



B A C K U P + 3.0

THE  
COMPREHENSIVE MEDIA MANAGER  
FOR THE ADAM (tm)

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## 1. INTRODUCTION

This program is solely intended for the purchaser to make personal backup copies of programs he has written or purchased. MISUSE of this program to illegally "pirate" copies of copyrighted material is an act of the user, and MMSG assumes NO responsibility for such actions. Furthermore, MMSG offers this program for sale "AS IS" and assumes no liability whatsoever in the event of damages of any kind as a result of the use of this program.

BACKUP+ has been designed to provide a simple, straightforward means of making backup copies of programs the user has purchased or written. However, failure to follow the directions described in this manual and the program prompts, could possibly result in the destruction of the original medium being copied. In view of this fact, the user is advised to read this manual completely before using BACKUP+.

## 2. PACKAGING

Although BACKUP+ contains no self-copy provision, we recognize that tape/disk media are sensitive to a variety of unforeseen conditions that can easily destroy the program information. Therefore, we have provided the following safeguards:

Each tape or disk contains two copies of the program. The BACKUP+ "loader" monitors the program as it is being loaded, and if an error is detected, the "loader" automatically switches to the alternate copy.

For your convenience the disk version of BACKUP+ 3.0 can be booted on either side of the disk.

Damaged media will be replaced by MMSG for the minimal charge of \$5.00 + 2.50 shipping and handling upon return of the damaged original.

## 3. FEEDBACK REPLY FORM

BACKUP+ 3.0 has undergone extensive testing before its release to ensure that it will operate as advertised and that the most needed features have been incorporated into its design. However, we could not possibly test every function under every condition or anticipate every situation you might experience. Therefore, this manual contains a BUG REPLY FORM to be used for providing us with feedback on your experience with this program. We encourage you to return this form as appropriate.

#### 4. ABOUT THE CURSOR

BACKUP+ utilizes two types of keyboard-input modes as follows:

- a. LIVE KEYBOARD - This mode is used whenever a single key-stroke is all that is required from the user. The program acts on the input as soon as the key is depressed. The cursor character will be a GRAPHICS BLOCK whenever this input mode is in effect.
- b. LINE INPUT - This mode is used anytime the user is requested to input a keyboard response that requires the input be completed by depressing the <RETURN> key. This mode also allows the input to be corrected by using the <LEFT ARROW> or <BACKSPACE> key. The cursor character will be an UNDERSCORE whenever this input mode is in effect.

#### 5. PROGRAM LOADING

BACKUP+ 3.0 is written entirely in machine language and is provided on a self-booting tape or disk. The program can be loaded by placing the program medium in the first tape or disk drive and momentarily operating the COMPUTER RESET slide switch. The computer firmware will load and execute the BACKUP+ "loader". Internal and expansion ram is then tested and the results displayed. This "loader" will then load and verify the remainder of the program. If the "loader" determines that part of the remaining program has been damaged, it will automatically bypass the damaged portion and load the alternate copy from another location on the program medium. (You will be advised of this condition by display of the message "ALTERNATE COPY LOADED" after all blocks have been loaded into memory.)

Once loading has been completed, a title screen will be displayed. At this point, the tape or disk containing BACKUP+ should be removed from the drive and stored in a safe place. NOTE : Data-packs and disks are extremely sensitive to static charge and electromagnetic radiation generated by the computer and TV or monitor. NEVER lay the program media close to any part of the computer or video-display device.

Depressing the <RETURN> key while the title screen is displayed will cause the program to advance to the BACKUP+ main menu.

#### 6. MENU SCREENS

##### 6.1 MAIN MENU SCREEN

This screen is used to select any of the six SUBMENU functions provided in BACKUP+. The main menu screen can be redisplayed after a selected function has been completed or aborted. The MAIN MENU may also be selected from any one of

the submenus. Details of what each function does and how the functions operate are covered later in this manual.

## 6.2 SUBMENU SCREENS

There are six categorized SUBMENUs accessible from the MAIN MENU. The SUBMENUs are titled:

- BACKUP UTILITIES
- COPY UTILITIES
- FILE UTILITIES
- CATALOG
- INITIALIZE MEDIA
- BLOCK UTILITIES

A SUBMENU may be displayed by:

1. Selecting a submenu from the MAIN MENU.
2. Aborting an operation by depressing the <ESC> key.
3. Depressing SmartKEY II when an operation has been completed or aborted.

