DOS XL™

A Disk Operating System for Atari Computers

OSS™ Precision Software Tools

A REFERENCE MANUAL FOR

DOS XL version 2.20

A DISK OPERATING SYSTEM FOR ATARI COMPUTERS

The programs, disks, and manuals comprising
    DOS XL are Copyright (c) 1983 by
    Optimized Systems Software, Inc.
    1173-D Saratoga-Sunnyvale Rd.
    San Jose, CA   95129

This manual revised October, 1983

PREFACE

DOS XL is the result of the efforts of several persons, and we believe that proper credit should be given. The original Apple version of the console processor (CP) and the original version ("version 2") of the File Manager System (which is, of course, identical with Atari's DOS 2.0S) were written by Paul Laughton, ex of Shepardson Microsystems, Inc., who also authored the original Apple DOS (version 3.1). The current versions of all other portions are primarily the work of Mark Rose, of OSS, with the collaboration of Bill Wilkinson and Mike Peters.

TRADEMARKS

The following trademarked names are used in various places within this manual, and credit is hereby given:

DOS XL, OS/A+, BASIC XL, ACTION!, BASIC A+, MAC/65, and C/65 are trademarks of Optimized Systems Software, Inc.

Atari, Atari Home Computers, Atari Writer, and Atari 850 Interface Module are trademarks of Atari, Inc., Sunnyvale, CA.

TABLE OF CONTENTS

This manual is an addendum to the manual for OS/A+,
which DOS XL supercedes. At times throughout this
addendum, you will be referred to specific sections of
the OS/A+ manual for more information.

1.1 System requirements

DOS XL requires 48K of memory, and will work on all
Atari computers. Although DOS XL is designed for all
users, it enhances the usage of OSS SuperCartridges by
expanding program memory.

1.2 What is a DOS?

The purpose of DOS XL is to provide a way for your Atari
computer to communicate with your disk drives, printer,
and other peripherals. DOS XL contains commands and
utilities which allow you to:

        1.   Organize information into files on your
             diskettes.
        2.   Access this information with ease and
             precision.
        3.   Make use of other applications programs (e.g.
             BASIC XL, MAC/65, BUG/65, Atari BASIC, etc.).
        4.   Pass control of the computer between the
             Operating System (DOS XL), Cartridges, and
             programs stored on disk.

DOS XL is the only DOS for Atari computers which lets
you choose either an easy-to-use menu or a versatile
command processor. When you use DOS XL in conjunction
with the OSS SuperCartridge or the Atari XL computers,
you also gain up to 5K of user memory.

1.3 Disk Files

Much like a record or a cassette tape can hold a number
of songs, a single diskette can hold many distinct files
of information (up to 64 files per diskette). These
files can hold programs or data in text or other form.
Unlike files stored on a cassette, each disk file must
have a name associated with it.

The rules for valid file names are:
- One to eight characters in length
- Optionally followed by a period and a one to three character extender.
- Only characters A-Z and Ø-9 are allowed.
- The first character must be a letter from A-Z.

Examples of valid file names:
```
GEORGE
TEMP.ABC
PROG1.SAV
SORT123
COPY.COM
```

The portion of the file name preceding the period is called the primary file name, and the optional portion of the file name following the period is called the extender.   Although any combination of valid characters may be used for both sections of the file name, it is recommended   that   the   extender   be   dedicated   to indentifying the type of information, contained in the file.   The following extenders are suggested:

Extender:	Suggested usage:	Example:
SAV	"SAVE"d BASIC file	GEORGE.SAV
LIS	"LIST"ed BASIC file	PROG1.LIS
ACT	ACTION! source file	MIKE.ACT
M65	"SAVE"d MAC/65 file	SORT1.M65
OBJ	binary object file	BILL.OBJ
COM	DOS XL utility program	COPY.COM
EXC	DOS XL execute file	STARTUP.EXC
SYS	system program - reserved for DOS XL	

In most cases, file names must be preceded by a device specifier which tells the system on which drive to search for a particular file. The format of a device specifier is:

        Dn:
                (or)
        D:

where n is a digit from 1 to 4, depending on how many drives you have. If you just specify D:, drive 1 is assumed (this is very useful if you only have one drive). Here are several examples of complete file names as you would type them into the computer:

File name:	Meaning:
D1:GEORGE	file GEORGE on drive 1
D2:MIKE.ACT	file MIKE.ACT on drive 2
D:TEMP.LIS	file TEMP.LIS on drive 1

| In some cases file names may contain the "wild-card" |
| characters '?' and '*'. A question mark ('?') |
| will match any character in a file name, while an |
| asterisk ('*') will match any string of zero or more |
| characters. For example, *AB.C?? will match |
| XAB.CXX AB.CUR BEOBAB.CNN etc. Wild-card characters |
| may be used in the following DOS XL menu commands: |
| Files on Disk |
| Copy Files |
| Erase Files |
| Protect Files |
| Unprotect Files |
| See section 3 for more information on these menu |
| commands. |

1.4 Other devices

The Atari Personal Computer considers everything except
the guts of the computer (i.e. the RAM, ROM, and
processing chips) to be external devices. Some of these
devices come with the computer, for example the Keyboard
and the Screen Editor. Some of the other devices are
Disk Drive, Program Recorder (cassette), and Printer.
When prompted for a file name by DOS XL, you need not
always enter the name of a disk file. Other devices are
referred to by names consisting of a single letter
optionally followed by a single digit used to define a
specific device when more than one of the same kind
exist (e.g., D1: or D2:). The device name must be
followed by a colon. The following is a list of device
names which are implemented under standard DOS XL:

C: The Program Recorder -- handles both Input
            and Output. You can use the recorder as
            either an input or output device, but never
            as both simultaneously.

D1: - D8: Disk   Drive(s) -- handles both Input and
            Output. Unlike C:, disk drives can be used
            for input and output simultaneously. You are
            also required to specify a file name with this
            device, as previously mentioned.

            NOTE: if you use D: without a drive number,
            D1: is assumed.

E: Screen Editor -- handles both Input and
            Output. The screen editor simulates a text
            editor/word processor using the keyboard as

-- 3--

input and the display (TV or Monitor) as
output. This is the editor you use when
typing in a BASIC XL program. When you
specify no channel while doing I/O, E: is
used because the channel defaults to 0, which
is the channal BASIC XL opens for E:.

K: Keyboard -- handles Input only. This allows
          you access to the keyboard without using E:.

P: Parallel Port on the 850 Module -- handles
          Output only. Usually P: is used for a
          parallel printer, so it has come to mean
          'Printer' as well as 'Parallel Port'.

R1: - R4: The four RS-232 Serial Ports on the Atari 850
          Interface -- handle both Input and Output.
          These devices enable the Atari system to
          interface to RS-232 compatible serial devices
          like terminals, plotters, and modems.

