

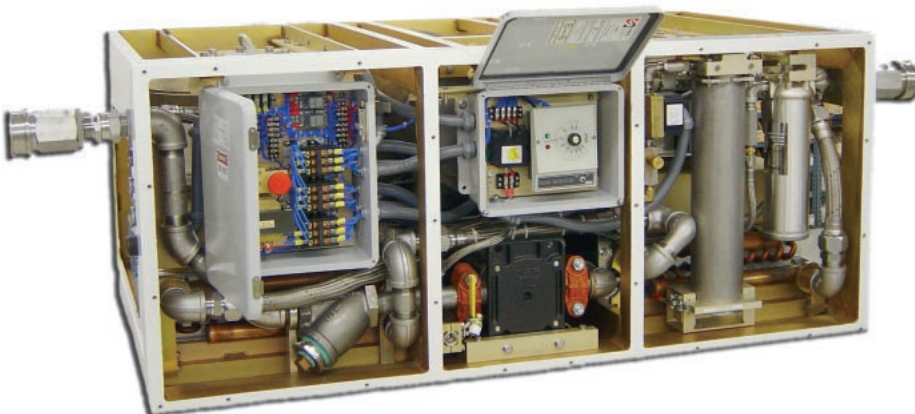


* LEGACY REPLACEMENT AND UPGRADES *

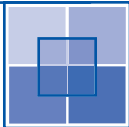
FORM FIT FUNCTION

For many years ETM has participated in programs that required the upgrade of old systems. From power supplies to complete transmitters, ETM has had to provide drop in replacements to existing pieces of equipment, sometimes decades old.

Our replacement units not only have to be fit, form and function, but also more reliable than the systems they were replacing. The following are typical requirements our clients have specified:



- Identical Interface Connections
- Mechanical Form and Fit
- Customer Furnished Cabinet
- Consistent Color and Branding
- Consistent Cooling Requirements
- Improved Reliability
- Improved Configuration Efficiency
- Compliance with Serviceability Requirements



CUSTOMER FURNISHED CABINETS

ETM was contracted to build two types of transmitters, 30 kW Ku-Band and 100 kW X-Band, both of which had to fit within customer provided enclosures.

In addition to the physical packaging limitations of the program, the customer also required the units to be all front panel accessible for maintenance purposes. Consistent with the equipment we would be replacing, these units also had to withstand extreme operating temperatures (-40 C to +50C) and shock and vibration requirements for trailer mounted operations.



REPLACEMENT SHIPBOARD TRANSMITTER

ETM was awarded a contract to build replacement HPAs for (60) shipboard SatCom terminals. Each unit was to be built in a split chassis and had to fit within the existing mechanical space. In addition to the new HPAs needing to be fit, form and function, the ETM units also had to meet the stringent MIL-STD-461 requirements for below deck shipboard applications and had to provide improved reliability to the old systems. These units now serve as the new standard for the end user when new shipboard SatCom terminals are required.



VEHICLE MOUNTED REPLACEMENT POWER SUPPLIES

In 2002 ETM was called on to produce the prototypes for a Mobile SatCom system upgrade. The existing systems consisted of a power supply chassis, an RF chassis and other system electronics. Due to the reliability of the existing systems, ETM was asked to provide multiple upgraded power supply chassis into the current system sockets. The solution would be a drop in replacement to the existing equipment complete with identical interface connections, but in a shorter chassis as required by the customer. This shorter chassis allowed other new equipment to be incorporated in the customer's system.



The front panel had the same operating points, however, a vacuum fluorescent display was added to improve operation and diagnostic processes. ETM is now in production of hundreds of these power supplies to support the program.