

HiPAP® AND THE USE OF WIDEBAND TRANSPONDERS

It is now industry standard for contracts to specify the use of Wideband transponders for SSBL and LBL operations. HiPAP systems using KONGSBERG's CYMBAL wideband acoustic protocol with cNODE® transponders have approximately a 30% improvement in SSBL position repeatability and have increased range compared systems being used with transponders in FSK/tone mode.

It is important to be aware that HiPAP can only operate in wideband with Kongsberg cNODE transponders set for CYMBAL wideband. All other third party wideband transponders do not operate with CYMBAL and will only function in FSK/tone mode when used with HiPAP.

KONGSBERG does not guarantee that HiPAP will work to specifications when using third party transponders. Additionally, the use of third party transponders also mean that contractual requirements to use Wideband are not being met and will put operations at higher risk of acoustic interference during simultaneous vessel operations (SIMOPS).

To identify whether transponders are operating in CYMBAL or FSK, the operator can look at the APOS display. CYMBAL wideband channels are indicated by 'M' and the latest HiPAP systems provide **560 unique 'M' channels** across 10 wideband frequencies. Channels starting with 'B' operate with FSK/tone.

The following KONGSBERG transponders operate with Cymbal wideband:

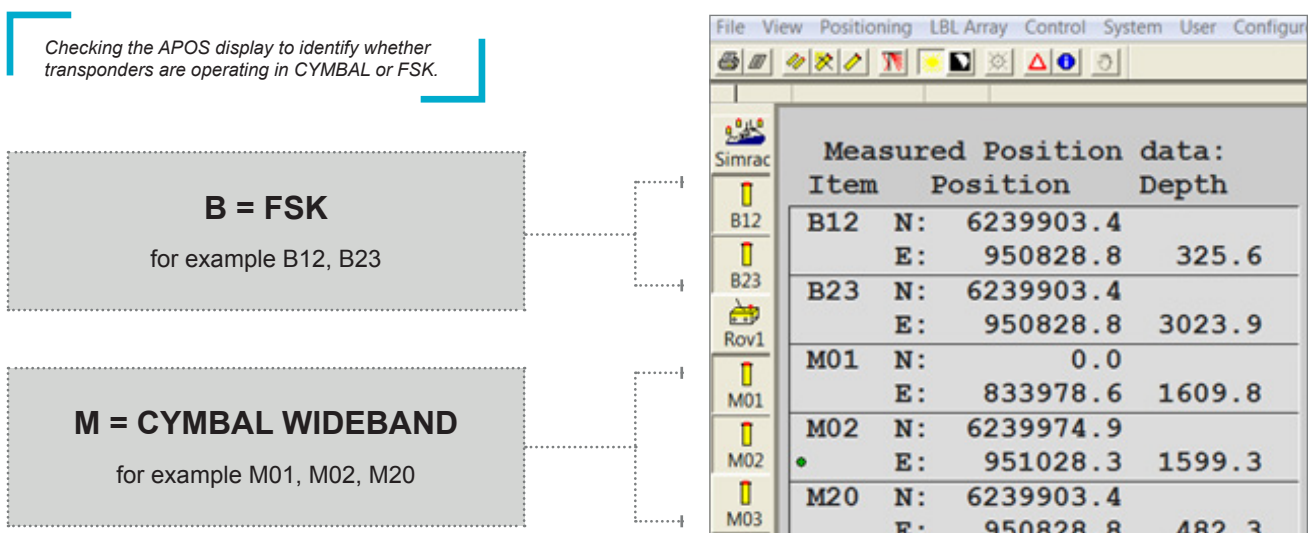
- cNODE Maxi
- cNODE Midi
- cNODE Mini
- cNODE MiniS

Further advantages of using cNODE transponders include:

- Fast Track SSBL – Simultaneous positioning of multiple SSBL transponders with one interrogation
- Sensor Data can be transmitted embedded with SSBL and LBL navigation replies without additional telemetry.

For further clarification, please contact your local Kongsberg office.

Checking the APOS display to identify whether transponders are operating in CYMBAL or FSK.



Specifications subject to change without any further notice.

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