

# The Spirit UAV

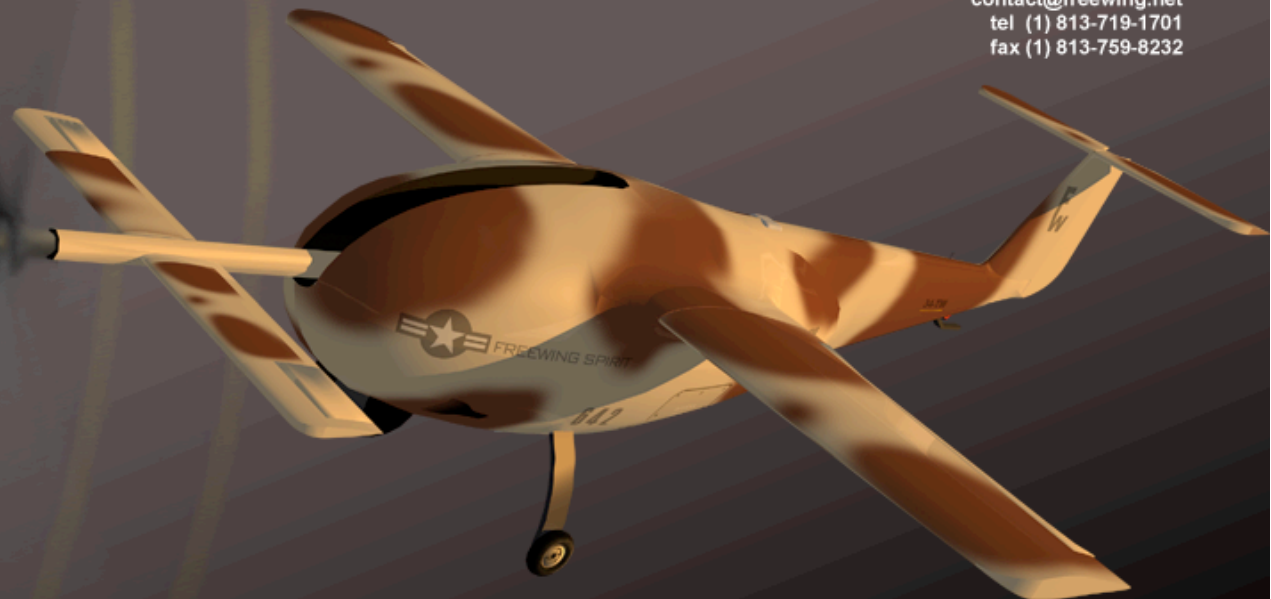
## Model 100-800

Freewing  
Flight Technologies, Inc.

Maximum Speed @ Sea Level : 160 mph, 139 kts  
Maximum Speed @ 15,000 ft : 200 mph, 174 kts  
Optimum Loiter Speed : 75 mph, 65 kts  
Maximum Endurance: 15 hours  
Service Ceiling : 25,000 ft  
Max Climb @ Sea Level : 4,300 fpm  
Powerplant : Rotax 912 ULS (100 hp)  
Fuselage Height : 4.3 ft  
Fuselage Length : 14.1 ft  
Overall Height (Boom Up) : 10.8 ft  
Overall Length (Boom Down) : 17.5 ft  
Wingspan : 15. ft  
System Weights  
Empty Weight : 497 lbs  
Flight Control Electronics : 20 lbs  
Gross Weight : 750 lbs  
Rotor Diameter : 13 ft  
Disc Swept Area : 132.7 ft<sup>2</sup>  
Rotor Blade : Carbon fiber, variable pitch  
Rotor RPM : Up to 800 (7.25 gear ratio)  
Fuel Type : Avgas (heavy fuel planned)  
Fuel Consumption : 7 gph @ 100% power  
2 gph @ 50% power

Fuel Payload (gals/lbs.)	Endurance (hours)	Mission Payload (lbs.)
30.0/183.0	15.0	70.0
10.0/61.0	5.0	192.0
5.0/30.5	2.5	222.5

- VTOL plus high-speed cruise
- Exclusive patent-pending Tilt-Boom™ technology
- Multimission capability
- Mechanically simple — breakthrough technology
- Inherently stable throughout entire flight envelope
- Freewings neutralize gusts for stable sensor platform
- Benefits from 15 years of earlier freewing development

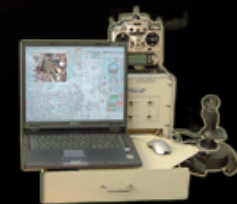


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Mission Control Station : The Spirit's Mission Control Station (MCS) provides command and control of air vehicles and payloads, display and recording of payload video and air vehicle telemetry and complete mission planning functions. The system is waypoint-programmable, allowing 32 operational waypoints and 5 home waypoints, autonomous navigation with in-flight changes to waypoints and mission plans. The MCS display is built around a PC architecture, using ruggedized COTS equipment, and includes displays and control panels for the air vehicle operator and payload operator, as well as a control box for an external pilot for vertical takeoff and landing. Launch and recovery is done automatically with no external pilot required.

Data Link Band : L/S/C and UHF

Data Link Range : > 100 km



Portable Version of MCS