



SLA-1500-RAB Interface Control Documentation

PART NUMBER: ICD-SLA-1500-RAB

DATE: March 29, 2017

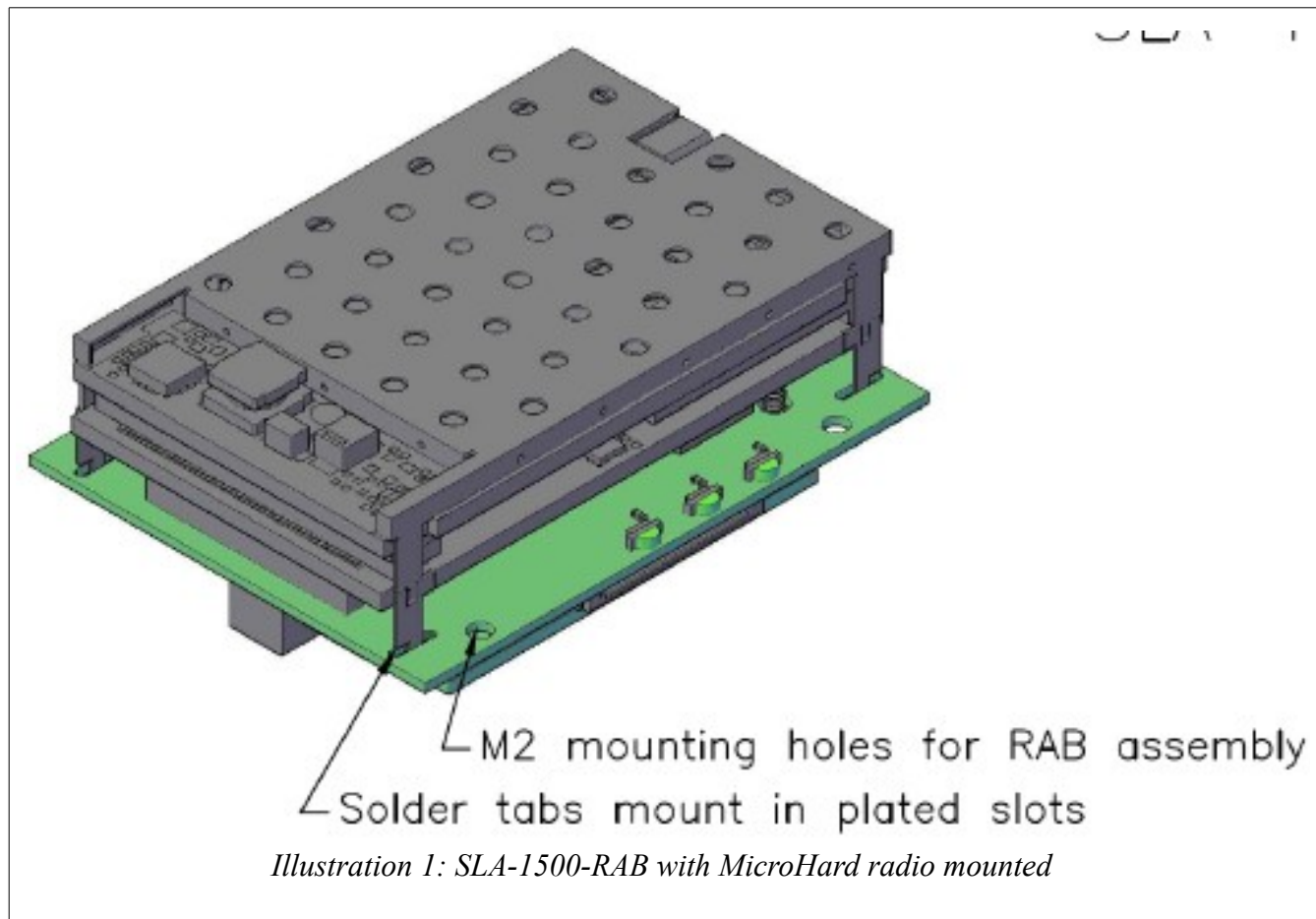
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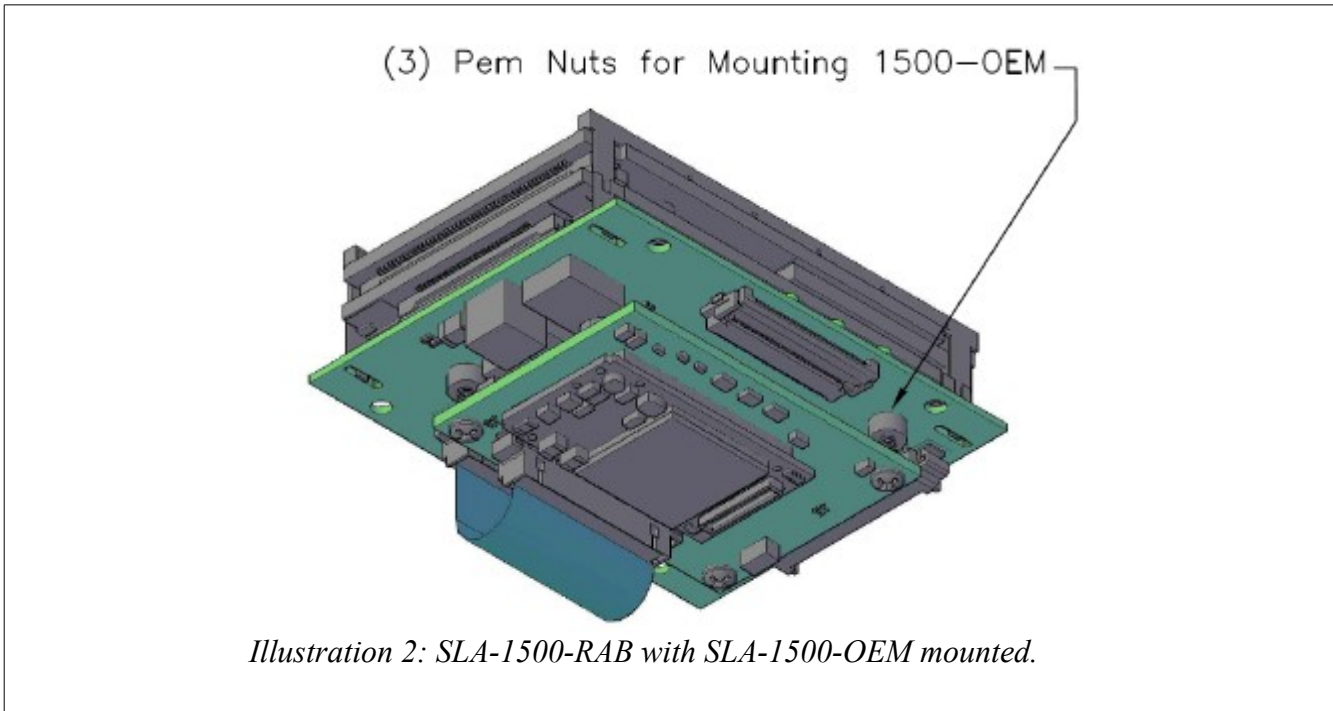
Hood River, OR USA

