



What Sets Lumin Apart from The Competition?

Broadcast heritage and commercial engineering experience from Pixel Magic Systems Ltd.

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- ***Lumin Music Systems keeps storage, color display, wi-fi/bluetooth and ripping outside the box intentionally.*** This reduces any and all noise, vibration, stray R/F, and electromagnetic interference proven to degrade digital data streams. This also improves system reliability, even with internal SSD drives.
- ***As a "purist" audiophile company, LEEDH lossless digital signal processing was downloaded by Lumin to all Lumin transports and streamers in 2020.***
- ***Lumin is a commercial grade manufacturer, not consumer electronics*** (Pixel Magic Systems Ltd, is a very strong receiver/set top box manufacturer for broadcasters. Very high resolution AV design and engineering heritage). <http://www.pixelmagic.com/> >> ***Lumin Music at:*** <https://www.luminmusic.com/>
- ***Lumin will add nothing internally known to create noise influencing the purity of the data stream.*** (Wi-Fi may be sent externally to an Ethernet switch).
- ***Dual mono Lundahl output stage transformer coupling*** used exclusively in the A1, T1, S1, P1 and the X1 flagship.
- ***Lumin X1/P1 add optical networking in addition to traditional Ethernet networking.*** (Your option to use one or the other). Optical networks eliminate all influence of wire, cable, board components, connectors, power circuits, stray RF, etc. This is considered the ultimate in signal clarity.
- In models A1, U1, T1, S1 and X1, Lumin keeps power "outside the box" with AC to DC conversion and dual mono, external linear mode power supplies. Models D2, U1 Mini and T2 use dual-stage (Analog section + digital section) multi-voltage power supplies, ultra-low-noise regulators, internal noise reduction and Lumin designed hardware isolation. This prevents the power supply from having any influence or adding any noise to the streaming board. These power supplies are also encased in separate "off board" metal cabinets.
- Lumin integrated systems include high end dual mono DACs and USB and/or SPDIF digital outputs (For optional use with external DACs). Integrated streaming units also include dual mono, fully balanced and single ended analog audio outputs.
- ***The Lumin Application is a 100% custom application*** for iPhone, iPad and Android tablets. We even OEM this application to other manufacturers.
- Conversion and up-sampling options included with all models. (*In ultra high end models PCM audio to 32/768 Native and up to DSD512 native*).
- ***Integrated High-Resolution Internet Radio, and system streaming compatibility*** with Tidal basic, MQA, Tidal high res (W/MQA), Tidal Connect, Tidal masters, Qobuz, ROON endpoint, Lumin streaming open standard and Airplay integration. (*With more services to follow*).
- Lumin allows for DSD to PCM conversion, PCM to DSD conversion, custom up-sampling, variable bit rates and inverse polarity.
- Lumin has received more awards than we can fit on a price sheet and, top review ratings from multiple global publications in Asia, Europe and the USA.
- Custom Linux OS version plus expanded memory buffer and custom FPGA. All addressable by Lumin Music Systems for upgrades over the air.
- Many U1, X1, S1 and T2 may be used in commercial broadcast, high res. transmission services as a source device.
- ***Virtually unlimited storage access available*** via Lumin mini-NAS drives L1/2TB or L1/5TB, SoundGenic audio server/rippers, FIDATA audio servers/ripper generic servers, multiple L1s, USB drives, most Ethernet connected drives on the network, standard NAS devices, flash memory, etc.
- Other than for ***remote tablet commands to a router***, no WiFi or bluetooth is allowed directly into Lumin streamers as both systems are well known to add noise. Even front panel display and Ethernet connection LEDs ***may be defeated for well known incremental improvements in sound quality.***
- Lumin Music now supplies streamer/player software application interface to major Japanese CE companies.
- ***Dedicated USB audio output on the X1 and T2 allows for native DSD128/512 and native PCM/DXD playback.*** All models also include fully balanced and unbalanced analog audio outputs.
- Tablet remote control is applied by iPad, iPhone and Android tablet. An IR optional USB remote control kit is also available.
- LEEDH digital signal processing and The Lumin Application are ***included at no extra cost.***

Supplement 1:

Many engineers believe that disk/storage location should be as close to the music player as possible but not internal to the streamer as they generate noise. Many companies build storage drives into their players. Some manufacturers even build CD rippers into their streamers/servers. These are all "convenience" features and all lead to noise levels that effect the actual data stream. An internal hard drive (Solid state or non-solid state), has audible disadvantages by generating radio frequency (RF) noise and vibration generated by the drive. Vibration (along with RF and mechanical noise), multi-color on cabinet front panel displays, Ethernet network lamp indicators, are all sources of distortion in a digital audio data stream.

Lumin design's are dedicated to those who want the best possible sound. As commercial broadcast engineers, these are some of the realities (and the one below), that Lumin builds to avoid. Audiophile and high resolution broadcast grade playback requires analog and digital boards be **isolated from any and all outside influences that may effect the process of streaming and decoding.**

Supplement 2: Seven warnings about solid state drives (SSDs):

1. **No Warning of Failure** - When SSDs do crash, there may not be any warnings. Utilities, such as SMART (requires a PC on your network), which work with Hard Disk Drives to warn you of an upcoming hardware failure, don't work with SSDs.
2. **Not Always Recoverable** - If the SSD does crash, and you don't have a backup, it is less likely to be recoverable when compared to a standard hard disk drive. Therefore, it is always recommended to have some sort of back-up system in place, whether it's a third-party back-up system, network drives, USB drives or a RAID Array. This reduces the odds of ever needing to recover your data in the first place.
3. **May cause** a limited amount of electromagnetic interference if not properly isolated from an analog and/or digital streamer boards.
4. **Save Large Data Files on a HDD** - If you save a lot of large files (such as audio, photo, and video files), it is more cost effective to use a Hard Disk Drive to store your data files. While SSD prices have decreased, HDD prices are still almost 10 times cheaper for the same size disk drive. If you do use SSD for large file storage, make sure you back up regularly.
5. **Don't keep your SSD full** - SSD performance drops significantly when it is too full.
6. **Recommended for Use with Trim and Windows 7 and Beyond** - Use the Trim utility to keep deleted files from cluttering your SSD. Older SSD Drives may not include the Trim utility with them and only the Windows 7 and beyond support this utility. You will want to check your PC/Server to make sure that your system is not set up to automatically defragment your SSD drive.
7. **Beware Do Not Defragment** - Do not use the defragment utility on your SSD drive. Defrag is designed to be used with Hard Disk Drives, not SSDs and not with pre-configured partitions within the L1 series. The defrag utility writes lots of small operations to your hard drive, therefore slowing down your SSD drive or L1 series drives.

For more information please visit:
www.luminmusic.com/

Learn more about Trim:
[Lifehacker Article on Trim](#)
[Microsoft Article on Trim](#)

