

*Silver*  
TELECOM

**EVALAG9300 Evaluation  
Board User Manual**

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### 3 Introduction

This manual is intended to be a guide to using the “EVALAG9300 evaluation board” with Silver Telecom Powered Device (PD) modules.

The EVALAG9300 evaluation board can be powered by using Power over Ethernet (PoE) or by using an auxiliary (AUX) power supply.

The data is supplied to the board through connector J2 and is passed through to the peripheral equipment via J3. The output power from the PD module to the peripheral equipment can be supplied via either J5 & J6 or J7 (see Figure 1), when the PD module output is on LED3 will be illuminated.

The EVALAG9300 evaluation board will work with the following PD modules: -

Ag9312

### 4 Board Description

#### 4.1 Input Selection

The EVALAG9300 evaluation board can be powered using PoE through J2. PoE can either apply power over the spare pair on the CAT5e cable (pins 4 & 5 and pins 7 & 8) generally used by Midspan equipment. Or it can apply the power over the data pair (pins 1 & 2 and pins 3 & 6) via the centre tap of the data transformer (input), which is generally used by Endspan equipment.

The EVALAG9300 evaluation board is compatible with both of these methods and uses an IEEE802.3af compliant RJ45 connector (J2) with integrated magnetics (MJF11U2NNA8-VB110 from E & E Magnetic Products Ltd). If LED2 is illuminated then there is power on one of the PoE inputs (data pair or spare pair).

In addition to the PoE input, the EVALAG9300 evaluation board also has two AUX inputs. If PoE is not available, the PD module can be powered from a dc power supply via J4 (12Vdc to 48Vdc), or from an ac power supply via J1 (18Vac to 30Vac). If LED1 is illuminated then there is power on one of the AUX inputs.

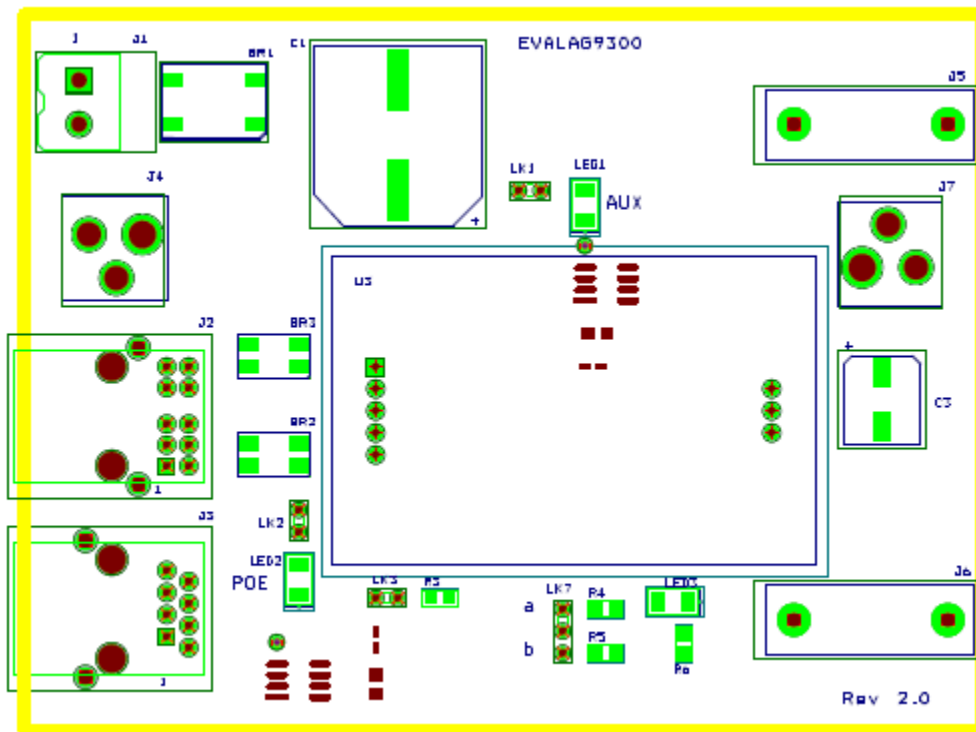


Figure 1: Board Layout

## 4.2 Class Programming

Resistors R3 can be used to set the (optional) power classification of the PD module.

The EVALAG9300 evaluation board has a 243R fitted (R3), this will set the PD module as Class 3 when LK3 is fitted (see Figure 1). This can be changed if required, see the table in the power classification section in the datasheets for resistance values.

If LK3 is not fitted the PD module will default to Class 0 (0.44W to 12.95W).

### **4.3 Output adjustment**

The output voltage of the PD module can be adjusted by connecting the ADJ pin to either the -VDC or the +VDC pins. LK7 can be used to adjust the output voltage (see Figure 1).

On the EVALAG9300 evaluation board R4 and R5 are fitted with a 0 Ohm link to give maximum adjustment, see the output adjustment section in the datasheet for more information.

