LogLinearS model equation is:

$$\log_{10}(N_t) = log_{10}(A \times B \times C)$$

where

$$A = 10^{log_{10}(N_0)}$$

$$B = exp(-k_{max} \times t)$$

$$C = D/(1 + (D - 1) \times B)$$

with

$$D = exp(k_{max} \times S1)$$

t is time, log_{10} is base 10 logarithm. The parameters to estimate are k_{max}, $S1$ and $log_{10}(N_0)$. The noisy output is defined as:

$$\log_{10}(N_t) = \mathcal{N}(\log_{10}(N_t), \%noise)$$

i.e random number from the normal distribution with mean parameter $\log_{10}(N_t)$ and standard deviation parameter $\%noise$.

Example of LogLinearS curve
Time unit is mn. Maximal time is 60mn. $k_{max} = 0.5$, $S1 = 8$, $log_{10}(N_0) = 6$