOR CURRENT ALTITUDE
```

```
3310 IF WH=10 THEN PRINT M$(13)
3312 IF WH=10 THEN PRINT M$(12)+"FUSELAGE."
3314 IF WH=12 THEN PRINT"THE IMPACT DAMAGED THE LANDING GEAR."
3316 IF WH=12 THEN PRINT"ALL THE PASSENGERS HAVE BEEN SAFELY EVACUATED."
3318 N$(1)=M$(6)
3320 GOSUB 3800
3322 END
3350 CLS
3352 PRINT M$(1)
3354 PRINT M$(13)
3356 PRINT"THE AIRCRAFT LANDED ON ITS BELLY, CAUSING MODERATE DAMAGE."
3358 PRINT"ALL THE PASSENGERS HAVE BEEN SAFELY EVACUATED."
3360 N$(1)=M$(6)
3362 GOSUB 3800
3364 END
3400 CLS
3402 PRINT M$(15)
3404 PRINT M$(14)
3406 N$(1)=M$(7)
3408 GOSUB 3800
3410 END
3450 CLS
3452 PRINT M$(15)
3454 PRINT"YOU FAILED TO EXECUTE A FLARE PRIOR TO TOUCHING DOWN."
3456 PRINT"THIS IS A VIOLATION OF COMPANY PROCEDURES."
3458 PRINT M$(16)
3460 N$(1)=M$(7)
3462 GOSUB 3800
3464 END
3500 CLS
3502 PRINT M$(15)
3504 PRINT"YOU ROLLED OFF THE RUNWAY AFTER TOUCHING DOWN."
3506 PRINT M$(16)
3508 N$(1)=M$(7)
3512 GOSUB 3800
3513 PRINT
3514 IF XN>-9750 THEN PRINT"YOU ROLLED PAST FAR END OF RUNWAY"
3516 IF ABS(YN)>100 THEN PRINT"YOU ROLLED THROUGH RUNWAY SIDE BORDERS"
3518 END
3550 CLS
3552 PRINT"----- YOUR MISSED APPROACH SIGNAL IS ACKNOWLEDGED -----"
3554 PRINT"YOU HAVE FOLLOWED PROPER PROCEDURES."
3556 END
3600 CLS
3602 PRINT"----- YOU HAVE SUCCESSFULLY COMPLETED THE FLIGHT -----"
3604 PRINT"ALL PROCEDURES WERE PROPERLY EXECUTED."
3606 N$(1)=M$(7)
3610 PRINT"CONGRATULATIONS ON A SUCCESSFUL FLIGHT."
3612 GOSUB 3800
3613 PRINT
3614 XN=ABS(XN):JN=FIX(XN+750)
3615 YN=ABS(YN):YN=FIX(YN)
3616 PRINT"YOUR AIRCRAFT CAME TO REST AT THE FOLLOWING POSITION:"
3617 PRINT"      ";JN;"FEET INSIDE THE RUNWAY"
3618 PRINT"      ";YN;"FEET FROM RUNWAY CENTERLINE"
3620 END
3700 REM:SUBROUTINE TO CLEAR LOWER PART OF DISPLAY
3702 FOR I=9 TO 23
3704 LOCATE (I+1),1:PRINT SPC(79);
3706 NEXT I
3708 RETURN
3800 REM:LANDING STATISTICS
3802 PRINT
3804 PRINT SPACE$(26);N$(1)
3806 PRINT
3808 IF RL=0 THEN PRINT RX;N$(2)
3809 IF RL=1 THEN COLOR 0,7:PRINT RX;N$(2):COLOR 7,0
3810 PRINT
```

