



# PLESSEY ARMS APARTHEID

An Anti-Apartheid Movement Report published in cooperation with the  
World Campaign against Military and Nuclear Collaboration with South Africa

*A Plessey AR-3D mobile radar unit*

**30p**

## PREFACE

Plessey Radar Ltd, of Addlestone, Weybridge, in Surrey, a subsidiary company of the Plessey Group, are currently exporting to South Africa an advanced military radar system including AR-3D collapsible mobile units.

The existence of a contract to supply military radar equipment to South Africa was first revealed by the Anti-Apartheid Movement in the summer of 1979, when it had reason to believe that South African Defence Force personnel were training at a Plessey factory in England.

In September 1979, following representations made by AAM, the Foreign Secretary confirmed the existence of the contract but explained that the 'equipment is to be used in the combined civil and military air control system'.

On 29 April 1981, an Anti-Apartheid Movement member witnessed and photographed the loading of a mobile radar unit and control unit onto a South African aircraft at Hurn Airport in the south of England. The equipment seen was identified as components of the AR-3D radar system, which is classified by

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## I. INTRODUCTION

On 29 April 1981 a member of the Anti-Apartheid Movement witnessed and photographed the loading of Plessey military radar equipment onto a South African paramilitary Hercules L100-30 aircraft, registration ZS-RSE, at Hurn Airport in the south of England. As a result, the AAM now has conclusive proof that Plessey, one of Britain's leading military electronics manufacturers, is involved, with the approval of the British government, in a major arms deal in violation of the 1977 UN mandatory arms embargo.

The shipment, that has been photographed and identified as a Plessey AR-3D collapsible mobile radar and its control unit, is but one of many shipments that will provide the South African Air Force with a highly sophisticated command and control system for its Strike Command. According to the apartheid regime's 1979 White Paper on Defence:

The expansion of an *offensive infrastructure* and the attainment of greater self-sufficiency are factors enjoying high priority in the maintenance of the SAAF's striking power. Regarding the infrastructure, special attention is being given to the *command and control network* and to the fixed and forward airfield facilities.

*(emphasis added)*

There is a popular misconception that radar networks are passive systems that merely provide their operators with information on the position of flying objects. It is not for nothing, however, that the Plessey AR-3D, along with almost all other military radar systems, is classified as a weapons system. For all jet fighter aircraft are dependent on ground-based radar command and control systems to direct them onto their targets. It is for this purpose, 'the expansion of an offensive infrastructure', that Plessey is shipping millions of pounds worth of military radar equipment to the apartheid regime.

*Jane's as a Weapons System.*

The explanation given by the Foreign Secretary in September 1979 is clearly inconsistent with the components witnessed. The Anti-Apartheid Movement has challenged the British government to confirm or deny that the contract is to supply the AR-3D system.

The Anti-Apartheid Movement believes that this contract represents one of the most serious violations of the UN mandatory embargo adopted by the UN Security Council on 4 November 1977. The Anti-Apartheid Movement understands that deliveries for this contract are continuing and appeals for urgent action to stop any further deliveries and for a full investigation into how licences were granted for this contract.

This Report has been published by the Anti-Apartheid Movement in cooperation with the World Campaign against Military and Nuclear Collaboration with South Africa, in order to alert public opinion in Britain and internationally.

## 2. MILITARY RADAR IN SOUTH AFRICA

Sophisticated radar equipment is not a new item in the apartheid regime's inventory. In 1965 Marconi, another British company, completed the first stage of construction of a radar system that drastically improved the already existing radar network. According to a senior SAAF officer involved in the Marconi contract, this was one of the most advanced systems in the world. In 1969 the second stage of development was initiated and completed in 1972 at a cost of several million pounds.

