SUPER CLONE™

USERS MANUAL

FRONTRUNNER
COMPUTER INDUSTRIES

SUPERCLONE User's Manual

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Section 1 — Getting Started

1.0 Introduction

Most vendors marketing diskette programs for the Atari 400/800 computer system
have devised schemes to protect their software from being copied. SUPERCLONE is
the first and only system that lets you backup just about any "copy protected"
diskette without modifications to your equipment.

Think of SUPERCLONE as a "tool kit." This manual will teach you to use
SUPERCLONE's implements. Section 1 begins with a quick tutorial about diskettes
and their terminology, followed by instructions on how to prepare your SUPERCLONE
diskette for usage. Next is a demonstration of SUPERCLONE's functions. This demo
creates a backup copy of SUPERCLONE while teaching the basics of its operation.
Section 2 is a reference guide explaining the various techniques of "copy protection",
highlighting important functions of each SUPERCLONE "tool", and providing
illustrations of backing-up hypothetical protected diskettes. Section 3 explains "Why
SUPERCLONE?", preaches the perils of piracy, and limits our liability!

PLEASE read this manual slowly and carefully from cover to cover. You will discover
that SUPERCLONE is user-friendly and simple to use.

Thank you for purchasing SUPERCLONE.

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The Atari 810 disk drive uses a 5 1/4" diameter diskette that looks like a miniature 45 RPM record encased in a plastic jacket. The round disk is covered with a magnetic substance similar to the coating on cassette or 8-track tapes. Information is recorded by magnetizing the surface of the diskette. The diskette is divided into 40 concentric rings or tracks. Each track is sub-divided into 18 troughs or sectors. See the illustration below.
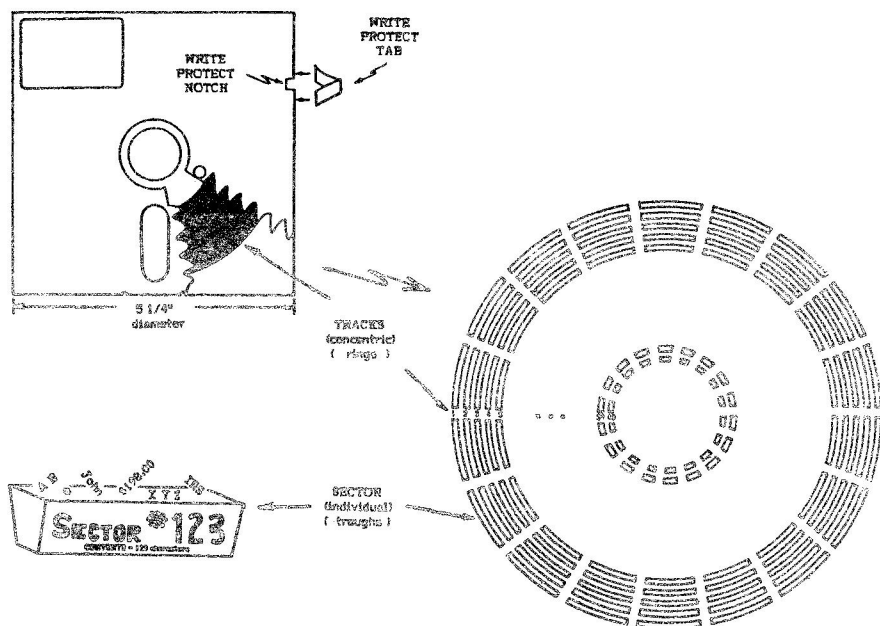
Figure 1.1

Each sector (trough) will hold 128 characters (i.e. letters, numbers, punctuation marks, etc.) Thus, an Atari diskette has the capacity to store more than 90,000 characters of information (i.e. 40 tracks x 18 sectors/track x 128 characters/sector = 92,160.)

It is necessary to understand the concept of diskette tracks and sectors in order to use SUPERCLONE. Just remember, 40 concentric rings (tracks) each divided into 18 troughs (sectors), for a total of 720 sectors per diskette (i.e. 40 tracks x 18 sectors/track = 720.)

Notice the "write protect notch" on the upper right corner of the diskette shown in Figure 1.1. This notch is a signal to the disk drive. If the notch is not covered with a "write protect tab", information (i.e. data) may be recorded on the diskette. If, however a write protect tab covers the notch, the disk drive will not record any data. The tabs are small (usually black or silver) re-usable "sticky" labels that may be affixed or removed as desired.

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1.2 Implementing SUPERCLONE

A program is a detailed list of instructions to the computer telling it how to do a specific job. To illustrate, there are checkbook balancing programs, game programs, and word processing programs. Each of these programs performs one task. There are even programs that tell your computer how to operate. The Atari 810 disk drive requires two programs to make it useful, DOS (Disk Operating System) and DUP (Disk Utility Program.) If you are interested in learning more about DOS and DUP, see your Atari 400/800 Disk Operating System II - Reference Manual.

SUPERCLONE needs both DOS and DUP in order to function. However, since DOS and DUP are Atari products, we could not include them on your distribution copy of SUPERCLONE. Thus, to implement SUPERCLONE, you must copy DOS and DUP (from the Master Diskette supplied by Atari when you purchased your 810 disk drive) to your distribution SUPERCLONE diskette. Once you perform this simple task, SUPERCLONE is operational. See the illustration below.

Figure 1.2

Please follow these steps exactly to copy DOS and DUP to your SUPERCLONE distribution diskette. Check off each task as you go:

1.   Locate your Atari 810 Master Diskette II (Part No. CX8104.) Note: If necessary, you may use any other diskette that has a good copy of DOS version 2.0S and DUP.

2.   Make sure that all components of your Atari 400/800 system are properly connected together (cables, power cords, TV, etc.) Switch the antenna adapter to "computer". Remove all cartridges from your computer. If you have more than one Atari 810 disk drive, identify disk drive No. 1 (refer to your Atari 400/800 DOS II - Reference Manual page 2, Figure 1-2 for drive code settings.) Hereinafter, all references to your Atari 810 disk drive are assumed to mean drive #1. Turn ON your TV. The POWER switches on all other devices should be in the OFF position.

3.   Turn the Atari 810 disk drive PWR. switch to the ON position. Wait until the red BUSY light goes off.

3

4. Remove the Atari Master Diskette from its protective paper cover, holding it label side up, and with the label toward you. Handle just the black plastic jacket. Be careful not to touch the exposed areas of the actual disk.
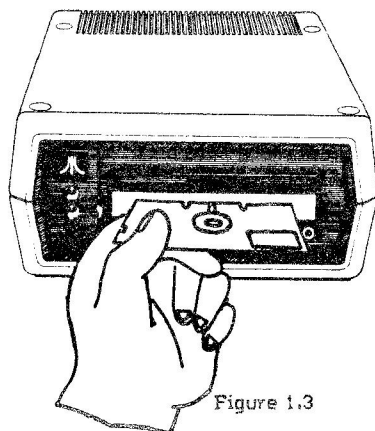
Figure 1.3

5. Open the Atari 810 disk drive door. Gently slide the disk into the drive making sure that it is inserted all the way (a soft click will be heard when the disk has been properly seated.)

6. Close the Atari 810 disk drive door.

7. If you have an Atari 850 Interface Module and/or a printer attached to your system, turn the POWER switch for each of these devices to the ON position.

8. Turn on the POWER switch to your Atari 400 or 800 computer. (If the volume control on your TV is turned loud enough, you should hear "beeping" sounds.) The Atari DOS program is now being copied from the Atari Master Diskette into your computer's memory.