Overview

Document describes the **SLA-1500-RAB** MicroHard Radio Adapter Board and the **SLA-1500-RABn** connector board. The **SLA-1500-RAB** allows the **SLA-1500-OEM** to be connected to the MicroHard Nano DDL radio.

TIP: For questions about the operation of the MicroHard radios and antennas please refer to [MicroHard](#).





Board Summary

Dimensions	~1.6" x 2.0"
Weight	TBD
Component Temp Range	-40°C to 85°C
Operational Temp Range	Depends on Heat Sink
Current Product Revision	B

Table 1: SLA-1500-RAB Physical Characteristics

Mounting Holes:

M12, M13, M14, M15	M2 Mounting holes
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Connectors

Label	MFG Part Number	Function	Mates with...
J1	AVX-Kyocera PN: 24-5046-060-600-829+	Connectors for MicroHard Radio	Nano DDL IPnDDL2450
J2			
J3	Molex 53398-1471	Power, Ethernet, Serial, Analog Video	SLA-CAB-1515
J73	FH12-30S-0.5SH(55)	Digital Video Connector to SLA-FFC-xxxx adapter boards	SLA-CAB-FF06
J40	Hirose DF12B-50DS-0.5V(86)	Digital Video / IO Connector	SLA-1500-OEM
J14	Samtec TFM-115-02-X-S	Main Power and I/O connector	SLA-CAB-RAB

Connector J14: Main IO Connector

Label	Description	
1	Analog Video In 0	
2	Ground	
3	Analog Video Out	
4	Ground	
5	SLA TX A (Serial Port 0)	RS-232C ¹
6	SLA RX A (Serial Port 0)	
7	Ground	
8	Ground	
9	+5V	
10	+5V	
11	RxD (COM 1 – Radio)	RS-232C ²
12	TxD (COM 1 – Radio)	
13	Ground	
14	No connect – Reserved for future use	
15	No connect – Reserved for future use	

