

2.5 Video Display

2.5.1 The Video Display Connector

When holding an MPF-II with the keyboard toward you, the side panel which is the farthest from you is referred to as the back panel on which you can see the connectors reserved for the power supply, ear and microphone jacks, and two holes marked TV and MONITOR, respectively.

A cable (sometimes known as RCA phone cable) is provided for connecting your MPF-II and the video display (which may be either a TV or a monitor). If you choose to connect your MPF-II with a TV, then you must find a switch box which is about two and a half inch long to connect to your video connector cable.

2.5.2 Display Modes

Three display modes are available for the MPF-II:

- 1) TEXT MODE: In text mode, the MPF-II has a display format of 24 rows by 40 columns of alphanumeric characters and special signs. Each character is comprised of a character font of 5 by 7 dot matrix. A one-dot wide space on either side of a character and above each character is used to keep the words apart.
- 2) LOW RESOLUTION GRAPHICS MODE: The MPF-II can display an array of 40 blocks wide and 48 blocks long. Each block may come in any of the six colors: black, white, blue, orange, purple, and yellow. No space is reserved between blocks. Thus, two adjacent blocks form a bigger block.
- 3) HIGH RESOLUTION GRAPHICS MODE: The MPF-II provides an array of 280 dots wide and 192 dots high. Each dot has the same size as that in text mode. Each dot may come in any of the six colors provided also in low resolution graphics mode.

2.5.3 Video Screen Display Buffer

The source of information used in text, low resolution graphics, and high resolution graphics modes is stored in the same area.

2.5.4 Screen Pages

The source of information needed to form a screen

display are actually stored in two areas whose size is exactly the same. One of them is called "primary page", and the other is called "secondary page". The secondary page is needed for storing screen information which you want to display instantly. But if your MPF-II is of the version with only 16K RAM, the primary page or "page 1" is actually the secondary page or "page 2". The memory locations used for screen display information are illustrated in Table 3.

Table 2-3 Screen Display Memory Locations

Page 1		Page 2	
Starting Address			
Hexadecimal	Decimal	Hexadecimal	Decimal
2000	8192	3FFF	16383
Ending Address			
A000	40960	BFFF	49151

2.5.5. Screen Switches

To decide which mode and page is to be used for screen display, we use screen switches. However, you can not touch and see these switches, because these switches are controlled by the software (program) of the MPF-II. Each switch corresponds to a specific memory location. Each time a program is used to turn on or turn off (toggle) a switch, it simply references the specific memory location of that switch. Though data is read from or written to that memory location each time the program references that memory location, it is the reference of that memory location that actually toggles the switch. Since these switches are controlled by the software, they are generally known as "soft switches".

There are four memory locations used as soft switches. They come in pairs. Therefore, when one switch is turned on, the other in the pair is always off. Table 4 lists the addresses of the switches:

Table 2-4 Screen Switches

Address			Functions
Hex	Decimal		
C050	49232	-16304	Display graphics mode
C051	49233	-16303	Display text mode
C054	49236	-16300	Display page 1
C055	49237	-16299	Display page 2