

# 2K1T

## One-Time Use Parachute for GPADS

The 2K1T is a unique lower cost, One-Time use ram air parachute designed to complement the 2K FireFly™ system, part of Airborne Systems family of Guided Precision Aerial Delivery Systems (GPADS).

This one-time use ram air parachute was developed to provide a lower cost GPADS system that enables the soldier to cut the payload and guidance system free, leaving the parachute behind.

The 2K1T parachute provides greater operational flexibility to commanders in the field, as it does not need to be recovered, thus reducing the equipment cost of delivering supplies using GPADS. The 2K1T parachute has the same technical performance and capability as the FireFly™ parachute. It can be used as a direct replacement, should operational constraints dictate that the FireFly™ parachute (designed for up to 20 drops) cannot be recovered immediately for re-packing or proper storage.

The 2K FireFly™ system enables delivery of payloads to a pre-defined location on the ground from altitudes up to 25,000 feet above mean sea level (AMSL). It can carry up to 2,200 lbs (1,000 kg) and glides up to 20 km after being dropped to land within 150 meters of a designated Impact Point (IP). The FireFly™ has been fielded by the US Army as part of the JPADS 2K Program and is in service in current operational theaters delivering supplies and equipment to forces in remote locations.

### Ease of Use and Flexibility

The 2K1T parachute is supplied to the field packed ready for deployment and requires only simple rigging to the payload. The 2K1T parachute is designed to be used with the 2K FireFly™ AGU and autonomous navigation software. The 2K FireFly™ uses the same system architecture with respect to user interface and rigging as the entire family of Airborne Systems GPADS products.

### 2K1T Parachute Technical Advances

- Innovative use of fabric material and construction methods
- Same high performance as the 2K FireFly™ parachute with a lower cost of equipment
- Eliminate maintenance and rigger support, as the system is delivered with the parachute packed and ready for deployment.

*Technical details on the reverse*

This data sheet is for information only and shall not form part of a contract



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### Airborne Guidance Unit (AGU)

As with all of Airborne Systems family of GPADS the AGU includes the central processor unit, Inertial Measurement unit, motor controller, GPS, GPS antennas, LCD screen and keypad. The LCD screen provides a textual display of any warnings or errors eliminating the need to decode the meaning of flashing LEDs during critical task phases of high-altitude missions. The universal guidance, navigation and control software analyzes its environment in real time, adjusting the flight algorithm several times each second. It relies on a fusion of data from GPS (either commercial or MIL GPS), inertially compensated compass and barometric sensor to autonomously guide the ram air parachute and cargo from as far as 20 km (12 mi) in zero wind condition from the intended impact point (IP). The system requires only the impact coordinates and payload weight. Programming of the IP can be done directly on the AGU via the LCD screen and keypad or through the remote control handheld unit.



### Mission Planning

The FireFly™ system whether using the 2K1T parachute or the conventional parachute is compatible with the GPADS Mission Planner (GPADS MP) and is incorporated into all software releases of the GPADS MP. The FireFly™ is also configured with an 802.11 wireless interface, which allows the user to program the system through the GPADS MP or the Remote Control Handheld Unit and enables remote health monitoring. This ensures that maximum technical support can be provided to units deployed to isolated operational theaters.

### Remote Control Handheld Unit

The optional remote control handheld unit allows the operator to wirelessly communicate with one, or up to one hundred systems. The handheld unit is extremely rugged to withstand all operational environments. Using standard 1.5 volt AA batteries, it weighs less than 2 lb (1 kg) and has a line-of-sight up to 12 miles (20 km). The remote control handheld unit is operational with all of Airborne Systems family of GPADS configured to provide remote control capability.



### 2K1T PARACHUTE TECHNICAL DATA

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Payload Capacity	700 (315 kg) - 2,000 lb (907 kg)
2K1T Parachute Weight	70 lb (32 kg)
Opening Shock (Max)	4.5 g's
Max Release Altitude	25,000 ft (7620 m)
Min Release Altitude	3500 ft (1067 m)
Max Glide, L/D (no wind)	3.2 : 1

