Pure Digital Music Server

Versatile and powerful pure digital music server,
CD ripper, network streamer and more

NOVAFiDELITY X50D

Powered by NOVATRON

☉ Comprehensive feature set

- Equipped with a high-performance dual core ARM Cortex A9 processor running at 1.0Ghz
- XMOS 32bit/500MIPS 8 core powerful microcontroller
- DDR-1066 1GByte main memory and 8GByte NAND flash memory
- High speed optical disk drive for quick and accurate CD ripping
- 7 inch TFT LCD (1024 x 600 pixels) screen for intuitive GUI
- DAB+/FM tuner built-in
- USB audio class 2.0 output for connecting to a USB digital-to-analogue converter (DAC)
- I²S digital out (RJ45 & HDMI) to support Native DSD and 24bit/192Khz
- Giga fast ethernet (10/100/1000Mbps) built-in
- Support for up to 8TB of storage on 3.5"/2.5" HDD or SSD
- RAID system function for a total of 16TB storage or mirror/stripe configuration
- HDMI out connector for use with an external screen for a bigger GUI display or audio signal out
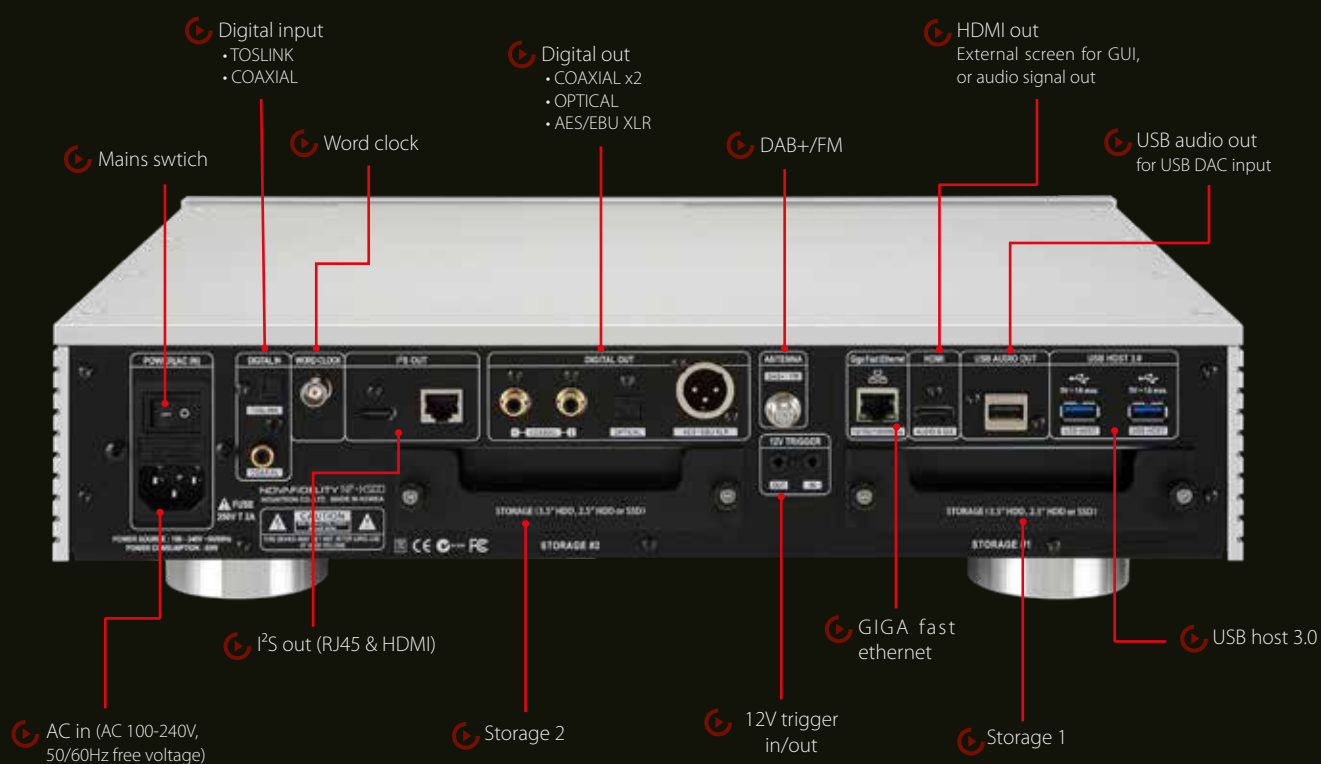- Rugged construction with completely CNC cut aluminium chassis

