Pioneer

NETWORK AUDIO PLAYER N-70A

Music Server
The Ocean Blue Blues
Mark Rainey
King of Guitar
DSD
5.6 MHz
3:45 / -4:23

Network Audio Players

Image of Japanese model

Construction & Design
- Three-Chamber Shielded Chassis
- Twin Transformers
- High-Grade Parts
- Rigid Under Base
- Aluminium Front and Side Panels

Audio Features
- Twin SABRE^{32} Ultra DAC
- USB-DAC
- Hi-Res Audio File Playback via USB/Network
- Balanced Analogue Audio Output
- Built-in Headphone Amplifier
- Lock Range Adjust Function
- Hi-bit32 Audio Processing
- Up-Sampling
- Digital Filter with 3 Modes (SHARP/SLOW/SHORT)
- DIRECT Mode
- Digital Output On/Off Switch
- Playable Formats
- Gapless Playback (WAV/FLAC/AIFF/ALAC)
- Auto Sound Retriever
- Auto Level Control

Network Features
- Apple AirPlay Certified
- DLNA Certified™ (1.5)
- Compatible with Windows® 8.1
- Internet Radio (vTuner)
- Spotify® Digital Music-Streaming Service Ready
- Wireless LAN Ready

Connectivity & Control
- Compatible with External HDD and USB Memory via Front/Rear USB
- iPod Digital Transmission via USB
- Ready for Pioneer ControlApp (for iPhone/iPod touch, for Android)

Convenience
- 3.5" Full-Colour LCD Display
- Auto Power Off
- Firmware Update (USB)

Connection
- Various Connection Examples

* New features in blue

Applicable models displayed in icons:

70A ·········· N-70A-K/-S

50A ·········· N-50A-K/-S

For Europe

Three-Chamber Shielded Chassis

70A

The inside of the chassis is divided into three shielded chambers, isolating the power supply for digital block, digital block, and power supply for analogue block/analogue block. This structure minimises interference that might degrade the audio signal.

Twin Transformers

70A 50A

The digital and analogue blocks have independent transformers, each suited to the characteristics of the block. The analogue/digital isolated power supply prevents noise generation caused by interference between the circuits, while also being fully capable of supplying clean power even during loud passages. The transformer for the analogue block* cuts out unwanted electromagnetic waves from the high-power transformer with the copper-plate plus anti-vibration paint applied shield case, which is also filled with epoxy resin to seal off noise and vibration. The result is high-grade sound with an ideal balance between quiet and dynamic qualities.
* N-70A-K/-S only

High-Grade Parts

70A

Custom capacitors for high-quality sound are used on the power supply for the analogue block, selected through repeated tests of Hi-Res audio playback. This allows every feature of Hi-Res audio to be expressed, from the most delicate to the most dynamic, offering a steady sound reproduction.
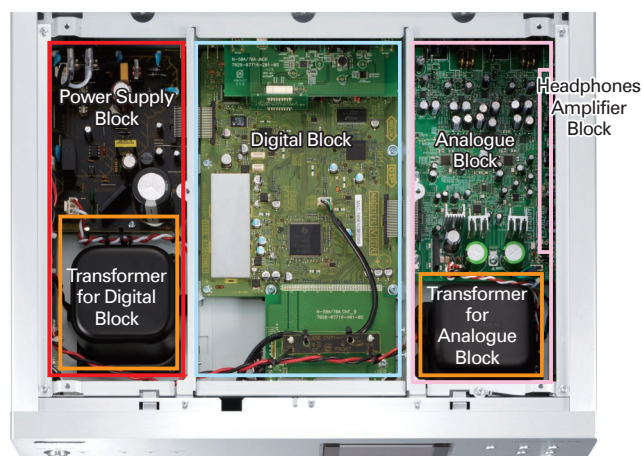
Rigid Under Base

70A 50A

Rigid Under Base is Pioneer's high-quality sound technology for 2-channel components, which works to eliminate external vibrations. The original dual chassis structure provides rigidity with superior damping effect, as well as stability with low centre of gravity.

Aluminium Front and Side Panels

70A

Designed to eliminate the most minute vibration inside the chassis, aluminium which has high damping effect, is used for the front and side panels.
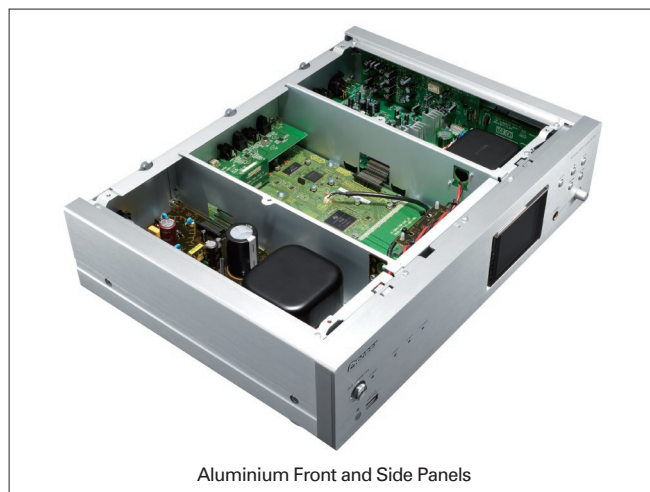
N-70A-K/-S Construction

Power Supply Block

Digital Block

Analogue Block

Headphones Amplifier Block

Transformer for Digital Block

Transformer for Analogue Block

Transformer for Analogue Block

Custom Capacitors

Aluminium Front and Side Panels

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Twin SABRE³² Ultra DAC

`70A` `50A`

The left and right channels each feature a 8ch (N-70A-K/-S) or 2ch (N-50A-K/-S) parallel drive of the SABRE³² Ultra DAC (ES9016S on N-70A-K/-S, ES9011S on N-50A-K/-S), providing a high S/N ratio. Highly precise D/A conversion is realised with support for up to 384 kHz (192 kHz for N-50A-K/-S) playback, letting you enjoy clear audio in quality sound.

