

# The Crew Station Trainer (CST)

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The Crew Station Trainer is a stand-alone or networkable M1A2 tank training device. It was developed collectively by the New Equipment Training (NET) team, Program Manager (PM Abrams), and General Dynamics Land Systems (GDLS) for NET training and Doctrine and Tactical Training (DTT).

The CST utilizes a Sun SPARC work station with 535 megabyte internal hard drive, 32 megabyte random access memory, Solaris 1.1.1 operating system, 2.4 tank (GDLS) application software, touch screen, 20-inch color monitor with 1152x900 resolution, M1A2 Commander's Control Handle Assembly with switches, cursor active, operating on an Ethernet networking up to 21 CSTs. SINCGARS replication is possible for tank-like operations on the net. There are currently 40 systems in use with the NET team, 35 systems at Fort Hood for fielding of the M1A2 tank to the 1st Cavalry Division, and five at Fort Knox for NET and DTT instructor train-up.

The CST is capable of supporting multi-echelon training. The primary role of the CST is as an individual skills and crew coordination trainer, necessary skills required to operate the M1A2 tank. Beyond these basic and essential capabilities, the CST is used to conduct digital platoon-level to battalion-level exercises with some brigade-level application. The CST in these exercises is capable of training and sustaining the mission planning, reporting, and command and control functions of the M1A2 tank, both in offensive and/or defensive scenarios. Furthermore, the CST has applications that assist in maintenance training of the Built-In-Test (BIT) and Fault Isolation Test (FIT) which are embedded in the M1A2 tank.

The NET Team uses the CST to introduce and train the soldier-machine interface (SMI) and explain the functionality of the M1A2 tank screens at the Driver's Integrated Display (DID), Gunner's Control Display Panel (GCDP), and Commander's Integrated Display (CID). This training is conducted at a student-to-instructor ratio of 36:1, as opposed to training conducted on the tank at 4:1. The CST allows soldiers in training to become fully familiar with the operations of the new tank prior to any hands-on training. This reduces the fuel and Class IX needed for the NET process. The classroom is also more conducive to learning the SMI and functions of the tank displays (the classroom is air-conditioned and heated).

Training is conducted on a staggered schedule. A tank battalion is divided in half, and its training conducted on a 2-day rotation. Two companies receive training in the classroom, followed by training in the motor pool, and then the other two companies start training. This rotation continues throughout the 20-day NET training cycle.

One primary instructor and six assistant instructors conduct the classroom training. The primary instructor presents all information required to operate the station being trained and projects the display on a screen observable by all the students in the classroom. The students follow along with the PI on their CST.

One of the CST's key functions is its ability to train the unit on the uses of the Inter-Vehicular Information System (IVIS), which is the major part of the training required to master the M1A2. IVIS is the information system that enables the tank to use the digital data link between other digital systems on the battlefield. Some of the information that passes through IVIS are mission planning (graphics), position updates (both your tank and the location of all IVIS-equipped vehicles on the net), reports (spot, contact, request for fires, request for air, medevac, sitrep, etc.), and enemy location.

The CST has been used to train 3/8 and 1/7 Cavs at Fort Hood. The system was a great help in reducing the number of instructors required to train these units. During the training, numerous soldiers of 3-8 Cav made favorable comments on the training. SFC Bitz wrote, "The entire course was broken down to where the most computer-illiterate person on my crew could comprehend and follow." From another crew in A Co, "CST...made learning seem real life for the privates who were having trouble." The crew of A11 wrote "CST is an excellent investment." The crew of D32 wrote the CST was a good training tool because "I feel that the crew watching someone else do it before they get to the tank helps a lot."

As the Army moves forward into the 21st century, the digital classroom will and must become an integral part of training and sustaining a unit's digitalization capability. Systems such as the CST will ensure that we train intelligently for the future battlefields our tankers will find themselves on.