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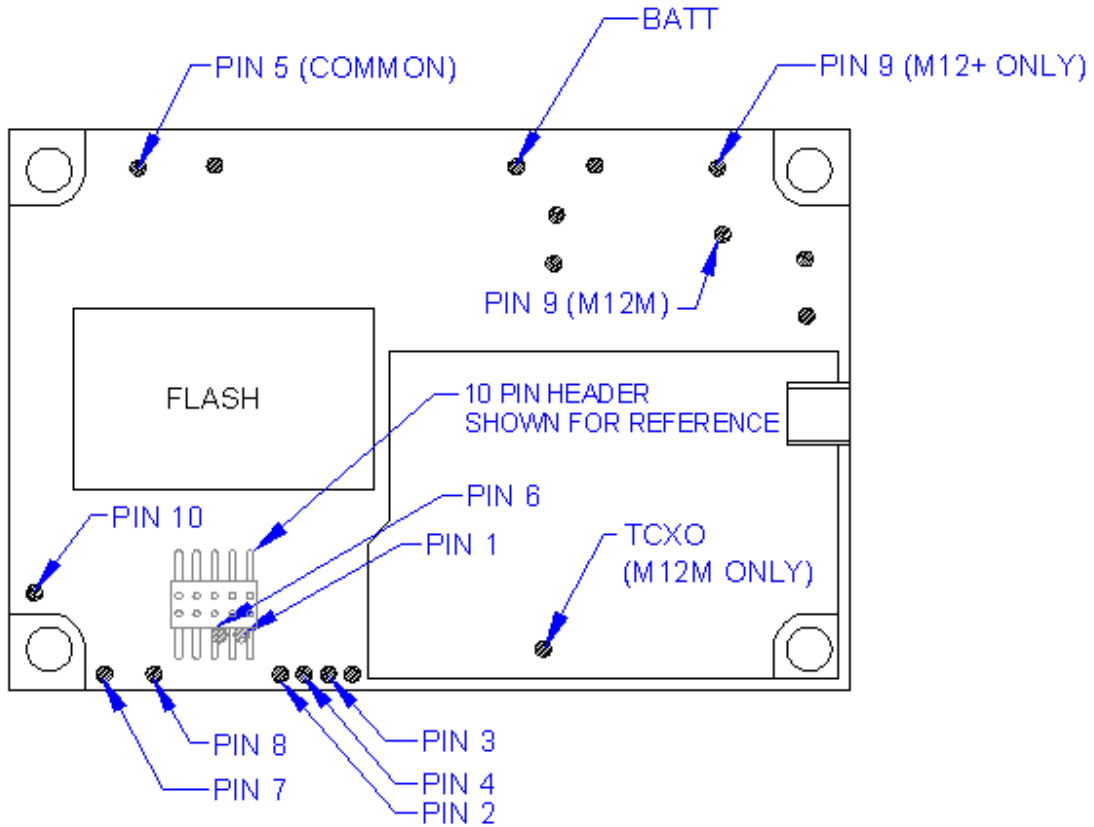
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Test Point Locations on the M12 Series of GPS Receivers

Figuring out where to put scope and/or voltmeter probes on the M12 series (M12, M12+, M12M) 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 test points 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, and TCXO, the 16MHz TCXO test point on the M12M receivers. 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 test point 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 DESCRIPTION
1	TxD - GPS Data Out - 3V Inverted
2	RxD - Commands In - 3V Inverted
3	+3V - Regulated Main Power
4	1PPS Out - 3V Positive Logic
5	Ground - Power Common
6	BATT - External Backup Battery Input
7	Reserved
8	RTCM - RTCM In for Nav Receivers - 3V Inverted
9	Antennas Bias Input - Typically 2.5V - 5.5V
10	Reserved

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