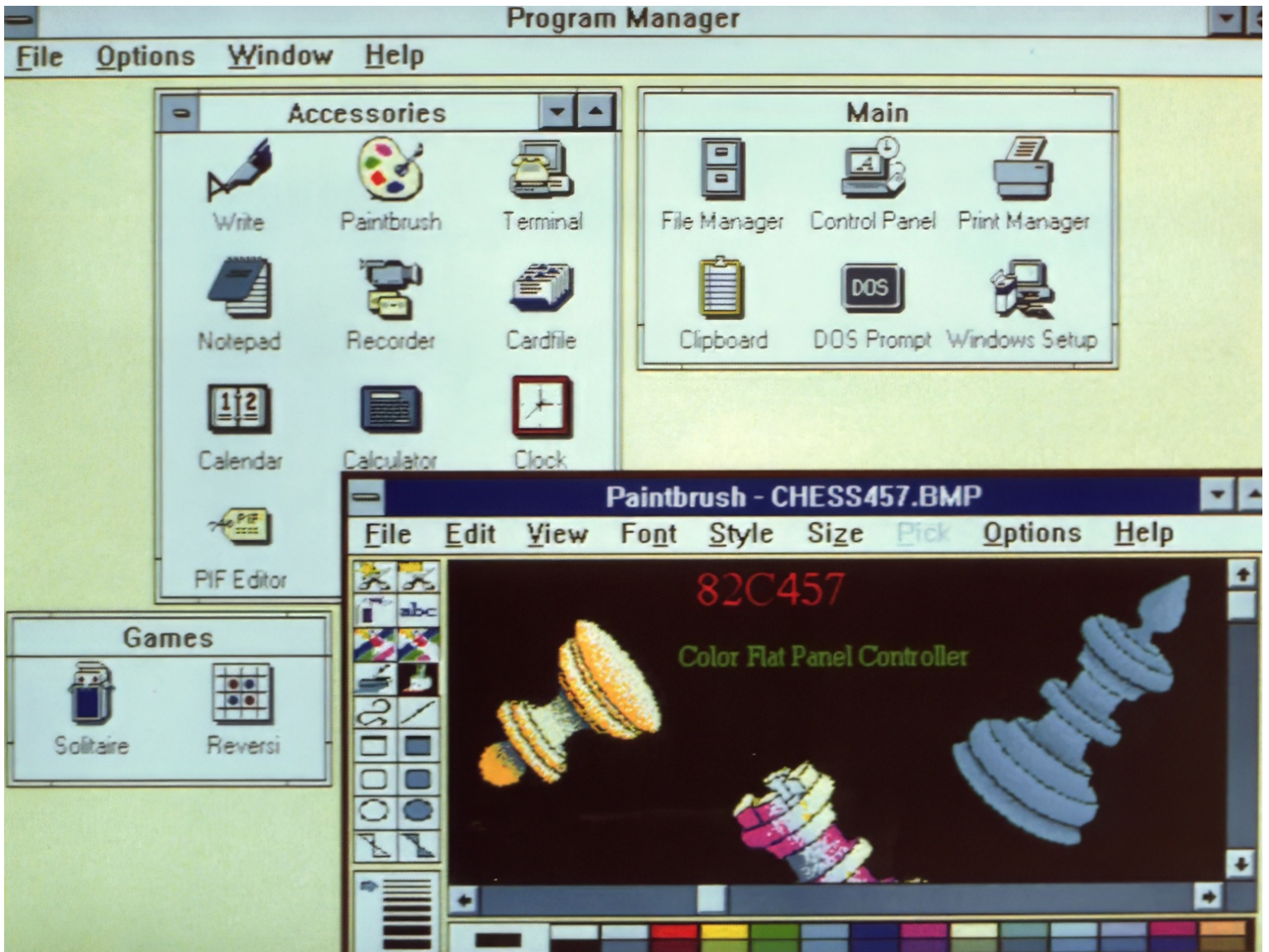


Chips & Technologies 82C457 (IBM VGA (640 x480) Color Flat Panel Controller)



