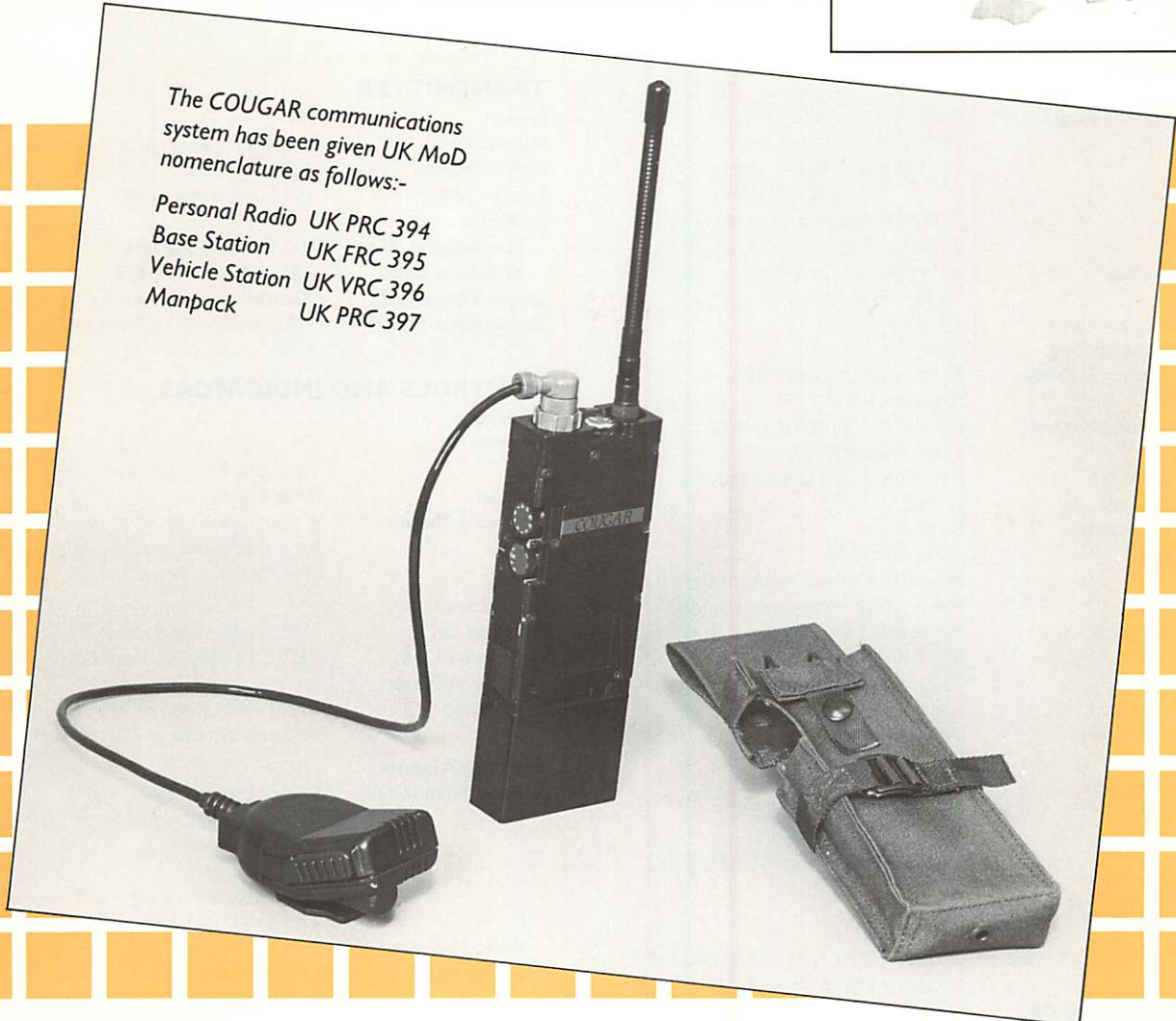


COUGARNET



The COUGAR communications system has been given UK MoD nomenclature as follows:-

Personal Radio UK PRC 394
Base Station UK FRC 395
Vehicle Station UK VRC 396
Manpack UK PRC 397



COUGAR PERSONAL PRM 4515

VHF OR UHF OPERATION 2W OUTPUT 10 PROGRAMMABLE CHANNELS

MODULAR FULLY SEALED CONSTRUCTION OPTIONAL DIGITAL ENCRYPTION

WIDE RANGE OF ACCESSORIES EASY CONVERSION TO STATIC, MOBILE OR TRANSPORTABLE ROLE

The COUGAR personal radio PRM 4515 has been specifically designed for the paramilitary user and provides a cost effective, rugged transceiver which is fully, sealed and cushioned to meet the drop and sealing requirements of DEF STD 07-55 and MIL STD810C.

The PRM 4515 is the key to the success of the COUGARNET system and is incorporated into high power Static, Mobile and Transportable systems.

COUGARNET covers the full 68 to 470MHz frequency bands. Standard coverage extends to the 68-88MHz, 132-174MHz and 380-471MHz bands with any one radio operating over a 20MHz spread.

A power output of 2W is available and the carrier controlled timer can be adjusted to limit continuous transmissions to a maximum duration of between 30 and 120 seconds or be set to infinity.

10 channels are available and these may be designated as single or two frequency simplex operation. Channel frequencies are assigned and changed by the use of a programmer or keyfill unit.