The 1975 South African White Paper on Defence reported that the South African Air Force's radar capabilities had been further increased. By 1977 the SAAF thus possessed a network of static and mobile radar, integrated into a sophisticated computerised control system, that was more than sufficient for the monitoring of South African air space and the control of air traffic. Despite this, the 1977 White Paper announced the initiation of 'a programme to modernise the SA Air Force's mobile radar units'. Two years later, the 1979 White Paper continued to emphasise this expansion:

Modernisation of the static air defence radars to ensure a better airspace control is being planned. At the same time, the *mobile system is being extended considerably to protect mobile forces during deployment* and to supplement the static system. Modern air defence fighters are integrated with the radar system to give full cover to the vital areas. Point defence will be maintained by missile and gun systems. Greater operational effectiveness will be achieved by the master plan for new air force bases and the *new centralised command and control system*.

*(emphasis added)*

What is clear from the above is that the South African Air Force is in the process of expanding its radar capabilities primarily to enhance the effectiveness of its Strike Command,

deploying Mirage, Impala and Buccaneer fighter aircraft, through more sophisticated command and control techniques. Furthermore, a mobile system is of particular importance to SAAF operations in Namibia and Angola as the upgrading of static systems in this region at this stage of the struggle would be an act of short-sighted folly for Pretoria's strategists.

A cursory glance at the recent operational record of the SAAF Strike Command is enough to show that the major arena of activity has been in Angola and that contingency plans must be fully prepared for major air operations in other neighbouring states. The SAAF has also been reported as providing logistic support to the South African-controlled Mozambique Resistance Movement operating in remote areas of Mozambique, from where they carry out sabotage and terrorist attacks against economic targets and the civilian population in Mozambique.

### 3. THE PLESSEY SYSTEM

The scale of the Plessey deal suggests that an extensive network of radar and control systems is being shipped to South Africa. Such a network is graphically described in Plessey's own literature:

The system's AR-3D mobile control and reporting units (MRCU) can be geographically arranged as needed to operate under command of the strategic HQ—the air defence operational centre. Mobile radar stations are also suitable for use as tactical sector operations centres, with capability for autonomous control of individual weapon systems allocated to them from the chief operations centre.

Aircraft track data is fed to the strategic HQ automatically from the AR-3D and GF-75 radars, together with further information from special visual observer posts. This total input provides a complete picture of the air situation for the central command staff.

The central command dictates control strategy to the individual radar outposts of the system and in addition has facilities for overriding control of available weapon systems.

Mobility of control and reporting units gives invaluable system adaptability... Inability to respond to variation of attack has been the undoing of inflexible defence systems. But here, both the AR-3D and GF-75 radars employed are lightweight, mobile and air transportable. Thus the radar shield provided can be swiftly strengthened towards any direction of attack.

Significantly, in the 1980-81 edition of *Jane's Weapons Systems* the AR-3D is classified as a weapons system and a detailed description of its military capability is to be found on page 460.

The AR-3D mobile control unit includes the Plessey Series 9 Display Console which relies on a PDP11 mini-computer. It has a range of facilities, including:

- Control of up to four simultaneous computer-assisted air-to-air interceptions
- *Control of up to four simultaneous computer-assisted air-to-ground strikes*
- Provision of early warning coordinates for missile and air defence artillery of hostile targets
- Evaluation of ECM threat and control of ECCM facilities to maximise radar performance
- Reception of meteorological data.

*(emphasis added)*

Two key elements of this system are particularly relevant to the SAAF's requirements. Firstly, the advantages of such a sophisticated *mobile* system which can be rapidly deployed in concentration on key areas for particular attacks ties in with the apartheid regime's aggressive strategy against neighbouring states. While static systems already in operation are capable of monitoring South African air space, mobile systems are

essential for high resolution control of sorties flown deep into neighbouring countries. Secondly, the AR-3D system is clearly not only a defensive system. Its capability to control ground strikes goes beyond the bounds of standard 'air defence'.

