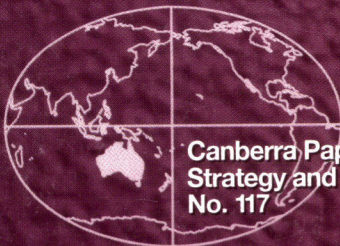


# SIGNALS INTELLIGENCE (SIGINT) IN SOUTH ASIA

*India  
Pakistan  
Sri Lanka (Ceylon)*



Canberra Papers on  
Strategy and Defence  
No. 117

*Desmond Ball*



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## ABSTRACT

This monograph is a study of signals intelligence (SIGINT) activities in South Asia. It describes the history of these activities from the early stations set up in India by the British, through intelligence operations during the Second World War and during the three India-Pakistan wars, to Sri Lanka's operations against Tamil militants. It also describes the higher command and management structures and the intelligence establishments in India, Pakistan and Sri Lanka; the organisational aspects of the numerous agencies involved in SIGINT activities, and their facilities and capabilities; and it discusses the efficiency of the SIGINT organisations in the three countries, as well as their operational effectiveness.

**Professor Desmond Ball** is a professor in the Strategic and Defence Studies Centre at the Australian National University. He is the author of more than 200 academic monographs and articles on nuclear strategy, nuclear weapons, national security decision-making, security developments in the Asia-Pacific region, and Australia's defence policy. His major books include *Politics and Force Levels: The Strategic Missile Program of the Kennedy Administration* (University of California Press, Berkeley, 1980); *A Suitable Piece of Real Estate: American Installations in Australia* (Hale & Iremonger, Sydney, 1980); *A Base for Debate: The US Satellite Station at Nurrungar* (Allen & Unwin, Sydney, London and Boston, 1987); *Pine Gap: Australia and the US Geostationary Signals Intelligence Satellite Program* (Allen & Unwin, Sydney, 1988); and *Signals Intelligence in the Post-Cold War Era: Developments in the Asia-Pacific Region* (Institute of Southeast Asian Studies (ISEAS), Singapore, 1993). He is the co-author of *The Ties That Bind: Intelligence Cooperation Between the UKUSA Countries* (George Allen & Unwin, Sydney, London and Boston, 1985, 2nd edn 1990); *Defend the North: The Case for the Alice Springs-Darwin Railway* (George Allen & Unwin, Sydney, 1985); *Crisis Stability and Nuclear War* (American Academy of Arts and Sciences, and Cornell University Peace Studies Program, Ithaca, New York, 1987); and *Presumptive Engagement: Australia's Asia-Pacific Security Policy in the 1990s* (Allen & Unwin in assoc. with the Department of International Relations, Australian National University, Sydney and Canberra, 1996). He is editor of *The Future of Tactical Air Power in the Defence of Australia* (Australian National University, Canberra, 1977); *Strategy & Defence: Australian Essays* (George Allen & Unwin, Sydney, 1982); *The ANZAC Connection* (George Allen & Unwin Sydney, 1985); *Air Power: Global Developments and Australian Perspectives* (Pergamon Brassey's Defence Publishers, Sydney, 1988); *Aborigines in the Defence of Australia* (Australian National University Press, Sydney, 1991); and *The Transformation of Security in the Asia/Pacific Region* (Frank Cass, London, 1996). He is co-editor of *Problems of Mobilisation in the Defence of Australia* (Phoenix Defence Publications, Canberra, 1980); *Civil Defence and Australia's Security in the Nuclear Age* (Strategic and Defence Studies Centre, Australian National University, Canberra, and George Allen & Unwin, Sydney, 1983); *Strategic Nuclear Targeting* (Cornell University Press, Ithaca, New York, 1986); *A Vulnerable Country? Civil Resources in the Defence of Australia* (Australian National University Press, Canberra, 1986); *The Future of Arms Control* (Australian National

University Press, Sydney, 1986); *Geographic Information Systems: Defence Applications* (Pergamon Brassey's Defence Publishers, Sydney, 1989); *Security and Defence: Pacific and Global Perspectives* (Allen & Unwin, Sydney, 1990); and *Strange Neighbours: The Indonesian-Australian Relationship* (Allen & Unwin, Sydney, 1991).

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## ACRONYMS AND ABBREVIATIONS

ACSEA	Air Command South East Asia
AFSS	Air Force Security Service
AIRMS	All-India Radio Monitoring Service
ALFSEA	Allied Land Forces South East Asia
ARC	Aviation Research Centre
ASEAN	Association of Southeast Asian Nations
ASW	anti-submarine warfare
AWACS	airborne warning and control system
BP	Bletchley Park
BSF	Border Security Force
CB	citizens' band
CDAA	circularly disposed antenna array
CIA	Central Intelligence Agency
CMIA	Chief Military Intelligence Advisor
CMO	Central Monitoring Organisation
COMINT	communications intelligence
COMSAT	communications satellite
COMSEC	communications security
DRDO	Defence Research and Development Organisation
DERL	Defence Electronic Research Laboratory
DF	direction finding
DMI	Directorate of Military Intelligence
DSB	Defence Signals Bureau
ECIL	Electronics Corporation of India Limited
ELINT	electronic intelligence
EPRLF	Eelam People's Revolutionary Liberation Front
EROS	Tamil Revolutionary Organisation of Students
ESM	electronic support measure(s)
ETS	Electronic Technical Section
EW	electronic warfare
EWSC	Eastern Wireless Sub-Centre
FECB	Far East Combined Bureau
FM	frequency modulation (radio)
FRUMEL	Fleet Radio Unit, Melbourne
GCCS	Government Code and Cypher School
GHQ	general headquarters
GHz	gigahertz

