

# Quick guide to STX/ETX-protocol

This quick guide is meant as a short simple overview of the STX/ETX-protocol.  
For further information please read the STX/ETX-protocol.

## 1 General

- The STX/ETX- protocol consist of control characters, ASCII-coded data (function-number, mode, data, errorcode...) and a binary coded checksum
- **STX** , **ETX**, **ACK**, **SYN** ... are control characters (**STX**=0x02, **ETX**=0x03...)  
(→ 2.2.2 Control Character Definition)
- The checksum is binary coded and can have any value from 0x00-0xFF  
(→ 2.2.3 Example for a Host Request to the RF System)
- Function list, mode, data ... are transmitted as ASCII-characters
- When using the a scemtec testsoftware (SFTTest,STXTerm,...) there is no need to type in the Control Characters or calculate the Checksum. The program will do this by itself.

## 2 Structure of a Request

- A Request in the STX/ETX-protocol has the following structure:  
**STX** <functionnumber>[<mode>][<data>] **ETX**<Checksum>
- All characters except the control Characters and the Checksum are coded as ASCII-characters (0xA3 → "A3" )
- Example: When you want to read block 4 of a Hitag1 Transponder using SFTTest, you have to type in the following command: 4200S0404  
The program will add the control characters by itself

## 3 Structure of an answer

### 3.1 Successful execution

- The control character ACK as first character of the answer indicates a successful execution
- A positive answer has the following structure:  
**ACK STX** < functionnumber>[<data>] **ETX** <checksum>

### 3.2 Error in the execution

- The Control Character SYN as first character of the answer indicates an error
- **SYN STX** <functionnumber> <errorcode> **ETX**<checksum>
- A list of all error codes can be found in chapter (→ 2.2.6 Error Messages)