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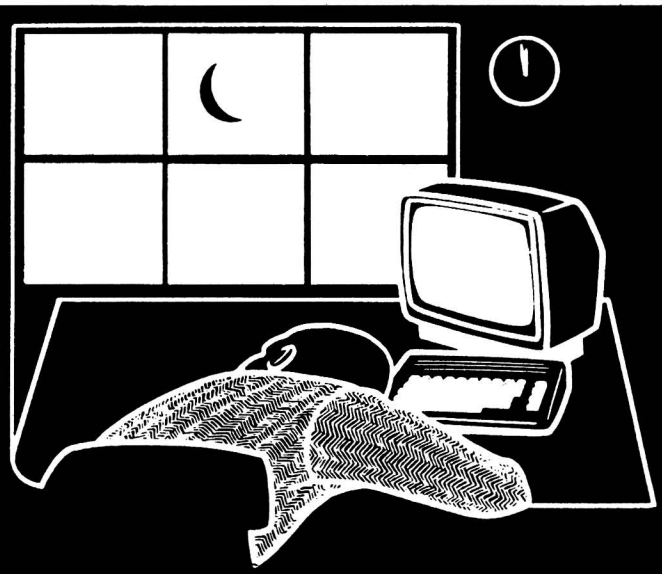
1986

# Midnite Softwware Gazette

The First Independent U.S. Magazine for users of Commodore brand computers.

Hello and welcome back to the Midnite Software Gazette. Midnite Software Gazette has been reviewed as a spunky newsletter to the definitive source for software and hardware reviews. Whichever you choose, it's good to see you. This issue is chock full of game reviews as well as a very good article titled 'BASIC Plus' by Robert Kodadek. I think you will find it usefull as I have. There does seem to be an endless stream of programming utilities for the C-64; but what the heck, disks are dropping to 29 cents a piece so you can afford an extra utility disk. We didn't plan this many game reviews, it just happened. So, hopefully, you will get an idea on some games you have been comtimpateing.

Our big news around here is the GEOS (TM of Berkeley Softworks) book that we published. I said 'published' because by the time you're reading this it will (hopefully) be available through out the country at specialty computer and software stores and book sellers alike. We are proud and loud about this one. It is the first book we have done and not the last.



Software for the C-64 is picking up great momentum right now. A good two dozen (or more) new games are being released by some of the biggest names in cbm brand software which would include such companies as Epyx, E.A., Activision, Broderbund and Mindscape. Titles soon-to-be released or already on the shelves for the big buying season include: World Games, Transformers, The Christmas Kit Printer, Championship Baseball, Marble Madness, Howard the Duck, The Rocky Horror Show, Robot Rascals, Championship Golf, Fair Light, Flight Simulator II for the Amiga, Championship Wrestling, Labyrinth the Game, Tag Team Wrestling, Tass Times, Spindizzy, Zoids, Commando, Bard's Tale II, Tenth Frame, Toy Shop, Indoor Sports, Macbeth, just to name a few. Great games coming!

For the Amiga, Brown-Wagh has a VERY exciting new product titled 'PUBLISHER' which is a full-fledged desktop publishing program. It allows you to import text and graphics from various other word processors and allows you to manipulate these into one or more columns. It also prints to any printer in Preferences on the Amiga. If I could only get my hands on one! Another Amiga product that should be on your dealer's shelf is SuperBase from Precision Software of England. If you have any of Precision's other products, you know this one'll be good.

As always I'd like to thank all subscribers and retail purchasers for reading The Midnite Software Gazette/The Paper and remember knowledge not shared; is wasted. Jim Oldfield Jr.

## COMPARE

C64 COMAL 2.0 / C64 COMAL 0.14 / C64 BASIC 2.0

x = included
- = not included

| C64 COMAL 2.0 | C64 COMAL 0.14 | C64 BASIC 2.0 | |
|---|---|---|---|
| | | | ==EDITING========== |
| x | x | - | AUTO - automatic line numbers |
| x | x | - | RENUM - renumber lines |
| x | x | - | MERGE from disk |
| x | x | - | Syntax checking on entry |
| x | x | - | Delete blocks of lines |
| x | - | - | FIND and CHANGE commands |
| x | x | - | Pause a program listing |
| x | - | - | TRACE - to debug your program |
| x | - | - | 'Quote mode' disable / enable |
| x | - | - | Understands UPPER and lower case |
| x | - | - | Erase to end of line - CONTROL K |
| x | - | - | Ooops key - CONTROL A |
| | | | ==FILES========== |
| x | x | - | Binary sequential/random files |
| x | x | x | ASCII sequential/random files |
| x | x | - | Easy one command random file use |
| x | - | x | GET from disk |
| x | - | - | Built in true ASCII conversion |
| | | | ==DISK COMMANDS======= |
| x | x | - | CAT - catalog of files on disk |
| x | - | - | Pause catalog-send it to printer |
| x | x | - | STATUS - status of the disk drive |
| x | - | - | COPY - copy files command |
| x | x | - | DELETE - scratch files from disk |
| x | - | - | MOUNT - initialize a disk |
| x | - | - | RENAME a disk file |
| x | x | - | Knows when End Of File is reached |
| x | x | - | CHAIN one program to another |
| | | | ==NUMBERS========== |
| x | - | - | Accepts Hex and Binary numbers |
| x | - | x | Includes Logical AND and OR |
| x | - | - | Includes Logical XOR |
| x | x | x | Includes Trig functions |
| x | x | - | Understands TRUE and FALSE |
| x | x | - | DIV and MOD operators |
| x | x | - | Arrays with any minimum index |
| x | x | x | Integer numbers |
| x | x | - | Produce random integer in a range |
| | | | ==INPUT-OUTPUT-PRINTER= |
| x | x | - | TAB works on printer as on screen |
| x | x | - | Variable size print zones |
| x | x | - | Print zone-same on printer/screen |
| x | - | - | Set up default printer types |
| x | - | - | Built in graphic screen dump |
| x | - | - | Built in text screen dump |
| x | x | - | PRINT USING formatted output |
| x | x | - | Select output: printer or screen |
| x | - | - | Select input: keyboard/batch file |
| x | - | - | INPUT AT and PRINT AT |
| x | - | - | Automatic protected input fields |
| x | x | - | Allows null reply to input |
| x | x | - | Allows STOP key during input |
| x | x | - | Allows comma as part of input |
| x | - | - | User definable character fonts |
| | | | ==STRUCTURES========= |
| x | x | x | FOR loop |
| x | x | - | Integer FOR loop |
| x | x | - | REPEAT...UNTIL loop |
| x | x | - | WHILE...ENDWHILE loop |
| x | - | - | LOOP...EXIT loop |
| x | x | - | CASE structure |
| x | x | - | IF THEN ELSE - multiple lines |
| x | x | - | Call routines by name |
| x | - | - | External procedures and functions |
| x | x | - | Multiple line procedure/function |
| x | x | - | Parameters with procs / funcs |
| x | x | - | LOCAL or GLOBAL variables |
| x | - | - | ERROR HANDLER - trap errors |
| x | x | - | Automatic indenting of structures |

## COMPARE

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| C64 COMAL 2.0 | C64 COMAL 0.14 | C64 BASIC 2.0 | |
|---|---|---|---|
| | | | ==SPRITES========== |
| x | x | - | Keywords for defining sprites |
| x | x | - | Keywords for setting sprite color |
| x | x | - | Keyword for moving sprites |
| x | x | - | Built in collision detection |
| x | - | - | STAMP sprite image onto screen |
| x | - | - | Animate sprites, interrupt driven |
| x | - | - | Attach sprite shapes to programs |
| | | | ==GRAPHICS========== |
| x | x | - | Turtle graphics and X/Y graphics |
| x | x | - | Hi-res or multicolor graphics |
| x | x | - | Split screen (text/graphics) |
| x | x | - | Background/border color keywords |
| x | x | - | Mix text and graphics on screen |
| x | - | - | Graphics text in any size |
| x | - | - | Graphics text sideways |
| x | - | - | Save a graphics screen to disk |
| x | - | - | Window capabilities |
| x | x | - | Line clipping within frame |
| x | - | - | ARC and CIRCLE commands |
| x | x | - | FILL command |
| x | x | - | PLOT a point |
| | | | ==SOUND========== |
| x | - | - | BELL command |
| x | - | - | Built in sound commands |
| x | - | - | Control sound envelope |
| x | - | - | Interrupt driven music built in |
| | | | ==MACHINE LANGUAGE=== |
| x | x | x | Call machine code routines |
| x | - | - | Call machine code by name |
| x | - | - | Link machine code to programs |
| x | - | - | M/L routines parameter passing |
| | | | ==OTHER========== |
| x | - | - | Modem communications built in |
| x | x | - | Function keys defined |
| x | - | - | Function keys alterable by user |
| x | x | - | Stop key disable / enable |
| x | - | - | Cursor command |
| x | x | - | No "garbage collection" |
| x | - | - | Joystick/paddle/lightpen keywords |
| x | x | - | Built in string search - IN |
| x | - | - | Store a text screen for later use |
| x | x | - | Long variable names |
| x | - | - | Can sense SRQ interrupt |
| x | x | - | Can change part of a string |
| x | - | - | Built in clear screen command |
| x | x | x | PEEK, POKE, SYS, GOTO |

Compare. Even more comparisons are in our other column! Check the reviews. COMAL got a straight A rating from the Book of Commodore Software 1985, got the highest 5 star rating from Info Magazine, and got the highest rating of 10 from the Best Vic/ C64 Software review book. Send us a SASE - we'll send you a 24 page COMAL Info booklet.

But why wait! The C64 COMAL 0.14 Starters Kit is only $29.95 complete with 5 disks FULL of programs, fast loader, disk copier, and over 500 pages of information (add $4 shipping). The top of the line, C64 Comal 2.0 Cartridge is $69.95 to Comal Today subscribers ($74.95 regular price). Subscribe to Comal Today for only $14.95 ($20.95 to Canada). US Dollars only. Choose COMAL, the language of choice. VISA / MC accepted!

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ESCAPE $24.95 Graphic Adventure for C64 from Bantam Electronic Publishing 666 Fifth Avenue, New York, NY

ESCAPE is the first in Bantam's 'Choose Your Own Adventure' series, and is a very well done graphic adventure. It plays a little differently than the common text adventures in that you are presented with choices rather than having complete freedom over what you do.

