

Windows* 98 MS-DOS* Box Game Compatibility

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1. Introduction

The PC 99 Design Guide advocates elimination of the legacy ISA-based audio hardware interfaces. A “legacy-free” architecture is “digital-ready”, and supports cost-reduced built-in audio as well as external audio via USB and IEEE 1394.

In support of MS-DOS games on legacy-free systems, Windows* 98 provides kernel-mode WDM* drivers that emulate the legacy hardware Sound Blaster* Pro, MPU 401* MIDI UART, and legacy joystick interfaces. For music synthesis Windows 98 provides a high quality kernel-mode wavetable General MIDI synthesizer, which is available to MS-DOS games via the emulated MPU 401 interface.

The Intel Platform Architecture Lab (PAL) contracted Computer Product Testing Service Inc. (CPTS) in New Jersey (732.223.5700) to perform compatibility testing of Windows 98 legacy audio emulation services with an evaluation of 400 MS-DOS games on the final release of Windows 98. Selection criteria for MS-DOS game titles tested included:

- Cumulative sales data for 1994-1997 (latest available data)
- Game title lists provided by Intel, Microsoft, and PC OEMs
- Popularity as reported by computer gaming magazines and Internet sites
- Availability of the title on CD-ROM (not a requirement)

Test procedures were co-developed with Microsoft staff, who have also reviewed and endorsed the accuracy of the results.

1.1 Goals of Windows 98 MS-DOS Game Compatibility testing:

1. Obtain Windows 98 MS-DOS box game compatibility data for 400 MS-DOS games with the following configurations:
 - a) Windows 98 MS-DOS box with software emulation of legacy hardware interfaces (Windows 98 emulation)
 - b) Windows 98 MS-DOS box with legacy hardware (Creative Labs* Sound Blaster Pro card w/ OPL3*)
2. Enable OEMs to make informed feature vs. cost decisions based on well-characterized and reproducible levels of MS-DOS game compatibility for legacy-free PC systems.

2. Summary of test results

The following table summarizes the raw data from the test. Subsequent sections discuss the results by category.

Windows 98 MS-DOS Box Game Compatibility Test Results			
Category of game	Games Tested	Windows 98 emulation (passed/total)	Legacy hardware (passed/total)
Top 20 cumulative bestseller MS-DOS games <i>(1994-1997 data)</i>	20	18/20 = 90%	18/20 = 90%
Recent wavetable MS-DOS games <i>(EXE dated 1995-pres, non FM-only, supports wavetable MIDI)</i>	167	142/167 = 85%	136/167 = 81%
Recent MS-DOS games <i>(EXE dated 1995-pres)</i>	191	143/191 = 75%	159/191 = 83%
Non FM-only MS-DOS games <i>(EXE dated 1991-pres; doesn't require FM synth, may support wavetable MIDI)</i>	303	224/303 = 74%	230/303 = 76%
All MS-DOS games tested <i>(EXE dated 1991-pres)</i>	408	224/408 = 55%	314/408 = 77%

* Brand, name, or trademark owned by another company.

2.1 All MS-DOS Games Tested

408 games dated 1991-present were tested, providing a comprehensive sample of the entire installed base of MS-DOS games. The list was somewhat heavy on older games - over half of the games tested (217/408) were dated 1994 or earlier.

Note that ~23% of all games tested were not compatible with the Windows 98 MS-DOS box, and did not run with either the Windows 98 emulation or legacy hardware. Some of these games are incompatible with Windows 98 MS-DOS box by design (proprietary memory extenders, hardware access techniques, etc.); others are sensitive to the differences between *real mode MS-DOS* and Windows 98 *virtual mode MS-DOS box* implementation.

2.2 Non FM-Only MS-DOS games

Games classified as FM-Only require direct access to FM synthesis hardware, and do not support a General MIDI configuration option. It is difficult to emulate FM synthesis, and the resultant music quality is not comparable to wavetable MIDI. Windows 98 emulation traps IO accesses to the FM synthesis port (so that games which use FM do not hang up), but does not actually support FM synthesis.

Eliminating FM-Only games provides an “apples to apples” comparison between emulation and hardware for the category of games that Windows 98 was designed to support. 105 of the 408 games tested were FM-Only and *therefore by definition* not compatible with Windows 98 emulation. Although many of the FM-Only games run in a Windows 98 MS-DOS box, they were all reported as overall failures in the emulation test, due to missing FM-based music or sound effects.

Unless a third-party WDM-compatible software FM synthesis module is developed, FM-Only games will not be able to play FM-based music or sound effects on legacy-free PC 99 systems running Windows 98. Note that deployment of such a module will only marginally improve FM-Only compatibility because games in this category are most likely to have other problems running in a Windows 98 MS-DOS box (85 of the 105 FM-Only games date prior to 1995).

2.3 Recent MS-DOS Games

Recent games have EXE dated 1995 or later, and are much more likely to have been designed for compatibility with the Windows 9x MS-DOS box implementation. Recent games also tend to support higher resolution graphics and better quality digital audio and music synthesis.

2.4 Recent Wavetable MS-DOS Games

167 games tested have EXE dated 1995 or later and support General MIDI for wavetable music syntheses. This is by far the most important category of MS-DOS games because these are in general the games that:

- look good (support for high resolution graphics)
- sound good (16-bit digital audio, support for wavetable MIDI)
- are most likely to run in a Windows 98 MS-DOS box
- are still available for purchase

For this category of games, the Windows 98 legacy emulation actually delivered *better compatibility* than the legacy hardware:

- Windows 98 emulation: 142 out of 167 pass = 85%
- Legacy hardware: 136 out of 167 pass = 81%

2.5 Top 20 Cumulative Bestseller MS-DOS Games

Of the top 20 cumulative bestseller MS-DOS game titles (latest available data 1994-1997), 19 fall into the recent wavetable MS-DOS category, and 18 of those passed the Windows 98 emulation test:

- | | | |
|---|--|--|
| 1. Duke Nukem 3D | 9. Ultimate Doom Thy Flesh | 17. 7th Guest |
| 2. Warcraft II: Tides of Darkness | 10. Warcraft: Orcs & Humans | 18. Descent |
| 3. Microsoft Flight Simulator | 11. Command & Conquer | 19. Madden NFL '97 |
| 4. Doom II | 12. Star Wars Rebel Assault II | 20. Where In World Is Carmen
Sandiego |
| 5. Quake | 13. <i>(X-Wing Collector's CD -
pre-1995; failed both tests:
emulation and hardware)</i> | |
| 6. Dark Forces | 14. Doom (Shareware Version) | |
| 7. Heretic | 15. TIE Fighter | |
| 8. <i>(NASCAR Racing - failed
both tests: emulation and
hardware)</i> | 16. Mechwarrior II | |

3. Games Available for Purchase vs. Installed Base

An informal survey of Yahoo's 9 Featured Online Games Merchants shows that ~10% of games currently available for purchase are MS-DOS titles, and these fall predominantly into the "Recent Wavetable MS-DOS Games" category.

The Windows 98 MS-DOS game compatibility data suggests that as PC 99 phases in, OEMs will begin to make choices about which categories of games to support - and this may vary from Basic PC to Performance PC, desktop to mobile.

Windows 98 Legacy-free audio by category		
Category	Windows 98 compatibility	% titles for sale
Win32* and DirectX* 3D games	100%	~90%
Recent wavetable MS-DOS games (1995-pres, post-Win95, designed for Win9x MS-DOS box, support wavetable synthesis)	85%	~10%
Older MS-DOS games (1990-1994, pre-Win95, designed for real mode MS-DOS, may require FM synthesis)	<50%	~0%

4. Windows 98 MS-DOS Box vs. Real Mode MS-DOS

For running games in a Windows 98 MS-DOS box, Windows 98 emulation offers MS-DOS game compatibility comparable to legacy hardware for all but the oldest games. Depending on the category of interest, 77-90% of the MS-DOS titles tested run in the Windows 98 MS-DOS box. No Sound Blaster compatible audio hardware can be expected to perform significantly better than this under Windows 98. This data supports the PC 99 System Design Guide requirement that *eliminates use of any legacy hardware solutions for running MS-DOS games in a Windows 98 virtual MS-DOS box* (including those that make use of PC/PCI, DDMA or other proprietary techniques).

For running games in real mode MS-DOS, the story is different: ~99% compatibility is theoretically achievable. However support for real mode MS-DOS is not trouble free, and comes with its own potential issues:

- Real mode MS-DOS cannot meet PC customers' growing ease-of-use expectations (*Double-click for program launch, etc.*)
- Real mode MS-DOS requires the user to perform hardware and software configuration (*IO, IRQ, DMA, CONFIG.SYS and AUTOEXEC.BAT environment, peripherals, etc.*)
- Real mode support adds cost and conflicts with ISA elimination (*hardware required for legacy resources, for ISA or PC/PCI, DDMA and/or other proprietary techniques*)
- Propagates the expectation that every MS-DOS application ever written should run in a Windows 98 MS-DOS box

Any scenario that supports MS-DOS games, whether real mode MS-DOS or Windows 98 MS-DOS box, has exposure to potential customer support calls.

5. Conclusion and Recommendation

Conclusion: Windows 98 emulation is comparable to hardware for running recent wavetable MS-DOS games in a Windows 98 virtual MS-DOS box.

Recommendation: Vendors of legacy-free PCs re-calibrate user expectations to the following categories of games:

- All Win32 and DirectX games
- MS-DOS games which are confirmed to be "Windows 98 MS-DOS box compatible" (includes all 224 MS-DOS games listed in Appendix B which passed Windows 98 MS-DOS box compatibility testing and any additional MS-DOS games not listed in Appendix B but tested to be compatible with Windows 98 emulation)

The recommended policy eliminates support for oldest and most problematic MS-DOS games, supports a vast majority of the games currently available for purchase, and reduces customer support call exposure by minimizing time spent on the phone if a support call does come in.

Appendix A. Test Configuration and Procedures

Test System Hardware (models a legacy-free PC 99 minimum system – see PC 99 Design Guide):

1. 266 MHz Pentium® II processor w/ 512K cache
2. 32 MB system RAM
3. Philips DSS 350 USB speakers
4. USB joystick
5. Sony CDU 711E 32x CD-ROM drive
6. UDMA HD
7. AGP graphics
8. No ISA devices

Test System boot AUTOEXEC.BAT Configuration

The AUTOEXEC.BAT contains no entries.

For best Windows 98 MS-DOS box game compatibility, the boot AUTOEXEC.BAT on the OEM system image should observe the following recommendations:

1. No “SET BLASTER=” environment string
2. Use LH (Load High) option for any MS-DOS mode drivers that must be loaded
3. Run MEMMAKER to maximize utilization of High Memory (as necessary)

Test System boot CONFIG.SYS Configuration

The CONFIG.SYS contains the following:

DEVICE=c:\windows\himem.sys

DEVICE=c:\windows\emm386.exe RAM

dos=UMB

dos=HIGH

For best Windows 98 MS-DOS box game compatibility, the boot CONFIG.SYS on the OEM system image should observe the preceding settings, which provide maximum conventional and expanded memory to MS-DOS games in a Windows 98 MS-DOS box.

Application Configuration

1. No games will be tested with MS-DOS box PIF settings that force an exit to real mode MS-DOS.
2. All games will be initially tested with MS-DOS PIF set to "Suggest MS-DOS mode".
3. Games which fail will be re-tested with MS-DOS PIF set to “Prevent detection of Windows”.

To access the Command Prompt or MS-DOS title’s PIF settings right-click on the program icon or shortcut, select Properties, then select Program panel, then Advanced.

