

## HD over IP Second Generation

Written by Bob Snyder  
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**Just Add Power demonstrated their second generation HD over IP solution with their own developed 2G processor at the heart.**

Their 2G Processor is a proprietary Silicon On Chip (SOC) design with an ARM9 CPU with a maximum running frequency of 275MHz. The CPU core includes 16KB I-cache, 16KB D-Cache, a Memory Management Unit (MMU), and two AHB system buses.

The Just Add Power 2G Processor integrates an algorithm for an 8-pixels-by-8-pixels block-based compression scheme. Before compression, the captured RGB-format video stream is automatically converted to a YUV format video stream. The video compression engine automatically monitors any scene change block by block. Only the blocks with a scene change will be compressed again. This significantly reduces the average network bandwidth requirement.

With 2G, Just Add Power moves from 100BT network architecture to a 1000BT platform for the necessary bandwidth to implement the patented visually lossless codec (and it's the most distinctive characteristic of the 2G HD over IP design).

Another key aspect of the 2G HD over IP solution is the transition from a totally fixed IP address on the Receivers to an IP address that can be set in the field (to eliminate the possibility of accidentally shipping a duplicate Receiver IP address to a customer.)

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The last significant difference between the 1G and 2G solution is the elimination of the scaler function in the HD over IP Receiver. This change makes it necessary for the installer to ensure that the selected screens for a 2G HD over IP solution are able to support the video signal resolution settings of the distributed source devices.

Initially the 2G Just Add Power HD over IP devices will be offered in the same 4 form factors as the 1G family (Standard Transmitter, Convertible Rackmount 3X Transmitter, Standard Receiver, and PoE Receiver), with additional form factors being developed and expected to be available in the near future.

While the overall appearance is very similar between the 1G and 2G devices , it is important to realize that they will not communicate with each other. Customers with 1G systems installed cannot use the 2G devices to expand their HDMI over IP matrix.

Go [Just Add Power's 2G HD over IP solution](#)