

PC EProClock® FAQ

Item	Category	General Parameter	Affected Parameters	Questions	Answers
1	General	Information	Information	What is PC EProClock® technology?	EProClock® technology is a proprietary SpectraLinear technology that incorporates a non-volatile memory onto the device. The PC EProClock® is one-time programmable (OTP). For more information visit SpectraLinear PC EProClock® website at http://www.spectralinear.com/technology/eproclock.php
2	General	Information	Information	What does OTP stand for?	OTP stands for "One-Time Programmable". This means the devices can be hard coded by blowing the fuses to set the desired configuration. OTP will change the default values of the registers and save the user from any programming requirements. The new default values that have been programmed through OTP can later be re-configured through I ² C.
3	General	Information	Information	Does all SpectraLinear products have PC EProClock® technology?	No. Devices that support PC EProClock® technology will be identified on the datasheet to have PC EProClock® technology.
4	General	Programmability	Programmability	Can I program the PC EProClock® technology?	Yes. The user can program the PC EProClock® technology through I2C. It should be noted that for a hard coded version (OTP; one-time programmable) it must be done by SpectraLinear. Hard coded (OTP) defaults can later be changed through I2C.
5	Technical	Programmability	Programmability	What methodology is used to program the PC EProClock® technology?	There are two methods to program the PC EProClock® technology: 1. I ² C (volatile) 2. OTP (non-volatile one-time programmability) which is a hard coded version and is done for the user by SpectraLinear.
6	Technical	Programmability	Programmability	What parameters can be program in the PC EProClock® technology?	I/O configurations, impedance, skew, threshold levels, PLL configurations, divider configurations, spread modulations, and more.
7	General	Programmability	Programmability	Can I avoid I ² C programming once I have determine my optimal setting?	Yes. Once the user has found the desired configuration, SpectraLinear can hard coded the program through OTP so the user can avoid all programming requirements.
8	Technical	AC/DC Spec	Input	What are the input pull-down / pull-up values I can program for my input pins.	Input pins pull-down / pull-up can be programmed to be 10K, 20K, 50K and 100K-ohm. SL28748, SL28770, SL28773, and SL28776 has only 100K-ohm programmability.
9	Technical	AC/DC Spec	Input	What are the input threshold levels I can program for my input pins.	Input threshold levels can be programmed to be a) CMOS input Vth: VDD/2 +/-10% b) 2-level input Vth: 0.55V +/-10% or 1.1V +/-10% c) 3-level input Vth: (Vth_Low = 0.55V +/-10% , Vth_High 1.65V +/-10%) d) (Vth_Low = 1.0V +/-10% , Vth_High 2.0V +/-10%). Note: There is also fine tuning adjustment for the thresholds given above: Nominal +/- 10%.
10	Technical	AC/DC Spec	Input	What is the accuracy of the programmable input threshold voltage?	Accuracy is 10%
11	Technical	AC/DC Spec	Impedance	What are the programmable output impedance values for single-ended clocks?	50-ohm, 25-ohm, 17-ohm, and Hi-Z
12	Technical	AC/DC Spec	Impedance	What are the programmable output impedance values for differential clocks?	50-ohm, 33-ohm, 20-ohm, and Hi-Z
13	Technical	Programmability	Programmability	Does the user get full access to the 580 Bytes (> 4K bits) of programmability?	No. This is due the complexity of programming certain parameters such as spread profiles where it requires a full understanding of the chip design. The user will have access to more than 150 bytes of programmability that will allow the user to access I/O configurations, PLL configurations, other AC and DC configurations and more.