

POLICE NEGOTIATION TEAM

LONG RANGE ACOUSTIC DEVICE (LRAD)

STANDARD OPERATING PROCEDURES



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LRAD 100X

SOP Title	Police Negotiation Team (PNT) Standard Operating Procedures LRAD 100X Equipment
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Review Responsibility	PNT National Capability Advisor
Replaces	Previous LRAD material on District basis
Associated General Order	None
Inquiries to	PNT National Capability Advisor

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1 POLICY STATEMENT

The Long Range Acoustic Device 100X (LRAD) is a long-range communication device that can easily be heard over the background noise of vehicles, vessels, sirens and boisterous crowds to ensure the messages and commands are heard and clearly understood.

The device provides directional communication and also has a warning (aversion) tone that provides a non-lethal deterrent, shapes behaviour and supports intent.

The device may be used in all weather conditions.

Police Negotiation Team (PNT) members have access to:

- » The LRAD - a portable, self-contained, hand-held or self-standing device, 20-30 decibels (dB) louder than most megaphones and is designed for use over distances up to 1000 metres to ensure clear and loud voice communication for distinct understanding. The device is battery operated.
- » The wireless and cellular telephone capability operating in conjunction with the above.
- » The magnetic vehicle mount to support the operation of the above.

Scope

This policy relates to all PNT members using the LRAD.

2 PROCEDURES and LIMITATIONS

PNT members who have undertaken the national PNT qualification course, and who are certified in the use of the LRAD, may use the device.

The PNT member responsible for using the LRAD will ensure that, upon return, the equipment is dismantled and stored correctly.

The LRAD should be inspected regularly and, if damage or defect is located, the relevant PNT Commander, PNT equipment portfolio holder or LRAD lead will undertake remedial action.

Ear Protection:

- » Hearing protection should be utilised in conjunction with deployment of the LRAD, particularly for those deployed forward of it or operating in the vicinity.

Carriage:

- » The LRAD – is portable and may be carried by one person.

Wireless and Cellular Telephone Capability:

- » The LRAD has both a wireless and cellular telephone capability which can be utilised in conjunction with the main piece of equipment.

Magnetic Vehicle Mount:

- » The LRAD comes with a magnetic vehicle mount which can be utilised as appropriate.

3 DEPLOYMENT

The deployment of the LRAD should be considered in any incident where there is a need to amplify over distances up to 1000 metres and/or to ensure communication is heard, such as those incidents where a bull-horn is normally used.

When deploying the LRAD at an incident, the following guidelines should be followed:

- » The device must be stable when set-up. The supplied tripod should be used when applicable, equally the equipment is capable to being deployed hand held.
- » The device should not be operated without ear protection.
- » The capabilities and limitations of the device, including volume, direction and aversion tone, should be outlined to the Incident Controller, or other command and control structure pursuant to the coordinated incident management system (CIMS).
- » Authority of the PNT Commander, or duty PNT Commander, in conjunction with the Incident Controller, or other command and control structure pursuant to the coordinated incident management system (CIMS), should be obtained before deploying forward with the LRAD.
- » When PNT is deployed forward with the LRAD, a TENR assessment should be undertaken and appropriate measures taken.

The LRAD must be dismantled and stored correctly ensuring that batteries are charged as required. Care should be taken not to overcharge batteries (leave on charge for more than 24 hours).

The aversion tone should not be deployed without authorisation from the PNT Commander (or duty PNT Commander) in conjunction with the Incident Controller, or other command and control structure pursuant to the coordinated incident management system (CIMS).

The operational use of the LRAD aversion tone must be reported to the relevant PNT Commander as soon as practicable. This is to allow the "no surprises" policy to be complied with should the use of the aversion tone be highlighted in any forum.

Volume control should be carefully considered before using the LRAD.

The LRAD should not be used when anyone is within 10 metres of the front of the device unless it is believed that person poses a threat of bodily harm to any person and the incident cannot be immediately resolved without a lower use of force.

An assessment of staff and public welfare should be undertaken in relation to all those working in front of the LRAD. Factors to consider are:

- » Distance from the LRAD.