In ESCAPE you are leading a spy mission inside the unfriendly nation of Dorado. You have been thrown in prison along with your fellow spys, and you must escape, make your way across a dessert and fly to safety.

The game is divided into three seperate parts, The Town, The Drive and The Flight. The graphics are quite well done. In the town you are presented with a three-dimensional ground-level view and must make your way through a maze of streets, back-alleys and cul-de-sacs to get to your jeep. Along the way you will encounter various characters and in each case you must make a decision as to whether they are friend or foe. As in all adventure games, there are plenty o things to explore, examine and take...and not all of them are friendly!

To make matters more interesting, someone in your group is a traitor, and since all of your companions offer advice and help from time to time, you'll have to figure out whose advice to take!

The second and third parts are arcade-style games, controlled by joystic or keyboard, but they still present you with text and choices to make. The arcade sequences are not 'Space Invaders' type...they do not depend on shooting up the aliens, but on logic and a small amount of dexterity.

The graphics are well done and the adventure is cleverly done with interesting puzzles and plenty of suspense to keep the younger adventurer intrigued for hours. Recommended for youngsters. -Art Lewis Kimball

HACKER II $44.95 (Amiga) $34.95 (C64) from Activision Mountain View, CA 94043

Well, you've done it again! You logged onto another computer system, and you have no idea what to do now! But this time, it's a little different. Before you have a chance to start exploring the system, your terminal starts receiving a message from the Government. It seems your expertise at "hacking" is to be exploited. This time you are tied into the security system of a major government complex. You have, at your disposal, the means to monitor all their security cameras, and to bypass them by means of a very sophisticated switching panel, the Multi-Functional Switching Matrix (MFSM).

By means of a Mobile Remote Unit (MRU) you can open various file cabinets in the complex, thereby getting the combination for the safe you need to enter, and the codes to disable the alarm system. Sound simple? Well, you have to dodge the sequencing remote cameras (35 of them) as well as a Security Guard who wanders through the complex. On top of that, you have to turn off the alarms in the proper sequence or you'll get caught. On top of that, as usual, the government equipment you've been issued is going to start breaking down when you get close to accomplishing your mission!

This game by FAR surpasses HACKER. While Hacker was a clever game, after once mapping the various routes, it became a tedious chore of figuring out which spy would accept what bribe etc. The graphics on the Amiga version of HACKER II are ABSOLUTELY SUPERB! There is a very realistic control panel on your screen with four video screens

that can be manipulated in several ways. All activity is carried out by means of controls on the screen which are activated by mouse or joystick.

Mapping this puzzle is half the fun because of the great graphics. By means of the various cameras and switching capabilities, you can actually 'follow' the guard as he makes his rounds by switching cameras.

My ONLY complaint with HACKER II is that, like HACKER, there is no 'save' feature. When your three MRUs are wiped out (as they WILL BE, many times before you figure it what you're doing) you have to go back and start the game over. There IS a 'pause' feature which lets you stop for a minute and think over what you want to do next. This is another winner from Activision...and I HOPE there's going to be a HACKER III! Highly Recommended -Art Lewis Kimball

LEATHER GODDESSES OF PHOBOS Standard Level Comedy Adventure for C64 ($34.95) and Amiga ($44.95) from Infocom, Cambridge, MA

LEATHER GODDESSES OF PHOBOS is another example of Infocom's continual "stretching" in the world of interactive fiction. Not content to sit back and grind out the same type of adventure year after year (even though they would have a guaranteed market for it), Infocom is constantly searching for a new twist, something to make each release something to REALLY look forward to.

In LEATHER GODDESSES you again have to save the world from aliens bent on taking over. But this is a little different! These aliens want to take over earth for the purpose of turning it into their own personal Pleasure Palace. Your job is to stop them (?????). Oh well, a super-hero shouldn't question the wisdom of his assignment.

To begin with, you can play this adventure as either a female or male, and the little dickens won't take your word for which you are, either...it cleverly waits to see which 'facility' you use! Once you've established your gender (or at least your Preference) the remainder of the game will respond accordingly. You will have a faithful companion along to help you. Your companion has a suicidal urge to be a hero, but never fear...he/she has more lives than Morris!

You'll run into a WEALTH of attractive members of the opposite sex, and how much fun you have with them is up to YOU.

You see, you can play LEATHER GODDESSES in three different modes; Lewd, Suggestive and Tame. Each mode involves the same problems and the same solutions, but the descriptions and humor vary drastically between the three. In Lewd mode you can even use those words that are normally not recognized by an adventure game! You must be over 18 to play the Lewd mode, and don't try to fool the computer...try telling it you're under age and then going back later and trying to get into Lewd mode.

In the traditional exquisite packaging, you'll find a 3-D comic book (and glasses to read it with), a semi-accurate map, and a scratch-and-sniff card. The game will tell you when to scratch-'n-sniff....although there are a couple of places where you might hesitate in doing so!

The puzzles in this game are some of the most enjoyable I've come across so far. None are really 'killers', but they WILL make you sit back and think for awhile. This is by no means the hardest Infocom adventure or even the most difficult 'Standard' level...but it IS one of the most clever.

I certainly hope Infocom has signed Steve Meretzky to a lifetime

contract...or at least has his straight-jacket buckled on good and tight. Everything he touches turn into an interesting 'angle' (Sorry, Steve)...and if you don't understand that, you WILL after finishing LEATHER GODDESSES OF PHOBOS. Very Highly Recommended! -Art Lewis Kimball

Shanghai by Activision, 49.95. For Amiga. DOS Protected. 512K

Shanghai is a derivative of the 3000 year ld game of Mah Jongg. This game is great! This game is total boredom. The correct response depends on who plays it. This is NOT a shoot 'em up. there are no mazes to map. It is a solitare (multi-player options exist) game with strategy. One thinks instead of reacts.

The object of Shanghai is to pick up 144 tiles from a three dimensional pyramid shaped pile. Two tiles may be removed when they match and are neither covered nor blocked on either their left or right sides. There are four of most of the tiles. Deciding when to pick up tiles and when to save them for later makes up a lot of the strategy. For instance, it possible that three of four matching tiles might remain blocked. While winning at Shanghai does involve luck (some pyramids just can't be solved), strategy is important. Activision supplies some suggestions for better play. Learning these tactics and practicing greatly increases the chances for winning.

Newcomers to the game don't bother with an attack plan. As fast as they can match tiles they mouse over to the first, click, mouse to the second, double click. When they can't find any more matches it's off to the help menu. The game will obligingly show all possible moves. The player can even retract moves. (The rules say players shouldn't resort to these helps, but of course they do.) Actually, this is one of the few areas where I criticize the game. After cycling through the available moves the player must click the "cancel" response. The natural tendency is to just mouse to the desired tile and click. Several times I've seen players have to move back to that "cancel" button. It's one of those little annoyances that drive you crazy sometimes.

One of the really neat features of the Amiga version is the graphics of the playing field. The background looks like green felt not just a blob of green. Not only are the tile patterns well done, but the white tiles even have have a little yellowing here and there. The pyramid is three dimensional (the view is from the top down). Even the tiles are three dimensional. Tiles cast shadows and edges closest to the light source are brighter. Shanghai presents an excellent example of what can be done with Amiga graphics.

Multiplayer options include challenge and tournament. In challenge mode, each of two players has from 10 to 60 seconds tom remove a pair of tiles. Play continues until neither player can remove any more tiles. At the end of the game, the player who has removed the most tiles wins. Challenge mode allows play with either one or two mice. Challenge mode is for those who like Blitzkrieq chess or heart palpitations. Tournament mode allows several players to try their hands at solving the same pyramid. Each player is given the same amount of time to finish. Scores are kept of the top five winners.

Shanghai is copy portected, but what game isn't? It takes over the machine so you can't pop it in the background when the boss walks in. The game also requiers 512K . I don't know if 'fast' memory (memory above 512K) will give it problems. On the plus side, it works in an Amiga with the 68010 microprocessor. Some programs,

like Temple of Apshai and, apparently Deluxe Video, can crash when run on an upgraded machine. This is inexcusable. There is a program that allows programs like Temple of Apshai to run, but I feel it is irresponsible to not design software correctly in the first place. The Amiga developers had the foresight to support processor upgrades, software vendors should do no less. Kudos to Activision for getting it right.

Is Shanghai a great game or a big bore? Well, my wife saw me playing and decided to try it. I haven't been able to play it since. I've had to drag her off the computer to eat. Can you say addictive? Harld Ravlin.

TASS TIMES IN TONETOWN Graphic Adventure. $34.95 (C64) $44.95 (Amiga) from Activision, Mountain View, CA

Talk about your Alternate Realities! TONETOWN is like no place you've ever been before. If you want to find Gramps (who disappeared from his lab under mysterious circumstances, leaving only a receipt for an anchovie pizza and a jar of guitar picks) you're going to have to figure out how to get there...and how to keep from looking like a TOURIST once you do! You're going to need some new clothes to look "TASS"....that's what used to be known as "HIP" by us oldsters. You also have to figure out what happened to Gramps and save him (and yourself) from Franklin J. Snarl...a dispicable character who keeps following you and popping up at inopportune moments.

With a language all it's own (which you can familiarize yourself with by reading the enclose newspaper) and some stunning graphics showing what TONETOWN really is all about...TASS TIMES is an interesting, amusing and clever new adventure game. Although the game itself is not particularly difficult, the unfamiliar environment, strange language and odd customs of the natives will give even the most experienced adventurer some hours of enjoyment.

On screen icons can be used to navigate around TONETOWN and to accomplish many of the tasks you'll be faced with, although some typing is still required (and most adventurers seem to prefer typing their commands anyway). There is also HELP available in the form of Ennio...a somewhat precocious mutt who is very wise in the ways of TONETOWN and will help you navigate around, tutor you in how to be 'tass' and give you some clues on dealing with the scaley Franklin Snarl. An enjoyable and well done adventure. Recommended -Art Lewis Kimball

LABYRINTH: THE COMPUTER GAME. Graphic Adventure. $34.95 (C64) from Activision, Mountain View, CA

Lucasfilm Games has joined with Activision to release the home-computer version of LABYRINTH. If that doesn't impress you, then you haven't seen or heard about the movie...and you probably don't care. If you DID see the movie, you'll enjoy and be impressed by this adventure game. To quote Activision...'Welcome to the world of the Labyrinth. You should have no problems in this little kingdom: a few riddles, a few mazes, plenty of goblins. You're sure to find your way out in time...but if you don't, you will become the sole property of The Goblin King. Forever.'