          NOTE: if you use R: without a device number,
          R1: is assumed.

S: The Screen Display (either TV or Monitor) --
          handles both Input and Output. This device
          allows you to do I/O of either characters or
          graphics points with the screen display. The
          cursor is used to address a screen position.

1.5 Glossary of terms

The following terms are used throughout the rest of this
manual. Their definitions are included here so that you
may familiarize yourself with them before proceeding.
Please refer back to this section to clarify concepts
introduced later in the manual.

Term: Definition:
-----   -----------
DOS   An acronym for Disk Operating
                         System.

boot   The process of loading DOS XL or
booting   another system into memory when
                         you power on your computer.

master diskette   The DOS XL diskette you received
master disk   with your purchase of DOS XL, or
                         a duplicate thereof.

bootable diskette   Any diskette which contains **the**
                           file DOS.SYS. Such a disk can
                           be used to boot DOS XL into
                           memory. If you are using a
                           SuperCartridge, you should also
                           have DOSXL.SYS on that disk.

file name   The string of characters used to
                           refer to a specific file on a
                           specific drive (e.g., D:GEORGE).

filespec   A file name which may contain
                           the wild-card characters '?'
                           and '*' (e.g., D:**.*,
                           D2:*.CO?).

prompt   Any message from DOS XL
                           instructing or asking you to
                           type a response.

Section 2: GETTING STARTED WITH DOS XL

2.1 Booting your DOS XL master disk

The first operation you should perform after opening
your DOS XL package is to fill out your license
agreement and mail it to OSS. This action puts you on
our mailing list for a quarterly newsletter announcing
new products, updates to existing products, solutions to
problems with our products, and answers to common user
questions. Once this is done, you should boot your DOS
XL master diskette as follows:

1) Connect your disk drive and any other peripherals to
   your Atari computer following the manufacturers
   instructions.
2) Turn on your peripherals and your monitor or
   television.
3) Insert your DOS XL master disk into the disk drive
   (or drive 1 if you have more than one drive).
4) Now plug a cartridge, if you wish, into the
   cartridge slot.
5) Finally, turn on your Atari computer.

The disk drive will be accessed, and after a time the
DOS XL copyright message will appear at the top of the
screen. Then, a message will begin to appear, line by
line, which begins with "Welcome to DOS XL...". The
last line from the startup file is just "MENU". This is
a command which instructs DOS XL to load the DOS XL
menu. After a few more seconds, the menu program will
finish loading, the screen will again clear, and the DOS
XL menu will appear.

| This text comes from a special file on the disk |
| which is named "STARTUP.EXC". In section 5.3, you |
| can learn how to modify this message or delete it |
| entirely. |

2.2 DOS XL command modes

A primary feature of DOS XL is its two modes of command
entry. You the user may choose either a menu mode or a
command processor. For those of you unfamiliar with
other menu driven systems such as Atari DOS, a menu is

simply a list of commands which appear on the screen.
The user simply chooses one of the options listed before
him. If additional information is required, the user is
further prompted by the system for input. In this way,
the user need not remember the names of DOS functions;
instead, he or she may simply select a command from the
list.

The other input mode for DOS commands is the Command
Processor mode, or CP. In this mode, the user is not
shown a list of commands to choose from. Instead, the
user must invoke the DOS commands by name. Although
this might at first seem cumbersome, once several
commands have been committed to memory, the command mode
is much faster and easier to use. Also, certain
advanced features of the DOS are available only from the
command processor.

| By default the user will be presented with the menu |
| mode of command entry. It is recommended that this |
| mode be used exclusively until the user has gained |
| some familiarity of the system. At that time you |
| may, if you wish, read carefully section 4 which |
| describes the use of the DOS XL command processor. |
| After trying out the command mode, you may refer to |
| section 5 in order to modify the system so that |
| the command processor appears by default instead of |
| the menu. |

The following section summarizes the differences between
the menu and command modes of DOS XL operation.

The DOS XL menu has the following advantages and
disadvantages:

Advantages:
1) The user need not remember the names of DOS
   commands. Instead, he or she is prompted at each
   step for the proper information.
2) Those of you already familiar with Atari DOS 2.0s
   may find the DOS XL menu more comfortable and easier
   to use.

Disadvantages:
1) Using the menu with DOS XL uses about 2K more memory
   space. However, this is offset by the fact that DOS
   XL saves you 5K with a supercartridge.

The DOS XL command processor has the following

advantages and disadvantages:

Advantages:
1) Once a few commands have been learned, the command
   mode is faster to use than the menu mode.
2) Those users familiar with other operating systems
   such as Apple DOS, CP/M, UNIX, or OS/A+ will find
   the command mode more conventional and familiar than
   the menu mode.
3) Unlike the menu mode, the DOS XL command processor
   uses no extra user memory.

Disadvantages:
1) The user is not prompted for input as in the menu
   mode. Therefore, he or she must learn several basic
   commands in order to utilize the power of the
   command mode.

2.3 Selecting menu options

You should now be presented with the DOS XL menu on the
screen. It should look like this:

          DOS XL MENU   version 2.20
            copyright (c) 1983   OSS, Inc.

          Files on Disk   Protect Files
          To Cartridge   Unprotect Files
          Copy Files   Rename File
          Duplicate Disk   Save Binary
          Erase Files   Load Binary
          Initialize Disk   Go to Address
          Xtended Command   Quit to DOS XL

          Enter your selection.

Although this diagram does not show it, the first
characters of each of the 12 commands in the list are in
inverse video. These characters are those which you
would type to select a command. For example, to invoke
the "Rename File" command, you would simply type 'R', to
the above prompt. For most of the menu commands, extra
input is required. The menu will prompt you with
appropriate messages whenever you are required to input
new data.

Whenever you are prompted by the DOS XL menu to enter a
filename or a filespec, you don't always have to specify
the device name for the drive. If you do not specify a
device name (i.e., D:, D2:, etc.), drive 1 is assumed
(D1:). For example, if you typed "GEORGE" as a

filename, the menu would assume that you meant
"Dl:GEORGE". In general, this is not the case for file
names entered while using cartridge based products such
as Atari BASIC or OSS BASIC XL.

2.4 Files on the DOS XL master disk

In order to insure the integrity of your DOS XL master
diskette, you should view the names of the files
contained on it. The DOS XL menu of commands should be
visible on the screen, and the menu will prompt you:
        Enter your selection.

