BYTEK® Corporation
Instrument Systems Division

PROMSoft™

(E)PROM Programming Tool
PERFECTED

OPERATOR'S MANUAL

No.PLS_C **Rev. 2.61** **February, 1991**

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PROMSOFT_C
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INTRODUCTION

Promsoft_C is BYTEK's software driver for Programmable Integrated Circuits, which allows your personal computer to control BYTEK Multiprogrammers and compatibles. The program has the ability to issue commands to, and control the operation of, the Multiprogrammer through its RS-232C interface. Promsoft_C provides a user friendly, menu driven screen presentation.

HOW PROMSOFT_C HELPS YOU

Promsoft_C enhances the capabilities of your device Programmer. Since Promsoft_C was written for disk based operation, you can program and compare directly from files. You can load the data once and program repeatedly from memory. You can even save the data stored in your master devices into PC disk files and then program directly from the files. Promsoft_C was designed to make programming devices with your Multiprogrammer easier than ever.

ABOUT THIS MANUAL

This manual is published to provide you with information on the installation and operation of BYTEK Promsoft_C. Included are general instructions necessary for setup and operation of Promsoft_C, as well as detailed step-by-step procedures for each program function.

As a new owner of Promsoft_C, it would be wise to review this manual prior to any attempt to program a device. Taking a few minutes now to become familiar with Promsoft_C and its operation will be minutes well spent.

PROMSOFT_C MANUAL ORGANIZATION

This manual is divided into sections for easy reference:

INTRODUCTION provides general information about the Promsoft_C package and its operating environment.

SYSTEM SETUP supplies first-time Promsoft_C users with introductory level setup information designed to allow the new user to get "up-to-speed" quickly.

PROMSOFT_C OPERATION gives a step-by-step description of each Promsoft_C command and related parameters.

THE PROMSOFT_C OPERATING ENVIRONMENT

Promsoft_C will run on any of the following personal computers (PCs):

- IBM PC or 100% Compatible
- IBM PC/XT or 100% Compatible
- IBM PC/AT or 100% Compatible
- Zenith 286/386 PC Compatibles
- Compaq 286/386 PC Compatibles

The minimum hardware system configuration is as follows:

- One 360K Floppy Diskette Drive
- 448K of RAM Memory
- One Available RS-232C Compatible Serial I/O Port

Promsoft_C is compatible with the following Operating Systems:

- IBM PC-DOS Revision 2.0 or Higher
- Microsoft MS-DOS Revision 2.0 or Higher

Promsoft_C will drive the following Device Programmers:

BYTEK MODELS	DATA I/O MODELS
· S135	· System 19
· S125	· Model 60
	· Model 120 / 121
	· Model 29
	· Series 22

THE PROMSOFT_C DISTRIBUTION PACKAGE

Your Promsoft_C shipping package should contain the following:

- Promsoft_C Distribution Diskette
- Promsoft_C Instruction Manual

Additionally, you will require an RS-232C connecting cable. Cable requirements differ depending on the specific PC and Programmer involved.

Cabling requirements, including detailed pinout, are supplied in the System Setup section of this manual. Should you prefer to purchase an RS-232C connecting cable, contact your BYTEK sales representative for availability and pricing. Be prepared to specify the PC and Programmer combination you are going to use.

CONTENTS OF THE PROMSOFT_C DISTRIBUTION DISKETTE

Your Promsoft_C distribution diskette contains various files, each of which provides a specific piece of the total package. Here is a table of the included files and their general function:

PSC EXE 143597 10-01-88 12:00p

This is the Promsoft_C executable module (program) itself. When you want to load and run Promsoft_C, this file is called, by name, at the DOS prompt.

FFPPDATA PSF 29841 10-01-88 12:00a

This is a data file used by Promsoft_C which contains the part number/FFPP code information for all the parts supported by the Promsoft_C part selection menus. Note that even parts that are NOT included in this data file (such as parts that come on the market after the latest update of Promsoft_C) can still be programmed by entering the FFPP code directly into Promsoft_C as long as the target Programmer supports the FFPP code desired. See your Programmer manual to determine the FFPP codes of any supported parts not presented on Promsoft_C part selection menus.

CONFIG PSF 181 10-01-88 12:25a

This is the default PromSoft configuration file that is read in at load time by Promsoft_C when you don't specify an alternate configuration file on the DOS command line. All elements appearing on the CONFIGURATION FUNCTION menu are stored in this file.

AUTOEXEC BAT 128 4-08-88 12:04a

A sample autoexec.bat file that will automatically load and run Promsoft_C at boot time. Refer to your DOS manual for details on AUTOEXEC.BAT files and their use on your PC.

SYSTEM SETUP

In this section, first time Promsoft_C users can find introductory level setup information designed to allow the new user to get "up-to-speed" quickly.

ABOUT YOUR PC DISK OPERATING SYSTEM (DOS)

Your Promsoft_C distribution diskette does not contain a Disk Operating System (DOS). In order to load and operate Promsoft_C on your PC, your DOS must be loaded first. Once the DOS prompt, "A>" or "C>", is displayed, you are ready to load and operate Promsoft_C.

If all of this is unfamiliar to you now, don't worry. You will find step-by-step command sequences that will help you through this process below.

GETTING READY TO USE PROMSOFT

There are three basic steps to make Promsoft_C operational on your PC for the FIRST TIME:

1. Make a backup copy of the distribution diskette.
2. Make (install) a working copy of the Promsoft_C program.
3. Start the Promsoft_C program.

After the first time, you will have only to start Promsoft_C. Before we start, lets discuss each step briefly.

PROGRAM BACKUP PROCEDURES

Promsoft_C is distributed on a 5.25" double sided distribution diskette. Promsoft_C is NOT COPY PROTECTED. We recommend that the distribution diskette be copied and the orignal distribution diskette be kept in a safe place as a backup in the event that the working copy (read on) is somehow damaged.

CREATING A WORKING COPY OF PROMSOFT_C

DOS is not supplied with the Promsoft_C distribution package (and therefore will not exist on any backup copies as well). However, a single diskette can be created that will allow you to both start (boot) your PC and load Promsoft_C. This eliminates the disk swapping headache that can exist with diskette based software.

In case you are going to use Promsoft_C on a PC that has a Hard Disk, your working copy will be created on the Hard Disk eliminating the use of diskettes after the first time.

STEP-BY-STEP INSTALLATION PROCEDURES

There are three installation procedures supplied below. You will execute ONLY ONE of them. You will select ONE of the procedures based on the configuration of disk drives in your PC:

If your PC has ONE floppy drive and NO hard disk, execute installation procedure #1 ONLY.

If your PC has TWO floppy drives and NO hard disk, execute installation procedure #2 ONLY.

If your PC HAS a HARD DISK (it must also have at least one floppy), execute installation procedure #3 ONLY.

INSTALLATION PROCEDURE #1, (ONE FLOPPY, NO HARD DISK)

1. Prepare by assembling the following diskettes near the PC:

   - Promsoft_C distribution diskette
   - Bootable DOS diskette (must include FORMAT.COM)
   - TWO blank floppy diskettes with labels

2. Label one blank floppy: **PROMSOFT_C DISTRIBUTION BACKUP**
   Label the other blank floppy: **PROMSOFT_C WORKING COPY**

3. Install the DOS disk in the A: drive, turn on the PC.

4. After a normal "boot" sequence, the DOS prompt: "A>" will be displayed.

   Enter the command: **A>DISKCOPY** <enter>

5. You will be prompted by the PC to:

   Insert SOURCE Diskette in Drive A :

   and

   Insert TARGET Diskette in Drive A:

   The SOURCE is the Promsoft_C distribution diskette. The TARGET is the PROMSOFT_C DISTRIBUTION BACKUP diskette that you just labeled. Alternate the disks, as prompted, pressing ENTER with each one until the message:

   Copy another (Y/N)?

   Answer "N" (no) and press ENTER.

6. The PROMSOFT_C DISTRIBUTION BACKUP is complete. Place this diskette aside for now.

INSTALLATION PROCEDURE #1, (ONE FLOPPY, NO HARD DISK)

7. Insert the DOS diskette in drive A:.

   Enter the command:

   A>FORMAT A:/S <enter>

   At the prompt:

   Insert new diskette for drive A: and strike ENTER when ready.

   Insert the PROMSOFT_C WORKING COPY diskette and press ENTER. The format process will proceed.

   At the prompt: Format another (Y/N)?

   Press "N" (no) and press ENTER. The A> prompt will appear.

8. Insert the DOS diskette in drive A:.
   Enter the command:

   A>COPY A:*.* B: <enter>

   You will be prompted to: Insert the disk for drive A:
   or
   Insert the disk for drive B:

   The A: disk is the Promsoft_C distribution disk. The B: disk is the PROMSOFT_C WORKING COPY disk. Insert the disks as prompted pressing ENTER with each one. The process may seem long, with many swaps, but it is necessary.

9. You will get the message: "5 File(s) Copied" and the A> prompt will appear. Your PROMSOFT_C WORKING COPY is complete!

10. Proceed with the Cabling and Programmer Configuration section.

INSTALLATION PROCEDURE #2, (TWO FLOPPIES, NO HARD DISK)

1. Prepare by assembling the following diskettes near the PC:

   - Promsoft_C distribution diskette
   - Bootable DOS diskette (must include FORMAT.COM)
   - TWO blank floppy diskettes with labels

2. Label one of the blank floppies: **PROMSOFT_C DISTRIBUTION BACKUP**
   Label the other blank floppy: **PROMSOFT_C WORKING COPY**

3. Install the DOS disk in the A: drive, turn on the PC.

INSTALLATION PROCEDURE #2, (TWO FLOPPIES, NO HARD DISK)

4. After a normal "boot" sequence, the DOS prompt: "A>" will be displayed.

   Enter the command: **A>DISKCOPY A: B:** <enter>

5. You will be prompted by the PC to:

   Insert SOURCE Diskette in Drive A :

   Insert TARGET Diskette in Drive B :

   The SOURCE is the Promsoft_C distribution diskette. The TARGET is the PROMSOFT_C DISTRIBUTION BACKUP diskette that you just labeled. Insert the disks, as prompted, and press ENTER. At the message: Copy another (Y/N)? Answer "N" (no) and press ENTER.

6. The PROMSOFT_C DISTRIBUTION BACKUP is complete. Place this diskette aside for now.

7. Insert the DOS diskette in drive A:. Insert the PROMSOFT_C WORKING COPY diskette in drive B:. Enter the command: A>FORMAT B:/S <enter>. At the prompt: "Insert new diskette for drive B: and strike ENTER when ready", press ENTER. The format process will proceed. At the prompt: "Format another (Y/N)?" press "N" (no) and press ENTER. The A> prompt will appear.

8. Enter the command: **A>COPY A:*.* B:** <enter>.
9. You will eventually get the message: "5 File(s) Copied" and the A> prompt will appear. Your PROMSOFT_C WORKING COPY is complete!

10. Proceed with the Cabling and Programmer Configuration section.

INSTALLATION PROCEDURE #3, (HARD DISK WITH AT LEAST ONE FLOPPY)

1. Prepare by assembling the following diskettes near the PC:

   - Promsoft_C distribution diskette
   - One blank floppy diskette with label

2. Label the blank floppy: PROMSOFT_C DISTRIBUTION BACKUP

3. With NO DISKETTE in the A: floppy drive, turn on the PC.

4. After a normal "boot" sequence, the DOS prompt: "C>" will be displayed.

   Enter the command: **A>DISKCOPY** <enter>

INSTALLATION PROCEDURE #3, (HARD DISK WITH AT LEAST ONE FLOPPY)

5. You will be prompted by the PC to:

Insert SOURCE Diskette in Drive A :

or

Insert TARGET Diskette in Drive A:

The SOURCE is the Promsoft_C distribution diskette. The TARGET is the PROMSOFT_C DISTRIBUTION BACKUP diskette that you just labeled. Insert the disks, as prompted, pressing ENTER with each one until the message: Copy another (Y/N)? Answer "N" (no) and press ENTER. The C> prompt will appear.

6. The PROMSOFT_C DISTRIBUTION BACKUP is complete. Place this diskette aside for now.

7. Enter the following commands:

C>MD \PROMSOFT
C>CD \PROMSOFT

8. Insert the Promsoft_C distribution disk in the A: drive. Enter the command: C>COPY A:*.*/V <enter>.

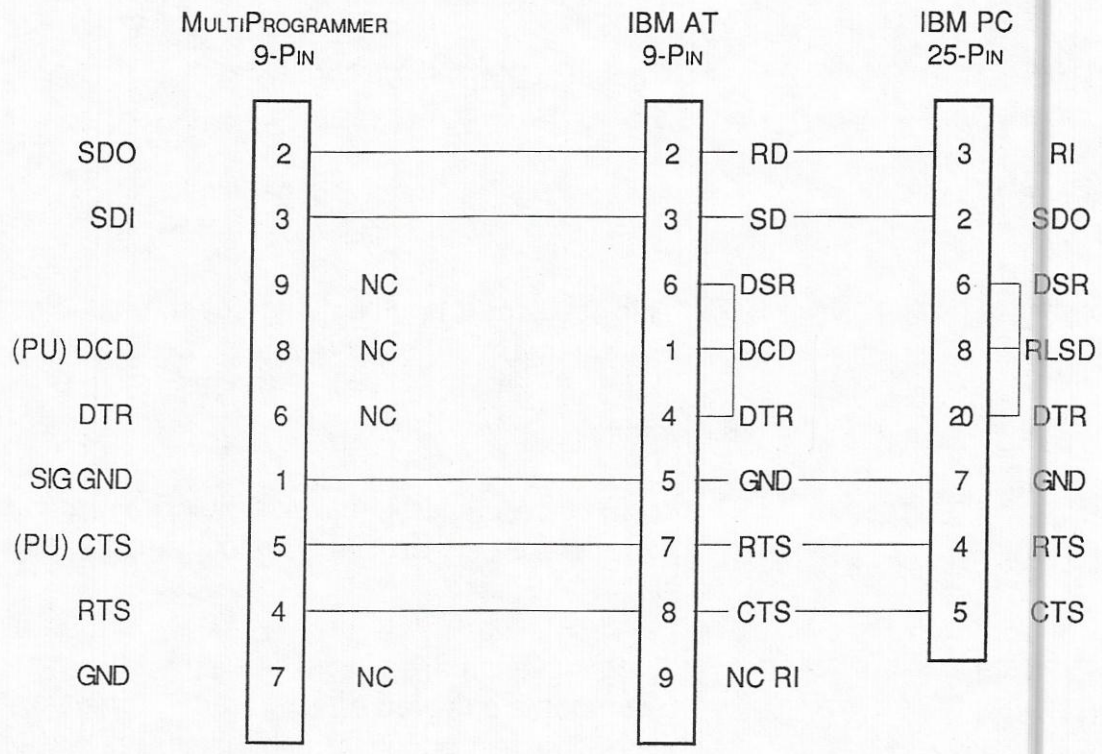
9. You will eventually get the message: "5 File(s) Copied" and the A> prompt will appear. Your Promsoft_C hard disk installation is complete!

CABLING AND PROGRAMMER CONFIGURATION

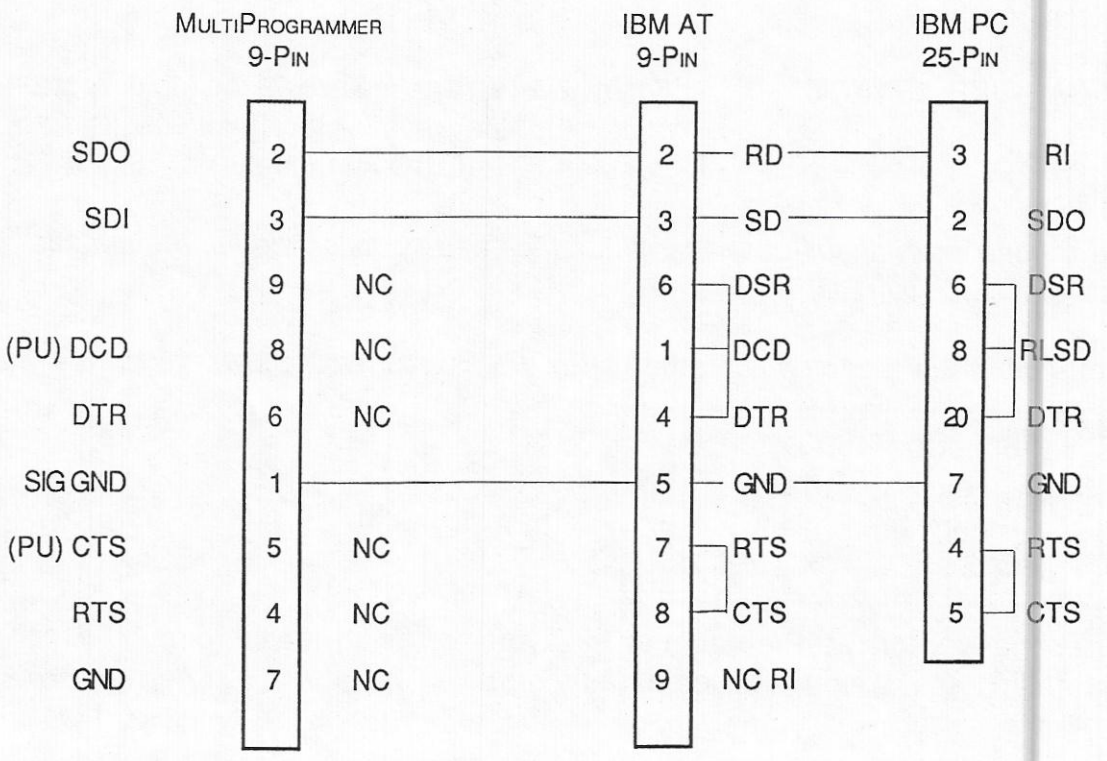
If you are building the RS232-C connecting cable yourself, wire it as shown on the next page. Should you prefer to purchase an RS232-C connecting cable, contact your BYTEK sales representative for availability and pricing. Be prepared to specify the PC and Programmer combination you are going to use.