GRU	Chief Intelligence Directorate
HQ	high frequency
HQ	headquarters
HUMINT	human intelligence
IAF	Indian Air Force
IB	Intelligence Bureau
IBP	Intelligence Bureau of Pakistan
IBS	Intelligence Branch at Simla
IMINT	imagery intelligence
INMARSAT	International Maritime Satellite
IPKF	Indian Peace-Keeping Force
ISI	Inter-Services Intelligence
ISRO	Indian Space Research Organisation
ISSU	Inter-Services Signals Unit
ISWS	Indian Special Wireless Section
ITU	International Telecommunication Union
IWIS	Indian Wireless Intelligence Service
JCEC	Joint Committee on Electronics and Communications
JIC	Joint Intelligence Committee
JSIB	Joint Services Intelligence Bureau
JVP	Janatha Vimukthi Peramuna (Sinhala Marxist Party)
KGB	Committee for State Security
KHAD	Khidamate Aetilaati Daulati (Afghani security and intelligence organisation)
kHz	kilohertz
km	kilometre(s)
LF	low frequency
LTTE	Liberation Tigers of Tamil Eelam
MF	medium frequency
MI	Military Intelligence
MID	Military Intelligence Directorate
NCO	non-commissioned officer
NEI	Netherlands East Indies
NIB	National Intelligence Bureau
NSA	National Security Agency
NSG	National Security Guards
OB	order of battle
OFC	Overall Force Commander
ORBAT	order of battle
PAF	Pakistan Air Force

PHOTINT	photographic intelligence
PLOTE	People's Liberation Organisation of Tamil Eelam
PPP	Pakistan People's Party
R/T	radio telephony
RAF	Royal Air Force
RAW	Research and Analysis Wing
RFP	Radio Finger-Printing
RMS	root mean square
SATCOM	satellite communications
SCU	Special Communications Unit
SEAC	South East Asia Command
SFF	Special Frontier Force
SID	Signals Intelligence Directorate
SIGINT	signals intelligence
SIGSEC	signals security
SLU	Special Liaison Unit
SPG	Special Protection Group
SSO	Special Security Officer
TELINT	telemetry intelligence
TELO	Tamil Eelam Liberation Organisation
UHF	ultra high frequency
UK	United Kingdom
UKUSA	United Kingdom and United States security arrangements
US	United States
USAFSS	US Air Force Security Service
USEUCOM	US European Command
USSR	Union of Soviet Socialist Republics
VHF	very high frequency
VIP	very important person
VoA	Voice of America
W/T	wireless telegraphy
WEC	Wireless Experimental Centre
WED	Wireless Experimental Depot
WPC	Wireless Planning and Coordination Cell
WU	Wireless Unit
WWSC	Western Wireless Sub-Centre

## INTRODUCTION

Signals intelligence (SIGINT) activities in South Asia date back to the very beginning of the SIGINT age. Before the First World War, Britain had established SIGINT stations at Simla in India and Abbottabad in the North-West Frontier (and now in Pakistan) to intercept communications from as far afield as Persia (Iran), Russia, Azerbaijan, China, Burma and Southeast Asia. During the Second World War, SIGINT activities in India and Ceylon were extremely important in the British operations against Japanese forces on the western side of Southeast Asia. British SIGINT activities were maintained in South Asia after the war, but were discontinued when India and Pakistan gained their independence in 1947 and Ceylon (Sri Lanka) in 1948.

India and Pakistan, however, moved fairly quickly after they achieved independence to establish indigenous SIGINT capabilities and operations. During the first India-Pakistan war (October 1947-December 1948), both the Indian and Pakistani armies utilised SIGINT in important tactical operations. In the second and third India-Pakistan wars (August-September 1965 and December 1971), SIGINT provided both India and Pakistan with extensive and often extremely important intelligence at the strategic, operational and tactical levels.

The Pakistani SIGINT establishment is probably the most cost-effective in the region. In comparison, for example, India's SIGINT establishment is several times larger in terms of personnel and resources, but the performance of the Pakistani SIGINT establishment is probably just as good. The Indian SIGINT effort lacks coordination and has become too politicised, and needs to be profoundly reconstituted if it is to become more effective.

Sri Lanka's SIGINT capabilities are quite rudimentary, but they have been critical in the government's successes against the Tamil militants in northeast Sri Lanka, who have been fighting for an independent Tamil homeland since the early 1980s, but who have used unsophisticated radio communication systems and poor communications security (COMSEC). The second half of chapter 3 provides an interesting study of the role of SIGINT in counter-insurgency warfare.