FWA-7X0 User manual

Tabletop Internet security platform with 4 GbE Front LAN Ports and 1 FE 10/100 manager port / 1 mini PCI Expansion Slots

Advantech   Internet Security Platform

Copyright Notice

CE Notification

The FWA-7X0, developed by Advantech Co., Ltd., has passed the CE test for environment specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. 1st Edition Printed in Taiwan Jun 2006

Product warranty

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two year from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details. If you think you have a defective product, follow these steps:

1   Collect all the information about the problem encountered. For example, CPU speed, Advantech products used, other hardware and software used, etc. Note anything abnormal and list any on-screen messages you get when the problem occurs.
2   Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3   If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4   Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5   Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Packing List

Before installation, ensure that the following materials have been received:

> One FWA-7X0 Internet Security Platform
> One box of accessories
> One warranty certificate
> If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Technical Support and Sales Assistance

If you have any technical questions about the FWA-7X0 or any other Advantech products, please visit our support website at:
> **http://www.advantech.com.tw/support**
> **http://www.advantech.com**.

For more information about Advantech's products and sales information, please visit:

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General Information

Your ePlatform Partner

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1.1 Introduction

Conceived as a powerful but low power consumption tabletop Internet security platform, the FWA-7X0 was specifically designed for SMB/SOHO segment, which can be served as a multi-functional gateway, such as IDS/IPS, Anti-virus, VPN gateway and Unified Threat Management (UTM) applications. Using the latest Intel Pentium M processor combined with the Mobile Intel 915GM Express chipset and Intel ICH6M I/O Controller Hub, the FWA-7X0 provides unprecedented performance, connectivity and throughput without compromising on system thermal design. It supports up to 2 GB of DDR2 system memory at 400 or 533 MHz on dual-channel SODIMM banks. By leveraging PCI Express technology, the FWA-7X0 maximizes I/O throughput by taking full advantage of the ICH6-M's PCI Express (PCIe) capability. Four PCIe lanes connect directly to the Marvell 8053 Ethernet controllers to provide bi-directional 2 Gb/s peak bandwidth for Gigabit Ethernet support at wire speed. The system supports one optional 2.5″ IDE, and Compact Flash for OS and Internet security applications. The rear I/O panel has a 9-pin RS-232 serial port and one 10/100 managed LAN port. It is FCC and CE compliant.

1.2 Features

Tabletop Internet security platform
Socket 478 Intel® Pentium® M or Celeron M
One 32-bit/33 MHz Mini PCI expansion slots
Four 10/100/1000 Gigabit Ethernet ports, 1 10/100 Fast Ethernet
Console port for local setting
Hard drive mounting bracket for 2.5″ drive
LAN Bypass function

1.3 Specifications

• **Processor System:**

CPU: Intel Pentium M 2.0G Hz, Celeron M processor

Max. Speed: 533/400 MHz FSB

L2 Cache: 2MB or 1MB

Chipset: Intel 915GM, ICH6M

BIOS: Award 4 Mb Flash
Memory: Support DDR2 533/400, Max. Capacity 2 GB, Socket 200-pin SOD DIMM x 2
Ethernet: 1 10/100 Fast Ethernet & 4 10/100/1000 Gigabit Ethernet, RJ-45 x 4
Drive Bay: 2.5″HDD x1
Management: Console RS-232 x1
Cooling: Fan (15 CFM) x2
Miscellaneous: Power Switch, 2 LED indicators for Power/HDD, 14 LED indicators for LAN ports, CompactFlash Socket x1

• **Adapter Power Requirement:** Input: Power adapter, AC 90 ~ 264 V @ 47 ~ 63 Hz, full range

Output: 65W

• **Operating Environment:** Operating: Temperature 0 ~ 40 °C (32 ~ 104 °F), Humidity 5 ~ 85 %

