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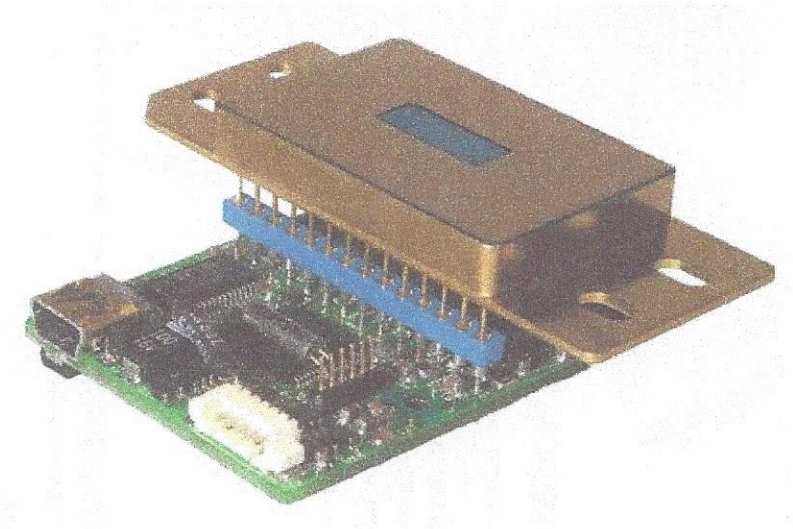
NEP PbS 256 Pixel Array

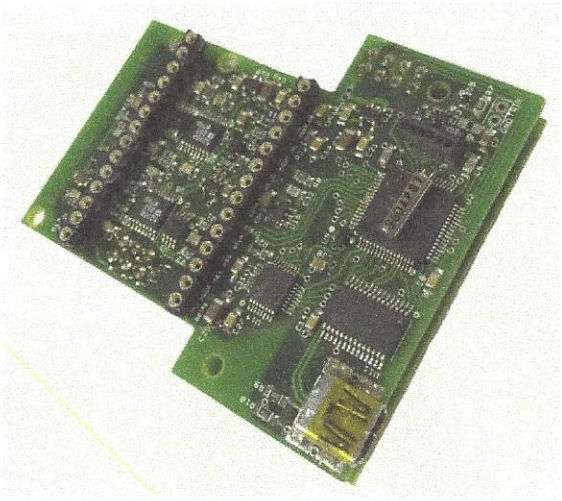


Specifications:

Operating Wavelength	1 – 3 microns
Array Operating Temperature	-4°C (TEC cooled and stabilized)
Number of Elements	256
Element Size	40μm^2 on a 50 μm pitch
Element Height Option	Up to 400 μm high with the tradeoff of speed
Peak Detectivity	D* = 8 x 10^{10}
Response Uniformity	±15% of mean
Programmable Integration Time	10μs to 100ms
Power Requirements	
Data Acquisition Unit	12VDC / 50mA
TEC Controller	5VDC / 3A

LMAC-PC05 Linear Multiplexed Array Controller

- Complete Data Acquisition System
- USB 2.0 Full Speed Interface
- 256 pixel arrays supported
- Integrated TE Cooler Controller with 5mK stability
- 16 bit A/D Converter
- Windows DLL Software Interface
- Compact form factor
- On board NVRAM remembers last settings
- External trigger input to control start of integration time
- FLASH upgradable firmware



The LMAC-PC05 is a complete acquisition system for use with the A/DIC Inc 256 channel photo conductive readout integrated circuit. The on board microcontroller provides all signals needed to operate the array. Operation and calibration of the per pixel dark current skimmers is handled by the DLL and the array microcontroller. Physically the LMAC is designed to attach to a standard 28 pin tub package (pictured in right column). The dual board system separates the acquisition function (upper board) from the TE cooler controller (lower board)

