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Subject:	EM122 BIS Test procedure
Project:	Healy science support
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There are two types of Built In Self Tests (BIST) in the Kongsberg EM122 (and other EM-class) sonars. One set (referred to as the GUI BISTs) are available through the SIS user interface under the “installation parameters” window. The second set requires telnet access to the TRU (PU.)

Great caution is urged when running the TRU BIST tests: an error while interacting with the monitor code in the TRU (aka PU) can lead to lost survey time.

The TRU/PU should be power cycled after collecting test data.

In summary:
- stop surveying and stop pinging in SIS
- from a Windows *command* window, telnet to the TRU
- start the *bist* application in the TRU
- run the tests that you need
- exit from the *bist* application
- close the *telnet* window
- power cycled the TRU (off for 30 seconds then back on)
- sometimes it is necessary to re-start *SIS*

The detailed procedure is documented below shown below. When you type *bist* in the *telnet* window you get a menu as shown. You can, for instance, select tests 30 to 34 to get the impedance value for each transmit transducer element will be shown. The -f option for telnet logs the session to the local disk.

telnet 157.237.14.60 -f logfile.txt

-> **bist**

========== EMX BIST menu ========

0: BSP test	7: TX channels
1: TX36 test	8: RX noise level
2: RX32 test	9: RX noise spectrum
3: Power Supply	10: CPU Test
4: TX Power test	15: Software date/version
5: Nibble bus test	20: SingleChannels
6: RX channels	-1: Quit

Detailed reports:

30: TX channels slot 1 - 5	35: RX noise level graphical view
31: TX channels slot 6 - 10	36: RX noise spectrum graphical view
32: TX channels slot 11 - 15	
33: TX channels slot 16 - 20	
34: TX channels slot 21 - 24	

40: Junction box lab test slot 0 - 5 (fast)
41: Junction box lab test slot 0 - 5 (slow)
50: Preamp amplitude test R1
51: Preamp phase test R1
52: Preamp amplitude test R2-R8
53: Preamp phase test R2-R8
Select test: