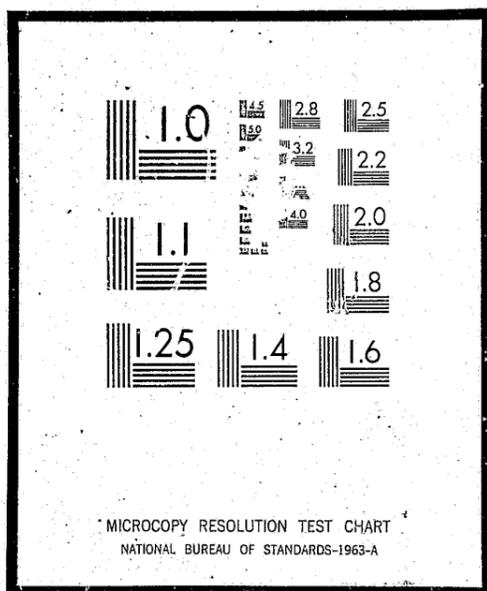


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## IMPLICATIONS OF TECHNICAL CHANGES

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## COMPUTERS FOR COMMAND AND CONTROL

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The Police Service in Britain has evolved from the principle that the preservation of law and order is the responsibility of all citizens. Although the active involvement in the prevention and detection of crime and maintenance of the Queen's peace is undertaken by a professional body we know as a police force, there is a general requirement beholden on all citizens as "leige subjects of Her Majesty to actively assist in the preservation of the Queen's peace and the apprehension and detention of all offenders" - Blackstone.

A modern democratic bureaucratic state enacts a vast amount of legislation controlling, restricting and directing the lives of its citizens. The policing of this multifarious libra has been delegated to bodies other than the professional police. The police in turn have acquired legal responsibility for much social as well as criminal legislation. The quasi-police bodies operate on a national and local level and vary from complex organisations such as the Inland Revenue and Customs and Excise, to Departments of Local Authorities concerned with consumer protection and public health.

Today, we see that the terms of reference and organisational objectives of a police force go far beyond the original objectives of prevention and detection of crime and maintenance of the Queen's peace. With so much to choose from within the terms of reference some form of priority policing needs to be established, but against the back-cloth of a wider obligation to those responsibilities devolved to the police by legislation and historic precedent.

To talk of the police service itself is a misnomer when there are forty-three separate autonomous police forces in England and Wales, each the responsibility of their own police authorities. The police authority consists of some two thirds elected representatives of the populace and one third representatives of the Justice of the Peace for that police area. To provide some form of rationality and continuity, the Home Office exerts influence on all police forces through fiscal rather than executive means in that the various police forces are funded from first tier local authority sources, with fifty to sixty percent of approved police expenditure being reimbursed by the Exchequer.

The situation therefore exists of a police service fragmented yet co-operative, with local control, using traditional, historic methods of policing, which normally reflect the wishes and consensus of the populace. Against this back-cloth of tradition and reluctance bordering on almost resistance to change, both social and technological, the entry of the police service into the computer field must be viewed.

#### Command and Control Computers

The use of Command and Control Computers by police forces has been described as a revolutionary leap forward from nineteenth century policing to that required in the twenty-first century.

Technology has made possible a quantifiable aspect of policing that hitherto has been the province of intuition, flair and experience. Police Forces have been since their inception, prolific diarists, documenting vast amounts of information, some of which is put to subsequent, limited operational use.

The police forces have become the repository of case files, complaints, crimes, incidents, accidents, human achievements and above all else, human failings. All this information is contained somewhere in the archives of police forces. It is not related and with present manual recording systems, is not physically capable of being related. There is therefore a considerable information gap and information loss to the police organisation.

The term 'command and control' has no universal meaning and can be interpreted in as many ways as it is generally used. In the context of the use of a computer for operational police purposes command and control may be defined as "the deployment, direction and co-ordination of police resources in response to calls for service and in the performance of other operational duties." Therefore, a command and control computer system is basically:-

1. A communication system.
2. A deployment system.
3. A management information system.

A command and control computer system involves the use of a dedicated real time computer which is housed in police buildings and operated by police personnel. Probably the best known applications of real time computers in Britain today are those systems operated by British Airways and the London hospitals.

The first police command and control computer system in Britain went operational in 1972, as a joint experiment by the Home Office and the former Birmingham City Police Force. The Home Office provided finance for the project for both the hardware, that is the computer machinery itself, and the software, that is the programmes that go into the computer. This was the first of three experiments, the second being in Glasgow, and the third in Staffordshire. As the experiments developed so the systems involved became more comprehensive, capitalising on the evaluation and knowledge gained from the initial Birmingham project.

