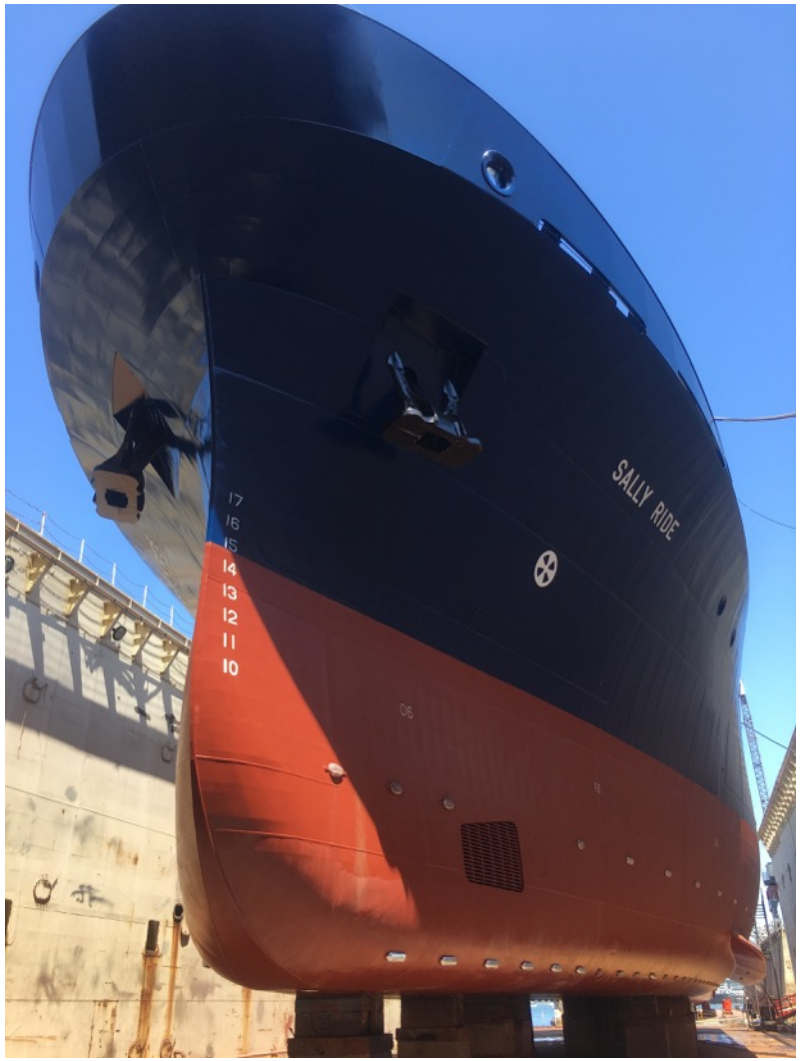
2021 Sonar Installations R/V *Sally Ride*