With LK7 fitted in position “a” (centre to top) the output voltage will decrease.

With LK7 fitted in position “b” (centre to bottom) the output voltage will increase.

## 5 Set-up

### 5.1 PoE Input

Figure 2 shows the basic set up using the EVALAG9300 evaluation board with PoE input using a Midspan.

The equipment required: -

- Midspan or Endspan PSE (Power Sourcing Equipment)
- Peripheral (or Test) Equipment
- CAT5e cables
- Output power cable
- Mains cable

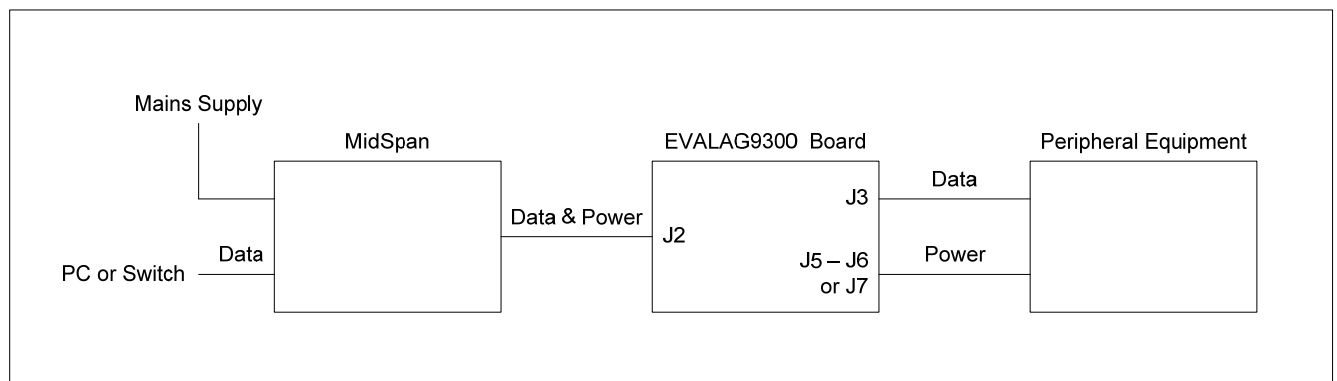


Figure 2: Basic PoE set-up

## 5.2 AUX Input

Figure 3 shows the basic set up using the EVALAG9300 evaluation board with an AUX power input.

The equipment required: -

- DC power supply (12Vdc to 48Vdc)\*
- Peripheral (or Test) Equipment
- CAT5e cables
- Output power cable

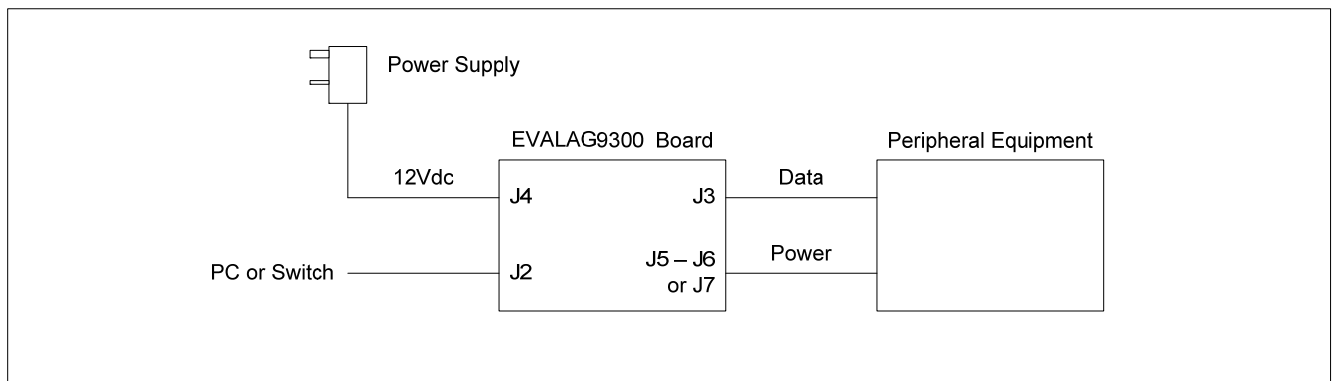


Figure 3: Basic AUX set-up

\* Note: alternately an AC power supply (18Vac to 30Vac) could be connected to J1.

## 6 Using the Board

### 6.1 Typical PoE Application

Figure 4 shows an example set-up using the PoE input and supplying +12V to a Vivotek PT7135 ethernet camera.

The PC ethernet port is connected to the data input of the Midspan via a short Cat5e patch cable. The Data & Power output from the Midspan is connected to the input of the EVALAG9300 evaluation board (J2) via a CAT5e crossover cable. The data output of the EVALAG9300 evaluation board is connected to the data port of the ethernet camera via a short CAT5e patch cable. The (+12V) power output from the EVALAG9300 evaluation board (J7) connects to the dc input of the ethernet camera.

