1RU Slot-in Network CD Player

DN-C640

In our world of multifunctional electronics, it seems there is no combination of digital functions that hasn't been marketed. The key, of course, is meeting people's needs. So we have a camera on a cellphone, a game console with a media player, etc. The key to defining an object's basic nature is its form factor. The new DN-C640 from Denon Professional is, at the heart of it, a full-featured, rack-mounted network CD player. But note the word "Professional" in the brand name. With a combination of flexible file formats, network control, and comprehensive inputs and outputs, this machine takes the "CD player" concept to new heights. Its combination of features can streamline operations in a vast array of playback situations, from restaurants and bars to schools and broadcasters. The practical uses of the Denon Professional DN-C640, professional-quality network CD player is limited only by your needs — and your imagination.

Key Features

— 1 RU Rackmount Size
— Supports CD-DA (.cda), WAVE (.wav), MPEG-1/2 Layer III (.mp3), MPEG-1 Layer II (.mpg), Windows Media Audio (.wma)
— Slot in CD/DVD drive
— +/- 12% Pitch Control
— Quick Replay Feature
— End Monitor and User-selectable Finish Mode Features
— Cue to Music (with dedicated button)
— Program Play
— Balanced Audio Output

Reads CD-R/RW, DVD-R/RW, and DVD+R/RW discs

For several years now, newer CD Players expanded the length of continuous playback time without interruption by adding the ability to play back compressed digital audio files off CD data discs. One CD data disc could provide as much as 20 hours when playing back low bit rate MP3 files. The DN-C640 embraces this idea but takes it a step further. Not only can the DN-C640 playback MP3 and WMA files from CD DATA discs, but it is also capable of decoding broadcast standard MP2 and uncompressed digital PCM (WAV) files from those same discs. In addition to reading all of those files from CD, it also has the unmatched ability to read any of the above from any DATA DVD. This not only expands the 20 hour playback time to almost 3 days of continuous playback (999 files at 4 Min. each), but also allows those users who demand uncompressed audio quality the ability to playback full 44.1kHz PCM recordings without being limited to the 80 minute CD-R.

Plays Back Digital Audio Existing on Other Network Devices

Not only can the DN-C640 decode a host of compressed and uncompressed digital audio files from CD or DVD data discs, but it now gives the end-user the unique ability to stream any of those files from a server or computer, as long as it is accessible via a network. Now, any

corporate environment that records and stores their meetings on a network HDD or computer can simply navigate to that folder location from the front panel of the unit or by using the on-board web browser, select a specific file, and play it into their system. Any application from background music, to meeting recording playback, to small radio stations not utilizing some sort of enterprise software to manage their station will benefit greatly from this unique feature.

Controllability for Every Application

The new Denon Professional DN-C640 comes with a host of control options, suitable for every application and every installation.

25-pin Contact Closure (GPIO)

Denon CD players have been used for years in the broadcast market and the DN-C640 is no exception. A 25-pin GPIO port allows for easy integration and full-featured usability in every broadcast studio or station installation.

9-pin RS-232C Control

The DN-C640 easily integrates into any new or existing installation using third-party serial control systems like Crestron® or AMX®.

IR Control with included IR Remote Control

Like most CD players, the DN-C640 is controllable by it's included IR commander. Perfect for small installations not using serial control solutions or Health and Fitness centers, the IR control allows every feature from playback to the +/-12% pitch control to be activated/adjusted.

Internal WEB GUI for Control from any Web-enabled Computer

It is becoming standard in our industry that any network device be controllable via a web-enabled computer. Because the machine has its own web server on-board, any computer on the same network can call up and play audio files, build program playlists, and have full transport control functionality over the DN-0C640.

Unsurpassed Capability to Read and Play Audio Files
ULTIMATE AUDIO PLAYER

Its carton reads: "Slot-in Network CD Player." But don't be fooled! As impressive as that may sound, the simple truth is that the DN-C640 does more. Much more. Like playing a multitude of audio formats off of CD and DVD data discs. Basically, if it's in your collection and contains music files, this machine will play it. It's a multi-disc, multi-format masterpiece.

And when we say "multi-disc," we're not talking about bulky multi-disc changers. We mean CDs, including CD-R and CD-RW and even DVD-R/RW and DVD+R/RW. And when we say multi-format, we mean everything from commercial .cda and uncompressed .wav files to broadcast-standard MP2 and internet-friendly .wma and .mp3. So whether you bought it downtown or downloaded it on the Web, odds are the DN-C640 can play it.