SABRE³² Ultra DAC

USB-DAC

`70A` `50A`

The network audio players allow direct connection with a PC* via the rear USB type B terminal, without having to access the home network. What's more, signal transfer is done with USB asynchronous transfer mode, which controls the transfer process using its high-accuracy clock instead of syncing with the clock on the PC-side, ensuring high-quality sound reproduction. This eliminates jitter, reproducing master quality sound with extremely precise audio signals, even for Hi-bit32 Audio Processing. Up to 384 kHz/32-bit LPCM** and up to 5.6 MHz DSD files can be played.

* PC requires driver download from Pioneer website
** Up to 192 kHz/32-bit for N-50A-K/-S

Hi-Res Audio File Playback via USB/Network

`70A` `50A`

You can play 5.6/2.8 MHz DSD (Direct Stream Digital) files*, and up to 192 kHz/24-bit WAV, FLAC, AIFF, and up to 96 kHz/24-bit Apple Lossless files from a USB device or via network.

Hi·Res AUDIO

* DLNA compatible server or NAS capable of DSD streaming required

The Hi-Res Audio logo is used for Pioneer products capable of 96 kHz/24-bit or above WAV/FLAC file playback, and Pioneer amplifiers, speakers, or headphones supporting over 40 kHz high-frequency reproduction, designed to derive maximum performance from Hi-Resolution Audio.
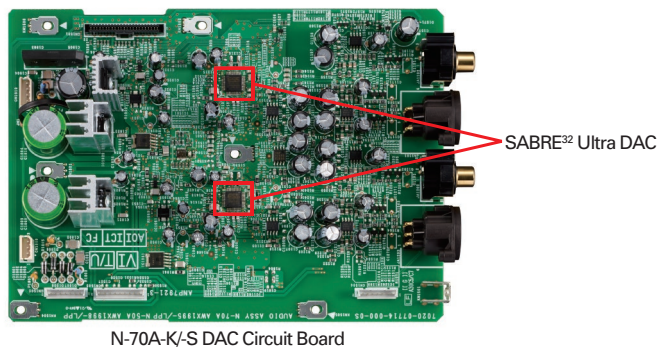
Balanced Analogue Audio Output

`70A`

In addition to RCA unbalanced analogue outputs, the network audio player is equipped with a pair of balanced analogue audio output terminals. Featuring full-balanced circuits for high-grade transmission, the gold-plated balanced analogue terminals (XLR3 type) are made by the highly acclaimed manufacturer Neutrik. You can switch over the number 2 and 3 HOT pins.
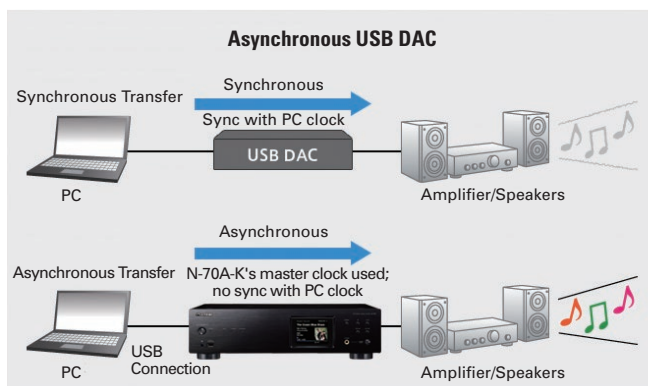
Built-in Headphone Amplifier

`70A`

The unit is equipped with a headphone output on the front panel, which is driven by a dedicated high-fidelity headphone amplifier by Texas Instrument (TPA6120). Featuring the current-feedback architecture, the headphone amplifier delivers high bandwidth with extremely low noise. It is capable of 100 mW (32 ohms) output, and supports headphones with 16 to 600 ohms impedance. You can enjoy audio full of rich musicality on your headphones, with both dynamic and delicate sound delivery.

SABRE³² Ultra DAC
N-70A-K/-S DAC Circuit Board

Asynchronous USB DAC

Synchronous Transfer
Synchronous
Sync with PC clock
USB DAC
PC
Amplifier/Speakers

Asynchronous Transfer
Asynchronous
N-70A-K's master clock used; no sync with PC clock
PC
USB Connection
Amplifier/Speakers

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Lock Range Adjust Function

70A

The function allows you to make fine adjustments to the accuracy of the DAC's lock range to reduce jitter in the pursuit of higher audio quality. You can select from 7 ranges, with the default setting at Range 7. Range 1 to 3 is intended for expert users, allowing for finer sound quality adjustment, but also greatly increasing the frequency in which audio cut out may occur.

Hi-bit32 Audio Processing

70A **50A**

Using Pioneer-original algorithms, Hi-bit32 Audio Processing expands the input bit signals to create a natural and analogue-like waveform, reproducing rich audio even from extremely minute signals. High-resolution 192 kHz/24-bit audio sources can be expanded to 192 kHz/32-bit signals. The feature is also effective for CD audio played on a disc player.

Hi-bit 32
Hi-bit 32 Processing

Up-Sampling

70A **50A**

The sampling frequency of the audio source is increased up to 384 kHz* to achieve clear and extremely transparent sound. Up Sampling reduces the noise in the audible range, and reveals the delicate sound details that tend to be buried within the noise.
* Up to 192 kHz for N-50A-K/-S

Digital Filter with 3 Modes (SHARP/SLOW/SHORT)

