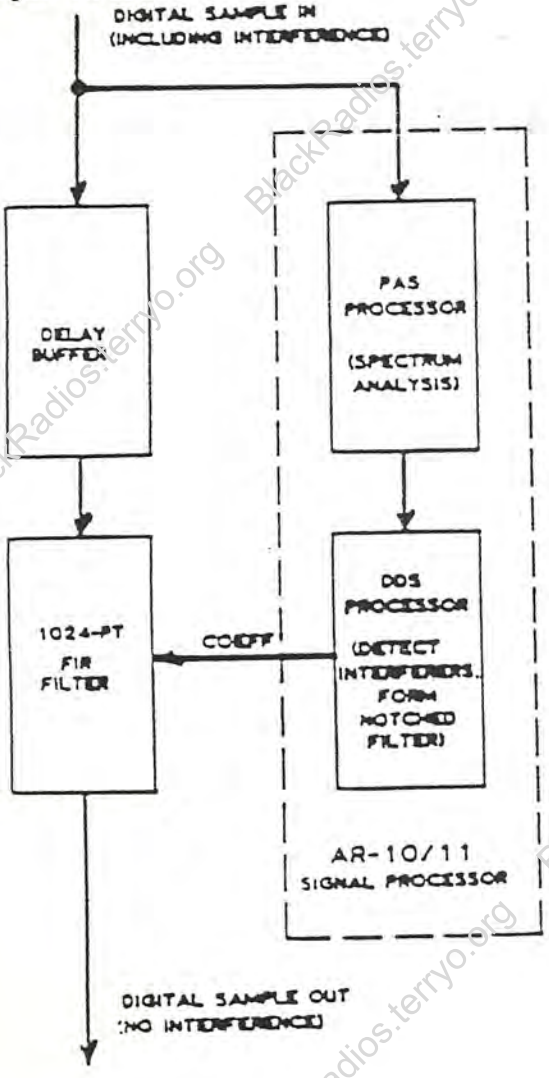
Interference Detection and Elimination System (IDES)

Adams Russell Electronics
COMMUNICATIONS PROGRAMS DIVISION

DESCRIPTION

The Adams-Russell Interference Detection and Elimination System (IDES) is a sophisticated high speed adaptive filtering system that will detect and excise as many as 100 interferers from a signal environment represented as a continuous stream of digital samples (real or complex) with data rates up to 2.7 MHz. IDES continuously monitors the signal environment, compares the frequency content of the environment against preprogrammed criteria for undesired interference and forms a filter to excise the unwanted portions of the spectrum. New filters are constructed as often as ever 30 ms. permitting IDES to adapt quickly to dynamic signal environments.



FEATURES

High Data Rates
Continuous complex or real digital inputs (differential TTL 8 bits) at rates up to 2.7 MHz.

Detection Algorithm
Available with a standard interference detection algorithm. Reprogramming for your algorithm available as an option.

Built-In Delay Buffer
The input signal is delayed while the environment is being evaluated and the filter updated so that new interference never reaches IDES output.

Look-Ahead and Look-Back
A new interferer may go "on the air" while the environment is being analyzed, and thus fail to reach the detection threshold. If look-back and look-ahead are selected. IDES will place guardbands around the detection process, excising interferers one block ahead and behind those time blocks where they are reached.

High Precision Filtering
The standard digital filter in IDES is a 1024-tap FIR filter. Other filters are available to match your application.

AR-10 Signal Processor
The environmental evaluation, interference detection and filter formation is performed in IDES using AR-10/11 high speed programmable signal processor.

Built-In Test Equipment
IDES includes a control panel that can invoke built-in test signals and enable/disable IDES features to verify operational readiness and aid in system maintenance.

Bandwidth Control
An operator adjustable filter may be positioned over the signal spectrum. Portions of the spectrum may be defined in ineligible for excision while other regions may be permanently filtered out.

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