

MITRE

Modular Command and Control System



COMMAND AND CONTROL

Marconi
Radar and Control Systems



Modern Command and Control systems used in air defence, air traffic management, mission planning, simulation and radar management demand a computing system designed especially to meet the requirements.

Marconi Radar and Control Systems has a wealth of experience in the design, development and production of these types of systems. The Company has participated in every major UK and NATO air defence programme of significance, as well as in many major air defence and air traffic projects worldwide.

MITRE is a careful evolution from previous products from Marconi Radar and Control Systems. It offers a complete, reliable and effective command and control system capable of supporting a wide variety of operational functions. It uses a high performance real-time distributed processing system, where computer systems, human computer interface, communications, applications support and program development are all part of one integrated system.

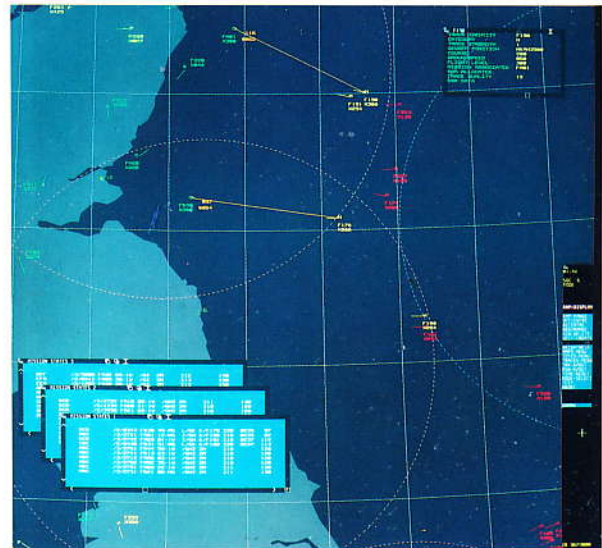
The modular design of MITRE's hardware and software provides it with the flexibility to support a broad spectrum of applications. The workstation can support all operational roles, with a Human Computer Interface comprising a combination of hardware and software components that have been designed to reduce operator workload while maintaining flexibility through the use of modern display and operator input techniques.

This modular approach offers a logical expansion capability from the lowest level of requirement, to the highest.

MITRE is fully supported throughout its operational life by our professional, experienced staff and comprehensive facilities, built up over many years of successful operation as a supplier of Command and Control Systems throughout the world. We can provide assistance with operational analysis, system design and modelling, leading to system definition and procurement. Subsequently we can provide full logistics support, including training, for the service life of the system.

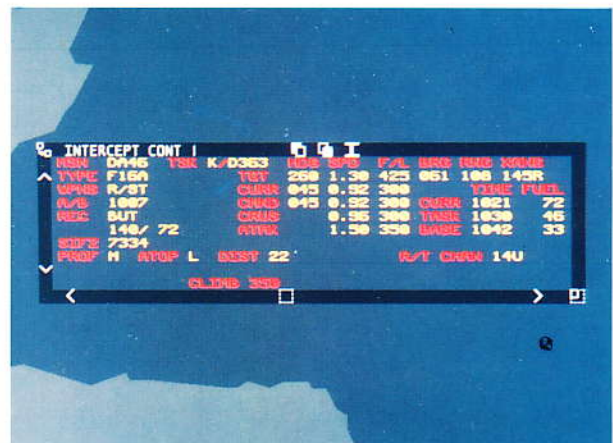
Mitre in Air Defence

MITRE configurations are available for both static and tactical systems, to support the operational role at all levels of the air command and control structure. MITRE can be used to provide a complete air defence ground environment, or elements may be incorporated into existing systems.



MITRE supports a comprehensive range of operational functions including:

- Multi-Radar Tracking
- Threat Assessment
- Weapon Assignment
- Mission Control
- SAM Control



Mitre in Air Traffic Management

MITRE's modularity and flexibility allows systems to be configured to meet the requirements of airfield surveillance, approach control and en-route control. The range of standard features include:

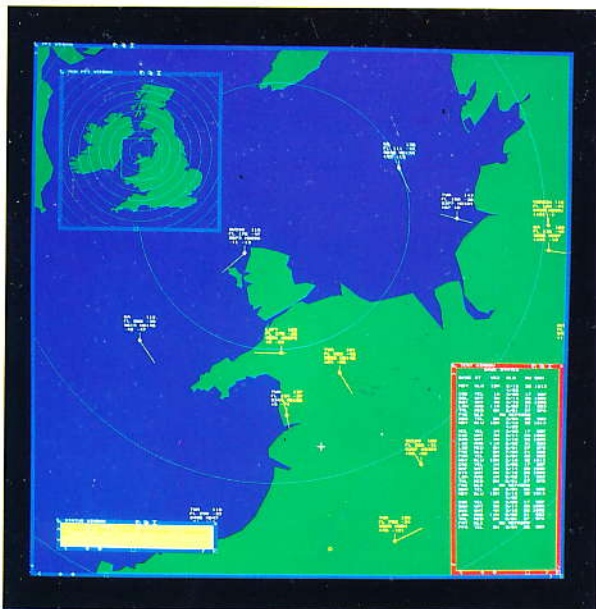
- Plot/track display
- Filters
- Labels
- Flight data
- Graphics
- Tabular data windows