9. In a few seconds your TV should now look like the illustration below:
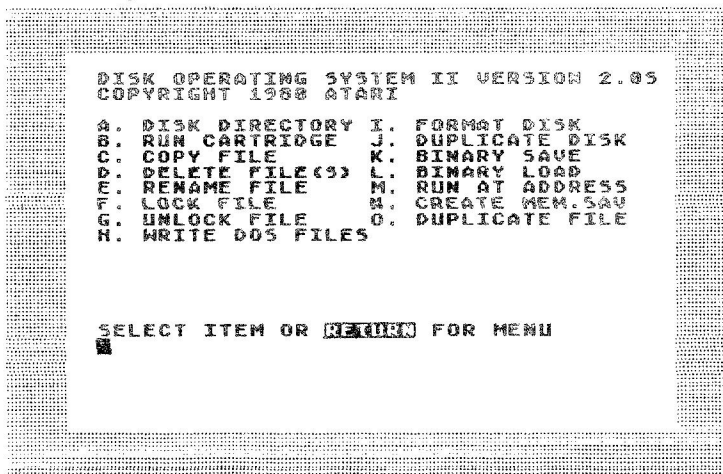
Figure 1.4

4

Note: Should your TV screen display the message "BOOT ERROR" please see page 22 of your Atari 400/800 DOS II — Reference Manual for an explanation of the probable causes of the error. Correct the problem and retry these steps again.

10. Open the disk drive door and carefully remove the Master Diskette from the drive. Replace the Master Diskette in its paper cover.

11. Remove your distribution SUPERCLONE diskette from its protective paper cover and insert it into the disk drive. Close the disk drive door.

12. Respond to the prompt "SELECT ITEM OR RETURN FOR MENU" by typing the letter H and pressing the "RETURN" key on your Atari keyboard.

    Note: If you make a mistake and type an incorrect response, just press the "RETURN" key several times until the screen once again looks like Figure 1.4. Then re-start with step #12.

13. Respond to the question "DRIVE TO WRITE DOS FILES TO?" by typing the number 1 and pressing the "RETURN" key.

14. Respond to the prompt "TYPE 'Y' TO WRITE DOS TO DRIVE 1." by typing Y and pressing "RETURN".

15. Your TV screen will display the message "WRITING NEW DOS FILES" while both DOS and DUP are being copied to your distribution SUPERCLONE diskette.

16. When your TV screen once again looks like Figure 1.4 open the disk drive door and remove your SUPERCLONE diskette. SUPERCLONE is now operational, and ready to use.

NOTICE

WE URGE YOU TO CONTINUE WITH SECTION 1.3 OF THESE INSTRUCTIONS AT THIS TIME AND CREATE A "BACKUP COPY" OF SUPERCLONE.

TIME SAVING TIP

If you are proceeding to Section 1.3 as recommended, insert the BASIC Cartridge as instructed in step #2, but do not turn OFF any power switches except the one for your computer. (The power to your Atari 400/800 computer must be switched OFF.) Also skip steps #3 and #5 as they will not apply.

1.3 Demonstration

Besides illustrating how SUPERCLONE operates, this demonstration creates a backup copy of your SUPERCLONE distribution diskette. Once again we cannot over emphasize the importance of making a backup copy of SUPERCLONE at this time.
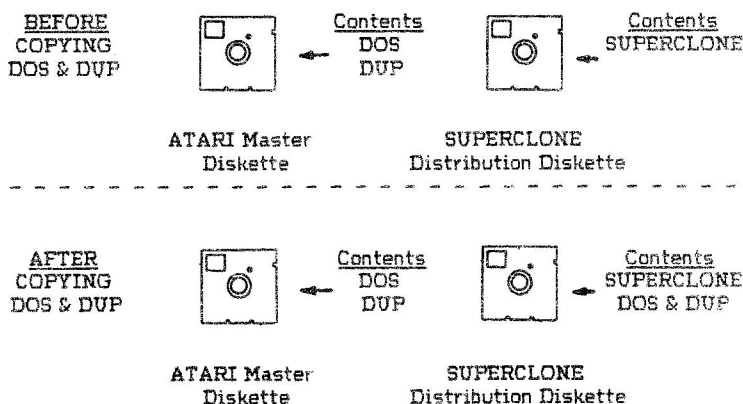
Please follow these steps exactly to backup your SUPERCLONE distribution diskette. Check off each task as you go:

1.   Locate one 5 1/4" diskette to use for your backup copy of SUPERCLONE (either a brand new diskette, or a used diskette that is no longer needed.) If the diskette has a write protect tab, remove it.

     Note: Should you need to purchase disks, specify to your supplier: 5 1/4" single sided, single density, soft sectored diskettes. Buy diskettes of reasonable quality as cheap ones will eventually damage your disk drive (the magnetic coating rubs off on the recording head.)

2.   Turn ON your TV. The POWER switches on all other devices should be in the OFF position. Insert the BASIC Computing Language Cartridge (Part No. CXL4002) into your computer. (Atari 800 users must install this cartridge in the left-hand slot.)

3.   Turn the Atari 810 disk drive PWR. switch to the ON position. Wait until the red BUSY light goes off.

4.   Open the disk drive door and insert your distribution SUPERCLONE diskette. Close the drive door.

5.   If you have an Atari 850 Interface Module and/or a printer attached to your system, turn the POWER switch for each of these devices to the ON position.

6.   Turn on the POWER switch to your Atari 400 or 800 computer. If you have properly performed the steps outlined in Section 1.2, your TV should soon display the SUPERCLONE title screen, followed by a short musical fanfare. Next comes the SUPERCLONE characture. Finally, after your disk drive makes a "snarking" noise, your TV should display the SUPERCLONE main menu screen shown below:

Figure 1.5

6
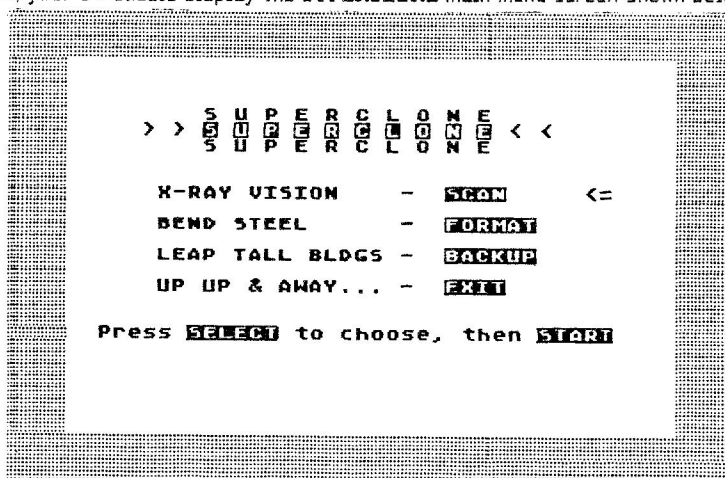
Note: Should you not get the results described here, re-execute the steps detailed in Section 1.2. Then retry these steps again.

7. When preparing a backup of a "copy protected" diskette, the first step is to SCAN the contents of the disk. This would be similar to thumbing through the pages of a book and noting which pages are printed (i.e. contain information or data), those which are torn (i.e. damaged or bad) and also those that are simply blank (i.e. empty.) We have SCANned the SUPERCLONE diskette for you. This is its map:

```
MAP FOR SUPERCLONE DISKETTE
TRACK      SECTOR     CONTENTS

  ( 1         1)
  ( --THRU-- )        DATA
  ( 5        90)

  ( 6        91)
  ( --THRU-- )        BAD SECTOR(S)
  ( 6       108)

  ( 7       109)
  ( --THRU-- )        DATA
  (34       609)

  (34       610)
  ( --THRU-- )        EMPTY
  (40       720)

SCAN COMPLETED - PRESS START
```

Figure 1.6

As you can see, sectors 1 thru 90, and 109 thru 609 contain data. Sectors 610 thru 720 are absolutely empty (i.e their troughs do not have any information in them.) Sectors 91 thru 108 are bad (i.e. those troughs are either missing or damaged.) The details about "bad sectors" will be discussed later.

