

## Application note for DETH02 module

!! This is a generic tutorial and some commands may not work with your DETH module. !!  
Please always refer to datasheet or catalog to have a complete list of features of your DETH module for more details.

The software "**Hercules Setup**" was used to do these tests. You can download it at  
<http://www.HW-group.com>

This "global" procedure only works if you are on your local network (it doesn't work over the Internet)

### **Document revisions :**

v1.00 : 29/08/2008

- First release

v1.01 : 10/02/2009

- Transform to Generic tutorial for all DETH module

v1.02 : 11/06/2009

- Updated for v1.17.03 of Domintell2 software

v1.03 : 04/11/2010

- Only limit to DETH02 module

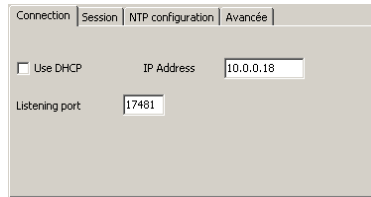
v1.04 : 30/11/2011

- Update commands list and printscreens

v1.05 : 20/03/2012

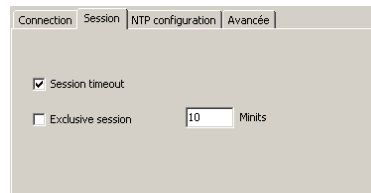
- Add HELLO command.

## 1. Configuring of DETH02 in configuration software :



Use DHCP : if you have a DHCP server (almost all routers have one), leave the case checked. If you want to specify a specific IP address to the module (or if you don't have DHCP server), uncheck it and fill in IP address.

Listening port : UDP port on which you will connect you to the module.

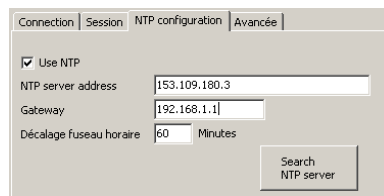


Use a login (always checked) : tells if the "LOGIN" string must be sent to the module to allow commands to be transmitted to the Master (DGQG).

Session timeout : duration of session's validity. If the specified time, no valid commands (on the Ethernet connector) were received by the module, the session is closed. After each valid command, the timer is set to this value.

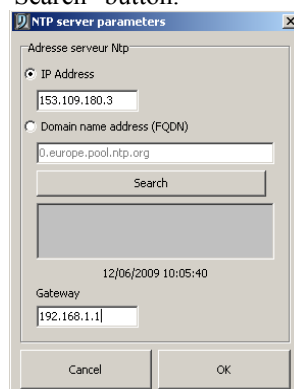
Exclusive session : if checked, user must send the "LOGOUT" command to the module to be able to open a session from a different client. This prevent other user to take handle of the module. If not checked, if a user send the "LOGIN" command the current session is closed and the new user has the handle on the module.

**!!! You must set a "Session timeout" value to use this feature.**

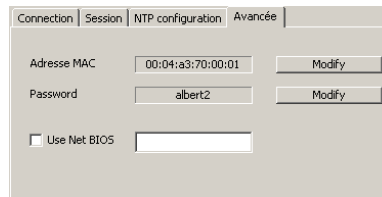


Use NTP : the Network Time Protocol allows to receive date and time from the Internet to keep the Domintell installation on time. If NTP is used, the module DDCF01 is no more needed.

Search NTP server : automatic configuration can be done with this window. All parameters are automatically detected by Domintell software with the "Search" button.



Time zone : time zone in the installation is located. The time zone defined in Windows(r) is used as default value. The summer time switching must not be added. It will be automatically done by the Master (DGQG).

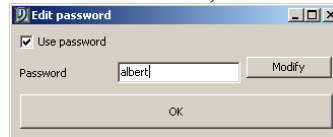


**Note :** advanced parameters are NOT stored in the DAP file and modification are directly stored in the module MAC Address : Change MAC address of the module. **Change at own risk.**

Password : Password to provide for the opening of a session.

