

Vanalog is +5V from the Tattletale onboard regulator, and is controlled by a switch on the Analog Module that senses the presence of the Analog Reference voltage. Whenever the A/D converter on the Tattletale is active, Vanalog will be enabled.

BuffRef is a buffered replica of the 4.096V reference voltage internal to the A/D converter on the Tattletale.

Resistors Rx01 through Rx08, and Cx01 are application dependent, and not all will be installed in any particular situation.

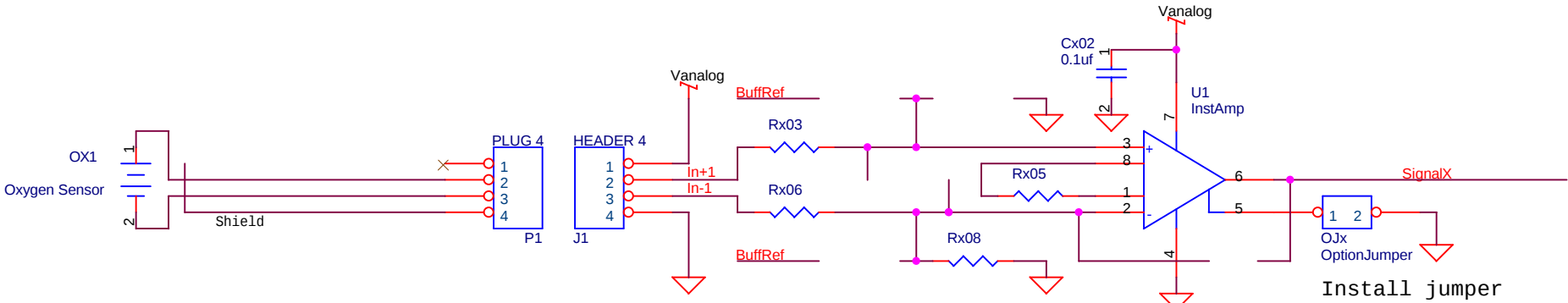
Gain	Rx05
5	omit
10	40.2k
20	13.3k
50	4420
100	2100
200	1020
500	402
1000	200
2000	100
5000	40.2
10000	20
nearest 1% value	

$$\text{SignalX} = (V_{+IN} - V_{-IN})\text{Gain}$$

$$\text{Gain} = 5 + (200k/Rx05)$$

Rx05 is the gain setting resistor for the instrumentation amplifier.

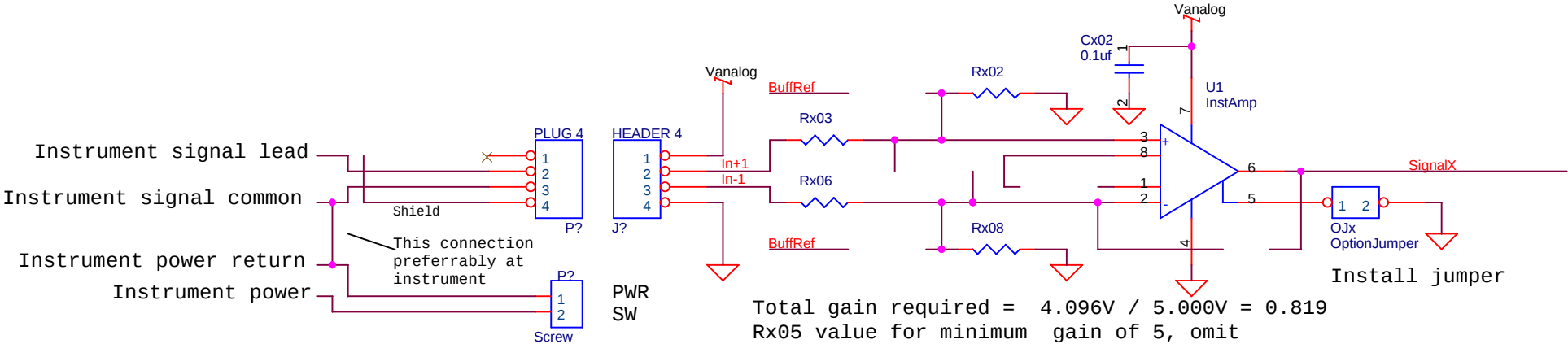
OJx is normally installed to place the output reference level at ground potential. An externally generated voltage from a low impedance source may be applied here to raise the reference level above ground.



Tattletale A/D fullscale input voltage is 4.096V. Resolution is 12 bits, or 1/4096 yielding 1mV/bit

EXAMPLE: Oxygen sensor, 20mV max expected output.

Gain required = $4.096V / 0.020V = 204.8$
Rx05 value for gain of 200, 1020 ohms
Rx03, Rx06, 100Kohm input protection
Rx08 1Kohm bias current return



EXAMPLE: 0-5V analog instrument

Total gain required = $4.096V / 5.000V = 0.819$
Rx05 value for minimum gain of 5, omit
Gain reduction needed from resistor network is (amp gain) $5 / .819$ (total gain) = 6.1
Subtract 1 for desired resistor ratio = 5.1
Nearest 1% values are:
Rx03, Rx06, 10.20Kohm
Rx02, Rx08, 2.000Kohm

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Title
Analog Module Configuration Examples

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