Since the whole theme of the movie was being trapped in a maze, this was a natural for adaptation as a computer game. All the familiar characters are there to greet you: Fireys, Ludo, Hoggle and Sir Didymus. And you'll recognize some of the places you'll see as well: Bog of the Eternal Stench, the Wise Man's Garden, the Wall of Hands etc.

The opening of this game is really very clever. Instead of finding yourself immediately thrust into a life-or-death situation when you load the game...you'll find yourself in

relatively peaceful surroundings. Without giving too much away, suffice it to say that you'll have to figure out a couple of things you'll need and then make your way to the theatre where, after dealing with shortchange artists and cold popcorn, you can finally relax and enjoy the movie. Well...maybe 'relax' is a bit misleading...because suddenly you ARE the movie!

Finding your way through the maze is not going to be easy. If you've seen the movie, you'll have a head start on others because you'll be familiar with some of the puzzles and most of the characters...but any reasonably creative adventurer will soon figure out what's expected.

This game can be played with either keyboard or joystick or (as I did,) a combination of both. All needed commands and inventory items are contained in a scrolling menu at the bottom of the screen with verbs on one side of the screen and nouns on the other. You can use the joystick to scroll to the command you need or type in the commands. The software will not allow you to type in commands that don't exist or ask for items that don't exist. As a matter of fact, commands can be abbreviated to one or two letters in most cases.

The graphics are very impressive (as are most Activision games) and the puzzles are clever and sometimes humorous although some of the riddles are infuriatingly obscure. A very enjoyable game. Recommended. -Art Lewis Kimball

Heart of Africa, Electronic Arts, 19.95, Joystick, DOS protected.

Heart of Africa is a graphic adventure where the player controls an explorer in Africa. The object is to find the tomb of the ancient Egyptian Pharoh Ahnk-Ahnk. The pogram documentation is good. It gives the information needed to control the explorer, without giving away too much. The thrust of the game is to gain hot-warm-cold type clues from the native chiefs. There are several ways to do that, one is to give the chief the special item he wants, one is to give the chief a large amount of gifts, and one is to hold your gun at the chief's head. The special items (Gold, silver, copper, emeralds, ivory) can be found by giving the first tribe's chief in a geographic area enough gifts, he will then tell wher a special item is (you have to give even more gifts to learn his clue about Ahnk-Ahnk). The extortion method is not recommended, as that will make that tribe hostile to you and you will not be able to buy food there. The clues are given in the native's language, so you need the book to decipher the clue. The graphics are excellent. The animation and map scrolling are very good. The game has a restart feature. The game has a save feature, however you can only save the game at a major city. The game is simple and fast to play. I would recommend this game. Robert Unglaub.

Maxi-Golf, 29.95, Adventure Intl., C-64 1541 Drive. Joystick required.

Maxi-Golf is a thinking simulation of golf. There is no arcade action, all commands are entered into the program, and the program does all the results. You select the stance, this determines the direction of flight for the ball. You select the club, this effects the distance and the accuracy of the flight of the ball. You select the strength of the stroke, this determines the distance of flight (within the parameters of the chosen club.). You select how much wrist snap, this determines how much hook, or slice in the flight of the ball. The program then uses this input to determine the result of your shot. It is good for those who do not have good reactions, as the results are all judgment. It does not require hand-eye coordination from the player.

The graphics are of average quality. The animation is very poor. There is one major problem. The program is limited to nine (9) holes in one course disk. For a program that tries to be a Pro-Golf simulation, this constraint seems odd. It also only keeps score for the nine holes, there is no way to link two nine hole 'courses' to make one eighteen hole course. The program does have an interesting system that allows you to design your own nine hole course, and set your own par for each hole.

There is no way to save a game in progress (not necessary due to shortness of required playing time of nine holes). There is no way to restart the game from within the program. Overall, I would give this program an 'Average' rating. Robert Unglaub

ABASIC Cribbage, Solitaire (Canfield & Klondike) by David Addison, Public Domain, Disk, Amiga with MetaComCo ABASIC.

David Addison, master of ABASIC, has done an excellent programming some very popular card games with very nice color graphics and sound. All games are mouse controlled. Cribbage is the classic card game battle. The computer plays a good game but with good strategy, it can be beaten. The screen display is OUTSTANDING.

Milestone is otherwise known as Mille Bournes, a game where one tries to accumulate 1000 miles (points). This one plays a good game, but lacks any graphics. Play is quick and easy.

Canfield and Klondike are two SOLITAIRE games that have often had their rules merged to create the game generically known as Solitaire. In Candfield you have a stack, four bases, four positions to build up from and a pack that is gone through three cards at a time for as many times as you wish. The bases are built up from whatever card is turned to start with. The four positions are built down with alternating colors. Any position that is empty, is filled from te stack first. Cards may be played from the stack or pack. In Klondike, your base is composed of one up, one down-one up, two down-one up, on up to six down and one up. You build up from each Ace. Colors . The remaining pack may only be gone through once, one card at a time. This game is a popular gambiling game with each pack bought for $50.

These games are all very well done and very easily controlled using the mouse. Playing Cribbage with a semi-automatic scorekeeper is very nice. Being public domain, these games are relatively easy to find and offer nothing to complain about except the normal consequences of losing. Playing solitaire by the rules with no chance of cheating. Highly Recommended, each game is available separately. Roy Wagner.

ABASIC Monopoly, Backgammon, Othello, and MileStones. By David Addison, Public Domain, Disk, Amiga with MetaComCo ABASIC.

David Addison is the master of ABASIC. He is able to prove that it can be used to do things that many never thought about. He decided to use it where others turned to MicroSoft's AmigaBasic as soon as it became available.

Monopoly was his first game. It is only one player against the computer, but it contains all the elements of this classic board game. It is done completely with colors and sound (anything without these on the Amiga is hardly worth considering). The game moves fast and is fun. Backgammon has a nice colorful board, but beware of the 'A' in the middle as it is used to end the game. The computer sometimes takes quite a while with it's move, especially when it has doubles. As a beginner to this game, I enjoyed

playing. Othello is the classic game of board frustration with the computer always seeming one step up on we mere humans. Fortunately David does NOT use the SAY command to 'tell' us how badly we are playing in any of his games. The three dimesional display is quite impressive.

For public domain cost (download time from a local or national BBS or from a user group or public domain distribution channel), thes are high quality games with few bugs. Play is quick and easy using the mouse. They are colorful and use sound.

Menu options and game instructions are not available. A more graphic version of MileStone would have been nice, but certainly more work than is necessary to enjoy this well done game. I'm sure some serious players of these games might find fault with the limits of the computer player, but for kids or casual players these are great. Some might have to seek out a copy of ABASIC and learn to enter STACK 8000 before starting. Installation instructions are provided with many versions. Remember, the BASIC code is there, so YOU CAN change anything you don't like. Highly Recommended. Roy Wagner.

Balance of Power, MindScape, 49.95, Amiga Disk. VERY Protected, Disk error and words from manual.

This program is an excellent simulation of world wide bi-polar politics that can end in nuclear destruction. It can be played at four levels of complexity by one or two players. Only the USA and USSR may be active 'players'. The game uses an extensive base of data and techniques of artificial intellegence to portray a very realistic exchange of political activities by both the USA and USSR in 'dealing' with 62 other countries. The program makes extensive use of Amiga menus and Mose control.

Excellent documentation and an optional book from MicroSoft explain all aspects of the simulation. The screen displays are excellent as are the extensive details that have been covered. Game play is easy, though the thought processing may be complex. This game is very educational when played from either side.

Would have liked to print out a summary of actions and the graphics that are displayed. I would highly recommend this program to those interested in global political strategies and political simulations. Roy Wagner.

Transylvania, Crimson Crown, Oo-Topos, 29.95 each, Polarware, Copy Protected Amiga Disk.

These are your standard graphic fantasy-horror adventures (vampires). Graphics display can be turned off. Some options are selected using the mouse (save, load, new, list, N-S-E-W).

Polarware 'claims' that they are trying to price their products at very competitive prices. The Mac and Atari ST versions of these same games are priced 19.95, C-64 version at 15.95. When asked why the Amiga version was so high priced, they claimed that doing the conversion for the Amiga was so very hard and cost so much more that it had to be priced higher.

This is the first company that I have ever heard claim that doing a program for the Amiga was difficult (especially over that for the Mac and ST). The final product is NOT that good. The graphic display is SLOW and uses SLOW fills. I think that they probably got stuck with someone who did not know what they were doing and tried to FORCE Mac and ST coding onto an Amiga. The product is not worth the price. Not recommended. Roy Wagner.

SubLogic Football, 39.95, DOS protected, Joystick & Keyboard for C-64.

Football is a strategy/arcade simulation of pro-football. The atrategy is in the selection of a play formation. The arcade action is because you control the movement of the ball carrier (or the main defender) with the joystick. The play selection is varied and well explained in layman terms (no football jargon). It is easy to understand the plays because they are defined in general terms, so you can see what the play is trying to accomplish. The documentation is excellent. The program is presented in an organized fashion. The options available and how to access them are clearly defined. The program, however, has some problems. The graphics are poor quality. The animation and scrolling are very poor. The perspective of the field is very poor. There is an error in the program, the program does not account for you running a kick back for a touchdown. If you run a kick back for a touchdown, it has the oposing side kick off to you. It is somewhat interesting in that you have access to the data base and can alter the team's ratings for those who like to demolish the computer (I made my team's stats all maximum and the computer's team all minimum, I won 224-0). Overall, I give this program a 'Not recommended' rating.

10th Frame, Professional Bowling Simulation, $39.95, Access Software, Roger and Bruce Carver, Joystick Req. One to Eight Players.

