

Kracker Jax
presents

The
RENEGADE

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IN THE BEGINNING

Remember back a few short years ago, when we all thought that "Pong" was the hottest game ever produced for home use? The cartridge game machines appeared on the scene and the personal computer market was here and here to stay. Not long after, "TT" arrived. "TT" was capable of not only playing games with its user, but also allowed its user to develop his own programming. "TT" was the Commodore 64, and before long it became the personal pet of millions of people wishing to join in the age of personal computers. Commercially produced applications such as spreadsheets and word processors started to show up in rudimentary form, and software copy protection was soon to follow.

Software protection has come a long way since the inception of the Commodore computer. Ever since the first commercial software was written for the Commodore, programmers have been dreaming up newer and more potent protection schemes. The purpose of copy protection was to prevent the software authors from becoming victims of piracy. Although most well thought out protection schemes seemed to slow the pirates down a bit, the protected software was eventually broken, and fell into their hands like another stamp in a collection. The result was that most of the software pirates still didn't purchase the software that they finally acquired anyway. The honest consumer DID purchase his software, especially those programs that he decided were a valuable addition to his library. It is this individual that has been the real victim of the software protection wars. If he wanted a backup of his fragile treasured program disk, he had to send extra money to the manufacturer of that product and wait for what seemed like forever to receive his backup. The only alternative was to resort to a myriad of copiers, hoping one of them would do the job at hand. As it turned out, it seemed that the more valuable the program was to the consumer, the harder it was to backup. For a time, it was a leap frog game between the archival programmers and the protection programmers. A new protection scheme was developed, and all the archival programmers would scramble to be the first to develop a new patch in their copier capable of dealing with that particular protection scheme. This leap frog game went on for a couple of years before the inevitable happened. The protection programmers evolved to the stage that they were able to write protection that just couldn't be duplicated, at least with disk drives available to the end user, even with the most sophisticated nybbblers. All purpose, do it all copiers were dead in the water.

What to do? If the archival programmers couldn't write copiers to sense and copy a particular protection scheme then only one solution remained. Break the protection check code. It was early in this stage that Kracker Jax was born. Kracker Jax allowed the user to simply make a fast copy of the protected program and then run a custom parameter over that copy to produce not only a copy of that program, but a copy devoid of protection in most cases. The revolution had begun. Parameters proved to be the most effective way to copy a protected program. Protection schemes that no nybbler could touch could easily be archived by the press of a key. This went on for a couple of years, and again the inevitable happened. Parameter-proof protection. How, you ask? Read on.

Today's protection is made up of three classes of difficulty. 1. A few programs are still released using archaic protection that most modern nybbblers can duplicate. Why bother protecting?! 2. Many are still archivable using either a nybbler or fast copier in conjunction with a parameter. 3. Finally, more and more programs are showing up with data written in formats that protects every byte of data on the

disk. If the data can't be written out, then a parameter is useless. The Bull's Eye was our first effort at this third level of copy protection. Soon after, the Shotgun II was developed to automate the principals set forth in The Bull's Eye. These two programs have set the standard which imitators have been trying unsuccessfully to duplicate. The revolution started by Kracker Jax has paved the way for the Renegade, the next step in an evolutionary process.

The Renegade is our final archival programming effort in the Commodore 64 market. You're probably thinking to yourself, "then why did I buy this thing"? Well, for one thing, it already copies most protected programs on the market today, many of which can't be touched by any other copier, be it software or hardware based. Another reason is the fact that we are producing upgrades to the Renegade that include refinements, new utility modules, and parameters. We even support optional hardware (The RAMBoard) which, when combined with special parameters, will copy programs that are impossible to archive with software alone. Although the Renegade is our final C-64 copy system, we will continue to guide its evolution to keep it operating at the very edge of possibility. We will be around for years to come, and supporting you is our highest priority.

AND ON, TO THE FUTURE

THANK YOU for your purchase. By purchasing the Renegade, you are supporting our efforts to support you, which has always been our highest priority. Although the Renegade will be our final effort in the Commodore 64 archival software market, we will continue to maintain the highest possible level of customer support. Instead of releasing a series of single purpose archival programs and / or utilities, we plan to put all of our C-64, 1541, 1571 programming efforts into upgrades of the Renegade.

Let's begin by saying that the Renegade itself is **not protected**. It is capable of archiving itself with its own single or dual fast data copiers. Because of the direct disk access, **very few files** will be found on the master disk, and **no files** will be found in the directory of the parameter disks. This format has two purposes. First, it helps us to protect our work from other copier producing companies who may feel that if we allow full view of our parameters we have released our work to the public domain. Some unscrupulous companies feel that they have the right to sell our work as their own. Talk about piracy! This is the worst form. The other and more important reason for direct disk access is the extremely fast loading time. Files that take minutes to load in standard format now take mere seconds. We have found our advanced fast loader system to be extremely reliable on disk drives in good condition. We have tested it with the 1541, 1541 C, 1541 II, 1571, and the Commodore SX portable computer and have gotten good results.

Ownership of the Renegade entitles the owner to one of two levels of support. Both levels **REQUIRE** you to **FILL OUT THE RENEGADE REGISTRATION CARD**, which is the 3 X 5 postcard, and send it to Software Support International. Whoever's name is on the registration card when we receive it is the **PERMANENT REGISTERED OWNER** of that copy of the Renegade. He is entitled to participate in whichever level of support he desires. The program may be sold to another individual, but the registration **may not** be transferred. Again, **SEND US THE RENEGADE REGISTRATION CARD** as soon as possible to avoid loss. We will notify you by mail as soon as we receive it, confirming your registration.

Level one support is available **ONLY** to **REGISTERED OWNERS**. Level one users will be entitled to buy upgrades to the Renegade (available every four months) and parameter upgrades (released every two months). These upgrades are available to **REGISTERED OWNERS** at the reduced price of \$9.95 per upgrade disk. The reduced price is only available through Software Support International. Parameter disks **will not be sold** to non-registered individuals. Upgrades will be made available to non-registered owners at the normal retail price of the Renegade. Level one users are encouraged to exercise their right to call the customer support line if they experience a problem or have questions. We do have a knowledgeable staff on hand that can be of service in most cases. If you've **purchased** the Renegade, you're supporting us - and we'll be happy to support you!

Level two support is granted to the **REGISTERED OWNER** that wishes to be put on a subscription basis. Those customers who wish level two support **must** fill in and send us the yellow Renegade subscription order form, which you'll find in your Renegade package. We accept subscriptions from those **REGISTERED OWNERS** who will allow us to bill their credit card (Mastercard, Visa, Discover) at the time of shipping or who authorize us to send the upgrade to them COD. As usual, credit cards will not be billed until the actual day of shipping, period! Please be advised that we can only accept these two methods of subscription payment. Prepays are not allowed. Also, we only ship COD to U.S.A., 50 states. Level two owners are assured that they will be the first to receive upgrades, which are shipped automatically. To cancel a subscription, the user need only call or write to us requesting cancellation, which will place them back into level one status.

SYSTEM REQUIREMENTS

The Renegade will operate properly with either the Commodore 64, Commodore SX, or the Commodore 128/128D in 64 mode. It requires the use of one or two disk drives. You may use a 1541, 1541 C, 1541 II, or 1571 in any combination or separately. The Renegade V2 Quick File Copier also supports the 1581 disk drive, single or dual.

PACKAGE CONTENTS

The package containing your initial purchase of the Renegade should contain the following items. 1> A Renegade owner's manual. 2> The master Renegade diskette. 3> The Renegade parameter diskette, containing Module 1 on the front and Module 2 and 3 on the reverse. 4> The yellow subscription order form. 5> The Renegade REGISTRATION (post)CARD. Take time right now to fill out the REGISTRATION CARD, and send it in before you lose it. **THIS IS OF THE UTMOST IMPORTANCE!** All owner support services are tied into the registration card. Sending the card in immediately is your key to the ownership rights you deserve.

UPGRADES

As discussed previously, **Registered** Renegade owners have the right to upgrade (at a discounted price) to the latest version. If you have received this package as an upgrade, you'll find a number of changes in the Renegade. We highly suggest that you **re-read this manual** to acquaint yourself with the refinements and additions we've added to your new Renegade.

A few of the major changes made to the master diskette will be found in the Parameter Menu, GEOS Tool Kit, and the Quick File Copier. If you also upgraded to the latest parameter disk (module #3), please note that you have actually received modules number one through three. Please discard the old parameter modules as we have been correcting any problems reported by our users and implemented them on the latest release. We want to thank you for your patience, and apologize for any inconvenience.

GETTING STARTED

To get started, place the Renegade **master** diskette into disk drive device #8, face up, close the door, and type the following command: LOAD "*"8,1. Press RETURN and the drive should begin loading the program. Commodore 128 owners need only place the Renegade disk into the drive face up and turn the power on. The Renegade will autoboot to the C-64 mode. In a short time, the Renegade title screen will appear, and moments later, the Renegade menu will dissolve on. The first thing you will notice are the two pointers on either side of the first menu selection. They can be repositioned by pressing the cursor keys. The pointers will follow the direction of the currently pressed cursor key. Any menu selection can be chosen by simply positioning the pointers around it and then pressing RETURN.

The Renegade is composed of ten different modules. Each module is designed to return to the main menu after the selected job is completed. Some modules are comprised of several utilities and some are single utility based. Some selections, such as the Parameter Menu, require the use of a sub-system Renegade disk. We have worked hard to make the Renegade a pleasure to use. We are always open to your input on improvements.