Tired of changing CDs? Just slot a single CD-ROM into the DN-C640 and you've got up to ten hours of entertainment. Or better yet, fill a DVD-ROM with up to 4.7 GB of MP3 files and you've got over 60 hours of music – enough for a full business week. Or go high fidelity with audiophile quality WAV files – or a combination of both. No other CD player can do all this.

Long the favored brand of CD player in the demanding world of broadcasting, Denon combines that professional pedigree with insightful features like Quick Replay, Pitch Control, End Monitor, and a selectable Finish Mode. Inputs and outputs are similarly comprehensive, including analog and digital, balanced and unbalanced, fixed and variable level. In short, the DN-640 is much more than a professional quality slot-in CD player. It's really the Ultimate Audio Player!

AUDIO CD
74 min.

CD ROM
10 hrs.

DVD ROM
60 hrs.

AUDIO FORMATS

.cda

.mp2

.mp3

.mpg

.wav

.wma

"Now I can have a week's worth of music on one disc with no hassles!"

Network Connectivity and Control
NETWORK STREAMING

Stream from a laptop or computer.

Beyond its comprehensive playback abilities and full professional functionality, its network connectivity and control that really sets the DN-C640 apart from the crowd. Just plug a CAT-5 Ethernet cable into its RJ-45 port and the DN-C640 becomes a network device, streaming audio from a shared folder on a computer hard drive or server instead of a CD or DVD. This plug-and-play functionality works equally well with anything from either an individual computer, up to and including a home or corporate LAN.

This makes the DN-C640 perfect for applications like background music. With access to all the music stored on a designated computer hard drive, it's easy to created themed playlists of up to 999 files, and there's no need to worry about scratched discs or balky disc-change mechanisms. And the DN-C640 offers the same robust function and playback controls for streaming network music as it does when using disc sources.

Another nice design touch is the fact that streaming audio tracks from the network are treated the same as if they were on a standard commercial CD. That means all the control and monitor functions on the front panel and remote control work the same, even with no silver disc in the DN-C640 itself. So there are no complicated layers of menu functionality to learn – just a bigger, more flexible source for any music playlist you've set up on your computer hard drive.

Setting it up is easy. With the DN-C640 off, use an Ethernet cable to connect to your computer or network. Turn the unit on, and the DN-C640 configures its own IP address automatically. Of course, if you (or your IT department) prefer to assign network settings manually, this is also easily accommodated. And not only can you play files from the shared hard drive folder; you can easily upload individual tracks or even full albums from the DN-C640 to the computer.

To access streaming capability, all you have to do is hit the blue Network button found on either the DN-C640 front panel or its IR remote control. This switches the machine from internal (CD/DVD) drive to network drive mode. At that point, you just use the remote or front panel to navigate to the file of your choice. Then hit play and you're done. The DN-C640 does the rest, outputting the audio through its host of analog and digital audio outputs.

Convenience of Full-featured Remote
IR REMOTE

The infrared (IR) remote that comes standard with the DN-C640 is arguably even more impressive than the machine itself. How can this be? Quite simply, the player's slender (1 R.U.) rack mount design means that some of its advanced features are controlled from the remote (or by network control) instead of the front panel. So you get much more than the transport controls, track select, power and eject buttons found on typical CD remotes. That means full control of music programming from across the room. Additional controls include 0-9 keypad, pitch and volume controls, along with Random, Recall, Repeat, and much more.

Clubs and restaurants playing background music will especially appreciate the volume +/- control, which allows the user to dial in the right volume directly from a listening position. Similarly, fitness club instructors can match the beat to the workout with the DN-C640's +/-12% pitch control in real time – without scurrying over to the equipment rack between songs.

The options are almost limitless. Jump directly to the track you want using the number keys. To set up tracks to play in a specific order, just hit the Program button, select the desired track and hit the Enter button. Repeat as necessary to create a custom program. And once you've set things up the way you want, hit the Lock button to freeze the front panel controls.

And all these features work the same whether you're controlling a disc or playing audio from a computer. The blue Network button switches the machine from disc to network drive, giving direct access to the music folders available on your local computer network. You can even navigate through available Network folders directly from the remote.

