

The DRAGON GL3 ASAPI is a portable approach path indicator system designed to assist pilots during the landing phase, principally at night or dusk. A descent profile is indicated along a fixed heading at a pre-determined angle of elevation. This angle is adjustable from the ground.

Because the system is portable, size, weight and deployment considerations mean that signals differ from those produced by fixed systems as the GL3 generates signals electronically without using mechanical means, although enough similarities remain to enable any pilot used to flying on to a VASI, PAPI, HAPI or triVASI to rapidly become familiar.

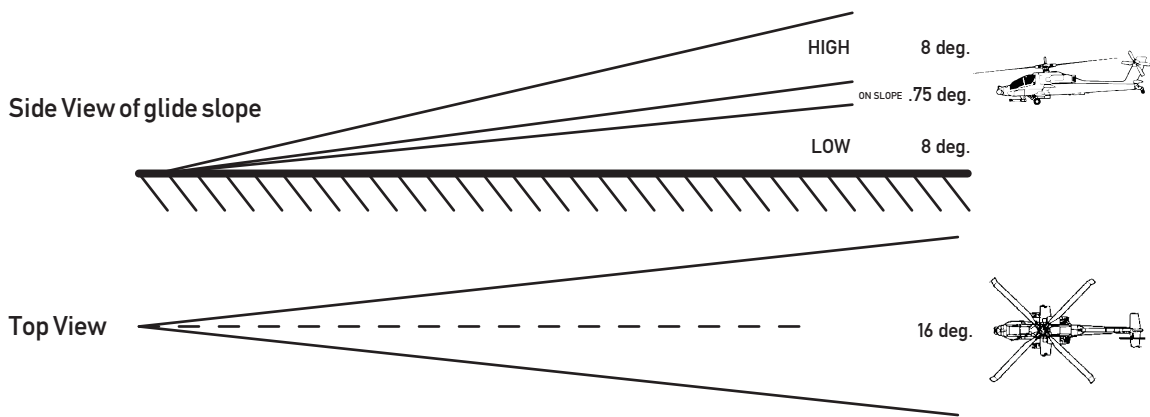


Fig. 1 Beam height and width

TYPE 1. RED / WHITE

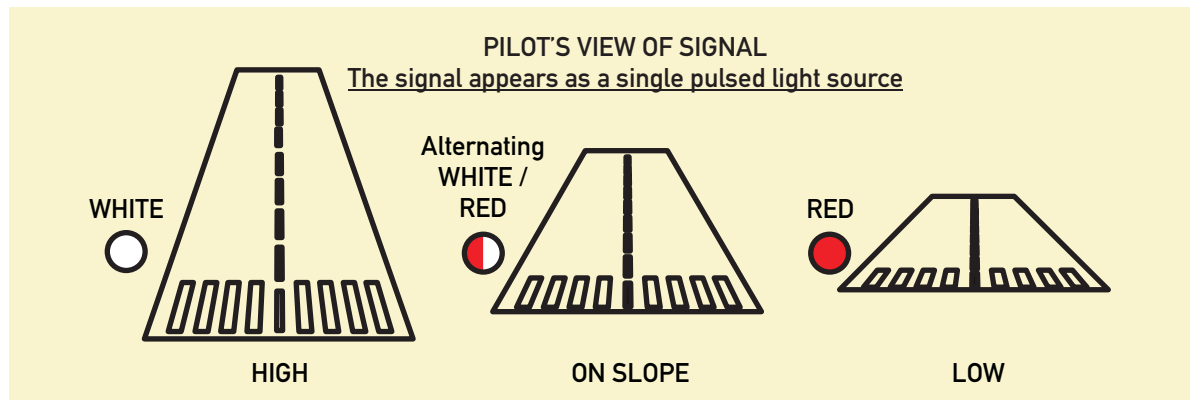
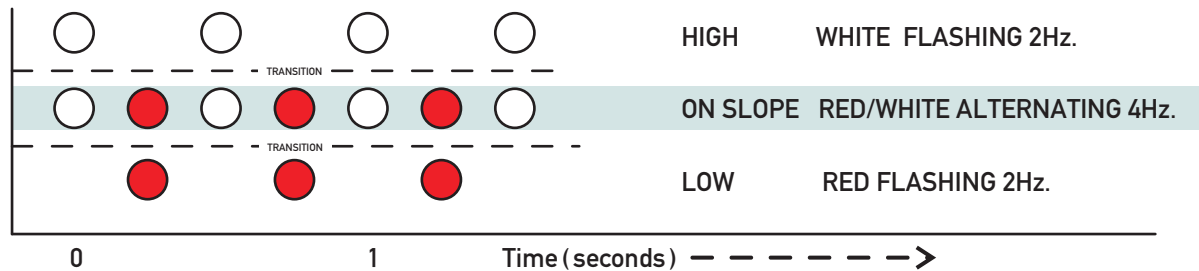
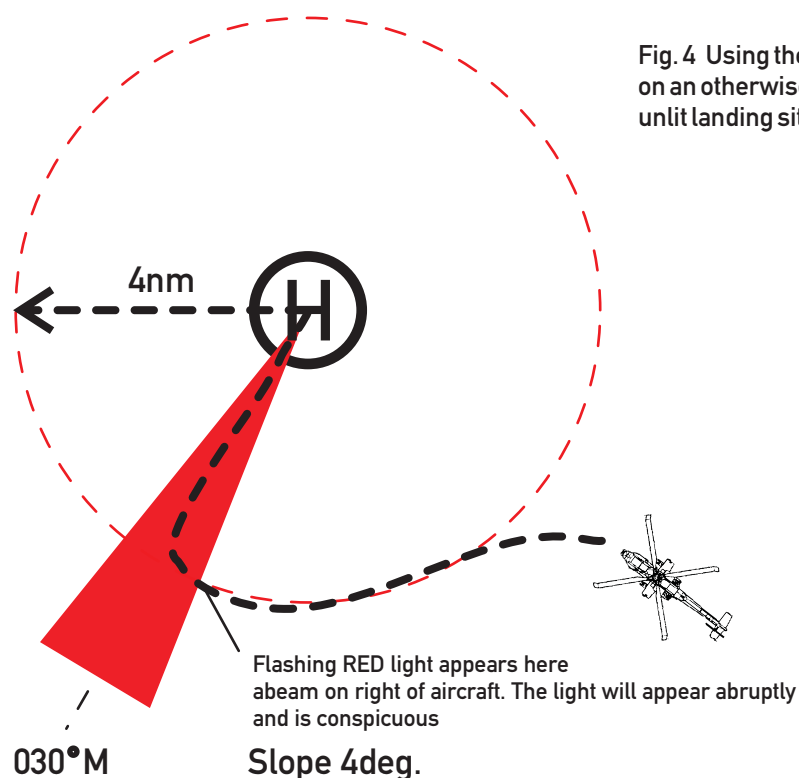


Fig. 2. Examples of basic signals based on pulses and colours

Particular features of the GL3 system (ASAPi)

- 1/ The edges of the beam have a sharp cut-off, especially at the sides. The light is not visible unless seen from within the beam spread
- 2/ The signal flashes at 0.1 sec duration pulses at 2 per sec. (High & Low) and 4 per sec. (On Slope).
- 3/ The signal appears as a single light source
- 4/ The On Slope signal is emphasised by a doubling of the flash rate (RED/WHITE)
- 5/ Transitions may differ from systems you may have used before.



An improvised landing site may not have any other light sources showing and may be difficult to acquire visually. The site may also be surrounded by other un-connected light sources. The signal is designed to “pop up” from the surroundings at nearly full brightness as soon as the aircraft enters the beam spread. The pulsed signal is conspicuous alongside other steady surrounding lights.

A suggested method of establishing a descent profile is illustrated above. The aircraft flies directly towards the landing site. The pilot cannot see any indication on the ground. In order to establish on a 4nm slope the pilot can circle the site at a distance of 4nm maintaining a height of, say, 800' until the signal appears on the beam. The signal will appear suddenly. Turning into the signal onto a heading of 030m., at this height and distance, the pilot sees a RED flashing light. The turn-in should place the aircraft close to the centre line. Following a GPS track will counter drift. Maintaining height and track until the ON SLOPE indication appears, the pilot then commences the descent.

IMPORTANT: Landing at night or in limited visibility requires a pilot to use numerous aids and inputs in order to assess the correct course of action. Landing on sites with little or no fixed facilities places a greater reliance on cockpit systems and less on ground systems, which may be temporary or unavailable.