- » Volume control.
- » Necessity of using the LRAD.

4 TRAINING

Initial certification must be done in conjunction with the PNT National Capability Advisor and their recommendation of a suitability trained and skilled LRAD operator.

All PNT members must be qualified members of PNT and be certified as competent in the use of the LRAD prior to using it.

All PNT members must be certified biennially.

Re-certification can be undertaken by the District PNT upon completion of the original training.

The PNT validation process will include the knowledge and use of the LRAD.

5 REFERENCES

Police Negotiation Team National Operating Guidelines.
LRAD operating manual.
LRAD deployment and use guide.

6 DOCUMENT HISTORY

Date	Action
27 April 2021	Entire Document review due to national release.

EQUIPMENT – LRAD 100X SET-UP COMPETENCY CHECKLIST

NAME		DATE		PRACTICE / ASSESSMENT		
Initial Certification	Yes / No	Recertification	Yes / No			
Performance Criteria					✓	
Demonstrated preparation of LRAD 100X <i>Includes connecting to power (mains and battery), attaching cable, MP3 player</i>						
Demonstrated preparation of hearing protection <i>Includes safety, use of headphones and earplugs</i>						
Demonstrated preparation of microphone <i>Includes connecting to unit, correct volume control</i>						
Demonstrated use of LRAD 100X <i>Includes use of microphone, MP3 player, aversion tone</i>						
Demonstrated securing of kit <i>Includes packing, security and care, wiping down of microphone</i>						
Demonstrated use of wireless capability <i>Includes wireless capability and associated safety aspects</i>						
Demonstrated use of cellular telephone capability <i>Includes cellular telephone capability and associated safety aspects</i>						
Demonstrated use of aversion tone and impact <i>Includes knowledge of safety procedures, seeking authorisation for use</i>						
Demonstrated understanding of use of LRAD magnetic mount <i>Includes set up and take down and use</i>						
Demonstrated wider safety aspects of utilising the LRAD <i>Includes operating in a PNT alone capacity and joint deployments with other specialist squad eg SAR and AOS</i>						
Demonstrated use in a negotiation <i>To be undertaken in a scenario with negotiation tactics and techniques utilised including contingency planning</i>						
COMMENTS						
LRAD SET UP COMPETENCY		NA	NC	C-	C	C+

Name of Assessor

Signed

Date

Guide

- NA *Not assessed*
- NC *Did not demonstrate mandatory factors. NOT considered competent*
- C- *Demonstrated mandatory factors in acceptable manner but could improve*
- C *Demonstrated mandatory and other factors in acceptable manner*
- C+ *Demonstrated mandatory and other factors well*



HAZARD RISK MANAGEMENT TOOL

Occupational Health Welfare and Safety and Injury Management, Hazard management

WORK GROUP: Police Negotiation Team		DATE:		Assessment Number:				
STATION:								
Plant		New		Name / Description / Item / Tasks / location of plant etc:	The Long Range Acoustic Device 100X (LRAD) used as an amplifier and/or aversion over long distances. Used by PNT to make contact, be heard, issue instructions and/or use aversion; stored in vehicle or PNT squad room. Also comes with wireless and cellular telephone and vehicle mount capability.			
Substance		Modified						
Manual Handling		Existing						
OTHER (task/job)		Review						
ASSESSMENT TEAM								
Rank / Classification	Name	ID	Signature					
Risk Assessment			Action Plan					
Identify process steps and associated hazards	List hazard current control measures	Risk Ranking <small>(use Table 3 below)</small>	Risk Accepted Yes or No	Recommended hazard control measures (IF risk ranking is NOT accepted)	Who will action?	By when? (Date)	Complete Yes or No	Mitigated risk ranking <small>(use Table 3 below)</small>
Carrying set-up and dismantling of LRAD and associate accessories – manual handling injury	ADMINISTRATIVE: Current manual handling measures Training	LOW	Yes					
Deployment of LRAD and associated accessories – manual handling injury, tripping	ADMINISTRATIVE: Current manual handling measures Cable positioned safely Training	LOW	Yes					
Deployment of LRAD and associated accessories – deploying forward	PPE: Ballistic equipment to be utilised Consider AOS operator being present as appropriate ADMINISTRATIVE:	SIG	YES					



