

CORMORANT

*Theatre-wide communications network
for the UK Joint Rapid Reaction Force*



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CORMORANT is providing the UK's Joint Rapid Reaction Force (JRRF) with a comprehensive modern communications capability. The flexibility of the system will enable the JRRF to deploy and operate its Wide Area Network communications system in either a fully operational military deployment or in a peacekeeping role. The system is fully containerised and can be operated in either vehicle mounted, dismounted into a "building of opportunity" or as a transit case mode.

Features

Secure, Fixed and Mobile, Voice and Data Services

CORMORANT users will enjoy all the communication facilities of a modern office whilst on operational duty.

The system's extensive commercially featured solution has been augmented by a full range of military features which will ensure that the user has all of the facilities required by these forces. Services include fully networked secure and insecure Voice and Data facilities that can interoperate seamlessly with other CORMORANT users and also with interoperable peer systems.

Local and Wide Area Switching

A modern ruggedised Commercial Off-The-Shelf (COTS) based switching architecture provides CORMORANT with a resilient, self-healing communications networking capability. Based on open standards technology such as ATM and TCP/IP, CORMORANT is able to evolve to take advantage of developments in commercial technology.

Peer System Interoperability

A set of programmable gateways allows CORMORANT to communicate effectively with a wide range of peer communications systems. This key capability marks a major step towards the era of truly interoperable systems whilst at the same time addressing the issues associated with legacy systems.

Resilient Transmission Systems

In order to provide the required quality of service within a harsh tactical environment, EADS has selected the latest state-of-the-art radio to provide CORMORANT's primary terrestrial radio bearer. Other short range radio bearers and tactical fibre optic capabilities give CORMORANT the ability to use the full range of technology in order to deal flexibly with varying operational scenarios. In addition to these a Troposcatter system provides "over-the-horizon" communications for extended links.

Strategic Communications

CORMORANT's resilient trunk architecture copes readily with satellite communications' requirements. CORMORANT is provided with a fully functional UK switching system that provides the UK operations support staff with the features and services enjoyed in-theatre and enables them to coordinate operations across multi-theatres. In this way CORMORANT uniquely provides seamless end-to-end communications between the UK and any operation world-wide.

CORMORANT Management Information System (CMIS)

The Management Information System provided for CORMORANT represents a comprehensive suite of leading COTS products integrated within a single enclosure. These applications are all web-enabled thereby ensuring a common user interface throughout. The CMIS is designed to support the full operational life cycle from planning and network configuration to operation, maintenance and repair activities, and ultimately system recovery to the UK.

Vehicle and Cabin Integration

The key to CORMORANT is its flexibility and its deployable nature in maximising airlift payload. EADS selected the Mowag Duro vehicle as the optimum solution for UK airlift.



Each vehicle has an integrated cabin installation, provided by Marshall Specialist Vehicles, which allow operation of the system both in-vehicle and dismounted. Autonomous system operation is facilitated by a fully redundant generator set, supported by an Uninterruptible Power Supply (UPS). The generator set provides reliable uninterruptible power while also facilitating the use of "scavenged" power from a variety of different power source standards.

Integrated Logistic Support (ILS)

Supportability of the CORMORANT system is assured by the provision of a comprehensive support and training package. This facilitates all aspects of the training and support of CORMORANT users so that

all documentation, training and maintenance needs of the end-user are satisfied.