## 7. GENERAL INFORMATION

- 7.1 Drive Identification - BACKUP+ uses the following naming convention for identification of the tape and disk drives:
- "A" - First data-pack drive
  - "B" - Second data-pack drive
  - "C" - First disk drive
  - "D" - Second disk drive
- 7.2 Ram Test - The internal 64K and expansion 64K random access memory (RAM) is tested before BACKUP+ is executed. If any portion of the internal 64K RAM is found defective, a failure message will be displayed and the computer is put into an infinite loop to eliminate possible damage to other components of the system. If the expansion 64K RAM is missing or defective, a message is displayed to inform you that only the internal RAM will be used allowing you a 40K copy buffer.
- 7.2 Critical Errors - Fatal errors (e.g. Directory Write Error) will cause the current copy function to be aborted. Exit from this type of error will be to the SUBMENU.
- 7.3 Copy Buffer - BACKUP+ has been designed to use the largest copy buffer possible so as to decrease the number of media swaps required to make a copy on a single drive. A 102K copy buffer is available if the system is equipped with the expansion ram card. Otherwise, a 40K buffer is used. We decided not to use graphics since their use would require more program overhead and reduce the size of the copy buffer.
- 7.4 Escape Feature - Depressing the <ESC> key will terminate the current operation and return control to the SUBMENU. The architecture of this computer does not allow the escape key to be acted upon immediately in some cases.

(e.g. During device reads and writes.) Therefore, if the <ESC> key is depressed and the function does not abort immediately don't be alarmed. Be patient.

7.5 Quit Option - Anytime the "HIT <RETURN> TO CONTINUE" message is displayed, depressing the "Q", "q" or <ESC> keys will cause the current function to be aborted.

7.6 Operation Complete Prompt - When an operation has been completed, a prompt will be displayed at the bottom of the screen allowing you one of three options. Hit SmartKEY I and return to the MAIN MENU; hit SmartKEY II to return to the SUBMENU for this operation; hit SmartKEY III to continue the same operation using the previously defined drive(s).

7.8 Disk Overflow - Some data-pack-to-disk copies may result in a DISK OVERFLOW message. This happens because the data-pack does not have a directory or it's directory indicates that the number of blocks to copied exceeds the capacity of the disk.

Transferring FILER from tape to disk will cause this message to be displayed. However, FILER works fine when transferred to disk because the part that is not copied to disk is a "dummy" database that is not essential to running the program.

Supergames will also cause a DISK OVERFLOW message when copied from tape to disk; this condition is discussed in par. 7.9.

7.9 Supergame Copies - BACKUP+ can be used to make tape to tape copies of all Supergames provided the original has not been damaged. Some games are distributed on short tapes where only some of the blocks are present. BACKUP+ will automatically detect and duplicate games distributed on short tapes. Detection and coping of "short" tape supergames involve several verifications of different blocks. This is a slow process so be patient.

Supergames are distributed on a data-pack with a special formatting to optimize the rate at which data can be paged into memory. When a game is transferred to a standard-format tape, delays may be encountered while the program is being loaded.

Transferring a supergame from tape to disk is NOT recommended because some games are written to address only the first tape drive and some may be too long to fit on disk. If you try to copy a supergame from tape to disk, a DISK OVERFLOW message will occur.

7.10 Write-Protect - We strongly recommend that SOURCE disks be protected with WRITE-PROTECT TABS during the copy process. The BACKUP+ program disk should also be protected with these tabs.

7.11 Initialization Protected - For your protection, the BACKUP+ distribution disk or tape cannot be initialized or formatted via the BASIC INIT command or the BACKUP+ initialization features.

7.12 Self-Copy - As stated in section 2, BACKUP+ has no self-copy provision. However, the disk "loader" may be repaired via the IMAGE BACKUP feature. Should the front side of a disk version of BACKUP+ become damaged to a point the program will not load, the good copy on the back side of the disk should be used to make an IMAGE copy to the defective disk side.