☉ Extensive compatibility and a versatile feature set

- Support for various file formats like MQA, DSD(64/128/256), DXD(24Bit/352.8Khz), 24Bit/192Khz WAV/FLAC
  and a full range of other hi-res audio file formats
- CD ripping with professional CD metadata and album cover art provided by Gracenote
- Create digital music collections from DAB+/FM radio and internet radio with the recording function, at a
  hi-res sample rate of 24bit/192Khz
- High connectivity through numerous digital options
- Various network protocol supported (UPnP(DLNA) Server/Client/Media Renderer, Samba Server/Client, FTP Server,
  Web Server, etc
- Major music streaming services supported (TIDAL, Deezer, Qobuz, Napster, Spotify Connect, Highresaudio, Amazon Music
  and internet radio(Airable)
- Customised remote control App, NOVATRON MusicX for iOS and Android
- Customised WebInterface (WebUI) for remote control and MusicDB management via PC
- 'Roon Ready' for use as a Roon end-point

What is the NOVAFiDELITY X50D

The X50D is a versatile and powerful pure digital music server, CD ripper, network streamer, digital recorder and more.
Connected to an external DAC the X50D is the ideal central hub for any digital music system

Digital input
• TOSLINK
• COAXIAL

Digital out
• COAXIAL x2
• OPTICAL
• AES/EBU XLR

HDMI out
External screen for GUI,
or audio signal out

Word clock

DAB+/FM

USB audio out
for USB DAC input

Mains swtich

I²S out (RJ45 & HDMI)

GIGA fast
ethernet

USB host 3.0

AC in (AC 100-240V,
50/60Hz free voltage)

Storage 2

12V trigger
in/out

Storage 1

MQA · DSD Direct Stream Digital · DXD Digital eXtream Definition · HD native 32Bit/384Khz High Resolution Audio · HD Bit rate 24Bit/192Khz High Resolution Audio

DSD · DXD · PCM · flac · HD FLAC (24bit/192KHz)

AAC · WAV · WMA · M4A · HD WAV (24bit/192KHz)

MP³ AUDIO · Ogg · M3U · PLS · MP3 · APE/CUE

CAF · ALAC · AIFF · AIF · HD music 32Bit/384Khz High Resolution Audio

High performance operating system and custom-designed software

Based on a dual core ARM Cortex A9 main processor running at 1.0GHz, with an additional 32Bit/500MIPS microcontroller and custom-designed smart software, the X50D is designed to satisfy highend audiophiles with high performance and versatile features.

High performance streaming through extensive in-house R&D know-how and selective component specification

Vast experience, know-how and advance technology in digital circuit design, with carefully selected components, are implmented in the X50D to deliver exceptional sounding audio to music lovers.

XMOS 32Bit/500MIPS 8 core powerful microcontroller

The X50D can support up to Native DSD256 via its I²S digital output (on RJ45 & HDMI) for audiophiles who want to use a highly specified DAC with I²S digital input.

DAB+ and FM radio tuner

For high quality digital radio, the X50D offers a DAB+ tuner, alongside a traditional FM receiver.

High quality digital out terminal

Two coaxial, toslink and AES/EBU XLR outputs are available for maximum compatibility with various external devices.

USB audio class 2.0 output

For connection to USB DACs with support for native DSD and hi-res PCM audio files.

12V trigger out and in

12V trigger out/in to trigger (on/off) signals to connected devices, such as a DAC or amplifier.

Word Clock

Word Clock out to transmit the sample rate signal of the file currently playing.

Two high speed USB3.0 host ports

For quick data transfer, the X50D offers two(2) high speed USB3.0 host ports on the rear.

HDMI for bigger external screen or audio out

Via the HDMI out, users can display the GUI on an external screen or connect to an audio device which has an HDMI input.