Technical Specification

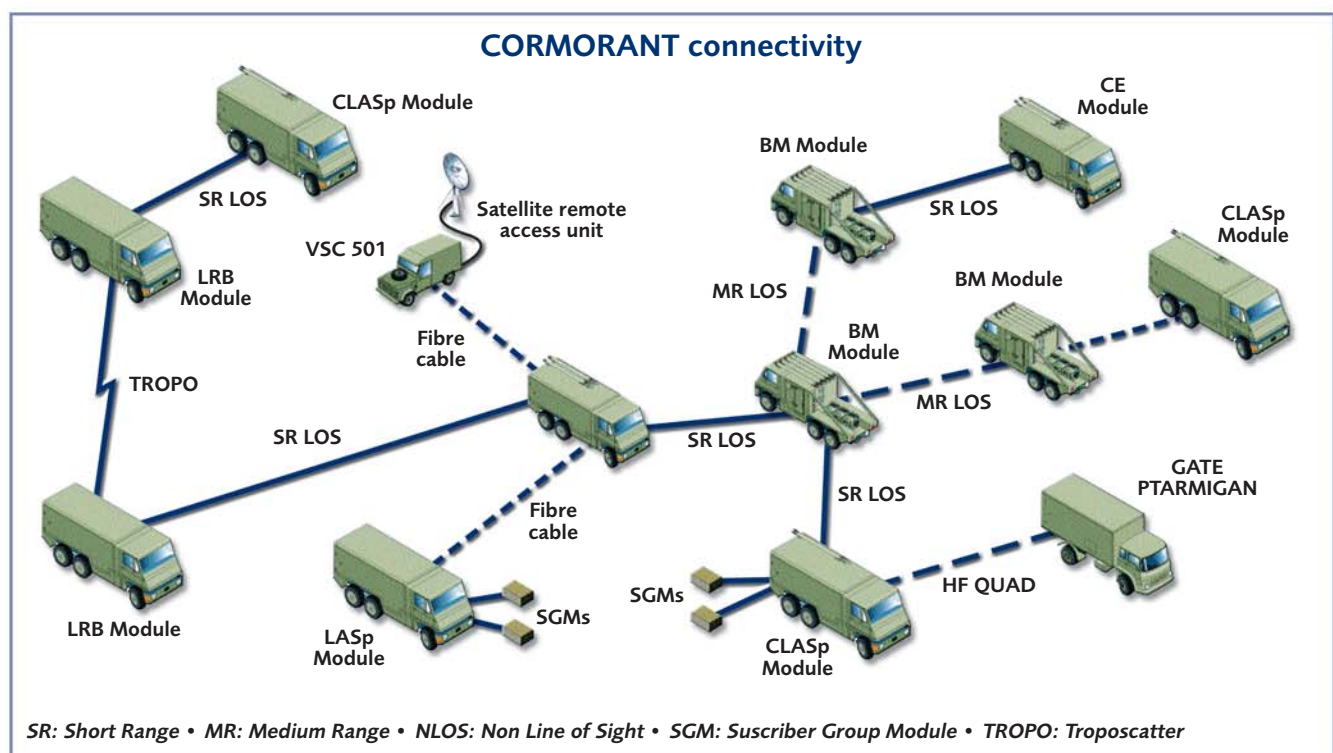
CORMORANT provides:

- Communications support for direct subscribers at Joint Forces HQs for example, JOCS, and for other combined services deployments such as Logistics
- A backbone network that allows indirect subscribers on attached UK single-service networks such as Ptarmigan, BOWMAN, RTTS, DLAN and RN CSS to communicate with each other and with CORMORANT direct subscribers
- Gateways that allow it to interconnect with a wide range of other military and public networks

- Subscribers with telephony, circuit switched data and high speed IP Intranet services, interconnected over a secure wide area backbone network

All these services can be extended over the in-theatre backbone and integrated with UK strategic network services.

A number of ISDN and ATM access ports are provided at each CORMORANT Local Area. In addition, the architecture also accommodates the use of public ISDN and satellite services where these are available from the civil infrastructure in the theatre of operations.



Bearer Services

Short Range LOS Microwave Radio	5 km	34 Mbps
Short Range NLOS Tactical Fibre Optic Cable	1 km	155 Mbps
Medium Range LOS Microwave Radio	30 to 50 km	8 Mbps
Long Range NLOS Troposcatter Radio	Up to 300 km	8 Mbps

CORMORANT Variants

- Core Element (CE): Provides wide area access (4 man crew)
- Local Area Support (LASp) 30 or 100: Provides local area access (6 man crew)
- Combined CE and LASp (CLASp): Provision of wide and local area access in one vehicle (6 man crew)
- Bearer Module (BM): Provides short and medium range connectivity between HQs (4 man crew)
- Long Range Bearer (LRB): Provides long range connectivity between HQs

Each of the above less the LRB also have transit case variants.

Deployability/Airportability

- Air/sea/land transportable
- JATEU tested DEFStan 00-3 Issue 3 Section F (Air) for C130
- Underslung for Chinook and Merlin MK3
- Fully dismountable

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