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(54) **UNIVERSAL ASYNCHRONOUS RECEIVER/TRANSMITTER INTERFACE FOR LIGHT EMITTING DIODE SYSTEM**

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(57) **ABSTRACT**

A LED controller for an LED pixel array includes a serial interface to an external data bus, along with an address generator connected to the serial interface and the LED pixel array. An image frame buffer is connected to the interface to receive image data and further connected to the address generator to receive an image frame buffer address. A command and control module is connected to the serial interface and configured to modify image frame buffer output signals. A calibration data storage module is connected to the command and control module to store calibration data related to pixel voltage response in the LED pixel array and enable modification of voltage provided by the dynamic power supply at least in part based on the image presented by the LED pixel array.