RS-232 IBM PC AND AT SAMPLE INTERCONNECTION

RS-232 Connection, Half / Full Duplex, with RTS / CTS Handshake



RS-232 Connection, Half/ Full Deplex, without Handshake



RS-232 CONNECTOR ASSIGNMENT

PIN #	SIGNAL	FUNCTION
1	SIGNAL GROUND (SIG GND)	This provides the sihnal return path and provides the safety ground connection to the Host system.
2	SEND DATA (SD)	Transmit data voltage levels (±12V)
3	RECEIVE DATA (RD)	Accepts RS-232 data voltage levels (±12V)
4	REQUEST TO SEND (RTS)	This line is normally held high by the MultiPro grammer. It is dropped to inhibit data transmission from a remote source.(RTS/CTS handshake)
5	* CLEAR TO SEND (CTS)	A high level on this line allows MultiProgrammer to transfer data. A low level inhibits data transfer. (RTS/CTS handshake)
6	DATA TERMINAL READY (DTR)	A high level on this pin indicates the MultiPro grammer is powered on and ready to transfer data. DTR is dropped to inhibitdata transmission from a remote source. (DTR/DCD handshake)
7	GROUND (GND)	Ground Return
8	* CARRIER DETECT	A high level on this line allows the MultiProgrammer to transfer data. A low level inhibits data transfer. (DTR/DCD handshake)

* *Pins 5 & 8 have internal pull-ups. In the absence of an applied signal, the default condition of the line is TRUE.*

The Programmer communication configuration should be set up as follows:

Speed:	9600 Baud
Word length:	8 Bits
Parity:	None
Protocol:	XON/XOFF

Consult the user manual for the Programmer that you are using for to obtain specific instructions on setting the communication parameters.

CONFIGURING Promsoft_C

Promsoft_C is already set up for proper operation for most system configurations. However, if you wish to connect the Programmer to COM2 instead of COM1, or if you prefer to run using parameters other than the defaults, you will need to create an alternate configuration file on the working diskette or working directory on your hard disk.

See CONFIGURATION for details on Promsoft_C configuration.

SETTING UP THE PROGRAMMER FOR REMOTE OPERATION

In addition to the required interface cable, the Programmer must be initialized in the Computer Remote Control mode of operation. This operating mode allows Promsoft_C to command and control the Programmer through the RS232-C interface cable. Consult the user manual for the Programmer to obtain specific instructions on initializing the Programmer in this mode.

BOOTING THE SYSTEM AND RUNNING Promsoft_C

Have you performed one of the installation procedures detailed above? If not, see STEP BY STEP INSTALLATION PROCEDURES above. Once the installation procedure has been performed, you can start Promsoft_C on your PC as follows:

FLOPPY DISK SYSTEMS:

1. Insert the PROMSOFT_C WORKING COPY diskette into drive A.

2. Power up your PC.

3. When the DOS prompt (A>) is displayed on the screen, type
   A>PSC <enter>

HARD DISK BASED SYSTEMS:

1. Power up your PC.

2. When the DOS prompt (C>) is displayed on the screen, type the following:

   C>CD\PROMSOFT <enter>
   C>PSC <enter>

Once loaded, Promsoft_C will initialize, displaying messages on the screen as it executes. After the brief procedure, the Promsoft_C Opening Menu will be displayed on the PC screen.

SELECTING ALTERNATE STARTUP DEFAULTS

During the course of using Promsoft_C, you may find the need to have different startup defaults, such as device type, for specific situations. Promsoft_C addresses this need through the use of different Configuration Files.

When operating Promsoft_C, the current configuration may be saved (and can therefore be called in as the default for subsequent programming sessions) to the PC diskette (or hard disk) by using the Save Configuration function.

Once saved in this manner, these configuration files (having the naming format FILENAME.PSF) may be specified as the default on the DOS command line:

C>PS FILENAME.PSF <enter>

Optionally, you may specify the configuration filename as a complete pathname:

C>PS \DIR1\DIR2\FILENAME.PSF <enter>

If no configuration filename is specified:

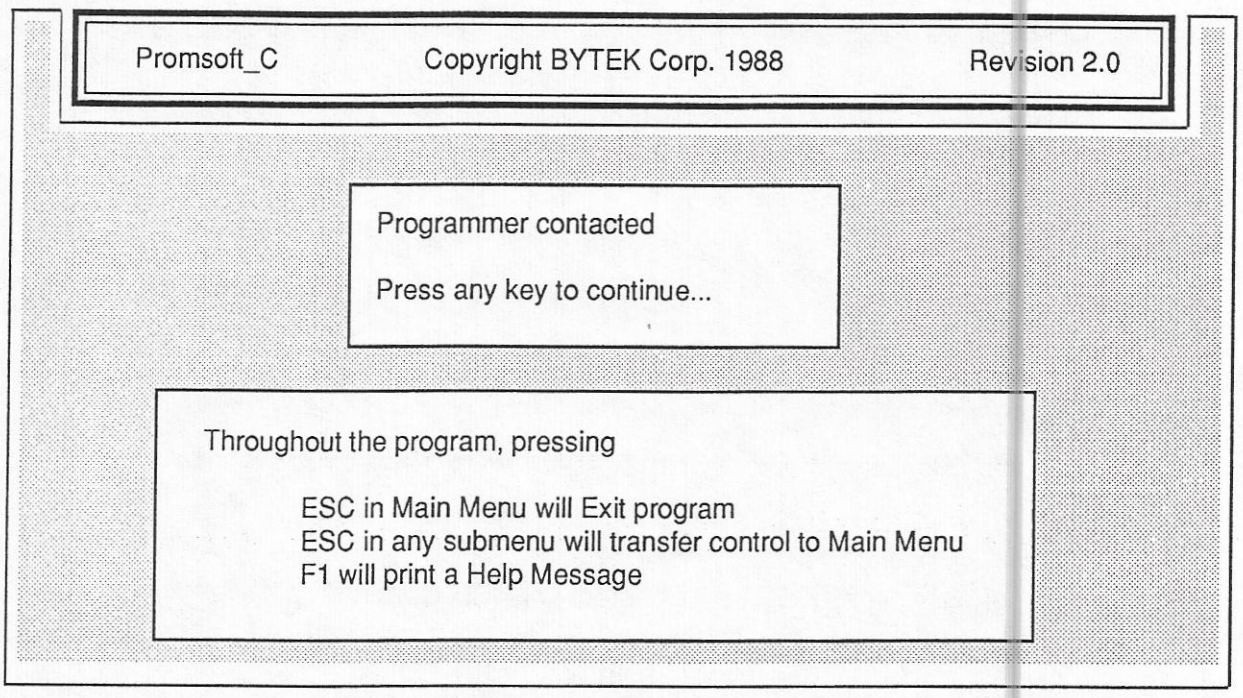
C>PSC <enter>

then Promsoft_C will use the default configuration file named CONFIG.PSF as the default configuration at startup.

If the configuration filename you specify is not found, an error message will result and the default configuration file will be used.

PROMSOFT_C OPENING MENU

After Promsoft_C is loaded from DOS, Promsoft_C will initialize, displaying messages on the screen as it executes. After the brief procedure, the Promsoft_C Opening Menu will be displayed on the PC screen. At this time, Promsoft_C will attempt to establish RS232-C communications with the Programmer and the Opening Menu will reflect the success or failure of the connection test.



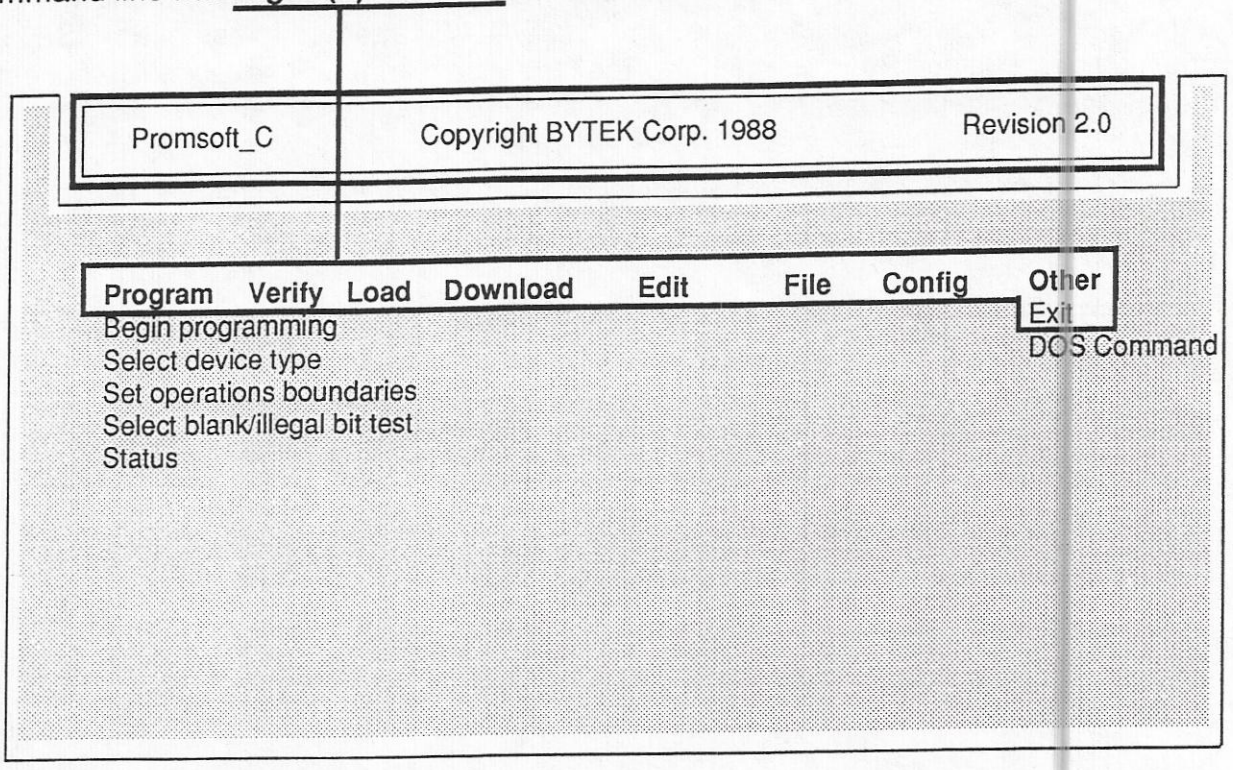
Assuming that the connection test passes, press any key to proceed to the Main Menu. If Promsoft_C can not make connection with the programmer you will be prompted with a message:

```
Cannot contact programmer
Awaiting programmers response

Press any key to continue...
```

Throughtout the program you can use the ESC key for two (2) functions. When in the Main Menu the ESC key will exit you from Promsoft_C, if you are in a submenu the ESC key will take you back to the main menu screen. The F1 key will prints a Help Message to the screen.

PROMSOFT_C MAIN MENU

The Main Menu is the Starting point for all operations and functions in Promsoft_C. The command line has **Eight (8) function** to choose from.



To Exit Promsoft_C, simply press **ESC** key or select **OTHER** from the command line by either moving the cursor (highlighted area) or by pressing "O" followed by a return to accept the EXIT command and then respond "Y" (yes) to the prompt.

This section provides a step by step description of every Promsoft_C main menu and submenus.

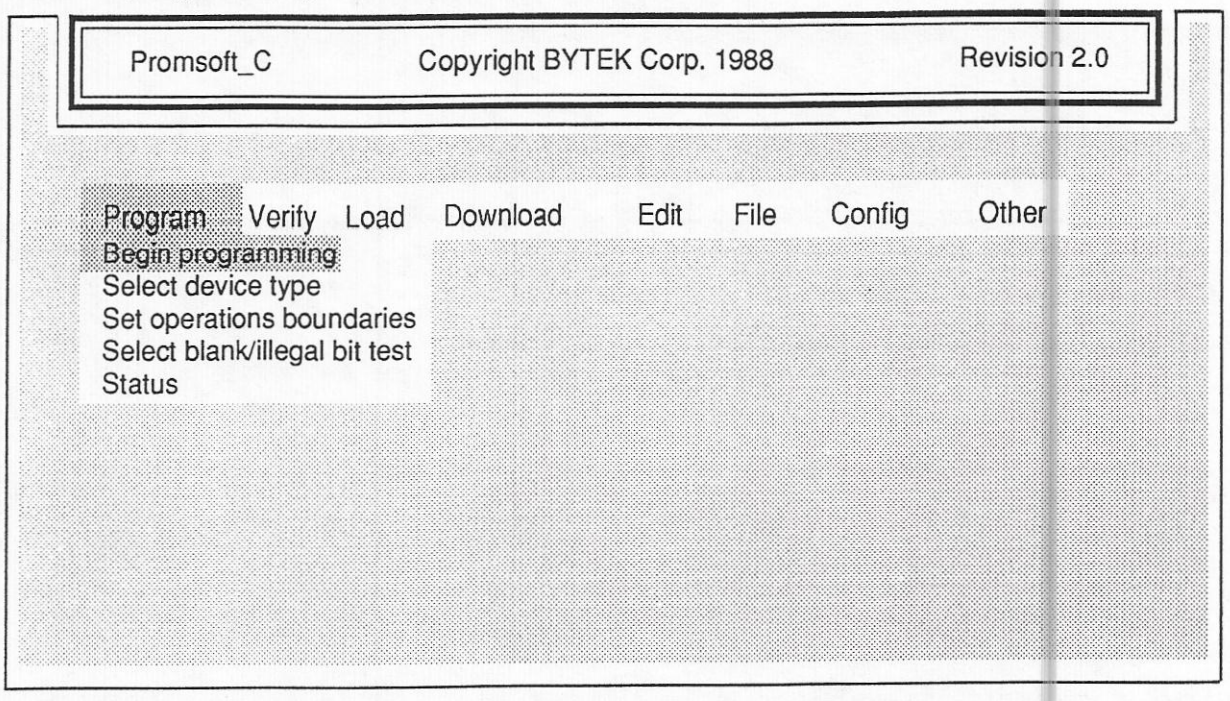
Program	Verify	Load	Download	Edit	File	Config	Other

To accomplish a desired operation, you must proceed through a sequence of menus to execute a command or string of commands in a specific order.

Note: *That the all main menu commands provide multiple submenu command levels for each. Accessible from the Main Menu, each of these menus offer commands designed to adapt and alter Promsoft_C's operating environment or data.*

PROGRAM DEVICE

All device programming is initiated from this menu.



BEGIN PROGRAMMING

A program operation is comprised of three phases which are executed by Promsoft_C as one command:

1. Testing the target device
2. Programming the data into the device
3. Verifying that the correct data was programmed

Before programming can begin, RAM (Programmer read/write memory) should be loaded with the desired data. This data may come from a "master" device or from a diskette (or hard disk) data file.

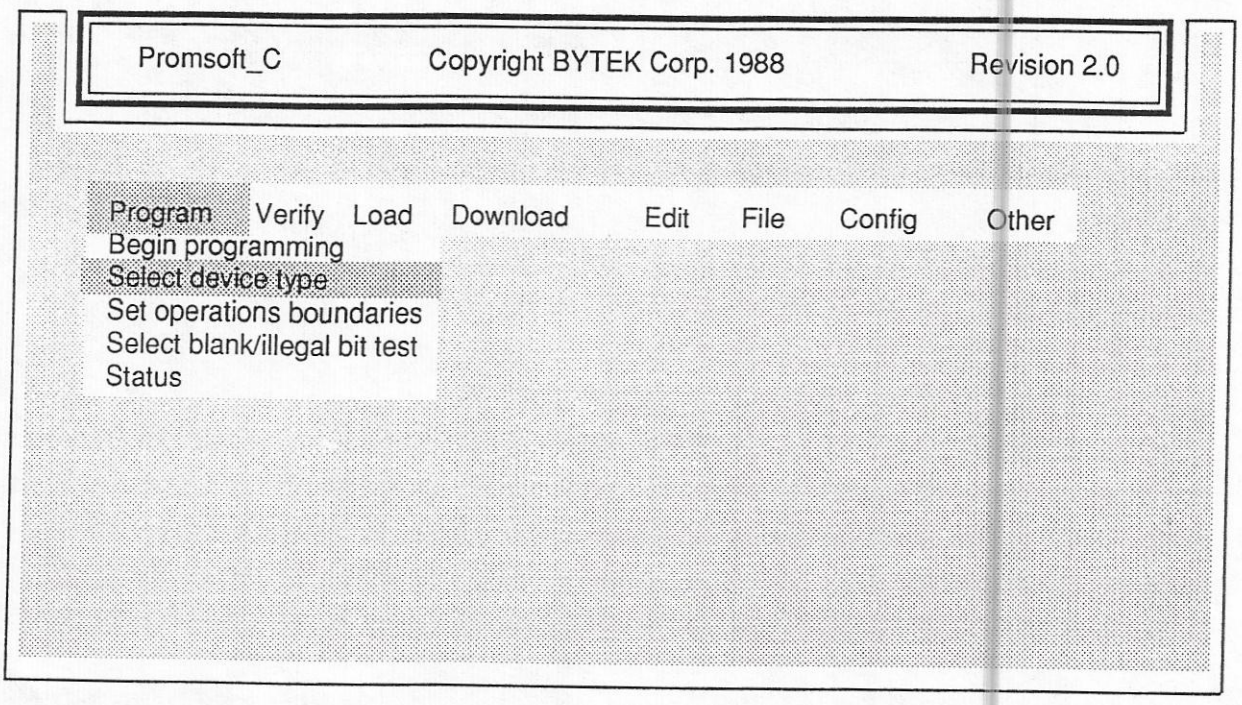
While programming is in progress, Promsoft_C displays an appropriate message to indicate so.

The status of the program command is reported on the PC screen at the completion of the command.

