



Shut-off Valve solutions for B&G H5000 depth



The B&G H5000, unlike earlier models, does not include a depth sounder. It relies on fitting a depth transducer which outputs NMEA2000 (N2K) or equivalent data.

A+T offer a number of compatible depth solutions for Shut-off Valve (SOV) fittings which are installed on a good number of larger yachts. This data-sheet sets out the options available with comments from field testing.

Two different approaches are available:-

1. 170kHz transducers as used by B&G historically and therefore likely to be already fitted to existing vessels. A+T make a 'black box' sounder which outputs depth from this in either N2K compatible format (so suitable for H5000) or NMEA0183 output.
2. 200kHz transducer which is a widely used frequency for depth transducers and for which there are a number of third party suppliers of 'black box' sounders including Garmin, Raymarine and Actisense.

A+T supply (usually from stock) SOV depth sensors at both 170kHz and 200kHz. More detailed technical information, analysis and recommendation is given on the following page on these options.

In summary however, the best all round solution is as 1. above, to use the 170kHz transducer with the A+T ATBB-Depth/170 sounder

The next best alternative is as in 2. above with the 200kHz solution and the Raymarine iTC-5. This does have some drawbacks as detailed further below.

A+T Instruments Ltd.

235 Bentley Way, Lymington, SO41 8JW

UNITED KINGDOM

+44 (0)1590 718182

info@AandTinstruments.com

www.AandTinstruments.com



SOV Depth & H5000

1. 170kHz option, with ATBB-Depth/170 sounder

a. Length of cable.

Existing B&G 170KHz transducers contain a matching transformer as do the new A+T replacements for these, p/n DPTH-170. The A+T sounder also contains a matching transformer so that the length of cable between transducer and sounder may be extended to at least 30m. This is important where existing long transducer cables are installed, say run from the bilge to the bridge area, or it is impractical to run databus cables and power cables close to the transducer location.

b. Output format.

The ATBB-Depth/170 sounder outputs in format compatible with N2K, tested with H5000. It also has a test button which emulates a depth output so as to allow setting up and testing on an H5000 system without a working transducer connected or with the boat out of the water.

It also has an independent NMEA 0183 serial data output of depth.

d. Actisense DST2 170kHz NMEA 0183.

This unit has no matching transformer nor sufficient power. Field trials show this does not work and this is supported by numerous reports from installers and captains.

2. 200kHz option with third party sounders

a. Length of cable.

As neither 200kHz transducers nor the sounders below have matching transformers, the limit on the length of cable in all cases tested is the 9m supplied with the transducer. Connections in the transducer cable can also cause losses.

This means that on large yachts the H5000 CANbus and power for the sounder must be led to close to the transducer.

b. Raymarine iTC-5 SeaTalk^{ng} (N2K compatible)

Tested reliably to 70m. Does not correctly tell receiving instrument that depth is invalid, it outputs 0XFCFFFFFF (42949672.92 m) when no depth found.

c. Garmin N2K

Tested reliably to 70m and higher power than the others tested here, but still same cable length limitation (9m).

Numerous reports of incompatibility with H5000; sometimes seeing unit and then sometimes not. Appears to be some sort of bus/format/protocol incompatibility.

d. Actisense DST2 200kHz NMEA 0183

Tested to 70m, but less stable than all others tested with depth variation of at least 1 m when others were steady.

3. General considerations connecting to H5000

H5000 needs to be receiving a valid depth before it will recognise a depth source which makes setting up the Raymarine and Garmin solutions difficult in some circumstances (drydock). This is avoided using the A+T ATBB-Depth/170 which has a set-up mode

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