**If password is used, you have to use the library *libdeth* (available in the SDK on the website) to generate the encrypted "LOGIN" command.**

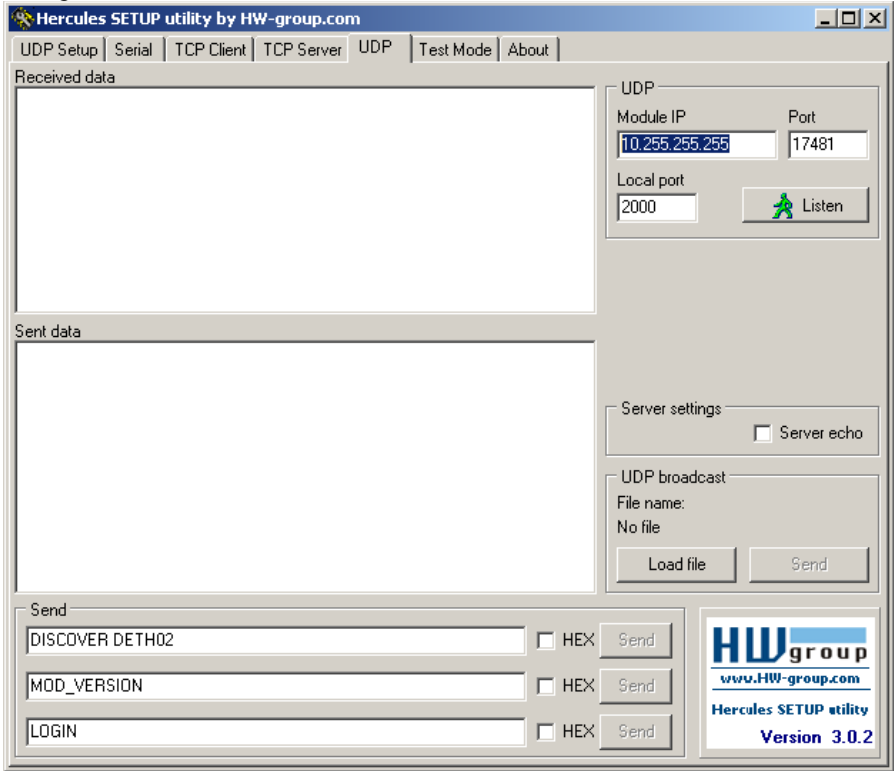
To set or modify the password, check "Use Password", enter new password and click on "Modify" button.



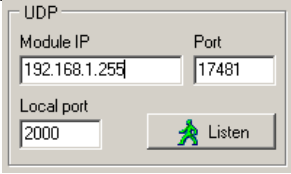
Use NetBIOS : NetBIOS name is a mechanism used by Microsoft(r) to identify computers on the local network (LAN). It also used by network scanner (i.e. : nbtstat, Advanced LAN Scanner, ...). If no NetBIOS name is defined, the default value will be, for example, "DETH02-000001" (DETH02 module with serial number 1).

2. Basic communication with DETH02 (without password !)

The test was done with a DETH02 (but some commands are compatible with other DETH module - please refer to the table at the end of this document for available command). After writing of the application in the Master, open the program "Hercules Setup" and select tab "UDP".



In this example, the DETH02 module is on a CLASS A Network (IP address like 10.x.x.x). If you are on a CLASS C Network (IP address like 192.168.x.x), the properties look like :

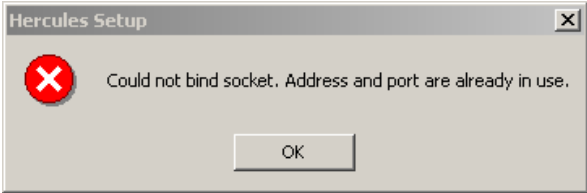


If you have unchecked "Use DHCP" and entered a static IP, you can put this address in Module IP. Otherwise, you have first to end IP address by 255 (according with your network class) to broadcast messages on all network to find the exact IP address of the DETH02 module.