70A

You can enjoy three types of sound characters by switching the audio DAC—"Sharp" for solid and tight sound, "Slow" for soft and warm sound, and "Short" for quick and forward-pushing sound.
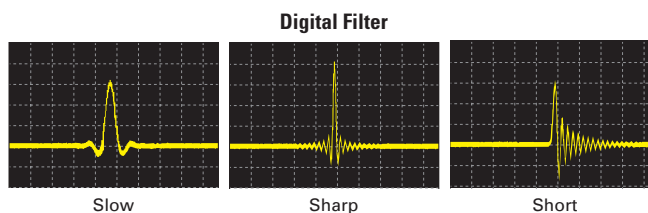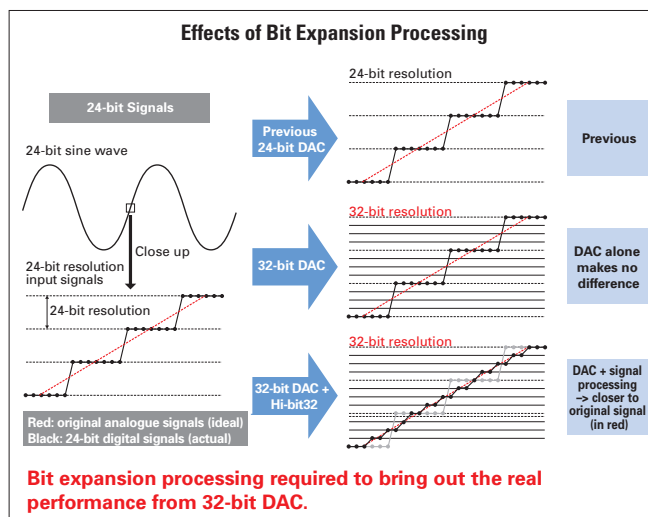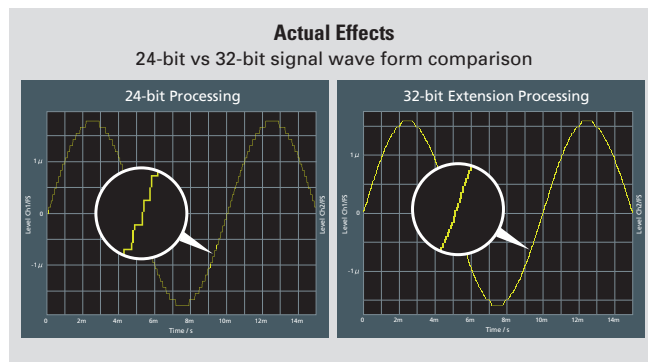
DIRECT Mode

70A **50A**

With DIRECT mode, the audio signals take the shortest route without passing through the DSP. This reduces noise and faithfully reproduces the original sound. The DIRECT mode is turned on by default.

Digital Output On/Off Switch

70A **50A**

The digital output can be switched on/off from the setup screen. When listening to analogue audio, you can turn the digital output off to prevent the digital noise from interfering with the analogue circuit, and enjoy higher quality sound.

Actual Effects
24-bit vs 32-bit signal wave form comparison

24-bit Processing

32-bit Extension Processing

Effects of Bit Expansion Processing

24-bit Signals

24-bit sine wave

Close up

24-bit resolution input signals

24-bit resolution

Red: original analogue signals (ideal)
Black: 24-bit digital signals (actual)

Previous 24-bit DAC

32-bit DAC

32-bit DAC + Hi-bit32

24-bit resolution

Previous

32-bit resolution

DAC alone makes no difference

32-bit resolution

DAC + signal processing –> closer to original signal (in red)

Bit expansion processing required to bring out the real performance from 32-bit DAC.

Digital Filter

Slow

Sharp

Short

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Playable Formats

`70A` `50A`

The following formats can be played back on the network audio players:

USB A/Network Playable Formats

Format	Extension		
MP3*	.mp3	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	8-320 kbps
		VBR/CBR	Supported/Supported
LPCM	—	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit
		Channels	2
WAV	.wav	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
WMA	.wma	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	5-320 kbps
		VBR/CBR	Supported/Supported
AAC	.m4a .aac .3gp .3g2	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	16-320 kbps
		VBR/CBR	Supported/Supported
Apple Lossless	.m4a .mp4	Sampling Frequency	32/44.1/48/88.2/96 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
FLAC	.flac	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
AIFF	.aif .aiff	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

* MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia

USB-DAC Playable Formats

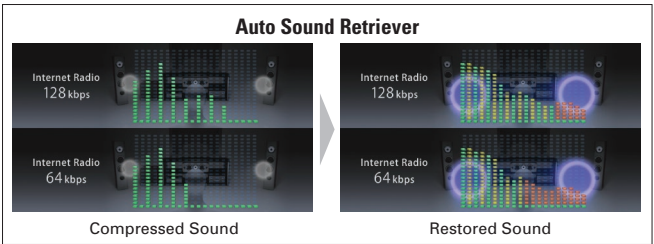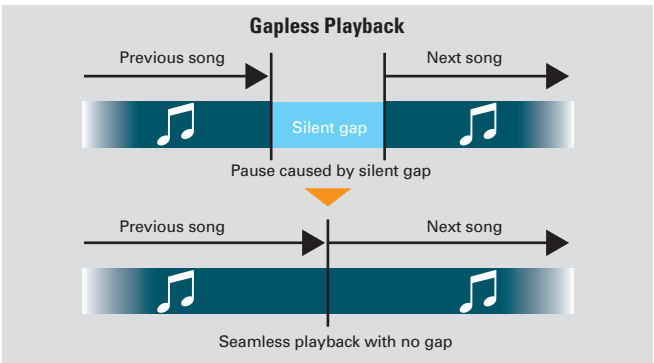| Format	Extension		
LPCM	—	Sampling Frequency	44.1/48/88.2/96/176.4/192/352.8/384 kHz
		Quantization Bit Rate	16 bit/24 bit/32 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

Gapless Playback (WAV/FLAC/AIFF/ALAC)

`70A` `50A`

Enjoy smooth, uninterrupted audio playback for WAV, FLAC, AIFF, and Apple Lossless files. The function is ideal for listening to music tracks intended for continuous play, such as classical music, progressive rock, concept albums, or live recordings.

