M

Magnetic North	North as given by a magnetic compass (see: *Grid North*).
Maintenance Demand	A request for maintenance from Royal Australian Electrical and Mechanical Engineers (RAEME) personnel (see: *Light Aid Detachment*).
Manager Operations Offensive Support Course	(see: *Warrant Officer Gunnery Course*)
Manhole	The radio appointment title for an RSM or a BSM (the term 'Pacestick' is not an official appointment title).
Map Data	The relevant map information from the battery centre to the grid reference defining the target location (see: *Battery Centre*).
Map Range	The horizontal distance from the gun to a point vertically above or below the target. When a range is obtained by firing it is referred to as a 'Reduced Range'.
Map Reference	(see: *Grid Reference*)
Master Gunner	A warrant officer class one who is posted into a technical gunnery and/or instructional position (as opposed to a warrant officer class one in the position of a regimental sergeant-major (RSM)). Prior to early 1981 a warrant officer class one posted into an instructional posting at the School of Artillery was referred to as a senior assistant instructor-in-gunnery (senior Ack IG). In a unit that has both positions (eg. the School of Artillery) the RSM is the senior position (see: *Regimental Master Gunner*).
Master Gunner, St James's Park	The (British) head of the Royal Regiment of Artillery in all regimental matters and the channel of communication between the Regiment and the Monarch (see: *Captain-General*). The appointment is held by a distinguished Royal Artillery senior officer and has an honorary status over all British Commonwealth artilleries.
Mean Point of Burst	The point whose coordinates are the arithmetic average, or the mean of the coordinates, of the separate point of impact of a restricted number of projectiles fired, or released, at the same aiming point under a given set of conditions (see: *Mean Point of Impact*).
Mean Point of Impact	The point whose coordinates are the arithmetic average, or mean of the coordinates of the separate point of burst of a restricted number of projectiles fired, or released, at the same aiming point under a given set of conditions (see: *Mean Point of Burst*).
Mechanical Time Fuze	A fuze which operates by means of a clockwork mechanism and is designed to cause the projectile to function (eg. detonate) before impact.

	Some mechanical time fuzes can also be set to detonate on impact (Mechanical Time Super Quick Fuze – MTSQ).
Medium Artillery	(see: *Field Artillery*)
Met Message	(see: *Meteorological Data*)
Meteorological Data	Information that is essential for conducting predicted fire to successfully engage targets; it enables corrections to be made for the non-standard wind speed, wind direction and temperature. Artillery gun position command posts combine meteorological data with other relevant data for non-standard conditions to produce the correction of the moment. The Data is provided to the gun command posts by way of a 'Met Message' (see: *Correction of the Moment*).
Meteorological Datum Plane	A composition of the temperature, pressure, humidity, wind speed and wind direction at ground level.
Meteorology	The science of the properties and conditions of the atmosphere. Meteorology is very important to ballistics and field artillery gunnery as the conditions of the atmosphere have a considerable effect on the flight of the projectiles.
Meteorology Troop	A unit of Artillery surveyors who provide the meteorology data to the guns, via the gun command post.
Mils	In the Australian Defence Force mils are used for the measurement of angles. There are 6400 mils in a full circle (the equivalent to 360 degrees). In Russia a circle is made-up of 6000 mils.
Minimum Safe Distance	The closest distance to friendly troops that artillery fire can be deployed.
Minimum Safe Fuze Setting	The minimum setting that may be applied to a projectile's time fuze taking into account the location of friendly troops.
Misfire	The detachment commander orders (the number of the gun …) "Misfire" to the GPO when the gun has failed to fire and the appropriate drills have been carried-out.
Missile	A term used loosely for both free-flight or 'ballistic' rockets (ie. those following a ballistic path) and also for guided weapons (eg. a surface-to-air missile).
Mortar	An ordnance solely for high angle fire, normally mounted on a simple carriage, the shock of discharge being transmitted directly to the ground. It is usually a smooth bore, muzzle loaded equipment which fires a fin-stabilised bomb at a low muzzle velocity (there are rifled mortars, but these have never been employed within the Australian Army).
Mortar Report	(MORTREP) A hostile mortar report listing information on the location, type of mortars, etc.
Most Consistent Charge	A charge, which at the relevant selected range, will produce the smallest probable error for range (see: *Probable Error*).

Muzzle	The front-end of a barrel.
Muzzle Brake	A device, attached to the muzzle of a gun, which utilizes escaping propellant gas (when the gun is fired) to reduce the recoil stresses of the gun (eg. 25 Pounder Mk 3, L5 Pack Howitzer, 105mm Light (Hamel) Gun) and the 155mm M198 Howitzer.
Muzzle-loading	Guns/cannons that had the propelling charge and projectile loaded through the barrel's muzzle.
Muzzle Velocity	The measured velocity with which a projectile leaves the muzzle of a gun when fired. The velocity varies for each charge and decreases with wear. There are other factors that affect the velocity, including propellant temperature and different batches of propellant.
Muzzle Velocity Corrections	Corrections made to compensate for the differences from firing table MVs (muzzle velocities), of the relevant gun, and the MV of a particular ammunition batch.
Muzzle Velocity Measuring Device	Equipment for measuring a gun's muzzle velocities (eg. the British made Electronic Velocity Analyser (EVA)).