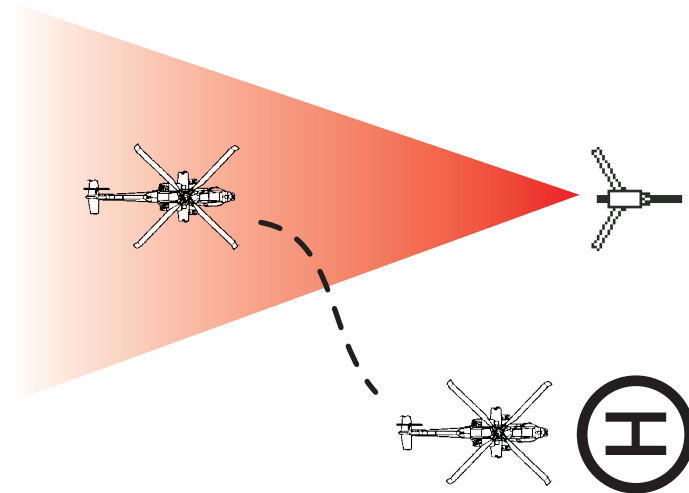
The use of a landing aid such as the GL3 must be used in collaboration with a situational awareness gathered from knowledge of position, distance to touchdown point & height above terrain and obstacles. Particularly important is the assessment of height in relation to distance at the chosen approach angle which can be checked against the signals received from the approach indicator. A critical point for this judgement is the point of interception of the ON SLOPE signal. All inputs and judgements should agree in order to continue with the approach.

Approach & Landing - Downwash & Reverse Thrust

Wherever possible the unit would be sited where it cannot be overflowed, to minimise disturbance and damage by prop/down-wash.

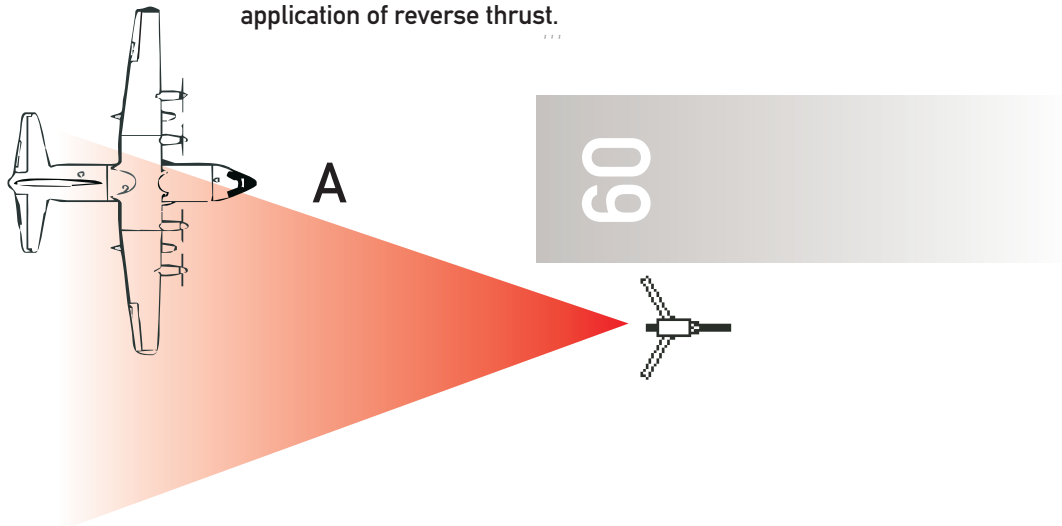
Contamination and potential damage caused by stones & debris striking the lens would be minimised by presenting the side of the unit to the landing area. Protecting the unit increases operational effectiveness and reduces the need to attend to the unit to clean the lens and reset the level.

The pilot should approach the unit directly and be prepared to continue visually to a site alongside the indicator once approach information is no longer required



When using a fixed runway, continue as you would normally. When the aircraft gets to point A (approx. 200m from the touchdown point) the indicator will cease to be visible as the aircraft flies alongside the unit and is no longer in the beam spread, (the indicator will still show its position as a flicker of light)

The pilot should be mindful of the indicator, and should not land ahead of it to avoid damage caused by application of reverse thrust.



Visual Range. (all moderate to good visibilty)

	Maximum	Expected Useful
Night	18 km	11 km
Day / Overcast	5.5 km	4 km
Day / Sunlight	2 - 3 km	1.5 - 2 km

The GL3 is designed to be a night/dusk unit but in certain daylight conditions, particularly in overcast, useful signals are still present.

Day ranges are only a rough guide as day light conditions vary considerably.