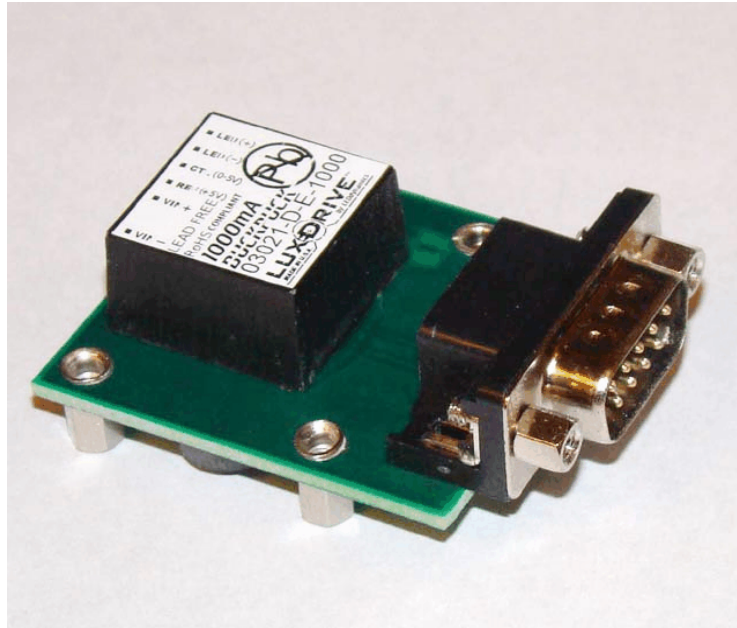




AeroElectric Connection  
P.O. Box 130  
Medicine Lodge, KS 67104-0130

## AEC9051 Series Filtered LED Drivers



### 1.0 FEATURES

**1.1** The AEC9051 Series LED driver assemblies were crafted to offer the OBAM aircraft owner a means by which the popular “Buck-Puck” by LED Dynamics could be integrated into a noise free, do-it-yerself LED illumination project. The stand-alone Buck-Pucks are reported to generate considerable radio noise in the VHF Comm band. These would certainly be a problem for VHF OMNI radios also.

**1.2** The AeroElectric Connection crafted radio noise filters for both the 14v input and LED output leads and assembled them onto an etched circuit board along with a 9-pin D-sub connector and a Buck-Puck. The finished assembly is illustrated above.

**1.3** Electrical characteristics of the AEC9051 Series LED drivers is determined by the Model of Buck-Puck innstalled. The AEC9051-1 LED Driver and AEC9051-99 Filter Assemblies are normally stocked. Dash 2, 3 and 4 Drivers are available on special order.

AEC9051 Series Kits Dash Numbers versus Output Current		
Dash No.	Output Current mA	Buck-Puck Installed
-1	1,000	3021-D-E-1000
-2	700	3021-D-E-700
-3	500	3021-D-E-500
-4	350	3021-D-E-350
-99	Filter Only No Buck-Puck Installed	

**1.4** Complete application and performance data on the various Buck-Puck drivers may be downloaded from:

<http://www.leddynamics.com/LuxDrive/drivers.php>

## 2.0 INSTALLATION

### 2.1 Parts Supplied

AEC9051-X LED Driver Kit Contents		
Qty	P/N	Description
1	9051-100-X	LED Driver or Filter Assembly
9	S604S20	D-Sub Sockets, 20AWG Machined
1	S604F9	Connector, 9-Pin D-sub Crimp Pins
1	S604H9	Hood, 9-Pin D-sub Connector
1	9051-700	Installation Manual (This document)

### 2.2 Materials Needed but Not Supplied.

**2.2.1** 22AWG or 20AWG Tefzel wire is recommended for user installed wires as required to install this product.

**2.2.2** Four each 4-40 thread mounting screws of length appropriate for installation on intended mounting surface. Head style optional.

**2.2.3** The installer may find it useful to wrap wires with plastic or silicone tape under the wire support clamp inside the D-Sub connector hood as shown in adjacent figure.

**2.2.4 Dash 99 Filter Assembly:** If assembling your own Buck-Puck onto a -99 Filter Assembly, use electronic grade 60/40 or 63/37 solder. Use a pea-size spot of E6000 or similar adhesive under the Buck-Puck before seating it down on the board. Solder the connections from the bottom side and trim the Buck-Puck pins off flush with the top of the solder joint.

