ARM Integrator Checking

為了確認 ARM boards 在每次實驗後是否完好，請在每次實驗完後做以下的確認，並請所屬的助教檢查。

AP: Integrator/AP

CM: Core Module

LM: Logic Module

1. Check the LM

[1] Connect the Multi-ICE interface cable to the JTAG connector on CM.

[2] Connect the null-modem cable between COM1 of AP and COM1 of a PC.

[3] Set the 4-pole DIL switch (S1) near the keyboard connector on AP to the status: ON OFF OFF ON

- The system will run the boot monitor

[4] Set the 4-way DIP switch (S1) on LM to the status:

OPEN CLOSED OPEN CLOSED

- Switch up is OPEN; switch down is CLOSED.
- Testing program has already been loaded into the Flash image 1. This DIP setting let LM run this image when LM is powered.

[5] Power-on the Integrator.

- The following LEDs and Alphanumeric display light up.

AP

- D2 (3V2)
- D2 (5V)
- D2 (12V)
- D6 (FPGA OK) under the LM
- Alphanumeric display near CM will show ‘H’, another one won’t .

CM

- POWER
- FPGA OK
- MISC

LM

- PWR
- FPGA OK
- LED 0~7 flash in sequence.

[6] Return the 4-way DIP switch (S1) on LM to the original setting:

CLOSED CLOSED OPEN CLOSED

2. Check the Multi-ICE:

[1] Start the “Multi-ICE server” program.

- Press Auto-Configure
- Check the result as follows:

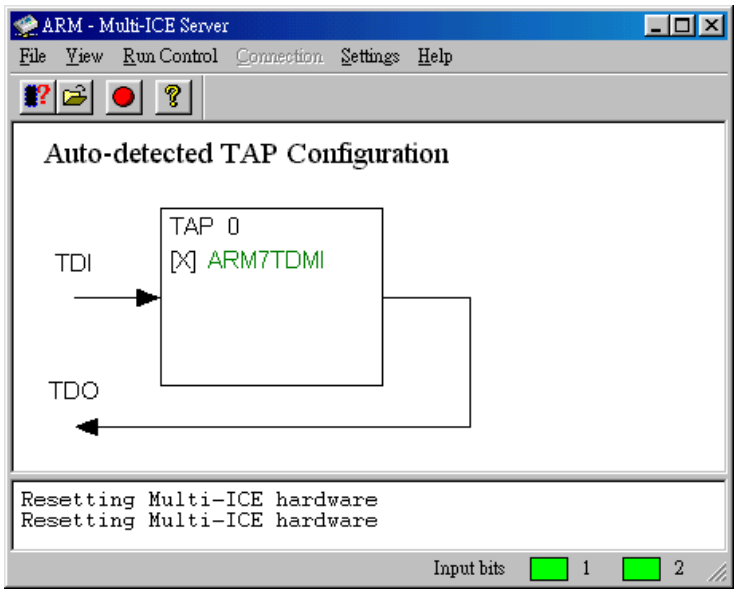

Figure 1. Result after pressing Auto-Configure button.

- The processor name may be “ARM720T”, if you use this kind of CM.

3. Check the AP and CM

[1] Start “HyperTerminal” program, and start a new connection.
"C:\Program Files\Accessories\HyperTerminal\HYPERTRM.EXE"
The serial port settings are:

- Speed baud: 38400
- Data bits : 8
- Parity : None
- Stop bits : 1
- Flow control : Xon/Xoff

Note: command in HyperTerminal is not case sensitive, i.e., type ‘n’ or ‘N’ result in the same response.

[2] Make sure the S1 switch status as step 1. [3].

[3] Reset the Integrator with one of the following two methods:
(1) Use “Reset Target” on the Multi-ICE server.
(2) Press “Reset button” on AP.
A message similar to Figure 2 should be displayed on the HyperTerminal.

[4] Type ‘t’ to run the system self tests. A message similar to Figure 3 should be displayed on the HyperTerminal.

- In line 10 of Figure 3, an inquiry “Did you see the LEDs flash in sequence[Yn]?” appears. If you see D7, D8, D9 and D10 all light, type ‘Y’, otherwise type ‘N’. If you type ‘N’, please contact TA.

```
ARM bootPROM [Version 1.2] Rebuilt on Sep 20 2000 at 13:51:50
Running on a Integrator Evaluation Board
Board Revision V1.0, ARM7TDMI Processor
Memory Size is 256KBytes, Flash Size is 32MBytes
Copyright (c) ARM Limited 1999 - 2000. All rights reserved.
Board designed by ARM Limited
Hardware support provided at http://www.arm.com/
```

Figure 2. System startup

```
1   boot Monitor > t
2   Generic Tests
3   Type any character to abort the tests
4   Timer tests
5      Running Timer tests
6      ++++++++++
7      Timer tests successful
8   LED flashing test
9      Lighting all 4 LEDs in sequence
10  Did you see the LEDs flash in sequence[Yn]? y
11  ...performed 2 tests, 0 failures
12  Board Specific Tests
13  Type any character to abort the tests
14  Keyboard/mouse tests
15
16  Initialising KMI interface
17  ==========================
18
19  KMI: wrote FF
20  KMI: wrote FF
21        Port 0: Device unsupported or absent
22        Port 1: Device unsupported or absent
23
24  ...performed 1 tests, 0 failures
25  boot Monitor >
```

Figure 3. Run the system self tests.

- Acronym: KMI: Keyboard and Mouse Interface