### 4. THE BRITISH GOVERNMENT'S ROLE

The Anti-Apartheid Movement first became aware of this Plessey/South Africa contract at the end of July 1979, when it had reason to believe that South African Defence Force personnel were training on a system including PDP11/34 mini-computers at a Plessey plant in England. The AAM wrote immediately to the government asking for the matter to be urgently investigated.

On 2 August 1979, following the AAM's revelation of the presence of SAAF personnel in the UK, the Foreign Office announced that it was urgently investigating the AAM's information but confirmed that Plessey had a contract to supply radar to South Africa for 'civil air traffic control'. The AAM immediately asked the Foreign Office to freeze the licences until a full investigation had been carried out. In Lusaka, the Director of the World Campaign against Military and Nuclear Collaboration with South Africa, Abdul S Minty, appealed to the Prime Minister who was attending the Commonwealth Heads of Government Conference and she gave an undertaking that the matter would be fully investigated.

A month later, on 3 September 1979, Lord Carrington replied, stating that 'the equipment is to be used in the South African combined civil and military air control system'. He explained that 'integration of the operation of national air traffic control systems is standard practice in most countries'.

The influential *Electronics Weekly* magazine commented that Lord Carrington's assertion was true but beside the point. It stated:

Civil and military air traffic control systems within one country must always be linked to avoid collisions between civil and military planes, but air defence radar, which is what we are concerned with here, is usually an entirely separate network... a country as well off and militarily sensitive as South Africa would equip itself with separate air traffic control and defence radar systems.

Lord Carrington also confirmed in his letter to the AAM that SAAF personnel had been training in Britain but explained: 'I do not regard the presence of the SADF personnel (in the UK) as having constituted a breach of the government's policy of non-collaboration with the South African government on military matters since they were here as part of a private arrangement directly between the company and their customers.'

The Director of the World Campaign immediately wrote to the Foreign Secretary expressing both shock and disappointment, and stated 'we cannot accept that the supply of this equipment is not a breach of the arms embargo'. In addition, he sought further information on five specific points. The Foreign Secretary's Private Secretary replied on 11 September, stating that 'it is not for the government to disclose to third parties details of contracts between British companies and their overseas customers'.

Meanwhile, the matter was taken up by the UN Security Council's arms embargo committee at its meeting on 3 October 1979. At the request of the Committee, its chairman sent a *Note Verbale* to the British government on 5 October 1979. The UK government provided a confidential reply on 14 March 1980.

There was further publicity of the contract during the Farnborough International Air Show in September 1980. The Plessey Series 9 Display Console, the system on which the SAAF personnel had received training, was featured on the Plessey stand but was forbidden to public view. A Plessey press release expounded its prowess as a defence system with no mention of any civil application.

On discovery of the shipment taking place on 29 April 1981, both the AAM Chairman, Robert Hughes MP, and the World Campaign against Military and Nuclear Collaboration with South Africa immediately appealed to Lord Carrington to intervene by grounding the South African aircraft. The Foreign Office refused, stating that it was aware of the deal and that it has been properly *licensed* by the Department of Trade. The plane departed, presumably for South Africa, the following day, 30 April.

However, under the Customs and Excise Export of Goods (Control) Order, 1978, under which the arms embargo is enforced, a licence is not required for any radar equipment to be exported to South Africa unless it is 'specifically designed for military use'. Thus, the very granting of a licence implicitly confirms that the equipment is for military use.

The World Campaign subsequently sent a message to Lord Carrington urging the British government to ensure that Plessey should urgently and publicly provide details of all items covered in its South African contract and to 'ensure that all Plessey exports and other forms of cooperation with the South African regime are suspended and if investigations confirm violation of the embargo then those responsible should be prosecuted'.

The Chairman of the Anti-Apartheid Movement, Robert Hughes MP, wrote to the Foreign Secretary on 5 May 1981 asking him to confirm or deny that the equipment witnessed was the AR-3D system. He also sought similar information in parliament on 7 April. Replies to these representations are currently awaited.

