

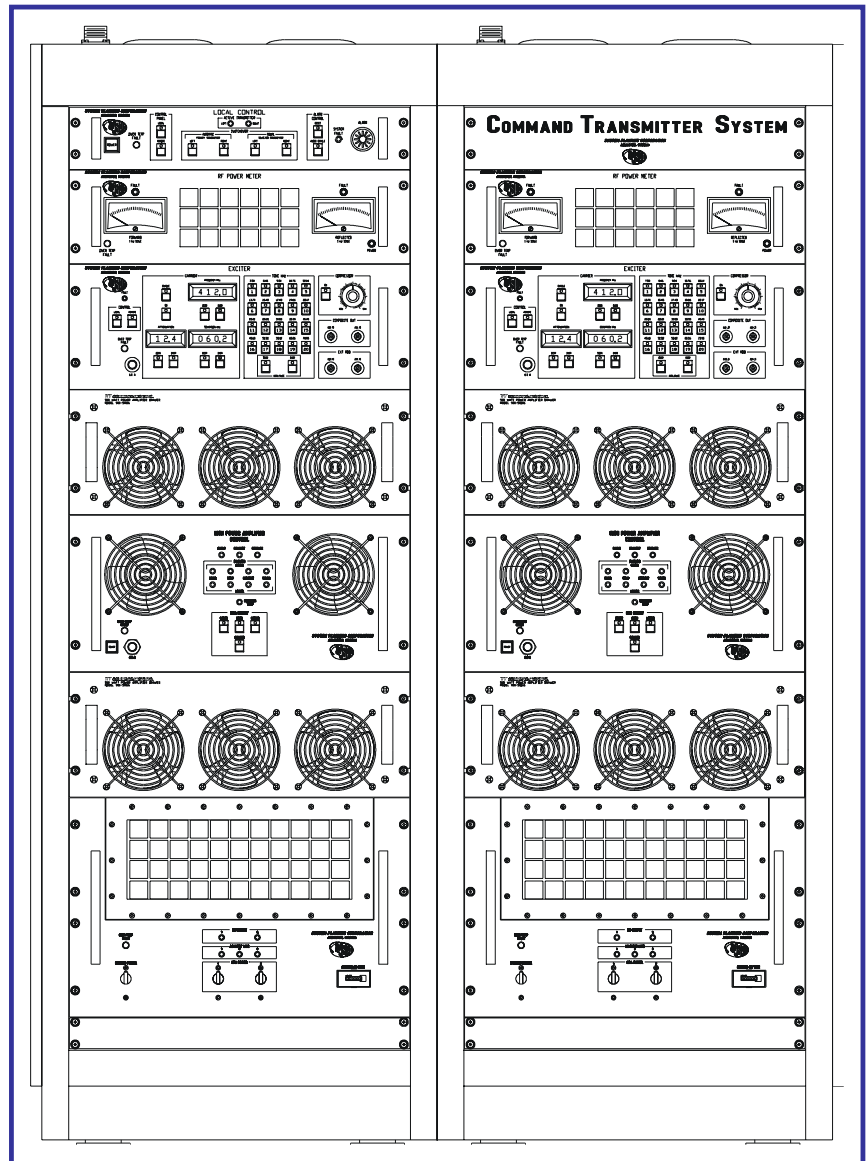
COMMAND TRANSMITTER SYSTEM

400-550 MHz — 1 KW CW/FM

System Planning Corporation's **COMMAND TRANSMITTER SYSTEMS** (CTS) provide remote control and Flight Termination functions through a fully redundant self-contained solid-state system.

The **EXCITER** incorporates state-of-the-art Direct-Digital-Synthesis technology to simultaneously generate up to 6 of 20 available standard IRIG-B tones and an RF carrier. It has 20 watts of output power and an internal ferrite isolator. The exciter may also be used as a standalone unit.

The **HIGH-POWER AMPLIFIER** is solid-state, dependable and cool running, allowing continuous 1-kW output power at ambient temperatures from 0° to 50°C, and from sea level to 30,000 feet AMSL. The Command Transmitter System is MIL-STD-461C qualified and designed to military standards for high MTBF and continuous 24-hour-per-day operation.



State-of-the-art CMOS micro-controllers provide full fault detection and reporting. High-power ferrite isolators allow full-power operation with antenna VSWRs up to 2:1. The HPA is designed for graceful degradation, which allows high-output power operation even with several amplifier modules inoperative. As an optional feature, each HPA sub-system is provided with an RF switch matrix that allows real-time replacement of HPA units.

External modulation inputs may be used to modulate the transmitters with externally generated tones from 10 Hz to 100 kHz.

The system can be switched automatically or manually between transmitters. Automatic switching to the redundant system is completed in less than 5mS upon detection of an internal fault or at preset RF power thresholds. The system is mounted in two standard racks 60" high for easy installation in mobile platforms. The design permits airborne operation to 30,000 feet AMSL. The roller-bearing, tiltable rack slides allow easy access within the chassis for low MTTR.

Command Transmitter System Equipment Specifications

Frequency Range:	400-550 MHz in 100-kHz steps
RF Output Power:	Exciter: 20-watts min. HPA: 1000-watts min.
RF Power Control:	0.1-dB steps, 45-dB total range
Permissible Ant. VSWR:	>2:1 continuously, 50-ohms nom.
Harmonics:	≤ -50 dBc @ 1,000-watts RF power output
Spurious:	≤ -80 dBc @ 1,000-watts RF power output
Modulation & Deviation:	Frequency modulation, ±300 kHz max.
Modulation Range:	Internal: 7.50-73.95 kHz (IRIG tone frequencies) External Inputs: 10-100,000 Hz
Controls & Indicators:	
Local Control:	Automatic or Manual Either transmitter as Primary or Secondary Local/Remote Alarm Reset & Audio Alarm Disable System Fault Over-temperature Fault
Exciter:	Local/Remote Carrier Enable, Carrier On RF Output Power Attenuator RF Carrier Frequency Selected Audio Tone (up to 6 of 20) Deviation Deviation Monitor Compressor ON/OFF & Limit Set Over-temperature Fault
HPA:	Over-temperature VSWR monitor Transistor over temperature monitor 28-volt DC over/under monitor Transistor over/under current monitor
HPA Power Supply:	Line Power (indicators) System Power (circuit breaker/switch) HPA 28-volt power (circuit breakers/switches & indicators) Over-temperature
Prime Power:	180-228 VAC, 3 Phase WYE, 47-63 Hz 6.2 kW nominal per Rack
Cooling:	Forced air; all exhaust through rear panels

For additional information contact:

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