The Renegade has been designed to meet the exacting needs of the experienced user as well as the ease of use demanded by the beginning computerist. If you are a beginner, and some of the utilities seem to be of no use to you, or you just don't understand why we even bothered to place them in the Renegade, don't be too concerned. Many of the utilities are oriented towards the advanced user. As you progress in your computer literacy, you'll find more and more uses for them. We have tried to ensure that the Renegade will be both easy to operate and highly effective, even for the beginner. Now that we've booted the main menu, we suggest that you learn to use the utilities by actually working with them.

FAST DATA COPIERS

Fast data copiers are used primarily to make fast, reliable backups of unprotected software. Fast data backups of protected software will not work correctly because data copiers are not capable of reproducing the protection onto the backup. We suggest that for unprotected software, you use these data copiers rather than copiers designed to duplicate protected disks. Because of the all out speed built into the Dual Fast Data Copier, you'll find that it will reproduce certain checksum errors. If there are no errors on the original disk, the Dual Fast Data Copier will not produce any.

We strongly suggest that you use the Single Fast Data Copier for the following conditions: 1> If you need to repair an unprotected disk that has, for example, a 23 error on it. 2> If you have a protected disk that is known to have standard errors

on it, and you want to "clean it up" for breaking purposes, either manually or by parameter. The Single Fast Data Copier is designed to correct errors. If it encounters an error while reading the source disk, it will attempt to correct those errors while writing the data onto the copy disk.

From the opening menu, position the pointers on either side of the Fast Data Copier option. Make sure that the Renegade master disk is in the disk drive (device #8) face up and press RETURN to load the utility. You will be prompted to input an S if you wish to load the Single Drive Fast Copier or a D for the Dual Drive Fast Copier. Let's assume that you have two disk drives, and begin with the dual drive option.

Dual Drive Fast Data Copier:

At the (S)ingle or (D)ual prompt, make sure the Renegade master disk is in the disk drive and press D. The drive will start up and the utility should load to the Dual Fast Data Copier menu screen. When the main menu appears, you will be presented with a list of options. When working with two drives, the first thing you may need to do is configure the options to match your system.

If you have two drives that you are capable of changing device numbers on, or have permanently changed the numbers, set one drive to device #8 and the other to device #9. If you have two drives, both of which are device #8, we have a soft-wire option that will allow you to set different device numbers in each drive by a software method.

To Soft-Wire your drives, use the Cursor U/D key to move the highlight bar to the "Soft-Wire Drives" option. Press RETURN and you'll be asked to turn off both drives. After turning them both off, turn on the destination drive (the backup disk goes here) and hit the space bar. Next, you will be prompted to turn on the source drive (the original disk goes here) and press space bar again. At this point, if you do not get an error message, your drives are set up correctly. If you do get an error message, turn both drives off and then on again and try the soft-wire procedure once more. Once soft-wired, you shouldn't have to reset the drives again unless you turn the drives off or power down your computer.

Once back to the main menu, please note the Source and Destination drive options. You may set these as necessary by placing the flashing disk at either option and pressing RETURN to change to the desired configuration. That done, let's make a backup of your Renegade disk itself. Take the Renegade out of the disk drive and **be sure you have a write protect tab on it!** Any original disk should be write protected before attempting a backup. This reduces the risk of damage to your valuable original software. Place the Renegade disk in the source drive and a put blank disk in the destination drive. There is no need to ever format a blank disk in order to fast copy onto it with any of our whole disk copiers. Our copiers format as they go. Now position the highlight bar on the Copy Disk option and press RETURN. You will be prompted to insert disks (check them) and press RETURN. When ready, press RETURN and the drives will take off. After about a minute, a new prompt will appear telling you that the copy is complete and again asking you to press RETURN to continue. The Dual Data Copier menu will reappear.

You may check the directory of either the original or the copy disk by pressing F1 or F3 respectively. If you wish to boot your copy of the Renegade, place it in the source drive and press F8. The copy should boot to the main menu

once again. Copies of other software may be tested only by powering the system off and on again.

One last item you should know about the Dual Data Copier is that the copy process may be aborted by hitting RESTORE. Because the drives are, at this time, independent from the computer, you must turn each drive off and then on again. We suggest reading a valid directory in each drive to re-initialize the drives before attempting another copy.

Single Drive Fast Data Copier:

With the Renegade main menu on the screen, and the Renegade master disk in the disk drive (device #8) select the Fast Data Copier option. When prompted, select S for (S)ingle Fast Data Copier. The disk drive will become active and the Single Fast Data Copier menu will appear on the screen. Use the cursor U/D key to move the cursor bar to the desired option and press RETURN to select that option. Let's go through the menu options one by one.

Copy Disk : Use this command to begin the copy process, after all other menu options have been properly set.

Source : This is the device number of the source drive (original). It defaults to device #8 but may be toggled to 9.

Destination : This is the device number of the destination drive (backup). It defaults to 8 but may be toggled to 9.

Soft-wire : This option is the same as described above in the Dual Drive section.

F1 : Displays a directory of the disk in the source drive.

F8 : Reboot the Main Menu. Make sure the Renegade Master disk is in the drive (device #8) face up.

Even though we call this a Single Drive Fast Data Copier, you may use either one or two drives. To use the two drive option, set the source and destination numbers at 8 to 9 or 9 to 8. When copying begins, one drive will read and then stop while the other one writes. Just follow the on screen prompts to complete the backup. For those of you with one disk drive, set the source and destination numbers at 8 to 8 or 9 to 9, depending on the current drive device number. Starting with the original disk, begin swapping with the copy disk following the on screen prompts until the backup process is complete.

GCR NYBBLE COPIERS

Since the first Commodore programmer devised the first copy protection scheme, archival programmers have strived to achieve the impossible: create a copier that could copy **any** protection scheme. The Renegade GCR Nybble Copier is our attempt at creating the impossible. Although there are several protection schemes that defeat this copier, there are many more that it **can** backup.

When trying to backup protected software, the nybbler is your greatest single weapon. We feel that our GCR Nybbler is the most sophisticated copier on today's market. Not only can it reproduce all standard DOS errors (used in archaic protection), but it also handles a myriad of other tough protection schemes, one of them being Rapid-Lok. With our GCR Nybbler, you can even copy both sides of a true 1571 formatted disk; no disk flip is required. More on this later.

From the opening menu, position the pointers around the GCR Nybble Copier option and press RETURN. The Renegade master disk must be face up in the disk drive (device #8). You will be prompted for (S)ingle or (D)ual Nybbler. Let's begin with the dual drive version.

Dual Drive GCR Nybble Copier:

At the (S)ingle or (D)ual prompt, make sure the Renegade disk is face up in the disk drive and press D. The drive will start up and the program should load to the Dual Nybbler menu. Most of the menu options may be accessed by using the Cursor U/D key to position the highlight bar over the desired function and pressing RETURN to activate or change that function. Starting at the top of the menu, the options are:

- 1. Copy Disk:** This option is selected after all other copy parameters have been set up. It requires an original software disk in the source drive and a blank disk (non formatted is fine) in the destination drive.
- 2. Starting Track:** You may change the beginning track to copy at will. The default track is 1, but any track up to 80 may be selected. Note that you may touch the RETURN key to increment one track at a time, or hold it down to fast-forward.
- 3. Ending Track:** You may change the ending track to copy at will. The default end track is 35, but any track up to 80 may be selected. We suggest track 80 for most protected software. Note that you may touch the RETURN key to increment one track at a time, or hold it down to fast-forward.

Let's take the time to explain why we would allow you to access up to eighty tracks of data when the Commodore has only 35 to 40 tracks available for use. We have reserved tracks 1 - 40 for 1541 mode formatted disks; side one only. For those of you with the 1571 drive, we have used tracks 41 to 80 to copy the reverse side of a TRUE 1571 disk format. To copy both sides of the 1571 format disk in one pass, input 1 as the starting track and 75 - 80 as the end track. Both sides will be copied without having to flip the disk over. This feature is NOT available to 1541 users as the 1541 has only one write head and the 1571 has two, both of which are formatting in the same direction, making the reverse side format unreadable by a 1541 drive.

- 4. Auto Density:** This feature defaults to off, but may be toggled on whenever you suspect whole track density changes. Only a few known programs use whole track density changes as their entire protection scheme. Superkit 1541 used density changes throughout the entire disk. Our auto density detects the bit-rate and automatically adjusts the copier for each track. Another

protection scheme that uses density changes is one version of V-Max protection. This protection demands that you copy tracks 1 through 40 (to be safe) and use a specially prepared parameter to finish the job.

5. **Source Drive:** (Original diskette) This feature defaults to 8 but may be toggled to 9.

6. **Dest. Drive:** (Backup diskette) This selection defaults to 9 but may be toggled to 8

7. **Soft-Wire :** For those of you with two disk drives, both of which are hard wired as device #8, you may use this option to change one of them to device #9 temporarily. Please refer to the Dual Drive Fast Data Copier section for instructions on the Soft-Wire option.

F1/F3: Use these FUNCTION keys to read the source and destination disk directories.

F8: Reboot the Renegade main menu. Be sure the Renegade master disk is in drive 8, face up.

RESTORE: You may reset to the original nybbler screen by pressing RESTORE. To abort the copying process after the drives are both working, you must physically turn the drives off and on again.

Single Drive GCR Nybble Copier:

Load the Renegade main menu and select the GCR Nybble Copier. At the (S)ingle or (D)ual prompt, make sure the Renegade is face up in the disk drive and press S. The drive will start up and the program should load to the Single Nybbler menu. Most of the menu options may be accessed by using the cursor U/D key to position the highlight bar over the desired function and pressing RETURN to activate or change that function.