7.13 R,S,Q Options on Error - Anytime an error occurs during a copy function, a message will be displayed requesting you to specify what possible action should be taken. These options are explained as follows:

- "R" - Retry the event that caused the error
- "Q" - Quit...abort function and go to submenu
- "S" - Skip the file currently being copied and go to the next file. (NOTE: Pressing "S" in response to a FATAL error will have the same effect as pressing "Q".) Pressing "S" while performing an IMAGE COPY will cause the program to skip the defective block.

Pressing <RETURN> at this point will default to "R".

7.14 HOME Tape - BACKUP+ will "HOME" both a source and/or destination data-pack to the directory block when a copy has been completed. This will facilitate loading from the tape when next used.

7.15 File Compression - BACKUP+ provides a convenient and fast way to move user files from one tape or disk to another. This feature can be used to recover dead file or directory entries as follows:

1. Use the BACKUP+ CATALOG feature to examine user media using the "DEAD USER FILE" option.
2. If the catalog display indicates several dead files, copy all active files to another tape or disk using one of the BACKUP+ file copy utilities. Be sure the destination media doesn't also contain dead entries.
3. After all wanted files have been copied, use the BACKUP+ INIT feature to rebuild a new directory on the original source tape or disk.

7.16 Display Format - BACKUP+ utilizes a unique color oriented display format. A STATUS BAR, common to all BACKUP+ screens, dynamically display information about the current function being performed. (See figure 1) Normally the left half of the STATUS BAR displays the SUBMENU item selected, while the right half displays program activity, current drive and block number. The STATUS BAR will also change from green to red whenever a block read or write error occurs.

## 8. BACKUP UTILITIES

IMAGE BACKUP allows you to make identical image copies of an original data-pack or disk. The "SPECIAL" and "STANDARD"

image backup utilities function the same with one exception. When coping to or from a special formatted data-pack (see par. 7.9) the SPECIAL IMAGE BACKUP should be used. Upon entry and exit from this function, the Input/Output Controller will be reset. This reset will cause the printer to be initialized. If both the source and destination device is a tape drive, a reset will be heard each time reading or writing is started on a device.

## 8.1 IMAGE BACKUP

IMAGE BACKUP allows you to make identical image copies of an original data-pack or disk. Although an exact copy is normally the required result, several rules govern the actual results obtained:

- A backup from data-pack to data-pack or from disk to disk will produce a true mirror-image copy.

- If the original media contains a standard directory, only the blocks used will be copied. This eliminates copying unused blocks and thus reducing the time and effort required to make the copy.

- If a data-pack containing more than 160 used blocks is to be copied to disk, you are notified that "TAPE WILL OVERFLOW DISK" and prompted "ABORT BACKUP (Y,N)". Reply "Y" to return to the SUBMENU, or reply "N" to continue the copy. The first 160 blocks on the data-pack will be copied to disk.

- Supergames, originally on data-pack, should be copied only to another data-pack. Remember, only the first 160 blocks will be copied to disk, and the program would normally be incomplete. Supergame data-packs are formatted differently from a standard data-pack. Although some supergames can be copied to a standard data-pack, you may notice a slightly longer delay in loading additional blocks during play.

- When copying from data-pack to disk or from disk to data-pack and if the original media has a standard directory, the copy will be updated to reflect the correct number of blocks available.

### 8.1.1 USING IMAGE BACKUP

After selecting the source and destination drive(s) to be used for the backup, you are prompted to insert the media. The source (original) media is analyzed to determine: standard or non-standard directory, number of blocks to be copied, and whether the number of blocks to be copied will overflow the destination-drive capacity. The backup is then started, and the status message "READING . . ." is displayed. When all blocks have been read or the copy buffer becomes full, a prompt to insert the destination media is displayed. After depressing <RETURN>, you will receive the status message "WRITING . . .". These messages will continue for each 40/102K until all blocks have been copied. If the same drive is being used for both the source and destination media, you are additionally prompted for each media swap. When the backup is complete, the status message "COPY COMPLETE" will be displayed.



## 9. COPY UTILITIES

The Copy Utilities provide you with a convenient method of choosing user files to be copied from one data-pack/disk to another. Although "COPY BY FILE" is similar to "SELECTIVE FILE COPY", the major difference is the manner in which the files to be copied are selected.

