

SAMSUNG SN-308 CD-RW/DVD ROM Drive User's Guide

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FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
-

Initial release: May, 2001

Introduction: SAMSUNG SN-308 CD-RW/DVD ROM Drive User's Guide

[Manufacturer model name and number](#) • [Drive speed](#) • [Bus interface](#) • [Types of disc formats supported](#) • [Software support](#) • [Features](#) • [Configuration](#) • [Front View](#)



Drive has capability of reading CD, DVD and writing CD-R and CD-RW media through the use of Standard software required to operate traditional CD, CD-RW and DVD Drives.

Manufacturer model name and number

SAMSUNG SN-308

Drive speed

Read :

DVD : 8X
CD-ROM : 24X
CD-RW : 8X

Write :

CD-R : 2X, 4X, 8X
CD-RW : 2X, 4X, 8X

Bus interface

ATAPI BUS(IDE)

Types of disc formats supported

DVD :

DVD-5 : single-sided, single-layer format (4.3 GB)
DVD-9 : single-sided, dual-layer format (~ 7.9 GB)
DVD-10 : double-sided, single-layer format (~ 8.7 GB)
DVD-18 : double-sided, dual-layer format (~ 15.9 GB)
DVD-R : V1.9

CD :

CD-DA

CD-ROM(Mode-1,2)
CD-ROM XA(Mode-2, Form-1,2)
Photo-CD(Single, Multi-Session)
VIDEO-CD ready
CD-I(FMV)
CD-Plus
CD Extra
CD-R(Read/Write)
CD-RW(Read/Write)
CD-TEXT

Software support

- ✍ Easy CD Creator Ver 4.04d10 or higher
 - ✍ CLONE Ver 2.67 or higher
 - ✍ Winon CD Ver 3.7 or higher
 - ✍ Juggler Ver 3.0 or higher
-

Features

- ✍ **Disc loading mechanism**
This drive uses motor solenoid mechanism.
 - ✍ **3-way disc ejection**
Eject button, Software and Emergency Eject Hole
 - ✍ **Average access time**

| | |
|---------|----------------------|
| DVD | 120msec (1/3 stroke) |
| CD-R/RW | 120msec (1/3 stroke) |
 - ✍ **Audio capability**
Audio capability follows the industry standard CD-Audio format.
 - ✍ **MPC3 compatibility**
Compatible
-

Configuration

This CD-RW/DVD ROM drive should be used only in its current hardware and software configuration.

Front View



1. LED

This indicator lights green while data is being read.

2. Eject button

3. Emergency Eject Hole

If the disc tray does not open when you press the Eject button, insert a small, metal rod (an unwound paper clip for example) into this hole to eject the disc.

* This function should only be performed when the computer is powered OFF.

4. Disc Tray

The Disc Tray will be open a little when you press the Eject button. Then you should pull the Tray open completely.

* When you place a disc in the tray, make sure that the label on the disc is facing upwards.

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Setup: SAMSUNG SN-308 CD-RW/DVD ROM Drive User's Guide

[Dell Installed Drives](#) • [Drives Purchased Separately as Customer Kits](#)



Note: To help avoid possible damage to the system board, unplug the computer system and wait 15 to 20 seconds for the standby power to dissipate before adding or removing any components from the system.

Dell Installed Drives

Dell performs the installation and setup on CD-RW/DVD ROM drives that are shipped as part of a system, including loading the appropriate device drivers when the operating system is installed. The drive is ready for use when you receive your system. No further installation or configuration is necessary.

Drives Purchased Separately as Customer Kits

Installing the Drive

- ✍ Install and configure the drive according to the instructions provided in the Dell documentation for your system.

Verify Drive Operation by playing an Audio CD

1. [Insert an Audio CD](#) into the CD Tray.
2. Press the CD Tray until the tray is closed completely.
3. Audio CD will start playing (If Audio CD does not start-up, see [Troubleshooting](#) section).



Note: If customer has an older version of the NT file called cdaudio.sys this older version will not play audio CD's and in some cases won't even read data CD's such as Kodak Photo CD's. In addition, if the customer has the "Autorun feature" turned off, the drive will not automatically start playing the CD.

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Using the CD-RW/DVD ROM Drive : SAMSUNG SN-308

CD-RW/DVD ROM Drive User's Guide

[Operating the Drive](#) • [Regional Coding](#) • [Handling Media](#) • [Cleaning Media](#)

Operating the Drive

Drive operation:

Inserting a CD

1. Press the Eject button, and you will hear sound like "tick". Then you should pull the tray open completely.



2. Place the disc on the center of the tray with the label side facing upwards.



3. Push the tray until it is closed completely.



Removing a CD

1. Press the Eject button. The Disc tray will be ejected.
2. Remove the disc.
3. Push the tray until it is closed completely.