Applications modules provide:

- Short term conflict alert
- Minimum safe altitude alert
- Inter workstation electronic marking and mail
- Controller jurisdiction

The basic system may be enhanced by the addition of the optional features:

- Multi radar tracking
- Flight plan processing
- Mode S gateway
- Recording and playback
- Simulation
- Radar video display using integral scan converter



Mitre in Simulation

The levels of expertise demanded of today's controllers can be acquired only through effective training and perfected only by continuous practice. MITRE provides a range of radar simulators aimed at the specific training needs of air defence operations staff, air traffic controllers and radar managers.

Exercise Preparation:

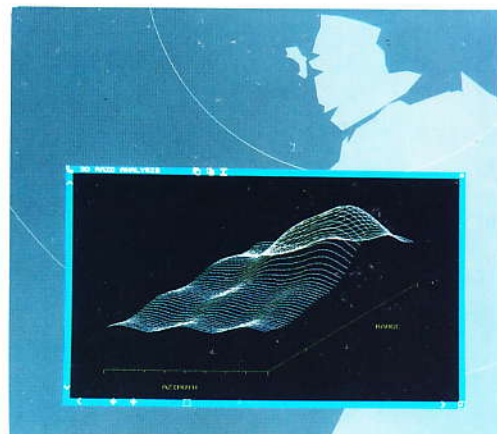
Definition of the complete environment including geographical and meteorological data, radar, aircraft and weapons performance data, and specification of background tracks.

Exercise Run:

Tracks are 'flown' as defined or directly under the control of simulator 'pilots' using simulated R/T. Supervisor commands include exercise select, record/play-back, fast forward/reverse etc.

Mitre in Radar Management

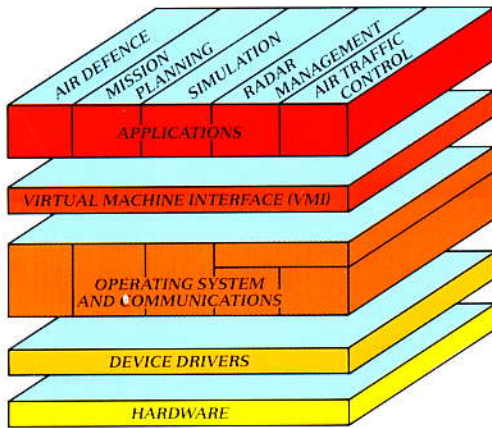
The system provides the automatic data processing functions of the radar system, including PSR height calculation, PSR/SSR association, data buffer management, status and BITE processing, clutter map processing and performance evaluation. It has the capability to output target plot data to remote centres, using a range of radar data formats.



mass raid analysis

Mitre Architecture

The MITRE architecture is a hardware and software environment with an integrated HCI, interprocess communication using the concept of virtual nodes and a development support environment based on the use of the latest CASE tools.



Dependent upon the system requirements for such things as availability, processing capacity, throughput, etc, nodes within a MITRE configuration may be duplicated and may run one or more applications. The Virtual Machine Interface (VMI) allows applications to communicate without knowledge of the processor configuration. All software for MITRE is written in Ada and developed on an integrated project support environment.

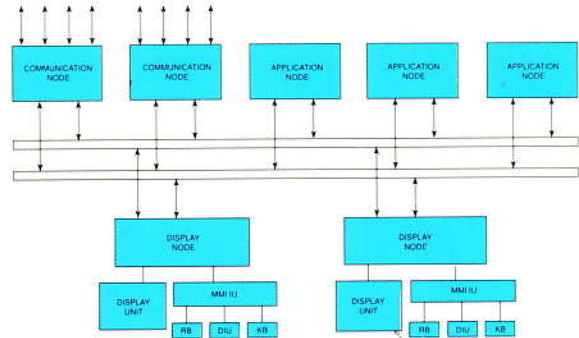
The main features of the MITRE architecture are:

- Proven, commercially available components
- 32-Bit VME processors
- Efficient run time Ada kernel
- Single or dual LAN support

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- Support for Object Orientated Design (OOD)
- Applications independence through the VMI
- Comprehensive BITE



typical configuration

The integrated HCI provides a range of facilities that can be used by either an operator or an application and allow the definition of operator inputs, screen formats and the manipulation of data presented on the screen.

These facilities include:

- High-level application interface through the VMI
- Interactive raster graphic colour display
- Windowing environment with a range of 'icons' for the manipulation of the screen presentation
- Wide choice of input devices
- Menus and Forms support
- Screen resolution between 1000 and 2000 lines



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