Legacy-free System Configuration and Verification Procedure

- 1) Remove any sound card and/or disable onboard audio through the BIOS
- 2) Reformat the hard disk and perform a clean install of the Windows 98 final (RTM) CD
- 3) Windows 98 Device Manager must show a Universal Serial Bus controller (typically a PCI to USB Universal host controller). If it doesn't, go into BIOS configuration, PCI config subsection, to enable the USB controller. Once the USB controller is configured, Device Manager should show the USB Controller and a USB Root Hub.
- 4) Attach Philips DSS 350 USB speakers – confirm successful Plug and Play configuration
- 5) Attach USB joystick – confirm successful Plug and Play configuration
- 6) To confirm the system setup, install final Doom 1.9 (DOOM19s.ZIP from GT Interactive web site)
- 7) Configure Doom for keyboard and joystick, and General MIDI
- 8) Play away - everything should be functional: audio, music, joystick
- 9) If Doom plays OK then green light to proceed with the testing

Install – Autodetect Test Procedure

- 1) Use Delete or Deltree on previously installed MS-DOS game directories to revert to a clean Windows 98 image
- 2) Reboot the system to Windows 98 GUI
- 3) Launch the title’s setup from MS-DOS box with PIF set to “suggest MS-DOS mode”
- 4) Select “Autodetect” or default Sound Blaster driver if presented by setup
- 5) Select General MIDI (MPU 401) with default settings for music playback. If the title uses music, but only supports FM synthesis, this will be noted.
- 6) Select the joystick and keyboard for control devices, if supported
- 7) If presented with a dialog “Can’t find sound card – configure anyway?” select Yes
- 8) Save settings and attempt to proceed to **Game Play**
- 9) If autodetect setup fails to automatically detect and configure the audio driver, or if **Game Play** cannot be initiated proceed to **Install - Manual**

Install – Manual Test Procedure

- 1) Reboot the system to Windows 98 GUI
- 2) Launch the title’s setup from MS-DOS box with PIF set to “suggest MS-DOS mode”
- 3) Select the audio driver in the following order (depending on what is supported by the title):
Sound Blaster Pro 2.0, Sound Blaster Pro, Sound Blaster
- 4) Configure Sound Blaster IO 220
- 5) Configure General MIDI (MPU 401) IO 330
- 6) Configure Interrupt 5
- 7) Configure DMA channel 1
- 8) If presented with a dialog “Can’t find sound card – configure anyway?” select Yes
- 9) If manual setup is successful, save settings and proceed to **Game Play**

Game play - Test Procedure

1. Launch the title from MS-DOS-box within Windows 98 with PIF set to “suggest MS-DOS mode” and play for at least one full level to verify the following:
2. Audio: Does natural-sounding audio play to the digital speakers?
3. Music: Does natural-sounding music play to the digital speakers? If the title does not support General MIDI, but plays well otherwise, this will be noted.
4. Joystick: Is the digital joystick fully functional and responsive?
5. Overall: Is the title fully playable (audio, music, joystick, no other unusual behavior)?

Test Report Format

All games were tested according to the procedures outlined above. Report format is an Excel spreadsheet in the following format:

Title	Date	Publisher	Media	Auto	Manual	FM	Audio	Music	Joystick	Overall	Notes
			CD, F	NT, OK, X	NT, SBxx, X	NT, Y	NT, OK, X	NT, OK, X	NT, OK, X	OK, X	Comment

Key
CD = CD-ROM
F = Floppy
NT = not tested
OK = tested and passed
X = tested and failed
SBPro2 = passed as SBPro2
SBPro = passed as SBPro
SB = passed as SB
SBxx = one of above 3 choices
Y = FM only

Appendix B. Test Results for 408 MS-DOS games: Windows 98 Emulation

224 out of 408 passed. Sorted first for pass/fail (OK/X) by **Overall** column, then alphabetically by **Title** column.

Title	Date	Publisher	Media	Auto	Manual	FM	Audio	Music	Joystick	Overall	Notes
7th Guest	1992	Virgin	CD	X	SB/GEN MIDI	NT	OK	OK	NT	OK	
Absolute Zero	1996	Domark	CD	OK	NT	NT	OK	OK	OK	OK	
Abuse	1996	Crack Dot Com	CD	OK	NT	NT	OK	OK	OK	OK	
Aces Collector's Edition - A10 Tank Killer	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Aces of the Pacific	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Aces over Europe	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Red Baron	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Of The Deep	1997	Sierra/Dynamix	CD	OK	NT	NT	OK	OK	OK	OK	
Action Challenger	1995	GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
AD&D Masterpiece Collection	1995	Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	
Advanced Civilization	1995	Avalon Hill Game Company	CD	OK	NT	NT	OK	OK	NT	OK	
Ancients I: Death Watch	1993	Epic Megagames	CD	OK	NT	Y	OK	X	NT	OK	Requires FM for music
Anvil of Dawn	1995	New World Computing	CD	X	SBPro/MPU4 01	NT	OK	OK	NT	OK	
Ascendancy	1995	Logic Factory	CD	OK	NT	NT	OK	OK	NT	OK	
Black Knight	1995	SE Software/FormGen	CD	NT	SBPro/GenMIDI	NT	OK	OK	OK	OK	
Blackthorne	1994	Interplay/Blizzard	CD	NT	Sbpro/GenMIDI	NT	OK	OK	NT	OK	
Blood	1997	Monolith/GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Bodyworks 3.0	1993	Software Mktg. Corp.	CD	OK	NT	NT	OK	NT	NT	OK	
Bombman	1996	Israel Geron T.	CD	OK	NT	NT	OK	OK	NT	OK	
Caesar 2	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Case of the Cautious Condor, The	1994	Tiger Media	CD	OK	NT	NT	OK	OK	NT	OK	
Castle of Dr. Brain	1992	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
Colonization	1994	Microprose	CD	OK	OK	NT	OK	OK	NT	OK	
Comanche 3	1997	NovaLogic	CD	NT	OK	NT	OK	OK	OK	OK	Must use prevent detection pif
Comanche Max Overkill w/Ex Disk	1996	Nova Logic	CD	X	OK	NT	OK	OK	OK	OK	Must use prevent detection pif
Command & Conquer	1995	Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Command & Conquer: Red Alert	1996	Westwodd/Virgin	CD	OK	NT	NT	OK	OK	OK	OK	
Conquest of the New World	1995	Interplay	CD	X	SBPro	NT	OK	NT	NT	OK	There is no music in this game
Creature Shock	1995	Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Creep Clash	1994	47Tek, Inc.	CD	OK	NT	NT	OK	OK	OK	OK	
Curves Pilot	1996	iQuest Software	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Cyberia	1995	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	
Cyberia 2: Resurrection	1995	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	
Dark Forces	1995	LucasArts/Virgin	CD	X	SBPro/GEN MIDI	NT	OK	OK	OK	OK	
Day of the Tentacle	1993	Lucas Arts	CD	NT	SBPro/GenMI	NT	OK	OK	NT	OK	

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Death Gate	1994	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
Descent	1996	Interplay	CD	X	SBPro/GEN MIDI	NT	OK	OK	NT	OK	Crashes with auto-detect
Descent II	1997	Parallax/Interplay	CD	X	SBPro/GEN MIDI	NT	OK	OK	NT	OK	Crashes with auto-detect
Dig, The	1996	LucasArts	CD	OK	NT	NT	OK	OK	NT	OK	
Doom	1994	Id Software	CD	NT	SBPro/GEN MIDI	NT	OK	OK	OK	OK	
Doom II: Hell on Earth	1995	iD / GT Interactive / Virgin	CD	NT	SBPro/GEN MIDI	NT	OK	OK	OK	OK	
Dragon Lore	1994	Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	Muse use prevent detection pif
Duke Nukem 2	1994	Apogee	CD	OK	NT	NT	OK	OK	OK	OK	
Duke Nukem 3D	1996	3D Realms/GT Interactive	CD	NT	SBPro/GEN MIDI	NT	OK	OK	OK	OK	
Earth 2140	1997	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Earth Siege: Metaltech	1994	Sierra On-Line	CD	X	SBPro/Roland	NT	OK	OK	OK	OK	Must use no detect PIF
Earthworm Jim	1996	Funsoft	CD	OK	NT	NT	OK	OK	OK	OK	
Elder Scrolls II: Daggerfall	1996	Bethesda	CD	OK	NT	NT	OK	OK	NT	OK	
Emergency Room Intern	1997	Legacy Software	CD	OK	NT	NT	OK	OK	NT	OK	
Empire II: The Art of War	1996	White Wolf	CD	OK	NT	NT	OK	OK	NT	OK	
Epic Pinball Version 1	1993	Epic Megagames	CD	OK	NT	NT	OK	OK	NT	OK	
Epic Pinball Version 2	1994	Epic Megagames	CD	OK	NT	NT	OK	OK	NT	OK	
Even More Incredible Machine	1996	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Extreme Pinball	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Eye of the Beholder III: Assault on Myth Drannor	1992	Ssi	CD	OK	NT	NT	OK	OK	NT	OK	
F15 Strike Eagle III	1993	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
F-22 Lighting	1995	NovaLogic	CD	X	OK	NT	OK	OK	OK	OK	Must use prevent detection pif
F-22 Lightning II	1996	Nova Logic	CD	X	OK	NT	OK	OK	OK	OK	Must use prevent detection pif
Fade To Black	1995	Electronic Arts	CD	X	SBPro/GEN MIDI	NT	OK	OK	OK	OK	use "-w" switch to play in DOS box under Windows
Falcon Gold Flight Simulator	1995	Spectrum Holobyte	CD	OK	NT	NT	OK	OK	OK	OK	
Fantasy General	1995	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
Fast Attack	1996	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
FIFA International Soccer	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
FIFA Soccer '96	1996	EA Sports/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
FIFA Soccer '97	1997	EA Sports/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Fighter Duel	1996	Philips Interactive	CD	OK	NT	NT	OK	OK	OK	OK	
Flight Unlimited	1995	Virgin / Looking Glass	CD	OK	NT	NT	OK	OK	OK	OK	
Front Page Sports Football Pro '95	1995	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Front Page Sports Football volume 1 no. 1	1994	Dynamix / Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Front Page Sports: Football Pro!	1994	Dynamix	CD	OK	NT	NT	OK	OK	NT	OK	
Full Throttle	1994	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
FX Fighter	1995	GTE Entertainment	CD	OK	NT	NT	OK	OK	OK	OK	
Gabriel Knight: Sins of the Father	1994	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	

Game Pack 2	1995	Formgen	CD	OK	NT	NT	OK	OK	OK	OK	
Grand Prix II	1997	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
Hardball 4	1995	Accolade	CD	OK	NT	NT	OK	OK	NT	OK	
Hardball 5	1997	Accolade	CD	OK	NT	NT	OK	OK	OK	OK	
Heretic	1994	GT Interactive	CD	OK	NT	NT	OK	OK	OK	OK	
Heroes of Might & Magic	1995	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	
Heroes of Might & Magic II	1996	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	
Hexen	1995	Raven/Id/GT Interactive	CD	NT	OK	NT	OK	OK	OK	OK	
Hexxagon	1993	Software Creations	F	OK	NT	NT	OK	OK	NT	OK	
Indiana Jones Fate of Atlantis	1993	LucasArts	CD	NT	SBPro/GenMI DI	NT	OK	OK	OK	OK	
Interplay Sampler	1996	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Jagged Alliance: Deadly Games	1996	Sir-Tech	CD	NT	SBPro/GenMI DI	NT	OK	OK	NT	OK	
Jane's Advance Tactical Fighter	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
Jet Fighter III	1996	Mission Studios	CD	OK	NT	NT	OK	OK	OK	OK	
Jumpman Lives!	1996	Apogee	F	OK	NT	NT	NT	NT	NT	OK	This game doesn't support ANY sound cards - PC speaker only!
Kidkeys	1995	Davidson	F	OK	NT	NT	OK	OK	NT	OK	
King's Quest VI	1993	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
King's Quest VII	1996	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Lands of Lore: The Throne of Chaos	1994	Westwood	CD	OK	NT	NT	OK	OK	NT	OK	
Leisure Suit Larry 6	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Lemmings 3D	1995	Psygnosis	CD	OK	NT	NT	OK	OK	NT	OK	
Links LS/Arnold Palmer At Latrobe	1996	Access	CD	OK	NT	NT	OK	OK	NT	OK	Must use prevent detection pif
Little Big Adventure	1994	EA	CD	OK	NT	NT	OK	OK	NT	OK	
Lords of the Realm	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
M.A.X.	1996	Interplay	CD	NT	SBPro	NT	OK	OK	NT	OK	
Madden NFL '97	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Magic Carpet	1993	EA/Bullfrog	CD	NT	SB	NT	OK	OK	OK	OK	
Magic Carpet 2	1994	EA/Bullfrog	CD	OK	NT	NT	OK	OK	NT	OK	
Majestic: Alien Encounter	1996	Piranha	CD	OK	NT	NT	OK	OK	NT	OK	
Master of Orion	1996	Microprose	CD	OK	NT	NT	OK	OK	NT	OK	
Master of Orion II: Battle at Antares	1996	Microprose	CD	OK	NT	NT	OK	OK	NT	OK	
MDK	1996	Shiny Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
MechWarrior II	1996	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Metal Knights	1994	D'Vincent Software	CD	OK	NT	NT	OK	OK	OK	OK	
Metaltech Earth Siege	1994	Sierra On-Line	CD	X	SBPro/Roland	NT	OK	OK	OK	OK	Must use no detect PIF
Mickey's 123's	1993	Disney	F	NT	SB	NT	OK	OK	OK	OK	Must use no detect PIF
Mickey's ABC's	1992	Disney	F	NT	SB	NT	OK	OK	OK	OK	Must use no detect PIF
Mickey's Colors and Shapes	1993	Disney	F	NT	SB	NT	OK	OK	NT	OK	Must use no detect PIF
Microsoft Flight Simulator	1995	Microsoft	CD	NT	SBPro	NT	OK	NA	OK	OK	There is no music in this program
Microsoft Space Simulator	1994	Microsoft	CD	NT	Roland MT32	NT	NA	OK	NT	OK	There is only music in this program - no SFX
Mission Critical	1994	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	