When I had an Apple (back in '80) one of my favorite games for it was a bowling game. It was a very good game but it wouldn't hold a candle to 10th Frame. When I sold the Apple to fund my CBM collection there were only a couple of public domain arcade-style bowling games around. I starved for a good bowling game. The wait is over. From the Carver Bros., who brought us 'Leader Board' (the BEST golf simulation for the C-64) golf, comes 10th Frame. It is quite simply one of the best sports simulations I have played. Not so much in dazzling graphics and realistic sounds, 10th Frame has all the aspects of real 10 pin. All the variables of real bowling are there: the speed, the turn of the ball, the hooks, the pin action, all are accurately formulated. I am impressed especially with the pin action and reaction. I don't think you can come any closer on a 64K micro, the mathmatical truism of the pins being hit. Throwing the ball and slicing the head pin can leave you 'the bucket' or a shot dead center can give you the dreaded '7-10' or '4-7-10' splits. Gutter-balls, cross alley spare-bowling, rocking pins, you can even get the bad tap and leave the sticky 10-pin!

Game play is excellent. Choose from one to eight players either in League or Open Bowling. Three levels of play; Kid, Amature, and Professional can be played among the players allowing a kind of handicapping so your kids can play more on a competitive nature with better players. You use a graphic representation similar to Leader Board's which I find very well thought out. Press and hold your button for speed of throw, release it, press again for the hook of the ball, and listen to the roll of the ball down the alley and hear the smash of pins. The accuracy of pin action and ball control make this a TRUE

sports simulation. I rate this game one of the best of the year from Access Software. Thank you Bruce and Roger, I NEEDED this! JO.

Gamestar/Activision,Championship Baseball ,$34.95, DOS Protected. Joystick and Keyboard, One or Two Player.

Gamestar's Baseball had always been my favorite baseball game. Though not heavy in statistics and hi-res action graphics, it was the play of the game and realism of action that keeps me playing it. With the revision (update) to Baseball comes Championship Baseball. All that the first version lacked, is now incorporated into an EXCELLENT game. Super graphics, optional play-types, hi-res graphics and some of the statistical power of other baseball games, Champ Baseball has all the makings of a GREAT sports simulation.

Split screen hi-res graphics showing the playing field and the pitcher/batter confrontation are very well done. You can now choose and construct your own teams of players and play league games or just exhibition games. All the stats for your players in league play are kept intact. All the pitchers that you choose players are rated on three separate skills; speed, control and stamia. While your fielders are rated by batting, catching, running and throwing. When you are pitching in the game, you have eight different pitches and you control all the players while the batting team controls the bat swinging and base running duties. You can even slide under tags. While the game plays, so too does the organ found at all ball parks. Crowd noise goes approprietely to the action of the game. After league play you'll get a sports page on the screen listing your team (along with others) standings in the division you have chosen.

Darrin Massena, Scott Orr, and Mark Madland have done an excellent job of improving on an excellent game. I highly recommend Championship Baseball from Activision.

Grandma's House, Spinnaker Software, DOS Protected, Joystick Req. One Player.

If you've been scanning the discount department stores you've probably noticed an interesting situation. Games that once sold for between 29 and 39 dollars are being DRASTICALLY reduced in price. Grandma's House from Spinnaker was one that my family found.

GH is similar in idea to the now defunct CBS game 'Dream House'. Your child pick who they want to be from a wide cast of charactors from Little Nilly, Mom, Dad, and Jeff, to Little Lucy and Cousin Bud with each charactor displaying different characteristics.

Your child can take these people to many different places with the goal to explore and bring back exciting objects to Grandma's house. Go to the big city or even to the jungles to pick up items of interest. Go door to door discovering new scenes of interest.

After picking objects, the child must bring them back to his/her Grandma's house to arrange them in infinite ways. My seven year old, who loves 'Dream House' found this game to be fun but not quite up to his long lasting interest mode. A good game/educational program I would recommend picking it up at a discount for your six to nine year old. JO.

World Games, EPYX, $34.95, DOS Protected, Joystick Req. One or Two Player. Graphic Sports Simulation.

Just when you thought EPYX couldn't top the last Winter Games game, here they come with another! World Games takes you fearless armchair atheletes around the world to Russia for weightlifting, Japan to Sumo wrestling, Scotland to Caber Toss, Canada for Log Rolling, France means Slalom Skiing, Mexico; Cliff Diving, and Germany for Barrel Jumping. Just as you've come to expect in the

sports 'Games' from Epyx, the graphics are stunning, sound realistic, and game play excellent.

What I think sets this set of sports simulations apart from the others before is the charactors in this game. You have the controls as normal but there are programmers of 'World Games' that have a good sense of humor. If you have Winter Games II you saw a glimmer of it, but in World Games, it really is fun to mess-up once in awhile. Log rolling, if you fall off and lose, your player splashes around and soon you see a hint of 'Jaws'. Barrell jumping gives you turning blue in ice water and shattering barrells upon not completing your jump. So, as in the other sports games from Epyx, timing and joystick control are everything. For all who enjoy the sports games of this genre, I highly recommend picking up yet another sports simulation, World Games, from Epyx. JO.

10th Frame, Review Number Two.

If you liked playing golf with Leader Board, you'll love 10th Frame, the new bowling simulation by Roger and Bruce Carver. One to eight players can participate in either league play or open bowling. There are three skill levels: Kids, Amateur, and Professional. The joystick controls the aim, speed, and hook of the ball. (It is very similar to the controls in Leader Board). It's easy to learn, but tough to master- Just like real bowling. The graphics, sound, and animation are outstanding. The movement of the bowler is so well done you almost think he's real. Close your eyes and listen as the ball is rolling down the alley and you'd swear you're at the local lanes. Don't worry if you don't know how to keep score. The computer does it for you. You can even make a hard copy on your printer. The manual is clear and concise. The disk is not protected, so you can make unlimited backups. However, the security key (dongle) that is provided must be plugged into the cassette port for the game to run properly. So if you're tired of the crowds and can't ever find a ball that fits, have no fear. You can now enjoy a real game of boling from the comfort of your own home with 10th Frame. Highly Recommended. George Lippman.

Championship Basketball: Two On Two $29.95 Strategy/arcade for the C-64. From Gamestar/Activision. 90 day warranty. DOS Protected. Joystick.

I must confess that I am not a great joystick jockey. I've even felt my nose turn skyward a bit when someone mentioned an arcade game they thought was great. I've always preferred games which required strategy more than reflexes. Thus, though I've tried nearly every game on the C-64 market, few held my interest long. But that was before Two On Two.

This basketball game is probably as close to true simulation as programmers are going to get using the C-64. The contest here is between four players, two against two. Control options include: (1) you can control one player and have the computer co-control your teammate as well as control both opposing players; (2) you and a friend can control one team and play against two players controlled by the computer or; (3) you can control one player, a friend can control an opposing player and the computer can help both sides by co-controlling both side's team member.

The game includes an empty gymnasium where you are free to practice any time in order to fine tune your skills. Or if a friend wants to join, you can practice with or against each other. This practice area allows you the freedom to practice ball handling, rebounding, jump shots, slam dunks, tip-ins, etc. There is no scoring here, simply practice. Once you feel you are ready to play another team you can further your practice by scrimmage in an exhibition game or enter direct league competition. The exhibition play is as tough as in a real game, but the results won't effect your league standings.

League play is where Two On Two gets serious. You must establish a team in either the North, South, East or West division. First you must give your team a name and list yourself (as player/coach) as well as rate your abilities (don't worry, you can lie about your skills). Next you must draft a teammate from the 10 available. I usually pick Oscar Dunbar, a great point guard as well as a good shooter inside and out. Once done all the information is saved to the original program disk so you need set up your team but once. However, should you decide to re-evaluate your skills or want to change teammates or divisions, you are free to do so as often as you want. After each game the screen will report each teams statistics, such as score, accuracy percentage, number of blocked shots, steals, etc. The top scorer is also listed. Its a nice feeling the first time you are top gun.

With that all taken care of, you are ready to battle your way to a divisional championship. This is when Two On Two becomes addictive. Before each game the divisional standings are displayed. The first team to win five games more than anyone else wins their division and advances to the playoffs. In the playoffs you battle the other divisional winners for an overall championship crown.

What happens after the playoffs, I can't say. I've only won my division twice and lost both times in the first round. But getting there was as much fun for me as if it had been a real-life contest. All four Two On Two players move and respond like real players. You are free to pass the ball as often as you wish. If you are a great outside shooter, you can keep the game close, or put it out of sight with long three point bombs. Or if you are either quick or big you can battle inside for a crowd pleasing slam dunk. On defense you can pick either man to man, high or low zone or a variation of the two. It's important to keep track of each opposing players skills so to know which defense to pick. (A chart in the 'Player's Guide' lists each player's strengths and weaknesses.)

You can call on a complete arsenal of offensive plays as well. For example, you can either set a pick for your teammate or ask him to do the same for you. Like in the real game, it's important to split the opposing players to your benefit. For instance, if your teammate is a hot outside shooter, a good plan is to draw the other team after you in a corner and then pass the ball off. If your teammate is free he will either pop it, or maneuver for a better shot. If the other team leaves you open, you can call the ball back to try your own shot.

As in a real game, you must not only out manuever the other team, but you must both out shot them and out defend them. It's as important to use the clock wisely here as it is in the NBA. In a close game, the best plan may be to get a lead and then stall the ball, taking only high percentage shots. Or if you are behind, you can intentionally foul to kill the clock, or simply call a timeout to figure out what to try next.

The graphics here are well defined and are properly proportional. The clever division of the playing court gives the illusion of a three dimensions, yet supplies a clear view of each player's moves. The sound effects, especially the crowd's reaction to an impressive play or a close game, accurately create the environment of a real game. Because the game is completely controlled by joystick input (except for calling a timeout) and each player on the field reacts in real-time, the screen accurately resembles a real basketball game.

The inclusion of defensive fouls, charges, three second delays, three point plays, timeouts, free throws and a 24-second shot clock means Two On Two not only looks like the real basketball, it plays like real basketball. The only thing not regulation is the team size - two men instead of five. I really don't mind the size limitations since you are still able to double-team an opposing player, set picks, pass, etc. I would suspect anything larger than two sided

teams would be difficult to sensibly construct without creating a jungle of joystick cable and a room full of joystick jockeys.

