

NACOSS TECHNICAL MEMORANDUM

Ref. NATM 9

**SUBJECT: RECOMMENDATIONS FOR REMOTE SIGNALLING INTRUDER
ALARM SYSTEMS CONNECTED TO PAKNET SIGNALLING**

This Technical Memorandum gives guidelines regarding the installation and maintenance of remote signalling intruder alarm systems connected to Paknet radio signalling.

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INTRODUCTION

When the BS 4737 series of documents was published in 1986/87, Paknet signalling systems were not developed.

There has been significant growth in the number of installed systems connected to this signalling technology. However, there are reported to be shortcomings with some installations and NACOSS has felt it appropriate, by means of this Technical Memorandum, to draw attention to certain important aspects and to make certain recommendations.

RECOMMENDATIONS

Installers of intruder alarm systems connected to Paknet signalling equipment should follow the instructions provided by the suppliers of Paknet relating to the planning, installation and maintenance of such systems.

It is possible that the level of security afforded by these systems could be reduced if suppliers' instructions are not followed.

Installers should refer to guidance material published by Paknet such as:-

- C Installation Training Manual;
- C Commissioning Guide for Paknet Radio Alarms;
- C Vodassure Radio-Pad Installation Guide;
- C Documents published later.

The following recommendations are given:-

- a) The supplier's instructions for determining whether there is sufficient radio coverage should be followed at the planning stage (see the section of the Commissioning Guide regarding procedures for determining sufficient radio coverage).
- b) The supplier's instructions for mounting the aerial should be followed (see the section of the Installation Training Manual regarding aerial positioning and testing of signal strength and the section of the Commissioning Guide regarding aerial positioning and test).
- c) The routing and termination of co-axial cables should be in accordance with good

installation practice and cable runs should be kept as short as possible (see the section of the Installation Training Manual regarding cable routing and the section of the Commissioning Guide regarding aerial positioning and test).

- d) Test signals should be sent through to alarm receiving centres when new Radio-Pads, including replacements, are installed.

The following recommendations relating to remote signalling intruder alarm systems connected to Paknet signalling should be complied with by NACOSS Recognised installers of intruder alarm systems:-

- 1) Each Radio-Pad, including replacements, should be "registered" (sometimes called "initialised") when it is first installed (see instructions on registration of the radio pad in the Vodassure Radio-Pad Installation Guide).
- 2) When a Radio-Pad is first registered, the alarm receiving centre should be informed of the Electronic Serial Number (ESN) and the Network User Addresses (NUAs). A minimum of two NUAs should be programmed into the interface PROM or alarm panel configuration software.
- 3) Each Radio-Pad, including replacements, should be re-registered at every routine maintenance visit by the firm maintaining the intruder alarm system.
- 4) Each time a Radio-Pad is registered or re-registered, the Forward Signal Strength Indicator (FSSI) reading, the noise level reading and the Reverse Signal Strength Indicator (RSSI) reading should be measured using a method and test equipment approved by the supplier of Paknet and the readings should be recorded.
- 5) The intruder alarm system should not be handed over to the customer (i) unless the measured FSSI reading is greater than 4 bars (or an equivalent reading using a method approved by Paknet) and exceeds the noise level by 2 bars and (ii) unless the measured RSSI reading is greater than 0.
- 6) If, during a routine maintenance visit and after re-registration, the measured FSSI reading is less than 4 bars, and/or does not exceed the noise level by 2 bars, or if the RSSI reading is less than or equal to 0, a timely solution should be found such that acceptable FSSI and RSSI readings are obtained as in 5) above.
- 7) The capacity of the standby battery installed in interface units or alarm panels incorporating Radio-Pads shall be in accordance with the recommendations of manufacturers of these units or panels.
- 8) The aerial should be of a type which can be purchased through Paknet and, unless otherwise agreed in writing with the customer, the aerial should be installed in a vertical orientation within a protected area and should not be installed in the entry/exit route.
- 9) Where a co-axial cable run is less than 30 metres long, RG 58 cable or its equivalent should be used. Where a cable run exceeds 30 metres, RG 213 cable or its equivalent

should be used.

- 10) If a delay in sounding any audible alarm(s) is incorporated, the radio communications link should be monitored so that, if loss of service is detected, the audible alarm(s) should normally sound within a period of 30s after the presentation of any alarm condition. However, at the specific written request of the subscriber, the audible alarm(s) need not sound when deliberately-operated devices only are activated.
- 11) The indication of faults with the radio communications link and the control of bell delays by the control equipment should follow the principles in NACOSS Directive NAD.1 (Issue 2) concerning telephone line fault monitoring.