Do not SCAN your SUPERCLONE distribution diskette because we have done it for you.

8. Hold down the "SELECT" key for several seconds. You will see the arrow on the right hand side of the screen move from line to line on the menu. Just as you select items from a restaurant menu, you select the function you require from SUPERCLONE's menu. When you want the computer to begin that specific function, simply press the "START" key momentarily. Don't press the "START" key yet.

7

9. Using the "SELECT" key, position the arrow to the FORMAT function, then press the "START" key. Your TV screen should now look like this:


```
        S U P E R C L O N E
> >     S U P E R C L O N E     < <
        S U P E R C L O N E

    X-RAY VISION        -    SCAN

    BEND STEEL          -    FORMAT      <=

    LEAP TALL BLDGS     -    BACKUP

    UP UP & AWAY...     -    EXIT

  INSERT DISK TO FORMAT IN DRIVE #1
     THEN PRESS OPTION  <ESC TO QUIT>
```
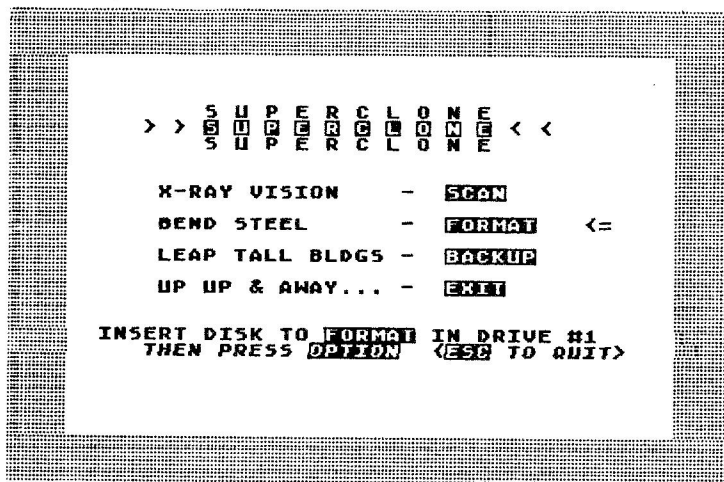
Figure 1.7

Note: If you make a mistake and select an incorrect function, just press the "ESC" key once, and the screen will again look like Figure 1.5. Then re-start with step #9.

10. Remove the SUPERCLONE distribution diskette from the disk drive, and insert the diskette to be used for your backup copy of SUPERCLONE (see step #1.)

11. Press the "OPTION" key. Your TV screen will show the FORMAT DISKETTE menu.

12. Press the "START" key. The prompt "FORMATTING ENTIRE DISK...PLEASE WAIT" will be displayed. Listen to the sound of your disk drive. You will hear 40 quick clicks followed by 40 slower clicks. This is the sound of the disk drive "FORMATTING" your diskette. Formatting is like replacing the previous contents of a file cabinet drawer with empty unlabeled file folders. The filing drawer is clean but all prepared to accept new information (i.e. data.)

Note: If you made a mistake and selected the CREATE BAD SECTOR function, press "ESC". When the screen again looks like Figure 1.5, re-start with step #9. If you incorrectly selected the function RETURN TO MAIN MENU, re-start at step #9. If you neglected to remove the SUPERCLONE distribution diskette from the disk drive, the prompt "OOPS, CAN'T FORMAT SUPERCLONE DISK!" will be displayed. Press "START" and re-start with step #9.

13. If your disk was successfully FORMATTED you will automatically return to SUPERCLONE's main menu (as in Figure 1.5.) However, if the diskette you used was defective, you will see the prompt "WARNING - THIS DISKETTE IS DEFECTIVE." In this case press the "START" key and the screen will return to the main menu. Find another diskette to use for your SUPERCLONE backup and re-start with step #9. When you have successfully FORMATTED a diskette, proceed with step #14.

8

14. Use the "SELECT" key to position the arrow to the BACKUP function, then press the "START" key. Your TV will now display:

```
   S  U  P  E  R  C  L  O  N  E
> > █  █  █  █  █  █  █  █  █  █ < <
   S  U  P  E  R  C  L  O  N  E

   X-RAY VISION      -  SCAN
   BEND STEEL        -  FORMAT
   LEAP TALL BLDGS   -  BACKUP    <=
   UP UP & AWAY...   -  EXIT

  Press SELECT to choose, then START
  RE-INSERT SUPERCLONE DISK IN DRIVE #1
     THEN PRESS OPTION <ESC TO QUIT>
```
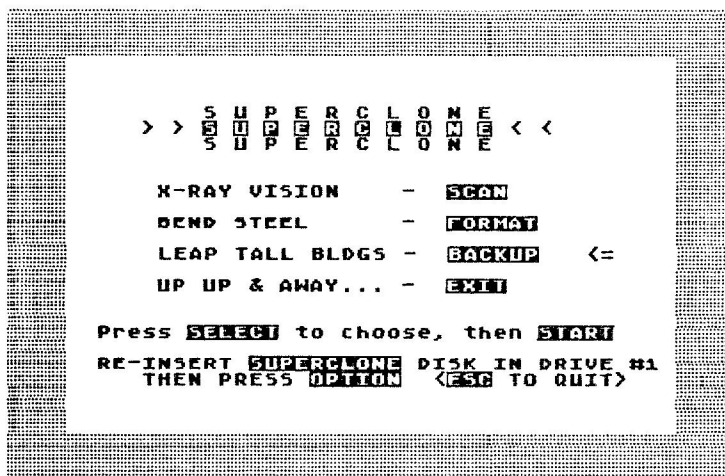
Figure 1.8

15. Remove the diskette just FORMATTED, replace it with the distribution copy of SUPERCLONE, and press the "OPTION" key. The prompt "I'M THINKING . . . PLEASE WAIT" will be displayed.

16. When the prompt "INSERT ORIGINAL DISK IN DRIVE #1" is displayed, just press the "START" key. Once again the prompt "I'M THINKING . . . PLEASE WAIT" will be displayed.

17. When the screen displays the BACKUP DISKETTE menu, again press the "START" key.

   Note: If you unintentionally selected the COPY SELECTED SECTORS function, press "ESC". When the screen again looks like Figure 1.5, re-start with step #14. If by mistake you selected the function RETURN TO MAIN MENU, re-start at step #14.

18. Respond to the prompt "RE-INSERT SUPERCLONE DISK IN DRIVE #1" by pressing the "OPTION" key. The prompt "I'M THINKING . . . PLEASE WAIT" will be displayed.

19. When the screen finally clears and displays the prompt "INSERT ORIGINAL DISK IN DRIVE #1", press the "START" key. The sector numbers (troughs) that SUPERCLONE is reading will display in the left hand column of your TV screen.

20. After SUPERCLONE has read 120 sectors of information, the prompt "INSERT BACKUP DISK IN DRIVE #1" will be displayed. Remove the distribution SUPERCLONE diskette, insert the empty formatted diskette created in step #13 (i.e. the diskette to be used for your SUPERCLONE backup) and press the "START" key. The numbers of the sectors (troughs) that are duplicating (i.e. recording -or- writing) to your backup diskette are displayed on the screen.