In short, I found Two On Two almost addictive. I now, subconsciously, reserve a half hour each day just to try to get beyond the divisional championship. The most pleasant feature is that, by picking your division (North is the easiest while the West is the toughest) you can play and beat the computer's game. Too often, even with Gamestar/Activision's other sports titles, playing the computer controlled team meant you would almost always lose. That's not true here. The four difficulty levels (four divisions) are perfectly measured for a satisfying yet challenging game. If you are looking for a good sport simulator with just the right mixture of action, strategy, sound and graphics, look no further. Highly Recommended. Gary Fields


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THE TRANSACTOR BOOK OF BITS AND PIECES #1 $14.95 Book from Transactor Publishing, Inc. Ontario, Canada

If you have piles of magazines laying around, like I do, because you're afraid you're going to want to look up that little programming tip someday; this book will be a welcome addition to your library. It takes up about 1/100th the space, and has all but the most insignificant programming tips from the Bits and Pieces columns from Volume 4 through Volume 6 of The Transactor.

The book is extremely well done. The items are listed in chronological order as they appeared in the magazine. In other words, Pet stuff will be in the front and Amiga stuff will be in the back. All the Bits are cross referenced to other Bits that may be similar or address similar issues elsewhere in the book.

Since the Bits are included in no order other than age, a comprehensive Index is a must! Karl Hildon is to be congratulated on one of the best and most comprehensive Indexes I have seen. It's extremely simple to find a Bit on any facet of programming you can imagine...even individual POKEs are listed in the Index!

Within five minutes of picking up this book, I solved a problem I had been trying to solve for several months. It turned out to be one of Jim Butterfield's famous "things-everybody-knows-but-nobody-told-you" situations, but about 50% of the problems in programming turn out to be just that...and this book will give you a GREAT place to start looking before you start swearing!

This is a NECESSARY addition to your library if you ever intend to do anything other than run commercial programs on your computer! Highly Recommended. -Art Lewis Kimball

SPEEDTERM $44.95 for C128 from Abacus Software Grand Rapids, MI 49510

SPEEDTERM is an 40/80-column C128 Terminal package which can be used with either 1541 or 1571. (It autoboots on a 1571).

While this is a relative simply terminal program, without all the 'bells and whistles' that have become the rage on C128 programs, it is quite a powerful program and has some nice features.

The terminal mode emulates VT-52 and all features are accessed with commands or by using the Commodore key with another key. This is NOT a menu-driven program.

If you have used VT-52, the program will be very easy to use. If you have not, the extensive instruction manual included with the package will help you become comfortable with the program in just a short time. Commands are mostly straightforward and easy to remember and their are some nice features. For instance, to do Punter Upload (SPEEDTERM supports Punter C1 and Xmodem) you simply go to Command Mode by typing Commodore X and then type 'TP' (for Transfer Punter) and the rest is done for you! One aggravation for me is to have to TELL a terminal program what kind of file I'm going to send. It seems to me that since the computer is a LOT smarter than I am, it should be able to figure that out for itself. SPEEDTERM does that...and tells you the type of program, number of block, and how long it will take to upload.

The program has an AUTODIAL (with redial); complete control of RS232 parameters, complete support of DOS commands and a 45k buffer. One nice feature is the EXTRACT command, with which you can extract any portion of material in the buffer and send it to disk or printer without affecting the rest of the buffer. This is very nice when you have a full buffer that is too big to feed into a word processor, or you have saved several different types of things in your buffer that should be saved seperately.

Unfortunately, when I tried to upload to my bulletin board using the Punter Protocol, the program locked up three seperate times. This could have been a problem with this particular disk or a telephone company problem. Since all other features worked extremely well, I hesitate to condem what is otherwise a good program without further investigation. -Art Lewis Kimball

MAGIC DISK KIT Disk drive diagnostic aid. $29.95 from Robtek

MAGIC DISK KIT is a two-disk package which every Commodore 1541 owner should have in his library. The program disk contains software to check the speed and alignment of a 1541/1570 disk drive and the second disk in the package is a head cleaning disk.

Until this point, 1541 PHSYICAL EXAM by Cardinal Software was the only RELIABLE disk-checking program available that we've tested. MAGIC DISK KIT seems to do the job every bit as well, and has some extras.

The speed tests goes through 10 consecutive checks of the drive speed and reports a continuous graphic representation of speed variations as well as a numerical display of the speeds. It ends in an average speed and reports whether this speed is acceptable. It also informs the user if the drive belt is okay. The information can be dumped to printer.

The Alignments Test checks inside, middle and outside tracks in half-step increments by checking track 1, 1.5, 2, 2.5, 3, 17, 17.5, 18, 18.5, 19, 33, 33.5, 34, 34.5, and 35. A graphic representation of the alignment check is represented on the screen and can be dumped to printer.

The program allows selection of device number so that it can be loaded on a good drive and then used to check a drive too badly out of alignment to load the program.

The head cleaning disk is a nice extra, and is designed to be used with double-sided drives, although the testing programs are not.

MAGIC DISK KIT was used to check several drives and checked against the results given by 1541 PHYSICAL EXAM. In every case, the speed tests were identical and the alignments tests showed the same results with the exception that MAGIC DISK KIT is a little more precise as to where the problem exists. When used on a drive with a KNOWN speed or alignment problem, MAGIC DISK KIT showed results that were every bit as accurate as 1541 PHYSICAL EXAM.

As with Cardinal's program, MAGIC DISK KIT will NOT work on an MSD Dual Drive and although it works fine on a 1571 in 1541 mode, it locks up the system completely when attempting to load it in 1571 mode. Hopefully a 1571 version (and an MSD version) will be forthcoming.

As stated above, in every case MAGIC DISK KIT performed every bit as well as Cardinal's program and with the addition of a head cleaning disk and the lower price, this is a much better deal. Recommended! -Art Lewis Kimball

DELUXE VIDEO Electronic Arts $99.95
Authors: Mike Posehn and Tom Casey
Amiga computer - 512K DOS protected; unprotected version available for an additional $20.

Deluxe Video enables you to create your own animated graphic productions that can be shown on the Amiga or recorded and displayed on your VCR. There are a number of uses for this package, including sales presentations, education and training, creating titles and credits for home videos, entertainment, advertising, etc.

This is a fairly complex program, but it is not difficult to use once you follow the examples outlined in the manual. The program operates under Workbench and uses windows, icons, pull-down menus and other mouse-operated structures that facilitate ease of use. Included with the package are 3 disks that include the main program as well as a number of utilities, sample videos, and libraries of objects, scene generators, and music. One of the disks is known as the player disk, and can be used only to play back videos. This disk is not protected, and you are allowed to distribute these to friends or business associates so that they may view the videos you create. There are no programs included in the package that allow you to draw scenes and objects or create the music for the videos; this must be done with separate programs, such as Deluxe Paint and Deluxe Music ( or other IFF-compatible software ). Once these are created, they can be incorporated within videos with some limitations. An object in Deluxe Video can be made by creating a brush in Deluxe Paint, a scene by creating a picture in Deluxe Paint. These pictures and objects cannot be hi-res, and the Deluxe Video allows only eight separate colors in each (the program allows you to automatically choose the most used eight colors).

There are many nice features in this program that allow you to create some great effects. These include animation of objects, strobing effects, rotation of text, fading in and out of scenes and objects, and wipe effects. You may also chain videos together to be played in sequence. A utility program called the Framer allows animation by creating different pictures of an object and then linking them to be displayed one image at a time in the same object space. Other utilities allow you to unpack parts from existing videos for use in other videos, and compress videos by removing unnecessary tracks and unused parts.

Altogether, I was impressed by the ease of use and power of this program. -Recommended. Mark Lofland.

FastFile with Report C-64/128, $59.95, Protected by dongle in RS-232 port. From Interactive Mini Systems, Inc., 5312 W Tucannon, Kennewick, WA. 99336. Warranty: 15 day 85% money back guarantee. 30 day guarantee for defective disk or dongle.

This is a data base program that provides extremely fast access to the information stored in it. This is due to the entirely memory resident data storage system. Although this may seem an unduely limiting situation on the c-64, the program design has allowed a large amount of data to be stored in the available memory. As a comparison, a data file generated by PFS FILE that took up approximately 60 percent of a 1541 disk took up approximately 50 percent of the available memory allocated to data storage in the computer.

The program allows 36K bytes of data storage per data file. The data file allows 256 bytes per record and 31 fields per record. The program has a report system that allows report formatting and editing directly from the data base. Data may be sorted or examined with a maximum of 5 fields of uniqueness. The program disk contains 4 pre-designed forms to get the user going quickly.

This data base is the quickest data retriever that I have seen. From the time the key that activates the search function is pressed to the time the record is displayed is uinqueness is desired or the full 5 levels are invoked. Data sorting for report generation is equally quick.

The program comes with a 28 page manual. This may seem very small considering the size of the manuals for SuperBase or PFS FILE, however, FASTFILE is almost completely menu driven and doesn't need much in the way of additional explanation.

The program is protected by a cartridge that plugs into the user port. There is no protection on the program disk and it may be copied by any file or whole disk copier available. The data files generated by this data base are stored in PRG format on disk and more than one data file may be stored on a disk. My suggestion is to place FASTFILE on every data base disk you create.

In summary, this is a powerful, fast, and easy to use data base. It is not for everyone, since it is limited to one screen of data per record. It is further limited to 8 characters per field label and 30 characters per filed proper. I have found, however, that for all of the applications that I have worked with this is not a large limitation. It just requires alittle more work in designing the record format. If there is weakness in FASTFILE, it may be in the report portion of the program. You are only allowed two options. Either you may print a report utilizing a columnar format based on the field titles or you may print data without titles in a user defined format. In practice, this does not seem to be a large deficiency.

Because I am interested in quick data retrieval and the ability to produce reports with data broken down in many different sort orders, I rate this as HIGHLY RECOMMENDED. Milton V Shultz

Aegis Art Pak #1, 34.95, Aegis Software, Disk, Amiga and IFF Paint and/or Animation Programs Required. Not copy protected.