One of the major benefits of the COUGARNET system is its inbuilt security option. The personals can be equipped with 16kbit/s digital encryption modules which provide a wide choice of code combinations

giving complete user confidence in the security of communications. Two codes can be loaded into the radio giving increased 'in-net' security whilst the code selector switch also has clear and zeroise positions.

By using the programmer and keyfill units to load the channel frequencies and codes when the encryption option is fitted, the operator only needs to know which channels to use and whether to operate in clear or secure.

User controls are kept to a minimum and are of a recessed design to prevent accidental operation.

A full range of COUGAR designed accessories is available including ancillaries for covert operation. For the military user, the audio equipment is Clansman compatible greatly enhancing the inter-operability with existing military audio equipments.

The personal radio can be adapted for use as a 10W (UHF) or 20W (VHF) high power station in the Static, Mobile, and Transportable roles by the simple addition of an SMT unit. The combination of equipment also performs a key function in both mobile and static repeater stations, details of which are found on separate data sheets.

RACAL

MAIN TECHNICAL PARAMETERS

GENERAL

| | |
|-------------------------------|--|
| Frequency Range: | PRM 45 15L 68-88MHz PRM 45 15H 132-174MHz PRM 45 15U 380-400MHz 403-471MHz In 20MHz bands at increments of: 2MHz @ VHF 4MHz @ UHF 10 Programmable (single or two frequency simplex) |
| Channels: | 12.5kHz |
| Frequency Steps: | 25kHz |
| Channel Spacing: | Better than ± 10 ppm VHF ± 5 ppm UHF |
| Frequency Stability: | F1E 16kbit/s speech and data F3E analogue speech |
| Operating Modes: | Internal 16kbit/s speech security system |
| Encryption: (Optional) | 50 ohms |
| RF Connector: | 10 volts nominal MA 45 16A rechargeable battery pack MA 45 16B primary battery pack |
| Supply: | VHF: 8 Hrs UHF: 6.5 Hrs @ 1:9:10 duty cycle |
| Battery Life: | 780g including battery Length - 213mm Width - 75mm Depth - 30mm |
| Weight: | Full spec -20°C to +55°C Storage -40°C to +85°C |
| Dimensions: (with battery) | Drop and sealing tests to DEF STD 07-55 and MIL STD 8 10C |
| Temperature: | |
| Mechanical: | |

RECEIVER

| | |
|--|---|
| Sensitivity: | |
| Narrowband Voice: | 0.3 μ Vpd input for 12dB SINAD (VHF) 0.35 μ Vpd input for 12dB SINAD (UHF) |
| Wideband Data: | Less than 10% synchronous bit error rate @ 0.3/0.35 μ Vpd |
| AF Output Power: | |
| Minimum: | 10mW into 300ohms |
| Full Volume: | 400mW into 8ohms |
| AF Response: | |
| Narrowband Voice: | 400Hz to 2.7kHz within 6dB |
| Wideband Data: | 30Hz to 8kHz within 6dB |
| Image Rejection: | Better than 65dB |
| IF Rejection: | Better than 70dB |
| Spurious Response Rejection (External): | Better than 70dB |
| Spurious Emission in Receive Mode: | Any spurious radiation not to exceed 20nW |
| Squelch: | 150Hz tone clear mode 16kbit/s secure mode |
| Adjacent Channel Selectivity: | Better than 70dB VHF Better than 50dB UHF |

TRANSMITTER

| | |
|---------------------|--|
| Power: | 2W |
| Harmonics: | 70dB below carrier typical |
| Peak Deviation: | ± 5 kHz maximum |
| Squelch Tone: | 150 \pm 2Hz in clear mode |
| AF Response: | |
| Narrowband Voice: | 400Hz to 2.7kHz within 6dB |
| Wideband Data: | 30Hz to 10kHz within 6dB |
| Spurious Emissions: | 70dB below carrier typical |
| Transmission Timer: | Adjustable from 30-120 secs. and infinity |

CONTROLS AND INDICATORS

Controls

| | |
|-----------------|---|
| Volume: | OFF and 8 stepped volume including squelch override and whisper 10 positions |
| Channel: | 4 positions; Clear; Key code A Key code B and zeroise memory (mechanical interlock) |
| Operating Mode: | |

Indicators:

| | |
|----------------------------|---|
| Top Panel LED: | With mechanical shutter LED ON when PTT activated |
| Transmit ON: | |
| Transmit Power Warning: | LED flashes when RF o/p power reduced by 6dB (low battery voltage) |

Warning Alarms

| | |
|------------------------|---|
| Audible Indication of: | Clear Voice operation Tx time limiter impending (5 seconds warning) Crypto alarm Low battery warning Radio malfunction |
|------------------------|---|

Radio Malfunction

| | |
|---------------|---|
| Activated by: | (i) Synthesiser out of lock (ii) Selection of non programmed channel (iii) Selection of secure mode - no encryption module fitted |
|---------------|---|

ANCILLARIES

| | |
|---|-----------------------------------|
| Whip antenna, Helical whip antennas | |
| Loudspeaker/microphone - with/without antenna | |
| Carrying harness | |
| Covert harness - including discreet audio ancillaries, PTT and antenna | |
| Programmer: | MA 4073C |
| Keyfill Unit: | MA 4083C |
| Secondary Battery: | MA 45 16A |
| Primary Battery: | MA 45 16B |
| Battery Chargers: | Single MA 45 17A, 6-way MA 45 18A |
| Battery Conditioner: | MA 45 19A |

OPTIONS

| | |
|----------------------------|---------|
| Digital encryption module | MA 4437 |
| Analogue encryption unit | MA 4258 |
| Carrier squelch (VHF only) | |