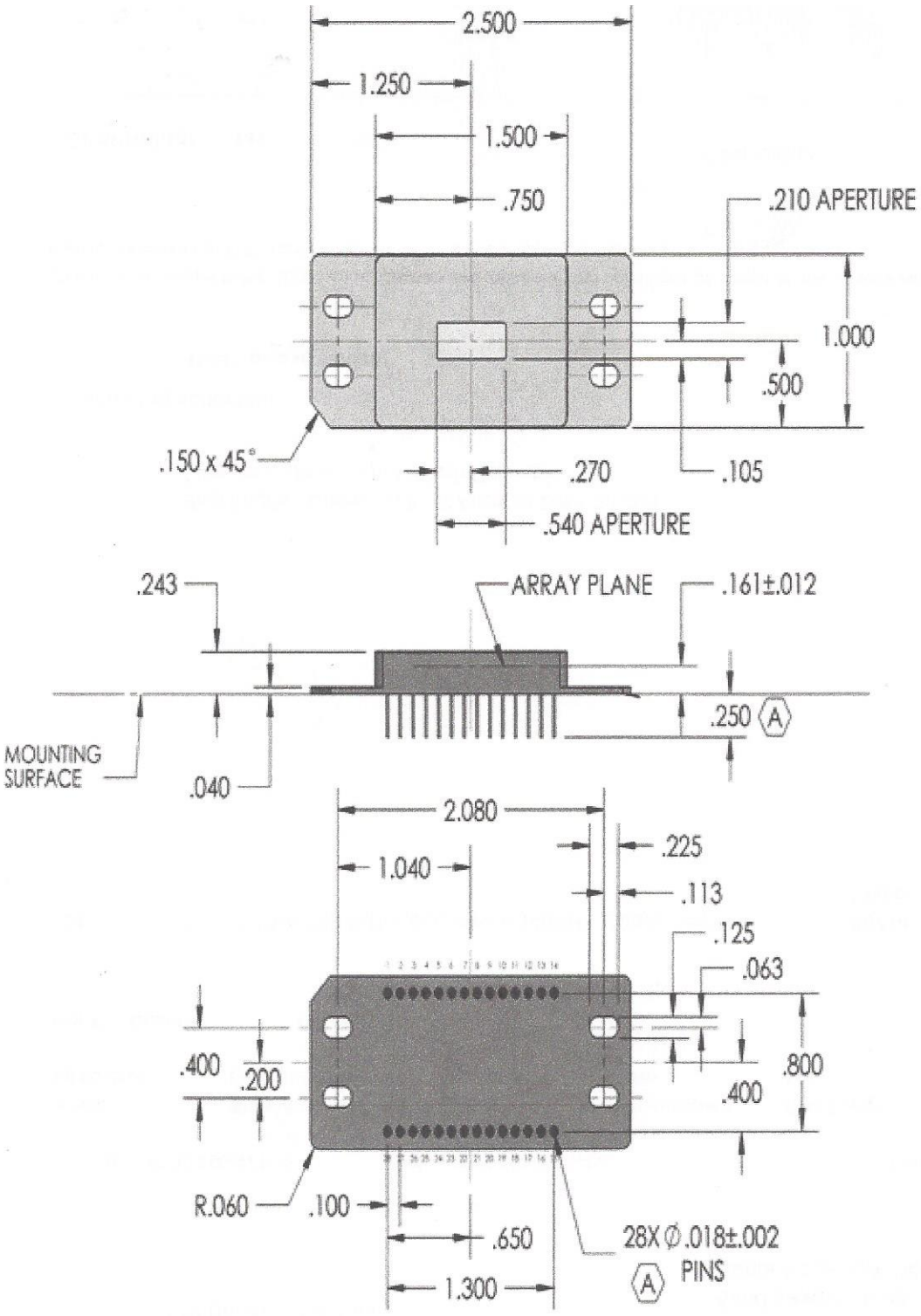
1	DET Bias	NC	28
2	Therm 1	Therm 2	27
3	TE+	TE-	26
4	NC	NC	25
5	SCLK	SDATA	24
6	CFGLoad	Read Clock	23
7	Frame Start	DAC Load	22
8	RstNBias	NC	21
9	DAC VH	NC	20
10	Output	Int Clock	19
11	DAC VL	VSS	18
12	Global Skim	VDD	17
13	DET Bias	NC	16
14	NC	NC	15

Data Acquisition Unit

- 16 bit
- 2.5V signal swing
- 12 VDC 50mA supply required
- Up to 60 Frames per second
- Digitally controlled integration time 10us to 100ms
- Crystal controlled time base
- External trigger input
- Micro USB connector

TE Controller Unit

- Analog PWM controller for high efficiency
- 2.5 A peak current
- 4.1 V peak voltage
- Requires 5VDC supply at 3A
- 5mK temperature stability
- Bidirectional drive (heats and cools)
- LC filter creates DC conditions across TE element
- Set point digitally controllable
- Self-monitoring for thermal runaway; with auto shut down


2.500
1.250
1.500
.750
.210 APERTURE
1.000
.500
.150 x 45°
.270
.105
.540 APERTURE
.243
ARRAY PLANE
.161±.012
.250 (A)
MOUNTING SURFACE
.040
2.080
1.040
.225
.113
.125
.063
.400
.200
.800
.400
R.060
.100
.650
1.300
28X Ø.018±.002
(A) PINS