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Test procedure for dual photodiode amplifier box (D1301017):

Test Preparation

Enter Name, Date, Revision, Board Serial Number VCO chassis serial number:

Test Engineer	Date	Pass
Chassis	Serial Number	
D1301017		

Required Test and Ancillary Equipment

- +/- 15V power supplies
- 2 BNC to grabbers
- 1 TNC to BNC adapter
- 200kOhm resistor
- 20MOhm resistor
- Voltmeter
- BNC to banana adapter
- 9 pin dsub breakout board
- Access to medm screens (CDS laptop or workstation)

Power Supplies

Connect chassis to power and etherCAT cable.

Check that both OK led lights are lit on the front panel.

Check the power supply current:

Supply voltage	-15V	+15V
nominal	<100mA	0.25 A
measured		

Offsets

With the gain set to 60dB, check the offset on each channel, the absolute value should be less than 10 mV. Check the offset readback in the MEDM screen, use a breakout board on the 9 pin D-sub connector (DAQ readback) with BNC grabbers over the indicated pins, and attach a voltmeter to the BNC output for each PD.

	Measured in epics (MEDM)	DAQ readback	BNC output	nominal
PD1 (pins 1+6)				<10mV
PD2 (pins 2+7)				<10mV
PD3 (pins 3+8)				<10mV
PD4 (pins 4+9)				<10mV

Gain Settings

Connect a 200 kOhm resistor to the PD inputs using a TNC to BNC adapter and BNC to grabbers. Measure the voltage for the 0dB and 20dB gain settings at each of the three readbacks.

	Gain setting	MEDM	DAQ output	Measured with voltmeter on BNC output	nominal
PD1 (pin 1+6)	0dB				0.5V
	20dB				5V
PD2 (pin 2+7)	0dB				0.5V
	20dB				5V
PD3 (pin 3+8)	0dB				0.5V
	20dB				5V
PD4 (pin 4+9)	0dB				0.5V
	20dB				5V

Replace the 200kOhm resistor with a 20MOhm resistor, and repeat the same measurements for the higher gain settings:

	Gain setting	MEDM readback	DAQ output	Measured with voltmeter on BNC output	nominal
PD1 (pin 1+6)	40dB				0.5V
	60dB				5V
PD2 (pin 2+7)	40dB				0.5V
	60dB				500
PD3 (pin 3+8)	40dB				0.5V
	60dB				5V
PD4 (pin 4+9)	40dB				0.5V
	60dB				5V