Moving Gives Me A Stomach Ache	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Murder Makes Strange Deadfellows	1995	Tiger Media	CD	OK	NT	NT	OK	OK	NT	OK	
NBA Live '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
NCAA Championship Basketball	1994	Mindscape	CD	OK	NT	NT	OK	OK	OK	OK	
Need For Speed	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
NHL Hockey	1994	Electronic Arts	CD	NT	Roland MT32	NT	X	OK	OK	OK	No speech or SFX play - music quality is excellent
NHL Hockey '95	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
NHL Hockey '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Nuke It - Duke Nukem 3D Add-On	1996	Micro Star	CD	OK	NT	NT	OK	OK	OK	OK	
One Must Fall: 2097	1995	Epic Megagames	CD	OK	NT	NT	OK	OK	OK	OK	
Operation Combat II: Land, Sea & Air	1996	Essex Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Oregon Trail	1992	MECC	CD	OK	NT	Y	OK	X	NT	OK	Requires FM for music
Outer Ridge	1995	Wizard Software	CD	OK	NT	NT	OK	OK	OK	OK	
Pandora Directive: Tex Murphy Novel	1996	Access	CD	OK	NT	NT	OK	OK	NT	OK	
Paper Bag Princess, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
PGA Tour Golf	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
PGA Tour Golf '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Phantasmagoria	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Phantasmagoria 2: Puzzle of Flesh	1996	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Platinum Kings Quest V	1992	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 1	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 2	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 3	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 4	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Primal Rage	1994	Time Warner Interactive	CD	OK	SBPro/Roland	NT	OK	OK	NT	OK	
Quake	1996	iD Software/ GT Interactive	CD	NT	SB	NT	OK	OK	OK	OK	
Quake Shareware	1996	Id Software	CD	NT	SB	NT	OK	OK	OK	OK	
Quake/Scourge of Armagon	1997	Id/GT	CD	NT	SB	NT	OK	OK	OK	OK	
Raptor	1994	Formgen	CD	NT	SB/GEN MIDI	NT	OK	OK	OK	OK	
Rebel Assault 2	1995	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Red Baron/A10	1996	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Redneck Rampage	1997	Xatrix/Interplay	CD	NT	SBPro	NT	OK	OK	OK	OK	
Relentless	1994	EA	CD	OK	NT	NT	OK	OK	NT	OK	
Relentless Twinsen's Adventure	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Return to Zork	1993	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Richard Scarry's Best Neighborhood Ever	1994	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Richard Scarry's Busiest Neighborhood Ever	1994	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Richard Scarry's Busy Town	1993	Paramount Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Rise Of The Triad	1997	Apogee	CD	OK	NT	NT	OK	OK	OK	OK	
Sam & Max Hit The Road	1993	LucasArts	CD	NT	SBPro/GenMIDI	NT	OK	OK	NT	OK	
Sandwarriors	1997	Interplay	CD	X	SBPro	NT	OK	OK	OK	OK	

Scary Poems For Rotten Kids	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Screamer	1995	Virgin/Graffiti	CD	OK	NT	NT	OK	OK	NT	OK	
Secret of Monkey Island, The	1992	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Shannara	1996	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
Shattered Steel	1996	Interplay	CD	X	SBPro/GenMIDI	NT	OK	OK	NT	OK	
Slob Zone	1994	Deep River Publishing	CD	OK	NT	NT	OK	OK	OK	OK	
Space Quest IV	1992	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Space Quest V	1993	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Space Quest VI	1994	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
SSN-21 Sea Wolf	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
Star Command	1997	GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Star Trek The Next Generation: A Final Unity	1994	Spectrum Holobyte	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Star Trek: 25th Anniversary	1992	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	Must use no detect PIF
Star Trek: Deep Space Nine - Harbinger	1996	Viacom New Media	CD	X	SBPro	NT	OK	OK	NT	OK	Fails to find digital audio hardware with autodetect; configures OK manually
Star Trek: Judgement Rites	1995	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Star Wars Rebel Assault	1993	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Steel Panthers	1995	Mindscape/SSI	CD	OK	NT	NT	OK	OK	OK	OK	
Steel Panthers II	1996	SSI/Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	
Stellar 7	1991	Dynamix	CD	OK	NT	NT	OK	OK	NT	OK	
Strike Commander/CD Classics	1995	Origin/EA	CD	OK	NT	NT	OK	OK	OK	OK	
Syndicate	1993	Electronic Arts	F	OK	NT	NT	OK	OK	OK	OK	
Syndicate Plus	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Syndicate Wars	1995	Bullfrog/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
System Shock	1994	Origin	CD	OK	NT	NT	OK	OK	NT	OK	
System Shock Enhanced	1994	Origin	CD	OK	NT	NT	OK	OK	NT	OK	
Tale of Benjamin Bunny, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tale of Peter Rabbit, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tell Tale Heart, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tempest 2000	1995	Atari	CD	NT	SBPro/Roland	NT	X	OK	OK	OK	Only music plays - no speech or SFX play
Terminal Velocity	1995	Formgen	CD	OK	OK	NT	OK	OK	OK	OK	
Terra Nova	1996	Virgin/Looking Glass Tech.	CD	OK	NT	NT	OK	OK	NT	OK	
Terra Nova: Strike Force Centauri	1996	Virgin/Looking Glass Tech.	CD	OK	NT	NT	OK	OK	NT	OK	
TFX: EF2000	1995	GTE Interactive	CD	OK	NT	NT	OK	OK	OK	OK	
The Elder Scrolls: Daggerfall	1996	Bethesda/Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
The Need For Speed	1995	EA	CD	OK	NT	NT	OK	OK	NT	OK	
The Pandora Directive	1996	Access	CD	OK	NT	NT	OK	OK	NT	OK	
Theme Park	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
TIE Fighter	1994	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Tomb Raider	1996	Eidos	CD	X	SBPro	NT	OK	OK	NT	OK	
Tony Larussa Baseball III	1995	Strategic Simulations	CD	OK	NT	NT	OK	OK	NT	OK	
Top Gun	1997	MicroProse	CD	OK	NT	NT	OK	OK	OK	OK	

Transport Tycoon Deluxe	1995	Microprose	CD	OK	NT	NT	OK	OK	NT	OK	
Tristan Pinball	1994	Antex/Little Wing	CD	OK	NT	NT	OK	OK	NT	OK	
U.S. Navy Fighters	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
U.S. Navy Fighters Gold	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultima VII Series	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultima VIII w/Speech	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultimate Fantasy	1995	SOS	CD	OK	NT	NT	OK	OK	NT	OK	
Under A Killing Moon	1994	Access	CD	OK	NT	NT	OK	OK	NT	OK	
Velcro Mind	1998	JazzSoft	CD	OK	NT	NT	OK	OK	NT	OK	
Virtual Pool	1995	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Virtual Snooker	1996	Interplay/Celeris	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft Battle Chest	1996	Blizzard	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft II Expansion Set: Beyond the Dark Portal	1996	Blizzard	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft II: Tides of Darkness	1995	Blizzard / Davidson	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft: Orcs & Humans	1994	Blizzard	CD	NT	SBPro/GEN MIDI	NT	OK	OK	NT	OK	
Werewolf Vs. Comanche	1995	Nova Logic	CD	X	OK	NT	OK	OK	OK	OK	Must use prevent detection pif
Where in the USA is Carmen Sandiego	1993	Broderbund	CD	NT	OK	NT	OK	OK	OK	OK	
Where in the World is Carmen Sandiego	1992	Broderbund	CD	NT	OK	NT	OK	OK	OK	OK	
Wild Learning Safari	1994	Compton's New Media	CD	OK	NT	NT	OK	OK	NT	OK	
Wing Commander III	1995	Origin/Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
Wing Commander IV	1996	Origin/Electronic arts	CD	OK	NT	NT	OK	OK	OK	OK	
Witchaven	1996	Intracorp	CD	OK	NT	NT	OK	OK	NT	OK	
Worms	1996	Team 17/Ocean	F	OK	NT	NT	OK	OK	OK	OK	
Worms/Reinforcements	1996	Team 17	CD	OK	NT	NT	OK	OK	NT	OK	
Z	1996	Virgin Interactive Ent.	CD	OK	SBPro/Roland	NT	OK	OK	NT	OK	
Zone Raiders	1995	Virgin	CD	OK	NT	NT	OK	OK	OK	OK	
Zoop	1997	Viacom New Media	CD	OK	NT	NT	OK	OK	OK	OK	
Zork Nemesis	1996	Activision	CD	OK	NT	NT	OK	OK	OK	OK	
11th Hour: Be Afraid of the Dark	1995	Triobyte/Virgin	CD	X	SBPro	NT	X	X	X	X	Reports "unable to set requested graphic mode" and drops to prompt on launch
3 Point Basketball	1993	MVP Software	CD	OK	NT	NT	X	X	X	X	Reports "divide error" and drops to prompt
3D Body Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
3D Dinosaur Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
3D Trek	1992	Douglas Software	CD	NT	SBPro	Y	OK	X	OK	X	Requires FM for music
4D Boxing	1991	EA Sports/Electronic Arts	F	OK	NT	Y	X	X	NT	X	Requires FM for music - ADPCM digital speech doesn't play
Abyss	1994	Software Visions	CD	NT	SBPro	Y	X	X	NT	X	Must use no detect PIF; game moves very slowly, no audio at all plays
Advanced Tactical Fighter	1996	Electronic Arts	CD	X	X	NT	X	X	X	X	Reports AF.EXE has caused an exception.Access violation; system locks up.
Adventures of Willie Beamish, The	1992	Sierra	CD	OK	NT	NT	X	X	X	X	Reports "unable to initialize hds! Mode=4, port=544" & drops to