At first glance, this remote might seem like more than you need. But once you experience the power and convenience of a full-featured remote on the ultimate audio player, you'll wonder how you ever got along without it.
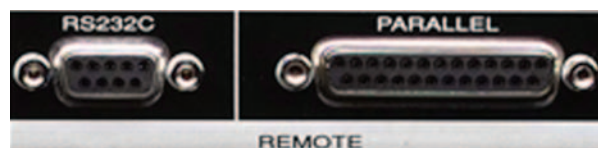
Pitch Control

Volume Control

CONTROL PORTS

The DN-C640 is all about command and control. Not only do you get the powerful combination of a full-featured IR remote and LAN control, but you also get both RS232 serial control and GPIO parallel control ports, perfect for system integration.
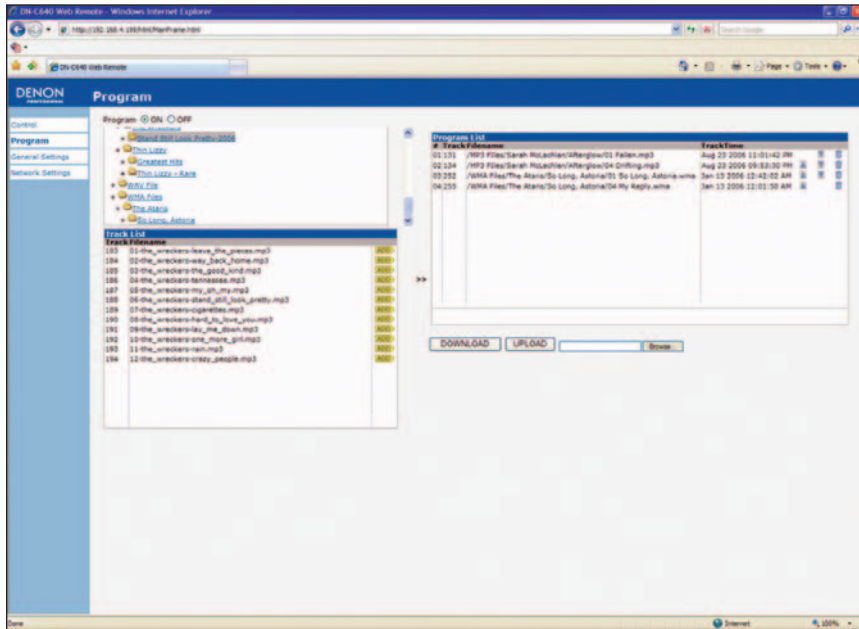
The RS232C port lets you control your DN-C640 from a host of serial devices, like AMX™ and Crestron™ systems. Using a standard 9-pin RS-232C connector, an external control system can access power, start and finish modes, fade in/out, and more. You can also display disc status functions, title and artist CD-Text or ID3 tag information, as well as ISRC and POS codes for stations broadcasting RDS or HD-Radio.

A feature long favored by broadcasters for playback control from the mixing console, a DB25 contact closure permits general purpose input/output (GPIO) of specific functions via contact closures. This allows basic automation of functions like fader start and index tallying as well as play, track advance, pause, etc. all of which are ideal for integration with devices like motion sensors, push buttons and proximity sensors.
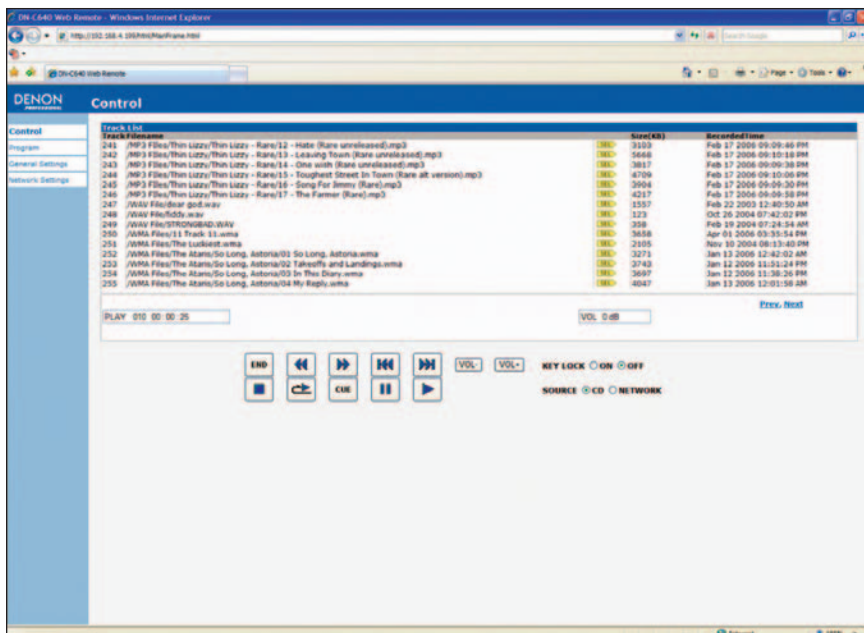
Controlability for Every Application
BUILT-IN BROWSER CONTROL

