DALLAS SEMICONDUCTOR **MAXIM**

Application Note 309
Interfacing to Fractional T1 and E1

INTRODUCTION

This application note shows a "looped-timed" application where a Dallas framer or single-chip transceiver (SCT) is configured for a fractional T1/E1 interface.

This application note applies to the following products:

T1 FRAMERS	E1 FRAMERS	T1 SCTS	E1 SCTS	T1/E1 SCTS
DS2141	DS2143	DS2151	DS2153	DS2156
DS21Q41	DS21Q43	DS2152	DS2154	DS2155
DS21Q42	DS21Q44	DS21352	DS21354	DS21Q55
DS21FF42	DS21FF44	DS21552	DS21554	DS21455
DS21FT42	DS21FT44	DS21Q552	DS21Q554	DS21458
		DS21Q352	DS21Q354	

GENERAL CONFIGURATION

It is common for a T1/E1 carrier subscriber to not have the full T1/E1 rate of service, but a fractional T1 or E1 service, since the full bandwidth may not be needed or affordable. The circuit shown in Figure 1 shows an example of a fractional T1/E1 circuit design, where the application is "looped-timed" and connected to a V.35/RS-449/S530 interface. In this figure, the transmit and receive FT1/E1 streams occupy the same time slots. The DS2175 is our T1/CEPT Elastic Store IC and the XR-T8000 is the Exar Clock Synchronizer/Adaptor for Communications IC. The idle registers on the Dallas framer/SCT can be used to fill unused channels, and the used channels do not need to be contiguous. RCHBLK can be used with TCHBLK to allow up to three additional FT1/E1 ports. Reset should be activated after all the clocks are stable.
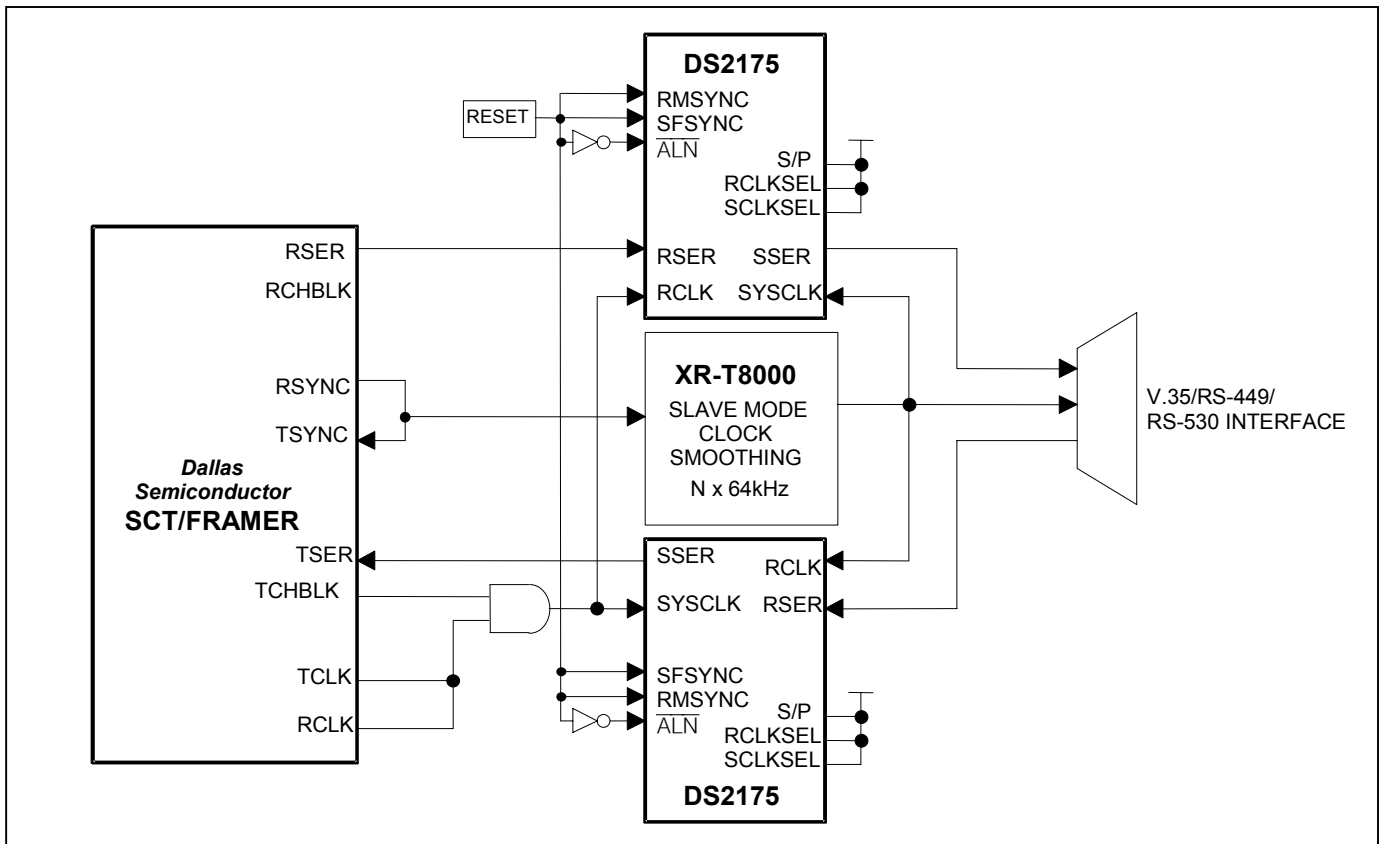
Figure 1. Fractional T1/E1 to V.35 Interface

CONCLUSION

This application note has shown how to design our framers/SCTs for fractional T1/E1 in a "loop-timed" application.

If you have further questions about fractional T1/E1, please contact the Telecommunication Applications support team via email telecom.support@dalsemi.com or call 972-371-6555.

DALLAS FRAMER/SCT INFORMATION

For more information about our framers/SCTs, please consult the data sheets available on our website at www.maxim-ic.com/telecom.