SP3508 FAQ

Part Number: SP3508

Date: April 24, 2006

Question:
Why is the SP3508 Multiprotocol device so special and why does it cost so much?
In particular, comparing SP3508 to the Maxim 3-chip solution (MAX3170/3171/3172).

Answer:
The SP3508 is the only 3V single-chip multiprotocol solution in the marketplace. As noted, the competitors require three ICs plus additional passives to build-up their basic solution. Depending on layout it may take twice or more board area to use their solution. SP3508 is also a much higher performance device than any other competing solution. It runs at roughly 50% faster than the top data rate on the competitor device. It is also much lower power consumption. Based on our characterizations of SP3508 and the Maxim solution, our chip draws only half the current in operation at 3V and in any mode.

SP3508 also incorporates some additional functionality such as a built-in loopback mode for system diagnostics and a termination disable mode for multi-drop, test or "bus-snooping" applications. SP3508 includes eight useable drivers and eight receivers, each of which may be independently enabled or shutdown. The three Maxim chips only provide a total of seven drivers, seven receivers and three of those drivers and receivers are unusable at any given time. Beyond the fixed modes in the Maxim device you cannot disable individual drivers or receivers to implement custom or non-standard implementations.

If you want to implement the full suite of signals supported by RS530, RS449, and V.36 Maxim needs to add a fourth IC to carry the RL (140), TM (142), RI (125) signals. Price-wise the Maxim three-chip set does tend to sell for less than the SP3508. Their pricing tends to be comparable to that of other Sipex multiprotocol devices such as our SP508 device.