1 Can be configured as 3.3V TTL by populating R6 and R7 and removing U1

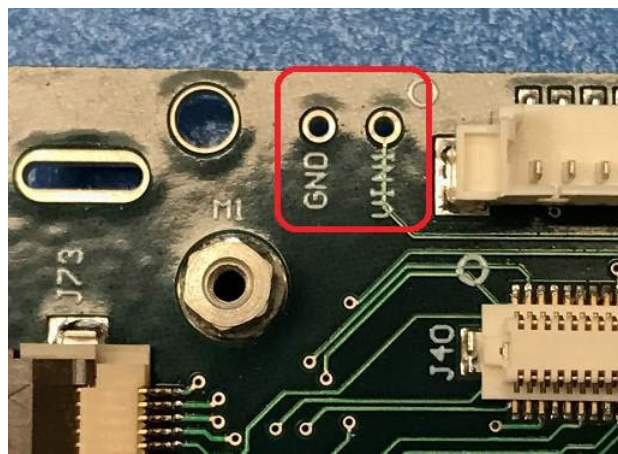
2 Can be configured as 3.3V TTL by populating R17 & R18 and removing U1

LEDS

Three LEDs have been exposed to report the state of the MicroHard radio.

Label	Name	Description
D3	RSSI1	
D4	RSSI2	Signal Strength
D5	RSSI2	

Test Points



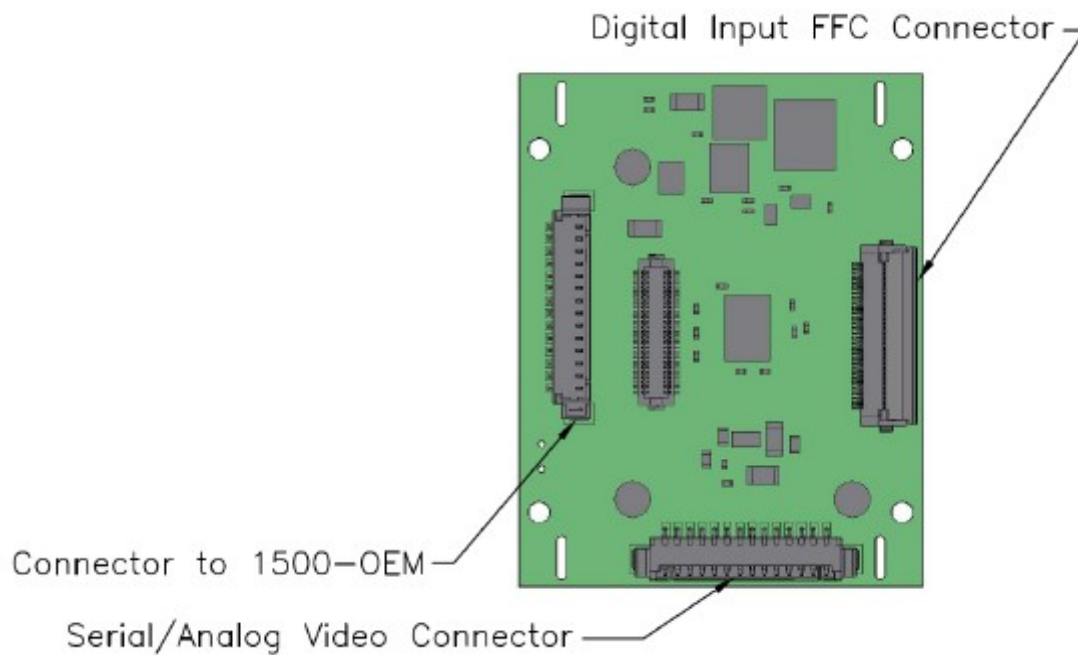
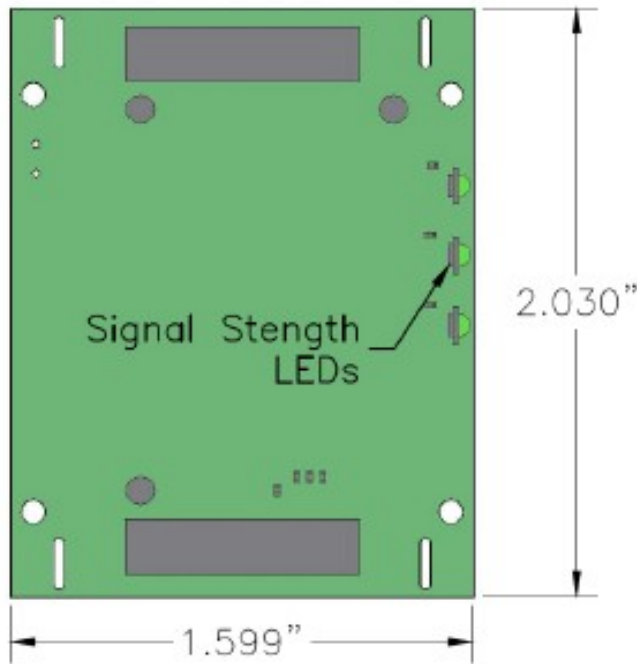
These test points can be used to provide a second Analog video input to the 1500-OEM.