NOTE: If an eject prohibit command has been received from the computer, the CD tray will not be ejected even if the Eject button is pressed.

Usage guidelines

- ⚡ Do not press down on the disc tray when opening or closing it.
- ⚡ Do not place objects on the disc tray.

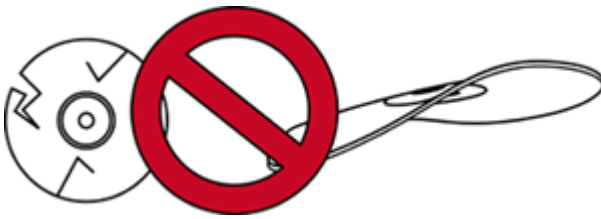
- ✗ Never use a damaged, broken, or deformed disc.
- ✗ Do not press the Eject button while the computer is accessing the disc.
- ✗ Keep the disc tray closed when not using the CD-RW/DVD ROM drive.
- ✗ Do not press the Eject button while the drive is playing a CD movie. To stop a CD movie, click Stop button in the CD player application program.



NOTE : High-speed drives spin the disc at a high rotational speed. If a CD has printing on only half of the disc, or if there is a slight imbalance in the CD, the imbalance is greatly magnified by the high speed, causing the drive to vibrate or produce a fan-like noise. These effects are inherent in the high-speed technology and do not indicate a problem with the drive.



WARNING : The Discs in this unit operate at a very high speed!



DO NOT use damaged, cracked or warped discs. The drive's optical unit may be damaged if they break.

DO NOT use non-standard discs. Non-standard discs may not play or store data properly.

Emergency Ejection

The procedure described below can be used to remove a disc from the CD-RW/DVD ROM Drive if the Eject button is disabled by software or a power failure occurs.

1. Turn off the power to the computer installed the CD-RW/DVD ROM Drive.
2. Insert a steel rod (about 1.3mm in diameter) into the emergency eject hole and push hard.



3. The Disc tray is ejected by about 10mm. Pull it all the way open by hand. A stiff paper clip may be used as a steel rod.



Regional Coding

Region Protection Coding (RPC) of DVD Discs:

This feature is supported on DVD Players and is used with DVD-Video Discs (ie. movies). Currently, the motion picture industry has divided the world into different regional "zones". These regions or "zones" correlate to the regional markets into which the motion picture industry releases movies. Simply put, RPC Codes are placed on Movie Discs marketed throughout the world based on the region of the world they are being sold into. These RPC codes help to control and prevent the pirating of new release movies into other motion picture market regions prior to their true release dates within those markets.

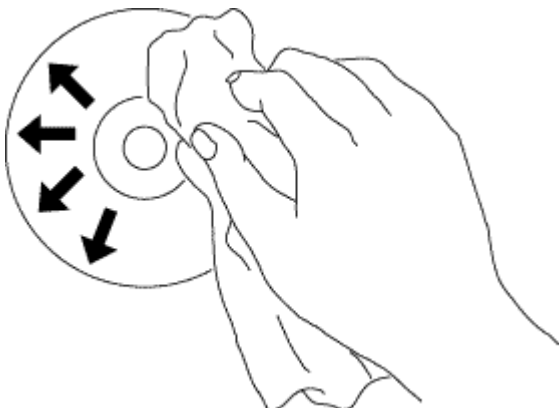
SN-308 CD-RW/DVD ROM drive supports RPC phase II. The local code of RPC-2 mode can be changed by users. It is possible for users to change the zone code up to five times on MPEG Application.

Handling Media

DVD media is sensitive to dust and fingerprints. Carefully handle media by its edges only. If a DVD movie skips or hangs during playback, [clean the media](#). Most DVD video playback issues are media-related and can be remedied by proper handling and care of media.

Cleaning Media

- ⚡ If dust or fingerprints get on the disc, wipe it with a soft cloth from the center to the edge.



- ⚡ Do not use benzene, paint thinner, record cleaner, or static repellent. This can damage the disc.

