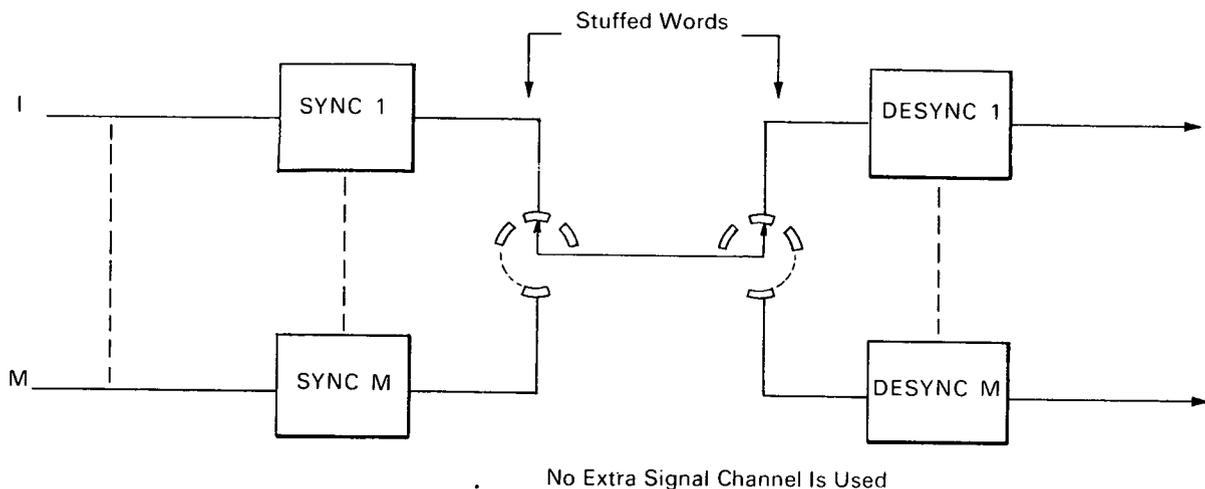


# NASA TECH BRIEF



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## PCM Synchronization by Word Stuffing



Word Channel Stuffing Operation

The concept discussed in this Tech Brief is a method for maintaining synchronization of multiplexed telemetry signals without the use of a separate channel. At the transmitter, a coded word consisting of a number of pulses is impressed on the data stream and transmitted. The word is detected at the receiver and removed from the data stream and the space left by the removal is eliminated through the use of a memory buffer. Word stuffing eliminates the need for a clock synchronizer to maintain proper phase relationship between data channels thereby removing the instability problems due to phase shifting of the clock signal when received over long distances.

### Notes:

1. This development is in conceptual stage only, and

as of date of publication of this Tech Brief, neither a model nor prototype has been constructed.

2. Requests for further information may be directed to:

Technology Utilization Officer  
 NASA Pasadena Office  
 4800 Oak Grove Drive  
 Pasadena, California 91103  
 Reference TSP69-10695

### Patent status:

No patent action is contemplated by NASA.

Source: Dr. Stanley Butman of  
 Caltech/JPL  
 under contract to  
 NASA Pasadena Office  
 (NPO-10688)

Category 01