DATA SYNCHRONIZATION METHOD AND CIRCUIT USING A TIMEOUT COUNTER

ABSTRACT OF THE DISCLOSURE

A data synchronization method and circuit are provided. A data synchronization circuit (28) includes a header timer (40), a timeout counter (44), a compare circuit (46), and a synchronization field register (48) for use in a read channel (10). During a read operation in the read channel (10), the data synchronization circuit (28) searches for the presence of a synchronization field in a read signal indicating that user data will be provided next. The search occurs over a predefined period of time. The header timer (40) enables a header timer signal for a first predefined period of time. The timeout counter (44) receives the header timer signal and enables a timeout counter signal for a second predefined period of time after the first predefined period of time expires. The compare circuit (46) compares the read signal to the known value or synchronization field stored in the synchronization field register (48). This comparison occurs during the second predefined period of time, the time in which the timeout counter signal is enabled to determine if a synchronization field is present in the read signal. Finally, the compare circuit (46) provides a synchronization detect signal that indicates whether a synchronization field was found during the second period of time.

Figure 2