With all the features and functions of the DN-C640, we simply could not fit full programming functionality onto the front panel of a 1 R.U. design. But with network connectivity comes network control. Our built-in Web browser interface offers a simple, intuitive user interface so you can build music playlists, operate all playback functions and even access and modify preset parameters for the machine itself directly from your PC.
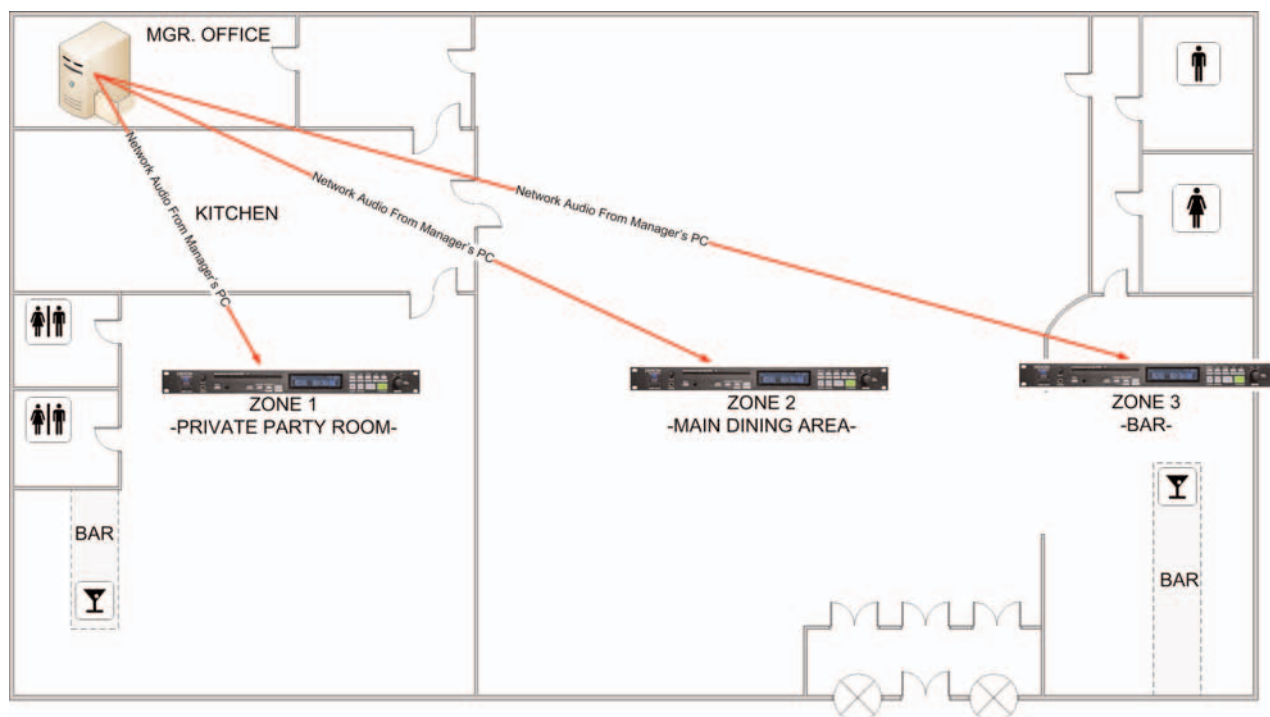
Using the browser, it's a simple matter to navigate to the music files stored on your hard drive, whether they are MP3, uncompressed WAV, windows media audio, or commercial .cda tracks. You simply "point" the DN-C640 to the desired folder on your hard drive, and the available files appear in a track list on the GUI. These are easily added to the Program List you are building – just click "Add" next to the desired track or file, essentially creating a roadmap to the files you want, in the order you want. After you have built your program list, it's just as easy to change the order, delete files, etc. Once completed, the new Program List can be named and stored on your local PC, for later use, or made active for immediate programmed playback.