Gapless Playback

Previous song Next song

Silent gap

Pause caused by silent gap

Previous song Next song

Seamless playback with no gap
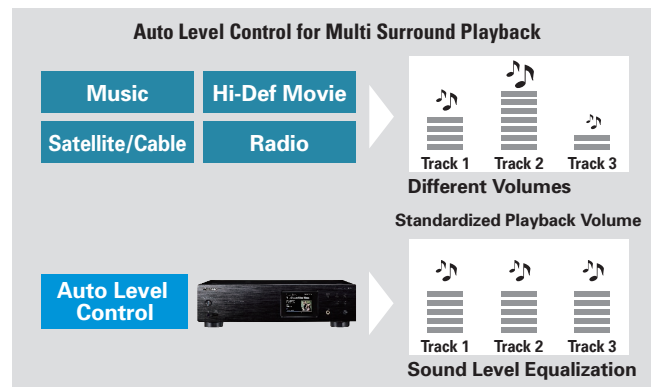
Auto Sound Retriever

`70A` `50A`

Pioneer-original Auto Sound Retriever technology automatically determines the audio signal's bit rate, and interpolates the data lost during compression. It is especially effective for improving the sound quality of low bit-rate content—an ideal feature when switching between internet radio stations with different bit-rates.

AUTO SOUND RETRIEVER

Auto Sound Retriever

Internet Radio 128 kbps

Internet Radio 64 kbps

Internet Radio 128 kbps

Internet Radio 64 kbps

Compressed Sound   Restored Sound

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Auto Level Control

70A **50A**

Auto Level Control equalises volume level differences between tracks when playing music from an iPod or other sources. The function adjusts low and high frequency sounds, dialogues, surround effects etc. that are difficult to hear in low volume, to optimal levels—an ideal feature for listening at night without disturbing others.
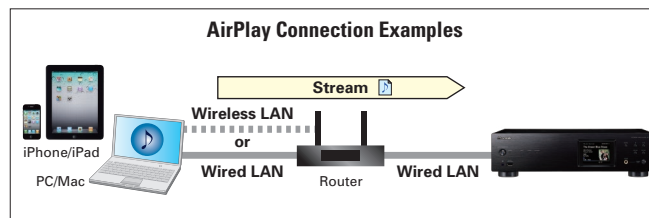
Auto Level Control for Multi Surround Playback

| Music | Hi-Def Movie |
| Satellite/Cable | Radio |

Track 1　Track 2　Track 3
Different Volumes

Standardized Playback Volume

Auto Level Control

Track 1　Track 2　Track 3
Sound Level Equalization

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Apple AirPlay Certified

`70A` `50A`

AirPlay—Enthusiasts have complete access, control and playback of their entire iTunes music library wirelessly through their network audio player. You can quickly and easily enjoy all your music with song information and album art simultaneously displayed on a connected monitor/TV.

* Available features depend on iPod/iPhone model
For details on iPod compatibility, visit
http://pioneer.jp/homeav/support/ios/eu

AirPlay Connection Examples

Stream

iPhone/iPad

PC/Mac

Wireless LAN
or
Wired LAN

Router

Wired LAN

DLNA Certified™ (1.5)

`70A` `50A`

The network audio players are DLNA Certified™ (1.5), ready to play various audio formats—from 192 kHz/24-bit high-resolution FLAC/WAV/AIFF files, up to 96 kHz/24-bit Apple Lossless files, songs ripped from CDs, to MP3 and MPEG-4 AAC compressed audio files on digital audio players. Pioneer's expertise on quality sound reproduction offers a satisfying listening experience, regardless of source.

Compatible with Windows® 8.1

`70A` `50A`

The network audio players are compatible with Windows 8.1, letting you easily stream music from compatible PCs on your home network.

Windows 8
Compatible

Internet Radio (vTuner)

`70A` `50A`

The network audio players come with the vTuner for listening to a multitude of radio programmes from around the world on the internet. LAN connection allows radio access without having to use your computer. You can easily browse stations using the remote control. Various categories are available on the vTuner database, offering limitless entertainment. You can even add broadcast stations unavailable on the vTuner list. Access the Pioneer internet radio site from your computer*, and register the desired stations to your favourites list. Then, you can easily tune in to the radio stations from the network audio player.

* Access code required

Spotify® Digital Music-Streaming Service Ready

`70A` `50A`

Enjoy on-demand access to millions of songs with Spotify's digital music-streaming service.
With the wide range of music selection, you're sure to find a fitting song for your mood or occasion, right at your fingertips. You can make your own choice, or let Spotify surprise you. The network audio players are ready for the Connect from Spotify, which lets you select songs on your Spotify app for listening on your audio system.

* Spotify App, iPhone/iPod touch, and subscription required.
For service availability in your country check www.spotify.com.
Firmware update may be necessary. For details, visit pioneer.eu/Spotify

Wireless LAN Ready

`70A` `50A`

Using the optional AS-WL300 wireless LAN converter, you can enjoy LAN connection without the cable getting in the way. The AS-WL300 works with power supply from the unit's USB terminal, so no AC adapter is required.

AS-WL300

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Compatible with External HDD and USB Memory* via Front/Rear USB

`70A` `50A`

Two USB type A terminals are available, one each on the front and the rear, letting you connect an external HDD or a USB memory for audio playback.

* Supports HDD/USB memory formatted with FAT32. Not guaranteed to work with all HDD/USB memory devices.

iPod Digital Transmission via USB

`70A` `50A`

Enjoy iPod music via digital connection. The audio signals are directly transferred to the network audio player's high-performance DAC, offering superior sound compared to analogue connections. What's more, you can operate your iPod with the unit's remote control.

* Available features depend on iPod/iPhone model For details on iPod compatibility, visit
http://pioneer.jp/homeav/support/ios/eu

Ready for Pioneer ControlApp (for iPhone/iPod touch, for Android)

`70A` `50A`

The application, available for free download, lets you use your iPod touch or iPhone as a remote control for operating the network audio player's basic functions, as well as browse and play songs from your music library. The application has been updated with a new design and improved features. You can now sort files, search songs with the seek bar, and operate the basic functions of Pioneer's Amplifiers and CD players connected via the control terminal (see figure on right).
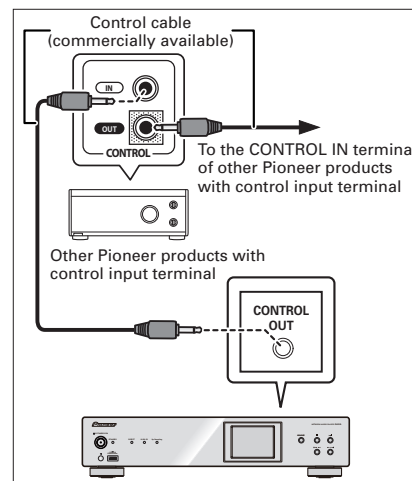
The app is also compatible with Android.

