

# Star ♦ Tower



*Family* of high performance aerostats that provide persistent, wide-area communications, surveillance and networking for commercial, security, defense and emergency response operations



# Star ♦ Tower Applications

STAR ♦ TOWER

## Commercial

- ❖ Telecommunications
- ❖ Broadband
- ❖ Imaging
- ❖ Hyperspectral Imaging
- ❖ Digital Mapping
- ❖ Security
- ❖ Agriculture
- ❖ Weather
- ❖ Public Services:
  - ❖ First Responders
  - ❖ Weather Alerting
  - ❖ Emergency Information
- ❖ Wild Fire
  - ❖ Monitoring & Analysis
- ❖ Search & Rescue
- ❖ Medical

## Security/Defense

- ❖ Communications and Command & Control beyond line-of-sight
- ❖ Networking of the Battlespace
- ❖ High Rate Data Transfer
- ❖ Surveillance (EO, IR, Spectral, RF)
- ❖ Security (borders, base perimeters, ports)
- ❖ Disaster/Humanitarian Response
- ❖ Signal Collection
- ❖ Digital Mapping
- ❖ Weather
- ❖ RF Identification, Tracking, and Reporting

## Education/Science

- ❖ Education
- ❖ Distance Learning
- ❖ Environmental Research & Data Collection
  - ❖ Climatology
  - ❖ Air Quality
  - ❖ Water Quality & Quantity
  - ❖ Natural Habitat
  - ❖ Endangered Species
  - ❖ EPA Compliance
- ❖ Weather Data
- ❖ Scientific Research
- ❖ Technology Testing

# Family of Aerostats



	Star◇Tower 100-12		Star◇Tower 100-22		Star◇Tower 200-40		Star◇Tower 200-57		Star◇Tower 500-91		Star◇Tower 500-116	
<b>Envelope Size</b>	43 ft length 12,733 cu ft		52 ft length 22,518 cu ft		63 ft length 40,045 cu ft		71 ft length 57,300 cu ft		83 ft length 91,573 cu ft		90 ft length 116,750 cu ft	
<b>Payload Altitude Above Ground</b>	500 ft AGL	1,000 ft AGL	500 ft AGL	1,500 ft AGL	500 ft AGL	2,300 ft AGL	500 ft AGL	3,000 ft AGL	500 ft AGL	4,000 ft AGL	500 ft AGL	5,500 ft AGL
<b>Payload Wt</b>	100 lbs	60 Lbs	220 lbs	100 Lbs	760 lbs	200 Lbs	1,370 Lbs	250 Lbs	2,300 Lbs	500 lbs	3,000 lbs	500 lbs
<b>Excess Buoyancy at Payload Altitude</b>	150 lbs		210 lbs		320 lbs		400 lbs		650 lbs		920 lbs	
<b>Operating Crew for Setup, Launch &amp; Recovery</b>	2		3		5		5		7		7	
<b>Normal Operating Crew</b>	2		2		2		2		3		3	

## NOTES:

- a. Based on aerostat ground station elevation of 4,000 ft density altitude, standard day
- b. Excess buoyancy provides a more stable platform for sensors and counters downdrafts. Excess buoyancy can be used to enable higher altitude operations and increased payload capacity when conditions permit
- c. Calculations do not consider aerodynamic lift created when the wind blows resulting in significantly greater lift capacity than indicated