You'll find that the Single Drive GCR Nybble Copier is essentially the same as the Dual version except that only one drive is required to backup your protected software. Instead of allowing two drives to transfer data back and forth between them, the one drive version requires you to swap the source and destination disks about four times each to produce a whole disk copy.

The Renegade's Single Drive copier has our extremely powerful Rapid-Lok copiers built right in. This allows you to copy some of the most protected disks on the market. If the two drive Nybble Copier fails, try the single drive version. If the copy process starts, and then prompts you to re-insert the Renegade master, you can be assured that you're dealing with Rapid-Lok protection. In most cases, the Renegade Single Nybbler is smart enough to examine and duplicate almost any Rapid-Lok protected program. Please note that duplicating a Rapid-Lok protected piece of software is very dependent on CORRECT drive alignment and PROPER speed settings. If you are unable to duplicate a particular piece of Rapid-Lok protected software, we suggest using a friend's equipment to make your backup. We

find that the 1571 drive is more likely to be successful than the 1541 because of the speed accuracy built into that drive.

SECTOR MAP EDITOR

When our programmers find need of a specialized utility, and none exists, they have no choice but to write it. We needed a utility that would examine a disk for standard DOS errors, display true sector usage, allow editing of any sector, and print the results. And as if this weren't enough, it had to be FAST. The result was the Sector Map Editor. Although we've dressed it up for you, it is functionally the same as the version we've been using in our everyday work. We hope you enjoy it as much as we do!

From the Renegade main menu, select the Sector Map Editor. Be sure the Renegade master disk is in the drive face up and press RETURN. The drive should start up and, in a short time, the Sector Map Editor main menu should appear. Use the cursor keys to position the cursor bar over the desired option and press RETURN. Starting at the top of the screen, the menu options are:

Scan Diskette: After setting all other options, begin full scan of the diskette currently in the disk drive. See **Scan Options** below.

Edit Diskette: After setting all other options, use this feature to quick edit a sector or range of sectors. See **Edit Options** below.

Start Track #: Set the beginning track to scan or edit. You may input 1 to 40.

End Track #: Set the ending track to scan or edit. You may input 1 to 40.

Device #: Set to the device number of the drive which contains the disk you wish to scan.

F1: Use this Function key to view the directory of the disk in drive.

F8: Reboot the Renegade main menu. Be sure the Renegade master disk is in the drive face up.

Scan Options:

When the Scan Diskette option is selected, scanning will begin on those tracks selected in the main menu. If you wish to **pause** the scan process, hold down **RUN/STOP**. To **resume scanning**, just press the space bar. To stop the scan and reset the drives, press **RESTORE**. The sector counter is along the left side of the screen and the track counter is along the bottom. After the scan is complete, track and sector highlighters, as well as a flashing cursor, will appear.

The map on your screen at this point represents a BAM map of truly used sectors. If **data is present in a sector**, a **+** will be displayed in that position. If a number appears in the map, it represents a DOS error. If a 2 is displayed, then a 22 error is at that position. If a 9 is present, then a 29 error is at that location, and so on.

Other active keys in this mode are the **F1** key to print from any printer capable of emulating a Commodore 801, 1526 printer. Use the cursor U/D and R/L keys to position the flashing cursor over any sector you would like to examine further. To read the sector for examination or modification, hit **Space Bar**. The sector will be read and a HEX/ASCII memory map will be displayed. You may use the Cursor U/D and R/L keys to position the cursor to the first byte you want to modify. Make any desired changes in Hex. To view the same sector in disassemble mode, hit the **M** for Mode key and the disassembly will appear. You may make changes by hitting the **Space Bar** and typing in your changes in mnemonics. Be sure to use proper spacing. Hit RETURN after each change. A bad instruction will exit the edit mode. After all changes are complete, use the **W** key to reWrite the sector. Use the **J** key to Jump to the next file link, if any. Use the Left Arrow key (ESC) to exit to the previous screen. You may select a new sector or return to the main menu by hitting **RESTORE**.

Edit Options:

The Edit Diskette feature is identical to the Scan Diskette option, except that no error or sector usage scan is performed or displayed. Use this option when you want to quickly examine a sector on any diskette.

RENEGADE GCR EDITOR

The GCR Editor is the most powerful tool you'll ever use to examine a disk. It will allow you to view raw data the way it was originally written to the disk. Our GCR Editor has every feature we could think of to examine and manipulate headers and data. A thorough knowledge of the makeup of Commodore format is necessary to have full use of this utility. For complete information on this subject, we suggest "Inside Commodore DOS", written by Richard Immers. This manual contains a wealth of information on the makeup of the Commodore format and the Disk Operating System (DOS). With this manual and our GCR Editor, you can achieve a new level of understanding.

In the following instructions, we will give you all the command features available to you with the Renegade GCR Editor. Only use and study can make you proficient. Enjoy!

What is GCR?:

When you load and save files from the C-64 to disk, they are not written bit for bit straight to the diskette. The Commodore 1541/71 disk drive cannot write more than three "0" bits in a row to a disk, so writing a hex byte like #506 poses a problem! Commodore developers created the GCR coding scheme to read and write data to and from the drive. It converts each four bits of hex code into 5 bits of GCR code. For every four bytes of hex data, there are five GCR bytes. Lastly, this data is written at a standard rate, depending on its placement on the diskette. Standard Bit Rates are as follows: Tracks 1-17 = \$60, Tracks 18-24 = \$40, Tracks 25-30 = \$20, Tracks 31-35 = \$00.

Commodore DOS protection is, for the most part, simply the placement of NON-STANDARD data on the diskette. This can be created by using single bytes in non-standard locations, abnormal drive speeds, or rewriting the format (single sectors, tracks, or the entire disk). By using your GCR Editor, you can obtain exact

format information. You even have the power to duplicate many protection schemes on non-working backups. Let's go through the commands available to you in this powerful utility. From the main start-up menu, choose option 3 and press RETURN.

First Screen (Header Selection):

Track Selection: Track values are entered in decimal. Values from 1-40.5 are accepted.

Bit Rate Selection: Press RETURN for default value, otherwise enter one of four bit rates (\$00 \$20 \$40 \$60).

After Scan of Track: The number of headers equals the number of syncs on a track. Left column = GCR of first 8 bytes. The right column = converted GCR bytes. The message bar just above the list of headers gives you information about the current header the cursor is on. Left hand will say: Sector: XX if the current header is part of a standard formatted track. It will give you the sector number in decimal so you can use the GCR Editor like a sector editor. The right hand will either say DATA or HEADER, depending upon whether the cursor is on the data block header (starts with a \$52) or the actual data block itself (starts with a \$55).

Commands (First Screen):

Shifted H: Help screens.

T: Enter a new track.

R: Enter a new bit rate for the current track.

F1: Directory of disk in drive.

F3: Prompt to reboot main menu.

Cursor U/D: Scroll through headers.

Space Bar: Read current selected header and go to edit (2nd) screen.

P: Print list of headers to printer (Standard Commodore printers).

+ or -: Go back or forwards one track and read.

C: Create a Track : You may access this feature after reading a track.

Options Include:

1. Fill track with no-sync: wipes out entire track with \$55s.
2. Fill track with full-sync: fills entire track with \$FFs.
3. Create Notepad header: Wipes out an entire track with \$55s, and then creates a one header/one sync track using Notepad code.

Second Screen (Header Edit Screen):

Header Info: Appears at the top of the screen. Sync is the actual length of the sync mark of this header. Length is the length in bytes of the header. Note: if the header has more than \$0500 bytes, the buffer for editing will only go up to byte

\$04FF, since the disk drive cannot read long blocks unless you have expanded memory.

Header and Data Tables: Rows of ten GCR bytes appear on the left. The converted eight hex bytes appear on the right. Remember, five GCR bytes equal 4 Hex bytes.

Commands (Second Screen):

R: Reread the header data.

W: Write altered data back to disk.

Z: Find zero GCR bytes and mark them.

P: Print out data to printer.

SPACE BAR: Enter edit mode.(See more info below.)

+ or -: Increment or decrement sync length by one.

CURSOR U/D/R/L: Move cursor around data table.

< : Delete one byte from cursor spot.

> : Insert one byte (\$00) at cursor spot.

DEL: Delete bytes (from end of table)

S: Switch column editing from left to right.

A: Toggle Hex display Hex and ASCII (right hand of screen).

D: Enter disassemble mode.(See more info below.)

C: Repairs checksum of header or data block. Use before W command to prevent checksum error.

SHIFTED R: Lets you re-read current header at a different clock rate than the entire track was read at.

SHIFTED H: Help screens.

LEFT ARROW: Return to first screen.

Edit Mode: Hit SPACE BAR to enter, border will change color. Type in hex bytes, or ASCII, whichever is appropriate. DEL key will backup cursor. Hit RETURN to exit edit mode. Note: On the display screen, double dots ".." mark bytes that aren't used. If you try to hit SPACE BAR to enter the edit mode on one of these bytes, it won't work (except, on the first ".." to the right of the last data byte displayed). Hitting SPACE BAR here allows you to append to the current data, the length of the header will change appropriately.

Disassembly Mode: Hit D to enter Disassembly mode. The disassembled code will appear in the GCR column on the left. Type in assembly text and hit RETURN to enter. Hit CURSOR U/D to escape Assembly mode.

SPACE BAR: Enter disassembly mode.

CURSOR U/D: Scroll back and forth through the disassembly.

RETURN: Exit disassembly mode.

P: Send disassembled code to printer.

Notepad Feature: At times when using the GCR Editor, you may want to save a header, look at another one, and later retrieve the original header without re-reading it. Our GCR Editor features a scratch pad (called the Notepad) that lets you save one header in memory. You can also edit the notepad header.