* Network audio player needs to be connected to a home LAN network in a wireless LAN environment.
For more information, visit
http://pioneer.jp/product/soft/iapp_controlapp/en.html (iPhone/iPod touch)
http://pioneer.jp/product/soft/aapp_controlapp/en.html (Android)

Front

Rear

Pioneer ControlApp image during playback

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

3.5" Full-Colour LCD Display

70A   50A

The units feature a 3.5" high-grade full-colour LCD display with a user-friendly GUI. You can see the format, sampling rate, bit rate, elapsed time, and album artwork for the playing song. It also becomes an operational display for setting and controlling functions, without having to use a PC or mobile device.

* Album artwork may not be available depending on file type

LCD Display with Song Information

Auto Power Off

70A   50A

The network audio player will automatically turn off after being left uncontrolled for a certain time set by the user. You can select from Off/15 min/30 min/60min.

Firmware Update (USB)

70A   50A

Firmware updates can be done by using a USB memory device.

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Various Connection Examples

70A   50A

≫ External HDD Connection
Music playback via front/rear USB (Type A)

Recommended for:
• Easy playback of Hi-Res audio files without using the network

Connect with USB port

USB   Type A

USB   Rear   Front

Type A   USB Type A

USB cable

External HDD   Network audio player   Connect with amplifier/speakers

Required Equipment

• External HDD   • USB cable

Note: Please check the USB connector type on your cable. (Type A male to type A male)

* Please use a FAT32 formatted external HDD. Please plug the external HDD's power cable if supplied.

Playable Files

• Audio files recorded to the HDD from a PC/Mac

• DSD files (2.8/5.6 MHz), FLAC/WAV/AIFF (up to 192 kHz/24-bit), Apple Lossless (up to 96 kHz/24-bit), WMA/MP3/AAC (up to 48 kHz/16-bit)

≫ NAS Connection (DLNA Certified™)
Audio playback via DLNA certified network-attached storage (NAS)

Recommended for:
• Users with a large CD library/audio data
• Creating a high-resolution audio archive
• Enjoying both computer and disc sources
• Enjoying audio playback without the computer

LAN

Connect with LAN terminal

LAN   3   2   1   WAN

Connect with LAN port

Rear Panel

DIGITAL OUT   DIGITAL IN

OPTICAL   COAXIAL   OPTICAL   COAXIAL   1

LAN (10/100)   C OUTPUT   CONTROL   DIG
For   OUT   iPod/Phor
WIRELESS
LAN
(5V⎓0.5A MAX)   5V⎓1A

Connect with LAN terminal

LAN cable   LAN cable

NAS   Router   Network audio player   Connect with amplifier/speakers
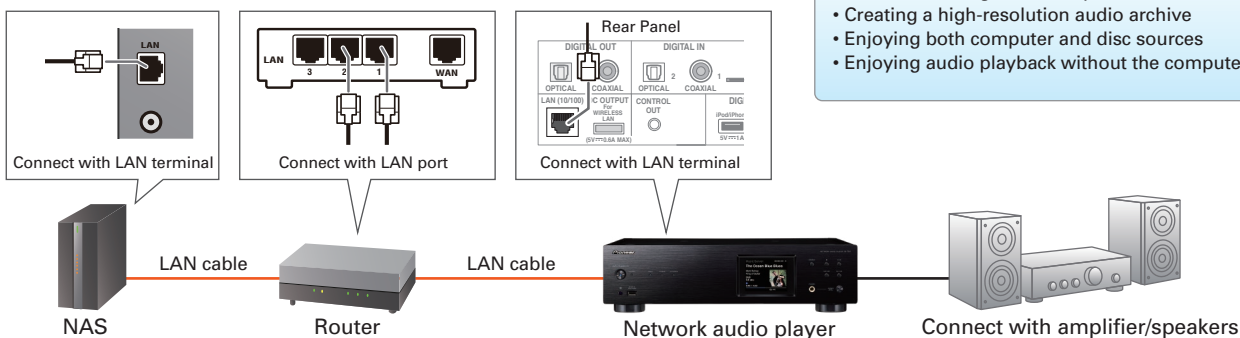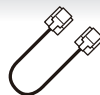
Required Equipment

• NAS   • Router*   • LAN cable x 2

* Wireless router required for AirPlay and ControlApp.
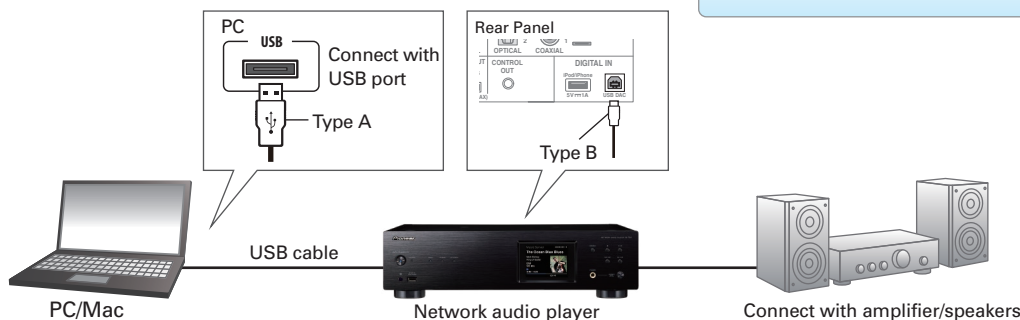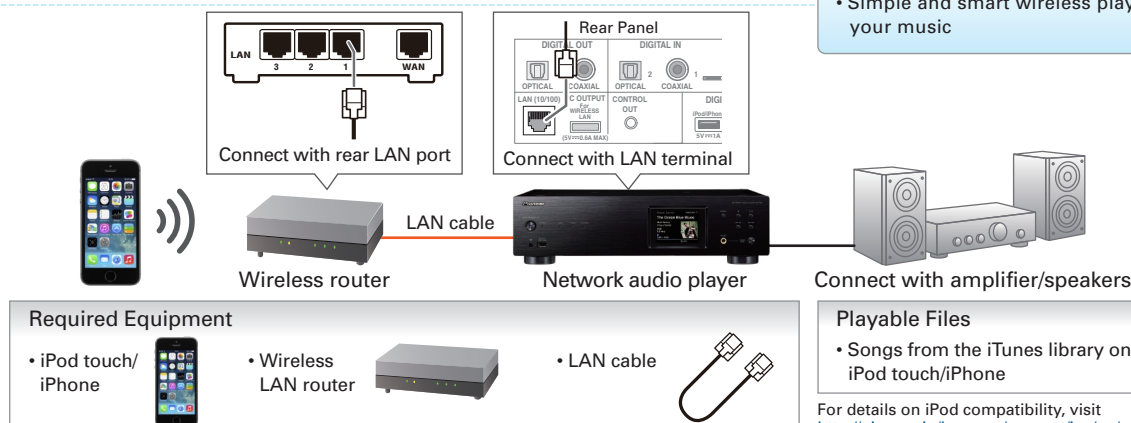
Playable Files