Label	Name	Description
VIN1	Analog Video In 1	
GND	Ground	

Serial Ports

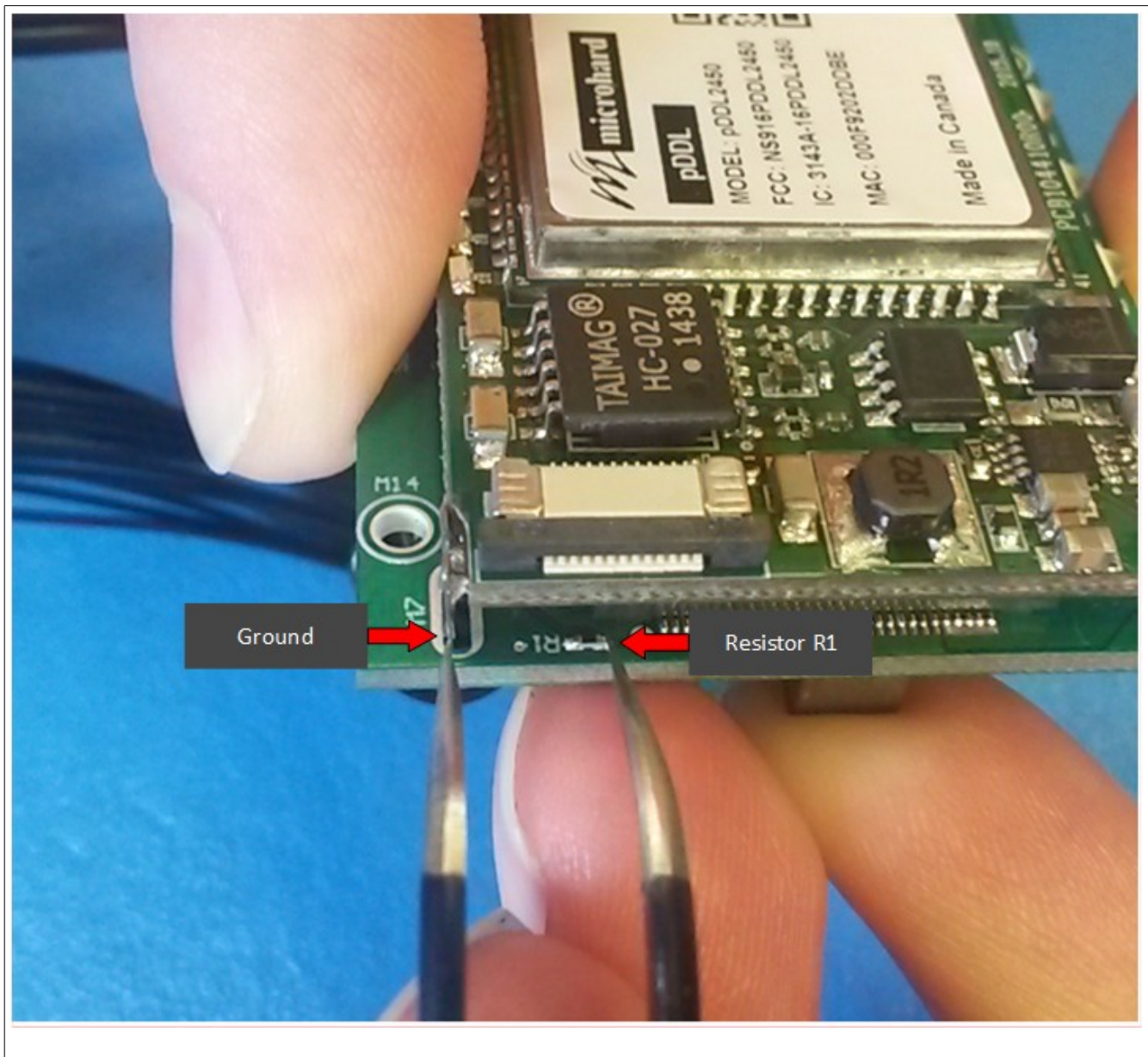
Connector	Name	SLA Serial Port	Description
J40 Pin 15 & 16	COM2_TxD/RxD	Serial Port 1	Connects to NANO DDL
J40 Pin 1 & 2	RX_CAM/TX_CAM	Serial Port 2	Connects to Camera
J14 Pin 11 & 12	COM1_TxD/RxD	NA	Connects to NANO DDL
J14 Pin 5 & 6	TXA/RXA	Serial Port 0	Command and Control of SLA-1500-OEM