9

21. You will see the pair of prompts "INSERT ORIGINAL DISK IN DRIVE #1" and "INSERT BACKUP DISK IN DRIVE #1" five additional times. Each time the prompt "INSERT ORIGINAL DISK IN DRIVE #1" is displayed, remove the backup SUPERCLONE diskette, insert the original distribution SUPERCLONE diskette in your drive and press the "START" key. Each time the prompt "INSERT BACKUP DISK IN DRIVE #1" is displayed, remove the original distribution SUPERCLONE diskette and insert your backup SUPERCLONE diskette in the drive and press the "START" key. When you have finally duplicated all 720 sectors from the original diskette (i.e. the SUPERCLONE distribution diskette) to your backup diskette (i.e. your SUPERCLONE backup) the TV screen will again return to the SUPERCLONE main menu (i.e. Figure 1.5.)

Note: It is absolutely imperative that the correct diskettes are "swapped" about. Just take your time and carefully read the prompts.

22. The process of creating your backup copy of SUPERCLONE ia almost complete. You duplicated every sector from the distribution SUPERCLONE diskette to the backup SUPERCLONE diskette. Look again at Figure #6. Some of the sectors that you duplicated were "empty" and others contained "data." Notice sector #91, it is a "bad sector." A backup of a "copy protected" diskette must be an exact copy or "clone" of the original diskette. Thus, you must create a "bad sector #91" on your backup copy of SUPERCLONE. Using the "SELECT" key, position the arrow to the FORMAT function, then press the "START" key. Your screen should look like FIGURE 1.7.

23. Press the "OPTION" key. Your screen will display the FORMAT DISKETTE menu.

24. Use the "SELECT" key to choose the CREATE BAD SECTOR function, and then press the "START" key. Your screen will now look like this:

```
                    CREATE BAD SECTOR

        ENTER SECTOR #                    ___
```

Figure 1.9

10
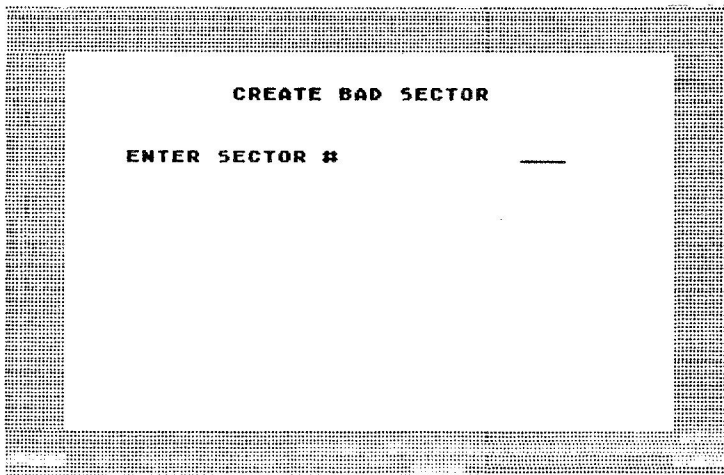
25. Before responding to the prompt in Figure 1.9, momentarily remove your backup SUPERCLONE diskette from the disk drive. Get a roll of cellophane tape and tear off approximately 5 inches. Affix the strip of tape to your backup SUPERCLONE diskette as illustrated in Figure 1.10.

approx.
1/2"

front

back

approx 2"

sticky sides
stuck together
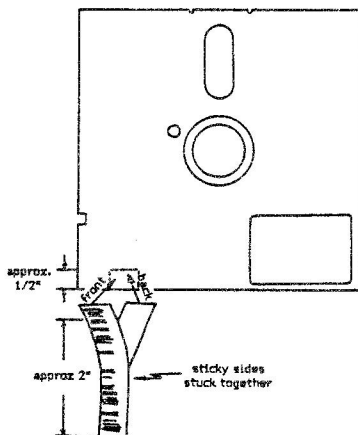
ATTACHING CELLOPHANE 'TAB'
TO DISKETTE JACKET

Figure 1.10

26. Re-insert the backup SUPERCLONE diskette in your disk drive, and close the drive door. The cellophane "tab" will extend out of the drive door as in Figure 1.11.

ATARI 810
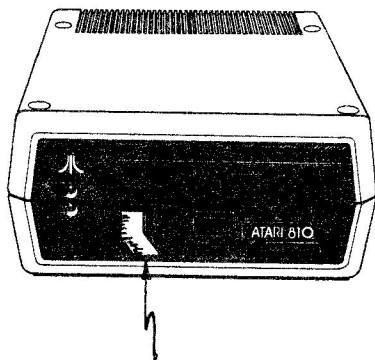
CELLOPHANE 'TAB' PROTRUDING
FROM ATARI DISK DRIVE

Figure 1.11

11

27. In response to the prompt "ENTER SECTOR #" type the number 9 followed by the number 1 and then press the "RETURN" key.

28. If you correctly typed 91 at step #27, answer the "CHANGE REQUEST?" prompt with an N. However, if you made a mistake at step #27 type a Y, re-type the correct sector # (i.e. 91) and then type N.

29. You are now prompted to "GENTLY PULL 'TAB' TO CREATE BAD SECTOR." Grasp the cellophane tab protruding from your disk drive between your thumb and forefinger. FIRMLY YANK and release the "tab" in a continuous vibrating motion as if you were "milking a cow" or had "nervous hands." Continue this process until your screen looks like Figure 1.12.


```
            CREATE  BAD  SECTOR


   ENTER SECTOR #                   91_


   CHANGE REQUEST? <Type  Y  or  N>  N
                  <ESC TO QUIT>

GENTLY PULL 'TAB' TO CREATE BAD SECTOR
              <ESC TO QUIT>

        CREATE MORE BAD SECTORS?
           <Type  Y  or  N>       _
```

Figure 1.12

Helpful Hints for Creating "Bad Sectors"

To create a "bad sector", it is necessary to give the cellophane tab a very FIRM tug. If you are "yanking" hard enough you will:
* hear the disk drive motor "slow down",
* see the drive busy light "flicker", and
* feel the diskette envelope "touching" the disk drive door.

When your drive begins to make a "snarking" noise, quickly release the cellophane tab. You'll know you've created a "bad sector" if the drive makes an additional "snark" or two and the prompt "CREATE MORE BAD SECTORS?" is displayed. While attempting to create a "bad sector" it is normal to hear several "snarks" during the process. When finished creating "bad sectors", check your results by using the SCAN SELECTED SECTORS function. It is suggested that you check a range of sectors. For example, if you were trying to create a bad sector 100, scan sectors 90 thru 110. If you discover that you created a bad sector at an unintended location, you are either not pulling hard e. ough on the cellophane tab, or you did not release the tab as the drive began to "snark."

12

If you just can't seem to create a "bad sector", try the following suggestions:

* yank harder on the cellophane tab (not pulling hard enough is the most common problem),

* verify that the diskette you are using turns freely and easily inside its black plastic jacket (a diskette that does not rotate freely is a poor candidate for bad sectoring),

* listen to the disk drive motor ... if it stops as you pull on the cellophane tab and hesitates momentarily before rotating again, try another diskette (if using another diskette does not remedy the problem, it is likely that the spindle pully in your drive requires adjustment ... note that only the disk drive manufacturer can fix this problem.)

Be patient and do not get frustrated creating your first "bad sector." It may take several minutes to get the job done your first time or two.

30. Only one bad sector was required, thus respond N to the prompt "CREATE MORE BAD SECTORS?" The SUPERCLONE main menu will again be displayed.

