Interfacing the CS5368/66/64 and CS4364/65/84/85 in TDM Mode

The CS4364, CS4365, CS4384 and CS4385 digital-to-analog converters and the CS5368, CS5366 and the CS5364 analog-to-digital converters support a multi-channel Time Division Multiplexed (TDM) data interface. The implementations make use of a serial clock, Frame Sync, and serial data as described in the Cirrus Logic Applications Note AN301. However, the CS4364/65/84/85 is somewhat limited in regards to the allowable width of the Frame Sync when compared to the CS5368/66/64. As shown in Figure 1, the CS4364/65/84/85 requires a Frame Sync pulse width which is equivalent to one period of the serial clock. The allowable pulse width for CS5368/66/64 is much more flexible in that it is only limited by a required low time of one period of the serial clock period when operated in Slave Mode as shown in Figure 2.

The CS5368/66/64 also has the capability to provide the system serial clock and Frame Sync for the TDM interface when operated in Master mode. However, the pulse width of the generated Frame Sync is equivalent to 50% of the frame period, as shown in Figure 3, which is incompatible with the CS4364/65/84/85.

A compatible TDM mode for the CS4364/65/84/85 and CS5368/66/64 exists when operated in Slave mode and the system clocking source generates a Frame Sync pulse width equivalent to a single period of the serial clock, as shown in Figure 1.

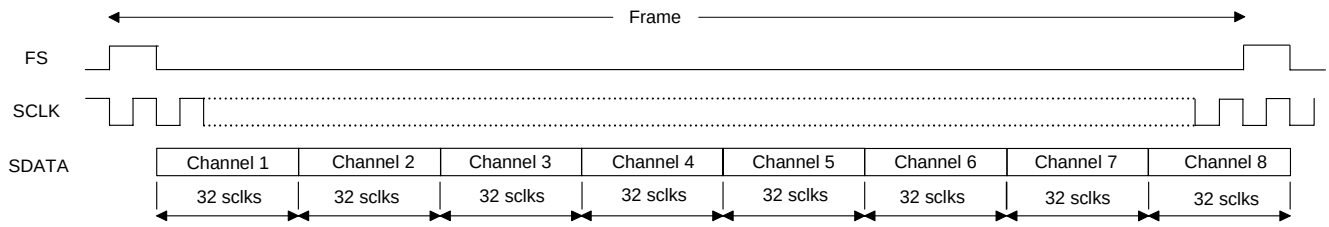

Figure 1. CS4364/65/84/85 TDM Clocking Requirements

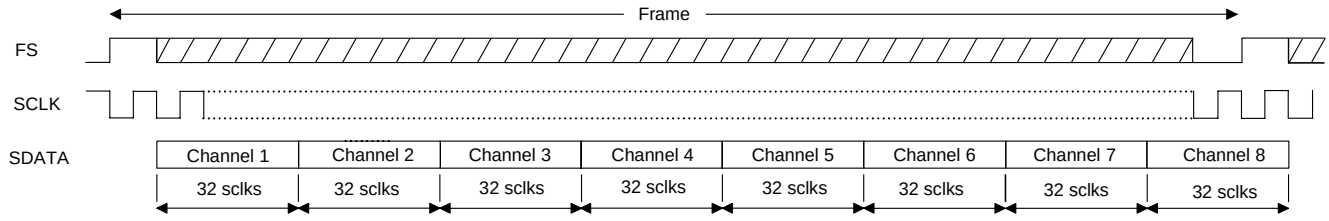

Figure 2. CS5368/66/64 TDM Mode as Sytem Clock Slave

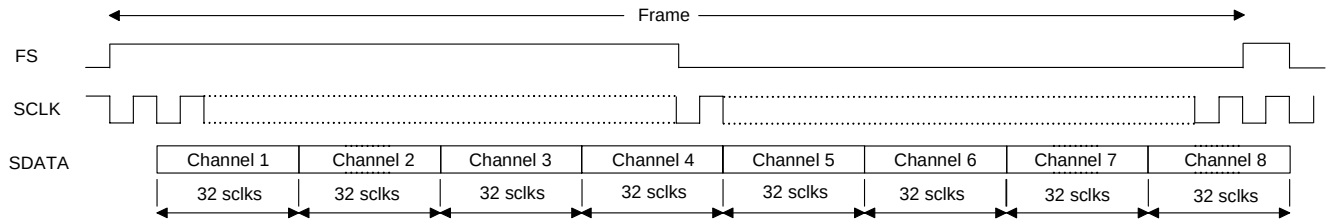

Figure 3. CS5368/66/64 TDM Mode as System Clock Master

REVISION HISTORY

Release	Changes
Revision 1	Initial Release

Contacting Cirrus Logic Support

For all product questions and inquiries contact a Cirrus Logic Sales Representative.
To find the one nearest you go to www.cirrus.com