This collection of IFF clip art is done by one of the best Amiga artists around, Jim Sachs, who has also done some outstanding graphic work on the C-64. The art work is all done on a

common background color and using the same color pallette so that selections can be easily combined to create your final picture. The art work of Jim Sachs is very detailed and several items are provided from different points of view so that they can be used with Aegis Animator. There is clip art of African animals and dinosaurs, city and rural buildings, trucks and cars, and many other images.

The outstanding details, use of common pallete, and considerations for animation. The price is high, but so is the quality. Highly recommended for anyone with Animator, Images or DPaint. Roy Wagner.

Money Mentor, Sedona Software, 99.95, Not copy protected disk for Amiga.

This home budget package can handle 30 separate accounts, 100 income and 100 expense categories. Processing options are easily selected using Function Keys or Mouse. Input is done very consistently in an input window and facilitated with the Mouse. Output screen graphs and reports are available for Actuals, Budget, Variance, % Variance and Projections. Reports and checks and can be sent to your printer. All input can be modified, amounts split between several categories, and amounts transfered. Check book reconciliation is also included.

Documentation is excellent and includes INSTALLATION, TUTORIAL, and explanation of all fields and options. Screen dareplays is very well done with an excellent use of color. Printed reports are nicely formated. 'Artificial Intelligence' techniques are used to provide for very easy data entry. Overall program structure has been very well thought out.

The program is written in AmigaBASIC and slightly slow in response. Some of the documentation does not match with display in tutorial section, but not too seriously. Printed reports default to 11 inch wide paper (can be reset using PREFERENCES to 8.5 paper and smaller print). Graphs cannot be printed. Printed reports cannot be modified. I highly recommend this program for all home money managers. Roy Wagner.

LT. KERNAL [update 28:12 - 36:16] $895 20-Megabyte Hard Disk Drive from Fiscal Info/Xetec, Inc.

In the last issue of Midnite, a review of the LT. KERNAL appeared by Joe Grossinger. It seems to me that that should more properly have been included in the LETTERS column since it was not really a review of the product. Since the status of this drive has been somewhat in limbo for the past year, I feel an update is in order and I would like to clarify some of the point raised by Joe Grossinger.

The problems stated concerning running a Punter BBS were valid put only to a point. The problems in running BBS 64.4 arise because of changes to BBS64 and NOT because of problems with the drive. The problems arise because Mr. Grossinger was trying to run a BLITZed BBS64 on a drive with a DOS that wasn't configured to run such programs. At the time Mr. Grossinger bought his drive, STARSHIP MPCBBS, a Punter BBS64.3 was running perfectly on the FI drive with no modifications to the program. One irritating bug was present and was never fully solved. Everyone involved in Beta testing the drive agreed that the bug was due to the way Punter's machine code worked. Steve Punter was given the opportunity to work with us in trying to make the system compatible, but declined to assist. I personally told Mr. Grossinger that he would not be able to run BBS64.4 on his drive until the new DOS 5.0 was implemented. There are at least three Punter BBS systems that have been operating flawlessly on the LT. KERNAL

for over a year. There are a couple of minor modifications that had to be done to the programs to make them compatible, but nothing that any SYSOP couldn't accomplish easily. DOS 5.1 has now been shipped to ALL LT. KERNAL owners. ALL versions of BBS64 will run under DOS 5.1. Again there are two MINOR fixes that must be done to the basic portion of the programs in order to keep out of trouble. One is a poke and the other is to alter the program so that the command channel is closed only once in each program module. With those two fixes the program works perfectly.

Mr. Grossinger says there are precious few programs that work properly with the LT. KERNAL. Having used this drive EXTENSIVELY for nearly two years, I must disagree. If program protection schemes prevent a program from being copied onto the drive in workable order, that is NOT the fault of the drive. I have found that if a program can be copied from one drive to another and doesn't check for protection during execution, it will run perfectly on the LT. KERNAL.

When the production model of the LT. KERNAL (only a 20-Meg version will be produced) is released (hopefully within the next 60 days) most of those protected programs will be executable on the LT. KERNAL, as well.

I stand by my initial review of the drive after an additional period of working with it. With a load speed SIXTY-FIVE TIMES FASTER than the 1541; and an extended DOS that provides nearly every command (except FIND!) that a programmer could ask for, the LT. KERNAL is the best drive around. In addition to that, the price is equal to or LESS than other 10-Meg drives advertised. This product is highly recommended. -Art Lewis Kimball

Exerpts from:

MSD Information Exchange News by Paul Eckler, 2705 Hulman St., Terre Haute, IN 47803.

The Exchange is not affiliated with any commercial organization. Recommendations are based solely on the experiences of users. The Newsletter will appear irregularly-probably every other month. Subscriptions are $5 for five issues. Previous issues are on the Exchange Disk. When communication with The Exchange, self addressed stamped envelopes are appreciated.

Memory Map Disk.

The memory map of MSD DOS 2.3 has been completed. Acomplete listing of subroutines and DOS memory locations is now available. An article on the subject including a brief introduction has been submitted to Transactor for publication. The text is on disk in sequential files. It's available as usual by sending in a blank disk with return postage.

The software compatibility database now includes over 330 entries. The Superbase file continues to be available. The sequential file has recently been updated. Additional information for the database is still being sought.

Two additions to the sequential files are: a list of shops repairing MSD drives including the MSD authorized list and a list of parts for MSD drives. If you've had your MSD drive repaired, please let us know who did the work.

Standard practice is to supply the Exchange Disk with programs on the back and either Superbase or sequential files on the front containing primarily the software compatibility data. When sending in an Exchange Disk, please indicate what you want. Any combination of disk sides can be supplied. The choices are Memory Map Seq: Memory Map SB: Software SB: and Programs 1 or 2.

DOS Upgrades

For those in need of a DOS upgrade, the best offer so far comes from Basement Boys Software, the makers of Fast Hack'Em. Fast Hack'Em requires MSD DOS 2.3. Basement Boys offers to upgrade DOS free if you send in your ROM chips.

SD-2 Copy Programs

As noted last issue, Fast Hack'Em and MSD Shurecopy from Megasoft are the two most popular copy programs for the MSD dual drive. Fast Hack'Em is in the process of releasing version 4.0. They are shipping an interim version 3.9. Users report that 3.9 will not load on an MSD. Fast Hack'Em promises to replace 3.9 with 4.0 when its ready. Version 3.0 is compatible and highly regarded.

The Ultrabyte Nibbler, version 2.1 includes files for the SD-2. It is reportedly much faster than Shurecopy in copying a whole disk. The Ultrabyte Nibbler copies only an entire disk. Shurecopy includes utilities such as copying single files (including relative files), scratching files, newing a disk, etc. Both Ultrabyte and Fast Hack'Em work only when serially connected.

Since the Ultrabyte Nibbler resembles Fast Hack'Em (both are parameter copiers), it's likely that Fast Hack'Em is also faster than Shurecopy. The Exchange received 3.9 and couldn't check.

An article on copy programs in the November issue of Transactor included notes on MSD compatibility. It listed Disector 3.0 as partially MSD compatible. Some users find few of the Disector files MSD compatible. What's your experience?

SD-1 Copy Programs

No high speed copy programs for the SD-1 were reported following the request in the last issue. One user reports having seen one in the public domain, but details are lacking. The Exchange is working on the conversion of '4 Minute Copy', a high speed public domain copier for the 1541. Its reported that two other public domain programs, "3 Minute Copy" and 'The Austrian Copy Program' use the same DOS routine. Hopefully, all three will be available in MSD format when the next newsletter is issued.

Notes

The presence of the save with replace bug on MSD drives has been confirmed. To avoid it specify a drive number (SAVE"@0:name" rather than SAVE"@:name") and don't use it on a nearly full disk. There must be space for two copies of your file.

The trap routine in DOS 2.3 contains a bug of sorts. When software is loaded from disk, the buffers that would be used for most DOS resident programs may be left allocated. M-W loads that should be redirected from 1541 buffer addresses to the MSD equivalents are lost. A few DOS resident programs may become compatible if the UJ command is executed from the immediate mode after the program is loaded, but before it is RUN. Use OPEN 15,8,15,"uj":CLOSE 15. If this works make it permanent by adding it to the first line of the program.

DOS Programming

To learn DOS programming, the best book is 'Inside Commodore DOS' by Dr. Dick Immers. It lists 1541 subroutines with a brief explanation. It also contains a discussion of how DOS operates. The MSD routines are similar, but have different addresses. Another book is 'Anatomy of the 1541' (Abacus), which contains a complete disassembly of 1541 DOS.

To learn machine language programming, introductory books include Compute's 'First Book of Machine Language' (generic but well written) and 'The Machine Language Book' from Abacus. 'Programming The 6502' (Sybex) is more advanced, but contains a clearer explanation of the finer points. Tools include a machine language monitor such as Supermon or

HESmon and an assembler such as the Commodore Assembler (for beginners), or PAL 64 or the MAE assembler for advanced features. Once you learn the fundamentals, the next step is to study programs. DOS is a good one to study since it is wtritten for fast execution and to conserve memory. In addition to the memory map, references include Compute's 'Mapping the 64' and Transactor's 'Inner Space Anthology'.

* Article *

BASIC Plus! C-64, C-128 in 64 mode. (c) 1986 Bob Kodadek

Have you ever wanted to have more than one BASIC program in memory at one time and be able to reliably, yet easily, switch from program to program? The C-64's BASIC RAM memory is certainly big enough to allow coexistence of programs, but switching between them would require that a number of delicate operations be performed from the direct mode. Though this can be accomplished, it is a difficult and risky adventure. The required precision in the management of it's zero page pointers, is something that even BASIC has great difficulty with. A single mistake in this area will have disastrous consequences. However, we could write a machine language routine that would provide a new BASIC command to do the job for us. This wedge routine could also contain some very useful programming aids and perhaps some of the commands from BASIC 7.0. It would be convenient to have routines that provide automatic line numbering or read the disk directory, and more, without having to load these as individual programs each time they are needed. If you do any of your programming in BASIC, what could be more convenient?

The accompanying program, "Basic Plus!", is the program we've just described above and more. With it, you can easily and effectively manage as many BASIC programs as will fit into your C-64. It also adds 12 new direct mode commands and a no scroll LISTing feature to your 64's BASIC 2.0. Though it was written entirely in assembly language, you don't have to know a thing about machine code to use it.

