iNFRA 40X CD-ROM Drive CD4020/1E

In This Leaflet

Introduction

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Creative iNFRA 40X CD-ROM drive allows you to play audio CDs, skip or stop a track, and eject the CD using the controls located on your drive's front panel. It also comes with a software application that transforms your CD-ROM drive into an even more versatile CD player. A unique feature of this CD-ROM drive is the infrared receiver on its front panel. The receiver allows you to control the drive and some system applications via the Creative iNFRA remote control.

Front Panel

Your drive's front panel has various controls as shown in Figure 1.

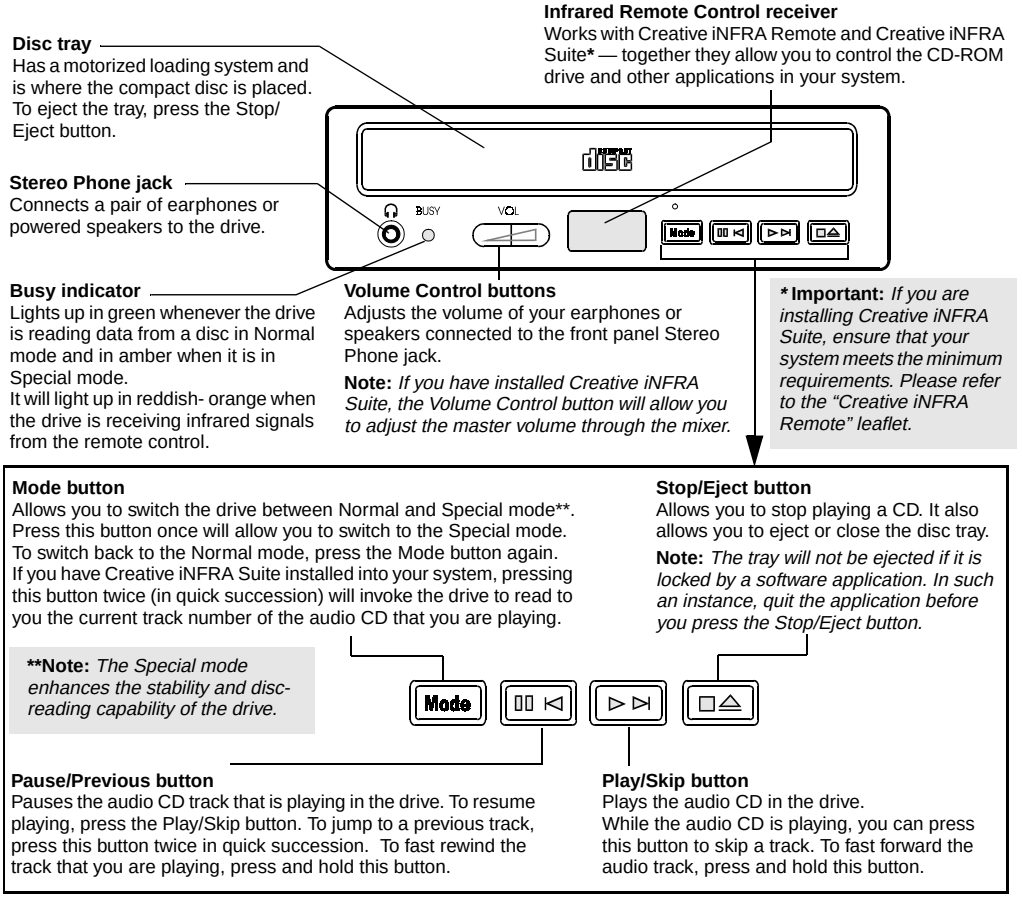


Figure 1: Front panel of your CD-ROM drive.

Rear Panel

Your drive's rear panel has various connectors as shown in Figure 2.