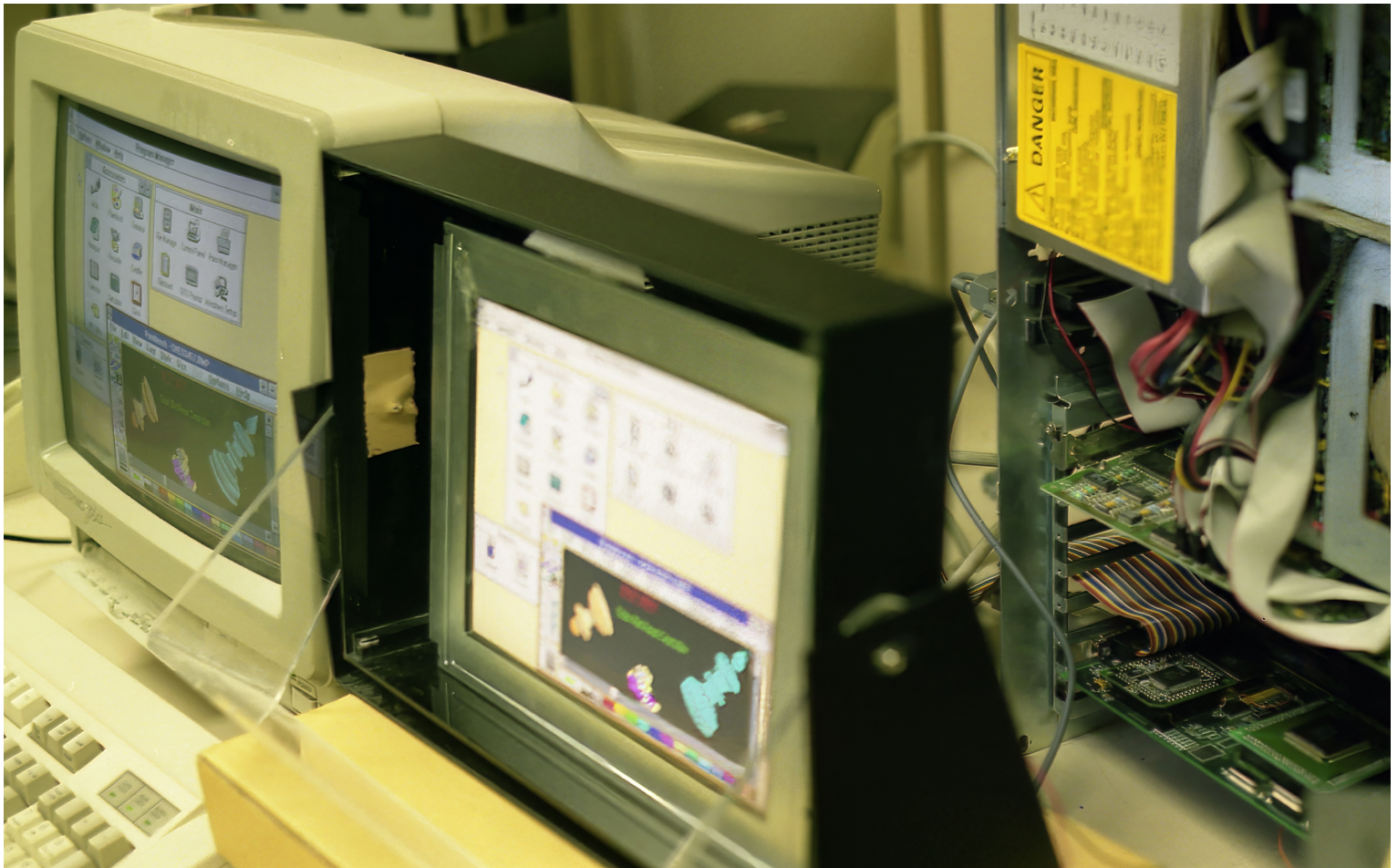
Demo screen on color TFT (Thin Film Transistor) flat panel running **Microsoft Windows 3.0** driven by 82C457

VGA Mode	Backward compatibility	Resolution	Display mode	Colors	Text size	Clock frequency
0, 1	CGA/EGA/VGA	320 x 200	Text	16	8 x 8	25.175 MHz
2, 3		640 x 200				
4, 5		320 x 200	Graphics	4		
6		640 x 200				
7	MDA/Hercules/EGA/VGA	720 x 350	Text	B/W	9 x 14	28.322 MHz
D	EGA/VGA	320 x 200	Graphics	16	8 x 8	25.175 MHz
E		640 x 200				
F		640 x 350		B/W	8 x 14	
10		640 x 350		16		
11	VGA	640 x 480	Graphics	2	8 x 16	25.175 MHz
12		640 x 480		16		
13		320 x 200		256	8 x 8	