About BASIC Plus!

Type in and SAVE the BASIC loader program, listing 1. When RUN, the machine code, consisting of several wedge routines, is POKEd into free RAM beginning at 49152 ($C000) and activated. First we'll list all the new commands and give a brief description of each. Except for the BANK command, which we'll discuss later, the description contains enough information to understand and use each one. Each command consists of a keyword and argument(s), where indicated. Square brackets, "[]", indicate that the argument is optional. Angle brackets, "<>", indicate a required argument. The new commands are as follows:

ADDRESS (address) - Display decimal address in low byte-high byte format. The argument refers to the decimal address to be converted.

Example: ADDRESS 32768 Displays 0,128

AUTO [increment] - Enable/disable automatic line numbering. This command controls an automatic line numbering feature. As each program line is entered, the next line number is printed on the screen for you. The argument refers to the amount of increment to be added to subsequent line numbers. AUTO without an argument turns off this feature. This feature can be used with double spacing. See SKIP, below.

Examples: AUTO 10 Turns on automatic line numbering and increments line numbers by 10.

AUTO Turns off automatic line numbering.

AFFIX ("filename"),(device) - Append two BASIC programs. One program must be in BASIC RAM and the one to be appended must be on disk or tape. The filename specified in the argument will be appended to the program in RAM.

Example: AFFIX"PROGRAM #2",8 Appends PROGRAM #2 from disk to the current BASIC program in memory.

BANK (address) - Switch BASIC to specified RAM location. This command begins by redirecting the start of BASIC pointers to the decimal location stated in the argument, then places the necessary zero byte, required by BASIC, at the location -1. Next it looks for the presence of a BASIC program by checking the high byte of the first link to see if it corresponds to that particular page of RAM. In this event, the program is relinked (See UNNEW) and all other BASIC pointers are reset accordingly. If a matching link is not found, the NEW command is issued. In either case a report is issued (See SHOW) that includes the present start of BASIC, start of variables, bytes used (program length including variables), and bytes free. For your protection, a built in safety will not allow a BANK command to a decimal location less than 2048 or greater than 40703. BANK without an argument defaults to the normal start of BASIC at 2049 ($0801).

Examples: BANK 32768 Switch start of BASIC to 32768 ($800)
BANK 4097 Switch start of bz to 4097 ($1001)
BANK Switch start of bz to 2049 ($0801)

BLOAD ("filename"),(device),(address) - Load a binary file. This command will allow you to load machine language programs, sprite data, hires screens, etc, without effecting the BASIC pointers. Though you must specify the device number, the argument is optional. BLOAD without an argument will load the file into the RAM location specified in the header. If an argument is supplied, the file will be loaded into RAM beginning at the address specified. Syntax here is critical. No spaces may exist between the command and the first quotation mark of the filename.

Examples: BLOAD"SPRITES",8,828 Loads a disk file from drive A into the cassette buffer.

BLOAD"SCREEN",1,1024 Loads a tape file to screen RAM.
BLOAD"MICROMON",9 Loads a disk file from drive B to address in the header.

BSAVE ("filename"),(device),<SA>,<EA+1> - Save memory as a binary file. With this command you can SAVE specified sections of memory, such as a machine language program. The two arguments required are the starting address of the SAVE and the ending address plus 1.

Examples: BSAVE"SCREEN",8,1024,2024
Saves screen RAM to disk.
BSAVE"MICROMON",1,49152,53248
Saves ml program to tape.

DIR - Display the disk directory of the current drive A or B. The directory is not loaded into memory but rather displayed onto the screen. Use the spacebar to freeze scrolling. Press any key to resume, or the STOP key to exit the function. To change the current drive number, POKE location 186 with the desired device number, usually 8 or 9.

Example: DIR Displays the disk directory.

EDIT (Line #) - This function will display the BASIC program line specified in the argument and place the cursor on the first character in the line. In other words, you no longer have to cursor up to the line to begin editing.

Example: EDIT 300

EXIT - Reset all vectors and interrupts and exit Basic Pulus!. Pressing the RUN/STOP and RESTORE keys have no effect on Basic Plus! Use this command to disable the wedge routines when neccessary. To restart, SYS 49152.

SHOW - Displays current BASIC RAM information. This command displays the

current location of BASIC, the starting address of any BASIC program at this location, bytes used ( including variables ), and bytes free to the current top of BASIC RAM.

SKIP [1] - Enables/disables double spacing during editing and LIST functions. Without an argument double spacing is turned off. The only argument accepted is a decimal 1. In essence, skip 1 line. Using this function can make listings much easier to read and edit. Lines are only skipped after a carriage return is printed. Each program line listed, regardless of length, stays intact.

Examples: SKIP1 Enables double spacing.
SKIP Turns off double spacing.

UNNEW - Revives a BASIC program after a NEW command or a system reset. This command can also be used when the BASIC pointers have been disturbed by a LOAD,8,1 command. When you receive the OUT OF MEMORY error, type NEW and press RETURN. Then type UNNEW and press RETURN. Any BASIC program at the current bank location will be restored to good health.

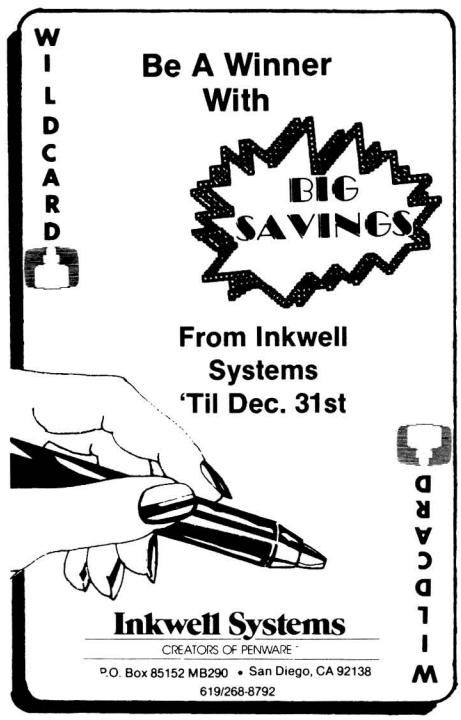
The no scroll feature is used during a LISTing operation. Normally the only control you have over a LIST is the CTRL key which slows the LISTing. To activate the no scroll during a LIST, hit the spacebar once. Hold the spacebar down to display one program line at a time or press any other key to resume. The STOP and CTRL keys function normally.

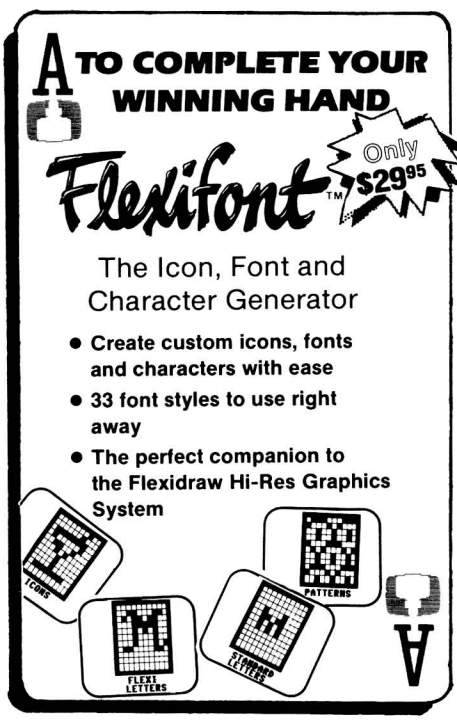
Using the BANK command.

While the BANK command will move BASIC to another location, it remains your decision as to where to move it. This makes the command extremely versatile, allowing maximum use of all available RAM. With this versatility, however, comes a certain degree of responsibility. Common sense would dictate that some care must be taken when selecting a new area to work in. Since all dynamic strings are stored at the top of memory, it is important to stay away from here, using the lower areas of RAM when possible. You must provide enough room between programs for variables and arrays, as the size of each bank is only determined by where you place the next program. The SHOW command will help you by revealing the starting address, ending address, and length of a given program. Unless you begin by using multiple banks, this shouldn't be a problem. Finally, when you BANK to a new RAM location and load or enter a program, inorder to return to it later on, you must know the exact BANK address of that program. It is therefore a good idea to make a written note of these addresses.

Let's imagine that we already have a program loaded at the normal start of BASIC, location 2049. We would like to load another program into memory to use immediately, but without losing the first program. The first thing we must do is find a new location for the second program. We type the command, SHOW, and press RETURN. SHOW tells us that our current program is occupying memory from 2049 - 5000. Since we would like to use the second program more than once, we must estimate how much room we need to have between these two programs. Since there is so much free RAM at this point, we'll leave plenty of room and select location 9000 for our second program. We enter the command, BANK 9000, and press RETURN. SHOW reveals only two bytes used at the new location. This means that another BASIC program was not found and the NEW command was performed on this bank. We can now LOAD and RUN our second program. While it's loading we write down, "second program at bank 9000". When finished with this program, in order to return to the first, we enter, BANK, and press RETURN. Since BANK defaults to 2049, an argument isn't necessary. If we wish to use the second program again later, we need only to look at the address we wrote down and BANK to it.