## 5. US AND IRISH CONNECTIONS

The supply of this Plessey radar system also involves the United States administration directly, because of the inclusion of PDP11 mini-computers in the Plessey Series 9 Display Consoles which are built into the AR-3D mobile control units.

The PDP11 computers are produced by Digital Equipment Corporation, a US company based in Massachusetts. The sale of US computers to the South African military and police was prohibited by the US in 1978 under measures introduced following the adoption of the UN mandatory arms embargo in November 1977.

It is probable that the computers were actually manufactured in Ireland by a subsidiary of DEC, Digital Equipment International, which is based in Galway. The company has not denied that it supplied the PDP11s to Plessey. Indeed, the Plant Manager admitted that Plessey was classified as an 'Original Equipment Manufacturer' (OEM) by Digital. An OEM is, he explained in correspondence with the Irish AAM, a customer who buys 'from us, adds value and sells the equipment to their end user at their own risk and in their own name, the responsibility for the sales being entirely theirs'. The OEM is responsible for applying for a US Department of Commerce export licence if it wishes to re-export the equipment, he added.

According to information obtained under the US Freedom of Information Act by the Quaker-sponsored group, NARMIC, based in Philadelphia, the US State Department sought information about the involvement of DEC

immediately following the revelation of the contract by the AAM in July 1979.

*Notes Verbales* were sent to the US and Ireland by the Chairman of the UN Security Council arms embargo committee on 5 October 1979.

There is no evidence that the US administration has acted to stop the incorporation of PDP11 mini-computers in the AR-3D radar units being exported to South Africa, despite representations by the AAM, the World Campaign and the UN Security Council arms embargo committee.

Further representations were made to the new US administration, as well as to the Irish government, on 5 May 1981.

Furthermore, the aircraft that are involved in transporting the equipment to South Africa are Lockheed Hercules L100-30, supposedly civilian aircraft which are almost identical to the C-130 military version operated by the SAAF. Fifteen L-100s are operated by the state-controlled company, SAFAIR, which is effectively an element of the SAAF's Air Transport Command (and is listed as such by the authoritative *Flight International* magazine).

In March 1976, the AAM made representations to the US administration in an effort to halt the export of the L100-30s to South Africa. The US government refused, arguing that they were for commercial use. The World Campaign has also appealed to the US administration to halt the supply of spares for these aircraft in the light of the revelation of their use by the South African military.

## 6. CONCLUSION

It is ironic that on 30 April, the very day that components of this Plessey military mobile radar system were flown out of Hurn Airport, the United Kingdom delegation at the UN Security Council vetoed a series of resolutions on Namibia, including a resolution specifically strengthening the UN mandatory arms embargo.

The 'Plessey Case' confirms our conviction that the UN arms embargo needs to be strengthened and strictly enforced. In particular, we believe that —

- an urgent investigation needs to be carried out by the UK government into how these licences were granted for the export of this radar system
- there should be an immediate halt to all further deliveries in connection with this radar system, the cancellation of the contract and the severance of all links between Plessey and the South African military and its agencies
- all relevant documents, including the export licence application, should be published
- the US and Irish administrations should fully investigate how PDP11 computers have been incorporated into the system which is being exported to South Africa and take action to stop any further deliveries
- the UN mandatory arms embargo should be strengthened and strictly applied, and that the UK government should take immediate action to ensure that all equipment classified as being of strategic or military application should be embargoed for South Africa
- states and other customers committed to international action against apartheid, which have relations with Plessey, should review them in the light of the information contained in this report.



*A collapsible mobile radar component of the AR-3D radar system being loaded onto a Hercules L100-30 aircraft, registration ZS-RSE, owned by SAFAIR on 29 April 1981 at Hurn Airport, Bournemouth, England*

*A mobile control unit of the AR-3D Plessey military radar system being loaded onto ZS-RSE also on 29 April 1981*

