



ICR Daughter Board

Application note: pinout

The Neophotonics Integrated Coherent Receiver can be controlled by a convenient daughterboard / motherboard evaluation set. The motherboard contains all the generic and low-speed functionality and the daughterboard contains form-factor specific items as well as the high speed lines.

For the daughterboard there is one for Type I ICR, micro-ICR class 20 and micro-ICR class 40.

This application note describes the pinout of these daughterboards.

1. Pinout

Pin	Type I ICR pin	Micro ICR pin class 20	Micro ICR pin class 40	Functionality
1	19	17		Peak Indicator YQ
2	20	2		For Future Use
3	17	15		Output Amplitude Adjust YQ
4	18	16		Gain Adjust YQ
5		30		VOA2 Adjust Voltage
	16			For Future Use
6		3		MGC/AGC Selection
	15			MGC/AGC Selection Y
7		Not used		
	14			Supply voltage Amplifier YQ
8	13 GND	14 GND		GND
9	11	8		Photodiode Bias Voltage YQ
10	12	9		Photodiode Bias Voltage YQ
11	9	6		Photodiode Bias Voltage YI
12	10	7		Photodiode Bias Voltage YI
13		13		Supply Voltage Amplifier Y
	7			Supply Voltage Amplifier YI
14	8 GND	14 GND		GND
15	5	4		Monitor Diode Cathode
16	6	5		Monitor Diode Anode
17	3	11		Gain Adjust YI
18	4	12		Output Amplitude Adjust YI
19		1		For Future Use
	1			Shutdown Y
20	2	10		Peak Indicator YI
21	39	25		Peak Indicator XQ
22	40	34		For Future Use
23	37	23		Output Amplitude Adjust XQ
24	38	24		Gain Adjust XQ
25		Not used		
	35			MC/AGC Selection X
26		31		VOA1 Adjust Voltage
	36			For Future Use
27	33 GND	21 GND		GND
28		Not used		
	34			Supply-voltage amplifier XQ
29	31	28		Photodiode Bias Voltage XQ
30	32	29		Photodiode Bias Voltage XQ
31	29	26		Photodiode Bias Voltage XI
32	30	27		Photodiode Bias Voltage XI
33		22		Supply Voltage Amplifier X
	27			Supply Voltage Amplifier XI
34	28 GND	21 GND		GND
35	25	33		For Future Use
36		Not used		
	26			For Future Use
37	23	19		Gain Adjust XI
38	24	20		Output Amplitude Adjust XI
39		32		Shutdown
	21			Shutdown X
40	22	18		Peak Indicator XI

2. ICR Pinout

Pinout for Type I ICR (from MSA document)

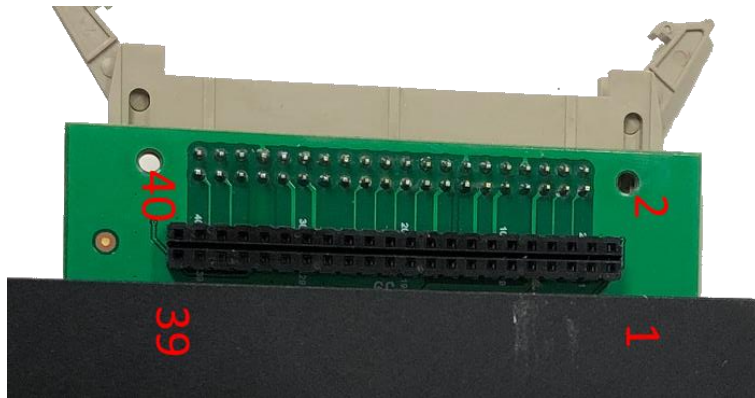
Pin #	Symbol	Description	Pin #	Symbol	Description
1	SD-Y	Shutdown Y (optional)	40	RFU	Reserved for future use
2	PI-YI	Peak indicator YI	39	PI-XQ	Peak indicator XQ
3	GA-YI	Gain adjust YI	38	GA-XQ	Gain adjust XQ
4	OA-YI	Output amplitude adjust YI	37	OA-XQ	Output amplitude adjust XQ
5	MPD+	Monitor photodiode cathode (optional)	36	RFU	Reserved for future use
6	MPD-	Monitor photodiode anode (optional)	35	MC/AGC-X	MC/AGC selection X (optional)
7	VCC-YI	Supply-voltage amplifier YI	34	VCC-XQ	Supply-voltage amplifier XQ
8	GND	Ground reference	33	GND	Ground reference
9	PD-YI	Photodiode bias voltage YI ¹	32	PD-XQ	Photodiode bias voltage XQ ¹
10	PD-YI	Photodiode bias voltage YI ¹	31	PD-XQ	Photodiode bias voltage XQ ¹
11	PD-YQ	Photodiode bias voltage YQ ¹	30	PD-XI	Photodiode bias voltage XI ¹
12	PD-YQ	Photodiode bias voltage YQ ¹	29	PD-XI	Photodiode bias voltage XI ¹
13	GND	Ground reference	28	GND	Ground reference
14	VCC-YQ	Supply-voltage amplifier YQ	27	VCC-XI	Supply-voltage amplifier XI
15	MC/AGC-Y	MC/AGC selection Y (optional)	26	RFU	Reserved for future use
16	RFU	Reserved for future use	25	RFU	Reserved for future use
17	OA-YQ	Output amplitude adjust YQ	24	OA-XI	Output amplitude adjust XI
18	GA-YQ	Gain adjust YQ	23	GA-XI	Gain adjust XI
19	PI-YQ	Peak indicator YQ	22	PI-XI	Peak indicator XI
20	RFU	Reserved for future use	21	SD-X	Shutdown X (optional)