I am sure that you'll find many other uses for this command. Some you will be aware of immediately and others will become evident after a while. Here is an example you might not think of. The full screen editor is a very powerful programming tool and is sometimes used to merge subroutines or other program lines from one program to another. You load in the program containing the lines to be merged and LIST them on the screen. By LISTing only a few lines, you can cursor up to mid-screen and LOAD the main program without scrolling the screen. Each line is then entered into the main program by placing the cursor on it and pressing RETURN. This new version of the program is now scratched and then reSAVEd. The main restriction here is that only a few lines can be merged at a time. To merge any more lines, you must reLOAD the first program, and continue this entire process until done. By using the BANK command and loading both programs into RAM at the same time, the process becomes much more efficient. You would simply BANK to the second program to LIST the lines on the screen. Then, BANK back to the first program to enter those same lines. It couldn't be easier. Robert Kodadek.



```
1 rem  *-- c-64 basic plus!  by bob kodadek  --*
2 rem  *-- 3164 surrey lane, aston, pa  19014 --*
3 rem
10 ml=49152:print"please wait, reading...."
20 for i =0 to 1161:read by:poke ml+i,by:ck=ck+by:next
30 if ck <> 146114 then print"data error!":end
40 print:print"c-64 basic plus!":sys ml
100 data120,032,138,255,032,083,228,162,078,160,194,142,000,003
110 data140,001,003,162,053,160,192,142,004,003,140,005,003,162
120 data120,160,194,142,006,003,140,007,003,088,162,010,208,002
130 data162,003,169,000,157,076,195,202,016,250,096,120,162,046
140 data160,196,142,038,003,140,039,003,088,169,000,133,011,160
150 data255,162,255,232,200,177,122,056,253,111,195,240,246,201
160 data128,240,086,232,189,111,195,016,250,230,011,160,255,189
170 data112,195,208,227,173,000,002,201,058,176,061,201,048,144
180 data057,173,082,195,240,052,165,020,024,109,083,195,133,099
190 data165,021,109,084,195,133,098,162,144,056,032,073,188,032
200 data221,189,162,000,160,000,173,085,195,240,011,173,080,195
210 data208,006,169,141,153,119,002,200,032,205,194,169,000,141
220 data080,195,076,124,165,169,000,133,212,165,011,010,170,189
230 data088,195,072,189,087,195,072,096,185,070,195,153,000,002
240 data136,016,247,162,026,032,220,194,056,032,240,255,142,074
250 data195,140,075,195,169,255,141,081,195,076,124,165,032,042
260 data192,141,082,195,173,083,195,141,076,195,173,084,195,141
270 data077,195,032,149,194,201,255,240,017,173,076,195,141,083
280 data195,173,077,195,141,084,195,169,255,141,082,195,076,206
290 data193,032,232,194,032,042,192,200,032,149,194,160,255,132
300 data185,173,076,195,133,170,173,077,195,133,171,174,078,195
310 data172,079,195,169,170,032,216,255,176,051,076,206,193,032
320 data232,194,032,042,192,200,185,000,002,201,044,240,008,169
330 data001,133,185,169,000,240,018,032,149,194,240,003,076,124
340 data165,174,076,195,172,077,195,169,000,133,185,032,213,255
350 data176,003,076,206,193,072,160,000,032,047,241,104,024,105
360 data048,032,210,255,076,116,164,032,232,194,160,000,132,185
370 data032,051,165,166,034,164,035,169,000,032,213,255,176,219
380 data134,045,132,046,134,047,132,048,134,049,132,050,032,051
390 data165,166,043,165,044,032,205,189,169,045,032,202,241,166
400 data045,165,046,032,205,189,162,000,032,220,194,165,049,056
410 data229,043,170,165,050,229,044,032,205,189,162,013,032,220
420 data194,165,055,056,229,049,170,165,056,229,050,032,205,189
430 data160,106,032,047,241,169,013,032,202,241,076,128,164,160
440 data001,165,044,145,043,032,051,165,165,034,024,105,002,170
450 data165,035,105,000,168,076,136,193,032,138,255,120,032,083
460 data228,088,076,206,193,032,042,192,032,149,194,201,255,240
470 data011,192,159,176,140,192,008,144,136,076,022,194,162,001
480 data160,008,134,043,132,044,032,029,168,169,000,168,145,065
490 data160,002,177,065,197,044,240,177,032,068,166,076,151,193
500 data032,042,192,032,149,194,174,076,195,169,000,032,205,189
510 data169,044,032,202,241,174,077,195,169,000,032,205,189,076
520 data206,193,173,081,195,240,034,024,174,074,195,160,000,032
530 data240,255,172,075,195,132,198,169,029,160,255,200,153,119
540 data002,196,198,208,248,169,000,141,081,195,076,131,164,076
550 data139,227,072,138,072,152,072,008,192,005,016,010,056,032
560 data240,255,142,074,195,140,075,195,040,104,168,104,170,104
570 data076,026,167,152,024,101,122,144,002,230,123,133,122,032
580 data115,000,240,027,032,194,194,142,076,195,140,077,195,032
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590 data121,000,240,012,032,253,174,032,194,194,142,078,195,140
600 data079,195,096,169,255,096,032,121,000,032,107,169,166,020
610 data164,021,096,189,001,001,240,007,153,119,002,232,200,208
620 data244,132,198,096,189,037,195,240,006,032,202,241,232,208
630 data245,096,200,185,000,002,201,034,208,016,200,162,000,185
640 data000,002,201,034,240,011,232,200,224,017,208,243,104,104
650 data076,124,165,200,185,000,002,201,044,208,243,200,185,000
660 data002,056,233,048,201,010,176,232,134,183,133,186,162,006
670 data169,002,134,187,133,188,096,013,066,089,084,069,083,032
680 data085,083,069,068,032,000,013,066,089,084,069,083,032,070
690 data082,069,069,032,000,017,017,017,145,145,145,000,076,073
700 data083,084,000,000,000,000,000,000,000,000,000,000,000,000
710 data000,189,192,221,192,114,193,241,193,047,194,218,193,150
720 data193,010,193,050,193,252,193,165,195,026,196,069,068,073
730 data212,065,085,084,207,065,070,070,073,216,069,088,073,212
740 data065,068,068,082,069,083,211,085,078,078,069,215,083,072
750 data079,215,066,083,065,086,197,066,076,079,065,196,066,065
760 data078,203,068,073,210,083,075,073,208,000,169,001,162,026
770 data160,196,032,189,255,169,096,133,185,032,213,243,165,186
780 data032,180,255,169,008,032,150,255,169,000,133,144,160,003
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800 data208,062,164,183,136,208,235,166,195,165,196,032,205,189
810 data169,032,032,202,241,032,165,255,166,144,208,038,201,000
820 data240,024,032,202,241,032,225,255,240,026,032,228,255,240
830 data232,201,032,208,228,032,228,255,240,251,208,221,169,013
840 data032,202,241,160,002,076,198,195,032,066,246,076,206,193
850 data036,169,000,141,085,195,200,185,000,002,201,049,208,003
860 data141,085,195,076,206,193,072,201,013,208,076,165,015,201
870 data001,208,070,173,081,195,208,065,165,154,201,003,208,059
880 data138,072,152,072,169,255,141,080,195,165,197,162,000,134
890 data198,201,060,240,011,201,064,208,040,173,086,195,240,017
900 data208,235,169,255,141,086,195,160,200,162,000,232,208,253
910 data200,208,248,104,168,104,170,173,085,195,240,005,169,141
920 data032,202,241,104,076,202,241,169,000,141,086,195,240,231
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Sixth Sense 128 is the most comprehensive modem control available. It operates based on the time of day, data received, internal counters or provided templates. Harness the explosive capabilities of Sixth Sense to do your next mission impossible.

- 800 line buffer/7,200 lines maximum with expanded RAM
- 20 active macros • Runs in 80 columns only
- 42 prewired command keys - 10 to wire your way!
- Line/screen editors • SEARCH/GOTO commands in buffer
- CompuServe "B" & XMODEM CRC/Checksum file transfer protocol

## Dataquick 64 $19.95

**Extra! Extra! Calling all potential BBS and Exchange Operators!**

Once again Prism Software offers the latest in software for the Commodore 64 user! Now with Dataquick 64 **you** can operate a BBS with 8 message bases and 10-25 messages per base. Included with Dataquick is the Lightning Exchange which makes multi-file transfers quick and easy.

**Dataquick's EXTRAordinary features:**

- Supports 1650/1660/1670, Westridge, Master Modem, Volksmodem 12 & Hayes compatible modems.
- Supports 1-4 disk drives. • Supports new Punter protocol.
- Control access to drive 10 & 11. Restricts to high level users.
- Secure - users see only what you let them see. 10 access levels for sysop control. Records hackers and leeches.
- Poll function - Storyboard - E-mail - Macros!
- Complete sysop support-documentation, maintenance programs, samples, setup programs & membership to private support line.

**Lightning Exchange's shocking features:**

- **Multi-file transfer**
- Supports same modems as Dataquick 64
- Built-in terminal • Supports 1-4 disk drives

## Superkit 1541 $29.95

version 2.0 by Marty Franz & Joe Peter

**SINGLE NORMAL COPIER** - Copies a disk with no errors in 1 minute. Corrects all disk errors.

**DUAL NORMAL COPIER** - Copies a disk in 33 seconds with a graphic/music display while working.

**SINGLE NIBBLER** - Nibble copies a protected disk in 1 minute.

**DUAL NIBBLER** - Nibbles a disk in 30 seconds and has a graphic/music display while working. It's capable of copying elongated headers, extra sectors and non-standard GCR.

**FILE COPIER** - Full screen display including buffer, starting track & sector, file being copied and revives deleted/corrupted files.

**TRACK & SECTOR EDITOR** - Capable of reading to track 40 and examines data under errors. Full editing capabilities in HEX, ASCII or text. An ML monitor is built-in.

**GCR EDITOR** - Allows examination of a disk in its raw format including the header, density, sync marks and non-standard GCR bytes. You can even examine a full track at a time. It's a great way to learn disk protection methods!

**SUPER NIBBLER** - The most powerful nibble available. It even detects and duplicates density changes automatically.

**DISK SURGEON** - This is what a parameter copier should be! It copies and places parameters on the disk. Now, over 400 parameters are included.

**SUPER SCAN** - Gives a video or printer display of errors and density on a disk in under 35 seconds.

**SUPER DOS FAST LOADER** - Loads 150 blocks in 10 seconds. It also includes an Auto-Boot maker.

All programs work with 1541/1571 single side drives made. All of the copiers are the fastest on the market and include directory options. The File Copier, Track & Sector Editor, Super Nibbler and Disk Surgeon use 1 or 2 drives and include device number change. All programs re-boot to main menu. SUPERKIT has an easy to use menu-driven operation! Version updates are $10. Parameter updates are $6.

Plus $3.00 Shipping/Handling Charge - $5.00 C.O.D. Charge

All of these programs come on a double-sided disk.

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PRISM SOFTWARE

401 Lake Air Drive, Suite D Waco, Texas 76710

Orders/Tech Help (817) 751-0200

Dealers and distributors are welcome.

MASTERCARD & VISA ACCEPTED

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