T: Toggles editing mode from current header to notepad. The border will change colors and the message "NOTEPAD" will appear in the top left corner. You can't use any disk commands like R W & Z in Notepad mode. Hit T to return to normal header program.

SHIFTED S: Save header to disk as a Notepad file. Save either Notepad or selected header.

SHIFTED L: Load saved header from disk.

UP ARROW: Saves current header to Notepad.

CONTROL I: Only works in the non-Notepad mode in GCR editing. Inserts NOTEPAD header code at cursor position. Use to retrieve Notepad.

CONTROL A: Appends notepad header to disk at cursor spot. If you have a long data block with extra room at the end, and you wish to add an extra sync to disk, move the cursor to the end of block, have the desired new header saved to the Notepad, and hit CONTROL A. The GCR Editor will automatically re-scan the track.

GCR Editor Hints, Tricks & Tips:

Use caution when using the W command repeatedly. The GCR Editor writes each header back to the disk as perfectly as possible (ie: correct length, correct sync). If you make a header longer than it was before and write it back to the disk, it may destroy the header that follows it.

The same goes for the CONTROL A append command. Changing sync lengths and writing the header back to the disk is also dangerous. Use caution.

After you use the W command, you should verify that it wrote correctly by using the R command to re-read it.

Use the C checksum command after editing a data block before you write it back to disk. This repairs the data block checksum. Otherwise, normal Commodore DOS will get a 23 read error when it tries to read the block.

Well, there you have it. The most powerful, easiest to use GCR Editor on the market today. If you feel confused or overwhelmed, don't be put off. A little study and practice will have you feeling right at home.

GEOS TOOL KIT

One of the hottest utility packages to hit the Commodore market in recent times is GEOS. We at Kracker Jax are sensitive to our users need to make backups of their software, especially their productivity software. The GEOS lineup is no exception. In this Tool Kit, you'll find the utilities necessary to make backups of almost all your Berkeley products. Also included in this module is our GEOS based Sector Editor that is programmed to run under GEOS Desktop v1.3 or higher, and our GEOS file copier that should make life a lot easier for all dedicated GEOS fans. We are planning to expand the GEOS Tool Kit in future upgrades of the Renegade. Registered owners are invited to give us their suggestions.

GEOS Parameter Menu:

To be on the safe side, use our Single Drive Fast Data Copier (one or two drives) to produce non-working backups of your GEOS software. Then, from the Renegade main menu, select the Geos Tool Kit. You will be prompted to insert the Renegade master disk side two, and press Space Bar. After a short loading period, the GEOS Tool Kit menu will appear. Using the Cursor U/D keys, move the highlight bar to the Parameter menu and press RETURN. After another short load, you will be prompted to insert your LATEST Parameter Module Number One in the drive and press RETURN. (Please note that ALL our upgrade work in the GEOS parameters will always be added to the listing on Parameter Module Number One.) In a short time, the Parameter menu will appear on your screen. You may use the cursor U/D key to slow scroll, and the cursor R/L key to page through the parameter listings. Place the cursor bar over the desired parameter representing the application, or file within the application you're trying to back up, and press RETURN. The parameter will load and prompt you for your backup. Place the backup in the drive and press RETURN again. The parameter will attempt to sense which version of protection has been used on your particular software (there are many versions on some pieces), and will automatically defeat that protection, if known, and will indicate success or failure. When the parameter has run its course (some take longer than others), the main menu will reappear. You may try your backup now, or run another parameter -- it's your choice.

If you get a "parameter successful" message or "version unknown" prompt and have tried several times on a particular piece of software, and the parameter still doesn't de-protect, contact us, and we will attempt to build a custom parameter for you. Please be aware that Berkeley released a version of GEOS 64 that is labeled as a v1.2 that is, in reality, a SYSTEMS DISK. Any SYSTEMS DISK that has a v1.2 label is, for our purposes, a GEOS 64 v1.3.

GEOS 64, be it v1.3 or v2.0 contains dual protection. In order to produce a fully functional backup of GEOS 64 (not GEOS 128), you must use the appropriate GEOS 64 parameter, as well as the desktop parameter on your backup. Also, because the desktop file is a protected file, be sure you run the desktop parameter over any and all work disks containing the desktop file. This will eliminate the so called "Trojan Horse".

In closing, in order to deprotect the following titles, you must have a backup of the original that is unaltered. This means that the original disk can be installed, but not validated, or have any of its files rearranged. Geoprogrammer 64, Geos 64, GEOS 64 v2, Geos 128, GEOS 128 v2.

Parameter Printout:

By popular demand, Renegade v2 includes a printout feature in the GEOS Parameter menu. After reading any Renegade parameter module number one, you may dump the parameter listing to any printer capable of emulating the Commodore 801 or 1525 printer. Simply read the appropriate module, and press: **the Commodore and Keys together**. You will then be asked for the correct printer device number (number four is most commonly used), and if you desire linefeeds. We suggest you answer NO to this unless you know your printer demands them. If the printout does not feed up properly, you should answer YES on the next attempt.

After the initial setup questions have been answered, the printout will begin. You may **press A to abort or P to pause**.

GEOS Sector Editor:

No archival utility package worth its salt would be without a Sector Editor. We thought it would be fun to program one in GEOS format. We at Kracker Jax are lucky enough to have one of the top GEOS programmers in the country on staff. Bob Mills, of **Geosbusters** fame, has done it again! A full featured Sector Editor that works under GEOS Desktop!

To use our Sector Editor, you will need a basic knowledge of GEOS. If you have ever used any of the GEOS applications, you will find our Sector Editor quite easy to boot and use.

Place your GEOS v1.3 (or higher) diskette in the drive and boot it. When the desktop appears, insert the Renegade master disk Side 2 (or our GEOS Sector Editor may be copied to your work disk) in the desired drive, and open the Renegade disk. When the Sector Editor icon appears, double click it. The Sector Editor should boot up and appear on your monitor. Please note that your preferences, previously set up in your desktop, will be carried through to the Sector Editor. We suggest that you at least have the correct printer file (this must be on the work disk along with the Sector Editor), and input device (we highly recommend a mouse), set up as the defaults.

We cannot, in the scope of this manual, instruct you in the layout of the Commodore format. If you need information concerning this subject, see your local Commodore User's Group. They usually have an expert on hand to get you through the rough spots. From the Sector Editor screen, the options are:

Diskette/Left Arrow: Write the sector currently displayed on the screen to the location indicated by the NOW Sector settings.

Diskette/Right Arrow: Read the sector currently indicated by the NOW Sector settings.

Drive Speed Setting:

Whenever an 8K RAM parameter is called, we will advise you of the optimum drive speed setting required to back up that title. This information will be located on the menu screen for each individual parameter. Any title demanding a speed other than 300 w/; have to be set before the copy can be successfully made. For our purposes, 300 is optimum **Standard** setting and your drive speed should **ALWAYS** be returned to this setting after a copy attempt is made.

Making a copy of a disk requiring a speed change is not difficult, but can be a nuisance. We are working on a speed control device that will sell for \$19.95 plus \$3.00 shipping and handling, and will require **NO SOLDERING**. We feel this will make the speed setting a breeze and require minimum effort once it is installed. For more info, call us on the Tech Line.

From the menu, select the Format Disk option to format the diskette you wish to use as your backup disk. This will insure that the disk is good and allow us to set the speed to match the "drag" of the backup. After the format is completed, select the Speed Check option from the menu. Use a small jeweler's screwdriver and follow the on-screen prompts to set your drive speed to the required setting. **Important:** Be sure the formatted disk is in the drive while the speed modifications are made.

Please note that there are two basic drive types as far as we are concerned. These are those drives with the spring latch holding in the disk, and the type with the toggle latch. Both are set in exactly the same way, but the speed potentiometer is found in different locations.

Toggle Door Model:

Turn your disk drive over and use a small phillips screwdriver to remove the four screws securing the drive cover. When done, lift the plastic cover from your drive and put aside. Next, if you still have the metal RF Shield in place, remove the two screws that secure it and lift it off also. Towards the front of the drive, locate the brown PC board. That board contains the potentiometer to control the drive speed. It is generally blue and yellow with a cross slot on top. You may use a small jeweler's screwdriver to turn the slot in very small increments while running our speed check program. Be patient, and set the speed correctly, as the speed is critical to the backup procedure. Remember, after the backup has been made, return the drive back to **STANDARD** setting.

Spring Door Model:

Turn your disk drive over and use a small phillips screwdriver to remove the four screws securing the drive cover. When done, lift the plastic cover from your drive and put aside. Next, remove the six screws that hold the drive chassis to the bottom half of the plastic case. Carefully lift the entire drive assembly from the plastic case and prop it on its side taking care not to drop it. On the underside of the drive chassis towards the front, locate the small round hole. Inside this hole, you should find a small slot. This is the potentiometer used to control the drive speed. You may use a small jeweler's screwdriver to turn the slot in very small increments while running our speed check program. Be patient, and set the speed correctly, as the speed is critical to the backup procedure. Remember, after the backup has been made, return the drive back to **STANDARD** setting.

Other Main Parameter Menu Features:

F1 : Display the directory of the diskette currently in the drive.

F3 : Exit to BASIC. This option will reset the computer back to the stock start up screen. Occasionally, you may need to turn the drive off and on again, or initialize the drive in order to load the disk currently in the drive.

F8 : Reboot the Renegade. Insert the Renegade Master Side One in the Disk Drive and press F8.

