

# CASE STUDIES

**The Customer:** [Elbit Systems of America](#), a leading provider of high performance products, system solutions, and support services focusing on the commercial aviation, defense, homeland security, cyber security, and medical instrumentation markets.

**The Challenge:** An assembly was needed to integrate a display unit into a vehicle in which the space behind the unit was extremely limited. The connectors were specified, however backshells and wiring needed to be determined.

**The Details:** Elbit engineers provided [CDM Electronics](#) with a prototype of the unit to facilitate the selection of the backshells. CDM then created dummy “ends” (connectors with appropriately angled backshells) inside the prototype to confirm the suitability of the selected angled backshells.

As the area behind the unit was exceptionally restricted, the wiring needed to split out in a "T" shape, and Elbit engineers had been told an appropriate T-shape boot did not exist. CDM reached out to one of its distribution partners who provided a T-shape boot, which exactly met the requirements of the application. Again, because of the space constraints, the advantages and disadvantages of stiff vs. flexible boots and heat shrink tubing were evaluated. Plating finishes, connector clocking and keying needed to be specified, while special attention was given to cable shielding options, as the units would be used in an environment in which EMI was an issue.

Upon verification and customer approval of the above mentioned components, CDM prepared a detailed quote for the assemblies. This process entailed two FAI (First Article Inspection) assemblies, along with the corresponding fixturing. CDM engineers "hand built" the two FAI assemblies to ensure their performance.

An equally critical element of the project was that Elbit had to adhere to the timeline provided by their end user. Once more, CDM reached out to a distribution partner, [Amphenol PCD](#), who was able to deliver the backshells in half-the-time quoted by any other supplier.

CDM's distribution and logistical experts assisted Elbit in managing every step of the scheduling process, from factoring in opportunities for sampling and FAI assembly construction, through to the final production schedule.

**The Result:** Due to the continual communication and collaboration between the Elbit and CDM technical teams, the project was completed on time and on budget.