											prompt
AH-64D Longbow	1996	Origin/Electronic Arts	CD	OK	NT	NT	X	X	X	X	Must use no detect PIF - reports it needs at least 13.5MB of free memory and drops to prompt
Alien Carnage	1994	Apogee	CD	OK	NT	NT	X	X	X	X	Reports "runtime error 200 at 0774:0091" and drops to prompt
Alien Trilogy	1995	Acclaim	CD	OK	NT	NT	X	X	X	X	No audio at all plays
Alone in the Dark	1993	I-Motion	CD	NT	SBPro	Y	OK	X	NT	X	Uses FM for music
Amazon	1993	Access	CD	NT	SB/Roland	NT	X	X	NT	X	Reports "there was an error when Amazon tried to initialize the selected sound device"
America Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Apache-Gunship	1995	Interactive Magic	CD	OK	NT	NT	X	X	X	X	On launch reports "illegal address has caused a page fault"/drops to prompt & locks up system
Aquanoid	1992	Finger & Heineke Productions	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Avenger	1997	Deadline	CD	NT	SB	NT	X	X	NT	X	Plays no audio at all
Bandit	1993	O'Shea Software	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Baron Baldric	1993	Epic Megagames	CD	OK	NT	NT	X	X	X	X	Configures OK but reports "runtime error 200 at 095D:0091"
Battle Chess	1991	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Battle Chess 4000	1994	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Battle Chess Enhanced	1993	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Battle of Atlantis	1994	Soleau	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Battlestar	1994	Vivid Technologies	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Berenstain Bears Learning At Home	1993	Compton's New Media	F	OK	NT	NT	X	X	X	X	Bombs system on launch
Big Red Racing	1996	Domark	CD	OK	NT	Y	OK	X	NT	X	Plays SFX & Speech only - no music plays
Billy The Kid	1993	Alive Software	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Bio Forge	1995	Electronic Arts	CD	X	SBPro/GEN MIDI	NT	X	X	X	X	Must use no detect pif; on launch reports "program halted by code" and drops to prompt
Bio Menace	1993	Apogee	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Blake Stone	1993	Apogee	CD	OK	NT	Y	X	X	X	X	Reports "Unit: \$8f Error: \$0b" on launch & drops to prompt
Blake Stone: Aliens of Gold	1994	Apogee	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Bloodthirsty	1994	Bertrand Software	CD	OK	NT	Y	OK	x	OK	X	Requires FM for music
Blue Balls	1992	Copeland	CD	OK	NT	Y	OK	x	NT	X	Requires FM for music
Bomber	1995	Patric Piche' Productions	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Brix	1994	Epic Megagames	CD	NT	SBPro	Y	OK	X	NT	X	Requires FM for music
Bug Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	NT	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Busytown (CD-ROM)	1993	Paramount Interactive	CD	NT	SBPro	Y	X	X	NT	X	No audio at all plays
Buzz Aldrin's Race Into Space	1993	Interplay	CD	OK	NT	Y	X	X	NT	X	Game bombs shortly after digital movie w/speech starts - requires FM for music
Carmageddon	1997	Interplay	CD	X	SBPro	NT	OK	X	OK	X	Fails to find or configure for MIDI - bombs if auto detect is used
Castles II: Siege & Conquest	1993	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Catacombs	1992	Softdisk Publishing	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Chess Maniac 5 Billion and 1	1993	Spectrum Holobyte	CD	NT	SBPro/Roland	NT	X	X	NT	X	Bombs as soon as digital speech starts

Christmas Lemmings	1991	Psygnosis	F	OK	NT	Y	NT	X	NT	X	Requires FM for music
Clouds of Xeen	1992	New World Computing	CD	NT	SBPro/Roland	NT	X	X	NT	X	No music plays - game hangs shortly after speech starts
Combat Zone	1993	Rockland Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 2000 at 011B:0091"
Complete Ultima VII, The	1994	Origin	CD	OK	NT	NT	X	X	X	X	Won't run with expanded memory manager active
Corncob 3D	1995	MVP Software	CD	OK	NT	Y	X	NT	X	X	No audio at all plays
Crazy Cars III	1995	Titus Entertainment	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Crusader: No Regret	1996	Origin/Electronic Arts	CD	X	X	NT	X	X	X	X	Won't install; reports Halted file DOSFIX32/DESCRIPT.C, line 284
Crusader: No Remorse	1995	Electronic Arts / Origin	CD	X	X	NT	X	X	X	X	Won't install; reports Halted file DOSFIX32/DESCRIPT.C, line 284
Cylindrix	1995	GoldTree/Hotwarez	CD	OK	NT	NT	X	X	X	X	Does not detect joystick, plays no music, SFX audio quality is poor/distorted
Dagger of Amon Ra	1992	Sierra Online	F	OK	NT	Y	X	X	NT	X	Reports "unable to initialize your audio hardware"
Darkside of Xeen	1993	New World Computing	CD	NT	SBPro/Roland	NT	X	X	NT	X	No music plays - game hangs shortly after speech starts
Desert Storm Command	1994	MVP Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 1519:0091 and drops to prompt
Destruction Derby	1996	Psygnosis	CD	OK	NT	NT	OK	X	NT	X	Requires FM for music - SFX/speech OK
Dracula Unleashed	1993	Viacom New Media	CD	OK	NT	NT	OK	OK	NT	X	Must use no detect PIF; opening audio OK, locks system up when movie starts
Dragon Shard	1992	Bit Brother Software	F	X	X	Y	X	X	OK	X	No audio at all plays
Dragon's Lair	1993	Readysoft / Merit Software	CD	OK	X	Y	X	X	X	X	Must use no detect PIF - no audio at all plays
Drak	1995	Nostalgia	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Duke Nukem	1992	GT Interactive	CD	OK	NT	Y	OK	OK	NT	X	Requires FM for music
Dune 2: The Building of a Dynasty	1994	Virgin	CD	NT	SBPro	Y	X	X	NT	X	No audio at all plays
Dungeon Master II: Legend of SkullKeep	1995	Interplay	CD	X	X	NT	X	X	X	X	Bombs system when setup is launched
Eagle Eye Mysteries (Original)	1993	Electronic Arts	CD	OK	NT	Y	X	X	NT	X	No audio at all plays
Eagle Eye Mysteries in London	1993	Electronic Arts	CD	OK	NT	Y	X	X	NT	X	No audio at all plays
Earplay	1994	Ibis	CD	OK	NT	Y	NT	X	NT	X	Requires FM for music
EF 2000	1995	DID/OCEAN	CD	X	X	NT	X	X	X	X	When configuration is entered & any item selected it reports "Spawn error - test failed" & drops to prompt
Electro Body	1994	X Land-Adamik	CD	OK	NT	Y	X	X	OK	X	Game moves very slowly - no audio at all plays
Elfland	1992	Ericson Software	F	X	X	NT	X	X	OK	X	Only plays through PC speaker
Eye of the Beholder I	1992	Westwood/SSI	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Eye of the Beholder II: Legend of Darkmoon	1992	Westwood/SSI	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Fatal Fumes	1997	Abax Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 0105:0091" when launched
Fire & Forget II	1995	Titus Entertainment	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Gabriel Knight 2: The Beast Within	1995	Sierra On-Line	CD	OK	NT	Y	OK	X	NT	X	Opening prologue plays OK - no audio or music plays anywhere else in game
Gladiator	1996	Forgotten Sages	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Halloween Harry	1994	Apogee	CD	X	NT	NT	X	X	X	X	Reports "runtime error 200 at 0125:008B" when config is launched
Hardball 3	1992	Accolade	CD	OK	NT	Y	X	X	X	X	Uses FM for music - no speech of SFX play

Hi-Octane	1995	EA/Bullfrog	CD	OK	NT	NT	X	X	X	X	Game bombs system on launch
Hocus Pocus	1994	Apogee	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Holiday Lemmings	1994	Psygnosis	F	OK	NT	Y	NT	X	NT	X	Requires FM for music
Hoyle Classic Card Games - Bridge	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Crazy 8's	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Cribbage	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Euchre	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Gin Rummy	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Hearts	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Klondike	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Hoyle Classic Card Games - Old Maid	1993	Sierra	F	NT	SB	NT	X	OK	NT	X	Reports "Unable to initialize your audio hardware" but plays music / no SFX or voices play
Indy Car Racing	1993	CUC Software / Papyrus	CD	X	SB/SBPro	NT	X	X	X	X	Bombs system when confirming sound card choice
Indy Car Racing II	1995	CUC Software / Papyrus	CD	X	SB/SBPro	NT	X	X	X	X	Bombs system when confirming sound card choice
Island of Dr.Brain	1992	Sierra	CD	OK	NT	NT	X	X	X	X	Reports "unable to initialize your audio hardware"
Jack Flash	1995	MVP Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 1B99:0091" when launched
Jack Nicklaus Golf Signature Edition	1992	Accolade	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Jazz Jackrabbit	1994	Epic Megagames	CD	NT	SBPro	NT	X	X	X	X	Reports "runtime error 200 at 0009:3A2A" on launch
Jill of the Jungle	1994	Epic Megagames	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Ken's 3D labyrinth	1993	Epic Megagames	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Kid's Zoo	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	NT	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Lemmings	1991	Psygnosis	F	OK	NT	Y	X	X	X	X	This game uses FM only for music - no SFX play
Lemmings 2: Tribes	1992	Psygnosis	F	OK	NT	Y	X	X	X	X	This game uses FM only for music - no SFX play
Links 386 Pro	1994	Access	F	NT	ADLIB	NT	X	X	X	X	Must use no detect PIF; doesn't recognize SB, configures only as Ad Lib & plays no audio at all
Loader Larry	1993	Soleau	CD	OK	NT	Y	X	X	NT	X	Requires FM for music - plays no sound at all
Lode Runner Live	1995	Nostalgy	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Lord of the Rings	1993	Interplay	CD	OK	NT	NT	X	X	NT	X	Plays no audio at all
Lost Files of Sherlock Holmes, The	1994	Electronic Arts	CD	NT	SB	NT	X	X	X	X	Must use no detect PIF - plays no audio at all
Lost Vikings, The	1994	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Mad Dog McCree	1993	American Laser Games	CD	OK	NT	NT	X	X	NT	X	Plays no audio at all
Mario Teaches Typing	1993	Interplay	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Masters of Magic	1994	Simtex/Microprose	CD	NT	SBPro	NT	X	X	NT	X	On launch says "reconfigure hardware options" and drops to prompt
Monster Bash	1993	Apogee	CD	NT	SB	Y	X	X	NT	X	Uses FM for music - no speech of SFX play

Mortal Kombat	1993	Acclaim	CD	OK	NT	NT	X	X	X	X	Causes system to lock up as soon as audio should start
Mortal Kombat 1	1993	Aklaim	F	OK	NT	Y	X	X	OK	X	This game uses FM only for music - no SFX or voices play
Mortal Kombat 2	1994	Acclaim	CD	OK	NT	NT	OK	OK	OK	X	Game configures & tests OK but bombs on launch
Mortal Kombat 3	1995	Williams/GT Interactive	CD	OK	NT	NT	OK	OK	OK	X	Game configures & tests OK but bombs on launch
Mortal Pong	1995	Cheesy Software	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Mutant Space Bats	1994	Pop Software	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Mystic Towers	1994	Apogee	CD	X	X	NT	X	X	X	X	Reports runtime error 200 at 14EE:0091 when config is launched
NASCAR 2	1997	CUC Software	CD	NT	SBPro/GEN MIDI	NT	OK	OK	OK	X	Reports MIDI detection system failed to find hardware; must use no detect piF
NASCAR II	1997	CUC Software	CD	NT	SBPro/GEN MIDI	NT	OK	OK	OK	X	Reports MIDI detection system failed to find hardware; must use no detect piF
NASCAR Racing	1995	Sierra On-Line / CUC / Papyrus	CD	NT	NT	Y	OK	X	OK	X	No music plays - requires FM - SFX OK
NBA Live '95	1995	Electronic Arts	CD	OK	NT	NT	X	X	NT	X	Locks up system when audio is tested
Noctropolis	1994	Electronic Arts	CD	X	SBPro/Sound Canvas	NT	X	X	X	X	Game locks up system about 2 seconds after EA logo appears with opening SFX
Noteplay	1994	Ibis	CD	OK	NT	Y	NT	X	NT	X	Requires FM for music
Operation Vulture 3: Cyber Chopper	1995	H/M Software	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Orion Burger	1996	Sanctuary Woods	CD	NT	SBPro/GenMIDI	NT	X	X	X	X	Reports it must be run in MS-DOS mode even when no detect PIF is used
Peter Pan	1993	EA Kids	CD	OK	NT	Y	X	NT	NT	X	Requires FM for music; no digital audio plays
Ping & Kooky's Cuckoo Zoo	1993	EA Kids	CD	OK	NT	Y	X	NT	NT	X	Requires FM for music; no digital audio plays
Planet Strike	1994	Apogee/FormGen	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Play it by Ear	1994	Ibis	CD	OK	NT	Y	NT	X	NT	X	Requires FM for music
Police Quest 6: Daryl Gates	1995	Sierra	CD	OK	NT	Y	X	X	NT	X	Opening logo audio is OK - no other music or SFX play - Requires FM for music
Prince of Persia 2	1994	Broderbund	CD	NT	SBPro/GEN MIDI	NT	OK	OK	NT	X	Music OK; speech stops ang game locks on 2nd intro screen
Privateer	1994	Electronic Arts / Origin	CD	NT	SBPro/GEN MIDI	NT	x	x	x	x	Must use no detect piF; reports protected mode driver is not responding to EMS function calls.
Rapid Response	1992	MVP Software	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Renegade: Return to Jacob's Star	1996	SSI	CD	OK	NT	Y	OK	X	OK	X	Only SFX play; requires FM for music
Rhythm Ace	1994	Ibis	CD	OK	NT	Y	NT	X	NT	X	Requires FM for music
Rhythmplay	1994	Ibis	CD	OK	NT	Y	NT	X	NT	X	Requires FM for music
Ripper	1996	Take 2 Interactive	CD	X	X	NT	X	X	X	X	Reports "DOS/4GW Professional error (2002): gtransfer stack overflow" during install
Rise of the Robots	1994	Time Warner Interactive	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Robin Hood: Conquests of the Longbow	1993	Sierra	CD	OK	NT	NT	X	X	X	X	Reports "unable to initialize your audio hardware"
Scavenger	1997	Ashley Software	CD	NT	SB	Y	OK	X	NT	X	Requires FM for music
Science Adventure II	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Scooter's Magic Castle	1993	EA Kids	CD	OK	NT	Y	X	NT	NT	X	Requires FM for music; no digital audio plays
SerpentHead	1994	Cassidy Software	CD	OK	NT	Y	X	X	NT	X	Requires FM for music - plays no sound at all