Parameter Printout:

By popular demand, Renegade v2 includes a printout feature in the Parameter menu. After reading any Renegade parameter module, you may dump the parameter listing to any printer capable of emulating the Commodore 801 or 1525 printer. Simply read the appropriate module, and press the Commodore and P keys together. You will then be asked for the correct printer device number (number four is most commonly used), and if you desire linefeeds. We suggest you answer NO to this unless you know your printer demands them. If the printout does not feed up properly, you should answer YES on the next attempt.

After the initial setup questions have been answered, the printout will begin. You may press A to Abort or P to Pause. After pausing a printout, you may press C to Continue.

We have built a few other features into our Parameter Module that are not so obvious until you've had a chance to use it for a while. Use the RESTORE key to return to the main Parameter menu, and RUN-STOP/RESTORE to return to the Insert Parameter Disk Screen. Any new Renegade Parameter disk may be read this way. Also, we have built in "parameter version detection". On most of our new parameter listings, we can sense a program version different from the one we worked on. Built in prompts will inform you of incorrect versions. We will be updating this feature whenever possible. Also built into our Parameter executor is the ability to check numerous known versions of protection and auto select and execute the correct version. This will be used more and more, although you won't be aware of it. Remember, we do accept suggestions. If you have a need for an added feature that you feel other people would enjoy also, please let us know!

V2 DIRECTORY EDITORV2

A Directory Editor is a tool that allows you to rearrange directory files on most any non-protected diskette. Our Directory Editor allows hand sorting, alphabetizing, separations, renaming functions, and locking and unlocking files. Once you become familiar with its operation, we know it will become one of your favorite utilities.

From the Renegade main menu, select the Directory Editor by surrounding that option with the pointers. Be sure the Renegade is in the disk drive face up, and press RETURN. In a short time the Directory Editor main menu will appear. From the top of the screen, your options are:

T: Select from 0 through F to set the desired Track, and click T to set that track to the NOW Track. So, to set track 18 (Hex 12) click 1 then 2 then T. That track will be displayed in the Track Now indicator.

S: Select from 0 through F to set the desired Sector and click S to set that sector to the NOW Sector. So, to set sector 10 (Hex 0A) click A (no 0 necessary) then S. That sector will be displayed in the Sector Now indicator.

Chain Loop: You may chain forward through any file by clicking this option. Also any two byte address you wish to click on from the screen buffer may be jumped to. Just click on the first of the two bytes, and when the first byte becomes highlighted, click on the chain loop icon. The sector indicated will be read into the screen buffer.

Chain +: All standard program files have what we call chain links. These are the pointers that indicate the next sector in that file. To automatically chain forward through the file, click the Chain + icon on.

Chain -: After a chain forward through the file links, you may backtrack through the links previously read.

Large +: Read next Track forward in numerical sequence.

Large -: Read next track backwards in numerical sequence.

Small +: Read next sector forward in numerical sequence. When the last sector has been read, this feature will wrap back to sector 0 in the same track.

Small -: Read next sector backwards in numerical sequence. Sector 0 denotes the end stop on this feature.

Right Arrow/P: Print sector information and data in Hex and ASCII. The correct printer driver must be installed on a GEOS work disk along with this Sector Editor. (Consult your GEOS User's manual).

NOW: Current track and sector displayed on screen.

Previous: Previous track and sector read in, using chain +. 00 indicates no previous sector was read.

Next: Next track and sector to be read in (file chain links).

Arrow/Dual Drives: Toggle A drive to B drive and vice versa. (Icon not displayed if two drives aren't present.)

Position: Displays the position in Decimal and Hex of the current byte clicked on, if any.

Changing bytes in the sector map is simple. Just click on the first byte to change and input your changes in HEX. If you click on in the ASCII display, you may input your bytes as ASCII characters. Notice that the HEX bytes are automatically updated.

Have fun with this Sector Editor, but never experiment with your ORIGINAL software diskettes. Make a backup with any of our whole disk copiers and then no irreversible damage can be done.

Geos File Copier:

From the first time we used GEOS, we knew that a file copier needed to be created. The normal copy procedure allowed in GEOS is slow and tedious. Only one file at a time can be transferred, and then you are limited to which files you can transfer from one disk to another. With the advent of GEOS 64/128 V2, file copying has been improved but still not optimum. The process is cumbersome and slow. Also your file selections are still limited.

Our new GEOS File Copier has the advantage of a larger storage buffer as well as not limiting your selection of files, other than system boot files. Please be aware that even if you use one of our parameters to de-protect a GEOS boot disk, you still cannot file copy the disk to another disk and still have a working copy. The reason for this is, the kernel file must reside on the backup disk in the exact position as it did on the original disk. They use track and sector loading procedures rather than file oriented loading.

Place your GEOS v1.3 (or higher) diskette in the drive and boot it. For those of you with GEOS 1.28, boot up in ~~the~~ column mode. When the desktop appears, insert the Renegade master disk Side 2 in the desired drive, and open the Renegade disk, or our GEOS File Copier may be copied to your work disk and opened from there. When the File Copier icon appears, double click it. The File Copier should boot up and appear on your monitor. Please note that your preferences, previously set up in your desktop, will be carried through to the File Copier.

When the GEOS File Copier main screen appears, at the top of the screen, the following information is displayed.

Current Disk : The directory name of the disk in the source drive.

Total Files : Displays the number of files selected to be copied.

Total Blocks : Displays the total number of blocks of the selected files.

Source : Displays A or B, and drive type.

Target : Displays A or B, and drive type.

Please take time to familiarize yourself with the available options.

GEOS : Click on and a window will appear.

Exit to Desktop : You'll be prompted to insert your GEOS v1.3 or higher disk in the drive if necessary.

Use Desk Accessory : If desk accessory files are on the disk in the source drive, they will be listed in this window. You may boot them by pointing at them and single clicking.

File : Click on and a window will appear.

Load Source Directory : Click this option to load the directory of the disk in the source drive.

Copy Files : After all other options have been setup, click this option to begin copy process. See Copy Files section below.

Disk : Click on and a dialogue box will appear on the upper part of the screen. You will be allowed to select any combination of one or two drives in any order (source/destination) you wish. You must have pre-configured GEOS from the desktop before entering the GEOS File Copier. Please note that our GEOS File Copier will utilize any combination of drives that your version of GEOS will allow. At the time we released this utility, GEOS was not supporting partitions on the 1581 disk drive.

Page : If the menu screen has been completely filled with file entries, you may click this option to view the next page of entries, if any exist.

File Selection : Select files by pointing and clicking. You may also select a block of files by holding the button down while moving the pointer. You are limited to a maximum of 128 files per disk, but there is no limit to the number of blocks selected.

Copy Files : After all other options have been set up, you may begin the copying process by clicking the **Files** option and then clicking the **Copy Files** option. You'll be prompted with **Are You Sure?** Answer **Yes** or **No**. If you answer **No**, you will be returned to the main file copier screen. If you opt for **Yes**, you will be prompted to by a dialogue box to **Continue**, or **Cancel** to desktop. If you continue, you will be prompted to insert the Source disk and begin the copy process. Follow on screen prompts until you get a copy complete message. At this point a dialogue box will appear and prompt you to either re-boot the GEOS File Copier or cancel to desktop. It's your choice.

QUICK FILE COPIER

When presented with the task of transferring the program files from disk A to disk B, the Commodore user generally selects a file copier to do the job. Our Quick File Copier is designed to transfer program and sequential files back and forth from a 1541, 1571, or 1581 drive. We support the true 1571 format as well as partitions on the 1581. We have used fast disk access routines throughout this utility for optimum speed. We're confident that you'll find our file copier to be as fast or faster than any other file copier on the market. Enjoy!

As you use this utility, keep in mind a few important rules. For one thing, file copiers don't usually work well on most copy protected software. Even if you make a "clean" copy of your protected software using our single drive fast copier, and use a parameter to defeat the protection scheme, there is still no guarantee that you may copy the files and still have a program that works properly.

Many pieces of commercial software use direct disk access to load blocks and sometimes even files of data (the Renegade for example). These programs can only be copied by the whole disk copy method. The file copier is only able to transfer those files that have valid directory entries. Any data not connected to an entry in the disk directory will be left behind. Another point worth mentioning is that you MUST use a properly formatted disk as your destination disk. This disk may be freshly formatted, or may have other files already on it. For your convenience, we have a 30 second formatter available within this utility that does a full format and verify.

From the opening menu, position the pointers at Quick File Copier and press RETURN. The Renegade master disk must be face up in the disk drive (device #8). The disk drive should start up and, in a short time, the Quick File Copier menu will appear.

Two Drive Quick File Copier:

Because the 1581 options are slightly different than the 1541/71 options, we will identify them in these instructions as such. If no specific drive is mentioned, you may assume that all drive types react the same.

With the Quick File Copier menu on the screen, use the cursor U/D key to move the highlight bar through the menu selections. Starting at the top of the menu, the options are:

Copy Files:

This option is selected after all other menu options are properly set. See Copy Files section below.

Source Drive:

Use this option to change the source (original) drive device number from 8 to 9, 10, or 11. Your source drive must be either hard or soft-wired to match the change. Your drive type, if any, will also be identified in this option.

Subdirectory of Source (1581):

Defaults to OFF unless a 1581 disk drive is detected as the source drive. This option allows you to read into partitions, if any exist on your 3.5" diskette. With the disk containing the partitions in the source drive, and the Highlight Bar over the Subdirectory option, hit RETURN. Partitions will be displayed, if any, between the arrow pointers. Notice that the current directory name as well as the previous directory name is displayed at the top of the screen. If you wish to read into a partition, position the arrow pointers, using the Cursor U/D key, on either side of the partition name and press RETURN. Again, partitions, if any, will be listed on the screen. Repeating this process will allow you to read into any level of subdirectory or partition you wish. If you have gone past a desired partition, use the Clear key to return to the Root Directory and begin the read process again. To copy files from the current partition (listed at the top of the screen), hit the Back Arrow key to return to the menu. The source drive will remain in the current partition unless you access the source subdirectory option again.