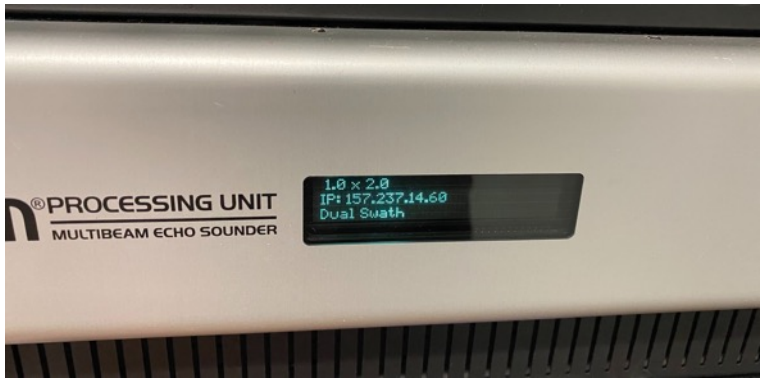
Topics

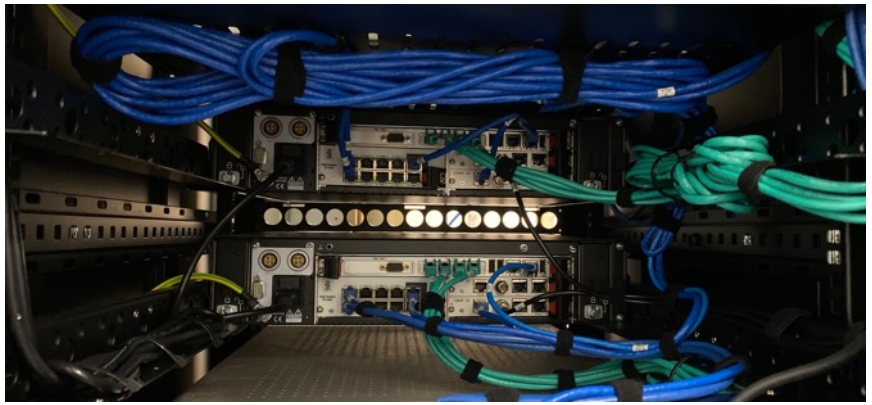
1. EM124 Architecture
2. SBP29 Physical Installation
3. SIS 5 Challenges