31. Select the SCAN function by pressing the "START" key. Your screen will look like Figure 1.13.
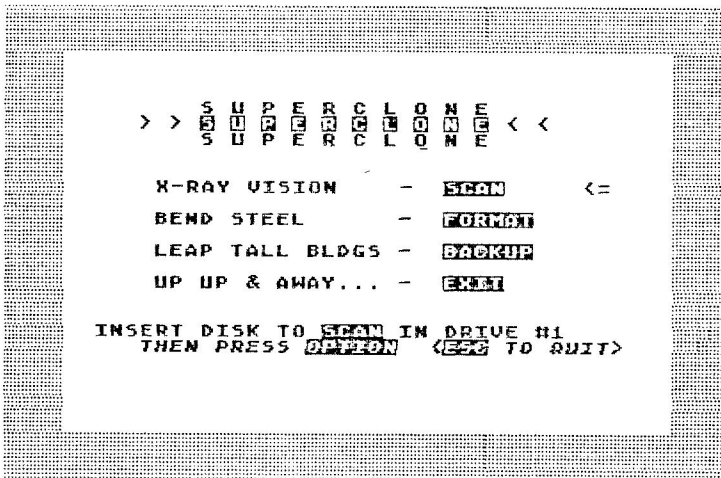
Figure 1.13

13

32. Press the "OPTION" key because you are going to SCAN your backup SUPERCLONE diskette. The screen display will look like this:

```
              SCAN DISKETTE


         PREPARE DISKETTE MAP

         SCAN SELECTED SECTORS        <=

         RETURN TO MAIN MENU

     Press SELECT to choose, then START
```
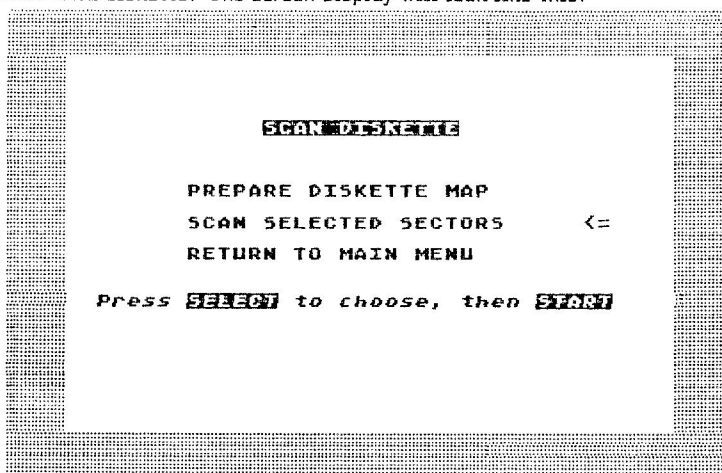
Figure 1.14

33. Use the "SELECT" key to choose the SCAN SELECTED SECTORS function, and then press the "START" key. The screen will now look like Figure 1.15.

```
         SCAN SELECTED SECTORS


     ENTER BEGINNING SECTOR #   ___
```
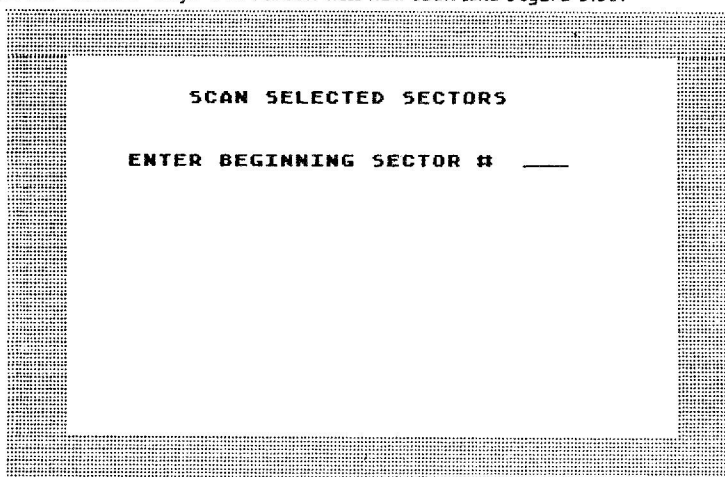
Figure 1.15

34. Respond to the prompt "ENTER BEGINNING SECTOR #" by typing the number 9 followed by the number 1 and then press the "RETURN" key.

35. Repeat the responses used in step #34 for the new prompt "ENTER ENDING SECTOR #"

36. If you correctly entered 91 for beginning and ending sector #'s, proceed by typing an N. If you need to change either or both responses, type a Y and re-start with step #34.

14

37. After SCANning your backup SUPERCLONE diskette, the results will be reported as shown in Figure 1.16. If sector #91 is not reported as a "bad sector" (i.e. either "empty" or containing "data"), press "START" and re-start at step #22. If sector #91 is indicated as a "bad sector", then press "START" and contine with step #38.

```
            SCAN SELECTED SECTORS

     ENTER BEGINNING SECTOR #   91_
     ENTER ENDING      SECTOR #   91_


     CHANGE REQUEST? <Type Y or N>  N
                     <ESC TO QUIT>

   SECTOR #91 BAD SECTOR
   SCAN COMPLETED - PRESS START
```

Figure 1.16

38. You have now finished creating your backup SUPERCLONE diskette. To test the backup, turn off the POWER switch to your 400 or 800 computer. Wait 5 seconds and turn on the POWER switch. If your SUPERCLONE backup diskette has been properly prepared, you will see the "start-up" scenario as described in step #6, ending with the SUPERCLONE main menu as in Figure 1.5.

Note: If your backup SUPERCLONE diskette does not work at this point, we suggest that you seek assistance from a knowledgeable friend, your computer dealer, or FRONTRUNNER.

39. Use "SELECT" to choose the BACKUP function and press "START".

40. Wait while the message "I'M THINKING . . . PLEASE WAIT" is displayed, then press "START" when prompted to "INSERT ORIGINAL DISK IN DRIVE #1."

41. "I'M THINKING . . . PLEASE WAIT" will display again. Press the "OPTION" key when asked to "RE-INSERT SUPERCLONE DISK IN DRIVE #1."

42. The pirate is warning that you may not make any additional backup copies of SUPERCLONE.

43. Remove the backup copy of SUPERCLONE from your disk drive. Detach the cellophane tab and carefully label this new diskette.

WE HAVE COVERED A LOT OF INFORMATION IN A SHORT TIME . . . WHY NOT RELAX AND TAKE A BREAK BEFORE CONTINUING?

15

2.0 Overview of SUPERCLONE

Atari diskettes are most often "copy protected" by employing one or more of the following techniques:

Mangled Maps — Diskettes prepared using Atari's standard procedures contain a directory (i.e. table of contents) and a sector map (i.e. list of all troughs and their current status.) Purposely "fouling up" the directory and sector maps will keep unsophisticated disk copiers from "mapping" (i.e. finding) their way.

Troubled Troughs — Special equipment is used to make distribution diskettes with missing troughs (sectors.) This scheme is called "bad sectoring." Even if the program is successfully copied to another diskette, the conventional disk copier cannot make bad sectors. When the program tries to execute it looks for "troubled troughs." Should no bad sectors be found, the program knows it is not residing on the original disk and will quit.

False Fronts — Troughs are normally numbered from 1 to 720, with no two sectors assigned the same number. In this scheme, certain sectors put up a "false front" and are labeled with already used sector numbers (e.g. two sector 18's but no sector 19.) Sorry to report that mis-labeling sector numbers can only be accomplished by internal modification of your computer equipment. Thus even SUPERCLONE cannot backup diskettes with "false fronts." However, very few disks are "copy protected" with this technique.