The Birmingham experiment covered a limited amount of police resources namely those mobile and foot units employed on uniform or ground cover activities and in the main recorded the incidents to which those units were deployed as a result of requests from the public or those discovered by police patrols.

The Glasgow experiment which is due to go operational later this year was more comprehensive and utilised other electronic aids to compliment and enhance the capability of the computer

system. In Staffordshire, which is due to become operational in 1976, the requirements of a county as opposed to a city force are being examined. When one considers that the majority of police forces in Britain are of a county type, i.e. a force that has a mixture of rural and urban policing, the experiment of the application of a command and control computer to a typical county force would be of great value to the police service as a whole. The Staffordshire experiment is the most comprehensive of all the experiments in that the total resources of a force together with not only their deployment, but also their activity will be measured and processed by the computer.

#### Operational Use

For the purpose of brevity in describing the main features of the command and control system much technical detail will need to be omitted and the bare bones only will be mentioned.

#### Communications

As mentioned the command and control system is a communications network with the ability to be controlled and managed from a central control room or any of the satellite control rooms. To simplify matters I will take as an example a mythical force, the Blankshire Constabulary, which has a strength of 1,000 policemen, and is divided into four divisions having a centralised '999' system to the force control room situated in Headquarters. (See Appendix 'A') Each divisional station, together with the force control room at Headquarters will be connected to the computer by a visual display unit or V.D.U., which consists of a television screen with a typewriter type keyboard underneath. When a '999' call is received at the central control room instead of writing down the message the control operator will type the relevant details into a pre-headed incident format which will appear on his V.D.U. screen. By another system the disposition of police resources in the vicinity of that incident will be shown on the V.D.U. screen. The control room operator can then despatch by radio the nearest or most suitable police resource to deal with the incident.

As the majority of police forces operate on a two-tier system of resource allocation, i.e. force mobiles which are controlled on V.H.F. radio deployed from the Headquarters control room, and U.H.F. resources, i.e. panda cars and foot officers which are deployed by local stations, there is a need to transmit the information concerning an incident from the force control room at Headquarters to the local stations. The control room operator having despatched his force resource for the initial response to the '999' call will then send the incident which he has completed on his V.D.U. screen to the V.D.U. screen situated in the divisional control. The divisional controller at the local station will be notified that there is a message for him by a flashing light and audible alarm on his V.D.U., the local controller then presses an acceptance key on his V.D.U. and there will appear the same incident picture format that had been completed by the control room operator at Force Headquarters. The V.D.U. screen of the local controller will also show the disposition of the local resources and he will be able to deploy those local resources by radio to

back up the initial action taken by Headquarters. The force control room operator having entered the initial message onto his V.D.U. screen, could send the complete incident as recorded, to the local divisional controller without deploying any force vehicles, thus leaving the local controller to take all action with his local resources. In all cases the incident format on the V.D.U. screen will be completed by the local controller who after entering the result of the incident, will terminate the incident, the details of which will be stored in the computer.

The decision to deploy police resources either centrally, locally, or both, will be taken by the controller at the Force Headquarters control room, and will depend on the severity, importance and urgency of the response required to the emergency call.

#### Vehicle Location Systems

The facility to give real time accurate information concerning the location, availability and activity of police resources requires constant update from the patrolling officer to the computer. To satisfy this requirement and avoid the vast amount of radio air time this would entail with present radio procedure, encoders will be fitted to vehicles and pocket radios. These electronic devices will by means of a coded signal enable an officer in a vehicle or on foot to notify the computer of changes in his location, availability and activity. This information will be input direct to the computer without the necessity for normal speech transmissions between the officer and his controller.

