

Electronic Identification Code

How to read-out the serial number of SHT2x

The SHT2x provides a device specific serial number which can be read-out via the serial interface (I²C) and allows for an unambiguous identification of each individual device. This application note describes the procedure for read-out of the serial number.

1 Communication Sequence

The communication sequences for reading out the serial number comply with the general I²C serial interface protocol. For detailed information on I²C, please refer to the Datasheet SHT2x and the I²C bus specification by NXP Semiconductors (<http://www.standards.nxp.com/support/i2c/>).

The serial number of the SHT2x is partitioned to two different locations on the on-chip memory. Therefore, two memory access sequences are required to retrieve the complete serial number information. Figure 1 shows the corresponding communication sequence.

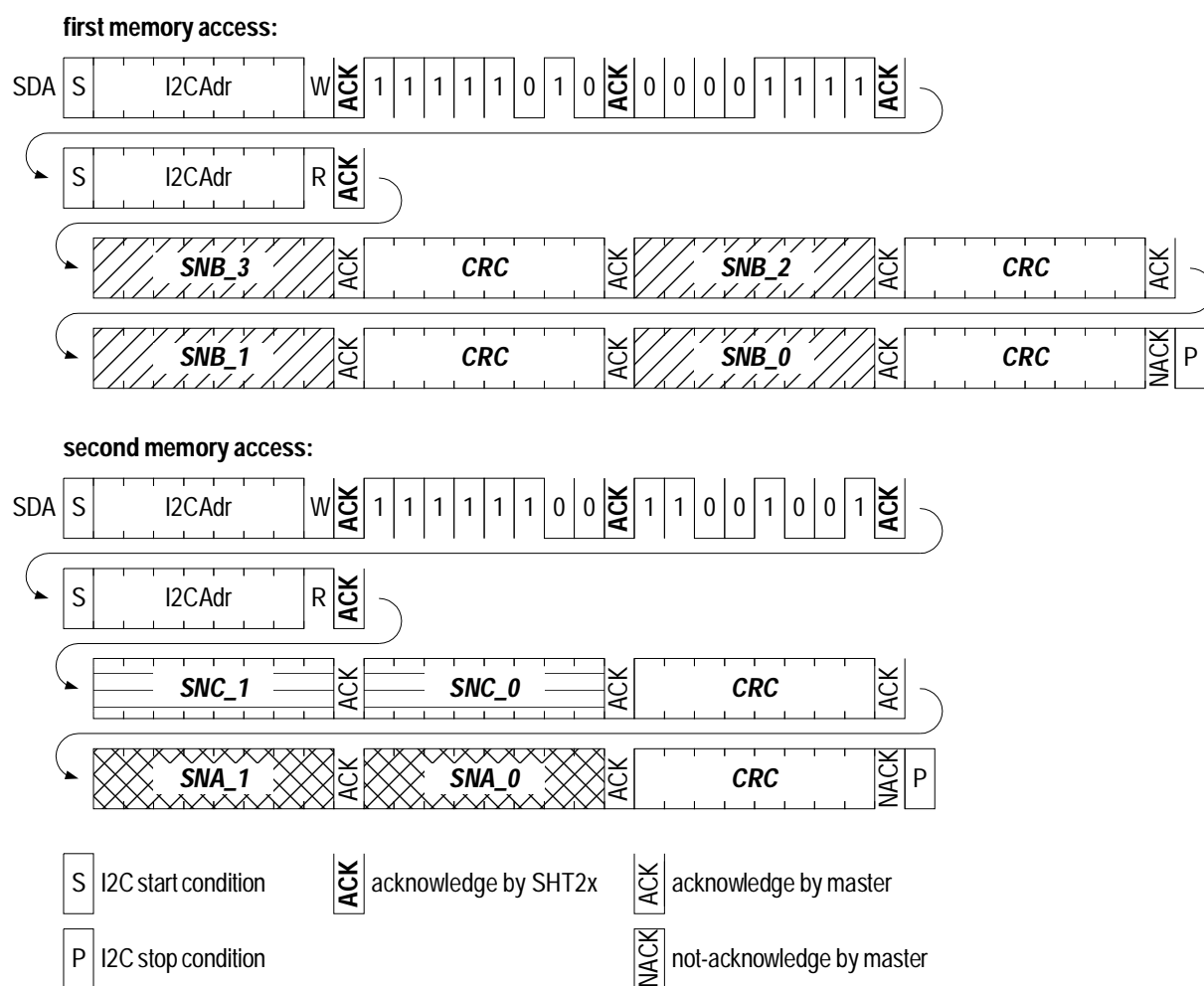


Figure 1: Communication sequences.