The first command in the menu is "Files on disk". This
command allows you to view the names of disk files.
First insure that your DOS XL master is still in drive
1. Then select this command as follows:

You type: F

The menu will respond by prompting:
        Files on disk
        Filespec:

In order to look at all files on the disk,
You type: [RETURN]

The list of files on your master disk will appear and
should look like:

```
        *  DOS     SYS 046
        *  DOSXL   SYS 046
        *  MENU    COM 025
        *  CLRDSK  COM 023
        *  COPY    COM 075
        *  DO      COM 003
        *  DUPDBL  COM 011
        *  DUPDSK  COM 011
        *  INIT    COM 006
        *  INITDBL COM 023
        *  RS232   COM 001
        *  SDCOPY  COM 086
        *  SYSEQU  ASM 022
        *  MEM     LIS 066
        *  RS232FIXCOM 002
           STARTUP EXC 003
        222 FREE SECTORS
```

Each of the files has a primary name and an extension.
For example, the file COPY.COM has primary name COPY and
extension COM. Note that in the file listing the period

is not shown. Instead, there may be one or more spaces
between the primary name and the extension. This format
appears ONLY in the file listing. You may never use
this form for specifying files. If you are using file
extensions, you must use a period with no intervening
spaces, as in "D:TEST.LIS".

Notice that all of the files on the master disk except
the file "STARTUP.EXC" are preceded by an asterisk in
the directory listing. An asterisk preceding a file
implies that it has been protected from modification or
erasure through the use of the DOS XL menu command
"Protect Files". This method can also be used to
protect your own files from change or deletion through
accidental use of one of the DOS XL commands (see
section 3.9 for further information).

2.5 Backing up your DOS XL master disk

Now that you have successfully booted your master disk,
you should make a backup copy. If your DOS XL master
disk should ever fail to operate properly, you may then
transfer the files on your backup copy to the master
disk, thus restoring the master to a working state.

First, for safety's sake, place a write protect tab over
the notch on your DOS XL master disk, if it does not
already contain one. This protects the entire diskette
from being written to in any way. You should also use
write protect tabs to protect your program disks from
accidental change when you do not need to write to them.

At this point, the DOS XL menu of 12 commands will be
displayed on the screen. The following prompt will
appear with the cursor below it:
          Enter your selection.

You type: D

This is the command for Duplicate Disk. You will then
be asked:
          Double density?

Since the DOS XL master disk is single density,
You type: N [RETURN]

The DUPDSK.COM (short for duplicate disk) utility
program will be read into memory. The next prompt is:
          Source disk (1,2,3,4) :

Normally, you will copy from drive 1 so,
You type: 1 [RETURN]

To the prompt:
        Destination disk (1,2,3,4) :

You type: 1 [RETURN]

You will be asked:
        Format destination disk (Y/N)?

Most blank diskettes are unformatted. That is, they are
not yet prepared to hold disk files. In order to copy
files or diskettes to blank diskettes, they must first
be formatted. Therefore,
You type: Y [RETURN]

At this point, the DUPDSK utility will ask you to:
        Insert source disk into drive 1
        And hit RETURN when ready

Your master disk should still be in drive 1 at this
point, so just type:
        [RETURN]

The light on the front of your disk drive will come on,
and the DUPDSK utility will respond by saying:
        Reading source disk

After a while, you will be prompted:
        Insert destination disk into drive 1
        And hit RETURN when ready

The DUPDSK utility has read as much as possible of the
source disk into memory. At this time, remove your DOS
XL master disk from drive 1 and insert a blank diskette.
When this has been done,
You type: [RETURN]

The program will respond:
        Formatting destination disk
and, after a while,
        Writing destination disk

Most of the time, the total information on a diskette is
too large to hold in your Atari's memory at one time.
This is the case for your DOS XL disk.   Therefore, you
will be prompted to repeatedly insert your source and
destination disks (the DOS XL master and the blank
diskette,   respectively)   until   the   duplication is
complete.   Follow these prompts carefully until the
DUPDSK utility responds:
        Copy same disk again (Y/N)?

--11--

You type: N [RETURN]

The DOS XL menu will then prompt:
        Hit RETURN for menu

You type: [RETURN]

At this point, you have successfully made a copy of your
DOS XL master disk. First place a write protect tab
over the notch on the copy so that it is never
accidently written to. Label the disk appropriately and
store it in a safe place so that you can use it if ever
your master disk fails to work properly.

```
--------------------------
```
2.6 Entering the cartridge
```
--------------------------
```

At this point, if you wish to enter the cartridge to use
BASIC, BASIC XL, ACTION!, or other cartridge based
products, you must use a DOS XL menu command.

If you have not already plugged in the desired
cartridge, you should turn off your Atari computer and
insert it. Then insure that the DOS XL master disk is
in drive 1 and turn on the power. The boot process will
again take place, putting you in the menu.

To enter the cartridge you must use the "To cartridge"
command in the DOS XL menu. To use that command,
You type: T

You will then be in the cartridge, ready for
programming.

```
-----------------------------------------------------------
| If  you  are using the Atari BASIC cartridge, please |
| refer to chapter 7 of the  OS/A+  manual  for  those |
| commands  which may be used from BASIC to access the |
| disk.  For those of you already familiar with  Atari |
| BASIC  under  Atari  DOS  2.0s, please not that disk |
| access is identical under DOS XL.                    |
-----------------------------------------------------------
```

The DOS XL menu was designed to be easy to use while
allowing the user access to the full power of the Atari
computer.

For those users who have previously used Atari DOS, here
is a summary of the differences between the DOS XL menu
and the Atari DOS menu:

1) Loading DOS - The Atari DOS menu must be loaded in
    from the disk whenever you return to DOS from a
    cartridge. Due to the slow speed of this process,
    the DOS XL menu is always resident. This does
    occupy about 2,000 bytes more memory, but this is
    more than offset if you are using DOS XL with a
    SuperCartridge. If you wish to utilize the memory
    taken up by the menu, you may use the DOS XL command
    processor, which does not use that memory.

2) MEM.SAV - Atari DOS supports the use of a special
    file in which to save user memory while accessing
    DOS functions. Because of the extremely slow nature
    of the MEM.SAV file, DOS XL does not support it.

3) Single key commands - The DOS XL menu needs only a
    single key to access commands, whereas Atari DOS
    requires a carriage return after the command letter.

3.1 Entering Commands

Whenever the menu is entered, the following list of
commands will appear on the screen:

            DOS XL MENU   version 2.20
              copyright (c) 1983 OSS, Inc.

            Files on Disk   Protect Files
            To Cartridge   Unprotect Files
            Copy Files   Rename File
            Duplicate Disk   Save Binary
            Erase Files   Load Binary
            Initialize Disk Go to Address
            Xtended Command Quit to DOS XL

When the DOS XL menu is visible on the screen, you are
prompted:
            Enter your selection.

--13--

At that point, you should type the first letter of any of the DOS XL menu commands listed on the screen. If more input is required to complete the command, the menu will prompt you for more information. Unless the command loads a utility program, you may abort a command at any time by hitting the ESCAPE key on the upper left of your keyboard. If the command loads a utility program (the commands "Copy Files", "Duplicate Disk", and "Initialize Disk"), you may have to press SYSTEM RESET in order to abort the command.

The following sections describe each menu command in detail. The commands are presented in alphabetical order, NOT the order in which they appear in the menu.

3.2   C - Copy Files

CP equivalent: COPY   (OS/A+ manual section 5.6)

The copy command allows you to transfer files between
diskettes or to different files on the same diskette.
The "Copy Files" command is most useful for copying one
or a few files from one diskette to another. If you
desire to transfer all or most of the files on a single
diskette to another diskette, you should use the
"Duplicate Disk" command instead as it will perform the
operation much more rapidly.

To use the copy command, select 'C' when the menu
prompts you for a command selection. At that time, DOS
XL will check for the COPY.COM file on the diskette in
drive 1. This is the utility program which performs
file transfers.   If DOS XL does not find the COPY.COM
program, you will be prompted to insert your DOS XL
master disk as follows:
          Copy Files
          Insert MASTER disk and hit RETURN
If you receive this prompt, take out any disk in drive 1
and insert your DOS XL master disk and press the RETURN
key.

The menu will then prompt:
          Copy Files
          From file:

At this point, you should respond with a filespec
specifying the file or files to be copied (e.g.,
D:GEORGE, D2:JUNK.LIS, etc.). For example, if you want
to transfer the contents of the file "PROG1" on drive 1
to another diskette, you should type "D1:PROG1".

| Notice that wild-cards may be used to refer to files |
| using the COPY utility (e.g., TEMP.*, AB??.COM, |
| etc.).   As a special case, if you wish to copy all |
| files on a disk to another disk, just use a filespec |
| of Dn:, where n is the source drive number (e.g., |
| D1:). |

The COPY utility will then prompt:
          To file:

You should respond with the destination filespec. In
most cases you will want to transfer files from one
diskette to another without changing their names. In

--15--

this case you may refer to the destination filespec as just Dn:, where n is the destination drive number (e.g., D:, Dl:, D2:). In the above example, if you wanted to copy "PROG1" to a different diskette and you own only 1 drive, you should type "Dl:".

You will then be asked:
        Single Drive?

If you own only a single drive as in the above example, or if you are performing this copy to another diskette in the same drive,
You type: Y [RETURN]

In any other case,
You type: N [RETURN]

The COPY.COM utility program will then be loaded from the diskette, and you will be prompted:
        Insert disk(s) to be copied
        and hit RETURN when ready

Remove your master disk and insert your source disk. If you own more than one drive and are copying to a second drive, insert your destination disk into the proper drive.
You type: [RETURN]

Before each file is copied, you will be asked:
        Copy
          Dn:filename
        to Dn:filename?

If you wish to copy that particular file,
You type: Y [RETURN]

Otherwise,
You type: N [RETURN]
If you choose not to copy a file, a message will be printed to the screen verifying that the file was not copied.

At this point the source file will be read into memory. If you are copying to another disk on the same drive, you will then be prompted to insert the destination disk as follows:
        Insert 'to' disk and hit RETURN

If the destination file already exists, you will be asked:
        'To' file already exists
        OK to overwrite?

If you wish to replace the old file with the source
file,
You type: Y [RETURN]

Otherwise,
You type: N [RETURN]

| If the destination file has previously been guarded |
| against modification by using the DOS XL menu |
| "Protect Files" command (i.e., the file is preceded |
| by an asterisk in the "Files on Disk" listing of the |
| disk), the COPY utility program will not be able to |
| overwrite that file. The protection must first be |
| removed using the "Unprotect Files" command before |
| that file may be written to. |

The COPY utility reads as much as possible of the source
file into memory at one time. If the source file is too
large to fit into memory and you are copying on a single
drive, you will again be prompted:
          Insert 'from' disk and hit RETURN

Re-insert your source disk and continue to carefully
follow the directions of the prompts until the entire
file is copied.

When a file has been completely copied, a verification
message will be printed on the screen. When all files
have been copied, you will be prompted:
          Hit RETURN for menu

To return to the list of menu commands,
You type: [RETURN]

| The "Copy Files" command should not be used to copy |
| from single to double density diskettes, if you own |
| only 1 disk drive. Instead use the "Quit to DOS XL" |
| command to go to the command processor and refer to |
| section 3.10 of the OS/A+ manual. If you have more |
| than one drive, you may use the "Copy Files" command |
| to copy between drives which are operating in |
| different density modes. For more information, see |
| section 7, "MOVING TO DOUBLE DENSITY". |

```
-----------------------
```
3.3 D - Duplicate Disk
```
-----------------------
```

CP equivalents: DUPDSK   (OS/A+ manual section 5.1∅)
                DUPDBL   (OS/A+ manual section 5.9)

This command allows you to copy quickly the entire
contents of a diskette to another diskette. If you wish
to copy only one or just a few files from one diskette
to another, or if you need to preserve some of the files
already on the disk you wish to copy TO, the "Copy
Files" command should be used instead.

```
-----------------------------------------------------
| The "Duplicate Disk"  command  writes  entirely  new |
| information   to   the  destination  diskette,  thus |
| erasing  completely  all  files  which  previously |
| existed   there.   Carefully   select  the  desired |
| destination diskette to avoid accidently destroying |
| your program disks.                                  |
-----------------------------------------------------
```

To select the Duplicate Disk command, type 'D' when you
are prompted to enter a command selection.

You will then be asked:
        Duplicate Disk
        Double density?

If your source disk was formatted under single density,
You type: N [RETURN]

If the source disk is double density,
You type: Y [RETURN]

The duplicate disk utility program will be read into
memory. The next prompt is:
        Source disk (1,2,3,4) :

Normally, you will copy from drive 1 so,
You type: 1 [RETURN]

You will be prompted:
        Destination disk (1,2,3,4) :

If you have only a single drive, or you wish to use
drive 1 as your destination drive,
You type: 1 [RETURN]

If you wish to use a drive other than 1 for a
destination drive,
You type: n [RETURN]

where n is the number of the desired destination drive.

You will be asked:
        Format destination disk (Y/N)?

Most blank diskettes are unformatted. That is, they are
not yet prepared to hold disk files. In order to copy
files or diskettes to blank diskettes, they must first
be formatted. Therefore,
You type: Y [RETURN]

At this point, the DUPDSK utility will ask you to:
        Insert source disk into drive 1
        And hit RETURN when ready

If you specified a destination drive different from the
source drive, you will be prompted:
        Insert source disk into drive 1
        Insert destination disk into drive n
        And hit RETURN when ready

Insert the proper source (and destination disk, if using
2 drives) into the proper drive, and
You type: [RETURN]

The light on the front of your disk drive will come on,
and the DUPDSK utility will respond by saying:
        Reading source disk

If the destination drive is the same as the source
drive, you will be prompted:
        Insert destination disk into drive n
        And hit RETURN when ready

At this time, remove your source diskette from drive 1
and insert a blank diskette. When this has been done,
You type: [RETURN]

The program will respond:
        Formatting destination disk
and, after a while,
        Writing destination disk

Most of the time, the total information on a diskette is
too large to hold in your Atari's memory at one time.
This is the case for your DOS XL disk.   Therefore, you
will be prompted to repeatedly insert your source and
destination disks until the duplication is complete.
Follow these prompts carefully until the DUPDSK utility
responds:
        Copy same disk again (Y/N)?

