# interface protocol

#### Interface protocol modification

9600 bit, with start and stop bit, 8 bit transmitting, without parity check.

## The communication protocol from SCM to PC

### Protocol 1.: data transmitting protocol

| Identification | data |          |  |  |  |  |
|----------------|------|----------|--|--|--|--|
| code           |      |          |  |  |  |  |
| hex            |      | BCD code |  |  |  |  |
| A5             | 0D   |          |  |  |  |  |
| A5             | 06   |          |  |  |  |  |

The first byte fixed at A5, which is data identification code.

The following is BCD code for 2 byte(data display) or 3 byte(time).

Time style 0A5H + 06H + 3 byte data

2 kinds of data style Renovating data style ---0A5H + 0DH + 2 byte data + A5H + 0BH

 $\label{eq:Renovating bargraph style ---0A5H + 0DH + 2 byte data + A5H + 0CH \\ The indicated bargraph segments are calculated according to 2 byte data and current range.( the last bit of BCD is decimal fraction).$ 

|     | hex  | indicator  | Data range  | Available |  |                               |  |  |  |
|-----|------|--|---|-----------|--|-------------------------------|--|--|--|
|     |      |  |   | reading   |  |                               |  |  |  |
| A5H | 1BH  | dBA  | 0-130.0 dB  | 0.1 dB    |  | dBA / dBC only one can be     |  |  |  |
| A5H | 1CH  | dBC  | 0-130.0 dB  | 0.1 dB    |  | displayed                     |  |  |  |
| A5H | 02H  | FAST   | FAST/SLOW only one can be displayed                 |           |  |                               |  |  |  |
| A5H | 03H  | SLOW   |   |           |  |                               |  |  |  |
| A5H | 04H  | MAX  | MAX/MIN only one can be displayed or non of them    |           |  |                               |  |  |  |
| A5H | 05H  | MIN  | displayed   |           |  |                               |  |  |  |
| A5H | 06H  | TIME   | 1:00:00—12:59:59 Displ                              |           |  | ay and renovating time, date, |  |  |  |
|     |      |  | year, month etc.                                    |           |  |                               |  |  |  |
| A5H | 07H  | OVER   | Display OVER bargraph and current measured readings |           |  |                               |  |  |  |
| A5H | 08H  | UNDER  |   |           |  |                               |  |  |  |
| A5H | OffH | hold   | PC only receive command but not display HOLD symbol |           |  |                               |  |  |  |
| A5H | 0AH  | REC  | Automatically Saving function A5H 1AH cancel REC    |           |  |                               |  |  |  |
| A5H | 0BH  | Display renovating data and bargraph                 |   |           |  |                               |  |  |  |
| A5H | 0CH  | Display renovating bargraph but not data             |   |           |  |                               |  |  |  |
| A5H | 0DH  | Display measured readings with decimal all the time. |   |           |  |                               |  |  |  |
| A5H | 0EH  | CANCEL MAX/MIN                                       |   |           |  |                               |  |  |  |
| A5  | 11H  | CANCEL OVER& UNDER                                   |   |           |  |                               |  |  |  |
|     |      |  |   |           |  |                               |  |  |  |

#### **Command and function**

|     |     |             | range                         |
|-----|-----|-------------|-------------------------------|
| A5H | 10H | 30 Db80 dB  |                               |
| A5H | 20H | 50 dB100 dB |                               |
| A5H | 30H | 80 dB130 dB |                               |
| A5H | 40H | 30 dB130dB  | display AUTO at the same time |

# Protocol 2 :

#### In PC interface protocol, the received data should be managed as following:

1. according to received data and measured range, calculating and display the bargraph segements (bargraph segements are 51)

- 2. Switchable received data at anytime, when to receive the data, displaying the Max/Min noise, average value and opposite time, with automatic saving functiuon.
- 3. Input the data to access or excel table
- 4. change it to graph
- 5. choosing COM jack, bit, start bit and 8 bit transmitting.
- 6. Transmitting 5AH 0ACH reading DATA LOGGER receiving 0DDH start data analyzing with saving or not function

#### The communication protocol from SCM to PC

The command style of PC:

Command and function:

| command              | d function                |   |       |      |       |      |      |        |      |          |     |      |
|----------------------|---------------------------|---|-------|------|-------|------|------|--------|------|----------|-----|------|
| 33H                  |                           | Power off                                 |       |      |       |      |      |        |      |          |     |      |
| 55H                  |                           | Send out rec command cancel rec command   |       |      |       |      |      |        |      |          |     |      |
| 11H                  |                           | display max display min cancel MAX/MIN    |       |      |       |      |      |        |      |          |     |      |
| 77H                  |                           | Display FAST display SLOW                 |       |      |       |      |      |        |      |          |     |      |
| 88H                  |                           | Range Switch                              |       |      |       |      |      |        |      |          |     |      |
| 99H                  |                           | Send out dBA command send out dBC command |       |      |       |      |      |        |      |          |     |      |
| 0ACH                 | DATA LOGGER read function |   |       |      |       |      |      |        |      |          |     |      |
| DATA LOGGER protocol |                           |   |       |      |       |      |      |        |      |          |     |      |
| 1. data receiving    |                           |   |       |      |       |      |      |        |      |          |     |      |
| BBH                  | XH                        | XL  | aa/cc | year | month | date | hour | minute | Sec. | Sampling | ACH | data |
|                      |                           |   |       |      |       |      |      |        |      | rate     |     |      |
| BBH                  | Star                      | Start signal                              |       |      |       |      |      |        |      |          |     |      |
| XH/XL                | Data                      | Data volume                               |       |      |       |      |      |        |      |          |     |      |
| AAH/CCH              | DBA&DBC                   |   |       |      |       |      |      |        |      |          |     |      |
| ACH                  | Start receiving data      |   |       |      |       |      |      |        |      |          |     |      |
| DDH                  | Over symbol               |   |       |      |       |      |      |        |      |          |     |      |
|                      |                           |   |       |      |       |      |      |        |      |          |     |      |