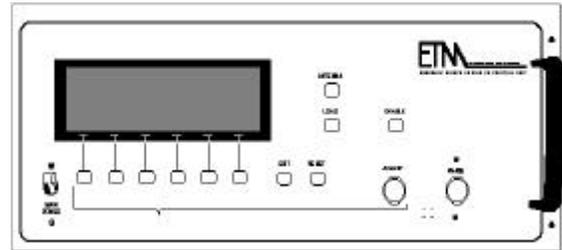


35451 Dumbarton Court, Newark, California 94560
(510)797-1100 FAX: (510)797-4358



ETM 1000Ku VPC

ETM's 1000Ku VPC assembly includes all the switches and controls required for convenient control of a redundant satellite news gathering truck microwave installation. The system is set-up for a four port antenna system and includes switching for both the upconverters and the high power amplifiers.

Operation modes include:

Fail-safe Single Path Transmission

Redundant Mode

A primary path consisting of either upconverter and either HPA is selected. The primary path is routed to an internal load and can be switched to the antenna by the operator. The back-up upconverter and HPA form the redundant path. The redundant path is routed to a 1000 watt dummy load. If desired the operator can set the system so that, if a fault is detected with an HPA or an upconverter, the redundant unit is switched to the primary path in <100 milliseconds.

Combined Mode

For high EIRP requirements or for a soft-fail type back-up the combined mode is useful. Either upconverter is routed to a splitter and this signal is fed to both HPAs. The output power of the HPAs is then combined by a Variable Phase Combiner (VPC). The unit has a front panel phase adjustment knob to maximize combiner efficiency. In the event of an HPA fault output power to the antenna drops only 3 dB instantly.

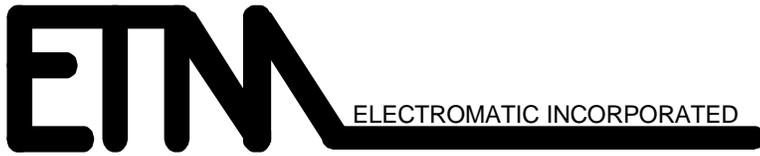
Flexible Dual Path Transmission

Split Feed Mode

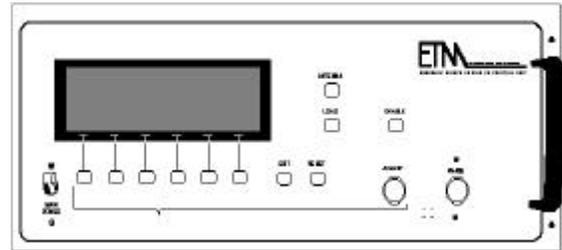
With a four-port antenna two full-power signals may be transmitted simultaneously -- one to each polarization. The ETM 1000Ku provides easy control for this case. In the split feed mode one upconverter and HPA are routed to the vertical antenna output while the second upconverter and HPA are routed to the horizontal antenna output. Each path has its own dummy load and may be switched independently on and off the satellite. One of the paths may be selected as the priority path. In the event of a problem with an HPA on the priority path, the second path is automatically dropped to restore priority path service.

Dual Path Mode

When the requirement is to transmit to two transponders with the same satellite polarization, Dual Path Mode enables the transmission. Each upconverter is routed to a separate HPA, the output of the HPAs is then routed to the VPC. The VPC becomes a splitter for each of the HPA outputs routing half the power to a dummy load and half the power to the selected (horizontal or vertical) antenna port.



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PRODUCT SPECIFICATIONS:

Electrical:

Frequency Range: 13.75 - 14.5 GHz
 Power: 500 watts per HPA
 Insertion Loss Ahead of HPA: Up to 12 dB in redundant and combined modes
 Up to 4.5 dB in split feed mode
 Insertion Loss After HPA: 0.2 dB typical, any mode
 0.5 dB max., any mode
 Internal Power Dissipation: 1000 watts, max.
 Input VSWR: 1.15:1
 Output VSWR: 1.15:1
 Primary Power: 120 VAC ± 10%, 47 to 63 Hz, 5A
 220 VAC
 Power Split: 3 dB ± 0.2 dB

Mechanical:

Outline Dimensions: 17.9" wide x 7" high x 17.75" deep (tray assembly)
 19" wide x 7" high (control unit, panel hinged at left for access)
 Weight: 50 lbs. max

Operator Interface:

Indicators: LCD setup and status screen displays text and graphics, including configuration schematics and softkey choices
 Controls: Multifunction softkeys for primary selection; rotary knob for secondary antenna selection controls
 Emergency Operation: In case of controller failure, operator can manually set the switches to produce any RF system configuration normally available through the setup screen
 Phase Trimming: From front panel

Environmental:

Temperature: 0 to +50° C
 Humidity: Up to 90%, non-condensing
 Altitude: 0 to 6000 ft.
 Vibration: As normally encountered for truck-mounted equipment