

LMS2, Diagnostics, LASX010 Boom Router

This document describes diagnostics procedures for:

• LMS2-LASX010 – Boom Router

Please visit http://sil3.com.au/lms2/ for further information

Description of System

The boom router is located at the head of the boom. Its purpose is to route low power radio signals from the attachment transmitters to the display module. Without the router, each attachment would exhaust its battery pack transmitting the long distance to the display module.

The boom router is powered from the boom wiring and due to the nature of the radio network signals, diagnostics is difficult.

This diagnostics manual will assist with identifying boom router faults.

Affected Components

The following components are affected by this diagnostic information:

- LMS2-LASX015 Display Module
- LMS2-LASX153 Display Module
- LMS2-LASX010 Boom Router
- LMS2-LASX031 Attachment Transmitter

Action Required

- Verify that the boom router is connected to the display by checking the status of the satellite dish icon in the attachment area of the display.
- 2. If the router is not connected to the display, it will need to be linked via the radio network menu in the factory setup of the LMS display. When in the radio network -> link router page of the factory setup the number of boom routers nearby will be displayed. This number must be exactly one, so be careful that no other machines are operating in the area while performing the router linking. If no routers are present then check the power to the boom router, otherwise replace the boom router.
- If the router is functional, then on firmware version's greater than LFW050.0.90, enter the diagnostics -> radio signals menu and view the details on this page.
 - a. The number of routers known should be equal to exactly1, providing no other machines are in the vicinity;
 - b. The router status counts should be increasing at the rate of 1 count per second. If the counts are not increasing, then the router may be faulty;
 - c. The router reset counts should be 0 or 1. By operating the machine (telescope in and out, boom up and down) the reset count should stay constant. If the count increases, then the boom wiring, electrical connections or other systems may be the cause of the faults. Please note that if the machine is switched off and/or restarted while the LMS display is powered, then the router reset count will increase.



- d. If you attempt to connect a working attachment to the machine, you should see the Router Connect Attempts count increase by up to 8 attempts per connection. If this is not the case the router may not be receiving the correct signal from the attachment. If during a connection attempt the disconnect count increases, then there is most likely a problem with the attachment / magnet proximity.
- e. If you attempt to disconnect a working attachment, you should also see the Router Disconnect Attempts count increase by up to 8 counts per disconnection.
- f. If the "Router Reject Connect LOW RSSI" count increases during a connection attempt then the distance between the router and the attachment, or metallic objects near the boom end or placement of the attachment are causing low signal strength. This can be corrected by increasing the power setting on the attachment transmitter.
- 4. The radio diagnostics page can also be used to check if attachments are directly connecting to the display.

Additional Notes

If you require technical support, please perform the above steps, document your results and/or take a photograph of the radio diagnostics page data and email <u>info@sil3.com.au</u> with your findings.