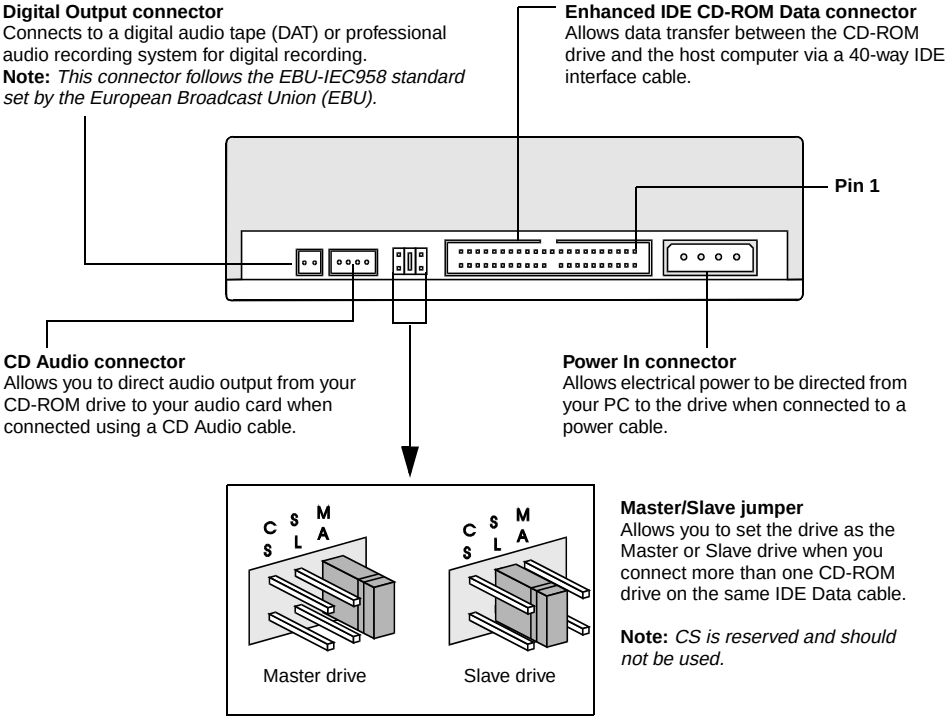
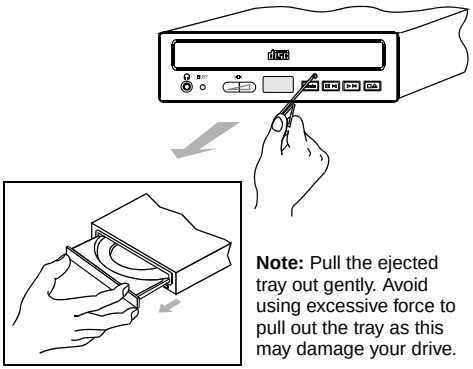


Figure 2: Rear panel of your CD-ROM drive.

Ejecting the Disc Tray

When there is a power or system failure, you can eject the disc tray by inserting and pushing a straightened paper clip into the Eject hole and pull out the ejected tray gently.



Note: Pull the ejected tray out gently. Avoid using excessive force to pull out the tray as this may damage your drive.

Figure 3: Ejecting the disc tray.

Troubleshooting

This section helps you solve some problems you might encounter while installing or using your CD-ROM drive and software.

Problems with CD-ROM Drive

No sound from speakers.

Causes This could be due to one of the following causes:

- ❑ The audio cable or speakers are not connected properly.
- ❑ The volume is not adjusted to an audible level.
- ❑ The drive may be faulty.

Solutions Perform one of the following:

- ❑ Ensure that the CD Audio cable is connected to the CD Audio connectors on the drive and the audio card. Also, ensure that the speakers are connected to the audio card's Speaker Out jack.
- ❑ Ensure that the volume of your mixer software is set to an audible range.

❑ Connect your headphone to your drive's Stereo Phone jack. If there is no sound from the headphone, consult your dealer about the faulty drive.

CD-ROM drive is not ready.

Cause The power cable or CD-ROM Data cable is not connected.

Solution Ensure that the power cable and CD Audio cable are connected properly to the drive.

Features and Specifications

General Features

Transfer Rate	40X speed. This means that the drive can supply a maximum stream of information at 6,000 KB per second to the PC bus.
CD-ROM Standards	The drive meets the MPC level 2 and 3 requirements for CD-ROM. It is also single and multi-session compliant.
Multiple Drive Support	The drive allows you to connect more than one CD-ROM drives to your PC.
Infrared Receiver	The drive can be controlled remotely when used together with Creative iNFRA Remote and Creative iNFRA Suite installed on the host computer.

Technical Specifications

Physical Dimensions

Height	42 mm
Width	149 mm
Depth	203 mm
Color	PC white

Performance Characteristics

Access Time($^1/_3$ Stroke)	85 msec (Typical)
(Full Stroke)	150 msec (Typical)
Buffer Memory	256 KB
Data Transfer Rate (Sustained)	6,000 KB/sec (40X)
Read Error Rates	
Soft Read Error	$< 10^{-9}$
Hard Read Error	$< 10^{-12}$
Seek Read Error	$< 10^{-6}$
Mean Time Between Failure	100,000 Power On Hour (POH) at 15% Duty
Power Supply	5 Volts DC, 1.0 Amp (max) 12 Volts DC, 1.5 Amp (max)
Disc Formats Supported	CD-Audio CD EXTRA, CD-Plus, and Enhanced CD CD-I CD-R and CD-RW CD-ROM Mode 1 and Mode 2 CD-ROM/XA Mode 2, Form 1 and 2 Photo CD Pre-Gap CD Video CD

Refer to the Glossary section for a detailed explanation of the various CD formats.