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Troubleshooting: SAMSUNG SN-308 CD-RW/DVD ROM Drive User's Guide

| Symptoms | Solutions |
|---|--|
| 1. Drive is not recognized by system. | 1. Is the CD-RW/DVD drive connected properly ? Ensure: Drive module inserted correctly into notebook. |
| 2. CD is not being recognized by computer or drive. | 1. Is the disc the correct format for the system that you are using? 2. Do you have the correct software applications and drivers installed? 3. Is the CD dirty or does it have fingerprints on the surface. |
| 3. Disc tray cannot be opened. | 1. Check that there is power to the CD-RW/DVD drive. 2. Use Emergency Eject Instructions to open the tray. |
| 4. Certain types of discs do not play. | 1. This drive only supports discs with the formats indicated in the "Introduction" and "Specifications" sections. It cannot read the data on discs with other formats. Check the disc's format. |
| 5. Cannot Read or Write Discs. | 1. Is the condition of everything else in the system (CPU, hard disc, and others) as it should be? 2. Does the CD-R/RW or DVD disc have dirt or scratches? 3. Did a screen saver or other application operate while writing to the disc? 4. Is there enough free space on the CD-R/RW or DVD disc? 5. Does writing fail even using the simulation test? 6. Is the disc loaded in the drive with the read/write surface facing the right direction? (label up) 7. Is the drive installed in the correct orientation? 8. Was the drive or disc moved from a low temperature environment to a high temperature environment? (There is a possibility of condensation on the lens in the drive or on the surface of the disc.) |



NOTE: Consult the Dell documentation for your system for additional information on troubleshooting CD-RW/DVD ROM drive problems.

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Specifications: SAMSUNG SN-308 CD-RW/DVD ROM Drive

User's Guide

[General](#) • [Performance](#) • [Reliability](#) • [Audio](#) • [Environmental](#) • [Power](#) • [Physical](#) • [Connector](#) • [Lasers](#)



NOTE: These specifications are provided by the manufacturer for information purposes only and do not constitute an extension of Dell Computer Corporation's warranty to you. Dell's warranty is contained in the documentation that came with your system.

General

| | |
|-----------------------------|--|
| Manufacturer | SAMSUNG |
| Model number | SN-308 |
| Interface | ATAPI BUS(IDE) |
| Compatible CD-ROM standards | CD-DA CD-ROM(Mode-1,2) CD-ROM XA(Mode-2, Form-1,2) Photo-CD(Single, Multi-Session) VIDEO-CD ready CD-I(FMV) CD-Plus CD Extra CD-RW(Read/Write) CD-R(Read/Write) CD-TEXT DVD-R |
| Storage capacities | |
| DVD | |
| DVD-5 | 4.3GB |
| DVD-9 | 7.9GB |
| DVD-10 | 8.7GB |
| DVD-18 | 15.9GB |
| CD | |
| Mode 1 | 656 MB/disc |
| Mode 2 | 748 MB/disc |

Performance

| | |
|---------------------|-------------------|
| Rotational speed | |
| DVD | |
| 8x speed | 4,600 rpm Max |
| CD | |
| 24X speed | 5,300 rpm Max |
| Data transfer rate: | |
| DVD | |
| 3.3x speed | 4,500 KBytes/sec |
| 8x speed | 10,800 KBytes/sec |
| CD | |
| 10.4x speed | 1,560 KBytes/sec |

| | |
|------------------------------------|------------------------------|
| 24x speed | 3,600 KBytes/sec |
| IDE interface burst transfer rate | |
| PIO mode 0 | 3.3 MBytes/sec |
| PIO mode 1 | 5.3 MBytes/sec |
| PIO mode 2 | 8.3 MBytes/sec |
| PIO mode 3 | 11.1 MBytes/sec |
| PIO mode 4 | 16.6 MBytes/sec Max |
| Multiword DMA mode 2 | 16.6 MBytes/sec Max |
| UDMA mode 2 | 33.0 MBytes/sec Max |
| Access time | |
| DVD | 120 msec (1/3 stroke) |
| CD | 120 msec (1/3 stroke) |
| Total Number of blocks | |
| CD | 336,150 blocks/disc 74min 42 |
| Buffer size | 2048 KB |
| DAE(Digital Audio Extraction) rate | |
| CD | |
| Audio Extraction | 12x(CAV) |
| Audio Play | 4x(CLV) |
| CD-RW | 16x |
| Video CD, CD I | 16x(CAV) |

Reliability

| | |
|-------------------|-----------------------|
| MTBF | 100,000 POH(Duty 25%) |
| User error rates: | |
| DVD | 10^{-15} block/bits |
| CD | |
| Mode 1 | 10^{-12} block/bits |
| Mode 2 | 10^{-9} block/bits |
| DVD/CD | |
| Seek error rate | 10^{-6} block/bits |