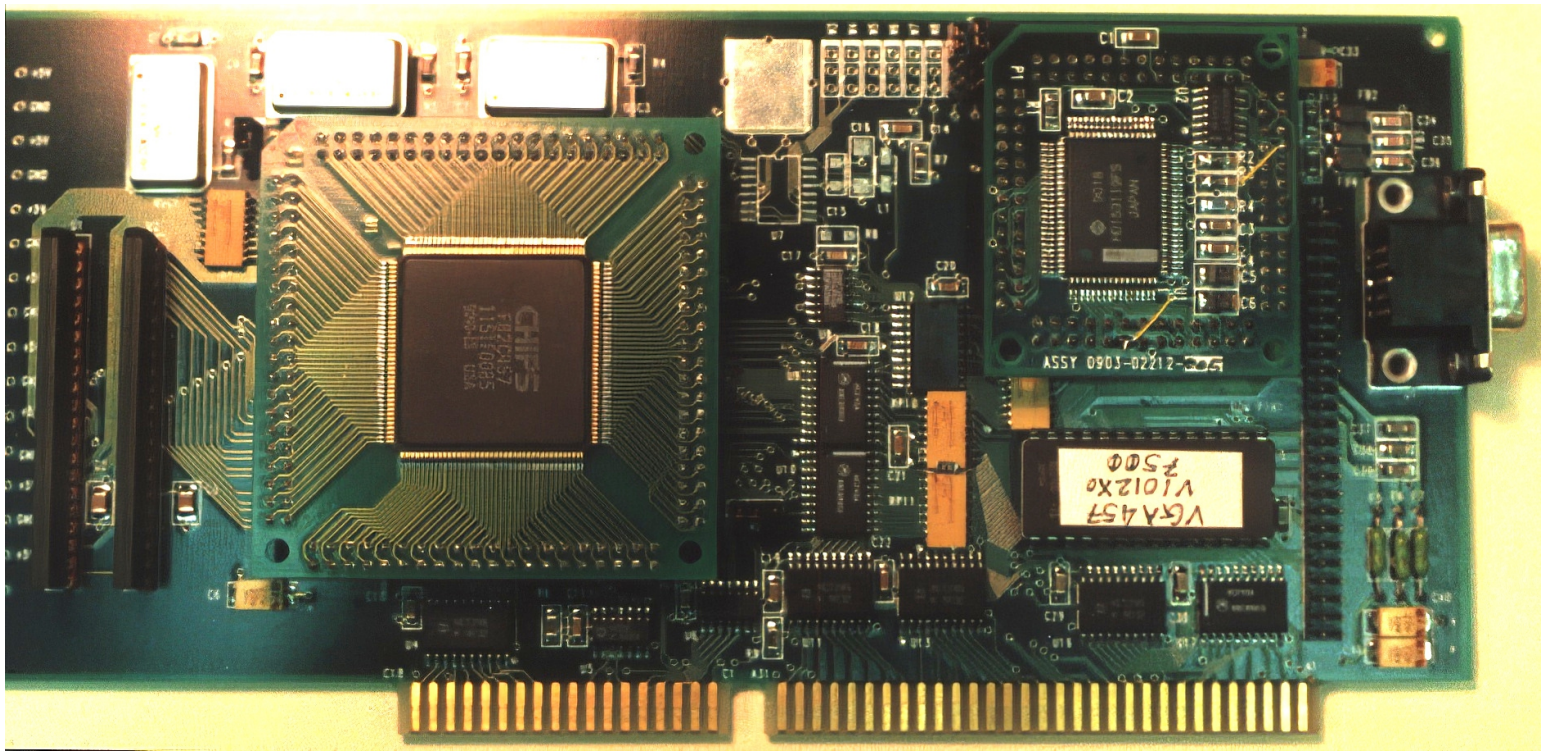


Simultaneous display
on

14" CRT monitor TV (NEC MultiSync Plus) & 10.5" Sharp TFT (Thin Film Transistor) color flat panel
(Display quality of digital flat panel was much better than analog CRT (Cathode Ray Tube))



82C457 Evaluation board (Lower right) driving CRT through VGA connector & flat panel through 50 pin flat cable



82C457 Evaluation board

This evaluation board assembles,

- Chips & Technologies 82C457 VGA Color flat panel controller
- 2 pieces of Toshiba [TC511665](#) 64kx16 ZIP DRAMs
- Hitachi RAMDAC [HD15319](#) with RGB color information (6 bits each; R[5:0], G[5:0], B[5:0]) fed back to 82C457 for color processing.
- 28 pin Flat panel graphics BIOS EEPROM
- 3 pieces of crystal oscillators (25.175 MHz, 28.322 MHz, 40.000 MHz) to keep backward compatibility of CGA/MDA/Hercules/EGA (VGA mode 0 through 13)
- VGA connector for connecting analog CRT
- 50 pin flat cable connector for connecting digital flat panel

Chips & Technologies manufactured own companion chips below especially for flat panel graphics LSIs.

- [82C401](#) Flat Panel/CRT Clock Synthesizer to provide 3 frequencies programmable from a 14.318MHz crystal oscillator (for flat panel, one of 12 different frequencies to select **highest possible frame frequency**).
- [82C460](#) Flat Panel Color Palette
- [82C411](#) Flat Panel Color Palette/DAC (Compatible function with HD15319 above)

Dithering



Dithering at a certain frame display by 82C457



Final display all frames combined by 82C457