

# 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:

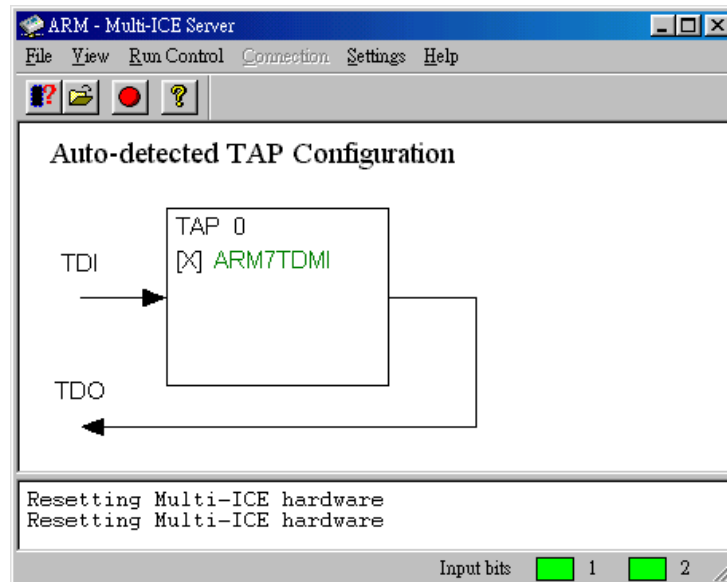


Figure 1. Result after pressing Auto-Configure button.

- 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