IP range of DHCP server	Broadcast IP	Example of IP address of DETH02
192.168.1.10 - 192.168.1.60	192.168.1.255	192.168.1.12
192.168.2.10 - 192.168.2.60	192.168.2.255	192.168.2.12
10.0.0.120 - 10.0.1.50	10.255.255.255	10.0.0.252

- Module IP = IP address of DETH02.
- Port = Listening port of the DETH02.
- Local Port = Port which will be open on your computer to communicate with the DETH02.

Click on "Listen" to start the communication between your computer and the DETH02 module. if you received the following error, the local port you have specified is already in use on your computer and you have to choose another one (between 1024 and 65535).

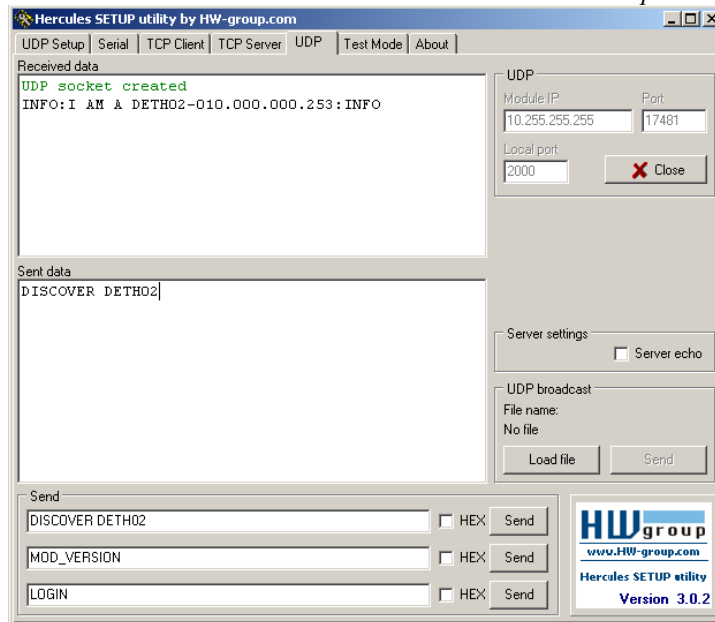


Once you are listening, you can search for the DETH02 module by sending the command "DISCOVER DETH02" :