You type: N [RETURN]

At this point, you will be prompted:
        Hit RETURN for menu

To return to the DOS XL menu,
You type: [RETURN]

CP equivalent: ERAse   (OS/A+ manual section 4.4)

The "Erase Files" command allows you to delete one or
more files from a diskette. This command should be used
with care, for erased files cannot easily be recovered,
if at all.

| If you use the "Erase Files" command to attempt to |
| erase a file which has previously been protected |
| (i.e., the file name is preceded by an asterisk in |
| the directory listing), you will be given the error |
| message "FILE PROTECTED". If you desire to erase |
| this file, you must first remove the protection by |
| using the "Unprotect Files" command. Note that |
| protecting files is an excellent way of guarding |
| against accidental erasure. |

To use this command, select 'E' when the menu prompts
you for a command selection. The menu will then prompt:
        Erase Files
        Filespec to erase:

You should respond with the name of the file you wish to
erase. If you wish to erase a group of files, you may
use wild-card characters in the filespec. However, be
very sure you know what you are erasing.

You will then be asked:
        Are you sure?

If you feel the filespec you entered was correct,
You type: Y [RETURN]

If you wish to abort the "Erase Files" command,
You type: N [RETURN]

If you answered 'Y', all files matching the selected
filespec will be removed from the diskette. The menu
will then prompt:
        Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

```
-----------------------
3.5  F - Files on Disk
-----------------------
```

CP equivalent: DIRectory   (OS/A+ manual section 4.2)

The "Files on Disk" command allows you to view the names
of any or all files on a diskette.

To use this command simply select 'F' when prompted by
the menu for a command selection.   Then insert the
desired diskette into one of your disk drives (or drive
1 if you have only one drive). At that point, the menu
will prompt:

 Files on disk
Filespec:

The filespec required instructs DOS XL which files on
the disk to look for and display. The following table
gives some examples of filespecs and the corresponding
lists of files they display:

Filespec:	Files listed:
GEORGE	The file having the name GEORGE, if such a file exists.
JUNK.SAV	The file having the primary name JUNK and the extender SAV, if such a file exists.
AB?	Any file not having an extender whose name is three characters long where the first two are AB. This filespec matches ABC, ABX, AB1, etc.
CAT*	Any file whose name begins with CAT. The filespec matches CAT, CATCHER, CATTLE, etc.
JOHN.??X	Any file whose primary name is JOHN and whose extender is three characters long ending in X. This matches JOHN.ABX, JOHN.XXX, etc.
**.*	All files on the diskette. This filespec may be abbreviated by just [RETURN].

D1:   All files on the diskette in drive 1.

D2:   All files on the diskette in drive 2.

```
--------------------------
3.6   G - Go to Address
--------------------------
```

CP equivalent: RUN   (OS/A+ manual section 4.10)

This command allows you to pass control of your computer
to a machine language program already residing   in   your
Atari   computer's   memory.   This   program   should   have
previously been loaded into memory using the DOS XL menu
"Load File" command, or an equivalent method.

To use the "Go to Address" command, type   'G'   when   the
menu   promt   "Enter   you   selection."   appears.   At that
time, the menu will prompt:
        Go to Address
        Address:

You should respond with the hexadecimal address   of   the
location   in memory you desire to jump to.   For example,
if a machine language program resides at location $5000
(the   dollar   sign   indicates   hexadecimal),   you   would
respond with "5000".   Note that although the number is a
hexadecimal   value,   you   should   not   precede it with a
dollar sign when you enter it.

```
---------------------------------------------------------
| Be sure that the address you enter is   correct; for, |
| in   general,   if   you   pass control to a location in |
| memory which does not contain   the   desired   machine |
| language   program,   control of your computer will be |
| lost and the keyboard will "hang".   In   some   cases, |
| hitting   the   SYSTEM   RESET   key   on your computer's |
| keyboard will return control to you.   Most   of   the |
| time,   however,   you   will be forced to turn off the |
| power to your computer and repeat the boot process.   |
---------------------------------------------------------
```

At this point, control will be   passed   to   the   machine
language   routine   located   at   the desired address.   If
that routine   returns   to   the   menu   with   a   6502   RTS
instruction, you will be asked:
        Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

3.7 I - Initialize Disk

CP equivalent: INIT   (OS/A+ manual section 5.12)

The "Initialize Disk" command allows you to format blank
diskettes so that you may use them to store program and
data files.   If you wish to create a bootable diskette
rather than just a data diskette, you will normally want
to duplicate your DOS XL master disk.   In this case you
should use the "Duplicate Disk" command rather than the
"Initialize Disk" command. If you want to duplicate any
of your diskettes using the "Duplicate Disk" command,
you do not need to format them first using   the
"Initialize Disk" command, for the "Duplicate Disk"
utility will perform the format operation if you desire.

| The "Initialize Disk" command writes entirely new |
| information to the desired diskette, thus erasing |
| completely all files which previously existed there. |
| Carefully select the diskette to initialize to avoid |
| accidently destroying your program disks. |

To use this command, select 'I' when prompted for a
command selection. At that point, DOS XL will check for
the presence of the INIT.COM utility on the diskette in
drive 1.   If it is not there, you will be prompted:
           Initialize Disk
           Insert MASTER disk and hit RETURN

after which you should insert your DOS XL master disk
and hit the RETURN key.

Then the INIT utility program will be loaded into memory
and you will be present with the 4 options of the INIT
program.   They are:

1. Format disk only
2. Format disk and write DOS.SYS
3. Write DOS.SYS only
4. Exit to DOS XL

NOTE: Option 4, "Return to OS/A+", should be read
"Return to DOS XL".

| Normally,   you should use the "Duplicate Disk" |
| command to copy your DOS XL master to create a spare |
| bootable disk. However, option 2 of the "Initialize |
| Disk" command may be used to create a bootable disk. |

| The DOSXL.SYS file should be Copied onto   that   disk |
| if it is to be used with an OSS SuperCartridge. |

If you wish to create a bootable disk,
You type: 2 [RETURN]

If you wish to create just a data disk,
You type: 1 [RETURN]

You will be asked:
        Drive (1,2,3,4):

You should respond with the desired drive number (always
1, if you have only one drive).

You will be asked:
        Option n drive n - Are you sure (Y/N)?