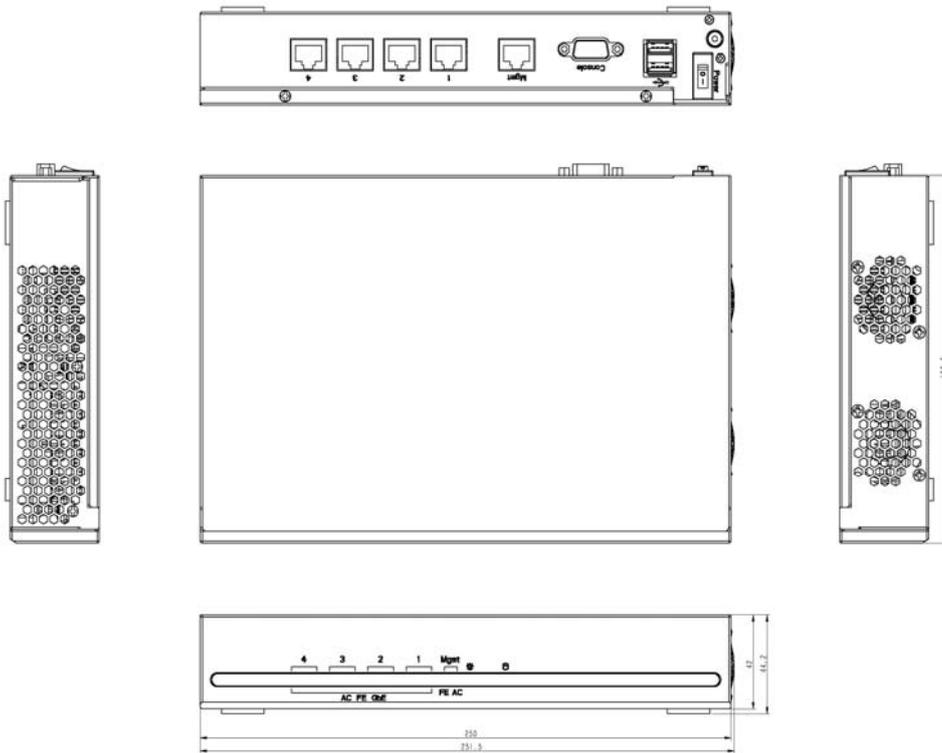Non-Operating: Temperature -20 ~ 75 °C (-4 ~ 167 °F), Humidity 5 ~ 95 %
Dimensions (W x H x D):Tabletop: 252 x 44 x 167 mm (9.9″ x 1.7″ x 6.6″)
Weight: 1.2 Kg (8.8 lb)

1.4 Dimensions

1.5 Model List

FWA-7X0: Tabletop Internet security platform, 32-bit/33 MHz Mini PCI expansion slots, one Mgmt port, Four 10/100 GbE Ethernet ports supporting two LAN Bypass function.

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System Setup

Setting up your FW-700 requires only a screwdriver and a small amount of time. Before you begin, you should also gather together all of the device you plan to install, as well as the CPU, RAM, HDD, and etc. The front panel of FWA-7X0 includes two LEDs where one is power LED and another is HDD LED, 14 LEDs for LAN indicators. On the rear panel, two USB ports, four Ethernet ports, RS-232 console port, there is a power switch located on the top right hand corner.
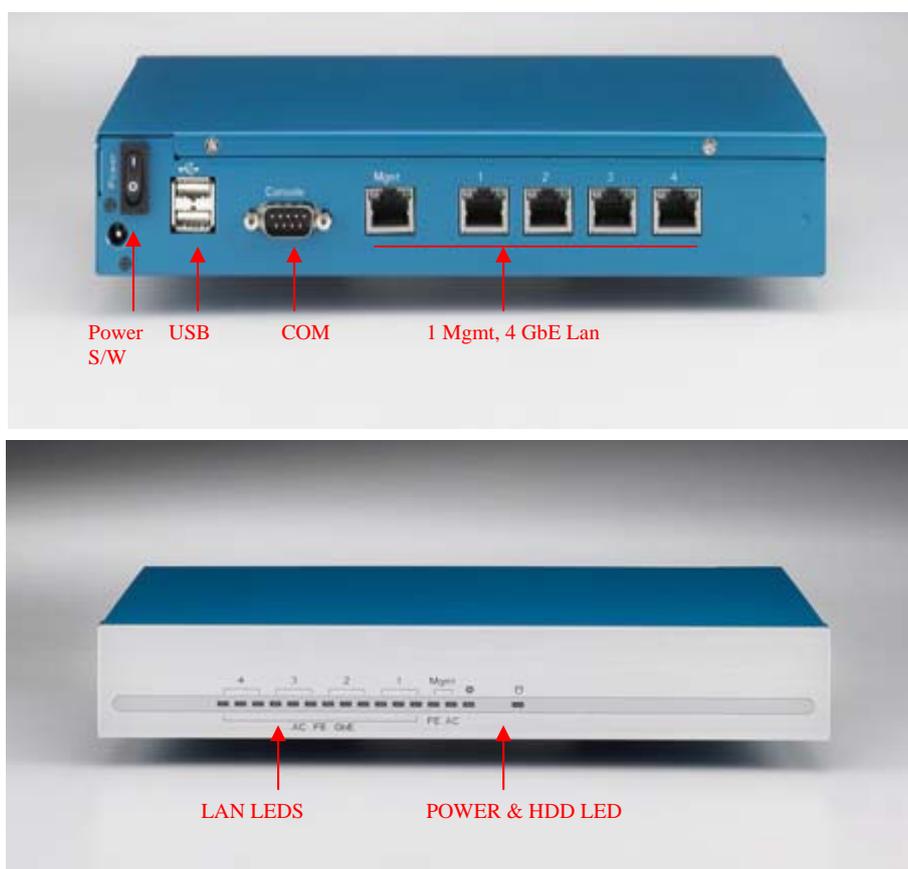

Figure 2-1: Front view of FWA-7X0

2.1 Removing the cover

There are screws which secure the cover to the chassis. They are along the rear sides, near the top. Remove them, and then slide the cover to the rear of the chassis.

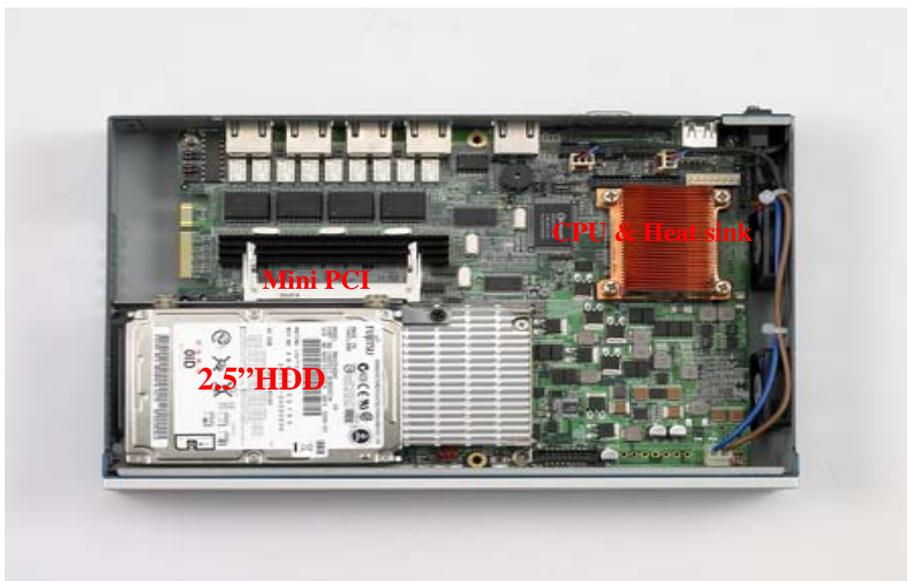Figure 2-2: Remove top cover

Figure 2-3: Inside of FWA-7X0

2.2 Installing Central Processing Unit (CPU)

1   Locate the 479-pin CPU ZIF socket on the motherboard. And unlock the Socket actuation to the left side directly.
2   Position the CPU above the socket that its marked corner (golden cut edge on the CPU upper corner) matches the base of the socket lever. Insert the CPU into the socket. (Do not force the CPU into the socket.) Then lock the socket to secure the CPU.
3   Apply the thermal tape to provide better heat conduction between your CPU and cooling fan. Position the cooling fan on top of the CPU. Use screw driver to fix the heatsink sequence.
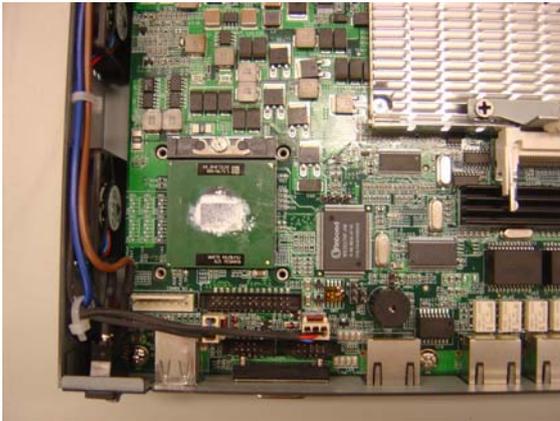4   Make sure the CPU fan power connector is plugged to the motherboard fan power connector, than installing CPU is completed.
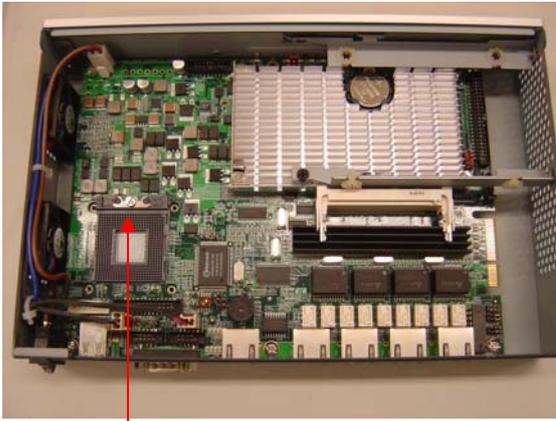
Unlock the socket of CPU as the symbol accordingly
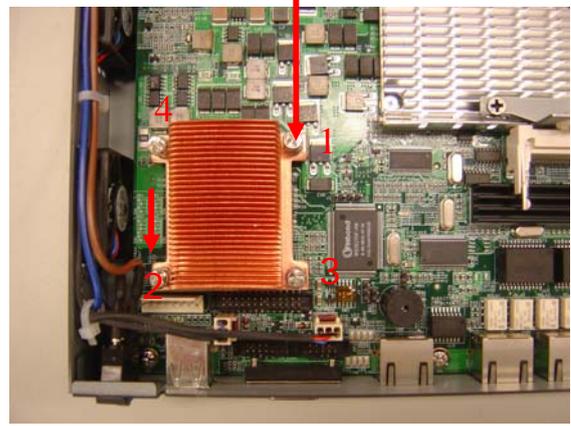
Fix the CPU heatsink on the socket

Insert the CPU into the socket

Figure 2-4: Install CPU

2.3 Installing Memory Module

1   Unlock a DIMM socket by. Align the notch of the DIMM memory module to match on the socket and insert the DIMM into the socket until the DIMM is properly seated.

2   Press the DIMM inward to lock the DIMM memory module. Installing memory module is completed.
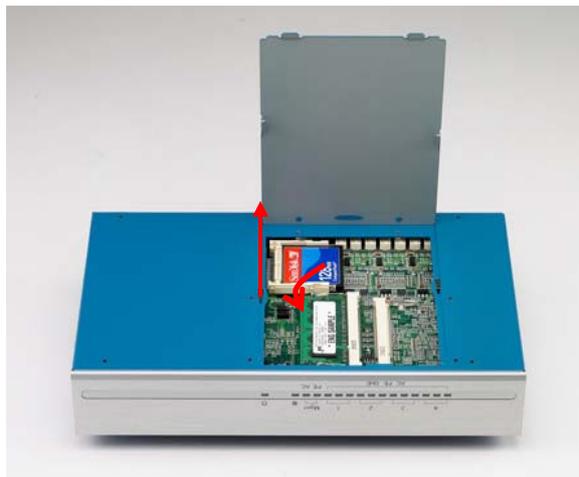

Figure 2-5: Install RAM module

2.4 Installing Hard Disk Drive

1   Unscrew each side of the HDD supporting frame on the chassis and pull it out.
2   Put the HDD above the HDD supporting frame and position the screws accordingly.
3   Screw each side of the HDD supporting frame to fix on the chassis.
4   Connect the IDE cable included in the accessory box to the connector on the HDD. And set the HDD to slave mode via a jumper, Connect IDE cable to the MB. Installing Hard Disk Drive is completed.
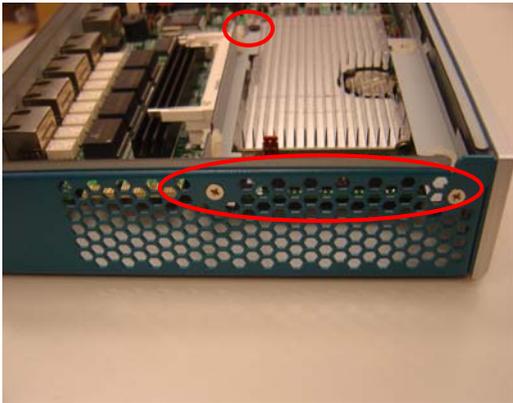

