

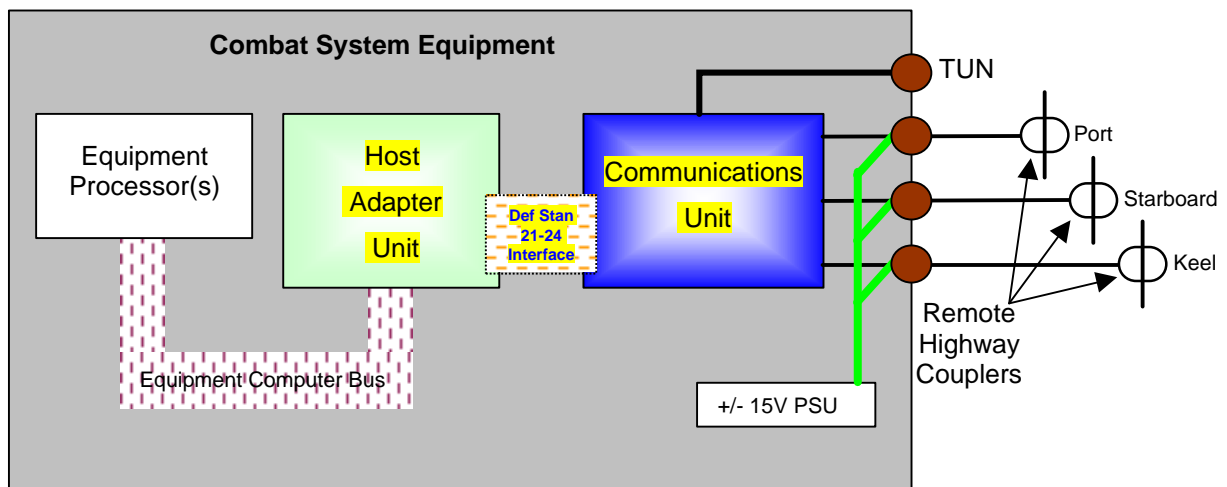
Combat System Highway Communications Unit

Combat System Highway (CSH) is a high integrity local area network fitted to UK Surface Ships, which provides extremely reliable digital data communications services between the Platform's weapons, sensors, communications and command system equipments.



MoD Policy dictates that every combat system equipment (**Member System**) which interfaces to the Combat System Highway incorporates two interface cards, the **Communications Unit** and **Host Adapter Unit** as shown below. J & S Marine is the **MoD approved supplier** for the CSH Communications Unit and supplies a range of Host Adapter Units.

The CSH Communications Unit (CU) is an intelligent interface card that implements the low level CSH protocols as defined in Def Stan 00 – 19. The Communications Unit performs a DMA transfer between the CSH and the Host Computer's memory, which is normally resident on the HAU, in accordance with Def Stan 21-24 Part 1 and Part 2.



Member System's CSH Interface

J&S Marine operates a policy of continued development, specifications may change without prior notice.



Each Member System is allocated a **Terminal Unit Number** (1-63) by the Platform Management Authority, which represents the equipment address on the Combat System Highway. The Terminal Unit Number (**TUN**) must either be set using links on the Communications Unit card or via connections on the backplane connector. It is common practice, for Member Systems that are fitted to more than one Platform type, to provide an external TUN Connector on the equipment bulkhead.

CSH may be fitted with one, two or three highways within a Platform, depending on the level of resilience required. The (up to) three highways (designated Port, Starboard and Keel) are physically separated on the Platform so that damage to one allows communication over the remaining Highways. Each Member System is connected to each of the Highways via a **Spur Cable** and **Remote Highway Couplers**. The Member System Design Authority is required to provide appropriate wiring between the CU card and the external CSH Connections on the equipment and to provide $\pm 15V$ power supplies (rated at 1A) for each of the Remote Highway Couplers.

Details of the CSH Interface are included in the Common Aspects of the Combat System Highway Specification and the Member System Communications Unit Interface Specification which are available through FIPT – CSC4a.

Performance Characteristics

Interface Standards:	Def Stan 00-19 Issue 2 Def Stan 21-24 Part 1, Issue 2 Def Stan 21-24 Part 2 Issue 2 Common Aspects of the CSH Interface Specification (DGSS/ADSI/SS628/19/14/01/01/01 Issue 5) NES/TN049 Issue 2
Physical Dimensions:	Double Eurocard, 233.4mm x 160mm x 11.1mm
Power Supply:	+5V (+/- 0.5V) @ 4A max, 2A typical.
Temperature:	
Operational	1 to 70 °C
Non Operational	-40 to +70 °C
Shock:	
Operational	150ms ⁻² full sinusoidal
Non Operational	300ms ⁻² half sinusoidal
Vibration:	5-33Hz at 0.125mm displacement
Reliability:	9.345 fpmh Mil Std 217F + Notice 1, Naval Sheltered
Service Drawing Number:	750223-1050-ASY
Nato Stock Number:	5998 – 99 – 173 – 0458

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