If your are happy with your entries so far,
You type: Y [RETURN]

Otherwise,
You type: N [RETURN]

If you typed 'Y', the specified command will   be
executed.   You will again be presented with the 4
options.

If you have more disks to initialize, repeat the above
steps. Otherwise,
You type: 4 [RETURN]

You will be returned to the DOS XL menu.

```
--------------------
3.8  L - Load Binary
--------------------
```

CP equivalent: LOAd   (OS/A+ manual section 4.5)

The "Load Binary" command allows you to read a binary
file from disk into the memory of your Atari computer.
This command can be used to load binary object of
assembly language programs, or binary data to be used by
such programs. The file you wish to load should have
previously been written to disk using the DOS XL menu
"Save File" command, or an equivalent method.

Do not use this command to load Atari BASIC or BASIC XL
programs into memory.   Instead, just use the LOAD
command from the BASIC cartridge (i.e., after you have
been given the "READY" prompt).

To use the "Load Binary" command, type 'L' when prompted
to enter your command selection.   the menu will then
prompt:
            Load Binary
            Filename:

You should respond with the name of the previously saved
file you wish to load. For example, if you wish to load
into memory the file "FILE1.OBJ" on drive 1, you should
type "D:FILE1.OBJ".

At this point, DOS XL will access the disk to read in
the binary file. You will then be asked:
            Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

```
----------------------
3.9   P - Protect Files
----------------------
```

CP equivalent: PROtect   (OS/A+ manual section 4.7)

In many cases you will have created files on your disks
which you   know you will   hardly ever need to modify.
There is a way to guard these files so that you need not
worry about   accidently deleting or modifying their
contents.   The   "Protect Files" command allows you to
protect files from renaming, erasure, or modification.
These files will   then be preceded by an asterisk in a
directory listing when you use the "Files on _Disk"
command.   If in the future you desire to remove the
protection afforded by this command, you should use the
"Unprotect Files" command.

To use this command, select 'P' when the menu prompts
you for a command selection. The menu will then prompt:
        Protect Files
        Filespec to protect:

You should respond with the name of the file you wish to
protect.   If you wish to protect a group of files, you
may use wild-card characters in the filespec.

At this point the disk will be accessed and the files
will be protected.   The menu will then prompt:
        Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

```
------------------------
3.10 Q - Quit to DOS XL
------------------------
```

CP equivalent: none

The "Quit to DOS XL" command is used to pass control
from the DOS XL menu to the DOS XL command processor.
Although almost all the functions you need from DOS may
be accomplished from the DOS XL menu, certain commands
and features are accessible only from the command
processor mode.

To use this command, type 'Q' when prompted by the menu
to enter a command selection. At that point, control
will be transfered to the command processor mode. In
place of the menu, the prompt "D1:" will appear at the
upper left corner of the screen. Refer to section 4
for more information about the DOS XL command processor.

```
--------------------
3.11 R - Rename File
--------------------
```

CP equivalent: REName   (OS/A+ manual section 4.9)

The "Rename File" command may be used to change the file
name associated with a file of information.   This
command does not alter or delete any   information
contained in the file. Rather, the file will only show
up with a different name in the directory listing when
using the "Files on Disk" command.

```
------------------------------------------------------------
| If   you  attempt  to  rename  a  file which has been |
| protected against modification (i.e., the file  name |
| is    preceded   by  an  asterisk  in  the  directory |
| listing), you will be given the error message  "FILE |
| PROTECTED".   If you desire to rename this file, you |
| must first remove the protection by using the DOS XI |
| menu command, "Unprotect Files".                      |
------------------------------------------------------------
```

To use the "Rename File" command, select 'R' when the
menu prompt, "Enter your selection." appears. You will
then be asked:
        Rename File
        Old name:

You should respond with the current name of the file
whose name you wish to change. For example, if you want
to change the name of the file "D:GEORGE" to "D:PROG1",
you should type "D:GEORGE".

The menu will then respond,
        New name:

At this point you should type the new name you wish the
file to have.   In the above example, you should type
"PROG1" at this time. Notice that you must NOT use a
device specifier (i.e., D:, D2:, etc.) in the new name;
you should type just "PROG1", not "D:PROG1".

You will then be asked,
        Are you sure?

If you are satisfied that you have entered both file
names correctly,
You type: Y [RETURN]

If instead you wish to abort the rename operation,
You type: N [RETURN]

If you answered with 'Y', the designated file will be
renamed, and you will be prompted:
        Hit RETURN for menu

To return to the list of menu commands,
You type: [RETURN]

```
--------------------
3.12 S - Save Binary
--------------------
```

CP equivalent: SAVe   (OS/A+ manual section 4.11)

The "Save Binary" command allows you to write a portion
of your Atari computer's memory to a disk file. This
command can be used to save to disk binary object of
assembly language programs, or binary data to be used by
such programs.

Do not use this command to save Atari BASIC or BASIC XL
programs to disk.   Instead, just use the SAVE command
from the BASIC cartridge (i.e., after you have been
given the "READY" prompt).

```
----------------------------------------------------------
| If you attempt to save binary data to a  file  which |
| has  been  protected against modification (i.e., the |
| file  name  is  preceded  by  an  asterisk  in   the |
| directory  listing),  you  will  be  given the error |
| message "FILE PROTECTED".  If you desire  to  rename |
| this  file,  you must first remove the protection by |
| using the DOS XL menu command, "Unprotect Files".    |
----------------------------------------------------------
```

To use the "Save Binary" command, type 'S' when prompted
to enter your command selection.   the menu will then
prompt:
            Save Binary
          Filename:

You should respond with the name you wish the saved file
to have.   For example, if you wish to write memory from
locations $4000 to $4100 (the dollar signs indicate
hexadecimal addresses) to the file "FILE1.OBJ" on drive
1, you should type "D:FILE1.OBJ".

```
----------------------------------------------------------
| It is recommended that binary object file names have |
| either the extension "OBJ", or "COM".  In the former |
| case,  "OBJ"  would  indicate  that  the file was an |
| assembly language OBJect file for a program or data. |
| The second  extension,  "COM",  indicates  that  the |
| program is a system utility program which was either |
| included  with your DOS XL master disk or written by |
| the user.                                            |
----------------------------------------------------------
```

At this point you will be prompted:
          Starting address:

You should respond with the hexadecimal value of the
first address you wish to write to disk. In the above
example, the starting address was $4000 so you should
type "4000". Note that although the value is
hexadecimal, you should not precede the number with a
dollar sign.

The menu will then prompt:
        Ending address:

You should respond with the hexadecimal value of the
last address you wish to save. In the previous example,
you should enter "4100".