The browser interface also offers remote access to the DN-C640 itself. You can easily access all transport controls and even lock out the front panel and adjust the volume of the variable output, all from the browser interface.

NETWORK DIGITAL AUDIO PLAYER

Background Music

Imagine a multipurpose venue, with different audio needs at different times. It might be a restaurant requiring different moods at different meals. It might be a nightclub or lounge that offers theme nights. It might be an entertainment complex with all of the above, like a cruise ship. In the past, such venues have relied upon CD changers, which must be hand-loaded and also tend to be somewhat balky mechanisms. Discs get scratched and lost, and keeping everything files can turn into a daily project.

With the DN-C640, each area of a venue – dining rooms, nightclubs, VIP room, etc. – can be serviced by individual CD players, each having access to a central server containing folders of appropriate music. So the fine dining experience can include smooth jazz or Sinatra tunes, but offer light rock at lunch. A nightclub or lounge might want to feature different themes—reggae, disco, oldies—on different nights. Instead of constantly shuffling CDs or investing in a dedicated media server, the insightful solution is to install a D-C640. It can handle virtually any form of silver disc, including data discs with up to 20 hours of programming.

For maximum flexibility, connect a CAT-5 cable to a computer or local area network (LAN) for instant Ethernet access to whatever programming is appropriate at the moment. Perfect for multi-room facilities on any scale, from nightclub to cruise ship. No need for a dedicated computer in each room, no more worries about lost or scratched discs – just a high quality CD player that can access a central library of program material.

Houses of Worship/Theater

The flexibility of the DN-C640 simplifies life. Music ministers, for instance, may have a library of hundred of hymns, with only a few in use each Sunday. A theater production might have thousands of sound effects on file, yet require only a dozen for its current production. Both of these situations are easily handled by the DN-C640's networking capability. By organizing the required audio tracks into a group – just as you would on your portable music player – you can create a "virtual playlist" (called a Program) that's easy to access and use. By saving each Program in a folder, playback materials can be organized weeks in advance, adjusted as necessary, and accessed with ease.

This has distinct advantages for music ministers in houses of worship, many of whom find it convenient to patch audio from their laptop into the sound system. With its ability to play virtually any CD or DVD disc, plus computer-based music files, adding a DN-C640 creates synergies in any audio system. Its PC-friendly CAT5 Ethernet port gives it plug-and-play access to any Program (and/or content) on the computer, either via its built-in browser interface or its front panel Program navigation. And of course, professional audio connectors are standard, assuring seamless integration with any sound system, analog or digital.

Radio Stations

Broadcasters are obviously heavy users of audio materials. At smaller stations – daytimers, college and high schools stations – most programming is done in house, much of it via compacts discs. With its ability to read discs burned in virtually any audio format, the DN-C640 is the perfect CD player for this application. At its heart, it's a high quality CD player that can be controlled from its front panel. For full control from the mixing desk, use the RS232 port. It also has a handy IR remote, can even read embedded CD text.

By using its computer network access capability, stations can program music playlists, public service announcements, commercials and promos by storing the audio files on a computer, either in the control room or elsewhere on within the local PC network. This can help assure that the correct files are played in the correct order, eliminating the physical aspects of traffic control by allowing direct file access with the DN-C640's built-in website GUI.

The DN-C640 also has the reliable, professional connectivity that broadcasters require. Both AES/EBU and S/PDIF digital ports are standard, along with balanced and unbalanced analog outputs. With its convenient slot-loading design and sleek single RU size, it's compatible with any input/output system and an easy fit for any equipment rack.

Message Repeating

What do these seemingly disparate venues have in common? They share a need to reliably repeat a specific series of messages in specific times and places. Airports are required to notify travelers of TSA requirements and procedures. People standing in line at an amusement park get reminders to secure their belongings. Escalators and moving walkways offer alerts to step off at the end. A haunted house might want to trigger sound effects only when guests are in a specific location. The DN-C640 can help with all these applications.