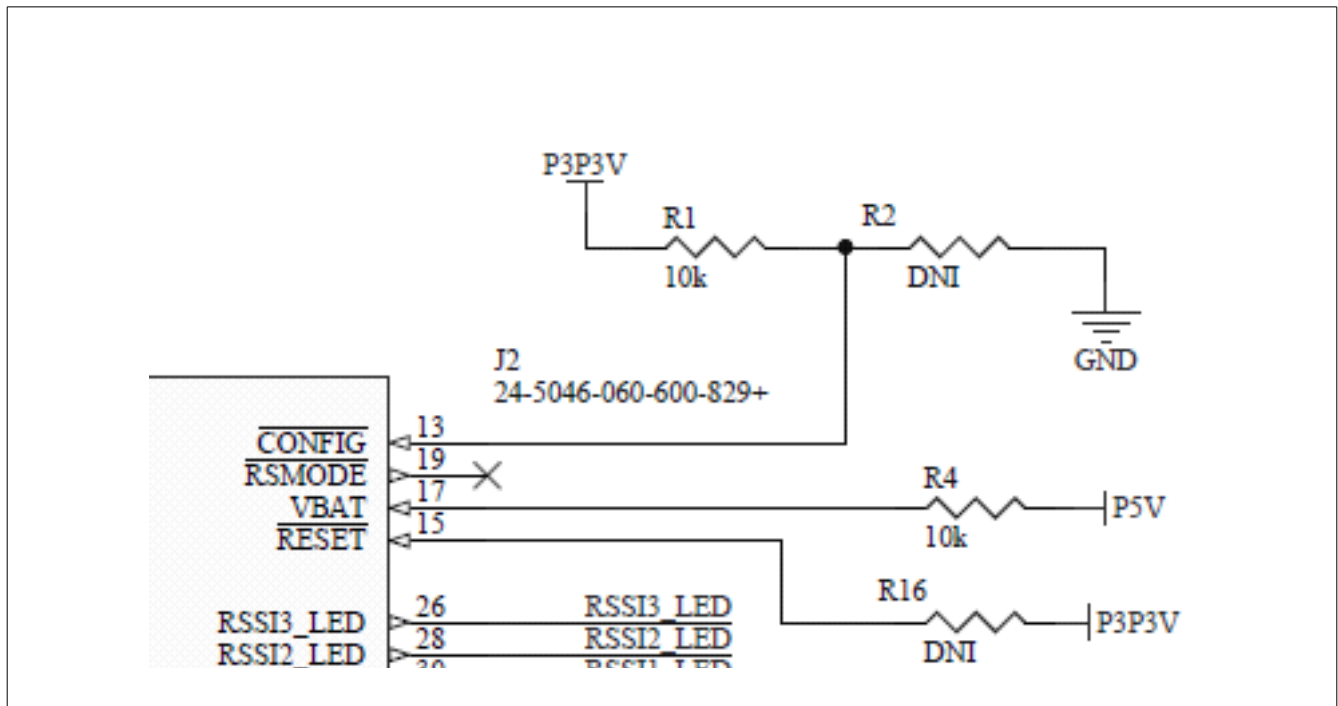
Drawings



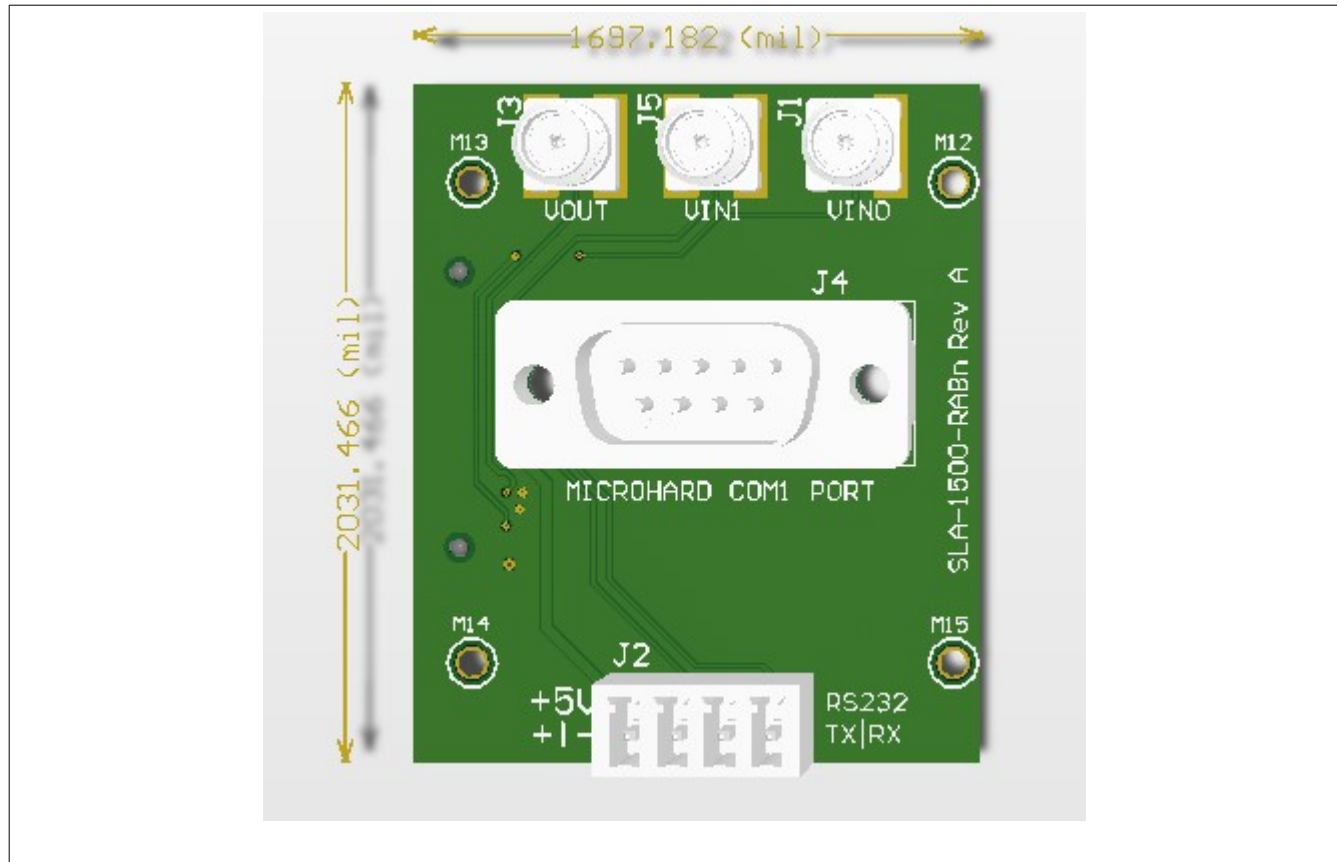
Factory Reset of the MicroHard Radio

It may be possible to perform factory reset of the MicroHard radio. The CONFIG pin of the radio is **active low**. In normal mode, pulling the pin low and holding for more than **8 seconds** upon power up will put the module into recovery mode and will reset the radio to default settings. This can be achieved by shorting the R1 resistor to ground during power up. The R1 is near the edge of the board and should be reachable with fine tipped metal tweezers.





SLA-1500-RABn



Board Summary

Dimensions	1.69" x 2.03"
Weight	TBD
Component Temp Range	-40°C to 85°C
Current Product Revision	A

Table 2: SLA-1500-RABn Physical Characteristics

Mounting Holes:

M12, M13, M14, M15	M2 Mounting holes
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Connectors

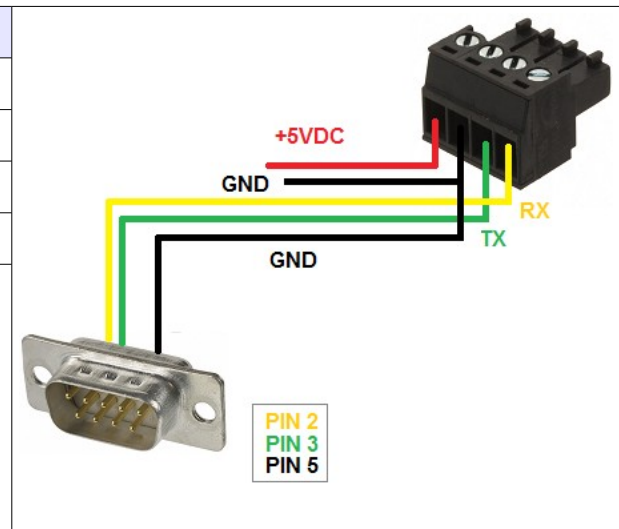
Label	MFG Part Number	Function	Mates with...
J2	Molex 39501-1004	Power, RS-232 to SLA-1500-OEM	Molex 0395000004
J4	Std. DB-9 (Male)	RS-232 – MicroHard Com1 Port	Standard DB-9 (Female)
J1	SMA (50 Ohm) Female	Analog Video Input 0	SLA-CAB-SMA2BNC
J5	SMA (50 Ohm) Female	Analog video Input 1 (FUTURE)	SLA-CAB-SMA2BNC
J3	SMA (50 Ohm) Female	Analog Video Output	SLA-CAB-SMA2BNC
J14	Samtec TFM-115-02-X-S	Main Power and I/O connector	SLA-CAB-RAB

NOTE: Analog Video 1 input support is not available on the **SLA-1500-RAB (REV B)** through the Samtec (J14) connector. To use Analog Video 1, you may use the [Test Points](#) on the SLA-1500-RAB.