At this point, DOS XL will access the disk to write out
the binary file. You will then be asked:
        Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

```
--------------------
3.13 T - To Cartridge
--------------------
```

CP equivalent: CARtridge   (OS/A+ manual section 4.1)

This command allows the user to enter a cartridge, if
one has been inserted.

```
-----------------------------------------------------------
| If  you  are using the Atari BASIC cartridge, please  |
| refer to chapter 7 of the  OS/A+  manual  for  those  |
| commands  which may be used from BASIC to access the  |
| disk.  For those of you already familiar with  Atari  |
| BASIC  under  Atari  DOS  2.0s, please not that disk  |
| access is identical under DOS XL.                     |
-----------------------------------------------------------
```

To use this command, select 'T' when prompted by the
menu for a command selection. At that time, you will
enter the cartridge and see the familiar READY prompt of
BASIC, or the prompt for the particular cartridge you
are using.   If no cartridge was inserted, the error
message NO CARTRIDGE will be displayed.

```
-----------------------------------------------------------
| If  the  "To Cartridge" command is used after any of  |
| the following commands are selected:                  |
|      Copy Files                                        |
|      Duplicate Diskette                                |
|      Initialize Diskette                               |
|      Xtended Command                                   |
|      Load Binary                                       |
| a coldstart will be performed by the cartridge, thus  |
| erasing any program which was in memory.  Therefore,  |
| if  you  wish  to  go  to the menu to execute any of  |
| these commands, remember to first write any  program  |
| you are working on to disk.  This is accomplished in  |
| Atari  BASIC  or  OSS  BASIC  XL  by  using the SAVE  |
| command in the BASIC cartridge.                       |
-----------------------------------------------------------
```

```
------------------------
3.14 U - Unprotect Files
------------------------
```

CP equivalent: UNProtect   (OS/A+ manual section 4.14)

The   "Unprotect Files" command allows files to be
renamed, erased, or modified, thus removing protection
applied by the "Protect Files" command. These files
will no longer then be preceded by an asterisk in a
directory listing when you use the "Files on Disk"
command.

To use this command, select 'U' when the menu prompts
you for a command selection. . The menu will then prompt:
          Unprotect Files
          Filespec to unprotect:

You should respond with the name of the file you wish to
unprotect. If you wish to unprotect a group of files,
you may use wild-card characters in the filespec.

At this point the disk will be accessed and the files
will be unprotected. The menu will then prompt:
          Hit RETURN for menu

To return to the menu of commands,
You type: [RETURN]

```
-------------------------
3.15 X - Xtended Command
-------------------------
```

CP equivalent: none

This command may be used to pass a command line to the DOS XL command processor. Although almost all the functions you need from DOS may be accomplished from the DOS XL menu, certain commands and features are accessible only from the command processor mode. The "Xtended Command" function of the DOS XL menu may be used to access from the menu those commands available only from the command processor. Please refer to section 4 for information about the commands and features of the DOS XL command processor.

To use the "Xtended Command" function, select 'X' when prompted by the menu "Enter your selection.". At that time, the menu will prompt:
        Xtended Command
        Command:

You should respond with the DOS XL command you wish to have executed. For example, if you wish to use the "RS232" command, you should type "RS232".

```
-----------------------------------------------------------
| Many of the DOS XL commands accessible by the  |
| "Xtended Command" function perform their operations |
| by loading utility programs on the DOS XL master |
| disk.  If you wish to use a command which employs a |
| utility program (any "extrinsic" command, see OS/A+ |
| manual chapter 5), you should insure that your |
| DOS XL master disk is first inserted into drive 1.  |
-----------------------------------------------------------
```

At this time, the desired command will be passed to the DOS XL command processor and executed. When that is finished, you will be prompted:
        Hit RETURN for menu

To return to the DOS XL menu of commands,
You type: [RETURN]

Whenever you enter the DOS XL command processor, the
following message will appear on the screen:

            DOS XL - Atari version 2.20
              copyright (c) 1983 OSS, Inc.

            Dl:

The "Dl:" which appears to the left of the cursor is the
prompt for the command mode.   In this mode you are
expected to type in a complete command line rather than
simply a command selection. For example, to load the
DUPDSK.COM   utility (for duplicating single density
diskettes), the DOS XL command line is "DUPDSK", rather
than a single character as in the menu mode.   It is also
possible to write your own commands to be used from the
DOS XL command processor or the "Xtended Command" menu
function.   For more information on this capability,
refer to chapter 8 of the OS/A+ manual.

Certain features of DOS XL such as batch processing are
available only from the DOS XL command processor. For
information on batch processing and execute files,
please refer to chapter 6 of the OS/A+ manual.

In order to return to the DOS XL menu from the command
processor, insert your DOS XL master disk into your disk
drive (or drive 1, if you own more than one drive).
Then, from the Dl: prompt,
You type: MENU [RETURN]

The DOS XL menu program will be loaded and executed.

Please refer to chapter 2, sections 2.1, 2.2, and 2.7,
and chapters 4 and 5 of the OS/A+ manual for more
information about the DOS XL command processor.

The process of loading the DOS XL operating system into
your Atari's memory is somewhat different than the
process for loading other DOS's. Also, deleting or
adding certain files to a bootable disk can affect what
portions of DOS XL are loaded. In order for you to
modify this process and thereby customize your system,
this section describes the steps which are followed in
the boot process.

5.1 The DOSXL.SYS file

While most DOS's reside only in the DOS.SYS file on a
bootable disk, DOS XL actually occupies two separate
files. The first file, DOS.SYS must be on any disk to
make it bootable. At the beginning of the boot process,
this file is loaded into memory, occupying locations
$700 to $1E00. At that time, this DOS (it is actually a
complete DOS in itself) checks to see if an OSS
SuperCartridge is inserted. If not, the DOS begins to
scan for the AUTORUN.SYS file (see below). If a
SuperCartridge is inserted, the DOS tries to load the
DOSXL.SYS file off of the disk. If this file is found,
it is loaded into locations $700 to $A00 and $A400 to
$BA00 (this segment shares memory with the cartridge).
This newly loaded code becomes the DOS of the machine.
This DOS saves the user 5K of memory by occupying memory
which is bank-switched with the SuperCartridge by taking
advantage of special hardware within the cartridge. If
you desire not to load this special DOS file, DOSXL.SYS,
simply rename the file to a name other than DOSXL.SYS
(perhaps SAVXL.SYS).

5.2 The AUTORUN.SYS file

Once the DOSXL.SYS file is either loaded or skipped, DOS
XL searches the disk for a file called AUTORUN.SYS (note
that there is no such file on the DOS XL master disk).
If this file is found, it is loaded into memory just as
if you had issued a "Load Binary" menu command. For
example, one way to insure that the RS232 drive is
loaded into memory each time you boot a certain disk
is to rename the file "RS232.COM" to the name
"AUTORUN.SYS" (see also the section on the file
"RS232FIX.COM").

