

	Doc or ECO #:	ECO-72190-001	Date:	11/25/2020	Author:	GD
	Rev. #:	A				
Updating Electronics	Engineering Approval:	aeg	Date:	11/25/2020	Quality Approval	SL

P/N #:	72190	Effective Date:	November 25, 2020
Title:	Adding missing transmission line circuitry to Modem Adapter PCB for Panel		

1.0 Purpose / Summary

The transmission line circuitry is not present in the current version of LX200V30 Modem Adapter PCB for Panel **[72190]** causing thruster communication delays in the presence of high EMI noise. This ECO adds the coupling transformer and some additional protective circuitry and passive filters.

2.0 Parts Affected

Part Number	Notes	Removed	Added	Modified	REV
72190	LX200V30 (RAK) Modem Adapter PCB for Panel	☐	☐	☒	C
72246	Rak Modem G100 Topside Assembly	☐	☐	☐	B
71095	MSS Panel Assembly	☐	☐	☒	J
70218	MSS OCC	☐	☐	☒	I
52362	IP65 ICB	☐	☐	☐	C
51010	PRO4 ICB BV No Lyy	☐	☐	☐	-
51011	PRO4 ICB BV Lyy	☐	☐	☐	-

3.0 Detail

The RAK Modem G100 Topside Assembly **[72246]** is used to convert 4 wire Ethernet to 2 wire Ethernet and vice versa for Ethernet communication between the ROV and the top side ICB panel. In this assembly, **[72190]** (LX200V30 (RAK) Modem Adapter PCB for Panel) is used as the baseboard. However, it has been noticed that there may be severe timing delays present in thruster communications when the max thrust power is applied abruptly. Further investigation has revealed that the transmission line coupling capacitor was left out of the circuit.

[72246] was modified and its revision incremented. It is a drop-in replacement for Rev B, so for the most part no downstream revisions were incremented. The topmost panel & OCC assembly **[71095 & 70218]** did get a revision increment to make tracking easier.

In addition to all stock on hand being updated, Systems in GAT for the US Navy were field updated. New labels were also installed on the OCCs.

Additionally, a field installable cable modification [mod of **DD8-001-MF**] was also designed for end users who did not want to do the internal modification and needed an immediate fix.

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4.0 Disposition of Material

1. Update all **72246** assemblies, currently in stock or in finished panels or finished OCC's **70218**, with latest version of **72190** baseboard
2. Field update all delivered US Navy Systems
3. All previous revision **72190** should be scrapped.

5.0 Action Items

Action	Department	Acknowledgement Initials
Update PCB gerber files and BOM of 72190 PCB to reflect the new changes	Engineering	GD
Update Revision on 72190 entry in Epicor and note the BOM change	Engineering	AEG
Field update Navy systems	Support	RC
Rework all stock	Production	KK
Scrap old stock	Inventory	SL

6.0 Modified / Referenced Documents:

Document	Current Revision
72190_LX200V30 Adapter PCB_rev3.zip file (contains all gerber files)	C
BOM-72190-Rev3 (PCB BOM for assembly house)	C

7.0 Revision History

Date Revised (mm-dd-yyyy)	Location of Change (section, paragraph no., step no., etc.)	Description of Change Made	Name of Person making the Change
Nov 25, 2020	All	init	GD