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LINK UP

Micros In Command

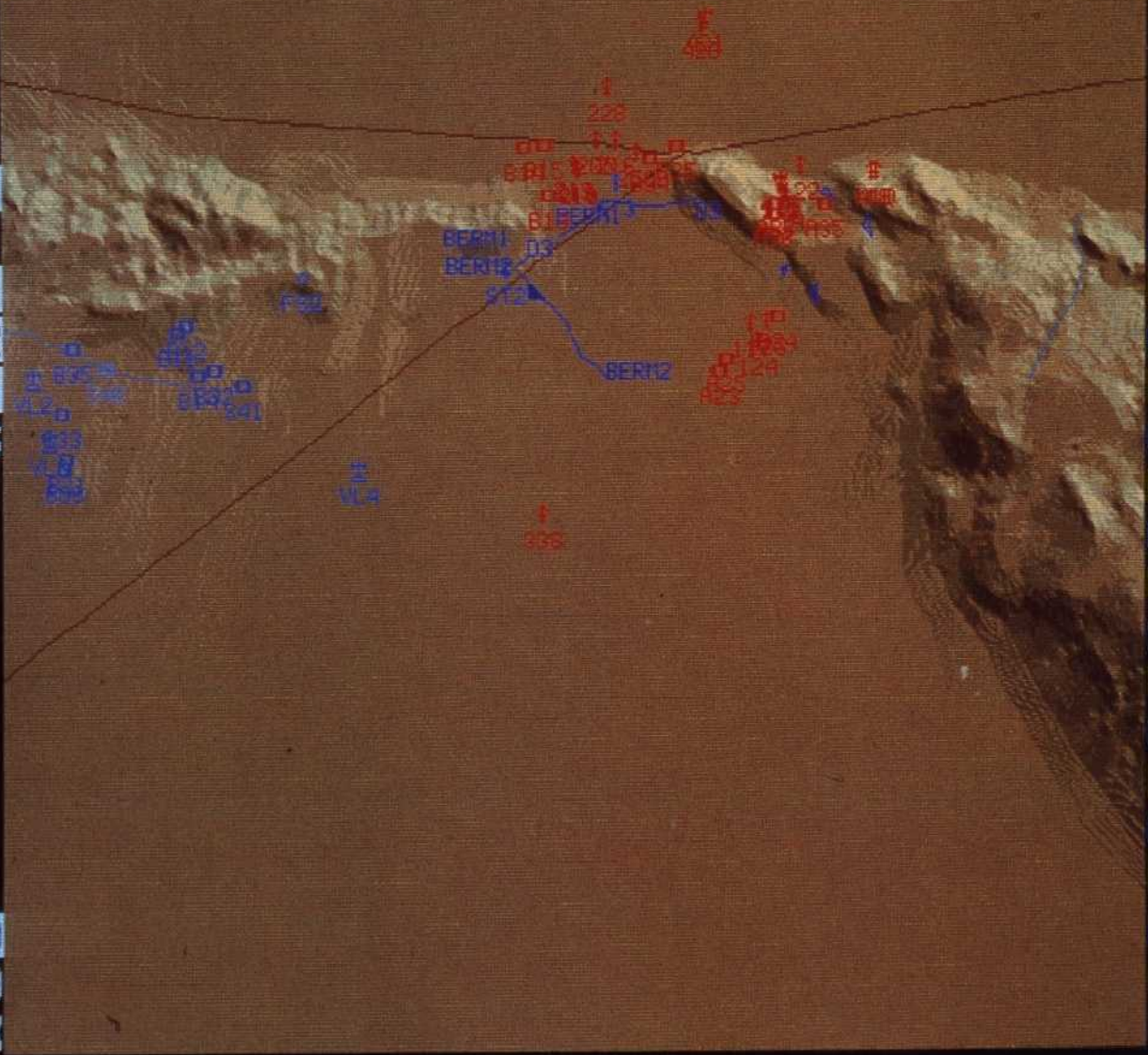
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On The Battlefield

The photographs show the US army engaged in mock battle in the Mojave Desert. Machine guns and other weapons are connected to laser systems and their targets fitted with sensory devices. When the laser beam strikes a sensor, the computer records the accuracy of the strike



BRIAN WOLFF

The armed forces of today are probably the most computerised 'industries' in the world. The modern soldier, as well as being skilled in traditional combat and tested for endurance, must also be capable of operating the technology that modern weapons employ.

The Falklands War proved how devastating the new generation of microchip weapons can be. The Exocet missile that sank *HMS Sheffield* was guided by computer, and the pilot did not even have to see the target and take aim in the conventional way.

Computers are proving immensely valuable in tanks where accuracy and speed are essential. British army Chieftain tanks are equipped with a computer that assesses vital factors such as wind direction, barrel wear, the type of ammunition being used and the angle of sight. From this information it calculates the correct tracking and the exact aim of the target. Such a computer can enable a tank to score nine hits out of nine shots, within 53 seconds and at a range of two miles.

A similar computer is being used by other NATO armies. This is a Belgian system that uses a laser range finder, sensors, a computer and an optical sight. The sensors measure factors such as

wind and barrel wear and the computer calculates the angles and then displays a set of cross-hairs on the sight. As the cross-hairs follow the target, so does the gun.

The Cruise missile uses several computers to aim its warhead within 60 feet of a target after a flight of nearly 2,000 miles. As the missile is launched, its flight is guided by its computer which stores all the information of the flight path. The computer continually makes fine adjustments to the flight trajectory. As the missile approaches its target, the computer activates its final guidance system. The computer is able to identify the target from a 'picture' composed of millions of numbers in its memory. Once the missile's detectors see the target, they relay a further digital picture to the computer. The computer then guides the missile until both sets of numbers match exactly and then directs it to the target.

The development of computers for use in military technology has been of benefit by accelerating the pace of computer science and design. Without the vast quantity of money spent in the military laboratories, it is quite possible that we would never have seen the £100 home computer in our own lifetimes.