Sherlock Holmes, Cons. Detective Vol. I	1992	Icom Simulations	CD	X	X	NT	X	X	X	X	Reports "Error - could not find compatible sound card to play Sherlock with.
Sherlock Holmes, Cons. Detective Vol. II	1993	Icom Simulations	CD	X	X	NT	X	X	X	X	Reports "Error - could not find compatible sound card to play Sherlock with.
Sherlock Holmes, Cons. Detective Vol. III	1993	Icom Simulations	CD	X	X	NT	X	X	X	X	Reports "Error - could not find compatible sound card to play Sherlock with.
Sim City 2000	1993	Maxis	CD	OK	NT	Y	X	X	X	X	No audio at all plays
Sim Isle	1994	Maxis	CD	OK	NT	Y	X	X	X	X	No audio at all plays
Slipstream 5000	1996	Gremlin Interactive	CD	OK	NT	NT	OK	OK	NT	X	Reports "needs at least 3072K of Extended Memory to Run" on launch
Solar Winds	1994	Epkic Megagames	CD	OK	NT	Y	X	X	OK	X	Requires FM for music - plays no audio at all
Space Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Space Dude	1995	FormGen	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Space Hulk	1994	Electronic Arts	CD	OK	NT	NT	X	X	X	X	Bombs on launch
Spaced	1996	Daniel Haffner	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Spear of Destiney	1994	Id/Formgen	CD	OK	NT	Y	OK	OK	OK	X	Requires FM for music
Speed (Imax)	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	X	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Spellcasting 301: Spring Break	1994	Legend Entertainment	CD	NT	SBPro/Roland	NT	OK	X	NT	X	Reports "unable to initialize the MT32" so no music plays
Star Control 1	1991	Accolade	F	NT	SB	Y	OK	X	NT	X	Requires FM for music
Star Control 2: The Ur-Quan Masters	1992	Accolade	F	X	SBPro	Y	OK	X	OK	X	Requires FM for music
Star Fighter 3000	1996	3DO	CD	X	SBPro	NT	X	X	X	X	No audio at all plays
Star Rangers	1996	Interactive Magic	CD	OK	NT	Y	OK	X	OK	X	Plays SFX only; requires FM for music
Starfire	1992	Silver Lightning Software	CD	OK	NT	NT	X	X	OK	X	Plays no audio at all
Stonekeep	1995	Interplay	CD	X	SBPro/GEN MIDI	NT	X	X	X	X	Fails to detect Gen Midi - on launch reports "out of memory allocating: cache memory 25308779 bytes)
Stonemist 2	1994	Bit Brother Software	CD	X	NT	NT	X	X	X	X	Reports "runtime error 200 at 0436:0091" on launch
Stunt Island	1994	Disney	F	NT	SB/Roland	NT	X	X	NT	X	System locks up as soon as digital speech should start
Super Fly	1994	Nels Anderson	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 19EB:0091" on launch
Toad, The	1995	Taylor Software	CD	OK	NT	Y	OK	X	NT	X	Requires FM for music
Tron/Light Craft	1996	JKS Development	CD	X	X	NT	X	X	X	X	System locks on launch
Tube	1994	Bullfrom Productions	CD	OK	NT	NT	X	X	NT	X	Bombs on launch
Tubes	1994	Software Creations	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 04F6:0091" when setup is launched
Undersea Adventure	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	NT	NT	X	Uses FM for music - speech clips and program hangs shortly after launch
Video Jam	1993	EA Kids	CD	OK	NT	Y	NT	NT	NT	X	Requires FM for music; no digital audio plays
Warbirds	1995	Interactive Creations	CD	OK	NT	Y	OK	NT	OK	X	Requires FM for music
Warlords 2 Deluxe	1993	Strategic Simulations Group	CD	OK	NT	NT	X	X	X	X	Drops to system prompt when game is launched
Wolfenstein 3-D	1992	Id/Apogee	F	OK	NT	Y	OK	X	OK	X	Uses FM for music; no SFX play when you pickup treasure or food
World of Xeen	1993	New World Computing	CD	NT	SBPro/Roland	NT	X	X	NT	X	No music plays - game hangs shortly after speech starts

Xargon	1994	Epic Megagames	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
X-Com II: Terror from the Deep	1994	Mythos/MicroProse	CD	NT	SB	Y	OK	X	OK	X	Game configured OK but bombs when launched
X-Com: UFO Defense	1994	Microprose	F	OK	NT	Y	OK	X	OK	X	Requires FM for music
Xerix	1992	Brendan Reville	F	OK	NT	NT	X	X	X	X	Reports "error in xerix.cfg - run XINSTALL"
X-Wing	1992	LucasArts	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
X-Wing Collector's CD	1992	LucasArts	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
X-Wing vs. Tie Fighter	1992	Lucas Arts	CD	OK	NT	Y	OK	X	OK	X	Requires FM for music
Zone 66	1993	Epic Megagames	CD	X	X	NT	X	X	X	X	Program reports system is under control of a protected mode program and refuses to run or configure
Zurk's Learning Safari	1994	Knowledge Adventure	CD	NT	SB & Compatibles	Y	X	NT	NT	X	Uses FM for music - speech clips and program hangs shortly after launch

Appendix C. Test Results for 408 MS-DOS games: Creative Sound Blaster Pro 2.0 card data

314 out of 408 passed. Sorted first for pass/fail (OK/X) by **Overall** column, then alphabetically by **Title** column.

Title	Date	Publisher	Media	Auto	Manual	FM	Audio	Music	Joystick	Overall	Notes
3D Body Adventure	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
3D Dinosaur Adventure	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
3D Trek	1992	Douglas Software	CD	NT	SBPro	Y	OK	OK	OK	OK	
Absolute Zero	1996	Domark	CD	OK	NT	NT	OK	OK	NT	OK	Must use prevent pif
Aces Collector's Edition - A10 Tank Killer	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Aces of the Pacific	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Aces over Europe	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Collector's Edition - Red Baron	1997	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Aces Of The Deep	1997	Sierra/Dynamix	CD	OK	NT	NT	OK	OK	NT	OK	
Action Challenger	1995	GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
AD&D Masterpiece Collection	1995	Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	
Advanced Civilization	1995	Avalon Hill Game Company	CD	OK	NT	NT	OK	OK	NT	OK	
Adventures of Willie Beamish, The	1992	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Amazon	1993	Access	CD	OK	NT	NT	OK	OK	NT	OK	
America Adventure	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
Ancients I: Death Watch	1993	Epic Megagames	CD	OK	NT	Y	OK	OK	N	OK	
Anvil of Dawn	1995	New World Computing	CD	X	SBPro	NT	OK	OK	NT	OK	
Aquanoid	1992	Finger & Heineke Productions	CD	OK	NT	Y	OK	OK	OK	OK	
Ascendancy	1995	Logic Factory	CD	OK	NT	NT	OK	OK	NT	OK	
Bandit	1993	O'Shea Software	CD	OK	NT	Y	OK	OK	N	OK	
Battle Chess	1991	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Battle Chess 4000	1994	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Battle Chess Enhanced	1993	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Battle of Atlantis	1994	Soleau	CD	OK	NT	Y	OK	OK	N	OK	
Battlestar	1994	Vivid Technologies	CD	OK	NT	Y	OK	OK	OK	OK	
Big Red Racing	1996	Domark	CD	OK	NT	Y	OK	OK	NT	OK	
Billy The Kid	1993	Alive Software	CD	OK	NT	Y	OK	OK	OK	OK	
Bio Menace	1993	Apogee	CD	OK	NT	Y	OK	OK	OK	OK	
Black Knight	1995	SE Software/FormGen	CD	NT	SBPro	NT	OK	OK	OK	OK	
Blackthorne	1994	Interplay/Blizzard	CD	NT	SBpro	NT	OK	OK	NT	OK	
Blake Stone: Aliens of Gold	1994	Apogee	CD	OK	NT	Y	OK	OK	OK	OK	
Blood	1997	Monolith/GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Bloodthirsty	1994	Bertrand Software	CD	OK	NT	Y	OK	OK	OK	OK	
Blue Balls	1992	Copeland	CD	OK	NT	Y	OK	OK	N	OK	
Bodyworks 3.0	1993	Software Mktg. Corp.	CD	OK	NT	NT	OK	NT	NT	OK	Only has spoken speech in program - no music or SFX

Bomber	1995	Patric Piche' Producitons	CD	OK	NT	Y	OK	OK	OK	OK	
Bombman	1996	Israel Geron T.	CD	OK	NT	NT	OK	OK	NT	OK	
Bug Adventure	1994	Knowledge Adventure	CD	OK	NT	Y	OK	OK	NT	OK	
Caesar 2	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Carmageddon	1997	Interplay	CD	X	SBPro	X	OK	OK	OK	OK	
Case of the Cautious Condor, The	1994	Tiger Media	CD	NT	SB	NT	OK	OK	NT	OK	
Castle of Dr.Brain	1992	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
Castles II: Siege & Conquest	1993	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Catacombs	1992	Softdisk Publishing	CD	OK	NT	Y	OK	OK	N	OK	
Chess Maniac 5 Billion and 1	1993	Spectrum Holobyte	CD	NT	SBPro	NT	OK	OK	N	OK	
Clouds of Xeen	1992	New World Computing	CD	OK	NT	X	OK	OK	NT	OK	
Colonization	1994	Microprose	CD	OK	OK	NT	OK	OK	NT	OK	
Comanche 3	1997	NovaLogic	CD	OK	OK	NT	OK	OK	OK	OK	
Comanche Max Overkill w/Ex Disk	1996	Nova Logic	CD	OK	OK	NT	OK	OK	OK	OK	
Command & Conquer	1995	Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Command & Conquer: Red Alert	1996	Westwodd/Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Corncob 3D	1995	MVP Software	CD	OK	NT	Y	OK	NT	OK	OK	Must use no detect PIF
Crazy Cars III	1995	Titus Entertainment	CD	OK	NT	Y	OK	OK	OK	OK	
Creature Shock	1995	Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Creep Clash	1994	47Tek, Inc.	CD	OK	NT	NT	OK	OK	OK	OK	
Curves Pilot	1996	iQuest Software	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Cyberia	1995	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	
Cyberia 2: Resurrection	1995	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	
Cylindrix	1995	GoldTree/Hotware Z	CD	OK	NT	X	OK	OK	OK	OK	
Dark Forces	1995	LucasArts/Virgin	CD	OK	NT	NT	OK	OK	OK	OK	
Darkside of Xeen	1993	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	
Death Gate	1994	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
Descent	1996	Interplay	CD	X	SBPro	NT	OK	OK	OK	OK	Crashes w/autodetect
Descent II	1997	Parallax/Interplay	CD	X	SBPro	NT	OK	OK	OK	OK	Crashes w/autodetect
Dig, The	1996	LucasArts	CD	OK	NT	NT	OK	OK	NT	OK	
Doom	1994	Id Software	CD	NT	SB	NT	OK	OK	OK	OK	
Doom II: Hell on Earth	1995	iD / GT Interactive / Virgin	CD	NT	SB	NT	OK	OK	OK	OK	
Dragon Lore	1994	Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect pif
Drak	1995	Nostalgia	CD	OK	NT	Y	OK	OK	OK	OK	
Duke Nukem	1992	GT Interactive	CD	OK	NT	Y	OK	OK	NT	OK	
Duke Nukem 2	1994	Apogee	CD	OK	NT	NT	OK	OK	OK	OK	
Duke Nukem 3D	1996	3D Realms/GT Interactive	CD	NT	SBPro2	NT	OK	OK	OK	OK	
Dungeon Master II: Legend of SkullKeep	1995	Interplay	CD	OK	NT	X	OK	OK	NT	OK	
Eagle Eye Mysteries (Original)	1993	Electronic Arts	CD	OK	NT	Y	OK	OK	NT	OK	
Eagle Eye Mysteries in London	1993	Electronic Arts	CD	OK	NT	Y	OK	OK	NT	OK	
Earplay	1994	Ibis Software	CD	OK	NT	Y	NT	OK	NT	OK	