Typical Audio Performance

Line-Out	
Channel Separation	> 65 dB (at 1 kHz)
Frequency Response	20 Hz to 20 kHz (± 3 dB)
Output Level	0.7 V_{rms} (± 20% at 50 kΩ)
Signal to Noise Ratio	> 75 dB (at 1 kHz)
Total Harmonic Distortion	0.1% (at 1 kHz)
Headphone	
Channel Separation	> 50 dB (at 1 kHz)
Frequency Response	100 Hz to 20 kHz (± 3 dB)
Output Level	0.6 V_{rms} (± 20% at 32 Ω)
Signal to Noise Ratio	> 65 dB (at 1 kHz)
Total Harmonic Distortion	0.15% (at 1 kHz)

Environmental Operating Limits

Ambient Temperature (No Condensation)	
Operating	5 to 45°C
Storage	-25 to 55°C
Relative Humidity (No Condensation)	
Operating	10 to 85%
Storage	10 to 90%

Glossary

CD	Compact Disc. An optical storage medium, 12cm in diameter, which has a much higher capacity (up to 650MB) but slower access speed than hard disks.
CD-Audio	Compact Disc—Audio. Another name for Compact Disc—Digital Audio (CD-DA). The forerunner of all CD formats, this specification was established in 1980 by Sony and Philips.
CD-Bridge	A CD-Bridge disc is defined as a CD-ROM/XA disc with additional codes in the CD-ROM/XA tracks. This allows the output to be shown on a TV screen (with CD-I players), and on a computer monitor (with CD-ROM/XA players). The specifications for the CD-Bridge disc are known as the White Book. Examples of CD-Bridge discs are the Photo CD and the Video CD.
CD-I	Compact Disc—Interactive. Released in 1986 to extend the CD-ROM's Mode 2 definition, CD-I format improved the synchronization of retrieving data, graphics and audio information.
CD EXTRA	Also known as CD-Plus or Enhanced CD, CD EXTRA is a two-session disc format defined by Philips and Sony. The first session contains the CD-Audio tracks which can store up to 98 tracks. The second session contains the CD-ROM data track. See Mixed-Mode and Pre-Gap CD.

CD-R	Compact Disc—Recordable. Information on CD-R discs is written using a laser-based desktop CD recorder whereas information on commercially duplicated compact discs is stamped using nickel masters. Generally, most CD-R discs are gold in color, unlike silver-colored CD-Audio or CD-ROM discs.
CD-ROM	Compact Disc—Read Only Memory. The CD-ROM standard was published in 1983 by Sony and Philips. It defines more error correction than the CD-Audio format as inaccuracy is more critical in data retrieval than in music playback.
CD-ROM/XA	CD-ROM/Extended Architecture. An extended CD-ROM format developed in 1988 by Philips, Sony, and Microsoft that provides synchronized data and audio, as well as additional hardware for the compression and decompression of audio information. CD-ROM/XA improves the discs' capability to store and playback multimedia.
Mixed-Mode	The Mixed-Mode disc is a single session disc comprising both data and audio tracks. The data is contained in the first track and the audio in one or more of the subsequent tracks. The disadvantage of a Mixed-Mode disc is its inability to play properly on an audio player. This is because the audio player will always read the first data track which causes a loud grating sound to emanate from the speakers. Thus formats, such as the Pre-Gap CD and CD EXTRA, were created to help solve this problem.
Photo CD	A CD-Bridge disc. Released in 1990 by the Eastman Kodak company to provide a standard for storing high-quality photographic images. This standard is based on the CD-ROM/XA format.

Pre-Gap CD	Similar to the Mixed-Mode disc, the Pre-Gap CD is also a single session disc with both data and audio tracks. Like the Mixed-Mode disc, the first track is always the data track and the subsequent tracks are the audio tracks. The difference between the Pre-Gap CD and Mixed-Mode disc is that its first data track is hidden so that an audio player will not be able to read the data track and instead, it will play the audio tracks only.
Video CD	Video CD is a CD-Bridge disc. It can be played on a number of devices but must always contain a CD-I application in order to be played on any CD-I player. The Video CD is multi-platform compatible due to its Bridge format and is also independent of broadcasting standards such as NTSC and PAL.