UC San Diego

EM124 Architecture

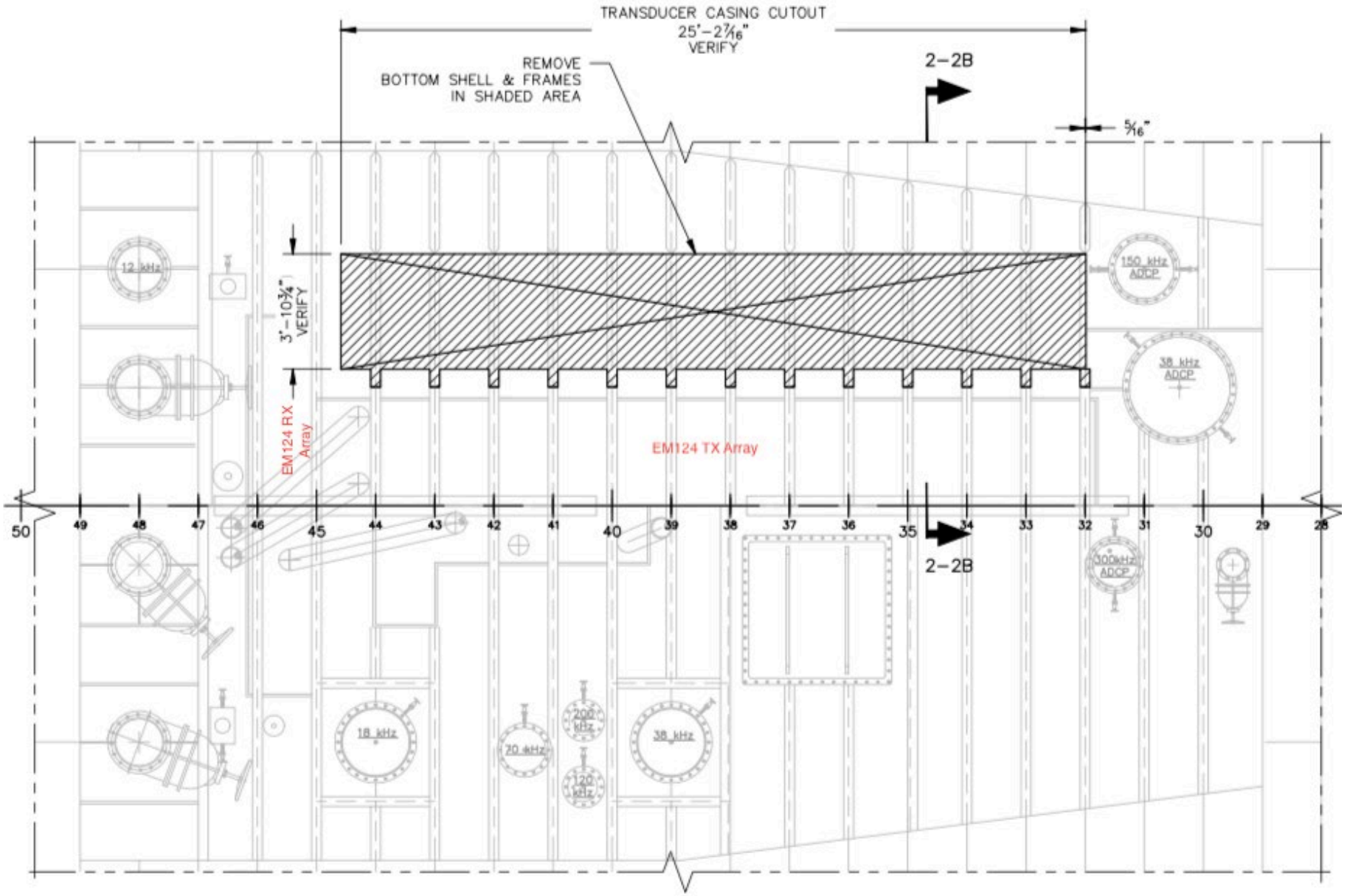




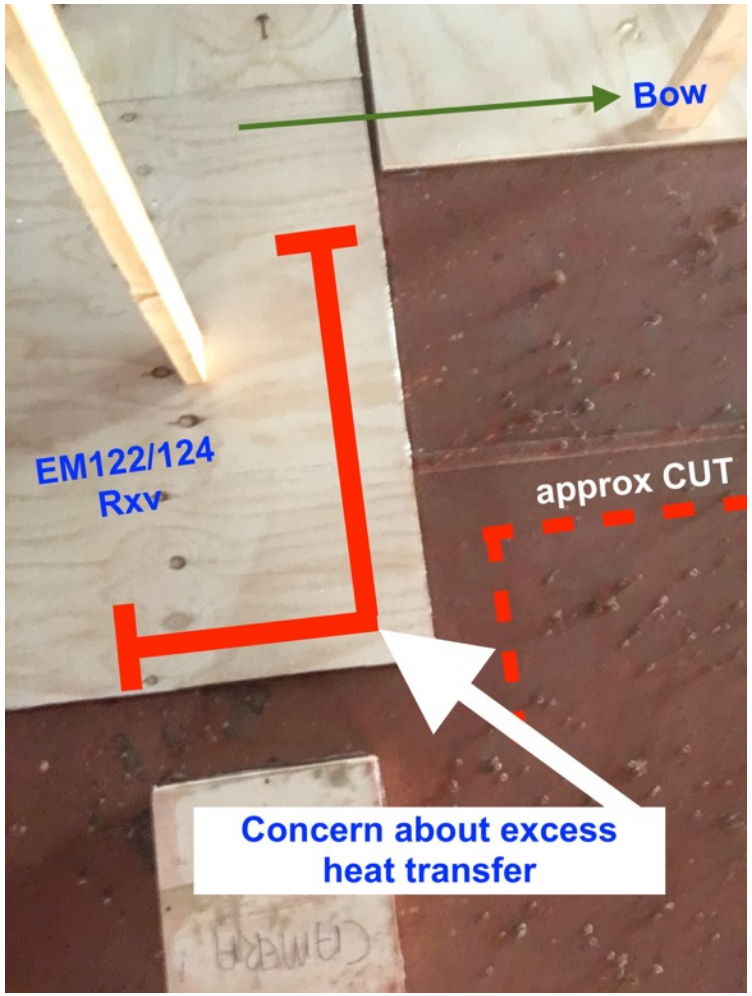
- EM124 now includes a Processing Unit

- The RX and TX Electronics are a smaller form factor

SBP29 Integration with EM124

