NEWS

Five more comms. products announced by Racal

A James Bond-type 'spy' radio is one of five new communication equipments introduced by Racal-Tacticom Ltd. The high-speed data station is built into an executive briefcase and can transmit data at very high speed over long distances using a poor antenna.

Data in the form of coded 5-figure numeric groups are entered in the PRM4150 and held in store until f.s.k. transmission at 200 bauds. Most messages can be sent in a few seconds, and a full-length message of 204 5-figure groups takes only 20 s.

Messages can be received in single-sideband voice-transmission, continuous-wave or data form, but transmission is limited to data to prevent detection of the station. When used to communicate with a high-power base station, a range of 5000 km can be realised using a discreet antenna with the portable station.

Frequency range is 2-29·999 MHz in 1 kHz steps with a transmitter output power of 10 W.

A new 50 W radio, the VRM 5080 v.h.f. transceiver, is aimed specifically at the armed-fighting-vehicle market, which is served by about 15 manufacturers worldwide. The radio covers the frequency range 30-76 MHz and has a 16 kbit/s data capability.

Built in for the first time are options to include pseudo-white-noise encryption — an advanced communication security technique — for both data and speech. Two of the radios

can be operated simultaneously within a vehicle with a frequency spacing of only 5%.

A new multirole tactical, v.h.f., fully programmable radio, the PRM4090, offers f.m. coverage from 20 to 80 MHz. The 9-channel programmable transceiver offers a choice of 2400 synthesised frequencies at 25 kHz, making it compatible with all f.m. military radio equipment in use around the world.

It is also provided with 16 kbit/s data capability and pseudo-white-noise encryption, and can be used as a manpack radio for front-line troops, vehicle mounting or fixed stations.

A new 100 W remotely controlled h.f. radio, the VRM 4145, was introduced by Racal about 2 years ago, but has now been redesigned for compactness. The radio facility is much the same, but the control facilities have been changed.

The 4145 operates across the entire h.f. range, 1·6-30 MHz, with 10 programmable channels covering 284 000 frequencies. Fast frequency change — it takes less than 1 s to switch from one programmed frequency to another — is achieved by an automatic timing unit. A feature of the radio rarely found in h.f. equipment is full squelch control.

The 4145 was put into production earlier this year; Racal has already delivered orders worth £7 million and has orders worth another £10 million in hand.

The new Squadcal 2 replaces an old stalwart of the Racal product range, Squadcal 1, which has been manufactured for almost 15 years and over 12 000 units delivered. Exploitation of new technology means that, for about the same price, weight is reduced from 5 to 3 kg, frequency extended from 2-7 MHz to 2-12 MHz and a custom-designed l.s.i. synthesiser permits 100 Hz frequency steps equivalent to 100 000

channels instead of the 29 crystal-controlled channels.

Each of the new products makes use of advanced technology, including microprocessors, large-scale integration and thin-film chips, to reduce size, weight and cost. Gerry Whent, managing director of Racal-Tacticom, forecasts that they will account for about £150 million of the company's sales during the next 5 years.

All the products will be demonstrated at Racalex at the Royal Lancaster Hotel, London, on the 2nd-4th October 1979. A feature of Racalex will be the first working Jaguar models.

Royal Navy takes computers on board

The Royal Navy has embarked on a project to install administrative computer equipment on board warships. The computers are planned to assist in a number of shipboard administration functions. Stores accounting and usage control will be the first application and, although militarised hardware has been used for many years in HM ships, this will be the first time that administrative functions at sea have been computerised.

The type of equipment used will almost certainly be a 'mini'. The configuration will comprise a processor, several v.d.u.s, a mass data-storage device of about 20 Mbyte with a direct access capability, a printer and a means of magnetic data interchange with mainframes running large a.d.p. systems ashore.

The project will pose some unusual problems for established equipment. While the fleet has advanced a long way since Nelson's day, the working environment in a warship is far different from the 'normal office environment' which is the market target of mini manufacturers.

The equipment will have to withstand ship movement — including vibration, roll, pitch and heave — and normal ship atmosphere (containing salt and dust) and could also be subjected to strong magnetic influences. An HM ship also suffers from electronic interference and electrical power fluctuations — a tall order for a non-militarised, non-ruggedised off-the-shelf mini!

One of the more critical factors is expected to be the operation of present-technology direct-access devices in this hostile environment. The Royal Navy is seeking information on the experience of others, and particularly the availability of shock- and vibration-tolerant devices offering the required 20 Mbyte capacity.

An operational requirement will be issued later in the year to system suppliers and others able to offer suitable equipment. Selected suppliers will be invited to participate in land-based and sea trials to prove equipment operation and survival in the naval environment. The eventual system will be installed in all HM ships of frigate size and above and all shore-based RN establishments — the total purchase is likely to be 100 or so installations.

Dual VRM 5080 system installed in a Chieftain main battle tank