SNAPSCII

S.N.A.P ASCII I/O Interface

Protocol version	0.94
Document revision	0.94

1.0 Introduction.

This document describes an ASCII interface to **S.N.A.P**, internal it goes by the name "SNAPSCII". The purpose of this is to provide a bare bone and very basic way to exchange **S.N.A.P** packets. This could be useful in many situations since there are plenty of equipment in use that only handles plain ASCII, below are just some ideas of how it could be used.

One application could be e-mail gateways that receives **S.N.A.P** packets in ASCII and resend them as a "real" **S.N.A.P** packets on the network. Used in a home automation system this would let you send e-mail to your home that could control lamps or other appliances or to receive alarm messages etc. from a supervisor system directly as an e-mail or SMS messages on your mobile phone.

This also makes it possible to connect "dumb" ASCII terminals to a **S.N.A.P** network and issue commands to other nodes manually or by software. Another possibility is for interfacing a **S.N.A.P** network with applications that only have basic file I/O available as the "communication link"

Features.

- Based on the free S.N.A.P network protocol.

- Two different types of formats (raw and labeled).

- Enter data in decimal, hexadecimal or binary.

- Complies with S.N.A.P network protocol 1.00.

2.0 Packet structure.

Each packet starts and ends with a tag that are enclosed within brackets. This defines the protocol version, number base currently used and it's packet type. Each line should be terminated with CRLF.

[SNAP]

A SNAPSCII packet should always start with this tag.

[/SNAP]

A SNAPSCII packet should always end with this tag.

[VER:X.XX]

Defines **S.N.A.P** network protocol version in following format #.##. Default is VER:1.00.

[BASE:XXX]

Defines what number base is used. Valid options are DEC, HEX or BIN. This label can be used repeatedly to switch between number bases within a SNAPSCII packet. Default is DEC.

[TYPE:XXX]

Defines what type data is entered in. Valid options are RAW and LBL. Default is LBL.

2.1 RAW - Raw packet type.

Each row represents each byte in decimal, hexadecimal or in binary format in a packet. Note in raw packets you are responsible for including **ALL** data including the checksum for chosen EDM mode and preamble bytes if that is used. All examples in this draft uses dummy values!

Example 1.

[SNAP]
[VER:1.00]
[BASE:DEC]
[TYPE:RAW]
84
12
33
245
9
89
117
199
122
[/SNAP]

Example 2.

```
[SNAP]
[VER:1.00]
[BASE:HEX]
[TYPE:RAW]
FF
FF
FF
FF
2A
01
2B
[BASE:BIN]
11001001
[BASE:HEX]
A1
C8
11
90
F0
[/SNAP]
```

2.2 LBL - Labeled packet type.

This packet type uses labeled fields for easier identification. Each label is made of three characters and a semicolon. Uses similar names as the fields defined in the **S.N.A.P** network protocol so it's easy to memorize. Using this packet type you don't provide the checksums for chosen error detection mode. This should be handled by the "gateway" that interprets the SNAPSCII packet and that is responsible for resending it as a valid S.N.A.P packet.

DAD:

Destination **AD**dress (value 0-16777215), if no DAB bytes is wanted you should omit this label.

SAD:

Source **AD**dress (value 0-16777215), if no SAB bytes is wanted you should omit this label.

FLG:

Protocol **FL**a**G**s (value 0-16777215), if no flags is wanted you should omit this label.

ACK:

ACK/NAK (0 = no ACK/NAK required, 1 = ACK/NAK required, 2 = ACK response, 3 = NAK response, see **S.N.A.P** protocol documentation for more information).

CMD:

Com**manD** mode (0 = not supported, 1 = DB1 contains command value 1-255, see **S.N.A.P** protocol documentation for more information)

EDM:

Error **D**etection **M**ethod (value 0-7, see **S.N.A.P** protocol documentation for more information).

NDB:

Number of **D**ata **B**ytes (value 0-512).

DAT:

DATa bytes (value 0-255, each data byte, DB1-DBn, is separated by a comma, most significant byte is first).

Example 1

```
[SNAP]
[VER:1.00]
[BASE:DEC]
[TYPE:LBL]
DAD:134002
SAD:3
ACK:1
CMD:0
EDM:4
NDB:8
DAT:231,45,2,190,21,0,254,33
[/SNAP]
```

5.0 S.N.A.P ASCII I/O Interface history.

000113 - **SNAPSCII** Version 0.94 [Preliminary Draft].

First public release.

6.0 PLM-News mailing list.

If you want to stay up-to-date with **S.N.A.P** you can subscribe to our PLM-News mailing list. We will announce updates, new products, tips & tricks when available.

To subscribe to the PLM-News mailing list send an e-mail to...

   listserv@hth.com

with the following in the body...

   subscribe plm-news <e-mail address>

Substitute "<e-mail address>" with your own e-mail address.

After you subscribed you will receive a confirmation via e-mail and there after receive every issue of PLM-News.

6.1 More information.

More information about **S.N.A.P** and the **PLM-24** Power Line Modem can be found at the URL's given below. If you are interested to implement **S.N.A.P** in any commercial application please send e-mail for free licensee registration.

   info@hth.com

Information about **S.N.A.P** and **PLM-24** Power Line Modem can be found at...

   http://www.hth.com/snap/
   http://www.hth.com/plm-24/

6.2 Feedback and suggestions.

If you have any comments or suggestions or have any program examples that are using **S.N.A.P** and want to share them with others please feel free to contact us by e-mail. We are looking forward to hear from different people using **S.N.A.P** and if you send us a short story about your use we will publish it on our web.

   rz@hth.com

Disclaimer of Liability.

S.N.A.P AND ANY RELATED DOCUMENTATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON INFRINGEMENT.

IN NO EVENT SHALL HTH OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY LEGAL THEORY, INCLUDING LOST PROFITS, DOWNTIME, GOODWILL, DAMAGE TO PERSON OR REPLACEMENT OF EQUIPMENT OR PROPERTY, AND ANY COST OR RECOVERING, REPROGRAMMING OR REPRODUCING OF DATA ASSOCIATED WITH THE USE OF THE HARDWARE OR SOFTWARE DESCRIBED HEREIN, EVEN IF HTH HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Distributor:

High Tech Horizon
Asbogatan 29 C
S-262 51 Angelholm
SWEDEN

E-mail: info@hth.com
WWW: http://www.hth.com