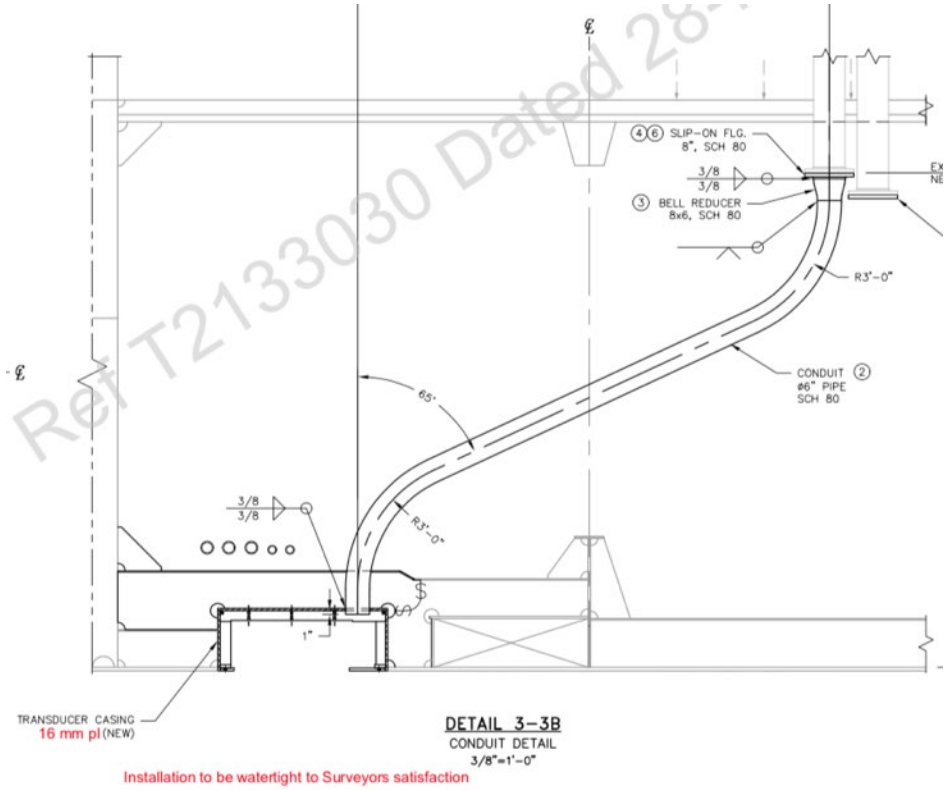


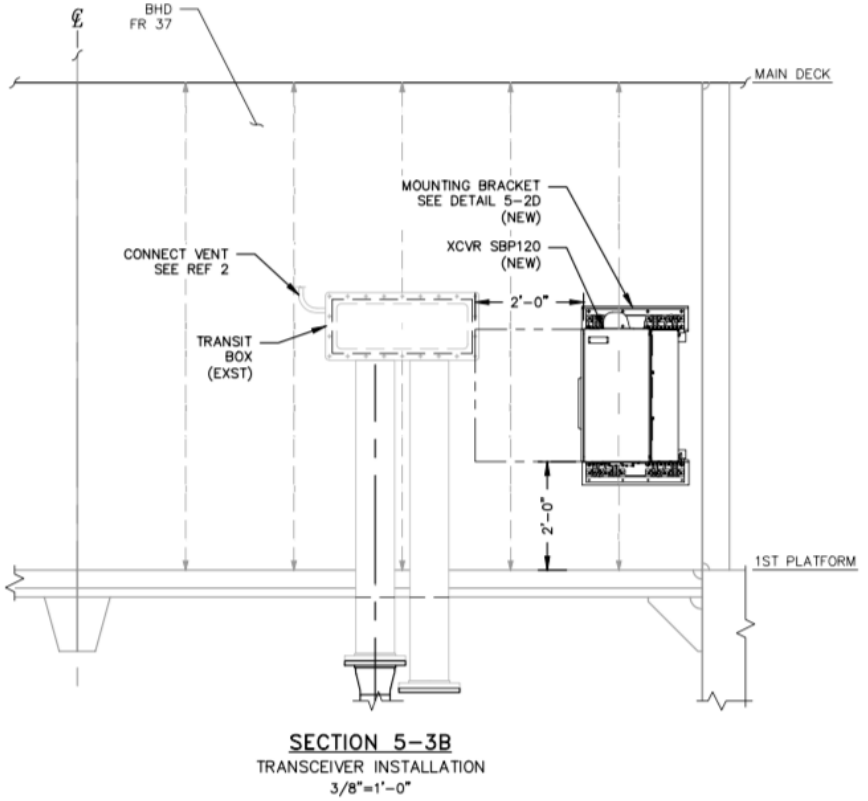
SBP29 Integration with EM124



- SBP29 installation was in close proximity to EM124 RX array.
- This was planned and carefully executed successfully