```
11190 REM:EQUATIONS OF MOTION
11195 T=TJ
11200 V=V0+A*T
11205 VB=(V+V0)/2:V0=V
11210 S=VB*T
11215 IF TD<(TX+18) GOTO 11235
11220 TX=TD
11225 WB=RS*RND(2)
11230 CC=CC+WB
11235 DA=(CC-75)/57.3
11240 DY=S*COS(ABS(DA))
11245 DX=S*SIN(ABS(DA))
11250 IF DA<0 THEN DX=-1*DX
11255 YY=YY+DY
11260 XX=XX+DX
11265 ZS=V/1.69278
11270 IF ZS>20 THEN ZS=ZS+WS
11275 IX=40+FIX(XX*7/20):IF IX>79 THEN IX=79
11280 IF IX<0 THEN IX=0
11285 ZP=FIX(YY-2500*(N-1))
11290 IF ZP>2500 THEN N=N+1:GOTO 11285
11295 RETURN
11300 REM:VARIABLES FOR RUNWAY GRAPHICS
11305 MP=FIX(10+(13*ZP)/2500)
11310 IF N>3 GOTO 11350
11315 NY=MP
11320 J=NY-10
11325 NX=XM(J)
11330 FW=WM(J)
11335 S$=SPACE$(J)
11340 MK$=M$(N)+S$(J)+" "+S$(J)+" "+S$(J)+" "+S$(J)+" "+S$(J)+" "
11345 RETURN
11350 REM:IN ZONE 4-MARKER IS RUNWAY EDGE
11355 NY=MP
11360 J=NY-10
11365 NX=XE(J)
11370 IF N>4 THEN RETURN
11375 MK$=STRING$(WE(J)," ")
11380 RETURN
11385 AB=1:GOTO 11415
11390 AB=2:IF YY<10500 GOTO 11415
11395 FOR I=10 TO 22
11400 LOCATE (I+1),1:PRINT SPACE$(80);
11405 NEXT I
11410 GOTO 11415
11415 REM:ABORT
11420 FOR I=10 TO 22
11425 LOCATE (I+1),1:COLOR 0,7:PRINT SPACE$(80);
11430 NEXT I
11435 LOCATE 11,30:PRINT"*** TAKEOFF FAILED ***":PRINT:PRINT
11440 ON AB GOSUB 11455,11480
11445 LOCATE 20,35:COLOR 7,0:PRINT"END OF PROGRAM";
11450 END
11455 PRINT"YOU PULLED BACK ON THE STICK AT TOO SLOW A SPEED, OR YOU"
11460 PRINT"PULLED BACK THE STICK TOO FAR WHEN AT PROPER SPEED."
11465 PRINT"AS A RESULT, THE TAIL OF THE FUSELAGE SCRAPED THE RUNWAY"
11470 PRINT"AND THE AIRCRAFT SPUN OUT OF CONTROL."
11475 RETURN
11480 IF YY>10500 GOTO 11505
11485 PRINT"YOU FAILED TO STAY WITHIN THE RUNWAY BOUNDARIES."
11490 PRINT"AS A RESULT, YOU VEERED OFF THE RUNWAY AND COLLIDED WITH"
11495 PRINT" THE RUNWAY LIGHTS."
11500 RETURN
11505 PRINT" YOU RAN OUT OF RUNWAY. AS A RESULT, YOU ROLLED INTO THE"
11510 PRINT" MARSHLANDS LOCATED";FIX(YY)-10500;"FEET PAST THE END OF THE RUNWAY.
"
11515 IF F(3)=1 THEN RETURN
11520 PRINT:PRINT:PRINT" YOU FORGOT TO LOWER THE FLAPS."
```

TRANS AMP

by Bruce Kerr

Building small electronic projects is a rewarding hobby and many can be made even for your PC.

Recently I had occasion to design an amplifier and splitter to allow one computer to feed many cassette recorders.

To make the prototype I started to work out the calcs by hand but found that by the third version I was spending a lot of time on the much smaller keyboard of the Casio.

The computer was sitting there begging me to write a program so here it is.

Unfortunately if you dont design common emitter amplifiers the program is of entirely no use to you except for the way it was written.

Well for those who do make amps the program asks for all the info it needs so all you need is the data for your transistor.

Remember my motto, if it does not work then make sure it looks good and blame it on the computer.

The Listing:

```
 1 GOTO 10
 2 SAVE"TRANSAMP.BAS",A
 3 END
 10 CLS
 100 REM transistor common emitter amplifier design (transamp)
 105 PRINT   TAB(7): PRINT "Transistor Common Emitter"
 110 PRINT  TAB(12): PRINT "Amplifier Design"
 125 FOR I=1  TO 2500: NEXT I
 135 INPUT "Maximum transistor VCE? ";V1: PRINT: INPUT "Maximum Collector current
  (in mA)? ";I1
 140 PRINT: INPUT "Maximum Power Dissipation in mW? ";P1
 145 PRINT:  INPUT "Maximum junction temp in deg. C? ";T2
 150 IF T2>0  THEN 160
 155 PRINT: INPUT "Transistor thermal resistance?";T1
 160 PRINT: INPUT "ico in ua? ";I2
 170 PRINT: INPUT "hfe min, typical, max? ";B1,B2,B3
 175 PRINT: INPUT "transistor vbe? ";V3
 180 PRINT: INPUT "supply voltage? ";V2
 185 PRINT:  INPUT "quiescent collector current in ma? ";I5
 190 PRINT: INPUT "%vcc across emitter resistor? ";V5
 195 V5=V5*V2/100
 200 PRINT: INPUT "ambient temperature in deg. c? ";T3
 205 PRINT: INPUT "max % change for IC? ";I4
 210 PRINT:  INPUT "hie in k-ohms? ";Z3
 215 PRINT: INPUT "low frequency 3-db point in hz? ";F1
 220 FOR X=1  TO 1000: NEXT:HX = 0
 225 IF V2<.9*V1  THEN 240
 230 PRINT "          supply voltage too high        "
 235 HX=1
 240 IF 15<.4*I1  THEN 255
 245 PRINT "       collector current too high       "
 250 HX=1
 255 IF V2*I5<.8*P1  THEN 275
 260 PRINT
 265 PRINT "        Power dissipation too high       "
 270 HX=1
 275 IF V2*I5<.5*P1  THEN 290
 280 PRINT "             use a heat sink             "
 285 HX=1
 290 IF T2<=0  THEN 300
 295 T1=(T2-25)/P1
 300 IF T3+V2*I5*T1>T2  THEN 315
 305 PRINT "         junction temp too high         "
 310 HX=1
 315 IF HX<>1  THEN 325
 320 PRINT: END
```