### 9.1 COPY BY FILE

All user files in the source-media directory are displayed, one at a time, and you are asked whether the file is to be copied to the destination media. Reply "Y" if the file is to be copied; reply "N" if the file is to be skipped (not copied); reply "Q" to return to the SUBMENU with no files copied; or reply "R" to restart with the first file. Depressing <RETURN> will default to "Y".

#### 9.1.1 USING COPY BY FILE

After selecting the source and destination drive(s), you are prompted to insert the media and hit <RETURN>.

The source directory is checked for user files, and if there are none, the message "NO USER FILES TO COPY" will be displayed. All user files found will now be listed, one at a time, and you are asked whether the file is to be copied.

After all filenames have been displayed, the message "READING . . . filename" will appear for each file tagged for copy. When all files have been read or the copy buffer becomes full the message "WRITING . . . filename" will then appear for each file previously read into the copy buffer.

CAUTION: If a file is tagged for copying that exists on the destination media and that file is UNLOCKED, the message "REPLACING . . . filename" will be displayed previous to "WRITING . . . filename". This informs you that the destination file has been overwritten (replaced). If the destination file is LOCKED, it will NOT be overwritten. The messages "filename LOCKED" and "FILE NOT COPIED" will be displayed, indicating the source file has NOT been copied. This process will continue until all tagged files have been copied.

When all files have been copied, you are informed with the message "COPY COMPLETE".

### 9.2 SELECTIVE FILE COPY

SELECTIVE FILE COPY allows you to selectively copy user files from one data-pack/disk to another. Also provided is a convenient method of recovering directory entries and/or lost storage space on a disk or data-pack. A file or group of files may be named for copy with one input. This is accomplished by allowing for optional "WILDCARD" characters, as part of the filename, to name a file or group of files in an abbreviated fashion. The wildcard character used in the filename syntax is an asterisk, "\*". Consider inputting the following

filenames to be matched with the source-directory files:

*cat*	Will match user files copycatA, copycata, topcatH, or topcath, but not topcatsA
*A	Will match all user files of filetype A
util**	Will match all user files beginning with the characters "util"
copy*s*	Will match all user files beginning with the characters "copy" and ending with the character "s", of any filetype
**	Will match and copy all user files
utilityA	Will match and copy the file "utilityA" only

### 9.2.1 USING SELECTIVE FILE COPY

After selecting the source and destination drive(s) to be used, you are prompted to insert the media and hit <RETURN>. Depressing <RETURN> will display the source-media CATALOG, followed by a prompt to input the "FILENAME". The last character of the filename is always the file type (A, a, H, h or C). Three tests are made after inputting a filename:

1. Wildcard-syntax check
2. Filename is the proper character length, containing no spaces or <ctrl> characters
3. <RETURN> was not hit without a filename being input

After determining that the filename is valid, the source directory is searched for a match. Each file matching the inputted filename will be tagged for copy. If no files are matched, the message "FILE NOT FOUND" will be displayed. When one or more files have been matched to be copied, the message "READING . . . filename" will be displayed as each file is read into the copy buffer. When all files have been read or the buffer becomes full, "WRITING . . . filename" will then be displayed for each file as it is read from the buffer and written to the destination media.

CAUTION: If the file being written exists on the destination drive and that file is UNLOCKED, it will be overwritten, and the message "REPLACING . . . filename" will be displayed. If that file is LOCKED, the messages "filename LOCKED" and "FILE NOT COPIED" will be displayed. If the number of blocks to be copied exceeds 40/102K, the "insert media" prompts and "READING", "REPLACING", "WRITING" messages will continue until all files have been copied. NOTE: If the source and destination drives are not the same, the "insert media" prompts will appear only once.

### 9.3 COPY BASIC

COPY BASIC is used to copy BASIC and automatically apply modifications to make it device independent (tape/disk). Note

that this modified version of BASIC remains 100% compatible when used on data-pack. The final copy will contain a disk-enhanced version of BASIC, with the correct number of blocks reflected on the media used in the destination drive. The original, unmodified BASIC may be copied from either data-pack or disk. When copying is complete, the destination media will contain only the modified copy of BASIC. Be sure to use a blank formatted data-pack/disk or one that does NOT contain data to be kept.

WARNING : Any data on the destination data-pack/disk will be lost (overwritten).