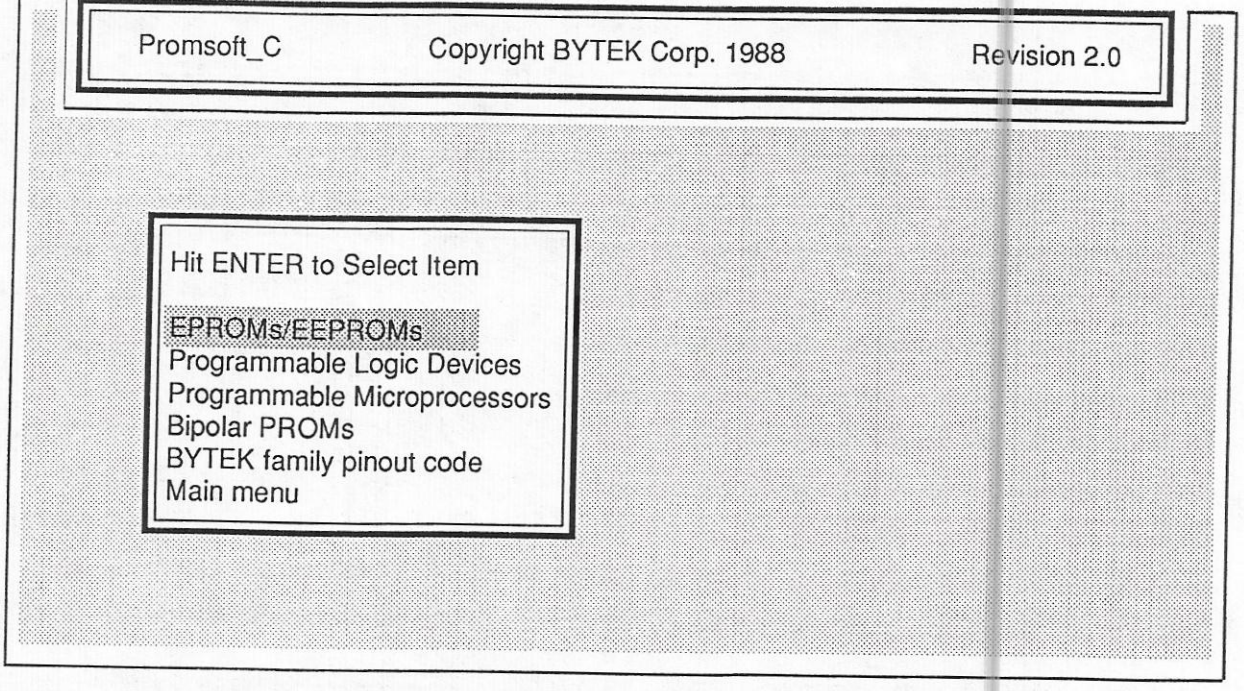
If an error occurs, a numeric error code is part of the error message. For reference, Promsoft_C error codes are greater than 100. Any error codes displayed that are less than 100 have been detected and reported by the Programmer.

SELECT DEVICE TYPE

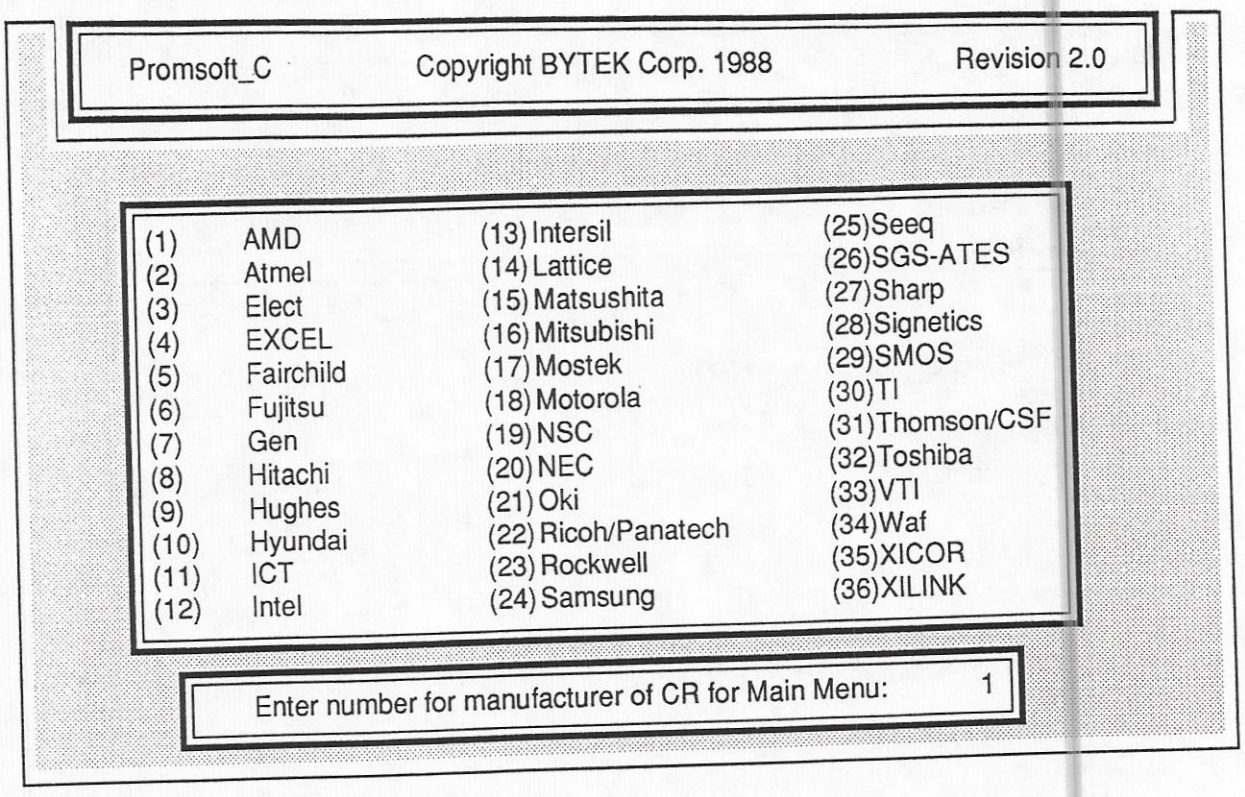
This menu selection allows you to set or change the type of the target device to be programmed by the Begin Programming (or other device related) command.



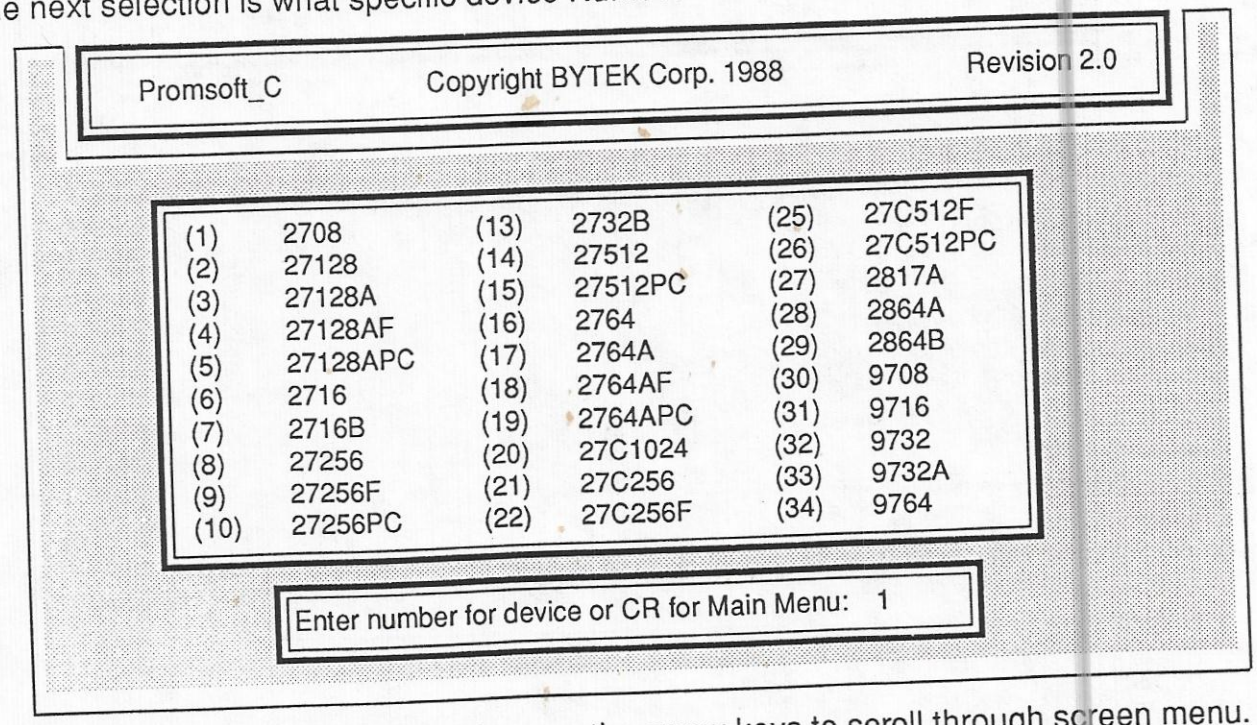
When you choose "Select Device Type" from Main Menu you are then given several choices on What type of device you want to program.



The next menu selection is what Device Manufacrurer.



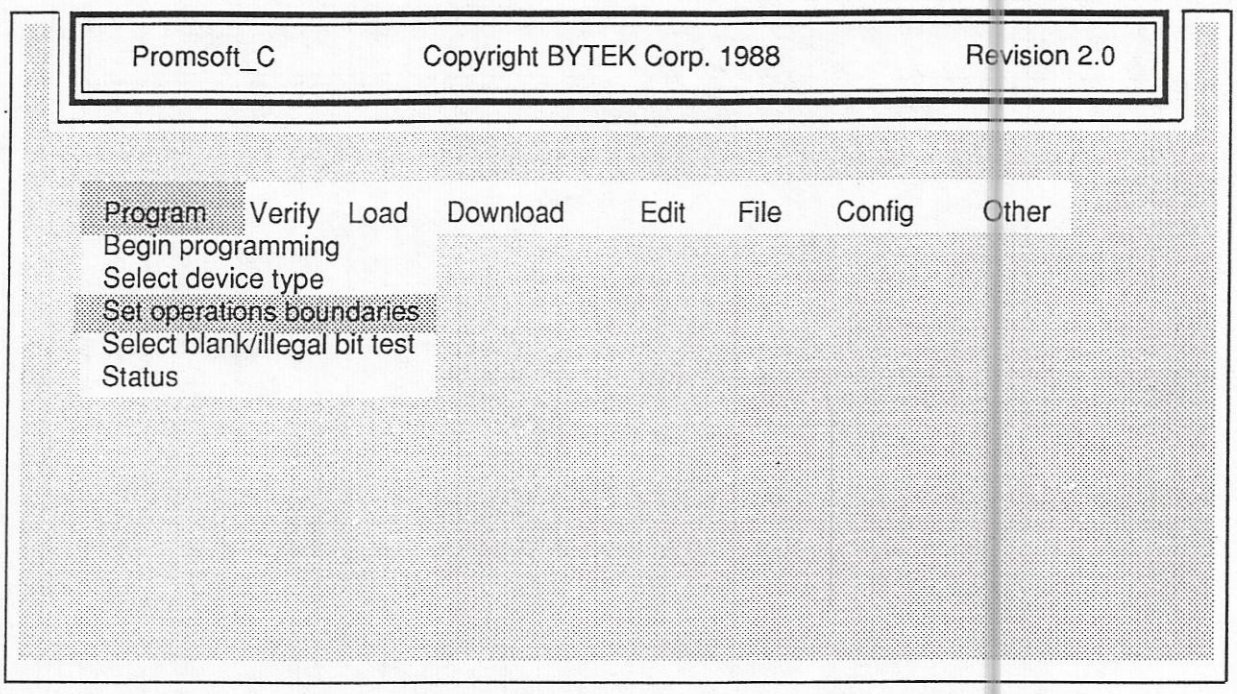
The next selection is what specific device Number



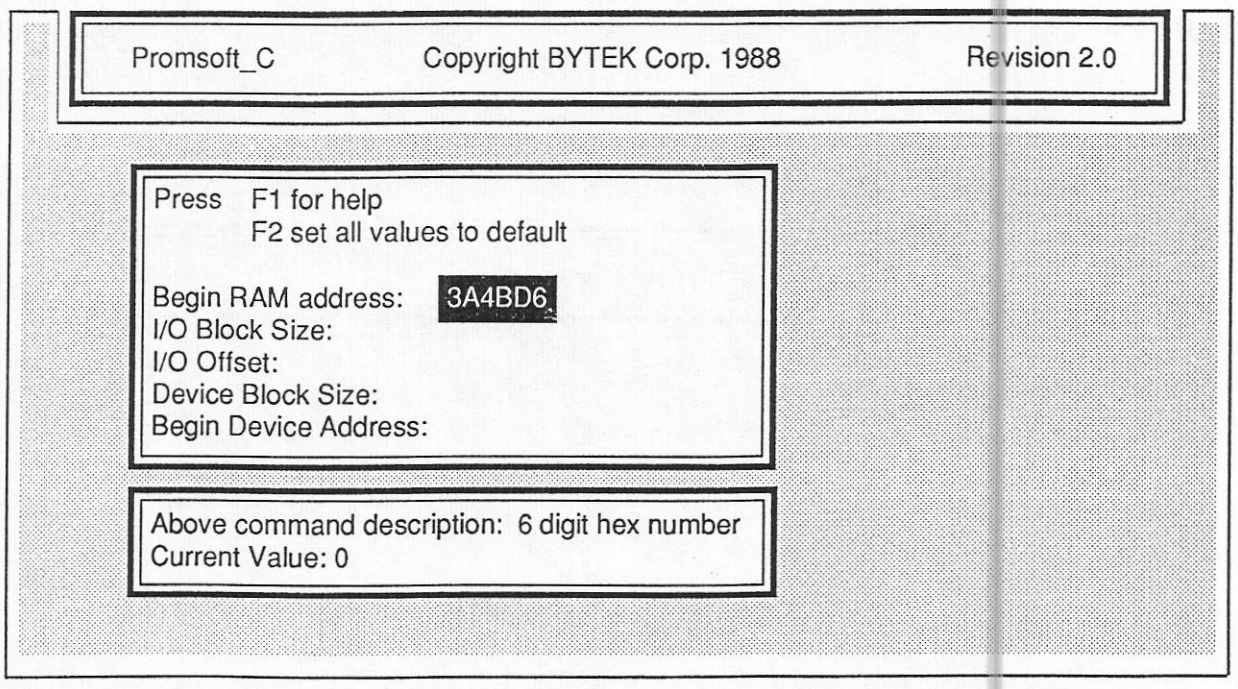
When numbers appear to be missing use the arrow keys to scroll through screen menu.

SET OPERATION BOUNDARIES

The menu selection allows you to specify RAM and/or device address boundaries to be used as defaults during subsequent command processing.

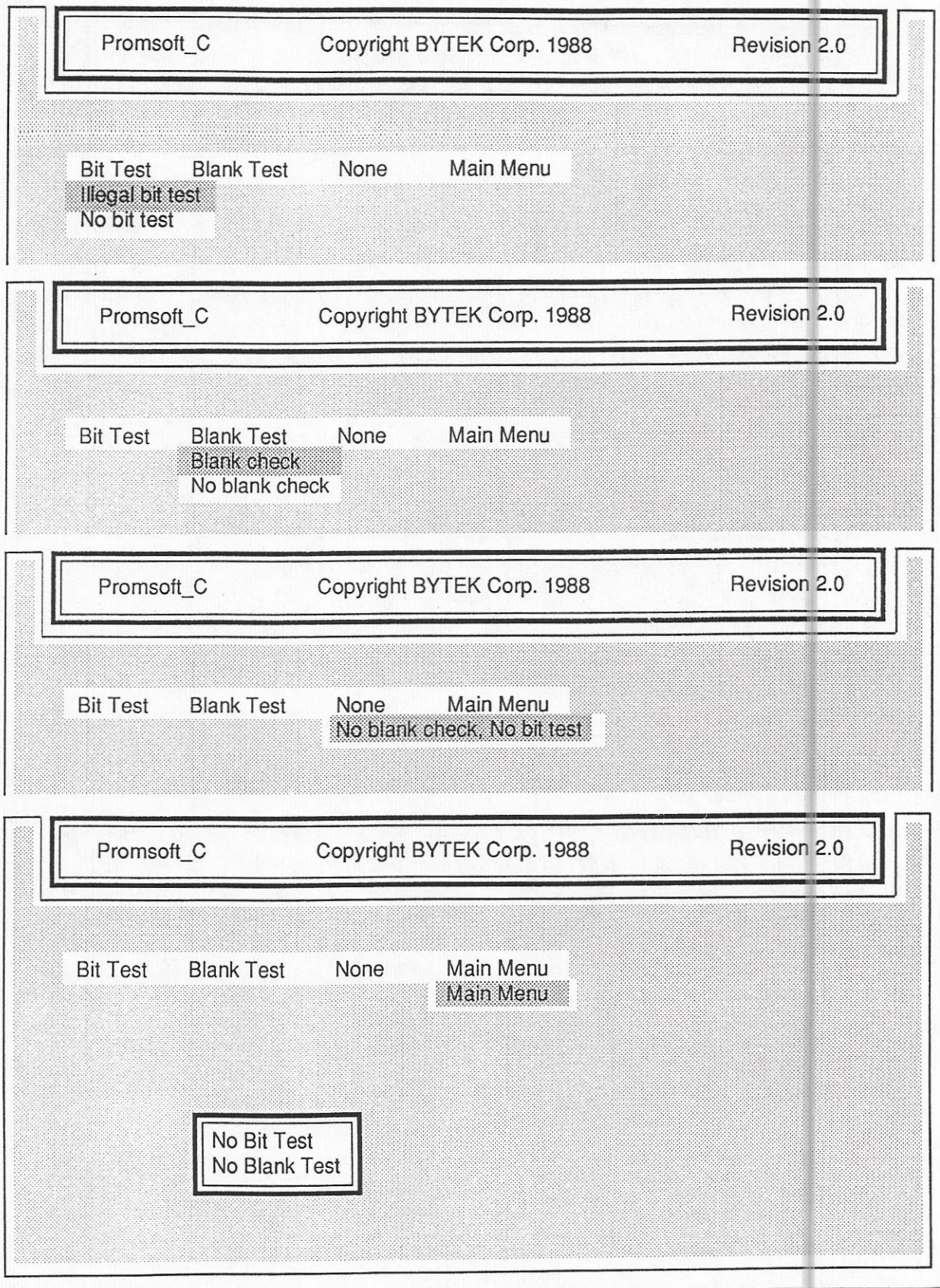


The next menu selection asks for you to set operation boundaries



SELECT BLANK / ILLEGAL BIT TEST

These menu selections permit you to specify what type of "pre-program" testing to be performed on the target device. The choices presented are:

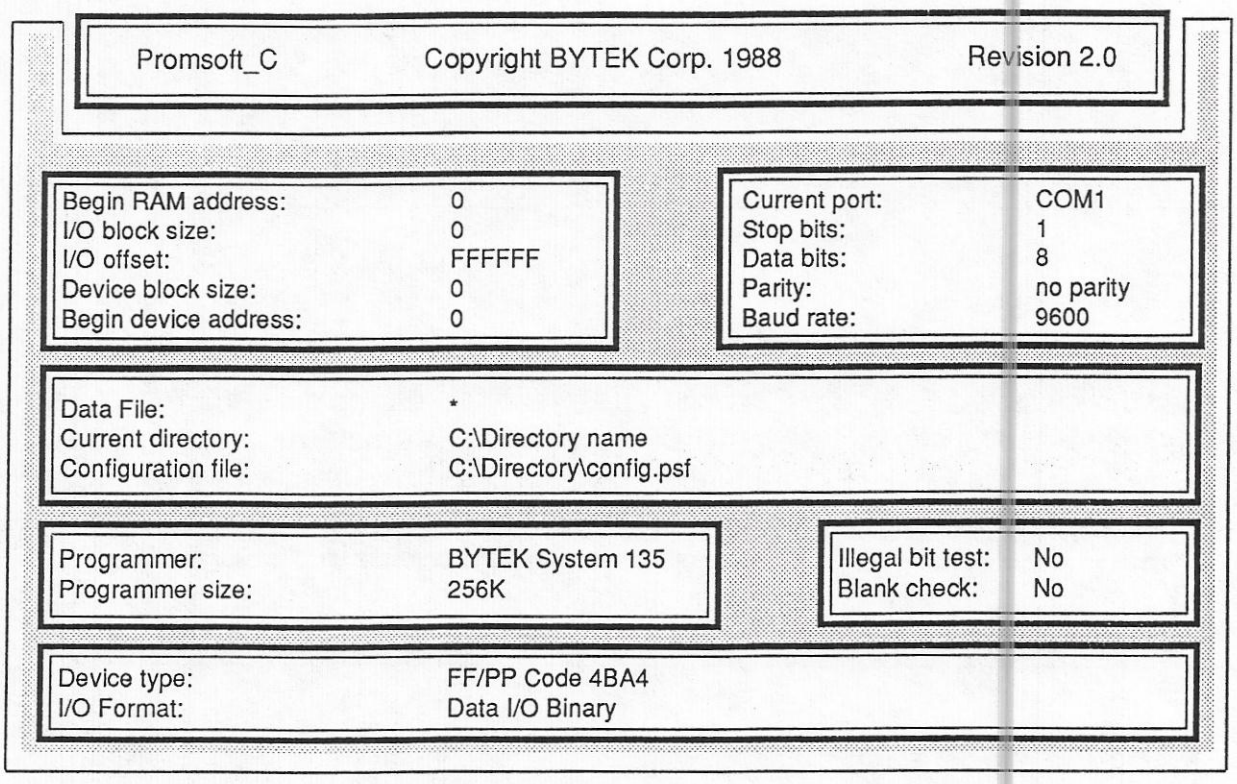


Briefly, an Illegal Bit Test tests the target device to ensure that the data in Programmer RAM should be programmable into the target device according to the programming rules and specifications of the currently selected device.