Dest. Drive:

Use this option to change the destination (copy) drive device number from 8 to 9, 10, or 11. Your destination drive must be either hard or soft-wired to match the change. Your drive type, if any, will be identified in this option.

Subdirectory of Destination (1581):

See above Subdirectory option. This option will only appear if a 1581 disk drive has been selected as the destination drive. Please note that you may save files from one partition to another partition on the same disk with proper setup.

Save Skew (1541/71):

The order in which your Commodore disk drive saves each sector of data to the diskette is called the interleave or Skew. The normal skew rate of the 1541 drive is 10. This means that DOS begins on, say, sector 0 of a 21 sector track (sectors 0 - 20) and writes sector 0 then adds ten, writes sector 10, adds ten, writes sector twenty, adds ten again to make thirty and subtracts the maximum number of sectors allowed in that track from the total. In this case it would be $20 + 10 = 30$ minus 21 = 9, add ten more, and so on. The skew is directly related to the speed at which the drive is able to send disk data to the computer.

Normal 1541 DOS (Disk Operating System) prefers a skew of ten for the shortest possible loading time. However, there are fast loader hardware and software systems available that will shorten loading time considerably. Many fast loaders work at optimum speed when the skew rate is smaller than normal. For instance, the 1571 drive in 128 mode prefers a skew of 6, although any file save done in the 64 mode will normally save out at a skew of ten - not optimum. When copying files you want to use on your 1571 drive (in C-128 mode), why not set the skew rate to 6? This will decrease load time considerably. Some other commercial fast loaders and their optimum skew rates are; Fastload Cartridge [10], Mach 5 [10], Super Snapshot with the 1541 [5 to 10], and with the 1571 [5], Warp Speed [6], Quick Load [9 to 10], Chip Level Design's Burst ROM [5], and Pro DOS an incredible [1 to 5]! You may want to experiment with your favorite fast load utility.

Format Dest:

This option will allow you to initialize or New a diskette. You may use a brand new disk or a previously used one. Remember, whatever is on that disk is going to be erased PERMANENTLY. The drive previously set up as the destination drive (default is 9) will be the formatting drive. With your disk to be Newed in the destination drive, select the format option. You will then be asked to input the desired disk name (up to 16 characters) followed by a comma and any two character ID, letters or numbers. Press RETURN and you will be prompted to double check the disk. Do so; when satisfied all is well, hit the Y key for Yes. Formatting will take about 30 seconds and will automatically return you to the File copier menu when finished. If you get a 00OK00,00 message, then all went well and the destination disk has been prepared properly. Please note that if the destination drive is a 1571 drive, you will be asked whether you want a 1541 or 1571 format. If you select the 1571 format, both sides of the diskette will be formatted without having to flip the diskette over. Follow on screen prompts.

Software Drives:

See the Software Drives section in the Dual Drive Fast Data Copier section. Operation is identical.

F1/F3:

Use these Function keys to read the Source and Destination Disk Directories.

F5:

Hit this function key to send a disk command to either the source or destination drive. This feature defaults to the Source drive. Use the # key and RETURN to toggle to the destination drive. You will be presented with a S> or D>. This is your key to the built in DOS Wedge. You may send any valid disk command through this wedge. The S> and D> is the substitute for the OPEN 15,8,15," portion of a disk command. Thus to scratch a file, simply type in S>S0 Correct Filename . All other disk commands work in the same manner. See your disk drive manual for the list of available commands.

F7:

Exit to Basic. We have added this option for especially for those of you with 1581 drives. You may use the partition open commands to read as deep into the levels you wish, and then exit to BASIC. The last partition opened will still be accessible through normal DOS Commands.

RESTORE:

The RESTORE key will return the file copier to the file copier main menu from any file copier sub screen. If a disk drive is active, you may have to turn it off and on again to reset it. Please note that stopping a copy during disk access may ruin the data on the destination disk. Also, before shutting the drives down, open the drive doors to prevent possible damage to the source diskette.

Copy Files:

After all other copy parameters have been set and your destination disk is properly prepared, place a write protect tab on your original diskette and select the Copy Files option. The directory of the source disk will be read and will appear on the screen. Using the cursor U/D key, scroll through the list of directory files. Your options are:

Space Bar: Select the file indicated by the pointers. The pointers will automatically move down one file after selection.

A: Toggle All: You may automatically set all files to be copied by pressing A. Note that all files are highlighted. The Space Bar will now act as an un-highlighter.

C: Copy Files: Don't press C until you are done selecting all files for copying and both the source and destination disks are in their proper drives. The source drive will be read and the data will be transferred to the destination drive. If, as the destination BAM is being written out, the copier detects a duplicate file name being placed on the disk, you will be prompted for a new name for that file. Input up to sixteen characters. Please note that the marker lines on the left side of the File read-write screen represent about 10 sectors each. This is to be used as a rough indicator only. Don't disturb the disk drives until the main file copier menu reappears.

D: Delete Files: After selecting files, you may delete or scratch them from the directory by pressing D. You will be asked if you are sure -- Yes or No. If you choose Yes, you will be asked if you would like to confirm each file before it is deleted. We suggest you respond Yes as a No response allows no turning back. Again, be careful with this option as the files can only be recovered by a skillful "disk surgeon".

F8: Reboot main Menu. Place the Renegade master disk in the drive and hit F8. The main menu will reboot.

Single Drive Quick File Copier:

Our single drive file copier operates exactly the same as the dual drive version. To use the Quick File Copier with one drive, just leave the source and destination device numbers set at the default settings of 8, or set both of them to whatever device number you are using. You will be prompted to insert the source and then the destination disks numerous times. Just continue the disk swaps until the copy is completed and the main file copier menu reappears.

PARAMETER MENU

Copy protection has come a long way from the days when a do it all nybbler could either copy all protection on the market, or be programed to do so. Today's copy protection demands, in most cases, what we call a parameter. "What is a parameter?" you ask. Copy protection is generally made up of two special routines working together. The actual physical protection placed on the diskette by the duplicator, and the routine written by the programmer to check that physical protection. In order to copy a protected program, and still have a WORKING copy, we must either duplicate the physical protection or rewrite the protection check routine to allow the program to pass protection checks whether or not the physical protection is on the backup.

Duplicating the protection requires examination of the physical protection with tools such as our GCR Editor, and then creating a special program that re-programs the 1541 disk drive to write that protection out. Of course, we could build that protection write capability into our nybbler, but after a while the number of different checks and write routines would be prohibitive, and would cause our nybbler to slow down to a crawl.

Another answer is to de-program the protection check routine. This is actually the most effective method. We examine the original protection checks written by the software programmer, and disable them by creating a special program designed to re-write the original code by writing what we call a "patch" to a backup of the original. We MUST assume that the software program you own is EXACTLY like ours. If your program is different in any way, we will write our "patch" to the wrong spot on your backup, and the parameter will fail. Luckily, this is rare. In most cases, the results are a backup that is referred to as "Broken". That is, devoid of the need of copy protection. Once the copy protection on a backup has been defeated or "Broken", any whole disk copier will archive that backup.

When a program has been written out in an unstandard format from beginning to end, more than a parameter is required. We must then write a special copier to duplicate THAT particular disk. This results in what we will refer to as a custom

copier. A custom copier is created to reproduce a specific piece of software and will probably have no other purpose in life. Please be aware that we have examined protection schemes that WILL require a hardware addition to your 1541. Because the 1541 is limited to 2K of RAM, a few protection schemes cannot be duplicated using stock equipment. If we add a bit of additional memory, all that changes. We can now read and write out whole tracks of data, defeating almost any protection scheme. Watch for our 1541 RAMBoard. This inexpensive optional hardware will be supported through future Renegade Parameter upgrades.

From the Renegade main menu, position the pointers at Parameter Menu. Make sure the Renegade is in the disk drive face up and press RETURN. The disk drive should start up, and in a short time you will be prompted to insert a Renegade Parameter disk in the drive and press RETURN again. The drive will start again and load a listing of the available parameters. The Renegade Parameter Menu should now be on your screen. The Parameter module number is displayed in the upper left hand corner of your screen. Use the cursor U/D key to slow scroll through the list of titles. To fast page through the titles, use the cursor R/L key. You'll find that the list is alphabetized to aid in quickly finding a specific title. To get to the first title in any alphabetical or numerical listing such as the first title starting with an "S", just press "S" and that title will appear at the top of the screen. You may then scroll down to the desired title. If no title exists using an S as its first letter, the border will flash and the screen will not change. To activate a particular title, just place the cursor bar over it and press RETURN. Be sure the Parameter disk is in the drive with the correct side up.

Our parameters are set up in ten basic structures. The steps involved in each of the ten are slightly different. Each parameter has its own "Tag" displayed on the lower left quadrant of the parameter menu. Each "Tag" informs you of the parameter type, and how to back up that particular title.

Use Single or Dual Nybbler (Then Parameter): Backup your title with either our Single or Dual Nybbler then return to the Parameter Menu and select that title from our listings. When prompted, insert your backup and press RETURN. When done, test your backup.

Use Single or Dual Data Copier (then Parameter): Backup your title with either our Single or Dual Fast Data Copier then return to the Parameter Menu and select that title from our listings. When prompted, insert your backup and press RETURN. When done, test your backup.

