

Auxiliary Power Unit / Environmental Control Unit (APU/ECU) for the Multiple Launch Rocket System



Multiple Launch Rocket System (MLRS)



APU

KEY FEATURES:

- 8.5 kW 28 VDC Power Output
- 18,500 BTU Net Cooling Capacity



Condenser



ECU

GENERAL PRODUCT DESCRIPTION:

The MLS Auxiliary Power Unit /Environmental Control Unit (APU/ECU) has been designed to provide electrical power and cooling to the MLRS tracked vehicle. Both systems can operate independently of one another. The ECU is completely electrically driven and can be operated from the main engine alternators or the APU.

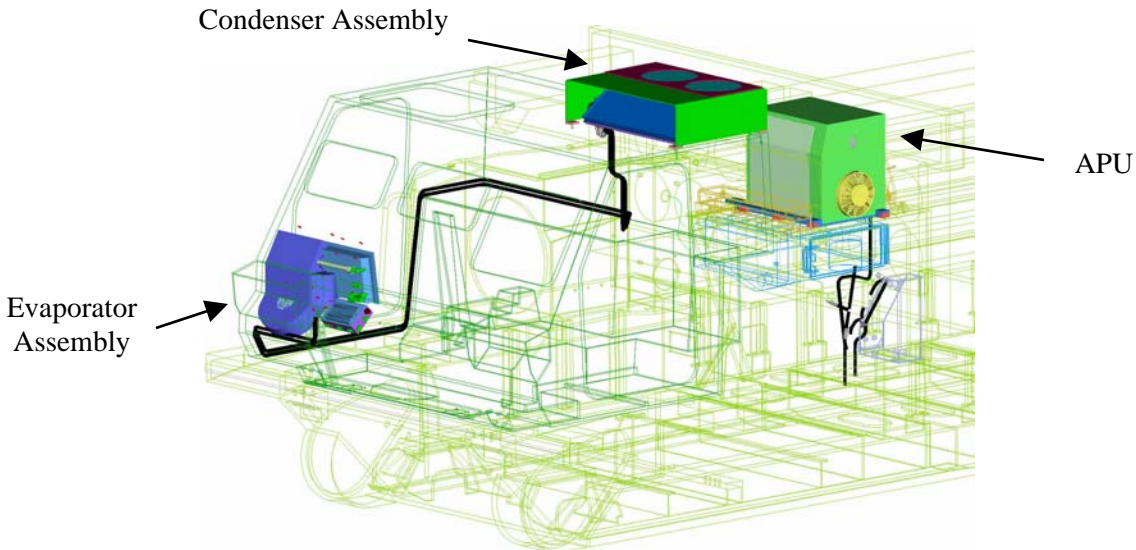
The power plant is a Hatz 2G-40 air-cooled diesel engine with a shaft mounted three-phase

brushless, permanent magnet generator. The generator system output and Engine power is controlled by a variable speed governor which, depending on system load, optimizes the engine operating speed. The vapor cycle air conditioning system is designed to be in compliance with the current environmental regulations using R-134a refrigerant and is capable of operating in severe desert conditions. Its power draw is 150 amps at 28-vDC at full load

conditions.

The APU gross weight is under 330 pounds with the ECU weighing 150 lbs. The System provides 18,500 Btu/hr cooling capacity and 8.5 kW at 28-vDC power output (with voltage ripple independent of the engine speed or load at less than 100 mV RMS).

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Overall APU/ECU Specifications:

Exterior Dimensions (L x W x H).....	18" x 23" x 30"
Gross Weight.....	480 lb
Electrical Output.....	8.5 kW @ 28 vDC
Air Flow.....	550 CFM
Cooling Capacity.....	18,500 Btu/hr @ 120 °F amb
Refrigerant Type.....	R-134a
Engine Type (air-cooled).....	Hatz 2G-40
Fuel Type (Diesel).....	DF-1, DF-2, JP-4
Fuel Capacity.....	Uses main engine fuel tank

Operating Parameters:

Temperature	-25 °F to 125 °F
Altitude	Sea level to 10,000 ft
Slope Angle	0° to 31°

Generator System:

Type Alternator.....	Brushless, permanent magnet
Alternator Speed.....	1,800 to 2,800 rpm
Output Voltage (Nominal).....	28 vDC
Output Rated Current.....	300 amps
Output Power.....	8.5 kW
Alternator Weight.....	30 lb
Military Specification.....	Per MIL-G-6162
Electrical Power Output.....	Per MIL-STD-1275