Figure 2-6: Install HDD

2.5 Installing Compact Flash

1   Position a CompactFlash disk accordingly in the CompactFlash disk socket and push it inward. Installing CompactFlash disk is completed.
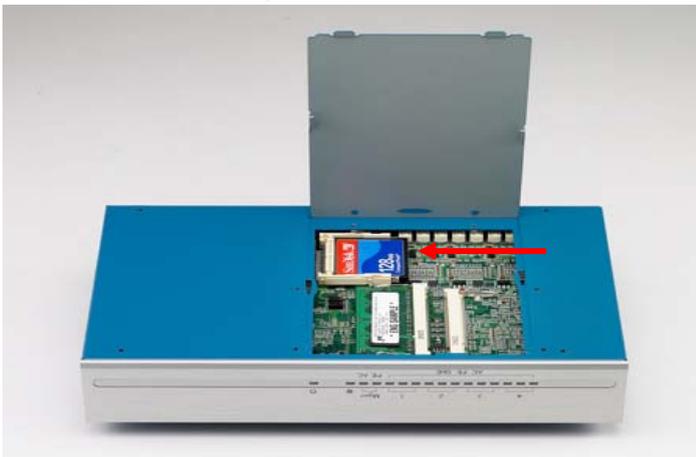

Figure 2-7: Install CF card

2 Setting LAN Bypass function

FWA-7X0 provides LAN Bypass function showed as Figure 2-8. When system shuts down, LAN1-LAN2 will connect directly to avoid network broken.
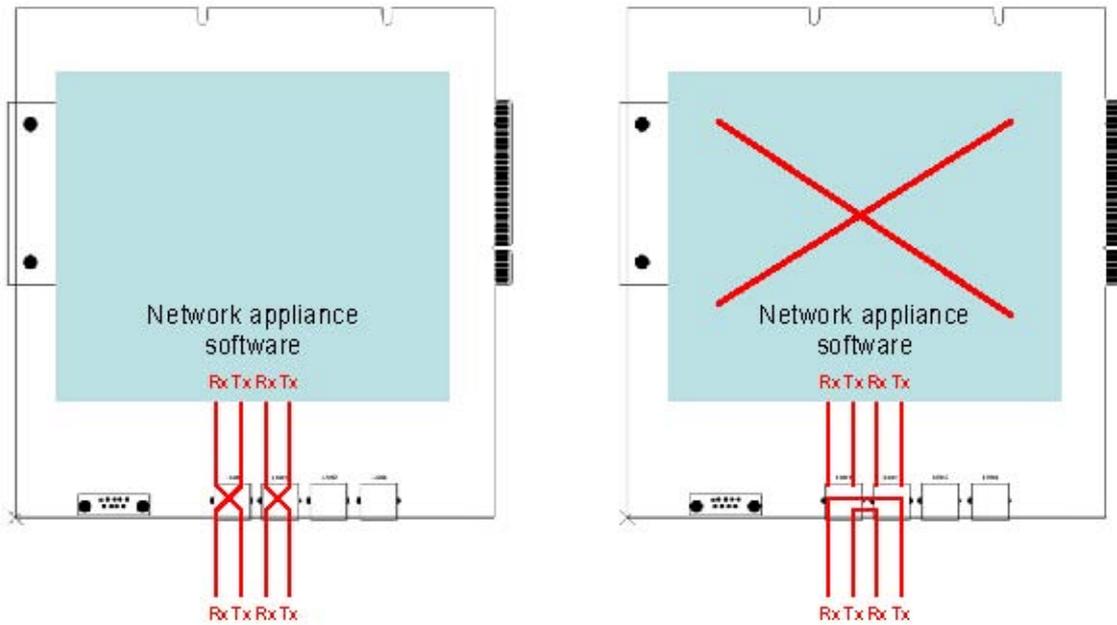

Figure 2-8: The illustration of LAN Bypass function

The jump "J3 & CNRL1-2" allows you to set LAN Bypass function. (See J4 pins assignment in APPENDIX A.1 NAME-3700 MOTHER BOARD)