### 2.3 Special Tools

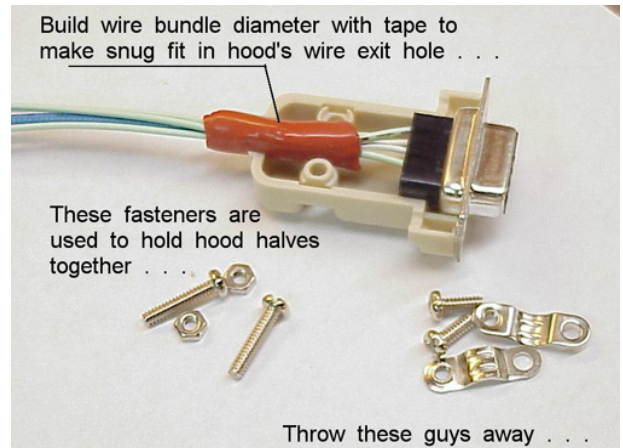
**2.3.1 Machined Connector Pins** supplied with this kit are installed with a 4-Quadrant crimp tool for 20AWG pins (M39039/64-369) and sockets (M39029/63-368). See websites for B&C Specialty Products, Steinair, and/or Marlin P. Jones for low cost D-sub machined pins crimp tools.

**2.3.2** Alternatively, the user may opt to replace the removable crimped-pins connector with a solderable 9-pin, female device from a local supplier

**2.3.3** The installer may also find it useful to possess a D-Sub pin insertion/removal tool. Radio Shack sells suitable tools. The adjacent figures illustrate techniques for installation of the D-Sub connector hood.

### 2.4 Connector Installation

**2.4.1** Refer to wiring diagram in this document for connector pin functional identification, and identification



of pin numbers for the wire entry side of the mating



connector.

**2.4.2** The connector hood is installed and assembled and retained on the mating ECB connector as shown above.

## 3.0 System Checkout

**3.1.1** The Buck-Puck LED Driver is a product of LED Dynamics. AeroElectric Connection's contribution adds only radio noise filtering and an aircraft friendly packaging. Performance of this product should be benchmarked against the Buck-Puck data cited earlier in these instructions.

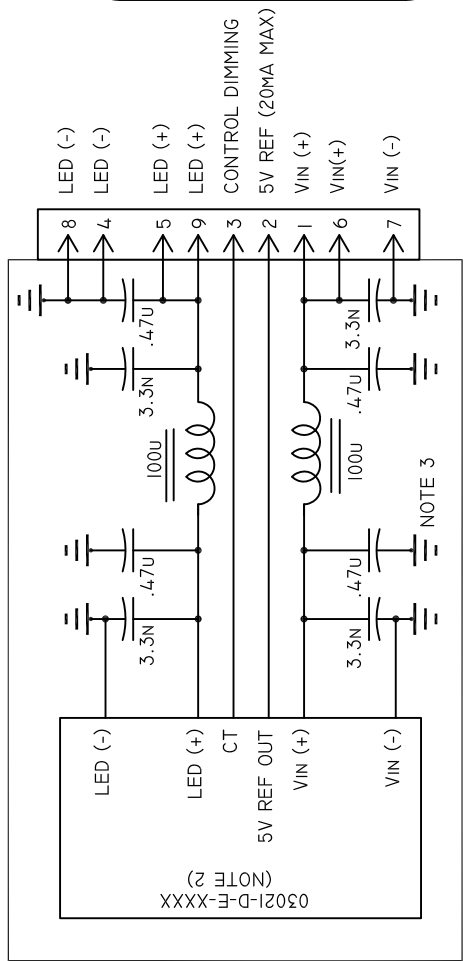
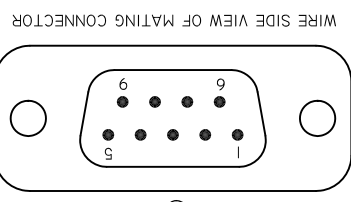
**3.1.2** To test the installed driver independently of the LEDs, use a 5 ohm, 5 watt resistor to dummy load the LED(+) and LED(-) pins on the connector. Connect a voltmeter across the resistor. A properly functioning driver will develop a voltage across the resistor that is commensurate with the rating of the installed Buck-Puck.