• Audio files ripped from CDs

• FLAC/WAV/AIFF (up to 192 kHz/24-bit), Apple Lossless (up to 96 kHz/24-bit), WMA/MP3/AAC (up to 48 kHz/16-bit)

≫ USB-DAC Connection
Audio playback via direct USB connection with PC/Mac

Recommended for:
• Direct playback of PC files

PC

USB

Connect with USB port

Type A

Rear Panel

OPTICAL   COAXIAL

CONTROL   DIGITAL IN
OUT   iPod/Phone   USB DAC
5V⎓1A

Type B

USB cable

PC/Mac   Network audio player   Connect with amplifier/speakers

Required Equipment

• PC/Mac   • USB cable

Note: Please check the USB connector type on your cable. (Type A male to type B male)

* Driver needs to be installed from Pioneer website (Windows PC).

Playable Files

• Audio files playable on your computer (up to 384 kHz/32-bit)

* Software required for audio playback on computer. Tested to work with Windows Media Player 11/12 and iTunes 10.

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

≫ iPod/iPhone Connection via USB
Digital direct audio playback via front/rear USB

Recommended for:
• Enjoying music in your iPod/iPhone on your audio system

Front Panel

5 V ⎓ 1A
iPod/iPhone

Rear Panel

DIGITAL IN

iPod/iPhone

USB DA

Connect with front USB input

Network audio player

Connect with amplifier/speakers

Required Equipment
• iPod/iPhone

• USB connection cable for the Apple device

Playable Files
• iTunes library songs on your iPod/iPhone (by digital transmission to the network audio player)

* The network audio player. charges iPod/iPhone when the power is on. For details on iPod compatibility, visit
http://pioneer.jp/homeav/support/ios/eu/

≫ USB Memory Connection
Digital direct audio playback via front/rear USB

Recommended for:
• Simple playback of high-quality audio without network or computer

Front Panel

5 V ⎓ 1A
iPod/iPhone

Rear Panel

DIGITAL IN

iPod/iPhone

USB DA

USB memory

Connect with front USB input

Network audio player

Connect with amplifier/speakers

Required Equipment
• USB memory

Playable Files
• FLAC/WAV/AIFF (up to 192 kHz/24-bit), Apple Lossless (up to 96 kHz/24-bit), WMA/MP3/AAC (up to 48 kHz/16-bit)

≫ AirPlay
Wireless playback from iPod touch/iPhone/iPad and PC/Mac

Recommended for:
• Simple and smart wireless playback of your music

LAN

3   2   1   WAN

Connect with rear LAN port

Rear Panel

DIGITAL OUT   DIGITAL IN

OPTICAL   COAXIAL   OPTICAL   COAXIAL   1

LAN (10/100)   C OUTPUT   CONTROL   DIGI
For
WIRELESS   OUT   iPod/iPhon
LAN   5 V ⎓ 1A
(5 V=0.6A MAX)

Connect with LAN terminal

LAN cable

Wireless router

Network audio player

Connect with amplifier/speakers

Required Equipment
• iPod touch/ iPhone

• Wireless LAN router

• LAN cable

Playable Files
• Songs from the iTunes library on your iPod touch/iPhone

For details on iPod compatibility, visit
http://pioneer.jp/homeav/support/ios/eu/

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

≫ Internet Radio
Listen to internet radio programmes

Recommended for:
• Having music in various genres from around the world playing anytime

Internet

Modem

Rear Panel

Connect with LAN terminal

Connect with LAN port

LAN cable

Router

Network audio player

Connect with amplifier/speakers

Required Equipment

• Router

• LAN cable

* Internet connection required for enjoying internet radio

Playable Source: Internet radio

The network audio players are not equipped with radio tuners. To listen to radio broadcasts, you can either output audio played on your PC/Mac via USB digital input (USB-DAC function), or download a radio app on your iPod touch/iPhone and play via AirPlay or front USB connection. For both cases, operation will not be available on the network audio player.