Pins 1-3: Monitor network mechanism with watchdog timer Pins

3-5: Turn on LAN Bypass

N. C.: Turn off LAN Bypass

Pins 2-4: Set LAN Bypass enable automatically when system shut down Pins

4-6: Set LAN Bypass enable / disable via BIOS

J3: 1-2 Watch dog lan bypass
2-3 Watch dog Reset (default)

CNRL1: Relay control
1-3 : GPIO&Watch dog (Default)
3-5 : Relay force on
NC : Relay force off

Relay on control
2-4 : AUTO ON (Default)
4-6 : GPIO & watch dog

CNRL2: Relay control
1-3 : GPIO&Watch dog (Default)
3-5 : Relay force on
NC : Relay force off

Relay on control
2-4 : AUTO ON (Default)
4-6 : GPIO & watch dog

Figure 2-9: LAN Bypass function jumps

When jumper keeps on pins 4-6, follow below steps to set LAN Bypass function via BIOS.

1   Turn on FWA-7X0 platform. Then hold down the <Delete> key during the boot process to enter BIOS menu.

2   Move to "LAN Bypass Control" Item

3   Press <PageUp> or <PageDown> key to change the condition option of "LAN Bypass Control" Item. Condition option [Enabled]: Set LAN Bypass function enable. Condition option [Disabled]: Set LAN Bypass function disable.