Earth 2140	1997	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Earth Siege: Metaltech	1994	Sierra On-Line	CD	X	SBPro	NT	OK	OK	OK	OK	Must use no detect PIF
Elder Scrolls II: Daggerfall	1996	Bethesda	CD	OK	NT	NT	OK	OK	NT	OK	
Emergency Room Intern	1997	Legacy Software	CD	X	SBPro	NT	OK	OK	NT	OK	
Empire II: The Art of War	1996	White Wolf	CD	OK	NT	NT	OK	OK	NT	OK	
Epic Pinball Version 1	1993	Epic Megagames	CD	OK	NT	NT	OK	OK	NT	OK	
Epic Pinball Version 2	1994	Epic Megagames	CD	OK	NT	NT	OK	OK	NT	OK	
Even More Incredible Machine	1996	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Eye of the Beholder I	1992	Westwood/SSI	CD	OK	NT	Y	OK	OK	NT	OK	
Eye of the Beholder II: Legend of Darkmoon	1992	Westwood/SSI	CD	OK	NT	Y	OK	OK	NT	OK	
Eye of the Beholder III: Assault on Myth Drannor	1992	Ssi	CD	OK	NT	NT	OK	OK	NT	OK	
F15 Strike Eagle III	1993	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
F-22 Lighting	1995	NovaLogic	CD	OK	OK	NT	OK	OK	OK	OK	
F-22 Lightning II	1996	Nova Logic	CD	OK	OK	NT	OK	OK	OK	OK	
Fade To Black	1995	Electronic Arts	CD	OK	NT	X	OK	OK	NT	OK	use "-w" switch to play in DOS box under Wndows
Falcon Gold Flight Simulator	1995	Spectrum Holobyte	CD	OK	NT	NT	OK	OK	OK	OK	
Fantasy General	1995	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
Fast Attack	1996	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
FIFA International Soccer	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
FIFA Soccer '96	1996	EA Sports/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
FIFA Soccer '97	1997	EA Sports/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Fighter Duel	1996	Philips Interactive	CD	OK	NT	NT	OK	OK	OK	OK	
Fire & Forget II	1995	Titus Entertainment	CD	OK	NT	Y	OK	OK	OK	OK	
Flight Unlimited	1995	Virgin / Looking Glass	CD	OK	NT	NT	OK	OK	OK	OK	
Front Page Sports Football Pro '95	1995	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Front Page Sports Football volume 1 no. 1	1994	Dynamix / Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Front Page Sports: Football Pro!	1994	Dynamix	CD	OK	NT	NT	OK	OK	NT	OK	
Full Throttle	1994	LucasArts	CD	OK	NT	NT	OK	OK	NT	OK	
FX Fighter	1995	GTE Entertainment	CD	OK	NT	NT	OK	OK	OK	OK	
Gabriel Knight 2: The Beast Within	1995	Sierra On-Line	CD	OK	NT	Y	OK	OK	NT	OK	
Gabriel Knight: Sins of the Father	1994	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
Game Pack 2	1995	Formgen	CD	OK	NT	NT	OK	OK	OK	OK	
Gladiator	1996	Forgotten Sages	CD	OK	NT	Y	OK	OK	NT	OK	
Grand Prix II	1997	Microprose	CD	OK	NT	NT	OK	OK	OK	OK	
Hardball 3	1992	Accolade	CD	OK	NT	Y	OK	OK	NT	OK	
Hardball 4	1995	Accolade	CD	OK	NT	NT	OK	OK	NT	OK	
Hardball 5	1997	Accolade	CD	OK	NT	NT	OK	OK	OK	OK	
Heretic	1994	GT Interactive	CD	NT	SB	NT	OK	OK	OK	OK	
Heroes of Might & Magic	1995	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	

Heroes of Might & Magic II	1996	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	
Hexen	1995	Raven/Id/GT Interactive	CD	NT	SB	NT	OK	OK	OK	OK	
Hexxagon	1993	Software Creations	F	OK	NT	NT	OK	OK	NT	OK	
Holiday Lemmings	1994	Psygnosis	F	OK	NT	Y	OK	OK	NT	OK	
Interplay Sampler	1996	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Island of Dr. Brain	1992	Sierra	CD	OK	NT	NT	OK	OK	OK	OK	
Jack Nicklaus Golf Signature Edition	1992	Accolade	CD	OK	NT	Y	OK	OK	OK	OK	
Jagged Alliance: Deadly Games	1996	Sir-Tech	CD	NT	SBPro	NT	OK	OK	NT	OK	
Jet Fighter III	1996	Mission Studios	CD	OK	NT	NT	OK	OK	OK	OK	
Jill of the Jungle	1994	Epic Megagames	CD	OK	NT	Y	OK	OK	OK	OK	
Jumpman Lives!	1996	Apogee	F	OK	NT	NT	NT	NT	NT	OK	This game doesn't support ANY sound cards - PC speaker only!
Ken's 3D labyrinth	1993	Epic Megagames	CD	OK	NT	Y	OK	OK	OK	OK	
Kidkeys	1995	Davidson	F	NT	SBPro	NT	OK	OK	NT	OK	
Kid's Zoo	1994	Knowledge Adventure	CD	OK	NT	Y	OK	OK	NT	OK	
King's Quest VI	1993	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
King's Quest VII	1996	Sierra	CD	ok	NT	NT	OK	OK	NT	OK	
Lands of Lore: The Throne of Chaos	1994	Westwood	CD	OK	NT	NT	OK	OK	NT	OK	
Leisure Suit Larry 6	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Lemmings	1991	Psygnosis	F	OK	NT	Y	OK	OK	NT	OK	
Lemmings 2: Tribes	1992	Psygnosis	F	OK	NT	Y	OK	OK	N	OK	
Lemmings 3D	1995	Clockwork Games	CD	OK	NT	NT	OK	OK	NT	OK	
Links 386 Pro	1994	Access	F	X	X	X	OK	X	NT	OK	Must use no detect PIF; only configures as an Ad Lib - SB/Pro not recognized
Links LS/Arnold Palmer At Latrobe	1996	Access	CD	X	SBPro	NT	OK	OK	NT	OK	Must use no detect PIF
Little Big Adventure	1994	EA	CD	OK	NT	NT	OK	OK	NT	OK	
Lode Runner Live	1995	Nostalgia	CD	OK	NT	Y	OK	OK	OK	OK	
Lord of the Rings	1993	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Lords of the Realm	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Lost Files of Sherlock Holmes, The	1994	Electronic Arts	CD	NT	SB	NT	OK	OK	OK	OK	Must use no detect PIF
Lost Vikings, The	1994	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Madden NFL '97	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Magic Carpet	1993	EA/Bullfrog	CD	NT	SB	NT	OK	OK	OK	OK	
Magic Carpet 2	1994	EA/Bullfrog	CD	OK	NT	NT	OK	OK	NT	OK	
Majestic: Alien Encounter	1996	Piranha	CD	OK	NT	NT	OK	OK	NT	OK	
Mario Teaches Typing	1993	Interplay	CD	OK	NT	Y	OK	OK	NT	OK	
Master of Orion	1996	Microprose	CD	OK	NT	NT	OK	OK	NT	OK	
Master of Orion II: Battle at Antares	1996	Microprose	CD	OK	NT	NT	OK	OK	NT	OK	
MDK	1996	Shiny Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
MechWarrior II	1996	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Metal Knights	1994	D'Vincent Software	CD	OK	NT	NT	OK	OK	OK	OK	
Metaltech Earth Siege	1994	Sierra On-Line	CD	X	SBPro	NT	OK	OK	OK	OK	Must use no detect PIF
Mickey's Colors and Shapes	1993	Disney	F	NT	SB	NT	OK	OK	NT	OK	

Microsoft Flight Simulator	1995	Microsoft	CD	NT	SBPro	NT	OK	NT	OK	OK	There is no music in this program
Microsoft Space Simulator	1994	Microsoft	CD	NT	SBPro	NT	NT	OK	NT	OK	There is only music in this program / no SFX
Mission Critical	1994	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
Monster Bash	1993	Apogee	CD	OK	NT	Y	OK	OK	OK	OK	
Mortal Kombat	1993	Acclaim	CD	OK	NT	NT	OK	OK	OK	OK	
Mortal Kombat 1	1993	Aklaim	F	OK	NT	Y	OK	OK	OK	OK	
Mortal Kombat 2	1994	Acclaim	CD	OK	NT	NT	OK	OK	OK	OK	
Mortal Pong	1995	Cheesy Software	CD	OK	NT	Y	OK	OK	NT	OK	
Moving Gives Me A Stomach Ache	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Murder Makes Strange Deadfellows	1995	Tiger Media	CD	NT	SB	NT	OK	OK	NT	OK	
Mutant Space Bats	1994	Pop Software	CD	OK	NT	Y	OK	OK	OK	OK	
NASCAR II	1997	CUC Software	CD	OK	NT	NT	OK	OK	NT	OK	
NBA Live '95	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
NBA Live '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
NCAA Championship Basketball	1994	Mindscape	CD	OK	NT	NT	OK	OK	OK	OK	
Need For Speed	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
NHL Hockey	1994	Electronic Arts	CD	NT	SB	NT	OK	OK	OK	OK	
NHL Hockey '95	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
NHL Hockey '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Noteplay	1994	Ibis Software	CD	OK	NT	Y	NT	OK	NT	OK	
Nuke It - Duke Nukem 3D Add-On	1996	Micro Star	CD	OK	NT	NT	OK	OK	OK	OK	
One Must Fall: 2097	1995	Epic Megagames	CD	OK	NT	NT	OK	OK	OK	OK	
Operation Combat II: Land, Sea & Air	1996	Essex Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Operation Vulture 3: Cyber Chopper	1995	H/M Software	CD	OK	NT	Y	OK	OK	NT	OK	
Oregon Trail	1992	MECC	CD	OK	NT	Y	OK	OK	NT	OK	
Outer Ridge	1995	Wizard Software	CD	OK	NT	NT	OK	OK	OK	OK	
Pandora Directive: Tex Murphy Novel	1996	Access	CD	NT	SBPro	NT	OK	OK	NT	OK	
Paper Bag Princess, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
PGA Tour Golf	1995	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
PGA Tour Golf '96	1996	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Phantasmagoria	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Phantasmagoria 2: Puzzle of Flesh	1996	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Ping & Kooky's Cuckoo Zoo	1993	EA Kids	CD	OK	NT	Y	NT	OK	NT	OK	
Planet Strike	1994	Apogee/FormGen	CD	OK	NT	Y	OK	OK	OK	OK	
Platinum Kings Quest V	1992	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Play it by Ear	1994	Ibis Software	CD	OK	NT	Y	NT	OK	NT	OK	
Police Quest 1	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 2	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 3	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 4	1995	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Police Quest 6: Daryl Gates	1995	Sierra	CD	OK	NT	Y	OK	OK	NT	OK	
Primal Rage	1994	Time Warner Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Prince of Persia 2	1994	Broderbund	CD	NT	SBPro	NT	OK	OK	OK	OK	