SUPERCLONE is a "sector copier." It duplicates exactly the contents of every sector from the original diskette that contains information. SUPERCLONE then allows the creation of specific "bad sectors." The resulting backup diskette is a clone that functions exactly like the original.

The scenario of creating a backup diskette is simple:

1. SCAN the original diskette to prepare a map of its contents.

2. Study the map to determine the location of data and "bad sectors."

3. FORMAT a diskette to be used for the backup copy.

4. BACKUP (duplicate) all sectors containing information.

5. Create "bad sectors" as required.

Be aware that SUPERCLONE only allows two backups to be made of any specific diskette. Your original SUPERCLONE diskette will make one copy, and your backup SUPERCLONE disk will let you make the second copy. We suggest that you: (1) keep a list of the diskettes you have backed up, and which copy of SUPERCLONE was used; also (2) put a "write-protect" tab on each "original" diskette before making backups.

The following sections discuss selected prompts (most screen prompts are self-explanatory), error messages and additional helpful information. Consult sub-section 2.1 regarding the SCANning process, sub-section 2.2 about FORMATting disks, sub-section 2.3 concerning the BACKUP process, and sub-section 2.4 for examples.

2.1 X-Ray Vision - Scanning Diskettes

The SCAN function will:

1. Prepare a map of the contents of a diskette, or

2. Check the contents of selected diskette sectors.

2.1.1 Preparing Diskette Map

- - Selected Prompts - -

Screen Prompt: ENTER DISK NAME

User Response: Type the name of the diskette to be scanned, then press the "RETURN" key. Your entry may be up to 20 characters long including spaces. Upper case letters, numbers, and punctuation marks are allowed. If you make a mistake use the "BACK S" (i.e. back space) key. Press the "ESC" key to quit and return to the main menu (Figure 1.5).

Screen Prompt: LIST TO PRINTER <Type Y or N> __

User Response: If you respond with N to cause the map to display on your TV screen, have a pencil and paper handy to record the results.

- - Error Messages - -

Error Display: PRINTER OR INTERFACE NOT OPERATIONAL

User Response: You have a problem with your printer or interface module. Check the POWER ON switches, cables, paper, and the printer "ON-LINE" or "SELECT" buttons. Correct the difficulty, then press the "START" key. You will be returned to the main menu.

Error Display: WARNING - DISKETTE PREVIOUSLY SCANNED

User Response: The diskette just scanned had been previously mapped. (The name is displayed on the screen.) SUPERCLONE will not bother to remember this diskette a second time. Press the "START" key. You will be returned to the main menu.

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Error Display: NOTICE
                  THE RESULTS OF THIS SCAN HAVE BEEN
                      DISCARDED BY SUPERCLONE

User Response: Since this disk does not contain any data (except perhaps for the
                Atari programs DOS and/or DUP — see Section 1.0), SUPERCLONE is
                not going to bother remembering it. Press the "START" key. You
                will be returned to the main menu.

2.1.2 Scanning Selected Sectors

                        - - Selected Prompts - -

Screen Prompt: ENTER BEGINNING SECTOR # __

User Response: Type the number of the first sector to be SCANned, then press the
                "RETURN" key. The response must be a legal sector number (i.e. a
                number between 1 and 720.) Press the "ESC" key to quit and return
                to the main menu.

Screen Prompt: ENTER ENDING SECTOR # __

User Response: Type the number of the last sector to be SCANned, then press the
                "RETURN" key. The response must be a legal sector number (i.e. a
                number between 1 and 720) and a number equal to or greater than the
                first sector. Press the "ESC" key to quit and return to the main
                menu.

                            Important Note

While preparing a map for a diskette with lots of bad sectors, SUPERCLONE may seem
to just stop or get "hung up." SUPERCLONE is still running and "snarking" its way
sector by sector slowly thru the whole disk. Since the process may take a long time,
you may press the "ESC" key to quit. (Remember however, that disks must be
completely SCANned before SUPERCLONE will make a backup.)

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2.2 Bend Steel - Formatting Diskettes

The FORMAT function will:

1. Remove the previous contents of a diskette and prepare it to accept new information, or

2. Selectively create "bad sectors" (i.e. troubled troughs) on your diskette.

2.1.1 Formatting Entire Diskette

- - Selected Prompts - -

Screen Prompt: FORMATTING ENTIRE DISK

User Response: There is nothing to do except wait while SUPERCLONE is formatting your diskette. If the diskette is OK, the main menu will soon redisplay.

- - Error Messages - -

Error Display: OOPS, CAN'T FORMAT SUPERCLONE DISK!

User Response: You neglected to remove your SUPERCLONE disk from the drive. Pressing the "START" key will return you to the main menu.

Error Display: WARNING - THIS DISKETTE IS DEFECTIVE

User Response: The diskette you attempted to FORMAT has been reported defective by your drive. You may want to try formatting this disk a second time. However, if you are still not successful, try another diskette. Pressing the "START" key will return you to the main menu.

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A.2.2 Creating Bad Sectors

Before responding to any prompts, remove the disk from your drive and affix a cellophane "tab" as illustrated in Figure 1.10. Re-insert the diskette in your drive.

- - Selected Prompts - -

Screen Prompt: ENTER SECTOR # ___

User Response: Type the number of the "bad sector" to be created, then press the "RETURN" key. The response must be a legal sector number (i.e. a number between 1 and 720.) Press the "ESC" key to quit and return to the main menu.

Screen Prompt: GENTLY PULL 'TAB' TO CREATE BAD SECTOR

User Response: Grasp the cellophane tab protruding from your disk drive between your thumb and forefinger. FIRMLY YANK and release the tab in a continuous vibrating motion as if you were "milking a cow" or had "nervous hands." Continue this process until your screen displays the prompt "CREATE MORE BAD SECTORS?" (You'll know when you've created a "bad sector" when your drive makes a "snarking" noise.) It may take several minutes to accomplish the task.

See page 12 HelpfulHints for Creating"Bad Sectors"

When finished creating "bad sectors" check your results by using the SCAN SELECTED SECTORS function. If you weren't successful, just try again.

TRACK & SECTOR NUMBER TABLE

Track	First Sector #	Last Sector #	Track	First Sector #	Last Sector #
1	1	18	21	361	378
2	19	36	22	379	396
3	37	54	23	397	414
4	55	72	24	415	432
5	73	90	25	433	450
6	91	108	26	451	468
7	109	126	27	469	486
8	127	144	28	487	504
9	145	162	29	505	522
10	163	180	30	523	540
11	181	198	31	541	558
12	199	216	32	559	576
13	217	234	33	577	594
14	235	252	34	595	612
15	253	270	35	613	630
16	271	288	36	631	648
17	289	306	37	649	666
18	307	324	38	667	684
19	325	342	39	685	702
20	343	360	40	703	720

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2.2.3 Additional Formatting Tips

Listen to the sound of your drive while it is FORMATting a diskette. You will hear 40 rapid clicks followed by 40 slower clicks. As you will recall from the Quick Diskette Tutorial (Section 1.1) a diskette has 40 tracks (concentric rings.) With a little practice you can selectively FORMAT or unFORMAT portions of your diskette.

