

## BB60A System Requirements

1. Intel i7 quad-core processor from the Sandy Bridge or Ivy Bridge series. Specific Intel i7 quad-core processor models and part numbers are listed on Wikipedia when you search for "Intel Core i7". The BB60A software efficiency has been optimized for Intel processors using Intel's digital signal processing functions (Integrated Performance Primitives [IPPS]).
2. Spectrum analysis can be performed on live signals without the need for a streaming-to-drive function. In fact, streaming-to-drive functions are only needed when custom application software is being used and it requires a high data throughput.
3. If writing a custom software application for recording and playback of RF signals is desired then it is necessary to determine how much RF information needs to be preserved. If preserving and reconstructing any type of modulation is needed while using a 20MHz real-time bandwidth then high-performance mass storage will be required. If the task to be performed only requires detecting the presence of a signal, such as reconstructing a live spectrum analyzer display stream then standard mass storage hardware will work fine.
4. High-performance mass storage can be implemented with either a RAID-0 or RAID-5 Hard Disc Drive (HDD) configuration or a fast (250MB/second sustained sequential write speed) Solid-State Drive (SSD). Ten hours of streaming-to-drive storage capacity can be achieved for \$1,350, which is the current hardware cost of an 8TB RAID-0 storage configuration. Forty minutes of streaming-to-drive storage capacity can be achieved for \$560, which is the current hardware cost of a 512GB fast SSD.
5. For laptop users, the Intel Core i7-3612QM is the lowest power consumption (35 watts) i7 quad-core processor that Intel currently offers. That means longer battery life. Swapping the hard drive for an SSD, which is needed for high-performance streaming-to-drive, will also extend battery life.
6. Laptops are currently available in the \$800 range with the i7-3612QM processor. Costco carries the Dell Inspiron 15R (product number 666481), and TigerDirect.com carries the Sony Vaio.
7. For RAID-0 or RAID-5 storage configurations, the Adaptec RAID 6805 controller, part number 2271200-R, is recommended. There are probably several brands of RAID controllers that will work well but we have only tested two controllers and found only one of the two performed to the level required. The Adaptec RAID 6805 controller is currently carried at [www.NewEgg.com](http://www.NewEgg.com) for \$550. The balance of the RAID-0 storage configuration consists of 4 standard SATA-II or SATA-III HDD's.

8. For SSD data storage, a great deal of SSD's do not have high enough data transfer rates to sustain the high-performance streaming speeds needed to support maximum BB60A performance. That's fine if the task does not require the reconstruction of broadband or spread spectrum modulation. The Samsung 830 series SSD Laptop Upgrade kit is recommended, specifically the 512GB model for high-performance data storage. It currently sells online for about \$560. The Laptop Upgrade kit comes with a USB3.0 to SATA cable and software which allows you to clone your HDD to the SSD so the HDD can be replaced with the SSD.
9. The OCZ Vertex 4 series SSD also looks like a good high-performance candidate but we have not yet tested it for stability.