5.3 The STARTUP.EXC file

If the file AUTORUN.SYS is not found, or if it returns
to DOS with a 6502 RTS instruction, DOS XL continues the
boot process by searching for the file STARTUP.EXC.
This file is a text file which contains commands to the
DOS XL command processor. On your DOS XL master disk
there is a STARTUP.EXC file which contains REM commands
for just putting messages to the screen, and the command
MENU, which loaded and started the DOS XL menu (see the
following section for another method of loading the
menu). In order to change the contents of this file,
just use the "Copy Files" option of the DOS XL menu and
select "E:" and "D:STARTUP.EXC" as the "From" and "To"
files, respectively. When the screen clears and the
cursor appears at the upper left of the screen, type the
desired commands, one to a line. When you are finished,
type control-3 (hold down the control key and press 3).
The commands you typed will then be written out to the
disk into the STARTUP.EXC file. If you desire not to
have a STARTUP.EXC file, simply erase it or rename it to
a different name (perhaps STARTUP.TXT, for "text file").

| Certain cartridge-based products, including ATARI |
| WRITER from Atari, Inc., will not work properly if |
| your boot disk contains a STARTUP.EXC file. If you |
| are using a product such as ATARI WRITER, make a |
| special boot disk as follows: |
| 1) Duplicate your master disk onto a blank one.|
| 2) Erase the file STARTUP.EXC on that disk. |
| 3) Erase the file MENU.COM on that disk. |
| (only if you want more memory space) |
| You should now use this disk for booting into ATARI |
| WRITER (you may use this disk for booting into other |
| products, but you will not have the menu if you go |
| to DOS). |

5.4 The MENU.COM file

If the STARTUP.EXC file is not found, the final step of
the boot process is the loading of the DOS XL menu. The
DOS will search the disk for the file MENU.COM. If that
file is found, it is loaded into memory in the lowest
available address (the current value of the MEMLO
pointer, locations $2E7 and $2E8) and will be in control
at the end of the boot process. If the file MENU.COM is
not found, the DOS XL command process will be in

--39--

control. At that point, if there is a cartridge inserted, it will be entered. Otherwise, the DOS XL menu or the DOS XL command processor, depending on which has control of the system, will be entered.

```
-----------------------------------------------------------
     Section 6:  DOS XL AND THE 850 INTERFACE MODULE
-----------------------------------------------------------
```

```
------------------------------
6.1 Loading the RS232 handler
------------------------------
```

When using Atari DOS 2.0s, the only way to load the
RS232 device handler (Rn:) from the 850 interface module
is through the use of an AUTORUN.SYS file (see section
5.2). This option is also available to DOS XL users.
Another option is, however, available to you. After
booting DOS XL, you can simply issue the following
commands:

1) from the DOS XL menu:
        You type: X
               and then, when prompted for a command,
        You type: RS232 [RETURN]

2) or, from the DOS XL command processor:
        You type: RS232 [RETURN]

This sequence of commands will cause the RS232 device
handler to be loaded into the system. You can then
refer to the 4 RS232 ports on the 850 interface module
as "R1:" through "R4:", respectively.

```
-----------------------------
6.2 Bugs in the RS232 driver
-----------------------------
```

Unfortunately, the device handler which loads in from
the 850 interface module is not perfect. The most
serious flaw occurs when you push SYSTEM RESET after the
RS232 driver has been loaded into memory. Under certain
circumstances, your Atari computer will "hang", freezing
the keyboard, after pressing that key. For this reason,
many Atari reference books recommend that you NEVER
press SYSTEM RESET after loading the RS232 driver.
Under DOS XL, however, there is a solution to this and
other problems. On your master disk there is a file
called "RS232FIX.COM". This file is almost identical to
the "RS232.COM" file which is normally employed to
install the RS232 handler. The fixed version attempts
to correct some of the known bugs in that handler.

You may ask, "Why not just include the correct version
on the DOS XL master disk?" Well, Atari has produced
several versions of the 850 interface module. OSS has
almost no way of knowing whether the corrected version
works with all such revisions so, rather than

introducing new problems, both the original and the
fixed version are included.
To test the "RS232FIX.COM" file with your 850 module,
either:

1) Using the DOS XL menu:
        You type: X

        When prompted for a command,
        You type: RS232FIX

2) or using the DOS XL command processor:
        You type: RS232FIX [RETURN]

If the RS232 handler loaded in this way seems to work
properly, you may use it exclusively for loading the
RS232 handler, ignoring the original RS232 command.

Section 7: MOVING UP TO DOUBLE DENSITY

DOS XL is compatible with all double density drives
currently available for the Atari (with the exception of
the Atari 1050 drive, which is not really double
density). In order to use DOS XL in double density mode
on your drive, you should first create a double density
master disk. During this operation, you must perform
certain commands from the DOS XL command processor,
rather than the menu. You should read section 4 and the
portions of the OS/A+ manual it references before
performing the double density transfer.

From the DOS XL menu,
You type: Q

You will then be placed in the DOS XL command processor
mode. At this point, you should follow the directions
in section 3.10 of the OS/A+ manual in order to copy the
contents of your DOS XL master diskette onto a blank
double density diskette.

After you have completed transfering your DOS XL master
disk to double density, you may use it, or duplicates of
it, as your double density boot disk. In order to
create double density data disks, just use the
"Initialize Disk" menu option after booting the double
density DOS XL master disk.

| CAUTION! |
| The following commands should not be used from the |
| menu: |
| CONFIG   SDCOPY   INITDBL |
| These commands alter the density selection(s) for |
| the disk drives and thus alter the amount of memory |
| used for disk buffers. To be safe, always use them |
| only from the DOS XL Command Processor. |

SPECIAL INSTRUCTIONS: FOR 2 DRIVE SYSTEMS

If you own 2 drives, you may instead use the standard
"Copy Files" command to transfer files from single
density to double density. First, however, you must
tell your drives that you want one to be single density
and the other double density. To perform this operation
you should use the DOS XL CONFIG command (see section
5.5 of the OS/A+ manual).

As an example ONLY, to set your drives so that drive 1 is single density and drive 2 is double density, you should exit from the menu and perform the appropriate CONFIGuration command from CP as follows:

Boot your DOS XL single density master disk into drive 1.

Then, from the menu,

You type: Q

When the CP prompts:
        D1:

You type: CONFIG 1S 2D [RETURN]

The disk will be accessed, loading in the CONFIG.COM utility program. After a moment, a table will be printed out showing all of the drives in the system and their current configurations. Drives which do not handle double density will be shown as "Can't configure".

Then, in response to the D1: prompt, you may use the COPY utility to copy files from a single density disk in drive to OR from a double density disk in drive 2. If you prefer, you may instead type MENU in response to the D1: prompt and then use the C (Copy Files) option of the menu to perform the transfers.