J2 – Power & RS-232

Molex 39501-1004 TERM BLOCK HDR 4POS VERT 3.5MM

Pin	Description
1	+5V DC
2	GROUND
3	TX – SLA-1500-OEM Serial Port 0
4	RX – SLA-1500-OEM Serial Port 0



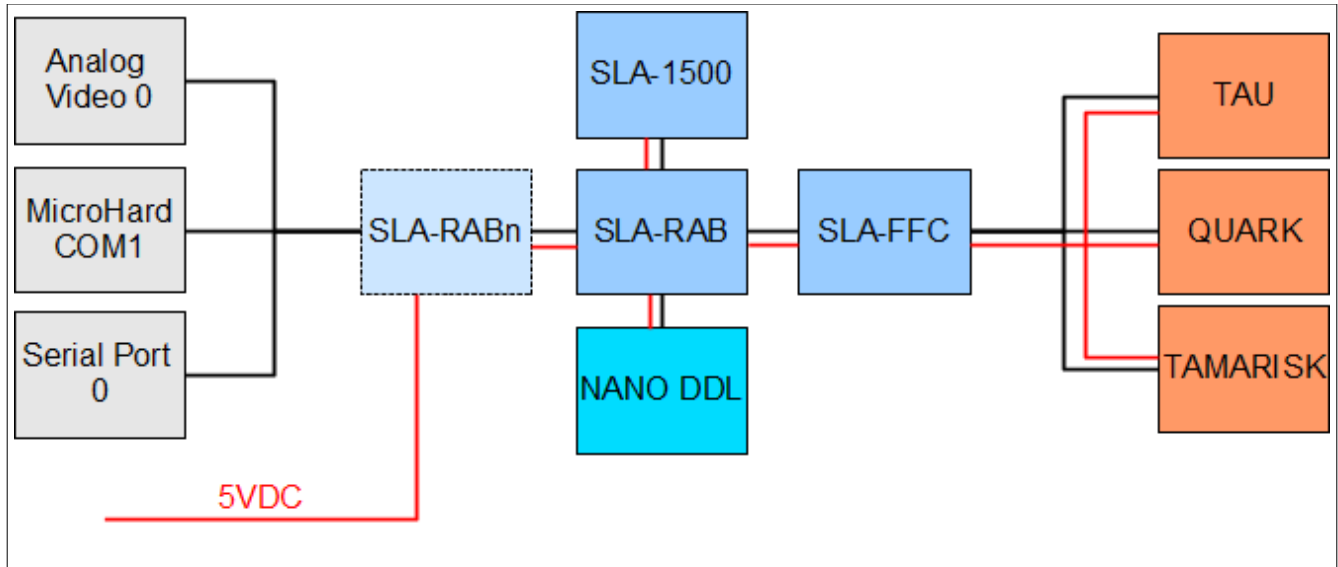
J4 – MicroHard Com1 Port

Pin	Description
2	RX
3	TX
5	Ground
	All other pins are No Connects

J14 - Main Power and I/O connector

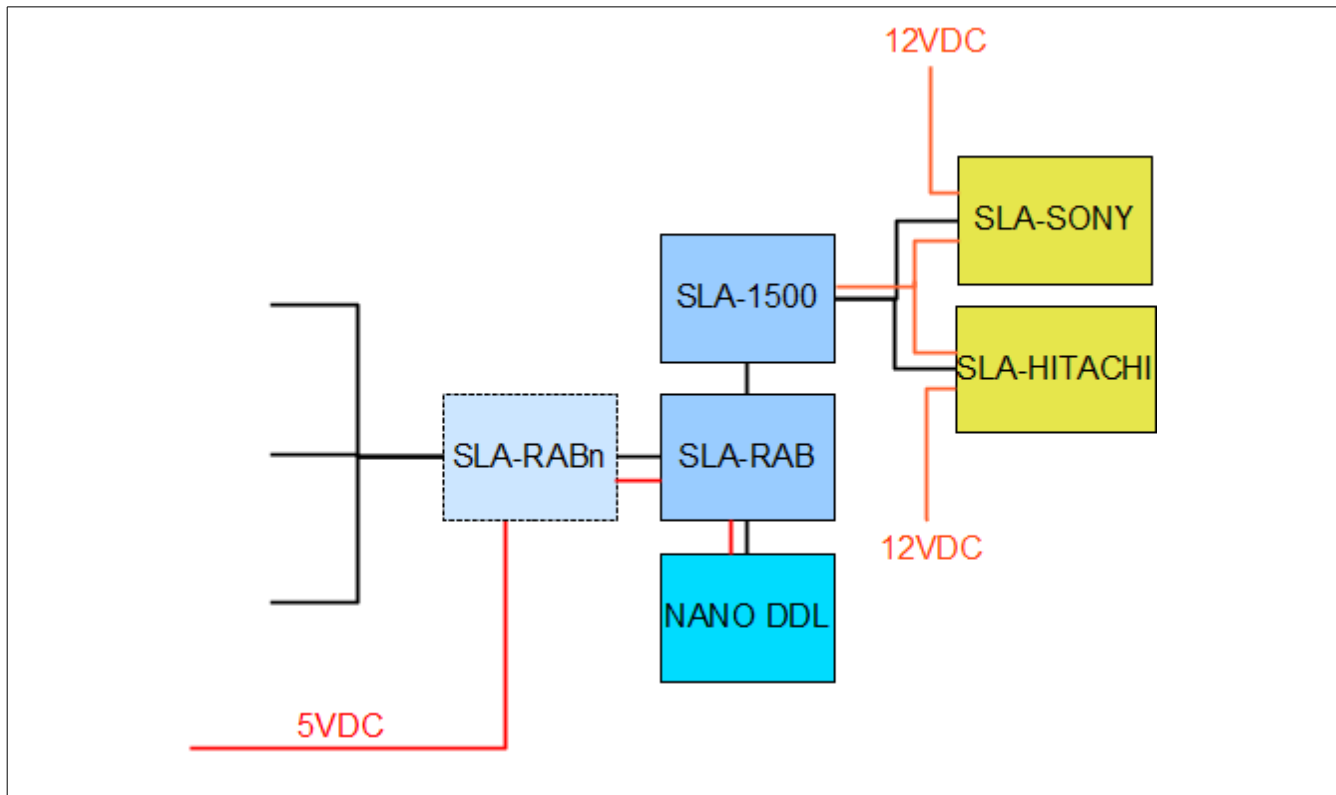
See [Connector J14: Main IO Connector](#).

Connection Scenarios



- Connect the SLA-1500-OEM (J4) to the SLA-1500-RAB (J40)
- Connect the SLA-CAB-1515 to SLA-1500-OEM (J3)
- Connect the SLA-CAB-1515 to SLA-1500-RAB (J3)
- Connect the SLA-CAB-RAB to the SLA-1500-RAB (J14)
- Connect the SLA-CAB-RAB to the SLA-1500-RABn (J14)
- Connect the SLA-CAB-FF06 to the SLA-1500-RAB (J73)
- Connect the SLA-CAB-FF06 to the SLA-FFC-XXX
 - XXX := {TAU, QUARK, DRS, or others}
- Connect SLA-FFC-XXX to appropriate camera
- Connect SLA-1500-RABn Analog Video 0 to your analog video camera
- Connect Serial Port 0 to your PC
- Apply 5V to SLA-1500-RABn

Your system is now ready to process Analog or Digital video.



In this example Digital video will come from the SLA-1500-HITACHI board. The FFC connector on the SLA-1500-RAB will not be operational.

