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Damage to the E100700A 16 Port Versatile Balun Hub and DVR can occur if the RJ45 Plugs are not wired correctly.

Installers are strongly advised to check all wiring carefully before applying power to the Balun Hub.

Wrong wiring can occur in a number of ways including cross over wire during termination eg reversal of adjacent wires and wrongly identifying Pins 1 and 8 of RJ45 plug.

Reversal of adjacent wire can cause a short circuit and may damage the E10700A Balun Hub. Another common wiring error that will also damage the E10700A Versatile Balun Hub is by reversing the wiring sequence of the RJ45 plug connecting the E10524 Power Through Balun at the camera end.

An explanation of how the balun can be damaged is provided below.

The standard for wiring Cat 5e cable to an RJ45 plug is shown in Figure 1.

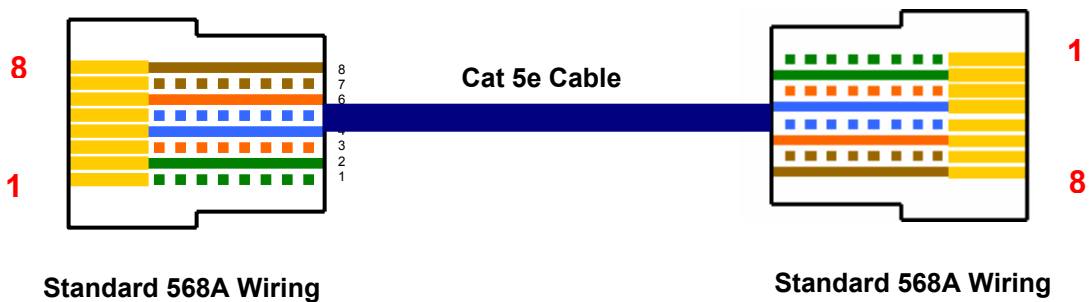


Figure 1

Where Pins 1 and 8 are incorrectly identified for terminating the RJ45 plug the Cat 5 cable interconnecting the E10700A Versatile Balun Hub and the E10524 Power Through Balun can result in the wiring arrangement shown in Figure 2.

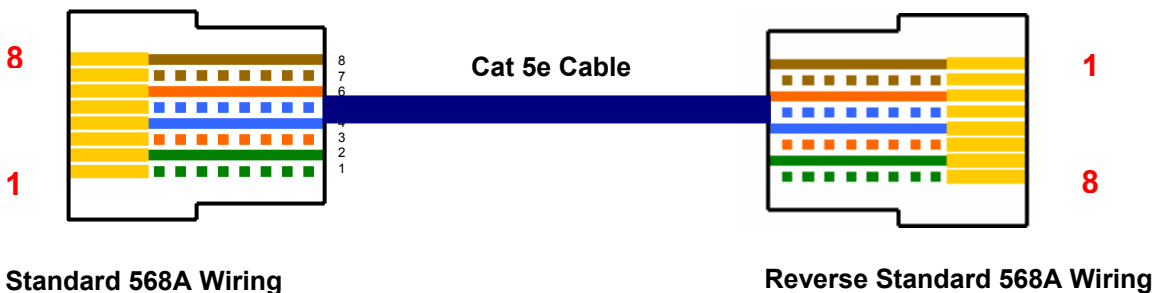


Figure 2



Such a wiring error will result in damage to the E10700A Versatile Balun Hub by applying the power supply intended for the camera to the balun at the Hub – See Figure 3 below and explanation that follows.

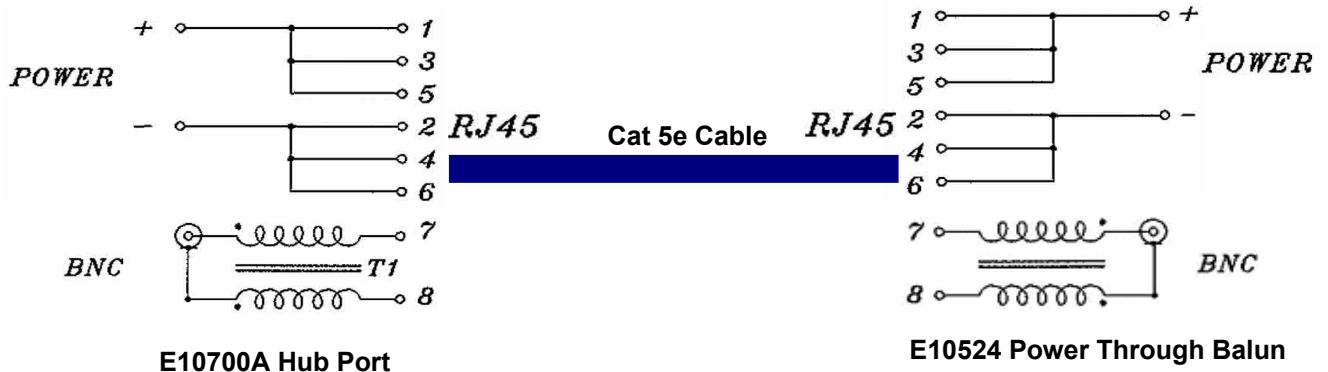


Figure 3

The results of the reversing the wiring Standard 568A at the Camera end are tabled below. While the table shows reversal of wiring sequence at the camera end the result will be the same as long as the wiring sequence reversal applies to one end irrespective of which end.

Hub RJ45 Pin	Hub Function	Balun RJ45 Pin	Balun Function	Result
1	V+	8	Video In -	V+ applied to Balun and Camera Video Ground
2	V-	7	Video In +	V- applied to Balun and Camera Video Out
3	V+	6	V- → V+	Polarity reversed to Balun and Camera
4	V-	5	V+ → V-	Polarity reversed to Balun and Camera
5	V+	4	V- → V+	Polarity reversed to Balun and Camera
6	V-	3	V+ → V-	Polarity reversed to Balun and Camera
7	Video In +	2	V- → V+	V+ applied to Hub Balun and DVR
8	Video In -	1	V+ → V-	V - applied to Hub Balun and DVR

Conclusion

The accidental reversal of the standard wiring of the Cat 5 cable to the RJ45 plug connecting the E10524 Power Through Balun as illustrated in Figure 2 will result in catastrophic failure of the video balun for that particular port on the balun Hub with other ports unaffected if the Cat 5 cable is wired correctly. While it may be possible to also damage the DVR port the failure of the balun provides protection for the DVR

Recommendation

Installers are strongly advised to carefully check all Cat 5 wiring between the E10700A Versatile Balun Hub and the E10524 Power Through Balun for wiring reversals between adjacent pairs and incorrect wiring sequence on each end RJ45 plug before applying power to the Balun Hub to avoid damage to the Balun Hub.

Important Note:

Damage to the Balun Hub as a result of incorrect wiring is not covered by warranty.

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