Success of the copy can be determined by loading the new version. The title screen will now include "DISK enhanced by MMSG".

Some of the enhancements to BASIC that will be found useful are:

- The drive used to load BASIC will initially be the default drive. The unmodified version always defaults to data-pack drive 1.

- The total number of blocks available is 160 for disk and 255 for data-pack.

- INIT has been modified to reflect the correct number of blocks. After initialization of a data-pack, the number of free blocks remains 253 as before. After initialization of a disk, the number of free blocks will be 158.

### 9.3.1 USING COPY BASIC

You will be prompted to select the source and destination drive(s) for the copy. A prompt is then displayed to insert the original BASIC program into the source drive. After depressing <RETURN>, the directory is checked to determine whether BASIC exists on the source media. If not, the message "BASIC NOT FOUND" is displayed.

If BASIC is found, you will receive the status message "READING . . .", and the entire BASIC program is loaded into the copy buffer. After BASIC has been read, a prompt to insert the destination media is given. Depressing <RETURN> will display "WRITING . . .", and the enhanced version of BASIC is written to the destination media.

Additional copies may now be made by depressing Smart-KEY III.

## 10. FILE UTILITIES

This submenu is used to restore/delete user files on a disk or data-pack. When inputting filenames to be restored/deleted, WILDCARD syntax is supported. (See par. 9.2 for an explanation of WILDCARD syntax).

### 10.1 RESTORE FILES

RESTORE FILES will restore user files that have previously been deleted.

The exception: If a user file with the same filename

is active in the directory, a message "filename . . . EXISTS" is displayed indicating the selected user file(s) was not restored.

### 10.1.1 USING RESTORE FILES

At the prompts, select the destination device to be used and place the media containing the file(s) to be restored into the selected drive. Hit <RETURN> and a CATALOG of all deleted user files will be displayed followed by a "FILENAME" prompt. After verifying the filename is legal, "RESTORED . . . filename" will be displayed for each file restored. If there are no files in the directory matching the filename that was input, "FILE NOT FOUND" will be displayed.

### 10.2 DELETE FILES

DELETE FILES will delete active user files from a directory. Files are deleted by changing the file status in the directory.

If you delete a file in error, RESTORE FILES may be used to restore the deleted file.

NOTE: Any user file can be deleted including locked files.

#### 10.2.1 USING DELETE FILES

Select the destination device to be used, insert the media containing the files to be restored into the selected drive and hit <RETURN>. A catalog of all active user files will be displayed followed by a FILENAME prompt. Input the filename of the file(s) to be deleted. If the filename is legal, "DELETED . . . filename" will be displayed for each file deleted. "FILE NOT FOUND" is displayed if there is no files in the directory matching the filename that was input.

## 11. CATALOG

CATALOG allows you to display and optionally print a directory listing from any equipped drive without leaving BACKUP+. Once selected, a CATALOG submenu will be displayed that provides for three types of displays, as follows:

### 1. DISPLAY SYSTEM FILES

This option causes ALL system filenames in the directory to be displayed. (e.g. BOOT, DIRECTORY etc.)

### 2. DISPLAY ACTIVE USER FILES

This option displays only the active user files. System files (BOOT, DIRECTORY, etc.) and deleted directory entries are not displayed.

### 3. DISPLAY DELETED FILES

This option displays only DEAD (files that have been deleted) files. This option provides a good way to determine how many directory entries can be recovered if all active files on the medium were copied to a freshly initialized data-pack or disk.

## 11.1 USING CATALOG

The CATALOG SUBMENU will prompt you to specify the display option to be used. The program will then prompt you to select a drive and insert the data-pack or disk. If the medium involved does not have a standard directory, you will be so notified, and the program will exit to the SUBMENU. If the program medium contains NO files of the type requested, the message "NO FILES FOUND" will be displayed, and the program will exit to the SUBMENU. The VOLUME NAME, blocks allocated to each file, and free space remaining on the media are displayed as a part of the catalog. At this point you can hit <PRINT> to get a hardcopy of the display, or <RETURN> to continue the program.

## 11.2 File Type Character

CATALOG will display filenames with the file type character (a, A, H, h or C) appended to the end of the filename. This format will facilitate the use of WILDCARDS when using selective file copy.

