

## Testpoint Locations on the M12 and M12+ Oncore GPS Receivers

Figuring out where to put scope and/or voltmeter probes on the M12 and M12+ receiver boards in order to monitor voltages and signals can be problematic. Older Oncore receivers that had thru-hole 10 pin data/power headers were easy to deal with since the tops of the connector pins were accessible. The various M12 receivers, however, have a surface mount data header which is usually inaccessible when the board is installed.

Luckily, there are a number of small round pads on the TOP side of the board that are used during factory test that can also be used as testpoints by the everyday user. The 10 pads detailed in the table below are hooked directly to the referenced pins on the data/power header. Also shown is  $V_{batt}$ , the (+) terminal of the battery on battery equipped models. My only warning is to be careful with your probes. The pads are small and it is easy to accidentally short out traces if you don't have a real steady hand.

One note: Although the testpoint for Pin 5 (Power Ground) is shown on the top edge of the board, it is far easier to grab ground by clipping onto one of the four board mounting pads on the corners.

PIN #	SIGNAL
1	TxD - GPS DATA OUT - 3V INVERTED
2	RxD - GPS CMDS IN - 3V INVERTED
3	+3V - REGULATED MAIN POWER
4	1PPS OUT - 3V POSITIVE LOGIC
5	GROUND - POWER COMMON
6	BATT - EXTERNAL BACKUP POWER IN
7	RESERVED - NOT CURRENTLY USED
8	RTCM - RTCM CORR IN - 3V INVERTED
9	ANT - 3V OR 5V ANTENNA BIAS
10	RESERVED - NOT CURRENTLY USED

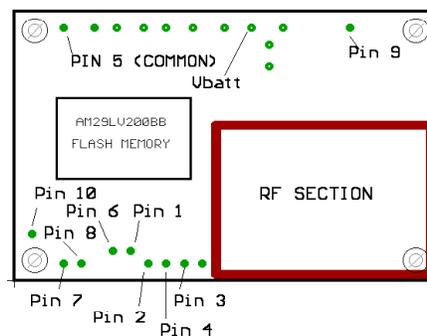


Figure 1 - Topside of M12/M12+ Oncore PWA

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