

# BALL CONFIGURABLE PLATFORM (BCP)-100



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When looking for a small spacecraft designed for payload flexibility at an affordable price, we have flight-proven spacecraft that is the reliable choice. The BCP-100, is a perfect small satellite, offering rapid response to meet mission requirements.

## OVERVIEW

Developed on a configurable, proven spacecraft design, the BCP-100 is a capable and affordable small satellite solution. BCP-100 missions are typically optimized for scientific, technology development and risk reduction payloads. The BCP-100 uses a common spacecraft bus with standard payload interfaces that reduce mission cost, streamline payload accommodation, and minimize delivery time. Our BCP-100 nominally accommodates up to four independent payloads, is designed to operate over a wide range of low earth orbits, and is compatible with a variety of launch vehicles. The BCP-100 offers ride-share potential providing additional cost-savings in getting to orbit. Two BCP-100 spacecraft have flown with a third scheduled for launch in 2017

## PAYLOAD ACCOMMODATION

Parameter	Capability (total for all payloads)
• Payload Mass	70 kg
• Payload Orbit Average Power (OAP)	200 W (best case orbit), 100 W (worst case)
• Payload Volume	0.14 m <sup>3</sup> for ESPA compatibility (increase volume for other launches)
• Payload Field of Regard	Unobstructed hemispherical field of view
• Number of Payloads	Up to four
• Payload Mission Data Handling	Up to 2 Mbps from each payload
• Payload Digital Command/Data Interface	RS-422 provides real-time and high rate (synchronous and UART – selectable) data, command; 8 input and 8 output bi-level discretes per payload
• Payload Analog Data Interface	8 analog channels per payload for health and status
• Payload Heat Rejection	Up to 100 W through spacecraft bus
• Interface Temperature	-20 °C to +50 °C

## CAPABILITIES

Parameter	Capability
• Orbit Altitude	400 to 850 km
• Orbit Inclination	0° to 98.8°
• Launch Mass	≤180 kg for ESPA compatibility (increased mass available for other launches)
• Space Vehicle Volume	≤60.9 x 71.1 x 96.5 cm for ESPA compatibility (increase volume for other launches)
• Launch Vehicle Compatibility	Delta IV ESPA, Atlas V ESPA, Minotaur I, Minotaur IV, Pegasus, Falcon 9, Falcon Heavy
• Space Vehicle Lifetime	Solar arrays and battery provide for long-life capability
• Reliability	Ps = 0.93 @ 1 year; 0.81 @ 3 years; 0.71 @ 5 years
• Stabilization Method	3-axis
• Pointing Modes	Nadir, ground target tracking, inertial point, payload sun point, safe
• Attitude Knowledge	0.03° 3σ
• Attitude Control	0.03° to 0.10° 3σ depending on mode; enhanced options available
• Bus Voltage	28 V ±6 V dc
• Communication Frequency	L-Band uplink, S-Band downlink (encrypted SGLS), NASA STDN, and commercial options
• Command/Telemetry Rate	2 Kbps uplink/32 Kbps downlink
• Mission Data Rate	2 Mbps downlink; 5 Mbps downlink option
• On-Board Data Storage	2 Gbytes, readily expandable with flash memory card in spare slot
• Propulsion (Option)	Green Propellant, Hydrazine options