RAID system with two drive bays for music storage

The X50D features two drive bays which accept 3.5"/2.5" SATA HDDs and SSDs. According to user preference, these can be set to one of three RAID system modes - mirror, (back-up) stripe (increased access speed) and big (up to 16TB total storage).

↻ CD ripping with Gracenote CD metadata and album cover art

Load CD collections onto the X50D music database in FLAC, ALAC, WAV or MP3 file format with CD metadata and album cover art from Gracenote.

gracenote.

↻ Music Database function

The X50D has a well-organised music database built-in, which offers intelligent and convenient functions such as Search, display by text or cover art, sort A-Z, Z-A, and various views, etc.

Connect digital sources to the X50D and record them as192Khz hi-res digital audio files.

⟳ Digital inputs

The X50D has digital inputs (Toslink & Coaxial) for connecting to external source devices, which can then be feed directly to the digital outputs.

⟳ Recording with 192Khz hi-res sampling rate

The X50D offers a recording function for internet radio, DAB+/FM radio and digital inputs. Create digital music collection with pristine sound quality at 192kHz.
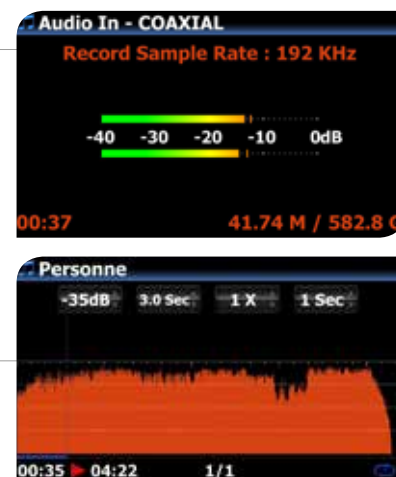
⟳ Auto/Manual cutting for recorded files

The auto/manual cutting function allows editing of recorded files on the X50D. Easily edit files and import them into the X50D Music Database.

↺ Versatile networking and remote control with a customised App

Connect the X50D to home networks for streaming music to and from other devices, listen to internet based music services and control it remotely using mobile devices with the customised remote control app, 'NOVATRON MusicX' or 'WebInterface'.

↺ Control remotely with mobile devices with the customised remote control App, 'NOVATRON MusicX'

↺ Integrated music streaming services

Access tens of thousands of internet radio stations and online music services such as TIDAL, Deezer, Napster, Qobuz, High Res Audio, Spotify Connect and Amazon Music.

↺ Control remotely by PC with WebInterface

Control the X50D and manage the music database remotely from PCs with the convenient WebInterface function. Just enter the device IP address in a browser to load the interface.

↺ Support various network protocols like UPnP Server/Client/Renderer, Samba Server/Client

Stream songs to and from other compatible devices in the same network.

↺ AirPlay and Spotify Connect

Play songs from iOS devices and music from Spotify via the X50D wirelessly.

↺ Control the X50D from Roon

The X50D is 'Roon Ready' for control via the Roon application.

7 inch TFT LCD Screen for intuitive GUI and HDMI out for external screens

A big 7 inch screen allows control of the X50D easily with its intuitive GUI. Even connect it to TVs for a bigger GUI or a slideshow of photos whilst listening to music

DAB+/FM radio tuner built-in

Enjoy high quality digital radio via a DAB+ tuner or a traditional FM receiver and record any broadcast at high-res quality.

High connectivity for various external devices

• 2 x USB3.0 host (rear) and 1 x USB2.0 host (front)
• GigaFast ethernet LAN
• HDMI out for external screens or audio out
• USB audio class 2.0 output
• Digital outputs (2 x I²S, 1 x Word Clock, 1 x Coaxial, 1 x Toslink, 1 x AES/EBU XLR, 1 x HDMI)
• Digital inputs (1 x Coaxial, 1 x Toslink)

Two(2) storage decks for music serving

The X50D features two drive bays which accept 3.5"/2.5" SATA HDDs and SSDs. According to user preference, these can be set in three RAID system modes - mirror, (back-up) stripe (increased access speed) and big (up to 16TB total storage)

Rugged and durable casing manufactured from CNC cut aluminium

The X50D front panel is manufactured from 13mm thick, CNC cut aluminium, with the rest of the chassis also based on CNC cut aluminium. The die-cast aluminium feet provide rigidity along with additional resistance from external vibration