- Connect the SLA-1500-OEM (J4) to the SLA-1500-HITACHI (J4)
- Connect the SLA-CAB-1504 to the SLA-1500-HITACHI (J2)
 - This will be the 12V supply for the camera, Hitachi board, and SLA-1500-OEM
- Connect the SLA-1500-HITACHI (J1) to the SLA-CAB-HC36
- Connect the SLA-CAB-HC36 to the Hitachi SC120R
- Connect the SLA-CAB-1514 to SLA-1500-OEM (J3)
 - **NOTE: Disconnect pins 8 & 9 (5V DC)**
- Connect the SLA-CAB-1514 to SLA-1500-RAB (J3)
- Connect the SLA-CAB-RAB to the SLA-1500-RAB (J14)
- Connect the SLA-CAB-RAB to the SLA-1500-RABn (J14)
- Connect the SLA-CAB-FF06 to the SLA-1500-RAB (J73)
- Connect SLA-1500-RABn Analog Video 0 to your analog video camera
- Connect Serial Port 0 to your PC
- Apply 12V to SLA-CAB-1504
- Apply 5V to SLA-1500-RABn

Your system is now ready to process Analog or Digital video.

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FILES

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ERRATA

Please contact your Sales Representative often as new versions of the product (new schematics, etc.) may be available.

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