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On-Board Spectral Analysis System (OBSAS)

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The On-Board Spectral Analysis System (OBSAS) is a complete electronic unit capable of acquiring and digital processing analog signals by incorporating an embedded DSP. The system is mainly intended as a pre-processing stage for a broader health monitoring system on-board an aircraft. The unit receives analog input signals from various remote sensors mounted on different parts of the aircraft's fuselage. The analog signals are then conditioned, digitized at a sampling rate of 16 kHz, and then undergo Fast Fourier Transform (FFT) to obtain their full frequency spectral densities. The computed spectra are further manipulated to produce spectrograms in fractions of octave band and finally transmitted over a serial RS-422 data link for logging and/or further processing.

Ключевые слова:

Содержание.

On-Board Spectral Analysis System (OBSAS)