## 12. INITIALIZE UTILITIES

These utilities are provided so that you may initialize a directory or format a disk without leaving BACKUP+.

### 12.1 INITIALIZE MEDIA

INITIALIZE MEDIA functions similar to the INIT command in BASIC. However, there are several additional features:

- Hitting <RETURN> in response to the "VOLUME NAME" prompt will cause a default volume name of "BACKUP+" to be written to the directory.

- You are allowed to INIT a data-pack/disk containing BASIC. This is for your convenience, but BE CAREFUL.

- The "BLOCKS LEFT" will be determined by the media initialized. After INIT is complete, the "BLOCKS LEFT" will be correct for both data-pack and disk (253 for data-pack and 158 for disk).

#### 12.1.1 USING INITIALIZE MEDIA

When INITIALIZE MEDIA is selected, a prompt for the "DESTINATION DRIVE (A,B,C,D)" is displayed. Select the drive that will be used for the initialization. Next, you are prompted to insert the destination media into the selected drive. After verifying that the correct media is inserted, you should depress the <RETURN> key.

A prompt for a volume name is now displayed. (At this point, hitting <RETURN> in response to "VOLUME NAME" will default to the volume name "BACKUP+.") If the volume name inputted contains <ctrl> characters or spaces, a message "ILLEGAL VOLUME NAME" will be displayed, and you will be prompted for a new volume name.

The status message "INIT STARTED" is now displayed. Upon successful initialization, the message "INIT COMPLETE" will be

displayed.

When the initialization is complete, a disk will contain 158 free blocks, and a data-pack will contain 253 free blocks.

## 12.2 FORMAT DISK

FORMAT DISK will format and write format code to every block on a disk. The directory is initialized with the VOLUME NAME "BACKUP+". Optionally, the disk can be verified to assure the disk was formatted without error.

### 12.2.1 USING FORMAT DISK

After selecting the destination device, a check is made to assure the selected device is a disk drive. If not, you are again prompted for the device to be used. Next, place the disk to be formatted in the selected drive and hit <RETURN>. A check is made to see if the device is available. If so, "VERIFY AFTER FORMAT (Y,N)" is displayed. Answer "N" to skip block verification after formatting is complete.

"FORMAT STARTED" is then displayed.

"FORMAT COMPLETE" is displayed when the disk drive has completed the format operation.

If the verify option was selected, the message "VERIFY STARTED" is displayed. If an error occurs during the verify process, the bad block can be identified on the Status Bar. "VERIFY COMPLETE" is displayed if no errors are found.

## 13. BLOCK UTILITIES

The utilities in this submenu are used to selectively copy or display the status of disk/data-pack blocks. The status may be optionally sent to the printer.

Each utility has a "STANDARD" and "SPECIAL" submenu item. If a data-pack is being used that has a special format, such as used for supergames, you should select a "SPECIAL" submenu item.

### 13.1 BLOCK COPY

BLOCK COPY may be used to copy one block or a range of blocks from disk or data-pack. There are several possibilities for block copies. The source block(s) may be read from and written to the same media. The block(s) may be read from one range and written to the same or a different block range. Up to 38 multiple ranges may be specified before terminating input and copying is started.

One of the following conditions may cause a "BLOCK OUT OF RANGE" message:

1. Inputting a block # containing characters other than 0 to 9.
2. A block # being input that is beyond the highest available on a disk or data-pack. (159 for disk, 255 for data-pack.)
3. If the number of blocks to copy within a range added to the starting destination block # totals greater than the highest block # available on the destination media.

### 13.1.1 USING BLOCK COPY

After the source and destination device(s) have been selected and the media inserted, you should hit <RETURN>. You will be prompted to input the SOURCE STARTING BLOCK #. If the source block number is within range, the prompt "ENDING BLOCK #" will be received. If the <RETURN> key is hit without a block #, a single block copy is assumed. The next prompt will be, "DESTINATION STARTING BLOCK #". Input the block number where the selected range of source blocks are to be written. If the <RETURN> key is depressed without inputting a block number, the source blocks will be written to the same block number(s) on the destination media. Next, you will again receive the "SOURCE STARTING BLOCK #" prompt. If you choose to copy additional blocks, the prompting sequence continues. To terminate the inputting of blocks, hit <RETURN> at the "SOURCE STARTING BLOCK #" prompt and copying will begin.