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

Network Audio Players Reference Guide

Construction & Design

Audio Features

Network Features

Connectivity & Control

Convenience

Connection

FEATURE COMPARISON & SPECIFICATIONS: NETWORK AUDIO PLAYERS

		N-70A-K/-S	N-50A-K/-S
Construction & Design			
Three-Chamber Shielded Chassis		•	-
Twin Transformers		•	•
High-Grade Parts		•	-
Rigid Under Base		•	•
Aluminium Front and Side Panels		•	-
Audio Features			
Twin SABRE³² Ultra DAC		• (ES9016S)	• (ES9011S)
USB-DAC		• (up to 384 kHz/32-bit LPCM, 5.6 MHz DSD)	• (up to 192 kHz/32-bit LPCM, 5.6 MHz DSD)
Hi-Res Audio File Playback via USB/Network		•	•
Balanced Analogue Audio Output		•	-
Built-in Headphone Amplifier		• (TI TPA6120)	-
Lock Range Adjust Function		•	•
Hi-bit32 Audio Processing		•	•
Up-Sampling		• (up to 384 kHz)	• (up to 192 kHz)
Digital Filter with 3 Modes (SHARP/SLOW/SHORT)		•	-
DIRECT Mode		•	•
Digital Output On/Off Switch		•	•
Gapless Playback (WAV/FLAC/AIFF/ALAC)		•	•
Auto Sound Retriever		•	•
Auto Level Control		•	•
Network Features			
Apple AirPlay Certified		•	•
DLNA Certified™ (1.5)		•	•
Compatible with Windows® 8.1		•	•
Internet Radio (vTuner)		•	•
Spotify® Digital Music-Streaming Service Ready		•	•
Wireless LAN Ready		•	•
Connectivity & Control			
Compatible with External HDD and USB Memory via Front/Rear USB		•	•
iPod Digital Transmission via USB		•	•
Ready for Pioneer ControlApp (for iPhone/iPod touch, for Android)		•	•
Convenience			
3.5" Full-Colour LCD Display		•	•
Auto Power Off		•	•
Firmware Update (USB)		•	•
Specifications			
Line Output	Line Output Level	RCA 2.2 V Balance (XLR3) 4.2V	2.2 V
	Frequency Range	4 Hz-90 kHz (-3 dB)	4 Hz-90 kHz (-3 dB)
	S/N Ratio	RCA 114 dB Balance (XLR3) 117 dB	112 dB
	Dynamic Range	117 dB	117 dB
	Distortion	RCA 0.0012 % Balance (XLR3) 0.0008 %	'0.0012 %
	Channel Separation	110dB 1 kHz)	110 dB 1 kHz)
Headphone Output	Output Level	100 mW+100 mW (32 ohms)	-
	Impedance	16-600 ohms	-
	Frequency Range	4 Hz-80 kHz (-3 dB)	-
	Distortion	0.01 %	-
Digital Input	Optical Input	x1	
	Coaxial Input	x1 (Gold-plated)	
	USB B (Rear)	x1 (for USB DAC)	
	USB A (Front/Rear)	x1 /x1 (for iPod/iPhone, USB memory, USB HDD)	
Analogue Output	RCA Output	x1 (Gold-plated high-grade type)	
	Balance (XLR3) Output	x1 (by Neutrik)	-
Digital Output	Optical Output	x1	
	Coaxial Output	x1 (Gold-plated)	
Network		LAN 100 Base-TX/10 Base-T DLNA1.5	
Power Requirements		AC 220-240 V 50/60 Hz	AC 220-240 V 50/60 Hz
Power Consumption		45 W	38 W
Power Consumption during Standby Mode (Network Standby On)		0.3 W (2.0 W)	0.3 W (2.0 W)
Dimensions (W x H x D)		435 x 121 x 338 mm	435 x 99 x 331 mm
Weight		11.5 kg	7.5 kg

Product Sheet

N-70A-K/-S

N-50A-K/-S

Pioneer

N-70A-K/-S

Audiophile Network Audio Player Featuring Twin Transformers, Balanced Output, Twin SABRE^{32} Ultra DAC, USB-DAC with up to 384 kHz LPCM and 2.8/5.6 MHz DSD Playback, Headphone Amplifier, AirPlay, DLNA, Spotify, and vTuner

N-70A-K

CONSTRUCTION & DESIGN

› Three-Chamber Shielded Chassis Isolates Power Supply for Digital Block, Digital Circuit, and Power Supply for Analogue Block/Analogue Circuit
› Twin Transformers in Separate Shield Cases
› High-Grade Parts Including Custom Capacitors for Power Supply and Machined RCA Terminals
› Rigid Under Base
› Aluminium Front and Side Panels

NETWORK FEATURES

› Apple AirPlay Certified
› DLNA Certified™ (1.5)
› Compatible with Windows® 8.1
› Internet Radio (vTuner)
› Spotify® Digital Music-Streaming Service Ready

AUDIO FEATURES

› 8ch Parallel Drive with SABRE^{32} Ultra DAC (ES9016S x 2)
› DSD 2.8/5.6 MHz Playback
› USB-DAC (up to 384 kHz/32-bit LPCM, 5.6 MHz DSD)
› Headphone Amplifier with Texas Instrument TPA6120
› DIRECT Mode for Faithful Reproduction of Original Sound
› Hi-bit32 Audio Processing
› Up-Sampling up to 384 kHz
› Digital Filter with 3 Modes (SHARP/SLOW/SHORT)
› Auto Sound Retriever
› Auto Level Control
› Lock Range Adjust Function for Reducing Jitter by Adjusting Lock Range Accuracy
› Gapless Playback (WAV/FLAC/AIFF/ALAC)
› Digital Output On/Off Switch to Prevent Digital Noise Effect on Analogue Audio

CONNECTIVITY & CONTROL

› Compatible with External HDD and USB Memory via Front/Rear USB*¹
› iPod Digital Transmission via USB
› Ready for Pioneer ControlApp (for iPhone/iPod touch, for Android)*²
› Wireless LAN Ready (with AS-WL300 Optional LAN Convertor)

CONVENIENCE

› 3.5" Full-Colour LCD Display for Album Artwork and Song Information
› Dimmer
› Auto Power Off
› Firmware Update (USB)

USB A/NETWORK PLAYABLE FORMATS

Format	Extension		
MP3*	.mp3	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	8-320 kbps
		VBR/CBR	Supported/Supported
LPCM	—	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit
		Channels	2
WAV	.wav	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
WMA	.wma	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	5-320 kbps
		VBR/CBR	Supported/Supported
AAC	.m4a .aac .3gp .3g2	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	16-320 kbps
		VBR/CBR	Supported/Supported
Apple Lossless	.m4a .mp4	Sampling Frequency	32/44.1/48/88.2/96 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
FLAC	.flac	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
AIFF	.aif .aiff	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

* MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia

USB-DAC Playable Formats

Format	Extension		
LPCM	—	Sampling Frequency	44.1/48/88.2/96/176.4/192/352.8/384 kHz
		Quantization Bit Rate	16 bit/24 bit/32 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

N-70A-S

*¹ Supports HDD/USB memory formatted with FAT32. Not guaranteed to work with all HDD/USB memory devices.
*² Available for free download from the App Store for iPhone/iPod touch, from the Google Play™ Store for Android.