Example 1 – Suppose the diskette map for SPACE GAME ended with:

```
( 21      361)
( --THRU-- )      BAD SECTOR(S)
( 40      720)
```

Obviously, the last half of this diskette was never FORMATted. It is a safe bet that one or two of these sectors will be checked to see if they are "bad." But who wants to create up to 360 bad sectors one by one? (I didn't think so.) There is a much easier solution. Just FORMAT the first 20 tracks and skip the remainder of the disk. Sounds great, but how? Simply count the first 20 rapid clicks of your disk drive and promptly press the button to open your drive. The drive will either "snark" or go on clicking away not even aware that you removed the diskette. In either case you've accomplished your goal – a diskette that is only partially FORMATted. After this "partial" FORMATting of your diskette, check to see if you were successful by running the SCAN SELECTED SECTORS function. Keep trying until you get the desired results.

This technique works for any number of tracks of course. If your diskette has been previously FORMATted (or you are not sure) you can easily remove all FORMATting information from the diskette by gently rubbing a small magnet on the underside of the disk. Be careful not to scratch the bottom exposed surface, as the underside actually contains the data.

Example 2 – Suppose the diskette map for MAZE GAME included:

```
(  4      55)
( --THRU-- )      BAD SECTOR(S)
(  4      72)
```

All of the sectors in track #4 are missing, however, the remainder of the diskette is OK. The goal therefore is to create a diskette with 1 bad track and 39 good ones. The technique is simple: FORMAT the complete disk, then start to FORMAT the diskette a second time. After 3 clicks, "pop" the drive door. As the drive was attempting to FORMAT track #4 you "disturbed" it. At least one third of the sectors on track #4 should be bad, giving you a good headstart on your search for the correct "bad sector." Once again it is important to check your results by using the SCAN SELECTED SECTORS function. If you weren't successful, just try again.

This technique can also be useful if you need two or more "bad tracks." Lets pretend tracks 10 and 27 should be "bad." FORMAT the entire diskette, then "glitch" track #27. Finally, run the FORMAT routine a third time to "goof up" track #10. The order is important!! If you "glitched" track #10 and then tried for track #27 next, you would in effect re-create track #10. Remember, the tracks are FORMATted sequentially (i.e. track 1, then track 2, etc.)

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2.3 Leap Tall Buildings - Backing Up Diskettes

The BACKUP function will:

1. Copy "exactly" the entire contents of one diskette to another diskette, or

2. Selectively copy "exactly" a portion of one diskette to another diskette.

- - Selected Prompts - -

Screen Prompt: I'M THINKING ... PLEASE WAIT

User Response: There is nothing to do except wait while SUPERCLONE is thinking.

Screen Prompt: INSERT ORIGINAL DISK IN DRIVE #1

User Response: Remove the diskette in your drive, replace it with the diskette you want to backup, then press the "START" key. Press the "ESC" key to quit and return to the main menu, or to skip reading sectors (see notes sub-sections 2.3.1 and 2.3.2)

Screen Prompt: INSERT BACKUP DISK IN DRIVE #1

User Response: Remove the original diskette that you want to backup, replace it with the formatted diskette to be used for the backup copy, then press the "START" key. Press the "ESC" key to skip copying sectors (see notes sub-sections 2.3.1 and 2.3.2.)

- - Error Messages - -

Error Display: PIRATE PICTURE

User Response: Sorry, but you've already made a copy of this diskette!

Error Display: NOTICE
                    THIS DISKETTE WILL NOT BE COPIED BY
                         SUPERCLONE AT THIS TIME

User Response: The diskette you are trying to backup has never been scanned, or SUPERCLONE did not bother remembering about the scan. (See sub-section 2.1.1 for further details.) Press the "START" key. You will be returned to the main menu.

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Notes

You will see the pair of prompts "INSERT ORIGINAL DISK IN DRIVE #1" and "INSERT BACKUP DISK IN DRIVE #1" six times. Each time you insert the original diskette, SUPERCLONE reads 120 sectors. When you insert the backup disk, that batch of 120 sectors is copied to it. Thus in six pairs of swaps (120 sectors per swap –times– 6 swaps) all 720 sectors of the original diskette are transferred to the backup diskette. (You may purposely skip reading and/or copying one of the last 5 batches of 120 sectors by pressing the "ESC" key at the appropriate time.)

It is absolutely imperative that the correct diskettes are "swapped" about. Just take your time and read the prompts.

2.3.2 Copying Selected Sectors

- - Selected Prompts - -

Screen Prompt: ENTER BEGINNING SECTOR # __

User Response: Type the number of the first sector to be copied, then press the "RETURN" key. The reponse must be a legal sector number (i.e. a number between 1 and 720.) Press the "ESC" key to quit and return to the main menu.

Screen Prompt: ENTER ENDING SECTOR # __

User Response: Type the number of the last sector to be copied, then press the "RETURN" key. The response must be a legal sector number (i.e. a number between 1 and 720) and a number equal to or greater than the first sector. Press the "ESC" key to quit and return to the main menu.

Notes

You will see the pair of prompts "INSERT ORIGINAL DISK IN DRIVE #1" and "INSERT BACKUP DISK IN DRIVE #1" up to six times. Each time you insert the original diskette, SUPERCLONE reads up to 120 additional sectors. When you insert the backup disk, that batch of sectors is copied to it. For example, copying sectors 1 through 300 would take three pairs of swaps (120 sectors the first swap –plus– 120 sectors the second swap –plus– 60 sectors the third swap) to transfer all 300 sectors from the original diskette to the backup diskette. (You may purposely skip reading and/or copying one of the batches of sectors by pressing the "ESC" key at the appropriate time.)

It is absolutely imperative that the correct diskettes are "swapped" about. Just take your time and read the prompts.

2.4 Examples

Here are the maps of three "copy protected" diskettes and the steps required to back them up.

Example #1

1. SCAN diskette and prepare map

2. Study of map shows no bad sectors

3. FORMAT a backup diskette

4. BACKUP sectors 1 through 363

Example #2

1. SCAN diskette and prepare map

2. Study of map shows sectors 240 through 255 and sector 268 are bad

3. FORMAT a backup diskette

4. BACKUP entire diskette

5. Create "bad sectors" (There is no special strategy ... we created a bad sector 268, then randomly created bad sectors between 240 and 255. We kept trying to "fire up" the backup diskette after each one or two bad sectors and finally discovered that 252 was the "secret" number.)

Example #3

1. SCAN diskette and prepare map

2. Study of map shows tracks 10 through 40 have never been formatted

3. FORMAT only the first 9 tracks of the backup diskette (see sub-section 2.2.3 Additional Formatting Tips)

4. BACKUP sectors 1 through 162

MAP FOR EXAMPLE #1 DISKETTE

TRACK	SECTOR	CONTENTS
(1	1)	
(--THRU--)		DATA
(4	65)	
(4	66)	
(--THRU--)		EMPTY
(4	71)	
(4	72)	
(--THRU--)		DATA
(7	113)	
(7	111)	
(--THRU--)		EMPTY
(20	359)	
(20	360)	DATA
(21	361)	EMPTY
(21	362)	
(--THRU--)		DATA
(21	363)	
(21	364)	
(--THRU--)		EMPTY
(40	720)	

MAP FOR EXAMPLE #2 DISKETTE

TRACK	SECTOR	CONTENTS
(1	1)	
(--THRU--)		DATA
(14	239)	
(14	240)	
(--THRU--)		BAD SECTOR(S)
(15	255)	
(15	256)	
(--THRU--)		DATA
(15	267)	
(15	268)	BAD SECTOR(S)
(15	269)	
(--THRU--)		DATA
(20	360)	
(21	361)	
(--THRU--)		EMPTY
(21	368)	
(21	369)	
(--THRU--)		DATA
(40	720)	

MAP FOR EXAMPLE #3 DISKETTE

TRACK	SECTOR	CONTENTS
(1	1)	
(--THRU--)		DATA
(1	11)	
(1	12)	EMPTY
(1	13)	
(--THRU--)		DATA
(2	31)	
(2	32)	EMPTY
(2	33)	
(--THRU--)		DATA
(3	40)	
(3	41)	
(--THRU--)		EMPTY
(3	43)	
(3	44)	
(--THRU--)		DATA
(3	47)	
(3	48)	EMPTY
(3	49)	
(--THRU--)		DATA
(9	162)	
(10	163)	
(--THRU--)		BAD SECTOR(S)
(40	720)	

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Section 3 — Administrative Details

3.0 Why Superclone?

As stated in the introduction "most vendors marketing diskette programs for the Atari 400/800 computer system have devised schemes to protect their software from being copied." We all know why.