Pinout for micro-ICR (both class 20 and class 40; from MSA document):

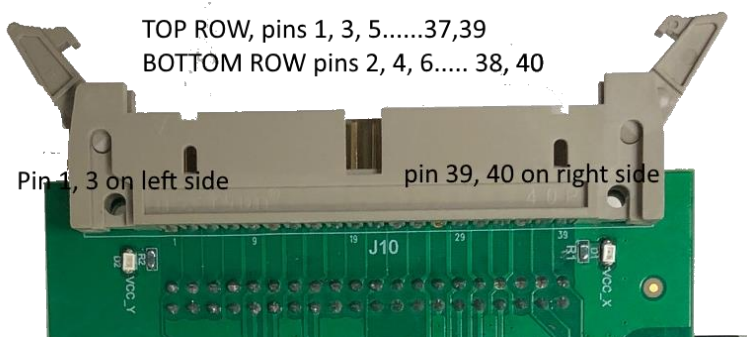
Pin#	Symbol	Description	Pin#	Symbol	Description
1	RFU	Reserved for future use ⁴	34	RFU	Reserved for future use ⁴
2	RFU	Reserved for future use ⁴	33	RFU	Reserved for future use ⁴
3	MGC/AGC	MGC/AGC selection (optional)	32	SD	Shutdown (optional)
4	MPD-C	Monitor diode cathode (optional) ³	31	VOA1	VOA1 Adjust voltage (optional) ²
5	MPD-A	Monitor diode anode (optional) ³	30	VOA2	VOA2 Adjust voltage (optional) ²
6	PD-YI	Photodiode bias voltage YI ¹	29	PD-XQ	Photodiode bias voltage XQ ¹
7	PD-YI	Photodiode bias voltage YI ¹	28	PD-XQ	Photodiode bias voltage XQ ¹
8	PD-YQ	Photodiode bias voltage YQ ¹	27	PD-XI	Photodiode bias voltage XI ¹
9	PD-YQ	Photodiode bias voltage YQ ¹	26	PD-XI	Photodiode bias voltage XI ¹
10	PI-YI	Peak indicator YI	25	PI-XQ	Peak indicator XQ
11	GA-YI	Gain adjust YI	24	GA-XQ	Gain adjust XQ
12	OA-YI	Output amplitude adjust YI	23	OA-XQ	Output amplitude adjust XQ
13	VCC-Y	Supply voltage amplifier Y	22	VCC-X	Supply voltage amplifier X
14	GND	Ground Reference	21	GND	Ground Reference
15	OA-YQ	Output amplitude adjust YQ	20	OA-XI	Output amplitude adjust XI
16	GA-YQ	Gain adjust YQ	19	GA-XI	Gain adjust XI
17	PI-YQ	Peak Indicator YQ	18	PI-XI	Peak Indicator XI

3. Physical configuration

The daughterboards come with a female 40 pin connector at the bottom side. The pinout is indicated below. Typically this connector is pushed onto the motherboard.

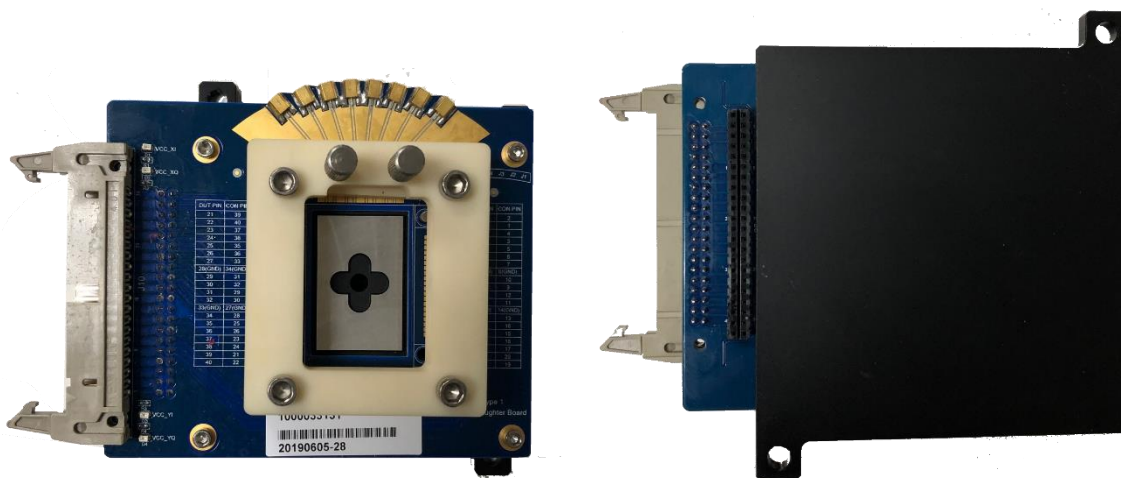


The daughterboard come with a 40 pin latches connector on the side. The pinout is indicated below. A standard IDC cable can be connected to this connector.



The connectors are standard 0.1” pitch IDC connectors.

Daughterboard for Type I ICR



Daughterboard for micro-ICR class 20



Daughterboard for micro-ICR class 40 to be added.