Duplicates protection, use Single or Dual Data Copier: Backup your title with either our Single or Dual Fast Data Copier then return to the Parameter Menu and select that title from our listings. When prompted, insert your backup and press RETURN. When done, test your backup.

Custom Copier-1541 drives only (no previous backup needed): Select the title from the Parameter menu and you will be prompted to swap between the source and destination disks numerous times. When done, test your backup.

Use Single Data Copier Only (Then Parameter): Use the Single Drive Fast Copier whenever a copy needs to be "cleaned" of all physical protection. After your backup is complete, return to the Parameter Menu and select that title from our listings. When prompted, insert your backup and press RETURN. When done, test your backup.

Custom Copier (1541/71 Drives, no previous backup needed): Select the title from the Parameter menu and you will be prompted to swap between the source and destination disks numerous times. When done, test your backup.

Use Single Nybbler Only: The ability to copy certain protection schemes will be built into our Single Drive Nybbler. Simply copy your ORIGINAL program diskette with our Single Drive Nybbler, then test your backup.

Dupes Protection, Use Single or Dual Nybbler: Back up your title with either our Single or Dual Drive Nybbler, then return to the Parameter Menu and select that title from our listings. When prompted, insert your backup and press RETURN. When done, test your backup.

Single Nybbler Density On: Back up your original disk with our Single Drive Nybbler, setting the Density Detection option to ON. Copy all sides in this manner, setting the ending track option to 40. When the backup is completed, return to the parameter menu and select the appropriate title from our listings. Follow on screen prompts to produce a working backup.

8K RAM Needed: Unfortunately, certain protection schemes have progressed to the point where they DEMAND the use of hardware as well as software to produce backups. Parameters tagged with this label will require that you have an additional 8K of RAM in your disk drive. Our parameters will work properly with ANY 8K of RAM installed in your drive. This can be our RAMBoard, ProDOS from Chip Level Designs, or even your own homemade board. Please note that certain parameters will require that you set the drive speed to unstandard settings. We unfortunately cannot get around this inconvenience, but we are working on a speed control device that will make it much easier to adjust these settings (see below). After making your backup, always reset the speed back to normal settings. See the Drive Speed Setting section below.

When a parameter tagged with 8K RAM Needed label is called, a standard menu will appear. You may use the Cursor U/D key to highlight the desired option, and press RETURN to select that option. The menu options are:

Copy Disk: Begin backup procedure. Requires your ORIGINAL disk be swapped with the backup disk. Follow on screen prompts.

Device No.: Set to the device number of the drive which will be used to backup your software. Set to 8,9,10, or 11.

Speed Check: Select this option to call up speed check program. See Drive Speed Setting Option below.

Format Disk: Fast format disk in drive.

F1: Directory of disk in drive.

F8: Reboot Renegade main menu.

Read Directory: Use this option to read the directory of whichever diskette is in the drive defined by the Device # option. Once a directory has been read in, it is held in the Edit buffer until a new directory has been read. This means you may edit the same directory numerous times without having to re-read it.

Edit Directory: Once the directory has been read, use this option to rearrange it to suit your needs. See Edit Directory option below.

Device No.: Set this option to the device number of the drive containing the diskette you wish to work on. This option defaults to 8 but may be set to 9, 10, or 11.

F1: Directory of disk in the drive defined by the drive # option.

F8: Reboot the Renegade. Place the Renegade in the drive face up and choose this option. The Renegade main menu will reappear.

Edit Directory: Once a directory has been read into the edit buffer, you may begin work on it by choosing this option. Place the cursor bar over the Edit Directory option and press RETURN. You will find the directory of your work disk in the INPUT buffer on the left hand side of the screen. The options available are:

Edit Changes: Press E to Edit the following items. They are accessed in the following order. After each change or decline to change, press the cursor U/D key to toggle the next item to change.

Current Disk: You may type in a new disk name up to 16 characters long.

ID: You may type in up to 5 characters to form a new diskette ID number. We allow only standard numbers or letters, as some of the other characters may corrupt the look of the directory.

File Type: This option allows you to change the type of file. Please be aware that you cannot really change a relative file to a program file just by renaming the file type. These changes are only cosmetic and may even prevent some files from loading correctly. Experiment on a work disk if you are unsure. Use the cursor R/L key to toggle the file types available.

File Name: The filename defined by the pointing arrow in the center of the screen may be altered by typing in up to 16 characters.

Status: You may lock or unlock a file by toggling this feature with the cursor R/L key. Please note that a locked file is one that cannot be scratched through normal drive commands. It is said to have a **software write protect** on it. However, locked files will still be lost if you format that diskette.

To escape from the **Edit mode** just hit the **Back Arrow** (ESC) key at any time. You will be returned to buffer edit mode.

Buffer Edit Mode: The window on the lower left side of the screen is your input buffer (directory reads in) and the window on the lower right of your screen is the output buffer (directory writes out). You may use the cursor U/D key to scroll up and down through the listings on the side pointed to by the arrow. To turn the arrow to the opposite buffer, use the cursor R/L key. With the

arrow pointed to the side you wish to work on (both sides can be edited), the available options in this, the ACTIVE buffer, are:

Space Bar: Select the title pointed to by the arrow. Pressing the Spacebar causes one title to be highlighted then moves DOWN one position. You may select one listing, a block of listings, or multiple blocks of listings to be moved to the opposite buffer.

A : Toggle All listings in the active buffer to highlighted on or off.

S : Sort all titles in the active buffer that are currently highlighted. You will be prompted with "are sure". Answer Yes or No. The sorted block will be placed in the same position it was previously in, except that it will be sorted according to numerical and alphabetical order.

M : Move highlighted listings from one buffer to the other. You may use the arrow pointer to select the position to insert the highlighted block(s). Simply position the arrow to the position just below where you want the block(s) inserted, and press **M** to Move it. If the arrow is not positioned to the opposite buffer when the **M** command is used, the block(s) will move, by default, to the bottom of the stack of the inactive buffer.

D: You may insert a **Dividing** line to separate any or all listings. Simply position the pointer just below the spot you wish to insert the dotted line and hit **D**. This divider will be cosmetic only, and will not take up any real diskette space other than in the directory.

W: Use **W** to reWrite the finished directory back to the work diskette. You will be prompted with "Are you sure". When satisfied all is well, prompt Yes and the new directory will be written out. Please note that ALL listings **MUST** be moved to the output buffer in order to reWrite the new directory. If not, you will be prompted as such, and be returned to the Edit mode.

RESTORE: Use this key to return to the main menu. Your work will not be ruined, as you need only select the **Edit Directory** option again to resume where you left off.

If, before reading a new directory, you feel that your work needs to be altered on the previous disk, even after it has been written out, you may return to make additional changes by using the **Edit Directory** function. You will be returned to the work screen in the same condition you left it. Just make your new changes and reWrite the directory again.

6502 M/L MONITOR

From the main menu use the Cursor Keys to point to the 6502 M/L Monitor option. Press RETURN to load the utility. When the monitor menu screen comes up, use the cursor U/D keys to choose an option. Press RETURN to execute that option.

Our M/L Monitor is completely relocatable in memory. Hitting the RETURN key while the "Monitor=\$X000" is highlighted will increment the monitor to the desired Hex address.

F1 : Directory of disk in drive.
 F8 : Prompt to re-boot the Renegade main menu.
OPTION 1 : Execute chosen monitor. (See Monitor Commands).
OPTION 2 : Save chosen monitor to a work disk.
 Saves autoboot file under name : "MONX000". Just LOAD "MONX000" to autoboot other save files. The op-codes listings will be saved as "OPS". The monitor will be saved as "X0".
OPTION 3 : Edit the op-code file (OPS) on any WORK DISK.
 CURSOR U/D : Slow scroll through list.
 CURSOR R/L : Fast scroll through list.
 RESTORE : Reset to previous menu.
 SPACE : Allows you to change the mnemonic.
 A : Steps through the addressing modes (changes them).
 HOME : Returns cursor to beginning (\$00 byte).
 S : Re-saves changed opcode file to a WORK DISK.

6502 M/L Commands:

R : Displays status of A,X,Y registers and Stack pointer
 G : XXXX - Executes code starting at \$XXXX
 X : Returns user to Basic
 M : FFFF LLLL - Displays in hex, memory between 2 two addresses. If a second address isn't specified, scrolls forever. RUN/STOP halts.
 @ : Sends disk command. Alone returns drive status. @\$ for directory of disk.
 SPACE : during directory pauses.
 RUN/STOP : abort directory listing.
 L : Load file from disk. L "FILENAME"device# address(optional). For example- L "FILE"08C000 (If an address is given, it WILL load to that address.)
 V : Verify file in memory. V "FILENAME"device address(optional). Same as Load command but Verify instead. A "?" stands for verify error.
 S : Save File - S "FILENAME"device FFFF LLLL+1
 Example : S "FILENAME"08C000 D001
 F : FFFF LLLL XX - Fills memory from \$FFFF to \$LLLL with \$XX byte.
 D : FFFF LLLL (\$LLLL Optional) - Disassembles memory. Use CURSOR U/D to scroll through listing. Editing is possible using mnemonic changes.
 P : Send code to printer - PD FFFF LLLL sends disassembly listing. PM FFFF LLLL sends HEX Memory listing. (Commodore 1525 compatibles only)
 A : XXXX mnemonic commands - Assemble code beginning at \$XXXX (Be sure to use proper spacing between characters.)
 H : FFFF LLLL PATTERN - Hunts from \$FFFF to \$LLLL for up to an eight byte pattern. Use quotes on either side of an ASCII pattern. ASCII and Hex may be mixed.
 T : FFFF LLLL XXXX - Transfers memory from \$FFFF through \$LLLL to \$XXXX.
 TC : Use same syntax as T command. Will transfer computer memory to drive.
 TD : Use same syntax as T command. Will transfer drive memory to the computer.
 TF : Same syntax as T command. Fast command version of TC. Warning: \$XXXX can't be between \$0001 and \$0147.
 O : This is the letter O not a zero. O followed by an 8,9 A,B (device number) will put you in the drive-mon mode for the specified drive. The above commands are the same for the drive-mon except the P feature is inactive. For printer listings of drive memory, send the code to the computer, then the printer. O and RETURN sends you back to the computer memory. A "J" lets you know

you're in drive memory, while a "." denotes computer memory. To assemble/disassemble beneath ROMs and the VIC CHIP, change location \$0002 as if it were \$0001. \$0001 can't be changed through the monitor.

