



Chiron Serial Port to IP Guide

Overview

Amongst their many functions, the Chiron IRIS Alarm over IP Adapters have a serial interface that can be used either for configuration (using the Chiron Local Configuration Software) or for serial data transmission. Depending on the version of IRIS in use, serial data can be transmitted over a number of communications routes including ISDN, GSM, GPRS and IP.

This document describes how to use the serial data transmission over IP.

For data transmission, the IRIS serial ports acts like a standard Hayes modem, supporting standard Hayes commands with the extensions required for IP support. For connections over IP this allows a TCP/IP socket connection to be set up to any remote device or server, which could be another IRIS unit.

There are two modes of operation:

Dialled connections using the Hayes ATD... command format

Dialled connections using a pre-stored number and dialling on DTR activation.

For DTR dialled mode a special 'virtual serial cable' feature can be enabled whereby the IRIS will automatically reconnect if the TCP/IP socket connection is broken for any reason.

The specific Hayes commands required are shown below. Note – individual Hayes commands are shown but commands can also be concatenated into single Hayes command strings in the normal way.

Serial Interface

Serial port speeds supported are 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200. This is normally automatically detected by autobaud on the Hayes AT command.

Alternatively, a fixed baud rate can be set for incoming calls and DTR dialled calls using the S37 Hayes register with the following values:

<u>Speed</u>	<u>S37 value</u>	<u>Speed</u>	<u>S37 value</u>
1200	5	19200	12
2400	6	38400	13
4800	7	57600	18
9600	9	115200	31

Data format supported are 8 bit no parity or 7 bit with parity, 1 or 2 stop bits. These are detected automatically.

Hardware flow control (RTS/CTS) is supported by default. Alternatively this can be switched off with the Hayes &K0 command.

Enabling Serial to IP transmission

As IRIS supports many serial data communications modes, serial to TCP/IP must be explicitly selected. This is done using the following Hayes command:

```
%A2=12
```

IP Address Setup

By default the processor uses DHCP and no IP address needs to be entered.

To use a fixed IP address:

```
%I4 = own IP address, e.g. AT%I4=081176123007<CR> for IP  
address 81.176.123.007
```

```
%I8 = sub-net mask, e.g. AT%I8=255255255000<CR>
```

```
%I9 = gateway address, e.g. AT%I9=081176123001<CR>
```

Dialling using the ATD command

The TCP port number for the IRIS is set by the %I6 register, e.g. AT%I6=02567<CR> sets port number 2567.

To make an outgoing connection the following dial command is used:

```
ATD080176192004:01234<CR> where the destination IP address is  
80.176.192.004 and the destination TCP port number is 1234.
```

The socket is cleared by dropping DTR or using the Hayes escape sequence +++ followed by ATH<CR> after the OK response.

If incoming TCP connections are to be made, Auto-answer should be set (ATS0=1<CR>). Incoming calls are indicated by "RING" and "CONNECT" Hayes result codes.

Dialling using DTR

Dialling by DTR is enabled by setting &D4.

If 'virtual serial cable' mode is required, this is set by the %A6 register. The value in this register determines the time period (in seconds) that the IRIS will wait before reconnecting. A value of 0 disables this mode.

The TCP port number for the IRIS is set by the %I6 register, as described above.

The called TCP port number is set by the %I7 registers in the same format as the %I6 register described above.

The called IP address is set in the &Z0 register, e.g.
AT&Z0=081176123007<CR> for IP address 81.176.123.007

To make an outgoing socket connection, the DTR line should be asserted.

The socket is cleared by dropping DTR.

If incoming TCP connections are to be made, Auto-answer should be set (ATS0=1<CR>). Incoming calls are indicated by "RING" and "CONNECT" Hayes result codes.