HAZARD RISK MANAGEMENT TOOL

Occupational Health Welfare and Safety and Injury Management, Hazard management

	Not to deploy forward without the authority of the PNT Commander or duty PNT Commander, Incident Controller or other CIMS command and control structure Undertake TENR.							
Use of LRAD and associated accessories acoustic – hearing damage	PPE: Ear protection to be worn in applicable circumstances Consideration to be given to community impact assessment factors ADMINISTRATIVE: SOP - Not to stand within 10 metres of front of device when being used Aversion tone only to be used in short bursts (1-5) seconds with break in between Training	LOW	Yes					
Use of distancing cable (50m) – tripping	ADMINISTRATIVE: SOP - Cable positioned safely Use of cable protectors as required (eg over roads, driveways) SOP – Training	LOW	Yes					
Hygiene - multiple users using microphone contacting mouth	PPE: Alcohol wipes to be supplied to wipe down rubber mouth piece on microphone before/after use.	LOW	Yes					
The highest rated risk must be recorded as the overall rating				OVERALL RATING			SIGNIFICANT	
Recommendations Authorised		Recommendations Not Authorised		Manager's signature:				
Date to be reviewed: / /		Note: Ensure if plant or substance that the Register is updated						
COMMENTS (Insert photo if appropriate eg plant)								



HAZARD RISK MANAGEMENT TOOL

Occupational Health Welfare and Safety and Injury Management, Hazard management

LIKELIHOOD: Table 1		CONSEQUENCE OR IMPACT: Table 2	
Descriptor	Description	Descriptor	Example detail description
Almost Certain	The event is expected to occur in most circumstances-99% chance	Insignificant	No injuries or first aid only
Likely	The event will probably occur in most circumstances-50% chance	Minor	Hospitalised, medical treatment or first aid but no permanent disability, lost time less than a day
Possible	The event should occur at some time-years to decades-20% chance	Moderate	Hospitalised, medical treatment required, but no permanent disability, lost time injuries less than 5 days
Unlikely	The event could occur at some time-years to decades-1+% chance	Major	Actual or potential for moderate permanent disability, lost time injuries less than 10 days
Rare	The event may occur only in exceptional circumstances-100 years <1% chance	Catastrophic	Actual or potential for fatalities, or severe irreversible disability (greater than 30%)

RISK ANALYSIS MATRIX - LEVEL OF RISK: Table 3					
Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	Moderate	Significant	Significant	High	High
Likely	Moderate	Moderate	Significant	Significant	High
Possible	Low	Moderate	Moderate	Significant	Significant
Unlikely	Low	Low	Moderate	Moderate	Significant
Rare	Low	Low	Low	Moderate	Significant

LEGEND

High = Deal with immediately. Manager to monitor and manage.

Significant = Interim action w/in 24 hours. Manager will monitor and manage.

Moderate = Monitored by Section/Unit manager. Interim measures in place within a month.

Low = Monitored by a supervisor, Section/Unit manager. May take months to resolve. Some low risks may be acceptable but should be monitored to ensure the rating does not change.

HIERARCHY OF CONTROLS

1. Elimination Are the tasks or process necessary? **If YES go to step 2**
2. Substitution Is it possible to replace the hazardous plant, equipment, or work process with a less hazardous means or process? **If NO go to step 3**
3. Engineering Is it possible to reduce the risk by isolation or physical controls: i.e. distance or enclosure, redesign the tasks, guarding, maintenance etc.? **If NO go to step 4**
4. Administration Is it possible to reduce the risk with administrative controls: i.e. using a standard operating procedure, providing supervision, job rotation, signage etc? **If NO go to step 5**
5. Personal Protective Equipment (PPE) Can the risk be reduced by use of protective clothing: i.e. gloves, glasses, boots, respirator etc?