\$0002: \$37 = All ROMs in.

\$36 = Bank out BASIC.(\$A000-\$BFFF)

\$35 = Bank out Kernal & BASIC.

\$30 = Bank in RAM under \$D000.

\$31 = Bank in character ROM under \$D000.

DATA SCANNER

We created the Fast Data Scanner to help us find bytes on a diskette that we have found in memory after examination of a program. The uses are endless. We have even used it to aid in the recovery of a short New, breaking software protection, and searching for repeating patterns. This utility is one of our favorites, and we know that you'll love it too.

From the Renegade main menu, select the Upgrades and Goodies option. Be sure the Renegade master disk is in the drive face up and press RETURN. A sub-menu will appear, and give you a list of available utilities. From this menu, choose the Data Scanner. The drive should start up and, in a short time, the Data Scanner main menu should appear. Use the cursor U/D key to position the cursor bar over the desired option and press RETURN to activate that feature. Starting at the top of the screen, the menu options are:

Scan Diskette : After setting all other options, begin full scan of the diskette currently in the disk drive. See **Scan Diskette Option** below.

Enter Scan Data : Use this option to enter data you wish to scan the disk for. At the prompt, you may enter the bytes you are trying to locate in any of three forms. HEX, Decimal, or ASCII will be acceptable. You are limited to two lines of input. An incorrect input will not be accepted.

Enter HEX data as : \$8D\$53\$22 (Notice the "\$" and the "," placements.)

Enter Decimal Data as : 200,255,36 (Notice the "," placements.)

Enter ASCII data as : "welcome to" (Notice the quotes around the string.)

Enter Combinations of all three such as : "welcome to"\$8D\$53\$22,200,255,36

When all data has been entered, hit RETURN and the main Data Scan Menu will reappear. The data information you typed in will be retained for future reference within the Enter Scan Data screen.

Start Track # : Set the beginning track to scan. You may input 1 to 40.

End Track # : Set the ending track to scan. You may input 1 to 40.

Device # : Set to the device number of the drive which contains the disk you wish to scan.

F1 : Use this Function key to view directory of disk in drive.

F8 :Reboot the Renegade main menu. Be sure the Renegade master disk is in the drive face up.

Scan Diskette :

When the Scan Diskette option is selected, scanning will begin on those tracks selected in the main menu. If you wish to pause the scan process, hold down RUN/STOP. To resume scanning, press the space bar. To stop the scan and reset the drives, press RESTORE. The sector counter is along the left side of the screen and the track counter is along the bottom. After the scan is complete, track and sector highlighters, as well as a flashing cursor, will appear.

The map on your screen at this point represents a map of your diskette. If an asterisk appears in the map, it represents a match of the data scanned for in that sector.

Other active keys in this mode are the **F1** key, used to print from any printer capable of emulating a Commodore printer. Use the cursor U/D and R/L keys to position the flashing cursor over any sector you would like to examine further. To read the sector for examination or modification purposes, hit **Space Bar**. Pressing the **L** key once will toggle you into the data match Locations screen. Press **L** again to return to the previous screen. The sector will be read, and a HEX/ASCII memory map will be displayed. You may use the cursor U/D and R/L keys to position the cursor to the first byte to modify. Make any desired changes in HEX. To view the same sector in disassemble mode, hit the **M** for **Mode** key and the disassembly will appear. You may make changes by hitting the **Space Bar** and typing in your changes in mnemonics. Be sure to use proper spacing. Hit RETURN after each change. A bad instruction will exit the edit mode. After all changes are complete, use the **W** key to re-Write the sector. Use the **J** key to Jump to the next file link, if any. Use the Left Arrow key (**ESC**) to exit to the previous screen. You may select a new sector or return to the main menu by hitting **RESTORE**.

TROUBLESHOOTING

If you are experiencing problems with the Renegade, we suggest that the **first** thing you do is attempt to isolate the problem. This is best done by unplugging all, and we mean **ALL** unneeded peripherals from your system. Extra disk drives, interfaces, printers, modems and joysticks should be unplugged from the computer! Unplugging them from their electrical power source may not be good enough. Again, **unplug them from the computer and/or serial port**. Try duplicating the problem again, and if the Renegade works now, try plugging in the peripherals one at a time, testing in between additions. Continue until the problem is isolated. The following troubleshooting guide will assume that you have attempted to isolate the problem as described above.

Main Menu:

Problem: The Renegade won't load on my equipment.

Solution: a> Be sure the Renegade **Master** Disk is in the drive, device number 8, and type in < **LOAD "*" 8,1** > and press RETURN.

b> See the System Requirements section in the beginning of this manual. If you are running on after-market drives or non-standard equipment, our program may not be compatible.

c> If you are running standard equipment, you may want to try loading the Renegade on a friend's setup. If it loads fine, your disk drive(s) may need servicing. If your disk drive has not been serviced for quite a while, you may want to have it checked by a competent repair person.

d> If the Renegade won't load on any setup, you may have a defective disk. See Limited Warranty section at the end of this manual.

Single Fast Data Copier:

Problem: Write errors are reported on the destination disk.

Solution: a> Re-copy using a different destination disk.

b> If that doesn't help, you may need to have your disk drive checked for speed and/or alignment.

Dual Fast Data Copier:

Problem: Copy is not reliable. Original seems to run fine.

Solution: Try the Single Drive Fast Copier first. If that doesn't work, you may be dealing with a protected diskette. Use the Single or Dual Nybbler.

Single GCR Nybbler:

Problem: The Renegade was copying a Rapid-Lok protected program and locked up in the second phase (Rapid-Lok mode).

Solution: Two drives on while copying Rapid-Lok will cause problems. Turn the unneeded drive off.

Single or Dual GCR Nybbler:

Problem: Copy won't run. It starts to boot and then "crashes".

Solution: The original is probably copy protected and requires a parameter. See the parameter listing. If you don't find the desired title, you may want to contact the technical support team at Software Support for advise.

Sector Map Editor:

Problem: The printouts are incorrect or garbled.

Solution: Use a printer/interface that truly emulates the Commodore 801, 1525 printers.

Problem: The utility aborts after a only few tracks have been read.

Solution: This utility cannot support more than 4 devices plugged into the system at once. Unplug excess drives or printers from the incoming serial port.

Problem: This utility does not work on a PAL system.

Solution: We are working on a PAL version of this utility. It should be released on a future Renegade version.

Renegade GCR Editor:

Problem: The disk drive runs continually after some functions.

Solution: This is normal, as we leave the drive on during certain tasks. This insures that the speed is proper when data is written back to the diskette.

Problem: The printouts are incorrect or garbled.

Solution: Use a printer/interface that truly emulates the Commodore 801, 1525 printers.

Parameter Menu:

Problem: You followed all the instructions and ran the correct parameter over the backup, which gave a "parameter successful" message, but the backup still fails.

Solution: Most of our newer parameters have built in version sensors to detect the protection used. These will all give proper Fail-Succeed messages. Our older parameters do not have these sensors. If you experience this problem, you may have an unknown version. Call the tech support team at Software Support.

Data Scanner:

Problem: The printouts are incorrect or garbled.

Solution: Use a printer/interface that truly emulates the Commodore 801, 1525 printers.

Problem: The utility aborts after a only few tracks have been read.

Solution: This utility cannot support more than 4 devices plugged into the system at once. Unplug excess drives or printers from the incoming serial port.

Problem: This utility does not work on a PAL system.

Solution: We are working on a PAL version of this utility. It should be released on a future Renegade version.

CONCLUSION

Let's talk straight with each other. If you've purchased this program, you're a valued customer. If you haven't, you're a thief. This program was created specifically to allow legitimate purchasers of software to exercise their right to create an archival backup of that software. It was not created to be a tool to allow thieves to build up their illicit libraries.

We're not going to dictate ethics to you. You know what's right and what's wrong. But we will point out a simple fact. Talent, in any field of endeavor, is rare. If the few gifted programmers out there cannot support themselves by sharing their talent with us, we all lose. Please keep this in mind, and use this tool as it was intended. The Renegade was designed to allow you to enforce your rights -- not to deprive others of their fair due.

We've given you the power. But please remember that with power comes responsibility.

LIMITED WARRANTY

If at any time within 90 days of purchase, the Renegade, or any of its subsystem diskettes become defective, you may call 1(800) 356-1179 ((206) 695-1393 outside of the 48 states) for a Replacement Authorization Number. This RA# must appear on the outside of the package containing the diskette being returned. We will replace your defective original diskette with one bearing the exact same version number. We will expect YOU TO BE A REGISTERED OWNER OF THE RENEGADE. **NO EXCEPTIONS.** Replacements will be given at no charge, upon receipt of your defective diskette, postage paid.

THE RENEGADE

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Special Effects by: David Black
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Docs by: Les Lawrence and Michael Daigle
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