

Inmarsat-A

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The Inmarsat-A analogue mobile satcoms system provides two-way direct-dial phone, fax, telex, electronic mail and data communications at rates up to 9.6kbit/sec to and from anywhere in the world with the exception of the poles.

THE SYSTEM

An Inmarsat-A terminal is a small, self-contained satellite earth station comprising a lightweight parabolic antenna, electronic units, power supply interface, and direct-dial telephone and telex connections. Standard connections for fax and PC are also available.

A call from a mobile or transportable Inmarsat-A terminal is routed via the Inmarsat satellite system to a land earth station (LES) and thence into the national and international phone and data networks. Terminals receive and transmit in the L-band (1.5/1.6GHz).

The transmission and reception of signals are co-ordinated by four network co-ordination stations (NCS), one for each satellite coverage region: Atlantic Ocean East and West, Indian Ocean and Pacific Ocean. Each NCS monitors the flow of communications traffic through its satellite to ensure that calls are set up correctly and that all LESs are working correctly.

TERMINALS

A number of models feature a High Speed Data (HSD) option, capable of supporting data rates of up to 64kbit/sec. Applications include the simultaneous transfer of data in two directions, transmission of still and compressed video pictures, high-quality audio (15kHz) and videoconferencing.

In transportable form an Inmarsat-A terminal is packaged in one or two suitcase-sized carrying cases with a foldaway parabolic antenna measuring about a metre in diameter. Weighing between 20kg and 50kg, transportable terminals are easy to set up and work off batteries or portable power supplies.

APPLICATIONS

In the maritime environment Inmarsat-A has been meeting the satellite communications needs of oceangoing ships for over 16 years. The crews of some 18,000

ships — from massive oil tankers to fishing trawlers — use Inmarsat-A for commercial and social purposes and for safety and distress communications.

On land, transportable Inmarsat-As are widely used by journalists and relief agencies in regions where terrestrial links are unreliable or non-existent. Semi-fixed Inmarsat-A installations are a very effective means of supporting remote-area operations such as surveying, pipeline work, construction, forestry, drilling and mining. Semi-fixed and transportable Inmarsat-As can also be used for emergency communications backup at remote office sites.

Vehicle-mounted terminals generally have dynamically driven antennas which track the satellite regardless of vehicle movement. Applications include communications in support of long-distance races such as the Paris-Dakar Rally.

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