In addition to its ability to play files from a central network server, the DN-C640 also offers GPIO (general purpose input/output) control in the form of a DB25 contact closure. This can be hooked up to a proximity sensor or motion detector, triggering the playing of a designated audio file (or sequence of files) at the appropriate time, without the need for a human operator. As a result, museum visitors will hear the appropriate audio when walking past an exhibit and airport travelers will hear the right reminders as they approach security. Any venue needing reliable, repeatable audio will find the DN-C640 easily adaptable to its needs.

1/4" Headphone input with Level Control

Slot-in CD drive capable of reading both CD and DVD data discs

Network button enables streaming audio from a predetermined LAN resource

Super bright LCD for easy-to-read transport status, text, and messages

Oversized, backlit and durable buttons for easy front panel operation

Multiple analog audio outputs ensuring compatibility in every installation

Outputs both AES/EBU or S/PDIF digital signals and the internal Sample Rate Converter ensures compatibility with every pre-existing installation

Control ports allow for third party control systems like AMX or Crestron, or for integration with a console or trigger

RJ-45 connector to integrate the CD player to the network

Specifications

Audio Section

Audio Channel	2 channel stereo
Frequency Response	10 - 20,000Hz + 1.0dB
Dynamic Range	98dB
Signal-to-noise Ratio	104dB (1kHz, 0dB playback, A filter)
Channel Separation	96dB (1kHz, 0dB playback, A filter)
Total Harmonic Distortion	0.004% (1kHz, 0dB playback, A filter)

Analog Output

Unbalanced Output (RCA)	2.0 Vrms at 0dB disc, 10 kohms
Variable Range	4.0 Vrms at 0dB disc, volume max.
Balanced Output	(XLR) +18dBu at 0dB disc, 600 ohms
Variable Range	+24dBu to +0 dBu at 0dB disc

Digital Output

Unbalanced Output (RCA)	0.5 Vp-p, 75 ohms
Balanced Output (XLR)	3.5 Vp-p, 110 ohms
Signal Format	SPDIF or IEC-958 Type II/AES EBU Selectable

Other Specification

Headphone Output (1/4")	20mW, 33 ohms
Variable Pitch Control	+12% maximum
Frame Search Accuracy	1/75 second

Signal System

Sampling Frequency	44.1kHz at Normal Pitch
Quantization	16-bit Linear

Inputs and Outputs

Audio Outputs

2 Analog Unbalanced Outputs	1 set - RCA L/R Fixed Level
	1 set - RCA L/R Variable Level
1 Analog Balanced Output	1 set - XLR L/R Output with Trim Control
2 Digital Outputs	1 - RCA S/PDIF Format
	1 - XLR AES/EBU Format
1 Headphone Output w/LC	1 - 1/4" Headphone Output (front panel mounted)

Control

Ethernet (LAN)	RJ-45, 10BASE-T/100BASE-TX auto selection
Serial Remote	RS232C, D-Sub 9-pin
Parallel Remote	D-Sub 25-pin
IR Control Input	IR Sensor

Power Supply

USA and Canada models	120V AC +10%, 60Hz
European, U.K. and Asia/Pacific	230V AC +10%, 60Hz
Power Consumption	25W (USA and Canada Models)
	25W (European, U.K. and Asia/Pacific models)

General

Installation	19-inch, 1U rack space
Maximum Dimensions	482.6 (W) x 44 (H) x 325 (D) mm
	19" (W) x 1.7" (H) x 12.8" (D)
Weight	4.3 kg, 9.5 lbs.
Accessory	IR Remote Included

Environmental Conditions

Operating Temperature	+5°C to +35°C
Operating Humidity	25% to 85%, non-condensing
Storage Temperature	-20°C to +60°C
Storage Humidity	25% to 85%, non-condensing

Media Specifications

Compatible Disc Type	Standard Compact Discs (12 cm and 8 cm)
	CD-DA, CD-R/RW, DVD-R/RW, DVD+R/RW
Compatible Audio Formats	CD-DA (.cda)
	WAVE (.wav)
	MPEG-1/2 Layer III (.mp3)
	MPEG-1 Layer II (.mpg)
	Windows Media Audio (.wma)
Max. Files (LAN or Disc)	999
Max. Directories (LAN or Disc)	254
Compatible Text	CD-Text, ID3 v1/v2

PLEASE NOTE: Specifications are based on measurement conditions and proper care for the machine, and are subject to change without notice.

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