

	Doc or ECO #:	ECO-70683-001	Date:	9/11/18	Author:	CH
	Rev. #:	A				
Pro4 Video Capture Device Replacement	Engineering Approval:	Aeg	Date:	9/11/18	Quality Approval	DO

P/N #:	70683	Effective Date:	September 11, 2018
Title:	Ruggedized MSS Power Supply Capacitor Modification		

1.0 Purpose / Summary

MSS power supplies were modified by Arrow to remove capacitors that bridge power module grounds to chassis ground and eliminate leaking current to the chassis. This will ensure reliability between the power supply and the GFCI we ship with every system.

2.0 Parts Affected

Part Number	Notes	Removed	Added	New	Modified
70683	Ruggedized MSS Power Supply Assembly	☐	☐	☐	☒
52347	IP65 power module assembly	☐	☐	☐	☒

3.0 Detail

In May 2018 it was reported by production that MSS power supplies started tripping with TRC GFCIs during panel assemblies. This was the most recent batch of power supplies received from Arrow at the time. A couple of different GFCIs were tested to ensure the initial GFCI was not defective. Multiple power supplies tripped with different GFCIs.

Engineering proceeded with measuring the leakage current at the AC input of the power supply and measured 7mA-12mA of leakage current on the ground lines. The GFCI has a 4mA-6mA trip threshold and therefore was working as expected. New income power supplies were compared to previous orders received from arrow and it was noticed that the new batch had excess leaking current of 6mA-11mA compared to previous assemblies. This information was taken back to arrow and Excelsys (power supply manufacturer) for analysis.

Excelsys evaluated the data and determined that the modules on the power supplies were leaking current on to the chassis and reaching the AC ground lines. This is due to the power modules radiated EMI being coupled to the chassis and dumped on the AC ground line. This was done by design to mitigate radiated EMI for CE certification.

After considering different options, it was determined by Excelsys that the best solution was to remove the cap that bridges the power modules to the chassis and prevent leakage current from reaching the AC ground line. This modification will be done by Arrow prior to shipping. Videoray assemblies will not be affected by this change.

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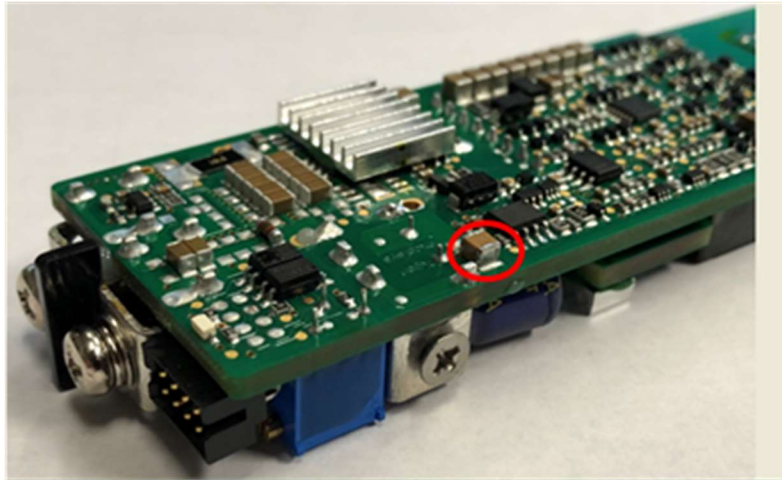


Figure 1. Cap to be removed.

The same cap is removed on ALL modules we use. Both on the MSS ICB and the IP65 ICB.

4.0 Disposition of Material

All power supplies in stock were shipped back to Arrow for rework

5.0 Action Items

Action	Department	Acknowledgement Initials
Test all incoming power supplies from Arrow by following the standard QC sheet	QA	DO

6.0 Modified / Referenced Documents:

Document	Current Revision
N/A	

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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
9/11/2018		Initial release	CH