A Blank Check tests the target device to ensure that the device is wholly and totally blank (erased or never before programmed).

STATUS

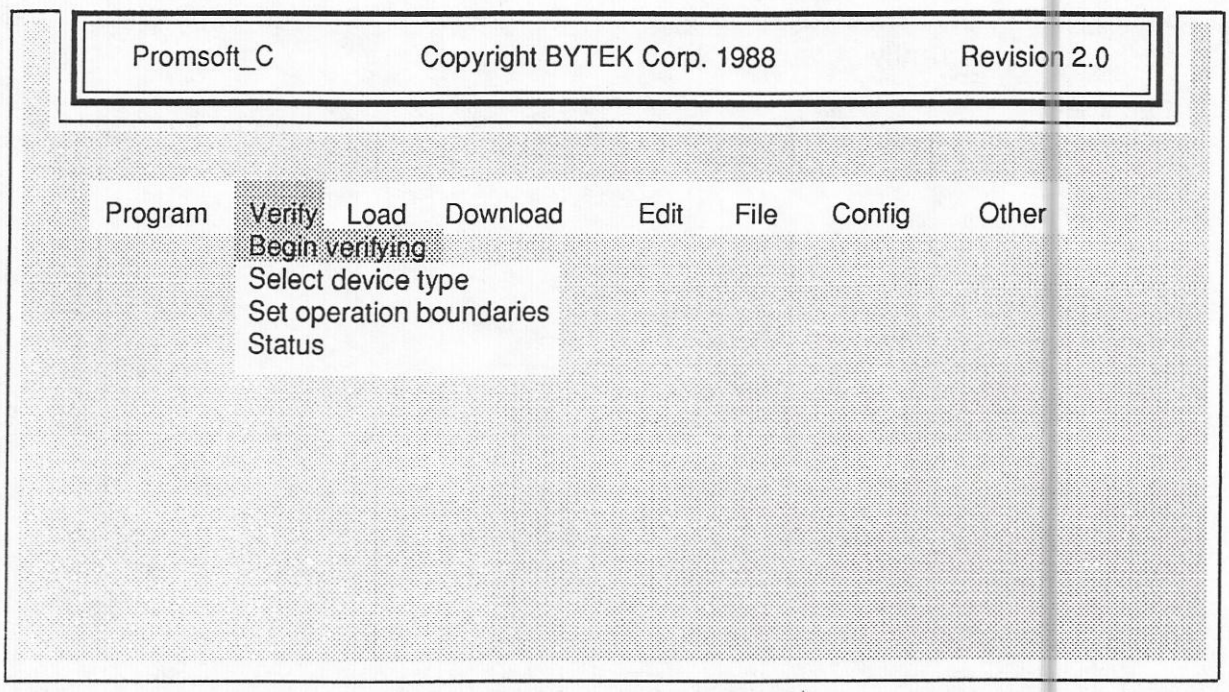
This command is used to show the user the current configuration of Promsoft_C and the current status of the device that is being programmed.



VERIFY DEVICE

This command is most often used to ensure that a device has been correctly programmed. Also this command can be used to sort devices of the same type or size by reading one device into RAM and then verifying which of the remainder of the unknown group compares successfully against it.

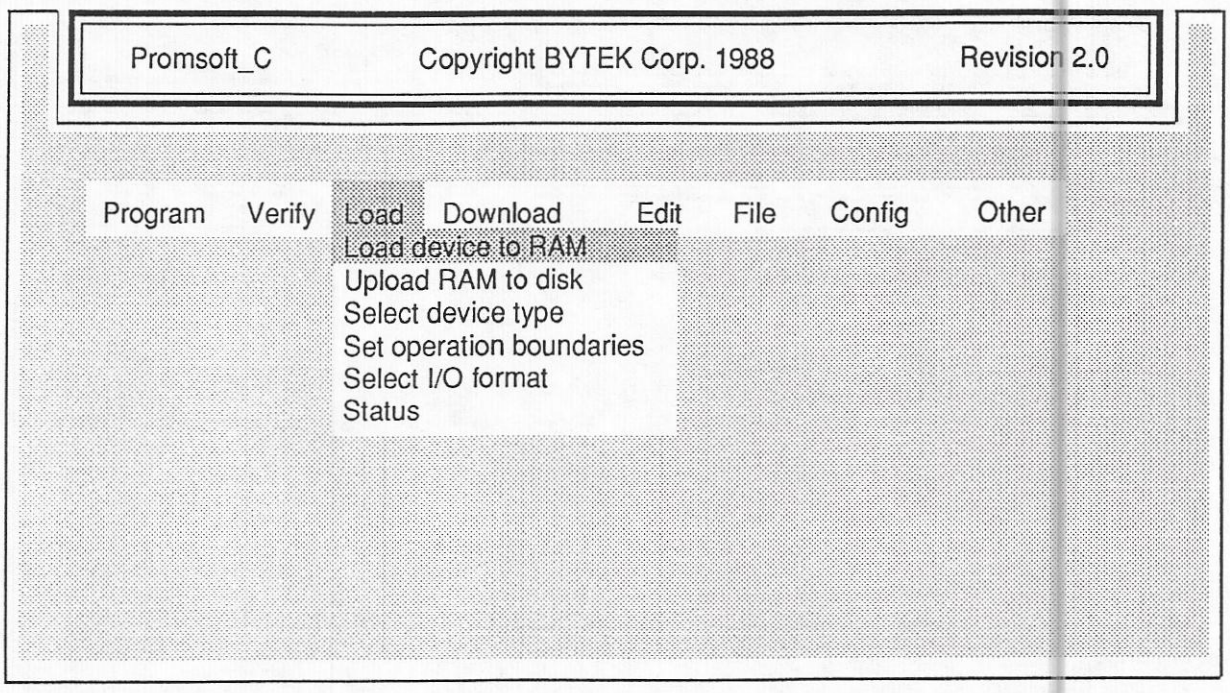
Each bit of the device in the Programmer socket is compared against the corresponding bit in the Programmer's RAM. A completion message indicates whether or not the Verify was successful.



LOAD

(Loading RAM or Device to PC).

The Load device to RAM command permits you to read the device data from the device in the Programmer socket and copy it into the Programmer's internal RAM. You must ensure that the device installed in the Programmer socket matches the currently selected device in the Promsoft_C status area. If not, device damage could result.

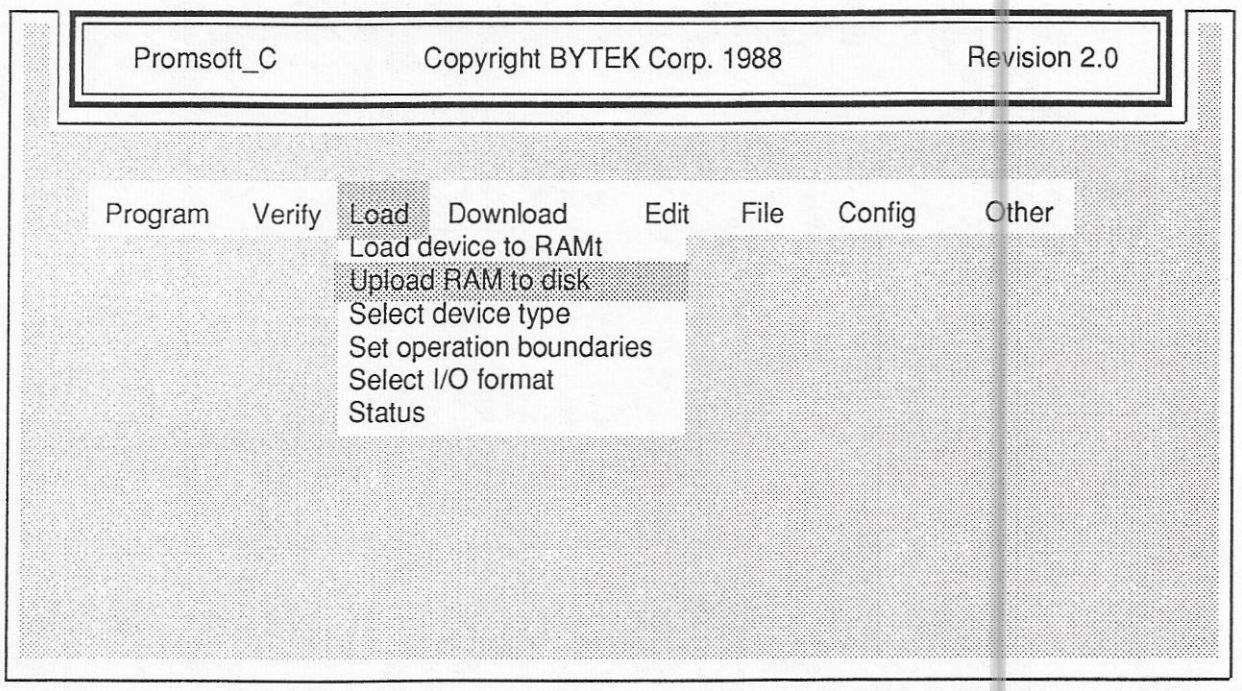


The Load RAM command will initiate, and when complete, the completion status message will appear. If any errors occur, the error message will be displayed instead of the completion message.

The Load RAM command is usually used as the first step in duplicating a master device. Once data is loaded into RAM, it may be programmed into one or more devices. You may also elect to save the data loaded from the device onto the PC in a disk file.

UPLOAD RAM to DISK

The Upload RAM to disk command is the opposite download. Promsoft_C will create a new PC disk file using the filename specified, read the Programmer's RAM contents in the format selected, and write the formatted data onto the disk file. The resulting disk file is readable by the **DOWNLOAD** section of Promsoft_C.



By selecting Upload RAM to disk from the menu, Promsoft_C will prompt you for a PC filename. You may use a drive specifier (C:,etc.), a pathname (\PROMS\OLD) and a filename/extension (DATAFILE.DAT). If the filename you specify already exists, Promsoft_C will allow you to either overwrite the existing file or select a different filename.

The data written into the PC disk file will be formatted based on the currently selected I/O format. You may change the I/O format prior to selecting the Select I/O Format form the LOad menu.

See next page for Upload RAM to disk screen

```
Promsoft_C          Copyright BYTEK Corp. 1988          Revision 2.0

Filenames will appear in this Screen.

Enter data file or CR for Main Menu:
```

Select I/O Format Screen:

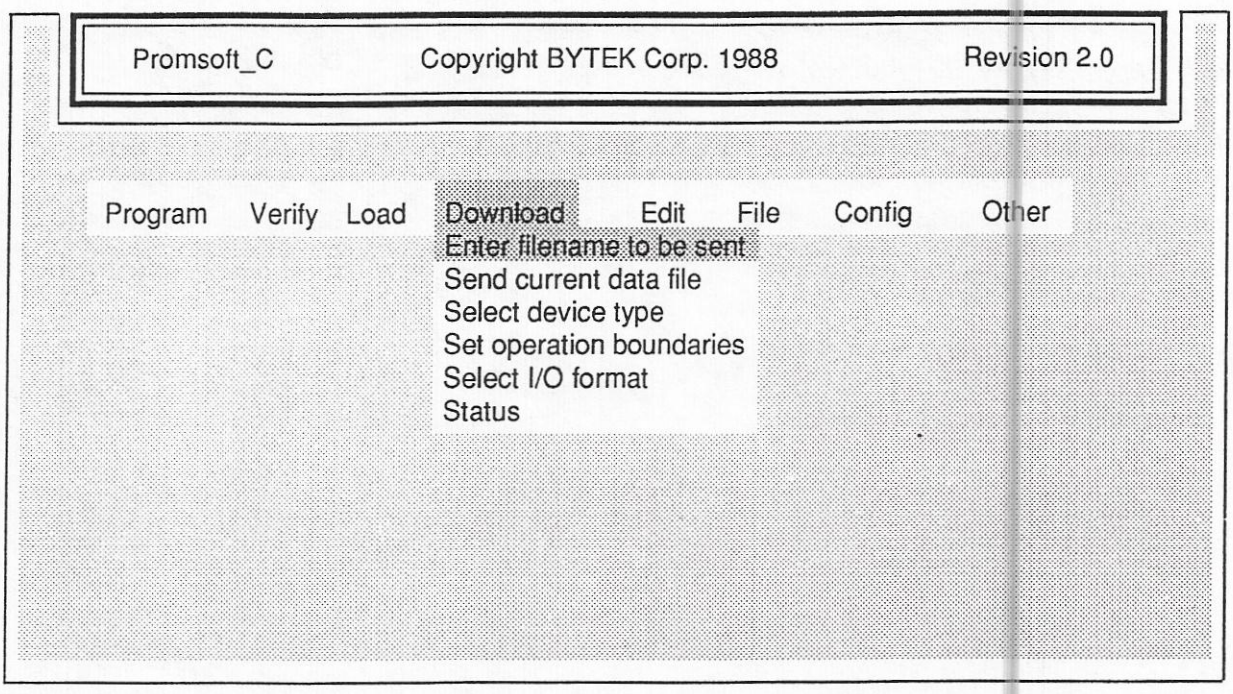
```
Promsoft_C          Copyright BYTEK Corp. 1988          Revision 2.0

(07)  A-B10F              (03)  A-B10F Start code     (06)  A-BHLF
(02)  A-BHLF start code   (05)  A-BNPF               (01)  A-BNPF start
(52)  A-Hex-Apostrophe    (53)  A Hex comma           (58)  A-Hex Comma S
(51)  A-Hex Percent       (56)  A-Hex Percent SOH     (57)  A-Hex SMS
(50)  A-Hex Space         (55)  A-Hex Space SHO       (32)  A-Oct Apostro
(31)  A-Oct Percent       (36)  A-Oct Percent SOH     (37)  A-Oct SMS
(30)  A-Oct Space         (35)  A-Oct Space SOH       (10)  Data I/O Binary
(80)  Farichild Fairbug   (83)  Int Intellec 8/MDS    (88)  Int MCS-86 He
(81)  MOS Technology      (82)  Motorola Exorciser    (87)  Motorola Exor
(70)  RCA Cosmac          (85)  Signetics Abs Obj     (13)  Spectrum
(12)  Spectrum start code (86)  Tektronix Hex         (90)  TI SDSMAC
(20)  BYTEK Binary

Enter number for format or CR for Main Menu:  1
```

For Screens on:

Select Device Type - See pages 17 & 18
Set boundaries - See page 19
Status Screens - See page 21

DOWNLOAD

(Load data from a PC disk file into Programmer.)

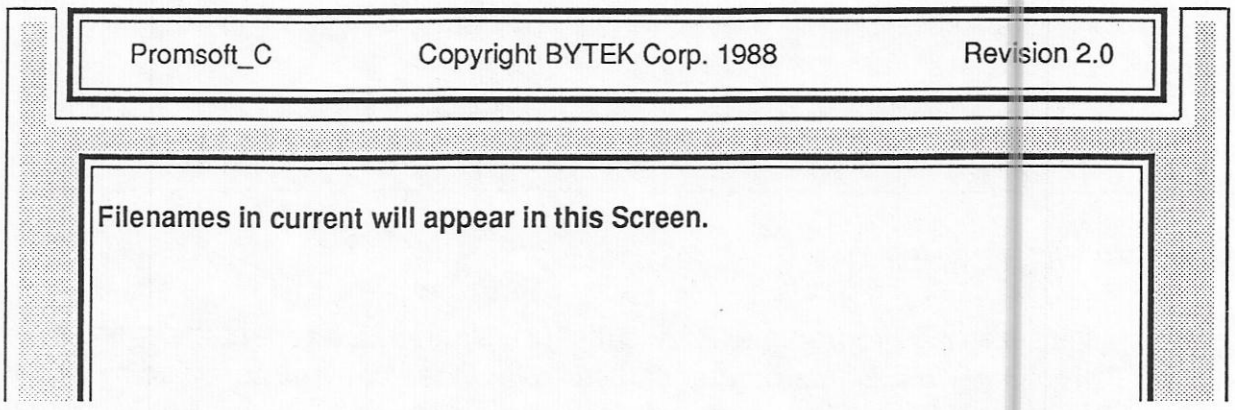


ENTER FILENAME TO BE SENT Command:

The DOWNLOAD command permits you to read a formatted PC disk file and copy the data contained in the file into the Programmers RAM.

Selecting Enter filename to be sent command allows you to specify the PC filename from which the data should be read by Promsoft_C. Once a filename is specified, the Load operation is started.