2 Composition of Serial Number

After reading out the data as described above, the serial number is obtained by arranging the data bytes according to Fig. 2.

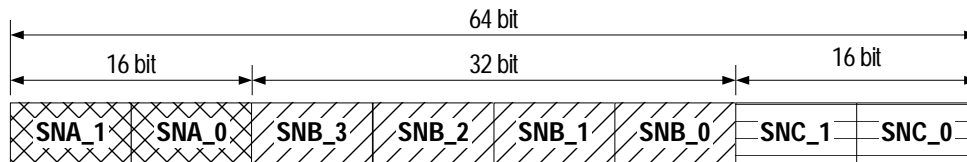


Figure 2: Composition of serial number.

3 Example

For illustration of the read-out procedure, a numeric example is presented below. The I²C address of the SHT2x is assumed as "100'0000" (hexadecimal: 0x40).

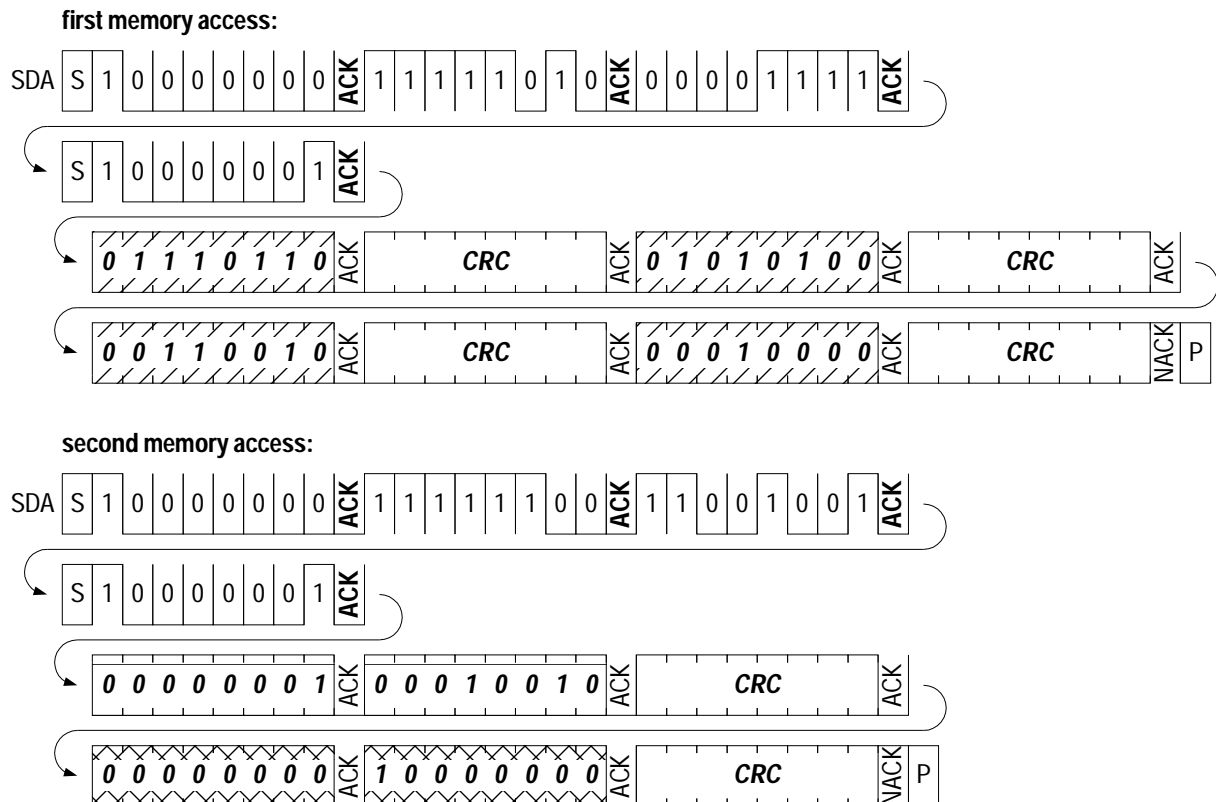


Figure 3: Communication sequences with numeric example (I²C address "100'0000"). Normal font: data direction master to SHT2x, bold-italic font: data direction SHT2x to master.

The serial number of the numeric example reads (hexadecimal): 0x0080'7654'3210'0112.

Revision History

Date	Revision	Changes
21 September 2009	1.0	Initial version (PME/DHA)
27 October 2009	1.1	Added NACK at the end of each read-out sequence (PME/DHA)

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