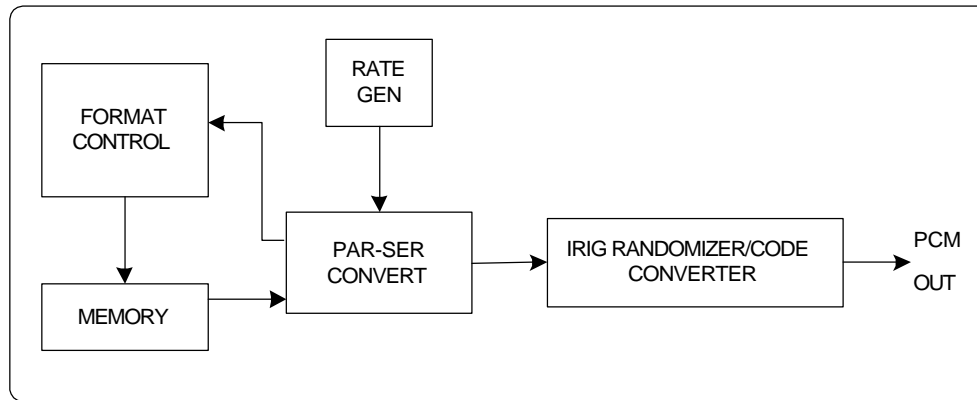


## MODEL 461 DLTS DOUBLES AS 'PCM DATA SCOPE'

Simulate Real World Formats and Monitor Selected Word Slots

AP24

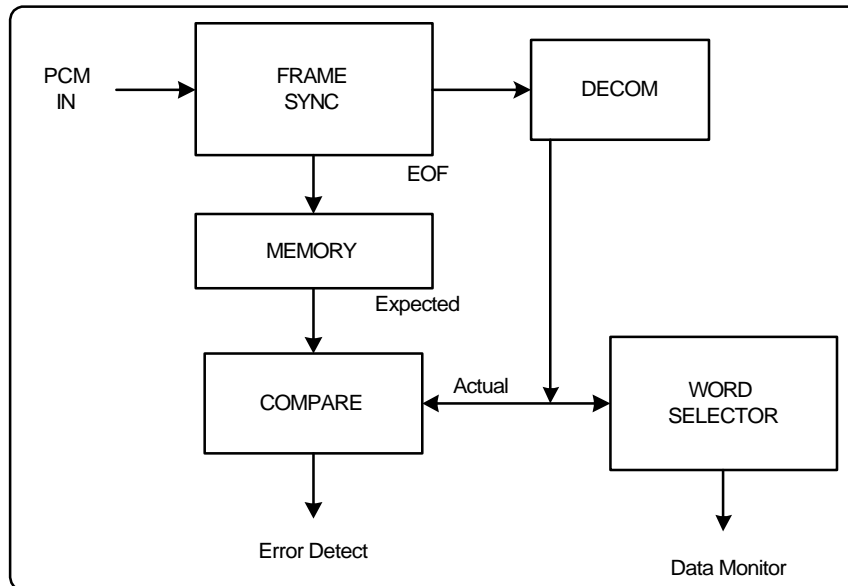


**DLTS PCM TX Section**

The Model 461 Data Link Test Set (DLTS) employs two types of data for testing. A PRN (also known as Pseudo Random Noise) sequence has the advantages of near-random data pattern and excellent data symmetry (1/0 ratio). These characteristics are useful in general recording and communication circuit tests. Real world signals however rarely have these characteristics, so the 461 DLTS also provides a PCM (Pulse Coded Modulation) data capability.

- A. **Operation and Auto Sync.** A user programmable PCM generator allows the word and frame sizes to be set to match a target format. The sync pattern and many unique words are then input to the generation program. This program is a very simple 'action list'. As shown above, separate PCM generation memories are used in the transmitter and receiver. This allows the receiver to independently generate an error free PCM signal with the same content as the transmitter but synchronized to the timing of the received frame sync pattern.

Thus the receiver compares a link or recorder delayed version of the PCM signal to the locally generated and aligned signal to detect bit errors. This approach relieves the user from manually adjusting the number of bits to delay the TX data to align with the received data. It also means that there is no limit to the amount of delay in the link with which the unit can operate.



### DLTS PCM RX Section

- B. **Data Capture.** Another feature of the 461 DLTS is the ability to capture 4 words by the receiver for display on the front panel (or remote control port) of the unit. The word number of the 4 time slots to be captured is entered and the corresponding data is displayed in hexadecimal format.

Note that the Receiver can also be used for data capture (but not error measurement) with a PCM data stream that is not generated by the DLTS transmit section. To do this, setup the PCM format in the DLTS to match word and frame size, and specify the Frame Sync Pattern and Mask as needed. The receiver can then achieve minor frame lock and decommutate the incoming stream.