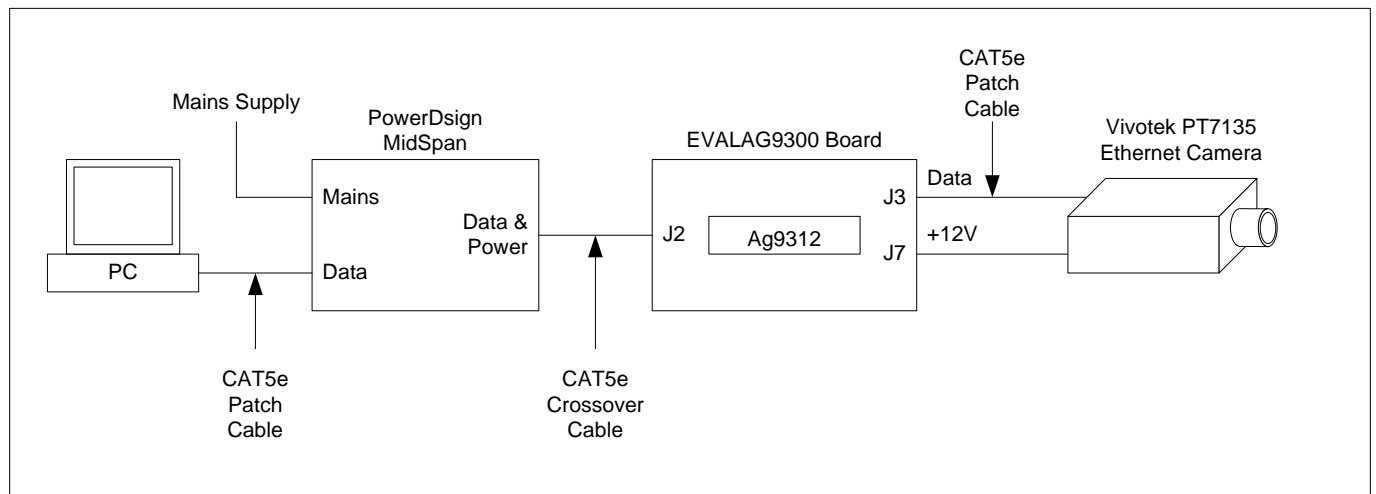


Figure 4: PoE example set-up

## 6.2 Typical AUX Application

Figure 5 shows an example set-up using the AUX input and supplying +12V to a Vivotek PT7135 ethernet camera.

The PC ethernet port is connected to the input of the EVALAG9300 evaluation board (J2) via a CAT5e crossover cable. A 24Vac power supply is connected to the AUX input (J1). The data output of the EVALAG9300 evaluation board is connected to the data port of the ethernet camera via a short CAT5e patch cable. The (+12V) power output from the EVALAG9300 evaluation board (J7) connects to the dc input of the ethernet camera.

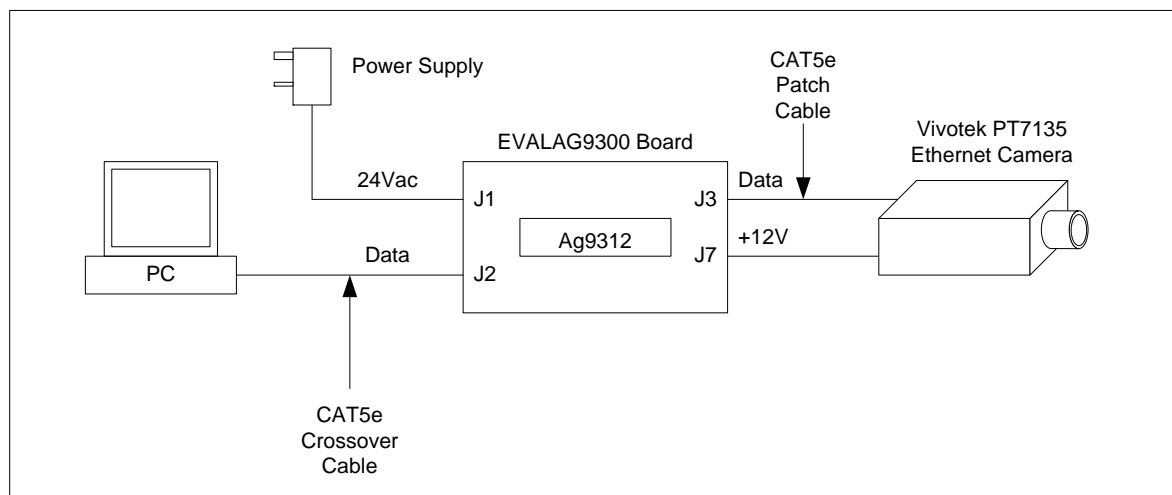


Figure 5: AUX example set-up