Pioneer

N-70A-K/-S

Audiophile Network Audio Player Featuring Twin Transformers, Balanced Output, Twin SABRE³² Ultra DAC, USB-DAC with up to 384 kHz LPCM and 2.8/5.6 MHz DSD Playback, Headphone Amplifier, AirPlay, DLNA, Spotify, and vTuner

CONNECTIONS
REAR PANEL

N-70A-K/SYXEV8

TERMINALS

› USB 2 In (1 Front, 1 Rear) Type A, for iPod/iPhone/USB Drive/HDD
› USB-DAC 1 In (Type B)
› Ethernet 1 In
› Phones 1 Out
› Analogue Audio 2 Out (1 Pair Gold-Plated RCA, 1 Pair Balanced)
› Digital Coaxial 1 In (Gold-Plated)/1 Out (Gold-Plated)
› Digital Optical 1 In/1 Out
› Control Out for Operating Connected Devices with Pioneer ControlApp

SPECIFICATIONS

› Power Requirement: AC 220-240 V, 50/60 Hz
› Power Consumption: 45 W
› Power Consumption During Standby: 0.3 W (2.0 W Network Standby On)
› Dimensions: 435 x 121 x 338 mm
› Weight: 11.5 kg

INTEGRATED TECHNOLOGIES

Pioneer ControlApp image during playback

Remote Control

Pioneer

N-50A-K/-S

Audiophile Network Audio Player Featuring Twin Transformers, Twin SABRE[32] Ultra DAC, USB-DAC with up to 192 kHz LPCM and 2.8/5.6 MHz DSD Playback, AirPlay, DLNA, Spotify, and vTuner

N-50A-K

CONSTRUCTION & DESIGN

> Twin Transformers for Digital and Analogue Power Supply
> Machined RCA Terminals
> Rigid Under Base

NETWORK FEATURES

> Apple AirPlay Certified
> DLNA Certified™ (1.5)
> Compatible with Windows® 8.1
> Internet Radio (vTuner)
> Spotify® Digital Music-Streaming Service Ready

AUDIO FEATURES

> 2ch Parallel Drive with SABRE[32] Ultra DAC (ES9011S x 2)
> DSD 2.8/5.6 MHz Playback
> USB-DAC (up to 192 kHz/32-bit LPCM, 5.6 MHz DSD)
> DIRECT Mode for Faithful Reproduction of Original Sound
> Hi-bit32 Audio Processing
> Up-Sampling
> Auto Sound Retriever
> Auto Level Control
> Gapless Playback (WAV/FLAC/AIFF/ALAC)
> Digital Output On/Off Switch to Prevent Digital Noise Effect on Analogue Audio

CONNECTIVITY & CONTROL

> Compatible with External HDD and USB Memory via Front/Rear USB*[1]
> iPod Digital Transmission via USB
> Ready for Pioneer ControlApp (for iPhone/iPod touch, for Android)*[2]
> Wireless LAN Ready (with AS-WL300 Optional LAN Convertor)

CONVENIENCE

> 3.5" Full-Colour LCD Display for Album Artwork and Song Information
> Dimmer
> Auto Power Off
> Firmware Update (USB)

USB A/NETWORK PLAYABLE FORMATS

Format	Extension		
MP3*	.mp3	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	8-320 kbps
		VBR/CBR	Supported/Supported
LPCM	—	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit
		Channels	2
WAV	.wav	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
WMA	.wma	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	5-320 kbps
		VBR/CBR	Supported/Supported
AAC	.m4a .aac .3gp .3g2	Sampling Frequency	32/44.1/48 kHz
		Quantization Bit Rate	16 bit
		Channels	2
		Bit Rate	16-320 kbps
		VBR/CBR	Supported/Supported
Apple Lossless	.m4a .mp4	Sampling Frequency	32/44.1/48/88.2/96 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
FLAC	.flac	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
AIFF	.aif .aiff	Sampling Frequency	32/44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

* MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia

USB-DAC Playable Formats

Format	Extension		
LPCM	—	Sampling Frequency	44.1/48/88.2/96/176.4/192 kHz
		Quantization Bit Rate	16 bit/24 bit/32 bit
		Channels	2
DSD	.dff .dsf	Sampling Frequency	2.8224/5.6448 MHz
		Quantization Bit Rate	1 bit
		Channels	2

N-50A-S

Pioneer

N-50A-K/-S

Audiophile Network Audio Player Featuring Twin Transformers, Twin SABRE[32] Ultra DAC, USB-DAC with up to 192 kHz LPCM and 2.8/5.6 MHz DSD Playback, AirPlay, DLNA, Spotify, and vTuner

CONNECTIONS
REAR PANEL

N-50A-K/SYXEV8

TERMINALS

› USB 2 In (1 Front, 1 Rear) Type A, for iPod/iPhone/USB Drive/HDD
› USB-DAC 1 In (Type B)
› Ethernet 1 In
› Analogue Audio 1 Out (1 Pair Gold-Plated RCA)
› Digital Coaxial 1 In (Gold-Plated)/1 Out (Gold-Plated)
› Digital Optical 1 In/1 Out
› Control Out for Operating Connected Devices with Pioneer ControlApp

SPECIFICATIONS

› Power Requirement: AC 220-240 V, 50/60 Hz
› Power Consumption: 38 W
› Power Consumption During Standby: 0.3 W (2.0 W Network Standby On)
› Dimensions: 435 x 99 x 331 mm
› Weight: 7.5 kg

INTEGRATED TECHNOLOGIES

Pioneer ControlApp image during playback

Remote Control