### 13.2 BLOCK STATUS

BLOCK STATUS may be used to display the status of any block or range of blocks on a disk or data-pack. When all the specified blocks have been displayed, you may print a hardcopy of the results to the printer.

The status of a block will be represented by one of three characters displayed on the video monitor: (See figure 1)

- "B" - Bad block
- "U" - Used block
- "E" - Empty block

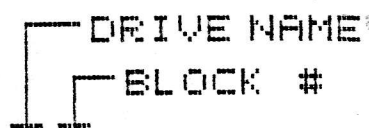
"U" and "E" may be somewhat misleading under some circumstances. "E" is displayed if all data within a block is format code (HEX E5 or FF). Conversely, "U" is displayed if the block contains any data other than format code. A status of "U" does not always indicate the block is used by a program or is pointed to by the directory. For example, when a file is deleted from the directory, a flag bit is set in the directory for that file. The data associated with that file is not altered. A CATALOG would not display the deleted filename, although a status of the blocks utilized by the deleted file would display as "U".

A block status of "B" indicates the block cannot be read. Rewriting bad blocks frequently repair them.

#### 13.2.1 USING BLOCK STATUS

As you receive the prompt, select the drive that will contain the media for the status operation, insert the disk or data-pack into the selected drive and hit <RETURN>. You will be ask for the "SOURCE STARTING BLOCK #". Input the first block to be checked and displayed. Next, the "ENDING BLOCK #" is requested. Input the last block number to status. (Depressing <RETURN> in response to "ENDING BLOCK #" will result in a single block status being performed on the starting block number.) After <RETURN> is depressed, the status operation will begin and continue until all specified blocks have been checked and the results displayed. When all requested blocks have been displayed you will receive the prompt "HIT <RETURN> OR <PRINT>". Press <PRINT> if you require a hardcopy or <RETURN> to continue without a hardcopy.

# FIGURE 1



STATUS BAR

BLOCK	STATUS	BLOCK: ADDR										
000	U	U	U	U	U	U	U	U	U	U	U	U
010	U	U	U	U	U	U	U	U	U	U	U	U
020	U	U	U	U	U	U	U	U	U	U	U	U
030	U	U	U	U	U	U	U	U	U	U	U	U
040	U	U	U	U	U	U	U	U	U	U	U	U
050	U	U	U	U	U	U	U	U	U	U	U	U
060	U	U	U	U	U	U	U	U	U	U	U	U
070	U	U	U	U	U	U	U	U	U	U	U	U
080	U	U	U	U	U	U	U	U	U	U	U	U
090	U	U	U	U	U	U	U	U	U	U	U	U
100	U	U	U	U	U	U	U	U	U	U	U	U
110	U	U	U	U	U	U	U	U	U	U	U	U
120	U	U	U	U	U	U	U	U	U	U	U	U
130	U	U	U	U	U	U	U	U	U	U	U	U
140	U	U	U	U	U	U	U	U	U	U	U	U
150	U	U	U	U	U	U	U	U	U	U	U	U
160	U	U	U	U	U	U	U	U	U	U	U	U
170	U	U	U	U	U	U	U	U	U	U	U	U
180	U	U	U	U	U	U	U	U	U	U	U	U
190	U	U	U	U	U	U	U	U	U	U	U	U
200	U	U	U	U	U	U	U	U	U	U	U	U
210	U	U	U	U	U	U	U	U	U	U	U	U
220	U	U	U	U	U	U	U	U	U	U	U	U
230	U	U	U	U	U	U	U	U	U	U	U	U
240	U	U	U	U	U	U	U	U	U	U	U	U
250	U	U	U	U	U	U	U	U	U	U	U	U
260	U	U	U	U	U	U	U	U	U	U	U	U
270	U	U	U	U	U	U	U	U	U	U	U	U
280	U	U	U	U	U	U	U	U	U	U	U	U
290	U	U	U	U	U	U	U	U	U	U	U	U
300	U	U	U	U	U	U	U	U	U	U	U	U
310	U	U	U	U	U	U	U	U	U	U	U	U
320	U	U	U	U	U	U	U	U	U	U	U	U
330	U	U	U	U	U	U	U	U	U	U	U	U
340	U	U	U	U	U	U	U	U	U	U	U	U
350	U	U	U	U	U	U	U	U	U	U	U	U
360	U	U	U	U	U	U	U	U	U	U	U	U
370	U	U	U	U	U	U	U	U	U	U	U	U
380	U	U	U	U	U	U	U	U	U	U	U	U
390	U	U	U	U	U	U	U	U	U	U	U	U
400	U	U	U	U	U	U	U	U	U	U	U	U
410	U	U	U	U	U	U	U	U	U	U	U	U
420	U	U	U	U	U	U	U	U	U	U	U	U
430	U	U	U	U	U	U	U	U	U	U	U	U
440	U	U	U	U	U	U	U	U	U	U	U	U
450	U	U	U	U	U	U	U	U	U	U	U	U
460	U	U	U	U	U	U	U	U	U	U	U	U
470	U	U	U	U	U	U	U	U	U	U	U	U
480	U	U	U	U	U	U	U	U	U	U	U	U
490	U	U	U	U	U	U	U	U	U	U	U	U
500	U	U	U	U	U	U	U	U	U	U	U	U
FIT (RETIRED) OF (EMPTY)												