SBP29 Physical Installation Challenges





ABS review of watertight boundaries

SBP29 Physical Installation Challenges

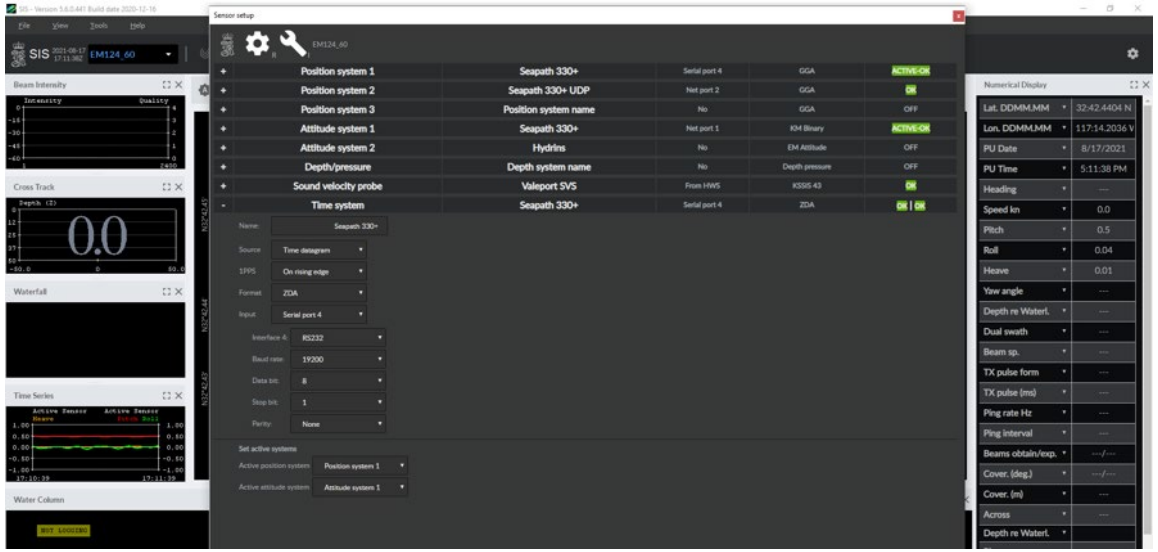
- Shipyard specification did not explicitly state that the casing would be machined before installation
- The in-place machining caused concern but was completed successfully

