

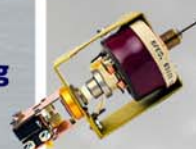
# Military, Aeronautics and Aviation Products in Action

In daily use, MRAPs are relying on Ohmite products to ensure that they are always ready for action.

MRAP stands for Mine Resistant Ambush Protected and an expanded fleet of such ground vehicles is being requested by the military to provide the occupants with better protection. Carrying an immense amount of battery operated equipment, constant recharging is necessary and Ohmite's 25 watt Power Chips are used in them to act as load resistors when the battery banks are fully charged.



Long-standing Ohmite customer Russtech keeps us on our toes with some of the most demanding specifications our rheostats must meet. Russtech supports military requirements on the KC10, the C17 and C5 Transports and also is supporting rheostat assemblies on the C130 (AMP) program. Russtech is an innovator in quality and reliable aircraft electrical components. They hold PMA for many current production and legacy aircraft programs with a focus in flight deck switching, light dimming controls, windshield heating terminations, encapsulated diodes, resistors, flexible bus assemblies, extruded terminal track, and hardware.



For about 70 years now, one of the core applications where Wirewound Rheostats are found is in the cockpit of both commercial and military aircraft. The features which made them the preferred method for DC Voltage Control have not been superseded by alternate technologies, as is so often the case in our industry. The environmental conditions which these devices are subjected to have not changed over these many years, and the materials we use (glass, ceramic, steel) remain the best available for the cost to meet these conditions. The rugged mechanical design invented by Ohmite Engineers in the 1930's has yet to be improved on, and we are grateful to them for their genius. Our applications are not limited to US-made aircraft as the Navigator's Map Holder on the SAAB 2000 Regional Turboprop shows.



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A \$2 billion supplier of helicopters, aeronautics, and defense electronics systems has adopted the Ohmite HVF Series of high voltage SMD resistors for upgrades to an attack helicopter and a multi-purpose helicopter. The resistors are used in the radar and imaging systems on both airframes. HVF Series provides for unique solutions when engineers require SMD, space-saving, high voltage resistors. With maximum voltage ratings up to 3KV in a 2512 package, few if any resistors on the market can match the performance. Space and weight savings are critical factors in any airborne application, and so HVF was an ideal solution for this application. Made for a variety of purposes including reconnaissance, surveillance, medical evacuation, search and rescue, and command and control, the attack helicopters are equipped with IHADSS (Integrated Helmet and Display Sight System) capabilities. The system projects flight, sensor, and weapons information on the helmet's display.



By utilising newly acquired manufacturing techniques whereby components are wound on plastic bobbins, rather than on ceramic cores, by 'pile winding' with insulated wire, which is commonly used to attain very high resistance values, Ohmite's new range of Ultronix wirewound resistors, offer tolerances down to 0.001%. Special versions involve the use of very high TCR wire, so the resistors predictably change value as temperature rises; a characteristic sought after in some applications. Offering minimum values of 0.1Ω for ±1% and ±0.5%; 10Ω for ±0.1% and tighter and resistance tolerance of ±0.005%, ±0.01%, ±0.02%, ±0.05%, ±0.1%, ±0.5%, and ±1%, depending on style and value, the resistors have a temperature coefficient (TCR) of ±10ppm/°C standard for 10Ω and above. High TC's up to

+6000ppm/°C are available. The operating temperature range is -60°C to +145°C. Ohmite have two ranges under the Ultronix name: HPW Series, their High Precision Welded resistors, available in both Axial and Leaded versions, and the HSP Series, an Axial leaded hermetically sealed precision, ultra-high stability device. Other features of the Ultronix range include extremely low thermal EMF and low noise. Applications for this type of resistor include fuel monitoring, especially in the aircraft industry.



Ohmite's TA1K0, 1000 watt heatsinkable resistors have been incorporated in a project to create the world's first hydrogen fuel cell power aircraft. The project designers are getting an early start on what they see as a possible emerging market, that of hydrogen fuel cell powered electric airplanes. They have created an electric airplane which generates its electricity from a fuel cell. The machine is a standard propeller driven plane with a 53.5 foot wingspan which was converted to store the lithium ion batteries, the fuel cell and the hydrogen storage tanks. During takeoff, where the highest draw of power is required, the lithium ion batteries provide the power to the motor, and at constant cruising speed of 62 mph, the Proton Exchange Membrane fuel cell provides the power.

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