Multi-functional features

Made possible by custom-designed smart software developed
by Novatron's in-house R&D center
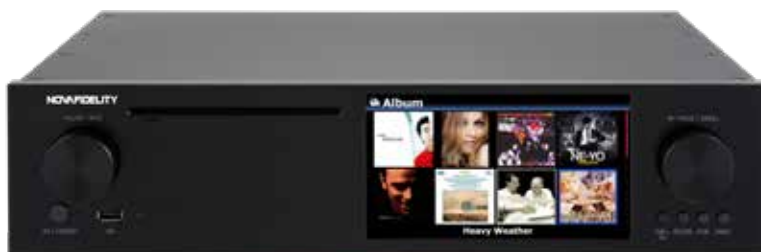
Listing by text or cover art

Display album or song lists as text or cover art by pressing the TEXT/ART key on the remote control

Sleep function

Pressing the SLEEP key on the remote control will make the X50D power off automatically after a set time

Jump to song mode

On the 'Now Playing' screen, pressing the CAP/NUM key on the remote control will lead you to 'Jump to Song Mode'. Pressing a numeric key will then jump to that song number

Auto CD ripping function

When ripping many CDs, the Auto CD ripping function is helpful. Insert a CD into the X50D and the whole ripping process is automated until the CD is ejected
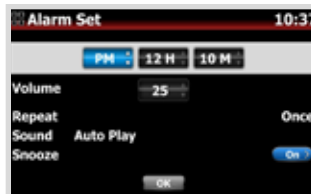
Merge multi-albums into one folder (album)
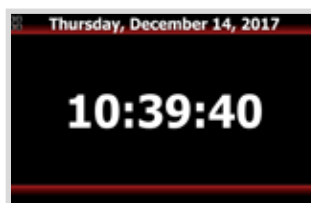
Rip multi-albums into one convenient album folder

Auto cutting function

Using this function, easily edit recorded files

Alarm
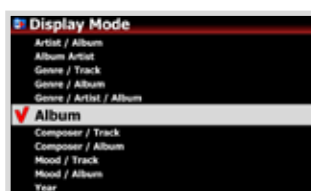
The X50D offers an alarm function

Clock & display OFF

Pressing the CLOCK key on the remote control will make the X50D screen show the current time or turn off the display

Seek to percent mode

With 'Seek to Percent Mode' pressing a numeric key will seek the location of the playing file as a percentage of the total duration

Display mode

Display the Music DB list by album, genre, track, artist, composer, year, mood, etc

Reservation recording

Schedule when the X50D will record internet radio with reservation recording

Edit recorded files

Edit recorded files by cutting to a new track and adding album/track tag info

ROON ready

Use the 'ROON' appllication to output to the X50D

Audio file format conversion

Convert existing audio files into other formats, (e.g. mp3, FLAC, WAV, MP4) for use on other devices -MP3 player, car stereo, etc

Audio CD burning

Burn audio CDs with the X50D

Gapless playback

For listening to mixed compilations seamlessly

Scroll speed

Control text scroll speed on the screen

HDD format

Easy solution to format hard disks with Linux file system or NTFS

Import & export music

Import/export music to/from the X50D Music DB via USB or over a network

Edit music tag info

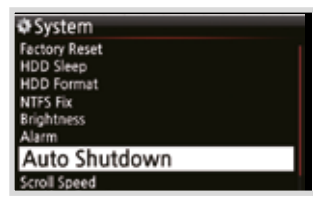Easily add metadata to the library for ease of browsing and searching music, enhancing listening pleasure

Make playlists

Make playlists for different moods and occasions. Burn playlists to CD or export audio files for listening on other devices.
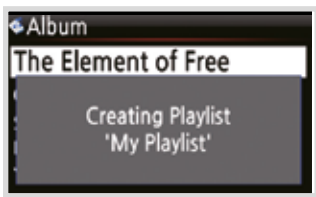
Music DB backup & restore

Protect the music library with easy and convenient back up settings

Make 'My Playlist'