4   Press <F10> to save and exit BIOS menu.
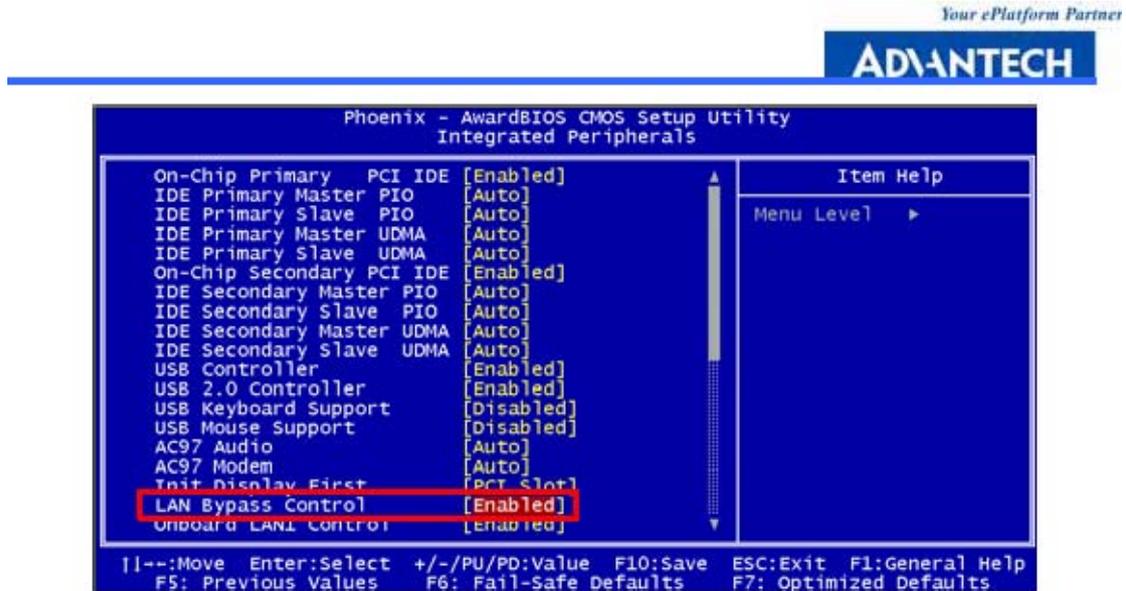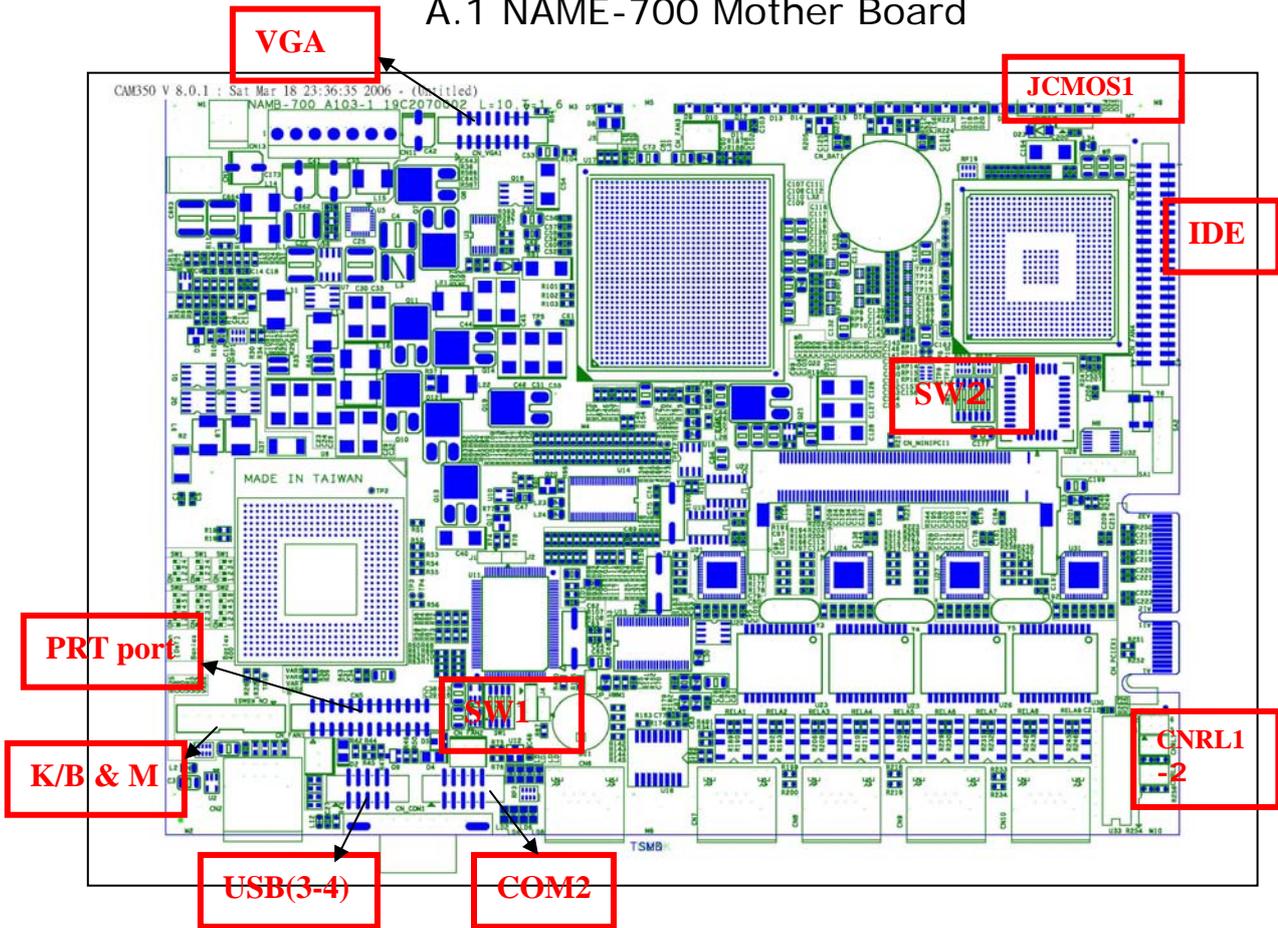

Figure 2-10: Setting LAN Bypass function from BIOS

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Pin Assignments

APPENDIX

A.1 NAME-700 Mother Board

Jumper setting of FWA-7X0:

Jumper Setting

	SW1	SW2
Dothan (Default)		
Banias 533		
Banias 400		

JCMOS1:
1-2 Normal(Default)
2-3 Clear CMOS

J5:
PIN 1 : GPIO25
PIN 2 : GPIO24

J6:
PIN 1 : GND
PIN 2 : GPIO27

J1: Power on

J2: 1-2:Auto Power on

J3:
1-2 Watch dog lan bypass
2-3 Watch dog Reset (def

CNRL1:
Relay control
1-3 : GPIO&Watch dog (Default)
3-5 : Relay force on
NC : Relay force off

Relay on control
2-4 : AUTO ON (Default)
4-6 : GPIO & watch dog

CNRL2:
Relay control
1-3 : GPIO&Watch dog (Default)
3-5 : Relay force on
NC : Relay force off

Relay on control
2-4 : AUTO ON (Default)
4-6 : GPIO & watch dog