However, as doctors have found when administering a "medical cure" many times there are harmful side effects.

The side effect of "copy protecting" diskettes is that users cannot make backups of their software. No, we won't rehash the "legitimate" reasons for having copies of your software.

Enter SUPERCLONE. SUPERCLONE is a cure for the cure. SUPERCLONE allows only two copies to be made of any specific program . . . period. The decision to limit SUPERCLONE's copying was a tough one for two reasons. First, it doubled our product development time, as almost half of the "code" in SUPERCLONE is our "copy limitation" scheme. Second, as we had expected, this "policy" has cost us thousands of dollars in sales. Since the introduction of SUPERCLONE we have received hundreds of letters and phone calls about SUPERCLONE's copy limiting. Most phone calls about this subject promptly end with a "thank you" and "click" at the other end of the line.

One more side effect. Although we did not know it, many publications have editorial policies against advertising "copying" programs. However, our advertising has been accepted because of SUPERCLONE's "copy limiting" feature. This increased exposure should increase our sales. . . Just maybe, good guys don't always finish last.

3.1 A Word About Piracy

Piracy is ... S T E A L I N G.

3.2 Software License Agreement

FRONTRUNNER COMPUTER INDUSTRIES (hereinafter referred to as FCI) has sold or will sell to the undersigned (hereinafter referred to as "purchaser") a magnetic diskette containing original data and programs expressed and arranged in electronically coded and magnetically stored form. FCI has sold or agreed to sell the diskette only upon the condition that the purchaser acknowledge and agree to the following. By signing the Agreement, the purchaser so acknowledges and agrees.

1. The purchaser understands and acknowledges that the data and programs recorded on the diskettes are copyrighted original works of authorship and are unique proprietary material of FCI.

2. The purchaser will not copy or reproduce any portion of the data or programs recorded on the diskettes, nor allow others to do so.

3. The purchaser will not create or prepare any derivative materials from the data and programs recorded on the diskette, will not translate such data and programs into another computer system, and will not create any combination which includes any portion thereof, nor allow others to do so.

4. The purchaser will not sell, transfer, distribute, or display to the public any copy or reproduction of the data or programs recorded on the diskette or any materials derived therefrom or translation or adaptation thereof to any person or organization, nor allow others to do so.

5. The purchaser will not sell, transfer, or distribute any data or programs copied by or with the assistance of FCI's data and programs.

6. The purchaser acknowledges and agrees that the purchaser will be liable for damages to FCI for any violation of this Agreement.

7. The purchaser acknowledges, has read and understands, and agrees to the Limited Warranty in Section 3.3 of the SUPERCLONE User's Manual.

8. The purchaser acknowledges that FCI makes no warranty or representation whatsoever with respect to the data and programs recorded on the diskette and that neither FCI nor any author thereof will be responsible for error or omissions therein or erroneous or inaccurate application of any results from the use therof.

FRONTRUNNER COMPUTER INDUSTRIES

Purchaser _____

Date   _____

THIS AGREEMENT MUST BE SIGNED AND RETURNED TO FRONTRUNNER TO
REGISTER YOUR PROGRAM

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SUPERCLONE Registration Information

Date of Purchase _____

Store Name _____

Address _____

City, State and Zip Code _____

Purchaser _____

Company _____

Address _____

City, State and Zip Code _____

Comments:

Send Completed Software License Agreement and Registration Information to:

Frontrunner Computer Industries
316 California Avenue, Suite #712
Reno, Nevada 89509

- - - Mail Within 10 Days of Purchase - - -

The Software License Agreement must be signed

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3.3 Limited Warranty

This software product and the attached instructional materials are sold "AS IS," without warranty as to their performance. The entire risk as to the quality and performance of the computer software program is assumed by the user. The user, and not the manufacturer, distributor or retailer assumes the entire cost of all necessary service or repair to the computer software program.

However, to the original purchaser only, FRONTRUNNER warrants that the medium on which the program is recorded will be free from defects in materials and faulty workmanship under normal use and service for a period of ninety (90) days from the date of purchase. If during this period a defect in the medium should occur, the medium may be returned to FRONTRUNNER or to an authorized FRONTRUNNER dealer, and FRONTRUNNER will replace or repair the medium at FRONTRUNNER's option without charge to you. Your sole and exclusive remedy in the event of a defect is expressly limited to replacement or repair of the medium as provided above. To provide proof that you are the original purchaser, please complete and mail the SOFTWARE LICENSE AGREEMENT to FRONTRUNNER.

If failure of the medium, in the judgement of FRONTRUNNER, resulted from accident, abuse or misapplication of the medium, then FRONTRUNNER shall have no responsibility to replace or repair the medium under the terms of this warranty.

The above warranties for goods are in lieu of all other express warranties and no implied warranties or merchantability and fitness for a particular purpose or any other warranty obligation on the part of FRONTRUNNER shall last longer than ninety (90) days. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. In no event shall FRONTRUNNER or anyone else who has been involved in the creation and production of this computer software program be liable for indirect, special, or consequential damages, such as, but not limited to, damage to equipment or other software products, loss of anticipated profits or benefits resulting from the use of this program, or arising out of any breach of this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

The user of this product shall be entitled to use the product for his/her own use, but shall not be entitled to sell or transfer reproductions of the product or instructional materials to other parties in any way.

NOTE

If a defect in the medium should occur during the 90 day limited warranty period, return the original diskette to FRONTRUNNER for free replacement. If you have physically damaged the diskette, please include $2.50 for replacement.

If a defect in the medium should occur after the 90 day limited warranty period, return the original diskette and $5.00 to FRONTRUNNER for replacement. If you have physically damaged the diskette, please include an additional $2.50 for replacement.

**The First and Only System to Backup Diskettes
Protected by Bad Sectoring
without modification to your drive.**

Superclone™

Superclone is the *only* ATARI diskette copier system that lets you backup just about ANY 'copy protected' diskette. . .including those protected by 'bad sectoring.' Bad tracks and sectors are created *without* modifications to or adjustments of your hardware. Each backup diskette generated by Superclone functions *exactly like the original. . .*self-booting, etc. (In fact, we suggest that you use the backup and save the original.)

Superclone includes:
  SCAN ANALYSIS - Map of diskette contents (Location of data, bad sectors, etc.)
  FORMATTING/BAD SECTORING - Non-ATARI DOS formatting and bad track/sector creation.
  BACKUP -Copies just about everything we can find. . .regardless of protection scheme.
Superclone is user-friendly and simple to use.

PIRATES TAKE NOTE:
SUPERCLONE only allows two copies to be made of any specific diskette. . .Sorry!!!

SYSTEM REQUIREMENTS
Atari 400 or 800 Computer
48K Memory
One Atari 810 Disk Drive
Printer Optional

*Others make claims. . .*SUPERCLONE *makes copies!!!*

ATARI is a Trademark of ATARI, Inc.