An on-the-go playlist feature, for cueing songs whilst listening

Auto shutdown

Schedule when the X50D will power off

HDD Sleep

Go into sleep mode as set

USB keyboard

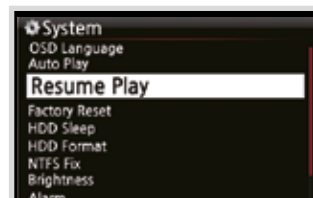Use an USB keyboard to edit song tag information easily

Section repeat

Set specific sections to play repeatedly

Resume play

After booting up, resume playing automatically where it was last stopped

11

Specification

Model name	NOVAFiDELITY X50D			Remarks
Host CPU & Memory	CPU: dual core ARM Cortex A9 running at 1.0GHz			
	Main memory: DDR-1066 1GByte			
	NAND flash 8GByte			
CD Player	Type	Front loading		
	Supported media	CD, CD-DA, CD-R, CD-RW, DVD-R/RW		
Display	7.0" TFT LCD (1,024 x 600pixels) (* able to connect to ext. screen via HDMI out)			
Interface	Key & Jog (Volume/Scroll), IR remote control, customised remote App for iOS and android devices, Web Interface			
Digital output (variable/fixed)	COAXIAL x 2	S/PDIF 75ohm RCA, sample rate: up to 24bit/192Khz		
	TOSLINK x 1	S/PDIF, sample rate: up to 24bit/192Khz		
	AES/EBU/XRL x 1	110ohm, sample rate: up to 24bit/192Khz		
	I²S out x 2	RJ45	Native DSD, DoP, PCM up to 24bit/192Kh	
		HDMI	Native DSD, DoP, PCM up to 24bit/192Khz	
	USB audio x 1	USB Audio Class 2.0 out (supports up to Native DSD256)		
	HDMI out x 1	HDMI Audio Out (*Shared with HDMI Out for external screen)		
	Word clock out	Up to 192Khz		
Digital input	COAXIAL x 1	Sample Rate up to 24bit/192Khz		
	TOSLINK x 1	Sample Rate up to 24bit/192Khz		
Supported storage	Hard disk	2.5" SATA, up to 8TB	* Two(2) storage decks * RAID system for two storages (3 modes: Mirror, Stripe or Big)	
		3.5" SATA, up to 8TB		
	SSD	2.5" SATA, up to 8TB		
Tuner	DAB+/FM	DAB+/FM tuner built-in (selectable for DAB/DAB+ or FM Radio)		
Connectivity	USB host	USB3.0 (5V/1A) x 2 (rear) / USB2.0 (5V/1A) x 1 (front)		
	Network	Wired	Giga fast ethernet (10/100/1000Mbps)	
		Wireless(optional)	*802.11b/g/n WiFi USB dongle(optional)	
	12V trigger	Out	Max 200mA, 12V	
		In	Max 12V	
	HDMI out	Connect to external screen (* Shared with HDMI audio out)		
Codecs & formats supported	MQA, DSD(DSD64, DSD128, DSD256), DXD(24Bit/352.8Khz), HD WAV(24Bit/192KHz), HD FLAC(24Bit/192KHz), APE/CUE, WAV, FLAC, ALAC, AIFF, AIF, AAC, M4A, MP3, WMA, Ogg Vorbis, PCM, M3U, PLS, CAF, etc			
Network protocols supported	UPnP(DLNA) Server/Client/Media Renderer, Samba Server/Client, FTP Server, Web Server, etc			
Internet services	Internet radio	Airable		
	Online music services	TIDAL, Deezer, Qobuz, Napster, Spotify Connect, Highresaudio, Amazon Music		
Supported OSD languages	English, German, French, Spanish, Italian, Polish, Dutch, Russian, Traditional Chinese, Japanese, Korean			
Power source	AC110 - 240V / 50 - 60Hz free voltage			
Mechanical	Material	Front	13mm aluminium, CNC cut	
		Knob	Aluminium, CNC cut	
		Body	Full aluminium CNC cut	
	Dimensions	Without foot	441mm(W) x 330mm(D) x 80mm(H)	
		With foot	441mm(W) x 330mm(D) x 100mm(H)	
Certificate	CE, FCC, EMI, etc			

* Specification may be changed without notice.