## TYPICAL SCREEN DISPLAY

This "BLOCK STATUS" display provides status for all 500 blocks of the backup pack in drive "A". Note that blocks 100-199, 200-299, and 300-399 contain data. Blocks 400-499 are bad and cannot be read.

The STATUS BAR is common to all BACKUP+ screens and dynamically displays information about the current function being performed.

Normally the left half of the STATUS BAR displays the MENU that was selected, while the right half displays PROGRAM and the current drive and block. The STATUS BAR will also change from green to red whenever an error is detected.



BACKUP+ 3.0 BUG REPLY FORM

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone Number(s): ( ) \_\_\_\_\_ : ( ) \_\_\_\_\_

=====

What activity or MENU ITEM is giving you trouble?

MENU ITEM or activity: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

=====

Describe the bug or trouble you have experienced, in as much detail as possible. If the trouble involves other programs or media, please send the media and/or a copy of your program so we might duplicate the trouble as accurately as possible. Your material and/or copy of your program will be returned. Please be certain the program is a copy. Although great care is taken, we can't be responsible for the data on the tape/disk.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please mail all information to:

MMSG  
P.O. Box 1112  
Broomfield, Co. 80020-8112

## 14. ERROR MESSAGES

"BLOCK \*\* READ ERROR \*\*  
DRIVE x"  
"DIRECTORY \*\* READ ERROR \*\*  
DRIVE x"  
"VERIFY \*\* READ ERROR \*\*  
DRIVE x"

While attempting to read the directory or a block on DRIVE x, an error was generated. If the directory is not readable, the copy must be aborted. If this error occurs frequently, try cleaning the drive's read/write head.

"BLOCK \*\* WRITE ERROR \*\*  
DRIVE x"  
"DIRECTORY \*\* WRITE ERROR \*\*  
DRIVE x"  
"FORMAT \*\* WRITE ERROR \*\*  
DRIVE x"

While attempting to write the directory, a block or formatting on DRIVE x, a write error was generated. This is normally caused by damaged formatting or a dirty read/write head.

"\*\* COPY ABORTED \*\*"

A copy/backup has been terminated prematurely with unpredictable results. A fatal error is normally the cause of this abort message.

"\*\* DESTINATION MEDIA FULL \*\*"

This message is displayed when either the tape or disk being written to has no space left in the directory for additional entries or there are no free blocks left to write file data.

"\*\*\* DEFECTIVE MEDIA \*\*\*"

This message indicates that the tape or disk identified in an earlier message is unusable and must be replaced. The disk might need reformatting.

"\*\* INIT ERROR \*\*"

An error occurred while attempting to initialize a tape or disk. Check for BACKUP+ or COPYCART+ distribution media in the drive selected. A write protect tab on a disk or defective media may also cause this message.

"INTERNAL RAM BAD"

This message will be received after testing the RAM memory during BOOTING of BACKUP+ and the internal ram is found defective. This error will make it impossible for booting of BACKUP+ to continue. Good internal RAM memory is required for all computer operations.