#### Management Information

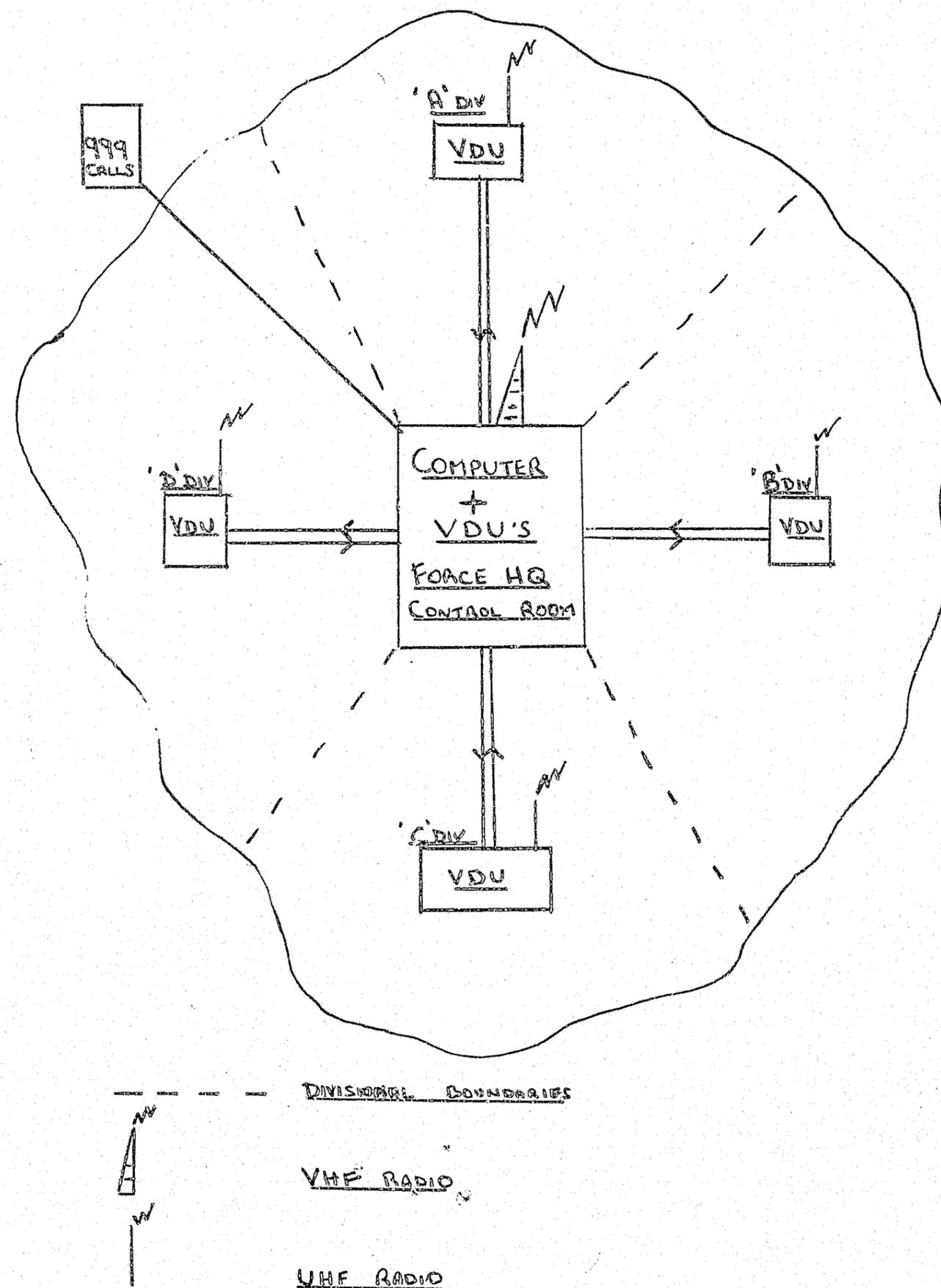
The computer will store details of all police resources on duty at a given period of time; it will record what incidents have been dealt with by those resources and what kinds of duty the officers have performed. The computer will also show where crimes, accidents and other events have occurred, together with the patrol patterns of mobile and foot officers. With such a comprehensive data base of operational information, supervisory officers can see how the operational performance of officers compares with the demands for police services and view these against the back-cloth of reported crimes and incidents.

For the first time in the history of the police service, the effectiveness of policing can be measured by analysis of area and function. This facility will give an unprecedented degree of management information which if used correctly, could radically alter a great deal of the philosophy of traditional policing methods.

It is not good enough for a police force to be simply cost effective. The police service has a duty to interpret and fulfil the needs of the society it serves. Such needs will vary with

the different economic, social and ethnic groupings that exist within a given society. Above such differences is the imposed universal consensus made manifest by the law of the land through Parliament. Future police forces should, through technology be more technically equipped to deal with the demands of an ever changing society. The inherent danger in increased technical efficiency is that the police service may lose the personal and humane aspect of its organisational character which may be in the long term its greatest asset.

# BLANKSHIRE POLICE AREA



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