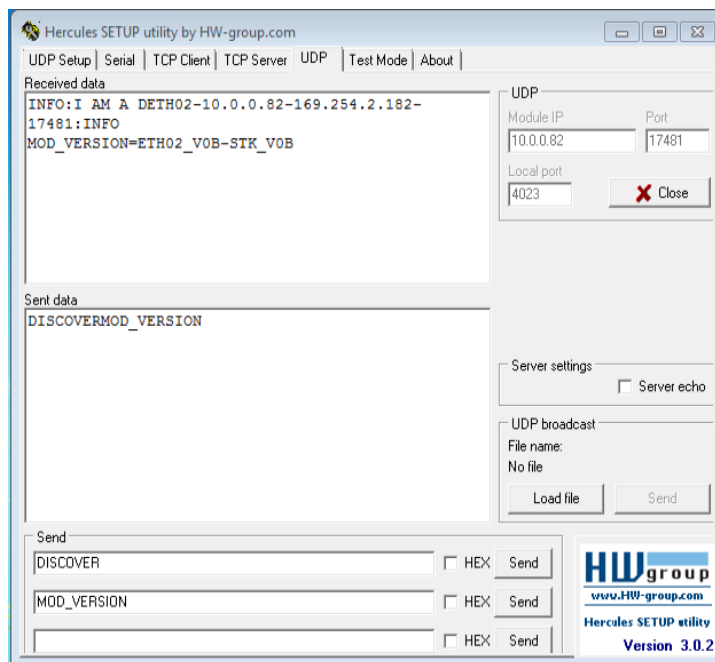
DISCOVER DETH02

☐ HEX

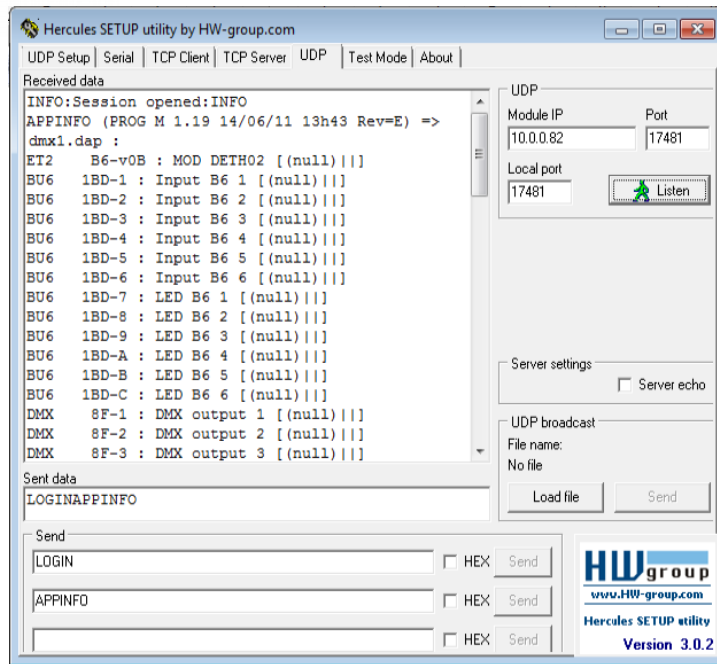
and the must reply "INFO:I AM A DETH02-IPv4 address-IPv4LL address-Domintell port:INFO" :



Now you know the exact IP address of the module (in this case 10.0.0.253). Close the connection and replace "Module IP" address with this one and click on "Listen". Send again the Discovery command to ensure that the parameters are correct. You can now send other commands to DETH02. You will find a summary of available commands with their answer.



If you have **unchecked** "Use Password" (otherwise, module will return error message), you can send "LOGIN" command and then "APPINFO":



### 3. Advanced communication with DETH0x (with password)

Please refer to *libdeth* datasheet to use DETH0x with the password feature enabled.

### 4. Summary of available commands

Unlike Lighthprotocol command, these commands cannot be concatenated using '&' character. Only one DETH command (below) can be sent by Ethernet frame. Delay between two Ethernet frames must be at least 4ms.

Command	Need Session ?	Answer	Description
DISCOVER DETH0x (where 'x' is the type of the deth interface)	No	INFO:I AM A DETH02-x.x.x.x-169.254.x.x-17481:INFO<CR><LF>	Find IP address of DETH0x on the LAN. 17481
MOD_VERSION	No	MOD_VERSION=ETH_V0B-STK_V0B<CR><LF>	Module and stack version
SETIP=x.x.x.x	No	INFO:IP changed:INFO	Change IP of Module. !! if IP statically set in Domintell2 may not work.
HELP		Available commands	Return available commands. When there is * as suffix, the command needs to be logged in.
LOGIN	n/a	INFO:Session opened:INFO	Session opened DETH0x, messages will be forward from and to Domintell bus
		INFO:Auth failed:INFO<CR><LF>	Invalid encrypted password sent
		INFO:Access denied. Close current session:INFO	A session is already opened and "Exclusive mode" is enabled
LOGOUT	n/a	INFO:Session closed:INFO	To use to be able to open a new session when "Exclusive mode" is enabled
HELLO	Yes	INFO:World:INFO (All Stack version) INFO:Access denied. Open a session:INFO (from Stack v12)	Used to reload Timeout when "Exclusive mode" is enabled.



-	Yes	INFO:Session timeout:INFO	Automatically sent by the module when a session expired (due to lack of HELLO command)
PING (DETH02 only)	Yes	<i>Depends on your installation</i>	returns status of modules of your Domintell installation (cf. DRS2320x/ETH02 datasheet)
APPINFO (DETH02 only)	Yes	<i>Depends on your installation</i>	returns the summary of your Domintell installation (cf. DRS2320x/ETH02 datasheet)
<i>Custom Text</i> (DETH02 only)	Yes	<i>Depends on your installation</i>	Execute the link programmed in your application