Quake	1996	iD Software/ GT Interactive	CD	NT	SB	NT	OK	OK	OK	OK	
Quake Shareware	1996	Id Software	CD	NT	SB	NT	OK	OK	OK	OK	
Quake/Scourge of Armagon	1997	Id/GT	CD	NT	SB	NT	OK	OK	OK	OK	
Rapid Response	1992	MVP Software	CD	OK	NT	Y	OK	OK	NT	OK	
Raptor	1994	Formgen	CD	NT	SB	NT	OK	OK	OK	OK	
Rebel Assault 2	1995	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Red Baron/A10	1996	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Redneck Rampage	1997	Xatrix/Interplay	CD	NT	SBPro	NT	OK	OK	OK	OK	Must use no detect PIF
Relentless	1994	EA	CD	OK	NT	NT	OK	OK	NT	OK	
Relentless Twinsen's Adventure	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Renegade: Return to Jacob's Star	1996	SSI	CD	OK	NT	Y	OK	OK	OK	OK	
Return to Zork	1993	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Rhythm Ace	1994	Ibis Software	CD	OK	NT	Y	NT	OK	NT	OK	
Rhythmplay	1994	Ibis Software	CD	OK	NT	Y	NT	OK	NT	OK	
Richard Scarry's Best Neighborhood Ever	1994	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Richard Scarry's Busiest Neighborhood Ever	1994	Activision	CD	OK	NT	NT	OK	OK	NT	OK	
Richard Scarry's Busy Town	1993	Paramount Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Rise of the Robots	1994	Time Warner Interactive	CD	OK	NT	Y	OK	OK	OK	OK	
Rise Of The Triad	1997	Apogee	CD	NT	SBPro	NT	OK	OK	OK	OK	
Robin Hood: Conquests of the Longbow	1993	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
Sandwarriors	1997	Interplay	CD	X	SBPro	NT	OK	OK	NT	OK	
Scary Poems For Rotten Kids	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Scavenger	1997	Ashley Software	CD	NT	SB	Y	OK	OK	NT	OK	
Science Adventure II	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
Scooter's Magic Castle	1993	EA Kids	CD	OK	NT	Y	OK	OK	NT	OK	
Screamer	1995	Virgin/Graffiti	CD	OK	NT	NT	OK	OK	NT	OK	
Secret of Monkey Island, The	1992	Sierra	CD	OK	NT	NT	OK	OK	NT	OK	
SerpentHead	1994	Cassidy Software	CD	OK	NT	Y	OK	OK	NT	OK	
Shannara	1996	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
Shattered Steel	1996	Interplay	CD	X	SBPro	NT	OK	OK	NT	OK	
Sherlock Holmes, Cons. Detective Vol. I	1992	Icom Simulations	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Sherlock Holmes, Cons. Detective Vol. II	1993	Icom Simulations	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Sherlock Holmes, Cons. Detective Vol. III	1993	Icom Simulations	CD	OK	NT	NT	OK	OK	NT	OK	Must use no detect PIF
Sim City 2000	1993	Maxis	CD	OK	NT	Y	OK	OK	NT	OK	
Sim Isle	1994	Maxis	CD	OK	NT	Y	OK	OK	NT	OK	
Slob Zone	1994	Deep River Publishing	CD	OK	NT	NT	OK	OK	OK	OK	
Space Adventure	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
Space Dude	1995	FormGen	CD	OK	NT	Y	OK	OK	NT	OK	
Space Quest IV	1992	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Space Quest V	1993	Sierra Online	CD	OK	NT	NT	OK	OK	NT	OK	
Space Quest VI	1994	Sierra On-Line	CD	OK	NT	NT	OK	OK	NT	OK	
Spaced	1996	Daniel Haffner	CD	OK	NT	Y	OK	OK	NT	OK	

Spear of Destiney	1994	Id/Formgen	CD	OK	NT	Y	OK	OK	OK	OK	
Speed (Imax)	1994	Knowledge Adventure	CD	NT	SB	Y	OK	OK	NT	OK	
Spellcasting 301: Spring Break	1994	Legend Entertainment	CD	OK	NT	NT	OK	OK	NT	OK	
SSN-21 Sea Wolf	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Star Command	1997	GT Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
Star Control 1	1991	Accolade	F	NT	SB	Y	OK	OK	NT	OK	
Star Control 2: The Ur-Quan Masters	1992	Accolade	F	X	SBPro	Y	OK	OK	OK	OK	
Star Rangers	1996	Interactive Magic	CD	OK	NT	Y	OK	OK	OK	OK	
Star Trek The Next Generation: A Final Unity	1994	Spectrum Holobyte	CD	OK	NT	NT	OK	OK	NT	OK	
Star Trek: 25th Anniversary	1992	Interplay	CD	OK	NT	NT	OK	OK	OK	OK	
Star Trek: Deep Space Nine - Harbinger	1996	Viacom New Media	CD	X	SBPro	NT	OK	OK	NT	OK	Fails to find digital audio hardware with autodetect; configures OK manually
Star Trek: Judgement Rites	1995	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Star Wars Rebel Assault	1993	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Steel Panthers	1995	Mindscape/SSI	CD	OK	NT	NT	OK	OK	OK	OK	
Steel Panthers II	1996	SSI/Mindscape	CD	OK	NT	NT	OK	OK	NT	OK	
Stellar 7	1991	Dynamix	CD	OK	NT	NT	OK	OK	NT	OK	
Strike Commander/CD Classics	1995	Origin/EA	CD	OK	NT	NT	OK	OK	OK	OK	
Stunt Island	1994	Disney	F	NT	SB	NT	OK	OK	NT	OK	System locks up as soon as digital speech should start
Syndicate	1993	Electronic Arts	F	OK	NT	NT	OK	OK	OK	OK	
Syndicate Plus	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Syndicate Wars	1995	Bullfrog/Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
System Shock	1994	Origin	CD	OK	NT	NT	OK	OK	NT	OK	
System Shock Enhanced	1994	Origin	CD	OK	NT	NT	OK	OK	NT	OK	
Tale of Benjamin Bunny, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tale of Peter Rabbit, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tell Tale Heart, The	1994	Discis Knowledge Systems	CD	OK	NT	NT	OK	OK	NT	OK	
Tempest 2000	1995	Atari	CD	OK	NT	NT	OK	OK	OK	OK	
Terra Nova	1996	Virgin/Looking Glass Tech.	CD	OK	NT	NT	OK	OK	NT	OK	
Terra Nova: Strike Force Centauri	1996	Virgin/Looking Glass Tech.	CD	OK	NT	NT	OK	OK	NT	OK	
TFX: EF2000	1995	GTE Interactive	CD	OK	NT	NT	OK	OK	NT	OK	
The Elder Scrolls: Daggerfall	1996	Bethesda/Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
The Need For Speed	1995	EA	CD	OK	NT	NT	OK	OK	NT	OK	
The Pandora Directive	1996	Access	CD	OK	NT	NT	OK	OK	NT	OK	
Theme Park	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
TIE Fighter	1994	LucasArts	CD	OK	NT	NT	OK	OK	OK	OK	
Toad, The	1995	Taylor Software	CD	OK	NT	Y	OK	OK	NT	OK	
Tomb Raider	1996	Eidos	CD	X	SBPro	NT	OK	OK	NT	OK	Crashes w/autodetect
Tony Larussa Baseball III	1995	Strategic Simulations	CD	OK	NT	NT	OK	OK	NT	OK	
Top Gun	1997	MicroProse	CD	OK	NT	NT	OK	OK	OK	OK	
Transport Tycoon Deluxe	1995	Microprose	CD	NT	SBPro	NT	OK	OK	NT	OK	

U.S. Navy Fighters	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
U.S. Navy Fighters Gold	1997	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultima VII Series	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultima VIII w/Speech	1994	Electronic Arts	CD	OK	NT	NT	OK	OK	NT	OK	
Ultimate Fantasy	1995	SOS	CD	OK	NT	NT	OK	OK	NT	OK	
Under A Killing Moon	1994	Access	CD	OK	NT	NT	OK	OK	NT	OK	
Undersea Adventure	1994	Knowledge Adventure	CD	OK	NT	Y	OK	OK	NT	OK	
Velcro Mind	1998	JazzSoft	CD	OK	NT	NT	OK	OK	NT	OK	
Video Jam	1993	EA Kids	CD	OK	NT	Y	NT	OK	NT	OK	
Virtual Pool	1995	Interplay	CD	OK	NT	NT	OK	OK	NT	OK	
Warbirds	1995	Interactive Creations	CD	OK	NT	Y	OK	NT	OK	OK	
Warcraft Battle Chest	1996	Blizzard	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft II Expansion Set: Beyond the Dark Portal	1996	Blizzard	CD	OK	NT	NT	OK	OK	NT	OK	
Warcraft II: Tides of Darkness	1995	Blizzard / Davidson	CD	OK	SBPro2	NT	OK	OK	NT	OK	
Warcraft: Orcs & Humans	1994	Blizzard	CD	NT	SBPro	NT	OK	OK	NT	OK	
Warlords 2 Deluxe	1993	Strategic Simulations Group	CD	OK	NT	NT	OK	OK	OK	OK	
Werewolf Vs. Comanche	1995	Nova Logic	CD	OK	OK	NT	OK	OK	OK	OK	
Wild Learning Safari	1994	Compton's New Media	CD	OK	NT	NT	OK	OK	NT	OK	
Wing Commander III	1995	Origin/Electronic Arts	CD	OK	NT	NT	OK	OK	OK	OK	
Wing Commander IV	1996	Origin/Electronic arts	CD	OK	NT	NT	OK	OK	OK	OK	
Witchaven	1996	Intracorp	CD	OK	NT	NT	OK	OK	NT	OK	
Wolfenstein 3-D	1992	Id/Apogee	F	OK	NT	Y	OK	OK	OK	OK	
World of Xeen	1993	New World Computing	CD	OK	NT	NT	OK	OK	NT	OK	
Worms	1996	Team 17/Ocean	F	OK	NT	NT	OK	OK	OK	OK	
Worms/Reinforcements	1996	Team 17	CD	OK	NT	NT	OK	OK	NT	OK	
Xargon	1994	Epic Megagames	CD	OK	NT	Y	OK	OK	OK	OK	
X-Com: UFO Defense	1994	Microprose	F	OK	NT	Y	OK	OK	OK	OK	
X-Wing vs. Tie Fighter	1992	Lucas Artns	CD	OK	NT	Y	OK	OK	OK	OK	
Z	1996	Virgin	CD	OK	NT	NT	OK	OK	NT	OK	
Zone Raiders	1995	Virgin	CD	OK	NT	NT	OK	OK	OK	OK	
Zoop	1997	Viacom New Media	CD	OK	NT	NT	OK	OK	OK	OK	
Zork Nemesis	1996	Activision	CD	OK	NT	NT	OK	OK	OK	OK	
Zurk's Learning Safari	1994	Knowledge Adventure	CD	OK	NT	Y	OK	OK	NT	OK	
11th Hour: Be Afraid of the Dark	1995	Triobyte/Virgin	CD	X	X	NT	X	X	X	X	Doesn't find digital sound hardware under Win 98, drops to prompt if launched
3 Point Basketball	1993	MVP Software	CD	OK	NT	NT	X	X	X	X	Reports "divide error" and drops to prompt ©1993
4D Boxing	1991	EA Sports/Electronic Arts	F	OK	NT	Y	X	X	NT	X	Bombs when announcer should begin to speak
7th Guest	1992	Virgin	CD	X	X	NT	X	X	X	X	Reports "pcm sound hardware not found at port/irq in groovie.ini"
Abuse	1996	Crack Dot Com	CD	X	SBPro	NT	X	X	X	X	Requires MIDI for music; plays speech so low it is almost inaudible