Promsoft_C will open the specified PC disk file, read in the data and transfer the data to the Programmer's RAM.



You may select any filename from current directory or ANY file on the PC.

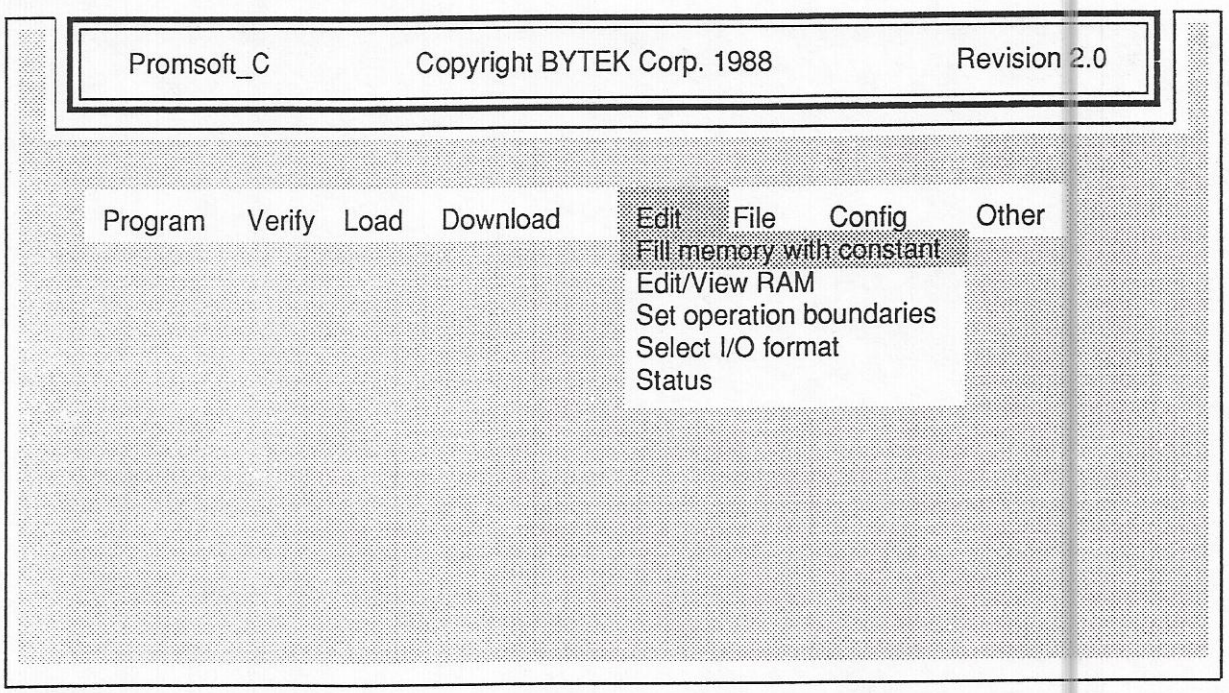
The I/O format specified must match the PC disk file's I/O format. Consult the documentation for the development software that created the disk data file to obtain the correct I/O format. The I/O format may be changed by selecting Select I/O Format from the menu.

During the load, the message: "Loading RAM from file" will be displayed. When the load is completed, a corresponding message will be displayed. If the load operation is unsuccessful, an unsuccessful message is displayed.

FOR SCREENS ON:
Select Device Type - See pages 17 & 18
Set operational boundaries - See page 19
Select I/O format - See page 24
Status - See page 21

EDIT

The Edit Function Menu permits you to directly manipulate Programmer RAM, and set operating RAM address boundaries for RAM operations.



FILL MEMORY WITH CONSTANT

This command initializes the Programmer RAM buffer to a single value repeated starting from the RAM BEGINNING ADDRESS parameter and for a number of bytes specified by the I/O BLOCK SIZE parameter. These parameters can be changed in the Set operation boundaries screen (select (5) from the Edit Function Menu).

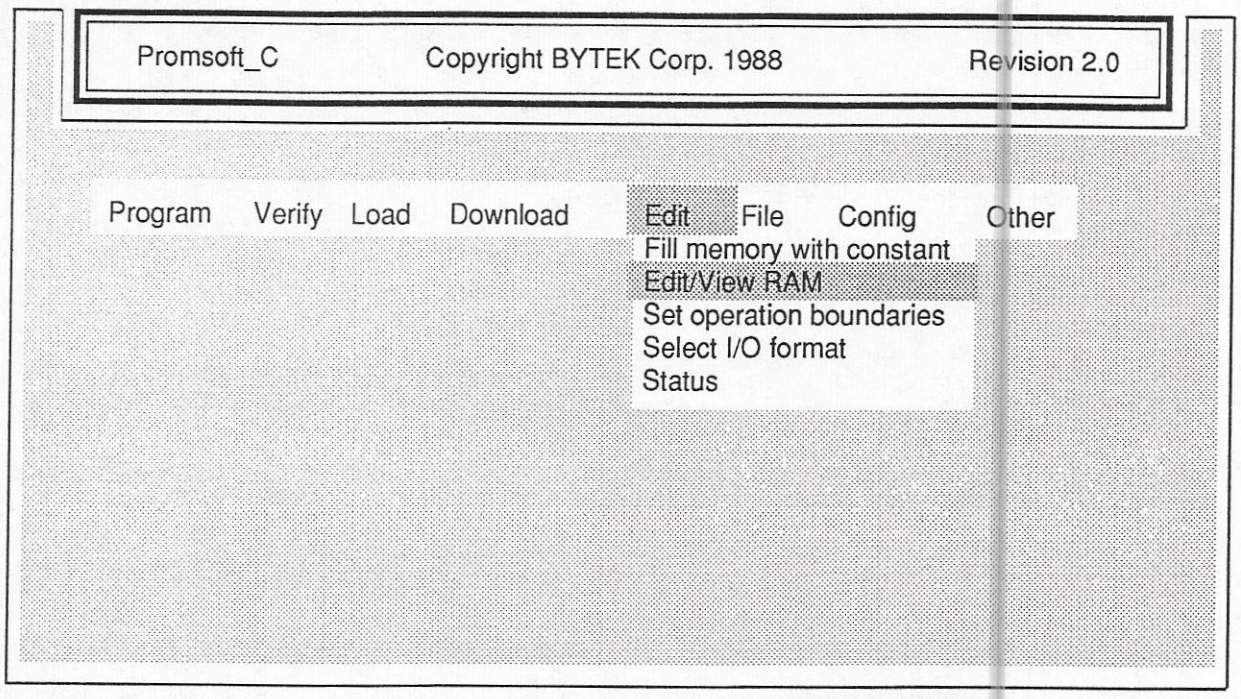
You are prompted for a Hexadecimal FILL byte value. The Fill byte operation will then begin.

The operation time varies from among Programmers. Maximum time required for any compatible Programmer is 1 minute/16K Bytes filled although some Programmers may complete the process within just a few seconds.

Filling RAM with 00 will generally execute faster because most compatible Programmers have a dedicated command to process this function and Promsoft_C takes advantage of this command.

Note that although this command can be aborted (CTRL-Z), doing so leaves Programmer RAM in an UNKNOWN STATE and should therefore be generally avoided.

EDIT/VIEW RAM



The Edit/View RAM command is a powerful screen oriented editor that permits viewing and changing of Programmer RAM contents. The editor operates on RAM blocks of 256 bytes each. You will be prompted for a starting address where editing should begin. If you simply press <enter> without entering an address, address 0000H will be selected as the default.

Promsoft_C will then read the Programmer RAM block requested. After a moment, the full-screen editor will be invoked. The cursor will be positioned at the address you requested:

See Edit/View RAM screen next page

Cursor Location: 00000100

ADDRESS	HEXADECIMAL																ASCII
00000100	67	72	61	6D	6D	65	72	3A	20	42	59	54	45	4B	20	53	grammer: BYTEK S
00000110	79	73	74	65	6D	20	31	33	35	20	20	20	20	20	20	20	ystem 135
00000120	20	20	20	20	20	20	20	20	50	72	6F	67	72	61	6D	6D	Programmer
00000130	65	72	20	53	69	7A	65	3A	20	32	35	36	4B	20	20	20	er Size: 256K
00000140	20	20	20	20	20	20	20	20	20	20	20	20	20	0A	0D	44	..D
00000150	65	76	69	63	65	20	54	79	70	65	3A	20	46	46	2F	50	erice Type: FF/P
00000160	50	20	43	6F	64	65	20	34	42	41	34	20	20	20	20	20	P Code 4BA4
00000170	20	20	20	20	20	20	20	20	20	20	49	2F	4F	20	46	6F	I/O Fo
00000180	72	6D	61	74	3A	20	49	6E	74	20	49	6E	74	65	6C	6C	rmat: Int Intell
00000190	65	63	20	38	2F	4D	44	53	20	20	20	20	20	20	20	0A	EC 8/MDS
000001A0	0D	50	6F	72	74	3A	20	43	4F	4D	31	2F	39	36	30	30	.Port: COM1/9600
000001B0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
000001C0	20	20	20	20	20	20	20	20	20	20	20	20	55	73	65	72	User
000001D0	20	46	75	6E	63	74	69	6F	6E	20	46	69	6C	65	3A	20	Function File:
000001E0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
000001F0	20	0A	0D	44	61	74	61	20	46	69	6C	65	3A	20	2A	20	..Data File: *

HOME....1st block
PGUP.....Previous block
F2.....Save & Exit
END..... Last block
PGDN....Next block
F3.....Restore block
ARROW....Cursor control
TAB.....Switches cursor between HEXADECIMAL and ASCII field.

ABOUT THE FULL SCREEN EDITOR

The top display line contains the cursor address; the Programmer RAM address at which the cursor is logically pointing. Any edits affect the Programmer RAM at this address.

The main portion (middle) of the display is the 256 byte edit buffer. The buffer is divided into two sections. The HEX area is the larger, leftmost, area while the ASCII area is the smaller, right-most, area. You may edit in either mode (HEX or ASCII) by pressing the TAB (->|) key to toggle the active edit mode. A change made in either mode will immediately update the other display area.

For instance, changing a 41 HEX value in the HEX area to a 42 HEX will update the ASCII area from a 'A' to a 'B' at the current address and vice-versa.

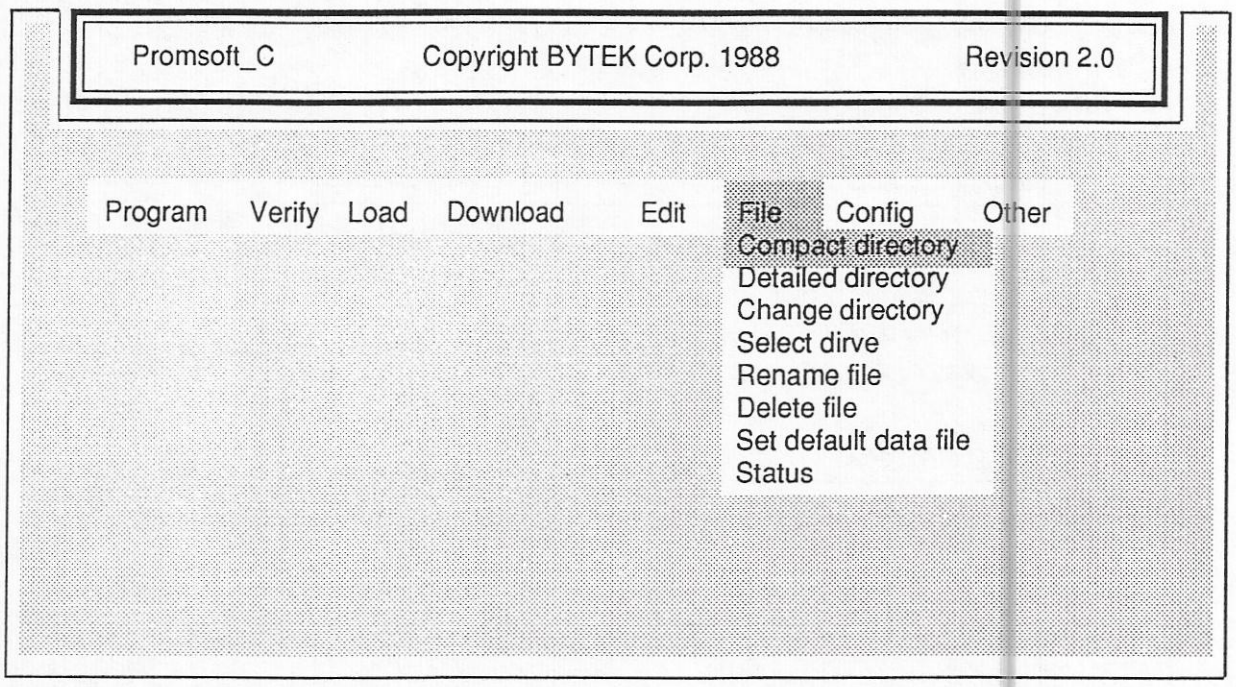
Directly below the edit buffer is the Edit Menu showing valid edit/view keys and their functions.

NOTE: *Once you change to another block or leave the editor, all changes typed into the current block are written to the Programmer RAM.*

FOR SCREENS ON:
Set operational boundaries - See page 19
Status - See page 21

FILE MENU

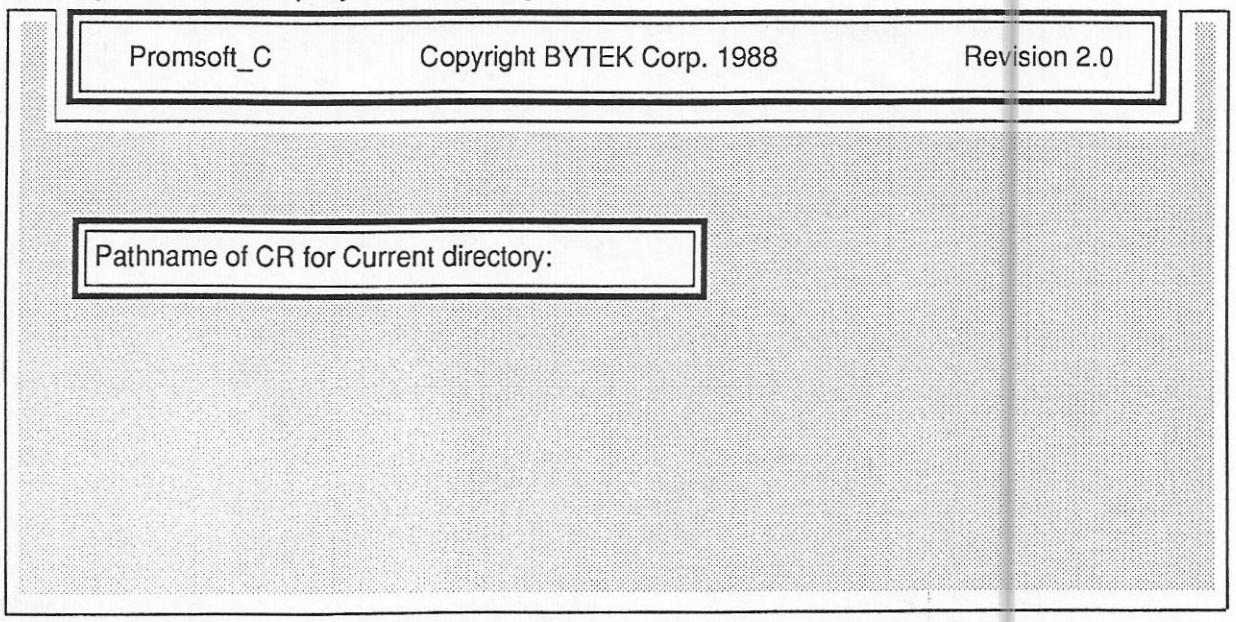
The File Function Menu permits PC disk file operations from within Promsoft_C. This menu supports the following eight functions:



COMPACT DIRECTORY

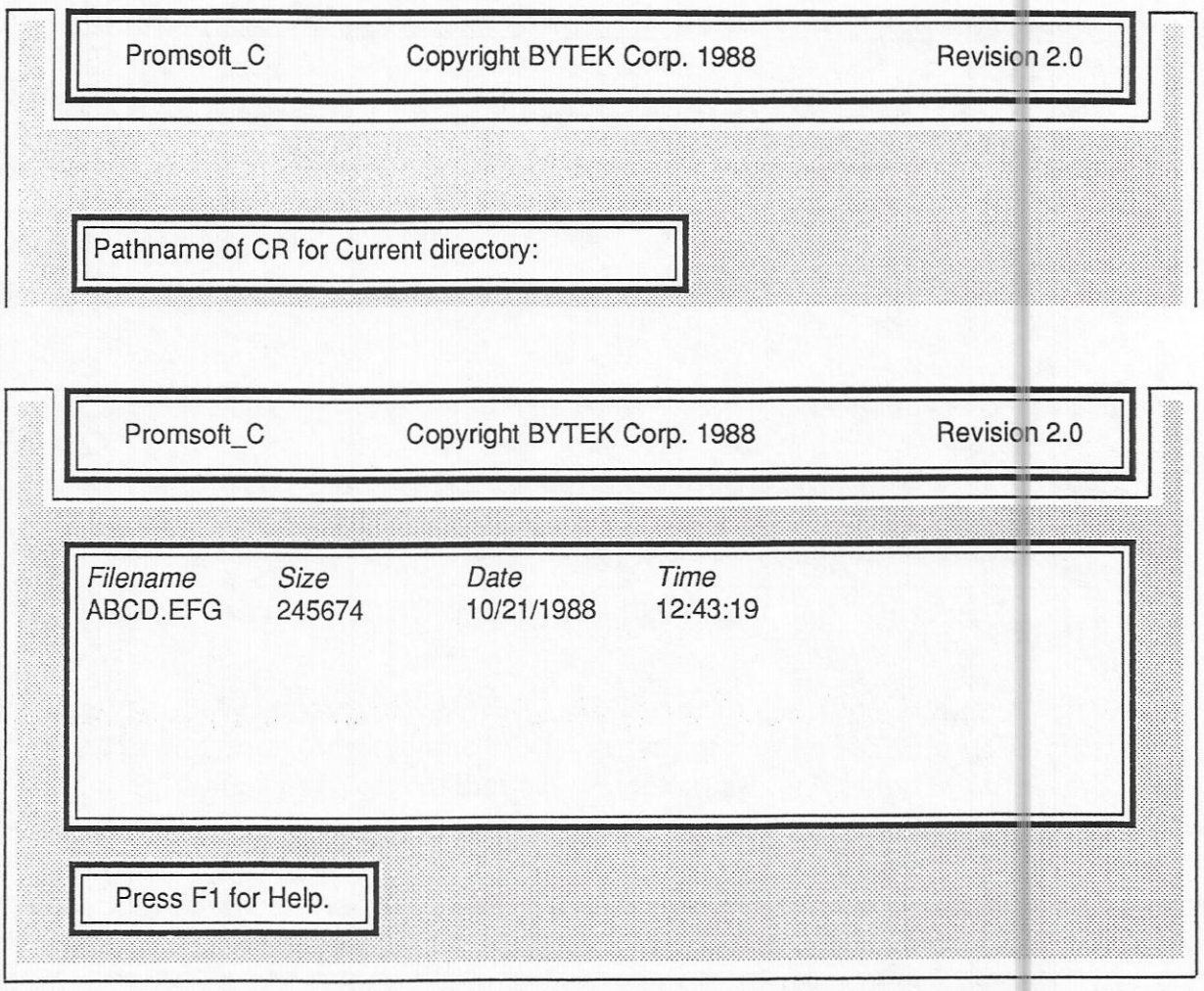
This directory format is equivalent to the DOS DIR/W command. You may specify a \PATHMANE\FILENAME.EXT parameter just as in DOS or simply press <enter> to display the directory of the current default drive/directory. Wildcard syntax (see your DOS manual) is allowed within filenames and extensions.

If Promsoft_C is unable to locate any files that fit the user-specified or default requirements, a message will be displayed indicating so.



DETAILED DIRECTORY

This directory format is equivalent to the DOS DIR command. You may specify a \PATHNAME\FILENAME.EXT parameter just as in DOS or simply press <enter> to display the directory of the current default drive/directory. Wildcard syntax (see your DOS manual) is allowed within filenames and extensions.



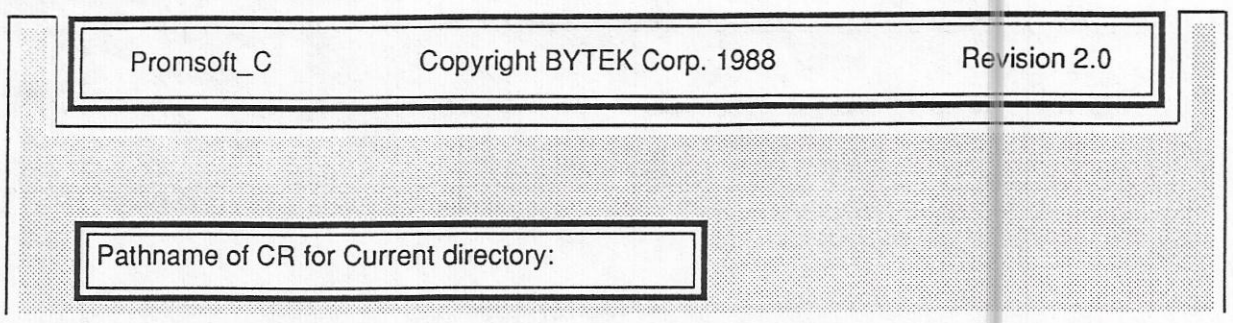
If Promsoft_C is unable to locate any files that fit the user-specified or default requirements, a message will be displayed indicating so.

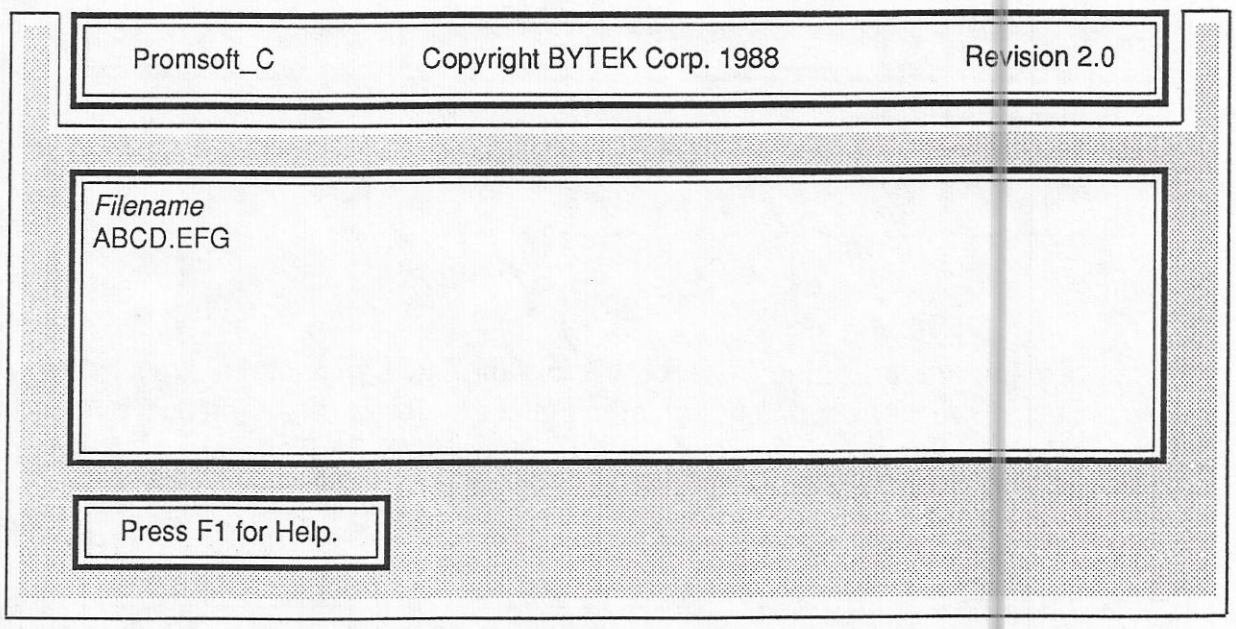
CHANGE DIRECTORY

This operation permits you to specify the default disk drive and default directory on the default drive. Specifying these items saves redundant keystrokes when entering filenames. Once a default directory and drive are in effect, Promsoft_C will look for all filenames in the default location.

Change Directory screens next page:

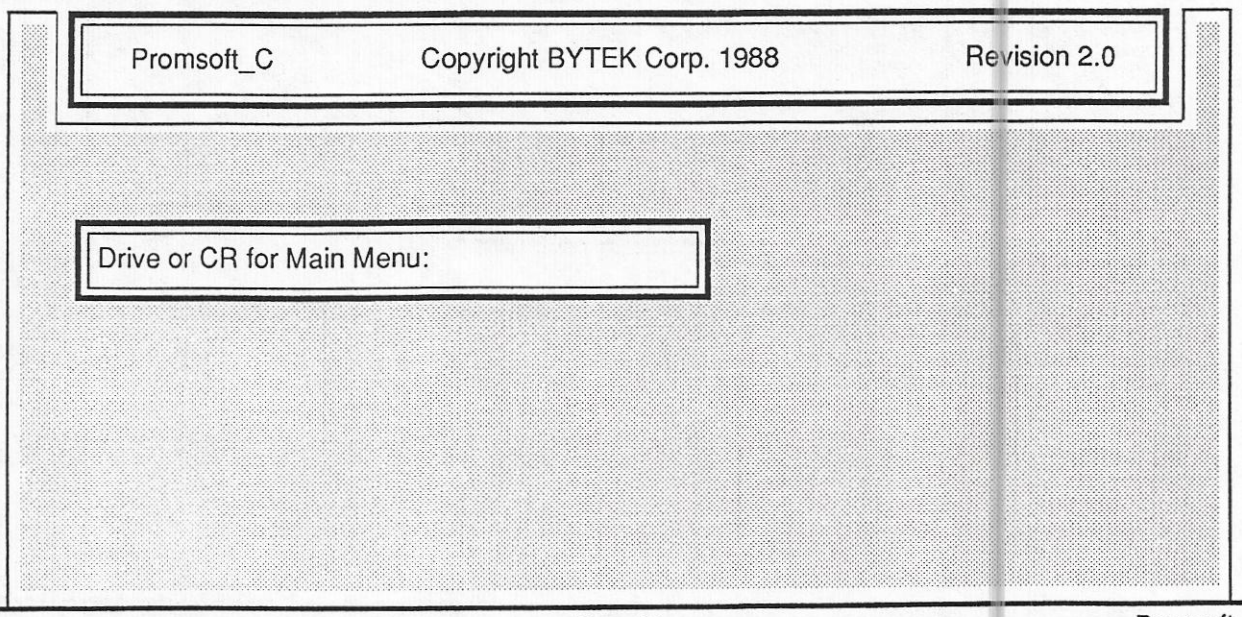
Change Directory Screens:



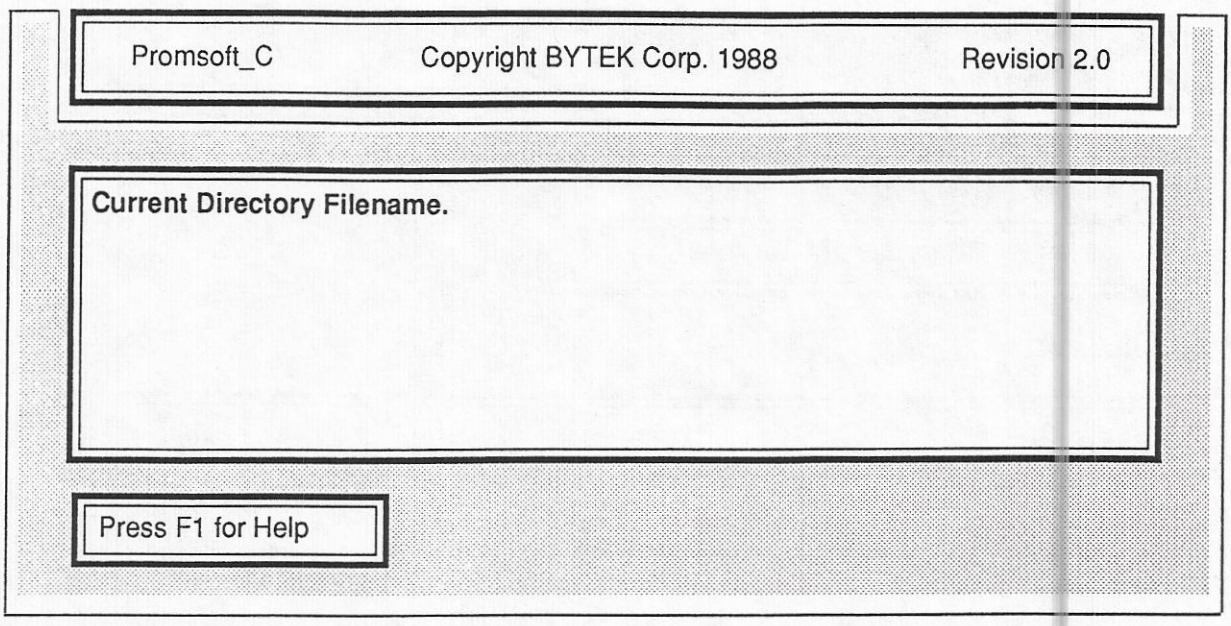


SELECT DIRVE

This operation is equivalent to DOS command **CD** allowing you to change the default dirve to a specific dirve that contain the filenames you need.

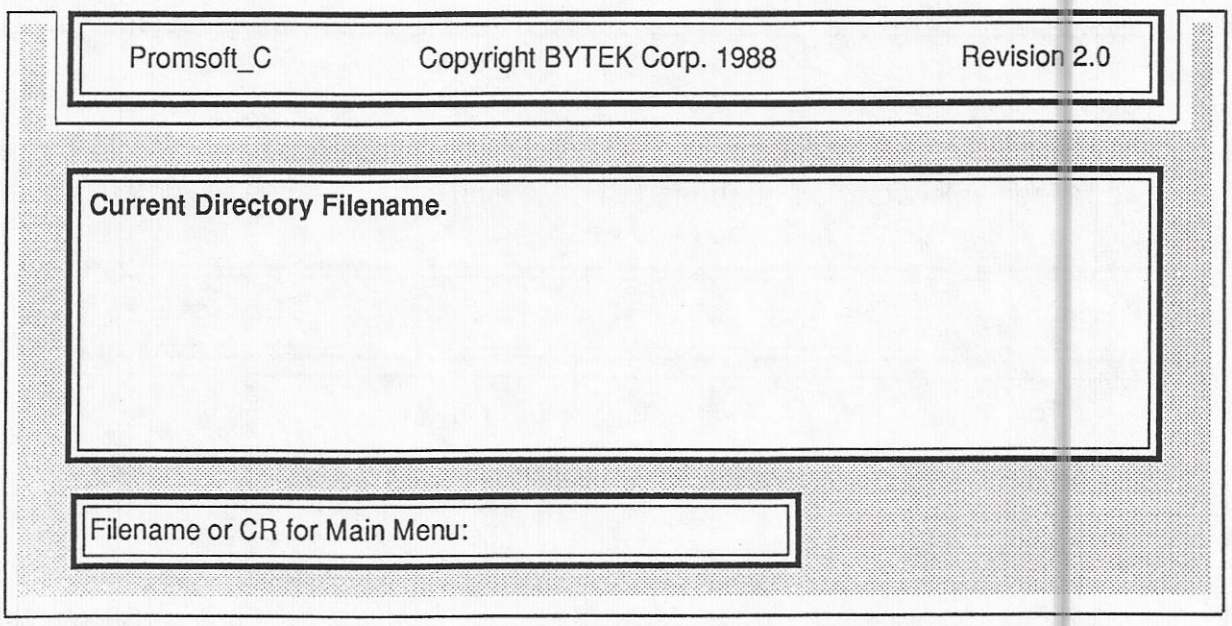


SELECT DRIVE SCREEN



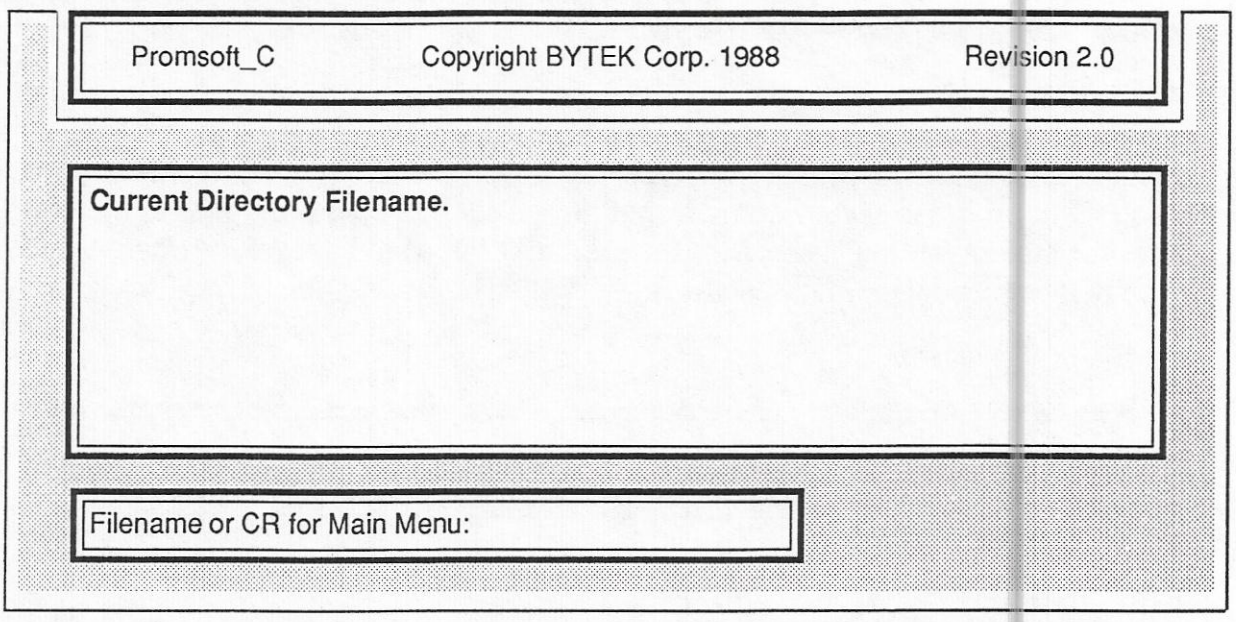
RENAME FILE

Performs the same operation as the DOS REN command. A compact directory listing will display all the files in the current drive/directory. Select a file for renaming by typing in the full FILENAME.EXT, a space, followed by the new FILENAME.EXT and pressing <enter>. The file contents will remain the same; just the name will be changed.



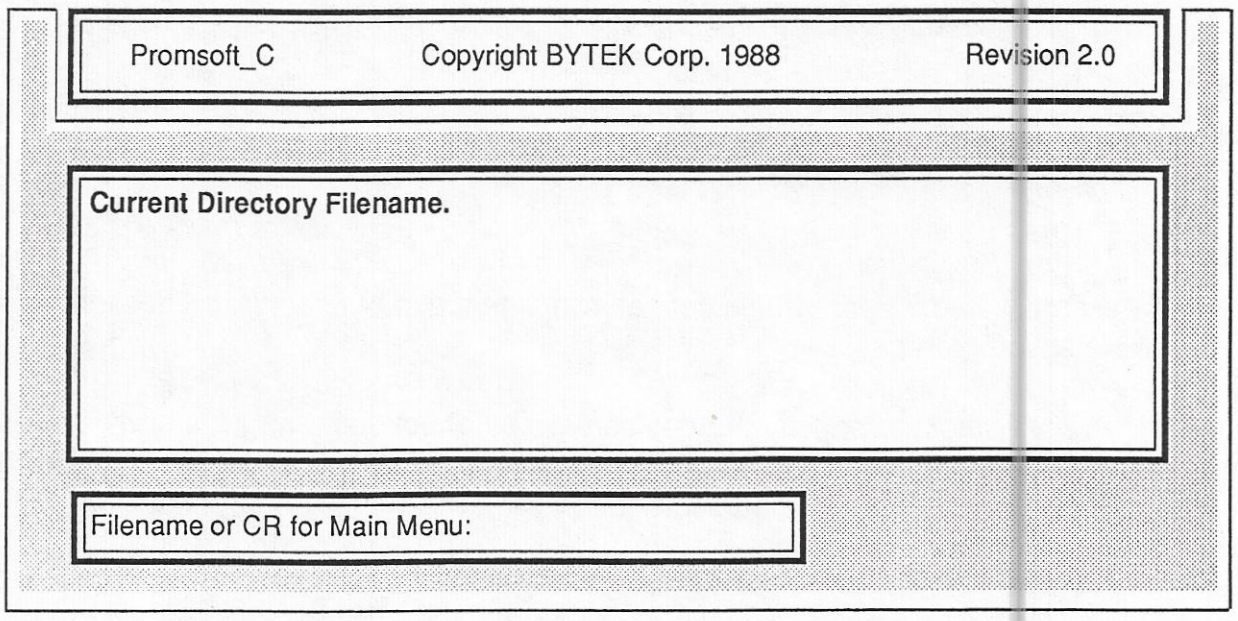
DELETE FILE

A compact directory listing will display all the files in the current drive/directory. Select a file for deletion by typing in the full FILENAME.EXT and pressing <enter>. The selected file will be permanently deleted from the PC diskette (hard disk).