Test Voltage for 5-Ohm Dummy Load		
Dash No.	Buck-Puck Installed	Test Voltage
-1	3021-D-E-1000	5.0±0.25V
-2	3021-D-E-700	3.5±0.18V
-3	3021-D-E-500	2.5±0.13V
-4	3021-D-E-350	1.75±0.1V

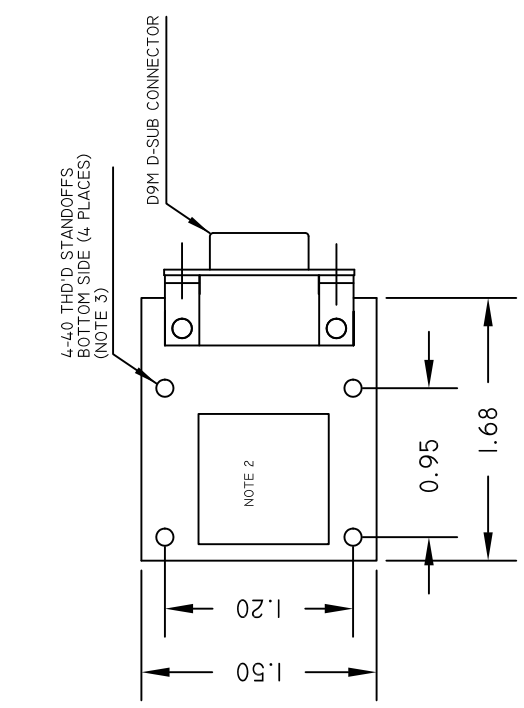
#### 4.0 Conditions for Continued Airworthiness

4.1 The LED Driver Assembly requires no periodic calibration. Repair or replacement is made on condition of damage or failure.

REV	DESCRIPTION OF REVISIONS	DATE/APPROVAL



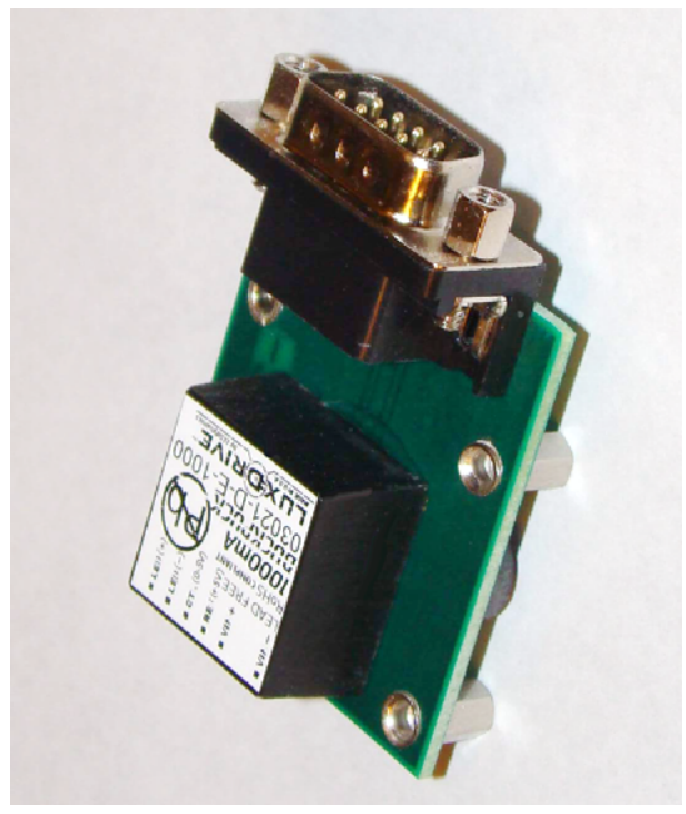
SCHEMATIC AND PINOUT



- ① LED DRIVER, 1 AMP, FILTERED
- ② LED DRIVER, 700 MA, FILTERED
- ③ LED DRIVER, 500 MA, FILTERED
- ④ LED DRIVER, 350 MA, FILTERED
- ⑨9 BUCK-PUCK FILTER (NOTE 2)

NOTES:

- FOR DETAIL ELECTRICAL SPECIFICATIONS OF THE BUCK-PUCK LED DRIVER MODULE, SEE: [HTTP://WWW.LEDDYNAMICS.COM/LUXDRIVE/DATASHEETS/3021-BuckPuck.PDF](http://www.leddynamics.com/luxdrive/datasheets/3021-BuckPuck.PDF)
- USER SUPPLIES DRIVER MODULE OF CHOICE FOR -99 FILTER ASSEMBLY.
- THREADED STANDOFFS USED FOR MOUNTING ARE ELECTRICALLY COMMON TO GROUND PINS 4, 7, AND 8.



<b>AeroElectric Connection</b> <b>P.O. Box 130, Medicine Lodge, KS 67104</b>		TITLE	
		LED DRIVER, CONSTANT CURRENT, FILTERED	
DRAWN	NAME	DATE	REVISION
	NUCKOLLS	10/21/08	
CHECK	DRAWING NO.		DATE
	AEC9051		
APPROVED	SCALE	NOTED	W/O
			PAGE   OF