Connecting a THALES Photo Multiplier Amplifier board directly to a R306.3x, using it as a RADIOGRAPHY AUTOMATIC EXPOSURE CONTROL device requires a little modification on ODEL AEC AMPLIFIER BOARD 560224 dwg 5921 is needed:

Remove relay K1
Remove relay K2
Remove relay K3
Remove I.C. U1 (OP27)
Remove I.C. U1 (OP27)
Remove I.C. U21 (OP400)
Remove resistor R62
Remove capacitor C29
Remove resistor R66 (6k8) and replace it with a 100 Ohm resistor

Connect “CH1 +C” signal to TP3 (round test point in the rear of the board)

Connect “CH1 --C” signal to pin 0v2dc (pin 3 of IC1, p.e.).

PHM OUT is J2, connection is:
MCU.J12 pin 5 = THALES J2 GROUND
MCU.J12.pin 4 = THALES J2 SIGNAL
### Table

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**Automatic Exposure Control**

- **560224.5921.05**
- **P//**
- **M**
- **A**
- **W**
- **R**
- **B**
- **K**
- **X**
- **O**

**Diagram Description**

- **Factory Set-Up Used for Motor**
- **Chamber 1 Cent. Gain R1**
- **Chamber 2 Cent. Gain R10**
- **Chamber 2 Left Gain R1**
- **Chamber 2 Right Gain R14**
- **Chamber 1 Right Gain R12**

**Document Information**

- **ISO9000/25**
- **EEN-022 Thales Light Pic-up used as a RADIO AEC.doc**

**Note**

- **Eng. to Eng. Note**
- **2008-074**
The light measurement is a device which allows projecting a part of the image called Region Of Interest (ROI) onto a photodiode. The current generated by the photodiode, proportional to the average amount of light into the ROI, is converted into two output voltages.

The light measurement device includes the following components:
- the light path which focuses one part of the XRII output image onto a photodiode;
- a printed circuit board equipped with a photodiode OPT 101.

In case the light measurement device is used for an X-ray dose control, it is under the responsibility of the OEM to ensure the compliance with the safety requirements of the application.

Optical Characteristics
- magnification of the light path: 0.216 (i.e.: an object of 10 mm on the output screen of the XRII corresponds to 2.16 mm on the photodiode plane).
- size of the region of interest: 10.6 x 10.6 mm² on the output screen of the XRII.

Electrical Interface

THALES ELECTRON DEVICES
SSU Tubes Intensificateurs d'Image et de Visualisation / SSU Image Tubes & Display
24 V DC power input

Case of RU with Optics Control Board
The Photo Diode Board (PDB) does not require a special power supply as it is powered by the Optics Control Board.

Case of RU without Optics Control Board
The Photo Diode Board (PDB) requires an external power supply.
- input voltage : 24 V ±10 %
- input current : 100 mA max
- red wire : +24 V input
- black wire : 0 V input

Voltage output
Connector type : SMA
output impedance : 1 kohm
output range : 0 to 10 V
J2 output typical gain : 0.8 mV/(Cd/m²)
J3 output typical gain : 10 mV/(Cd/m²)