SET DEFAULT DATA FILE

This selection permits you to specify which file will be the default data file. The default data file name is displayed in the system status area of the Promsoft_C screen. A compact directory listing will display all the files in the current drive/directory. Select the file to become the default by typing the full FILENAME.EXT and pressing <enter>.



STATUS

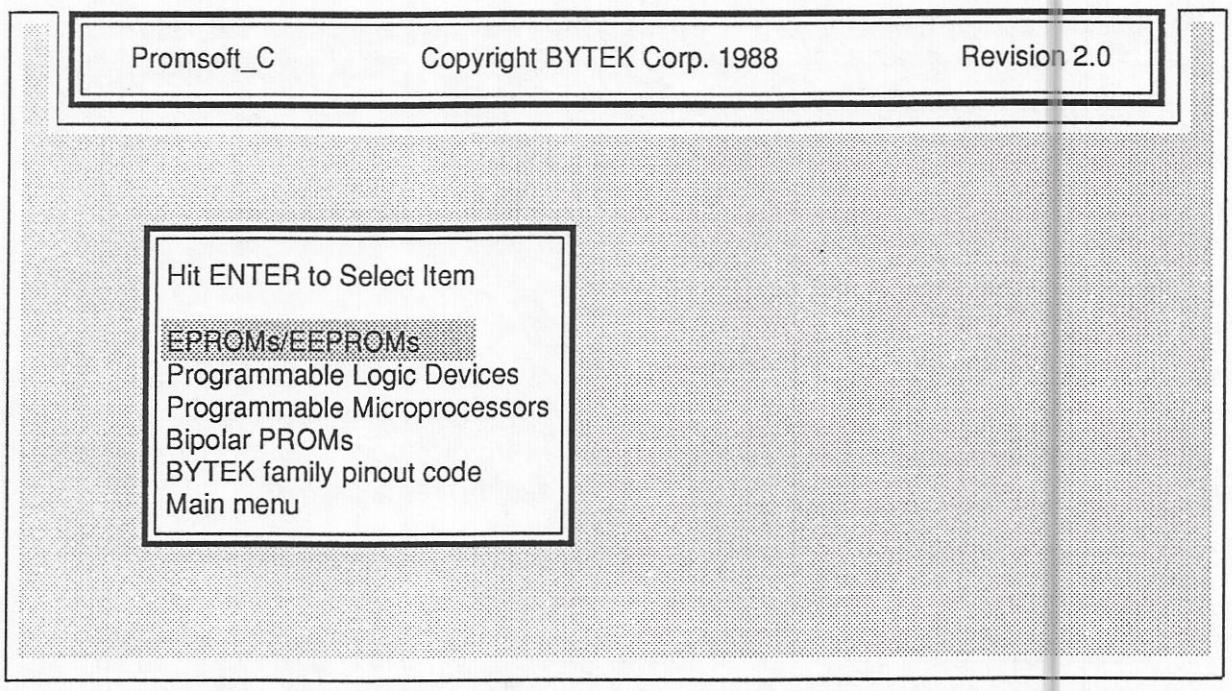
FOR STATUS SCREEN - See Page - 21

CONFIGURATION FUNCTIONS

The Configuration Function Menu, permits you to configure all Promsoft_C parameters including Programmer type, operating boundaries, serial communications parameters, etc. Once configured, you may elect to save the entire Promsoft_C operating environment as a package in a configuration file.

SELECT DEVICE TYPE

Programmable devices have differing physical and electrical characteristics. It is necessary for Promsoft_C to be made aware of the target device for device operations. To this end, device type information is transmitted to the Programmer at the start of each device operation. The device type is displayed in the status area of the Promsoft_C display.

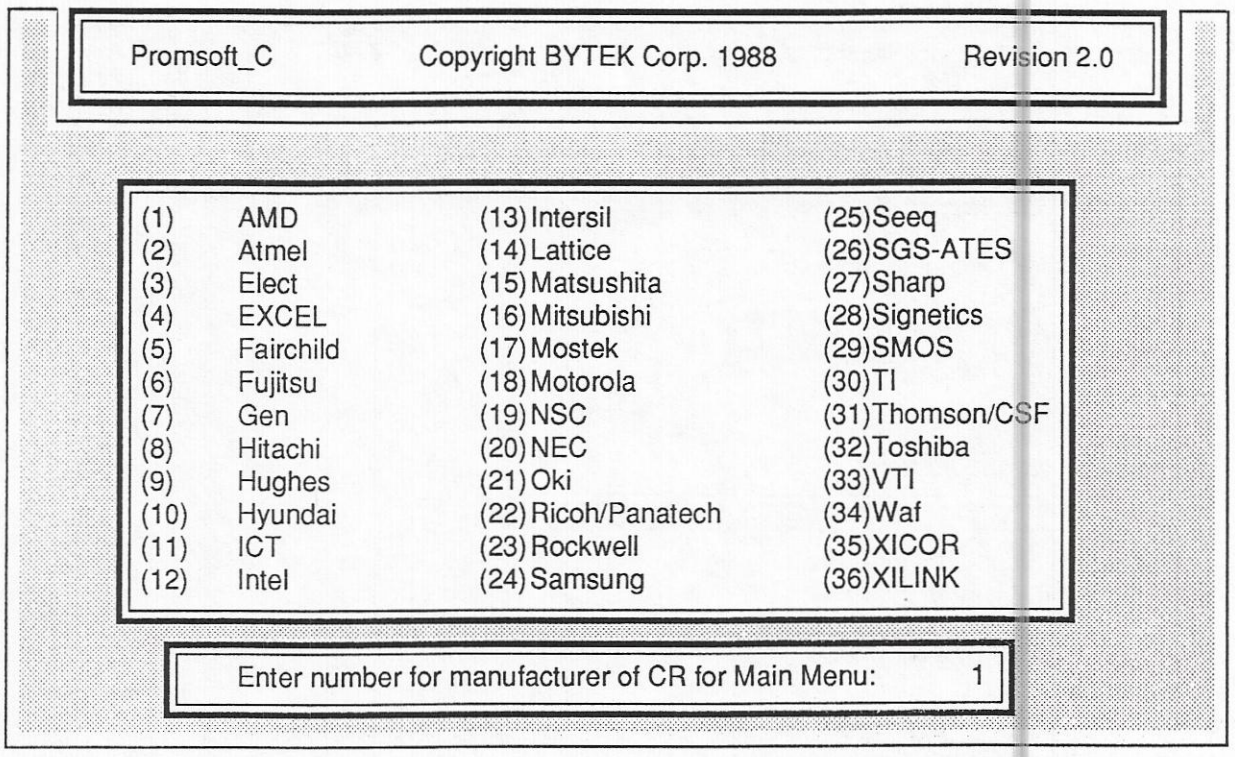


Ease of selection is promoted by the use of two menus: Manufacturer Selection Menu and Device Selection Menu.

Optionally, you may elect to specify the device type by directly entering a standard FFPP (family/pinout) code to Promsoft_C. If this is desired, simply press the spacebar in the Manufacturer Menu. You will be prompted for an FFPP code entry. Enter the desired FFPP code and press <enter>.

MANUFACTURER SELECTION SUBMENU

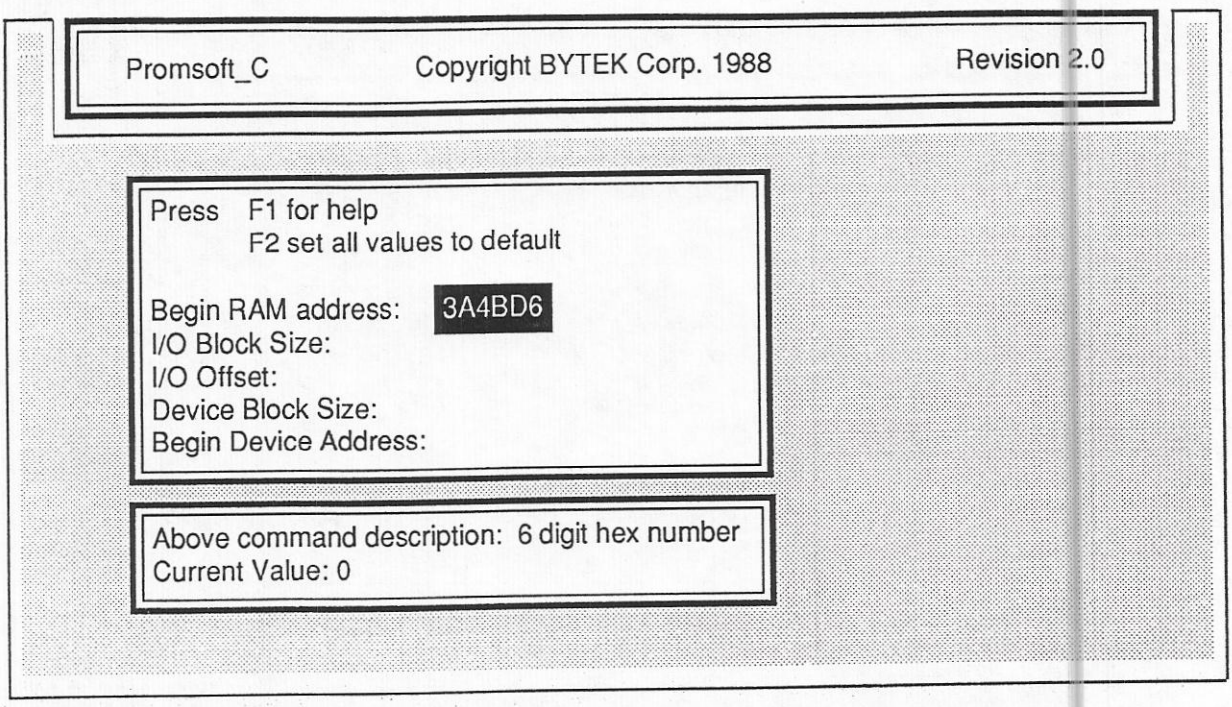
The Manufacturer Selection Menu is the first phase of device selection. A list of programmable device manufacturers is displayed with each manufacturer assigned a menu selection number. You are prompted to enter a Manufacturer and press <enter>. Enter the desired manufacturer's menu number and press <enter>.



Optionally, you may elect to specify the device type by directly entering a standard FFPP (family/pinout) code to Promsoft_C. If this is desired, simply press the spacebar. You will be prompted for an FFPP code entry. Enter the desired FFPP code and press <enter>. Promsoft_C will check with the attached Programmer to confirm that the selected FFPP is supported. Refer to the owner's manual of the Programmer in use for a list of supported FFPP codes.

SET OPERATION BOUNDARIES

Selecting from the Configuration Functions menu yields the Set Operation Boundaries Menu. Operation boundaries are designed to limit the operation of Promsoft_C or the Programmer. The Begin RAM Address is the FIRST address that will be affected by any Promsoft_C operation, except Edit/View. No PromSoft command will affect Programmer RAM below the Begin RAM Address.

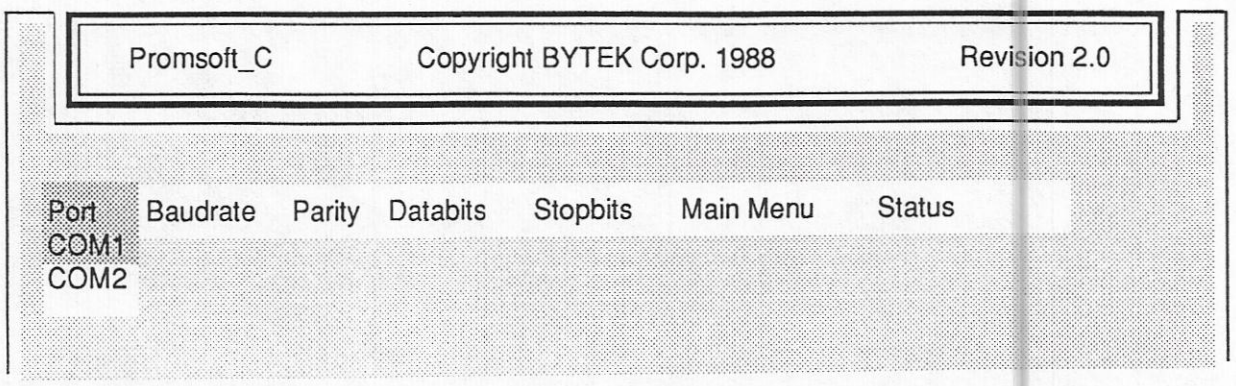


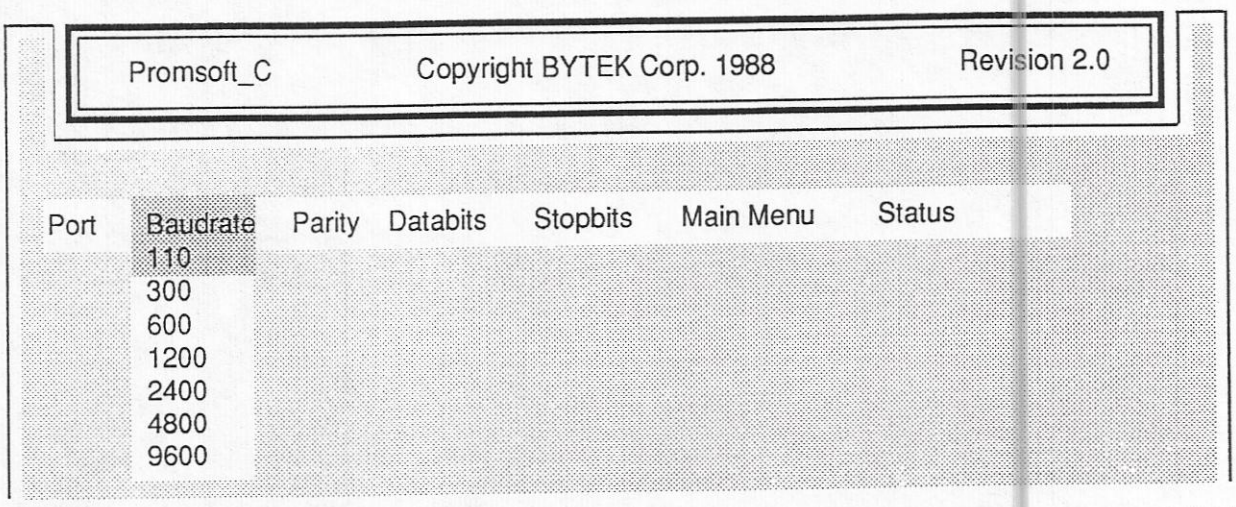
CONFIGURATION PORT

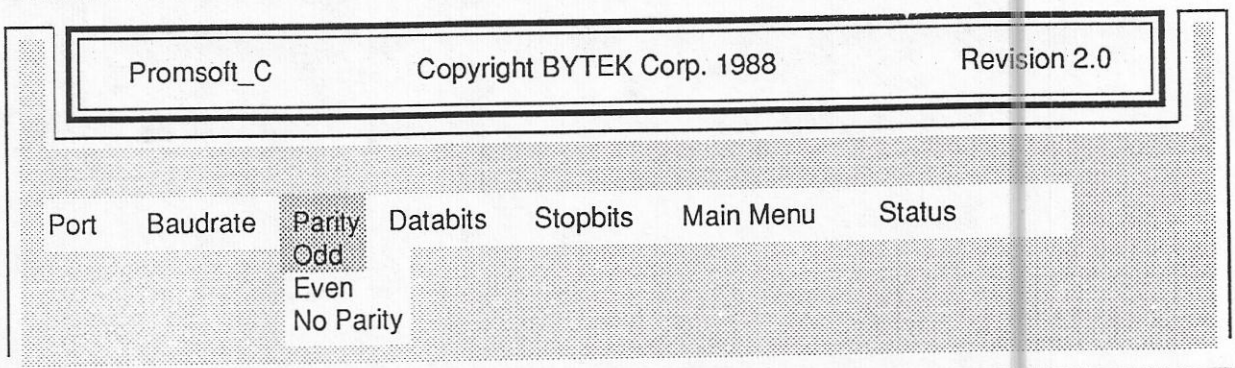
Use the Configure Port menu (accessed from the Configuration Functions Menu) to specify the port and communications parameters for the Programmer <-> PC serial connection. Refer to the User's Manual for the Programmer in use to determine the set-up procedures for its communication parameters.

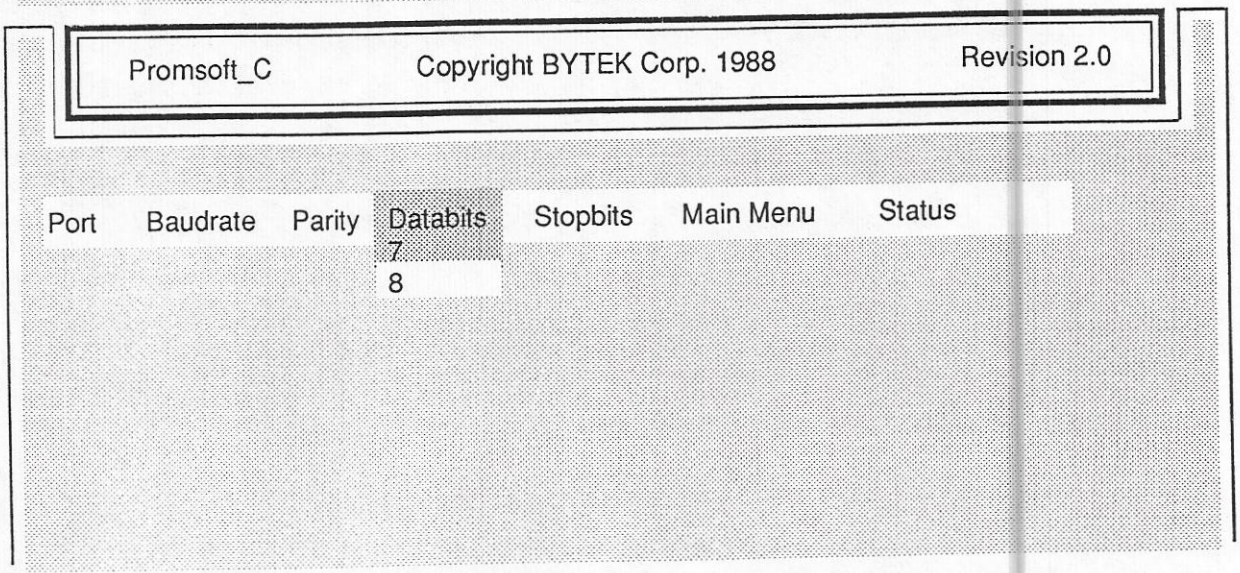
The factory default port assignment for Promsoft_C is COM1. If you are going to cable you Programmer to COM2 or if you will use more than one Programmer, enter the desired PC port number {1,2} at the prompt or press <enter> to select the default (1).