Abbyss	1994	Software Visions	CD	NT	SBPro	Y	X	X	NT	X	Must use no detect PIF; game moves very slowly, no audio at all plays
Advanced Tactical Fighter	1996	Electronic Arts	CD	X	X	NT	X	X	X	X	Reports AF.EXE has caused an exception: Access violation; system locks up
AH-64D Longbow	1996	Origin/Electronic Arts	CD	X	X	NT	X	X	X	X	Doesn't find digital sound hardware under Win 98, drops to prompt if launched
Alien Carnage	1994	Apogee	CD	OK	NT	NT	X	X	X	X	Reports "runtime error 200 at 0774:0091" and drops to prompt
Alien Trilogy	1995	Acclaim	CD	OK	NT	NT	X	X	X	X	No audio at all plays
Alone in the Dark	1993	I-Motion	CD	OK	NT	Y	OK	X	NT	X	FM music doesn't play correctly - wrong voicing
Apache-Gunship	1995	Interactive Magic	CD	OK	NT	NT	X	X	X	X	On launch reports "illegal address has caused a page fault" /drops to prompt & locks up system
Avenger	1997	Deadline	CD	NT	SB	NT	X	X	NT	X	Plays no audio at all
Baron Baldric	1993	Epic Megagames	CD	OK	NT	NT	X	X	X	X	Configures OK but reports "runtime error 200 at 095D:0091"
Berenstain Bears Learning At Home	1993	Compton's New Media	F	OK	NT	NT	X	X	X	X	Bombs system on launch
Bio Forge	1995	Electronic Arts	CD	NT	OK	NT	X	X	X	X	Must use no detect pif; on launch reports "program halted by code"/drops to prompt
Blake Stone	1993	Apogee	CD	OK	NT	Y	X	X	X	X	Reports "Unit: \$8f Error: \$0b" on launch & drops to prompt
Brix	1994	Epic Megagames	CD	NT	SBPro	Y	X	X	NT	X	No audio at all plays
Busytown (CD-ROM)	1993	Paramount Interactive	CD	NT	SBPro	Y	X	X	NT	X	No audio at all plays
Buzz Aldrin's Race Into Space	1993	Interplay	CD	OK	NT	Y	X	OK	NT	X	Only music plays - no digital speech
Christmas Lemmings	1991	Psygnosis	F	OK	NT	Y	X	X	NT	X	No audio at all plays
Combat Zone	1993	Rockland Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 2000 at 011B:0091"
Complete Ultima VII, The	1994	Origin	CD	OK	NT	NT	X	X	X	X	Won't run with expanded memory manager active
Conquest of the New World	1995	Interplay	CD	X	SBPro	NT	X	X	NT	X	Passes configuration test but no audio plays in game
Crusader: No Regret	1996	Origin/Electronic Arts	CD	X	X	NT	X	X	X	X	Won't install; reports Halted file DOSFIX32/DESCRIPT.C, line 284
Crusader: No Remorse	1995	Electronic Arts / Origin	CD	X	X	NT	X	X	X	X	Won't install; reports Halted file DOSFIX32/DESCRIPT.C, line 284
Dagger of Amon Ra 1.1	1992	Sierra Online	F	OK	NT	Y	X	X	NT	X	Reports "unable to initialize your audio hardware"
Day of the Tentacle	1993	Lucas Arts	CD	OK	NT	NT	X	X	NT	X	Only distorted noise comes from the speakers
Desert Storm Command	1994	MVP Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 1519:0091 and drops to prompt
Destruction Derby	1996	Psygnosis	CD	OK	NT	NT	X	X	X	X	No audio at all plays
Dracula Unleashed	1993	Viacom New Media	CD	OK	NT	NT	OK	OK	NT	X	Must use no detect PIF; opening audio OK, locks system up when movie starts
Dragon Shard	1992	Bit Brother Software	F	X	X	Y	X	X	OK	X	No audio at all plays
Dragon's Lair	1993	Readysoft / Merit Software	CD	OK	NT	Y	X	X	X	X	No audio at all plays / must use no detect PIF
Dune 2: The Building of a Dynasty	1994	Virgin	CD	NT	SBPro	Y	X	OK	NT	X	Only music plays - no digital speech
Earthworm Jim	1996	Funsoft	CD	OK	NT	NT	X	X	X	X	No audio at all plays
EF 2000	1995	DID/OCEAN	CD	X	X	NT	X	X	X	X	Won't permit selecting/configuring music & audio device & doesn't detect joystick

Electro Body	1994	X Land-Adamik	CD	OK	NT	Y	X	X	X	X	Garbled noise comes from speakers and game locks on title screen
Elfland	1992	Ericson Software	F	X	X	NT	X	X	OK	X	Only plays through PC speaker
Extreme Pinball	1995	Electronic Arts	CD	OK	NT	NT	X	X	X	X	Reports "program has performed an illegal operation" and brings you back to Windows program mgr. Shell
Fatal Fumes	1997	Abax Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 0105:0091" when launched
Halloween Harry	1994	Apogee	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 0125:008B" when config is launched
Hi-Octane	1995	EA/Bullfrog	CD	OK	NT	NT	X	X	X	X	Game bombs system on launch
Hocus Pocus	1994	Apogee	CD	NT	SB	Y	X	X	X	X	Reports "Sound Blaster card type not set" and drops to prompt on launch
Hoyle Classic Card Games - Bridge	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Crazy 8's	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Cribbage	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Euchre	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Gin Rummy	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Hearts	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Klondike	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Hoyle Classic Card Games - Old Maid	1993	Sierra	F	X	X	NT	X	X	OK	X	Reports "unable to initialize your audio hardware"
Indiana Jones Fate of Atlantis	1993	LucasArts	CD	OK	NT	NT	X	X	X	X	Only distorted noise comes from the speakers
Indy Car Racing	1993	CUC Software / Papyrus	CD	OK	NT	NT	X	X	X	X	Drops to system prompt on game launch
Indy Car Racing II	1995	CUC Software / Papyrus	CD	X	SB/SBPro	NT	X	X	X	X	Bombs system when confirming sound card choice
Jack Flash	1995	MVP Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 1B99:0091" when launched
Jane's Advanced Tactical Fighter	1997	Electronic Arts	CD	X	X	NT	X	X	X	X	Reports AF.EXE has caused an exception: Access violation; system locks up
Jazz Jackrabbit	1994	Epic Megagames	CD	NT	SBPro	NT	X	X	X	X	Reports "runtime error 200 at 0009:3A2A" on launch
Loader Larry	1993	Soleau	CD	OK	NT	Y	X	X	NT	X	Requires FM for music - plays no sound at all
M.A.X.	1996	Interplay	CD	X	X	NT	X	X	X	X	No audio at all plays
Mad Dog McCree	1993	American Laser Games	CD	OK	NT	NT	X	X	NT	X	No audio at all plays
Masters of Magic	1994	Simtex/Microprose	CD	NT	SBPro	NT	X	X	NT	X	On launch says "reconfigure hardware options" and drops to prompt
Mickey's 123's	1993	Disney	F	NT	SB	NT	X	X	NT	X	No audio at all plays
Mickey's ABC's	1992	Disney	F	NT	SB	NT	X	X	NT	X	No audio at all plays
Mortal Kombat 3	1995	Williams/GT Interactive	CD	OK	NT	NT	OK	OK	OK	X	Game configures & tests OK, but bombs on launch
Mystic Towers	1994	Apogee	CD	X	X	NT	X	X	X	X	Reports runtime error 200 at 14EE:0091 when config is launched
NASCAR Racing	1995	Sierra On-Line / CUC / Papyrus	CD	NT	SB Stereo 8-bit	NT	X	X	X	X	Reports couldn't allocate enough low (conventional DOS) memory on launch
NASCAR Racing 2	1997	Sierra	CD	X	SBPRO	Y	X	X	OK	X	No audio at all plays
Noctropolis	1994	Electronic Arts	CD	OK	NT	NT	X	OK	OK	X	Speech skips and jumps during intro segment

Orion Burger	1996	Sanctuary Woods	CD	NT	SBPro	NT	X	X	X	X	Reports it must be run in MS-DOS mode even when no detect PIF is used
Peter Pan	1993	EA Kids	CD	OK	NT	Y	X	OK	NT	X	Only music plays - no digital voices or effects
Privateer	1994	Electronic Arts / Origin	CD	OK	NT	NT	X	X	X	X	Must use no detect pif; reports protected mode driver is not responding to EMS function calls.
Ripper	1996	Take 2 Interactive	CD	X	X	NT	X	X	X	X	Reports "DOS/4GW Professional error (2002): gtransfer stack overflow" during install
Sam & Max Hit The Road	1993	LucasArts	CD	OK	NT	NT	X	X	X	X	Only distorted noise comes from the speakers
Slipstream 5000	1996	Gremlin Interactive	CD	OK	NT	NT	OK	OK	NT	X	Reports "Needs at least 3072K of Extended Memory To Run" on launch
Solar Winds	1994	Epic Megagames	CD	X	X	Y	X	X	X	X	Reports "an error was detected initializing the Sound Blaster Card - unable to use Sound Blaster Digital Effects."
Space Hulk	1994	Electronic Arts	CD	OK	NT	NT	X	X	X	X	Bombs on launch
Star Fighter 3000	1996	3DO	CD	X	SBPro	NT	X	X	X	X	No audio at all plays
Starfire	1992	Silver Lightning Software	CD	OK	NT	NT	X	X	OK	X	Only SFX play - no music or speech
Stonekeep	1995	Interplay	CD	X	SBPro	NT	X	X	X	X	On launch reports "out of memory allocating: cache memory (84806011 bytes)
Stonemist 2	1994	Bit Brother Software	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 0436:0091" on launch
Super Fly	1994	Nels Anderson	CD	X	X	NT	X	X	X	X	Reports "runtime error 200 at 19EB:0091" on launch
Terminal Velocity	1995	Formgen	CD	X	SBPro	NT	X	X	X	X	Must use no detect PIF / no audio at all plays
Tristan Pinball	1994	Antex/Little Wing	CD	OK	NT	NT	X	X	NT	X	No audio at all plays
Tron/Light Craft	1996	JKS Development	CD	X	X	NT	X	X	X	X	System locks on launch
Tube	1994	Bullfrom Productions	CD	OK	NT	NT	X	X	NT	X	Bombs on launch
Tubes	1994	Software Creations	CD	X	NT	NT	X	X	X	X	Reports "runtime error 200 at 04F6:0091" when setup is launched
Virtual Snooker	1996	Interplay/Celeris	CD	OK	NT	NT	X	X	NT	X	No audio at all plays
Where in the USA is Carmen Sandiego	1993	Broderbund	CD	NT	SBPro	NT	OK	X	NT	X	FM music doesn't play correctly - wrong voicing / sounds better if Ad Lib is selected as music device
Where in the World is Carmen Sandiego	1992	Broderbund	CD	NT	SBPro	NT	OK	X	NT	X	FM music doesn't play correctly - wrong voicing / sounds better if Ad Lib is selected as music device
X-Com II: Terror from the Deep	1994	Mythos/MicroProse	CD	NT	SB	Y	OK	OK	OK	X	Game configures & tests OK, but bombs on launch
Xerix	1992	Brendan Reville	F	OK	NT	NT	X	X	X	X	Reports "error in xerix.cfg - run XINSTALL"
X-Wing	1992	LucasArts	CD	OK	NT	Y	OK	OK	OK	X	Game moves very slowly, music plays about half-speed
X-Wing Collector's CD	1992	LucasArts	CD	OK	NT	Y	OK	OK	OK	X	Game moves very slowly, music plays about half-speed
Zone 66	1993	Epic Megagames	CD	X	X	NT	X	X	X	X	Program reports system is under control of a protected mode program and refuses to run or configure