



**iChip
CO710AG, CO711AG,
CO120SQ and CO2128**

Ver. 709B02

Release Notes

Ver. 1.00

April 2007

Previous Version: 708B06

Table of Contents

New Features for Ver. 709B02	4
New CO2128 iChip Device	4
Retrieve File/Page from HTTPS Server	4
HTTP/HTTPS POST Support	5
Content-Type parameter for POST commands	5
New Feature Descriptions for Ver. 709B02	6
+iSLNK – Send ASCII coded Lines to an HTTP server in a POST request.....	6
Known BUGs in Ver. 709B02	8
1. (1072,1140) Sending or Receiving Big files at a Low baud rate	8
2. (1089) Sending an Email with Attachment	8
3. (1096) Configuration WEB site Boot-Block version report	8
4. (1144) FTP file receive Error	8
5. (1145) Receiving file via UDP socket over WiFi	8
6. (1146) Sending information via TCP socket using small buffers over WiFi	8
7. Preprogrammed Flash Required for CO2128	8

Current Version Ixx709B02

New Features for Ver. 709B02

New CO2128 iChip Device

Starting from version 709xxx, the next generation ARM-based CO2128 iChip is supported. The CO2128 device has several functionality subsets. Each functionality subset is called a "flavor". The CO2128 Flavor A, is designed to run from an external flash on the CO2128's EBI bus. This flavor is fully backward compatible with the CO711AG iChip device.

The CO2128 and its lower cost alternative part, the CO2064, also support running from internal memory. In this operational mode the firmware is downloaded into internal memory at power up. This provides a potential cost saving of an external Flash device. Flavors that support this shall be released in future versions, expected after July 2007.

The AT+i Programming interface is used to program the CO2128. It is backward compatible with all previous iChip devices developed by Connect One.

The CO2128 iChip is available in a 128 Pin LQFP package.

The firmware file naming conventions for the CO2128 are:

i2128<p><ver><fl>.imf

Where,

p – Communication Platform:

'l' – LAN

'w' – WiFi

's' – Serial (Dial-up or Cellular)

'd' – Dual Platform (Both Dial-up/Cellular and LAN/WiFi).

ver – Version number (i.e., 709B02)

fl – Flavor:

A – First flavor (CO711AG Compatible, running from external Flash).

Retrieve File/Page from HTTPS Server

Applicable	CO710AG	CO711AG	CO120SQ	CO2128
to :		*	Flavor A	Flavor A
				*

Starting from Firmware version 709xxx, the RLNK command has been enhanced to include support for file and page retrieval from a secure (HTTPS) server.

HTTPS will be used instead of HTTP whenever the URL specified starts with "HTTPS" or "https" instead of "HTTP" or "http".

The URL may be specified in the RLNK command or the AT+iURL parameter.

This enhancement also applies to the new AT+iSLNK command, described in the following paragraph.

The HTTPS default port is 443, as opposed to the HTTP default port 80.

The new HTTPS support uses iChip's SSL3 engine and thus is supported only on the CO711AG iChip device.

HTTP/HTTPS POST Support

Applicable	CO710AG	CO711AG	CO120SQ	CO2128
to :	*	*	Flavor A	Flavor A

Starting from Firmware version 709xxx, a new AT+i command, AT+iSLNK (Send Link) was added to support POST of data / file to an HTTP server. The command follows the syntax of EMA and its replies follow the syntax of the replies to the RLNK command.

The new AT+iSLNK command supports both HTTP and HTTPS URL's exactly as the enhanced AT+iRLNK command. Note however, that HTTPS is supported only on the CO711AG since it requires the SSL3 engine.

The URL used by the SLNK command is defined in the AT+iURL parameter.

Content-Type parameter for POST commands

Applicable	CO710AG	CO711AG	CO120SQ	CO2128
to :	*	*	Flavor A	Flavor 1

Starting from Firmware version 709xxx, a new AT+I parameter, AT+iCTT (max length 64 bytes) was added to define the content of the "Content-type:" field that is sent in the POST request. This field specifies the type of the data/file being sent. When this parameter is empty a default value of "application/x-www-form-urlencoded" will be used, and the server will expect the data to be the data sent in a "Submit" of a form.

New Feature Descriptions for Ver. 709B02

+iSLNK – Send ASCII coded Lines to an HTTP server in a POST request

Syntax: AT+i[!]SLNK:<text lines> Define a plain-text POST request body.

Parameters: <text lines> = Plain-text POST request body. The POST request body contains <CR[LF]> terminated ASCII character strings. <text lines> must be terminated by a '.' (Dot character) in the 1st column of an otherwise empty line.

Scope: iChip Family.

Command Options:

<text lines> ::= {<ASCII text line><CR[LF]> ...}<CRLF>.<CRLF>
Maximum size of <text lines> depends on the amount of available memory in the specific iChip. SLNK uses the URL address stored in the URL parameter to send the POST request.

! Stay On-Line after completing the command
* Relevant only for iChip/iConnector/iModem.

Result code:

I/OK After all text lines have been received and terminated by the '.' line.

I/ERROR If a memory overflow has occurred before all text lines have been received.

Returns:

I/<sz><CR><LF>

Followed by:

<binary data stream>

Where,

<sz> is the exact size of the <binary data stream> to follow.

If <sz> is unknown, iChip returns I/0, followed by the data stream. When this is the case, the host must monitor for a timeout condition of at least 5 seconds without any data being transmitted before seeing one of the terminator lines described under 'Followed by'.

Followed by:

I/DONE After successfully retrieving the file. Allow a 2.5 sec. delay for iChip re-initialization following an Internet mode session.
* Relevant only for iChip/iConnector/iModem.

or
I/ONLINE After successfully retrieving the file, if the stay-online flag (!) was specified.
Always returned when using iChip LAN/iLAN.

or
I/ERROR Otherwise. (Always preceded by 5 sec. silence)

Known BUGs in Ver. 709B02

- 1. (1072,1140) Sending or Receiving Big files at a Low baud rate**

When attempting to send or receive a very large data file over Ethernet LAN or WiFi using a low baud rate, such as 2400 or less (BDR<4), the iChip sometimes does not always succeed in completing the file transmission.
- 2. (1089) Sending an Email with Attachment**

iChip fails to send an Email **with an attachment** after successfully sending an Email that does not have an attachment.
- 3. (1096) Configuration WEB site Boot-Block version report**

iChip's Configuration site does not report the correct Boot-Block version number.
- 4. (1144) FTP file receive Error**

When retrieving a large file using iChip's FTP client, sometimes error 510 (*FTP command could not be completed*) occurs without any apparent reason.
- 5. (1145) Receiving file via UDP socket over WiFi**

iChip sometimes fails to receive a large file (> 1 MB) using a UDP socket over a WiFi connection.
- 6. (1146) Sending information via TCP socket using small buffers over WiFi**

iChip sometimes fails when sending information in small blocks (< 255 bytes) using a TCP socket over a WiFi connection.
- 7. Preprogrammed Flash Required for CO2128**

The Flash memory used with a CO2128, must be preprogrammed before being soldered on to the PCB board. A future version shall include a utility that will allow booting the CO2128 and programming the flash even when it is initially empty.