Audio

| | |
|---------------------------|------------------------------|
| Sampling frequency | 44.1 KHz |
| Number of channels | 2 channels |
| Frequency response | 20 to 20,000 Hz(± 3 dB) |
| Signal/noise ratio | Line out : 75db (1KHz) |
| Total harmonic distortion | 0.1% (1KHz) |
| Line output | 700 $\pm 20\%$ mV (1KHz) |

Environmental

| | |
|----------------------|-----------|
| Ambient temperature: | |
| Operating | 5 ~ 50 °C |

| | |
|--------------------|----------------------------|
| Storage | -20 ~ 65 °C |
| Relative humidity: | |
| Operating | 8 ~ 80 % (No Condensation) |
| Storage | 5 ~ 95 % (No Condensation) |
| Acoustical noise | |
| Drive on (seeking) | 48dB Max |

Power

| | |
|----------------------|--------|
| Voltage | +5V DC |
| Current | |
| Idle Mode | 0.95A |
| Continuous Read Mode | 1.05A |
| Random Read Mode | 1.2A |

Physical (With Bezel)

| | |
|--------|---------|
| Height | 12.7 mm |
| Width | 129 mm |
| Depth | 128 mm |
| Weight | 200 g |

Connector

| | |
|------------------|--------|
| System connector | 60 pin |
|------------------|--------|

Lasers

DVD

| | |
|----------------|--|
| FOCUSING | Astigmatism Method |
| TRACKING | DPD(Differential Phase Detection) Method |
| Wave Length | 650 ±10 nm |
| Optical output | 10 mW (MAX) |

CD

| | |
|----------------|--------------------|
| FOCUSING | Astigmatism Method |
| TRACKING | DPP Method |
| Wave Length | 785 [+5, -15nm] |
| Optical output | 120 mW (MAX) |

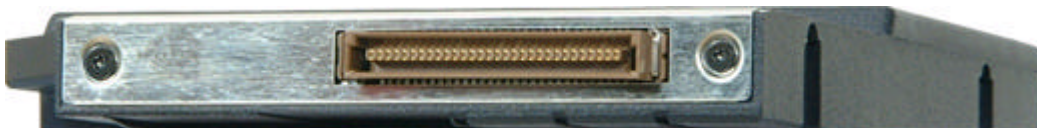
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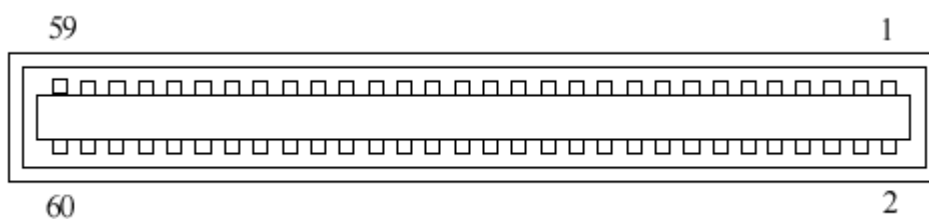
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Drive Connectors : SAMSUNG SN-308 CD-ROM Drive User's Guide

Rear of Drive and Pin



Pin Arrangement



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Regulatory: SAMSUNG SN-308 CD-RW/DVD ROM Drive

User's Guide

[Safety](#) • [EMC\(EMI+EMS\)](#) • [Laser Safety](#)

Safety Approval

The Product will satisfy the safety standard below:

- ✍ c-UL - USA , CANADA
 - ✍ TUV - EN60825-1, EN60950
 - ✍ CE(LVD)- EN60825, EN60950
 - ✍ NEMKO - EN60950(1992) A1/A2/A3/A4/A11, EMKO-TSE(74-SCE) 207/94
 - ✍ CB(Certification Body) - IEC60950:1991+A1+A2+A3+A4 , IEC60825-1:1993+A1
 - ✍ GOST(RUSSIA)
-

EMC(EMI+EMS) Approval

The product complies with applicable technical requirements as specified below:

- ✍ FCC(USA) - FCC Part 15 Class B Digital Device
 - ✍ CE(EMC) - European
 - ✍ VCCI(Japan)
 - ✍ C-TICK(Australia)
 - ✍ BSMI (Taiwan)
 - ✍ MIC (Korea EMC)
 - ✍ GOST(RUSSIA)
-

Laser Safety

The product will satisfy all the requirements for the laser specified below:

- ✍ DHHS : CFR 21 Chapter 1, Subchapter J
- ✍ IEC60825-1:1993 with Amend. 1:1997 CLAUSE 8 AND 9

The CLASS 1 LASER PRODUCT label is located at the top of the enclosure.

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