SEE COFIGURATION PORT SCREENS ON NEXT PAGE

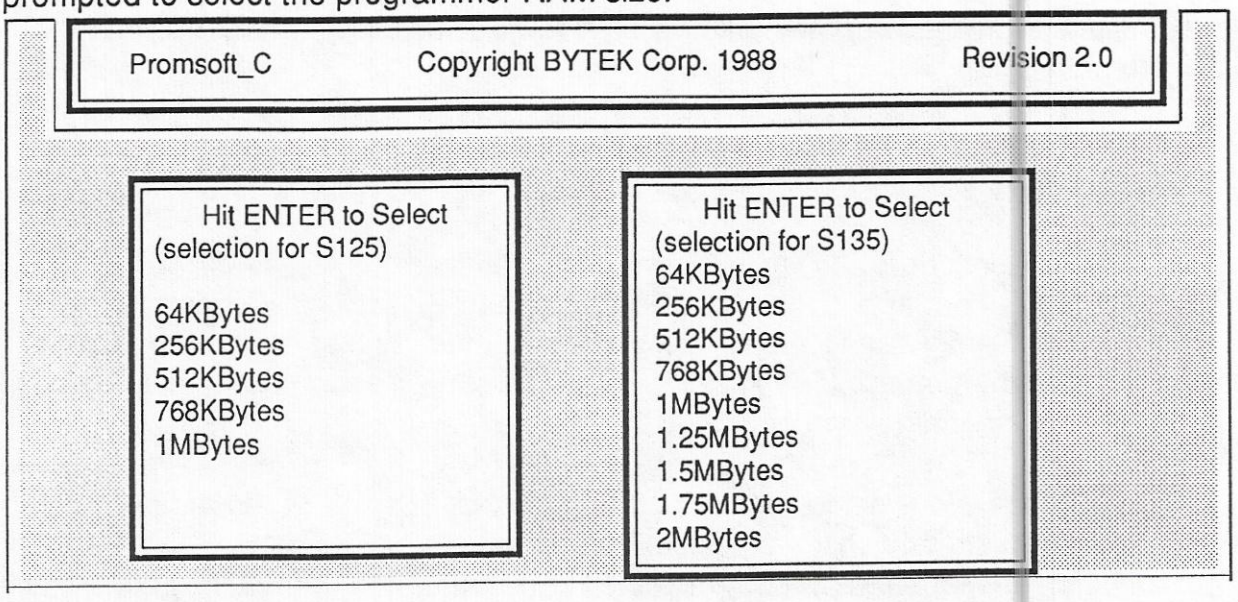

Promsoft_C
Copyright BYTEK Corp. 1988
Revision 2.0
Port
Baudrate
Parity
Databits
Stopbits
Main Menu
Status
COM1
COM2


Promsoft_C
Copyright BYTEK Corp. 1988
Revision 2.0
Port
Baudrate
Parity
Databits
Stopbits
Main Menu
Status
110
300
600
1200
2400
4800
9600


Promsoft_C
Copyright BYTEK Corp. 1988
Revision 2.0
Port
Baudrate
Parity
Databits
Stopbits
Main Menu
Status
Odd
Even
No Parity


Promsoft_C
Copyright BYTEK Corp. 1988
Revision 2.0
Port
Baudrate
Parity
Databits
Stopbits
Main Menu
Status
7
8

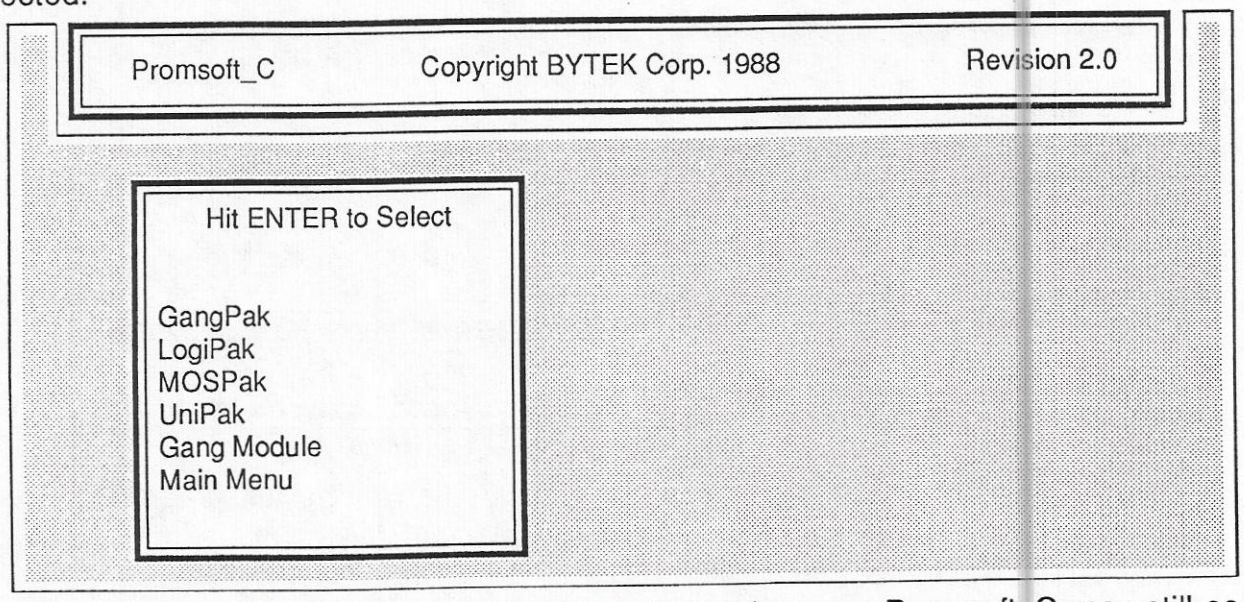
If you choose the S125 or S135 programmers from the programmer selection menu you will be prompted to select the programmer RAM size.



Certain Programmers require further selection of the "Cel" or Program Pack that defines the technology of device to be programmed. If you select a Programmer that requires further Cel or Pack selection Promsoft_C automatically presents the Select Pack Type menu (see below).
Selecting a Logic Device Programmer or Cel/Pack will automatically force selection of the JEDEC file format for PC <-> Programmer I/O.

If you selected a Programmer type that requires the selection of a Cel/Program Pack, Promsoft_C automatically enters this menu.

Enter the submenu selection number of the Cel/Program Pack you will use for the Programmer selected.



If you select an incorrect Cel/Program Pack type from this menu, Promsoft_C may still seem to control the Programmer. Note, however, that messages displayed on the Promsoft_C screen may be incorrect since messages are encoded by number and Programmers

equipped with different Cel/Program Pack options differ in the numbering scheme used.

Selecting a Logic Device Cel/Pack will automatically force selection of the JEDEC file format for PC <-> Programmer I/O.

SELECT I/O FORMAT

All PC data files are encoded into an I/O format for transmission between the PC and Programmer. The I/O Format code is selected from the Select I/O Format which is accessed from the Configuration Functions Menu. A menu is displayed listing all the supported I/O Formats by number. To select an I/O format,. simply enter the Format Number (displayed to the left of the desired format) at the prompt.

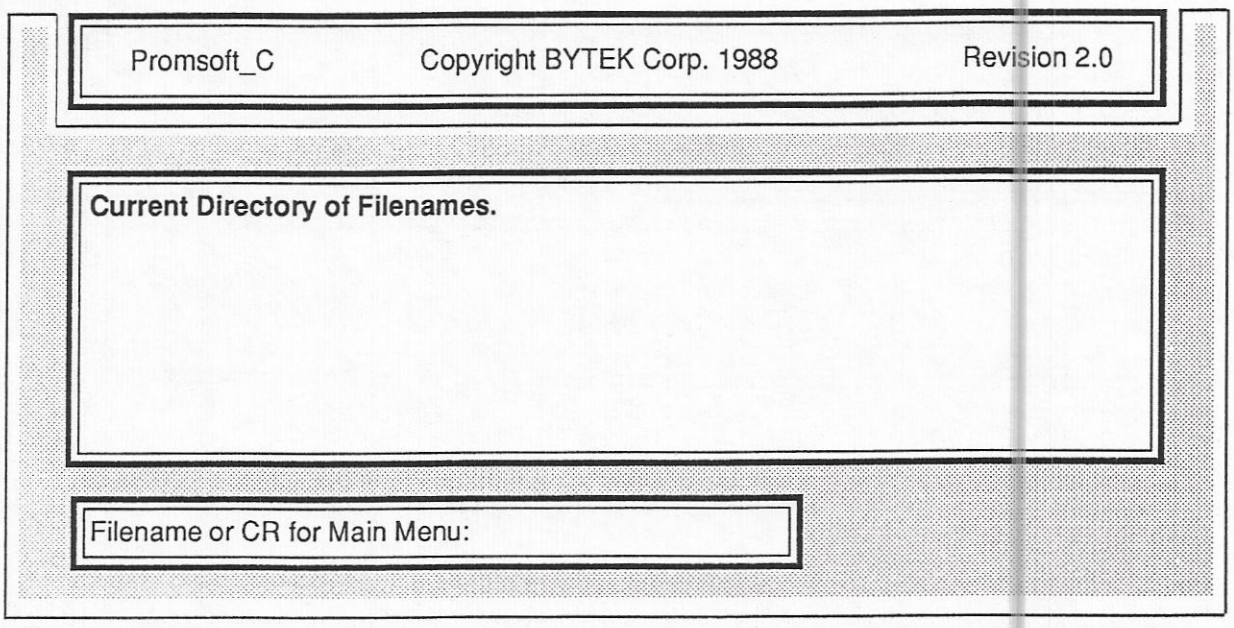
The I/O Format code you select MUST be supported by the Programmer in use. Promsoft_C performs a check with the attached Programmer to ensure that this is the case. If the Programmer does indeed support the selected I/O Format, it becomes the I/O Format in use. However, if the Programmer rejects the selected format an error message: 'Unknown I/O format' is output and the I/O Format remains unchanged from its previous value. Since Promsoft_C does NO checking of data read from a PC data file, it is the responsibility of the operator to ensure that any PC data file transmitted to the Programmer is of the currently selected I/O Format.

```
Promsoft_C          Copyright BYTEK Corp. 1988          Revision 2.0

(07)  A-B10F              (03)  A-B10F Start code     (06)  A-BHLF
(02)  A-BHLF start code   (05)  A-BNPF               (01)  A-BNPF start
(52)  A-Hex-Apostrophe    (53)  A Hex comma          (58)  A-Hex Comma S
(51)  A-Hex Percent       (56)  A-Hex Percent SOH    (57)  A-Hex SMS
(50)  A-Hex Space         (55)  A-Hex Space SHO      (32)  A-Oct Apostro
(31)  A-Oct Percent       (36)  A-Oct Percent SOH    (37)  A-Oct SMS
(30)  A-Oct Space         (35)  A-Oct Space SOH      (10)  Data I/O Binary
(80)  Farichild Fairbug   (83)  Int Intellec 8/MDS   (88)  Int MCS-86 He
(81)  MOS Technology      (82)  Motorola Exorciser   (87)  Motorola Exor
(70)  RCA Cosmac          (85)  Signetics Abs Obj    (13)  Spectrum
(12)  Spectrum start code (86)  Tektronix Hex       (90)  TI SDSMAC
(20)  BYTEK Binary

Enter number for format or CR for Main Menu:  1
```

When a Programmer or Cel/Program Pack is used for Logic Device programming, Promsoft_C automatically selects the JEDEC file format for all file transfer operations. Since the JEDEC format is selected automatically and is used for Logic Devices only, it is not displayed as a regular menu item.

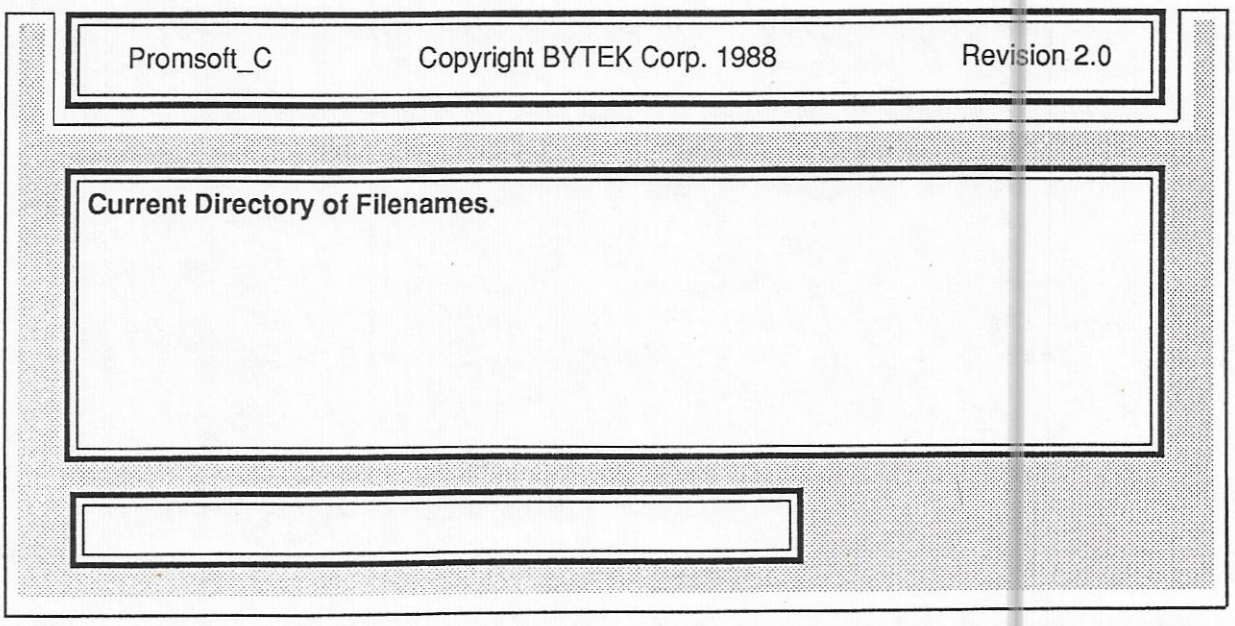
LOAD CONFIGURATION

Use Load Configuration to instantly configure all Promsoft_C parameters to a known value. This command allows different Promsoft_C applications to be activated, one by one, as desired. A configuration file is created with Save Configuration from the Configuration Functions menu. By entering the FILENAME.EXT of a previously saved configuration file, all Promsoft_C parameters are reset to the states they were in when you saved the configuration.



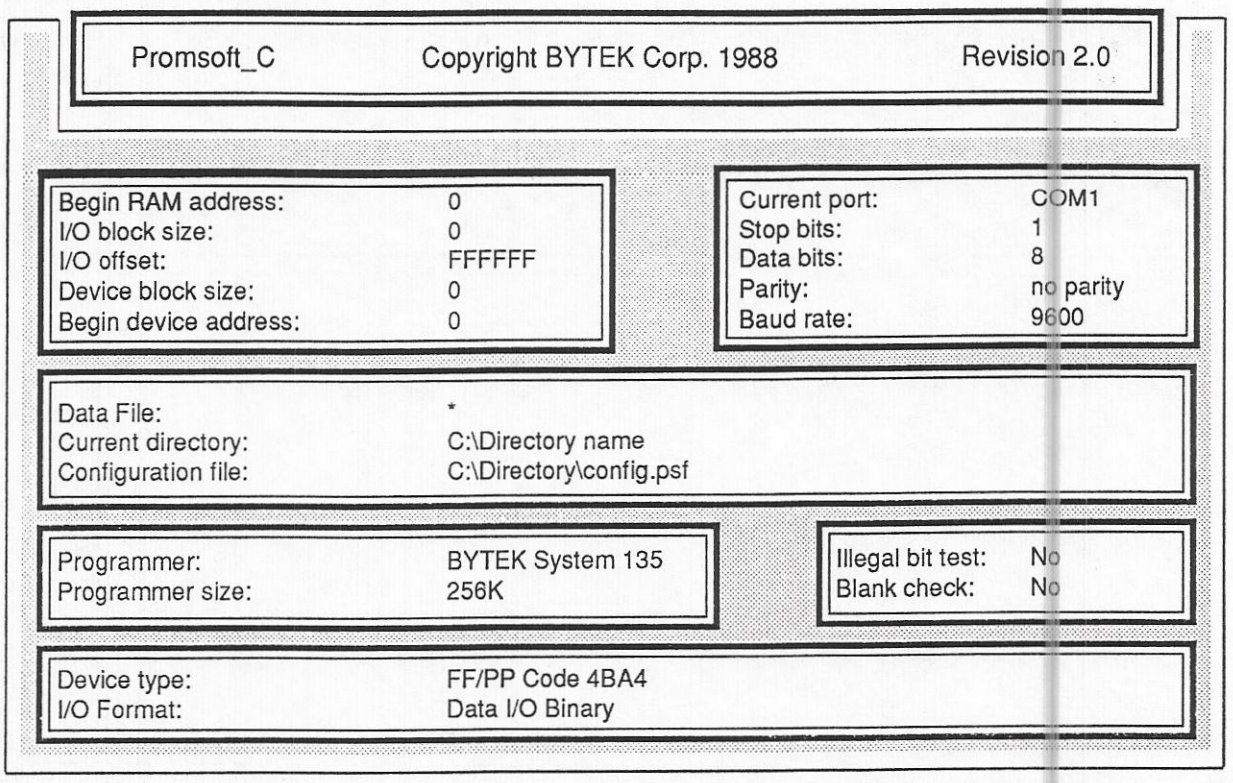
SAVE CONFIGURATION

Promsoft_C allows easy storage of any number of configurations which can be recalled later to restore all Promsoft_C parameters to known previous values. Enter the desired FILENAME.EXT at the prompt. Later, you may execute a Load Configuration (see above) to restore your configuration.



STATUS

This command is used to show the user the current configuration of Promsoft_C and what device Promsoft_C is set up to program.



OTHER

This command is used to either EXIT Promsoft_C or to issue DOS commands from within Promsoft_C itself.