SBP29 Physical Installation Challenges

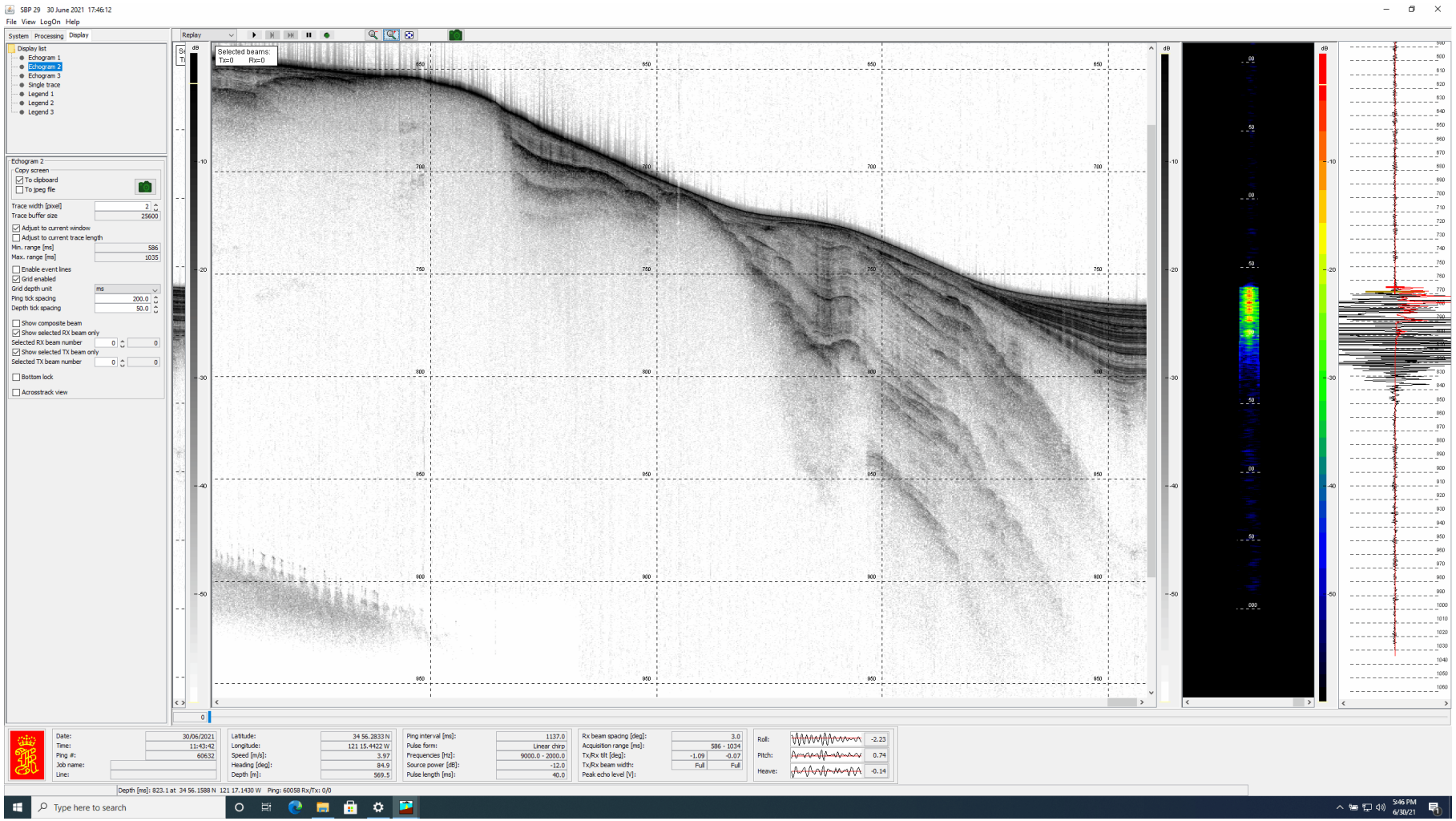
- Due to limited space in the Transceiver Room we opted for underwater Cable Connection Units (CCU)
- During installation, a manufacturing error required each CCU to be individually tested

SIS 5 Challenges

- Gridding instability with some compute environments
- Inability to get SIS 5 to accept EM Binary format from IXEA Hydrins MRU systems
- Inability to get SIS 5 to accept serial data from a Valeport SV sensor reliably on all systems
- SIS 5.7 has greatly improved stability and functionality but some issues continue without forensic removal of registry keys



SBP29 data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File View LogOn Help
System Processing Display
Display list
Echogram 1
Echogram 2
Echogram 3
Single trace
Legend 1
Legend 2
Legend 3
Replay
Selected beams:
Tx=0 Rx=0
Date: 30/06/2021
Time: 11:43:42
Ping #: 60632
Job name:
Line:
Latitude: 34 56.2833 N
Longitude: 121 15.4422 W
Speed [m/s]: 3.97
Heading [deg]: 84.9
Depth [m]: 569.5
Ping interval [ms]: 1137.0
Pulse form: Linear chirp
Frequencies [Hz]: 9000.0 - 2000.0
Source power [dB]: -12.0
Pulse length [ms]: 40.0
Rx beam spacing [deg]: 3.0
Acquisition range [ms]: 586 - 1024
Tx/Rx tilt [deg]: -1.09 -0.07
Tx/Rx beam width: Full Full
Peak echo level [V]:
Roll: -2.23
Pitch: 0.74
Heave: -0.14
Depth [ms]: 823.1 at 34 56.1588 N 121 17.1430 W Ping: 60058 Rx/Tx: 0,0
Type here to search
5:46 PM
6/30/21