

## Contents of DOWNLOAD.ZIP

WinXP.6.13.0001.292\*.*	Windows driver for WN motherboard from G1 (release 6.13.0001.292)
README.PDF	This information

## Contents of this README file

CONTENTS OF DOWNLOAD.ZIP	1
CONTENTS OF THIS README FILE	1
INTRODUCTION	1
NEW FEATURES, IMPROVEMENTS, FIXED PROBLEMS	1
KNOWN PROBLEMS / RESTRICTIONS	2
INSTALLATION	2
HARDWARE	2
DDC CHAIN	2
TOUCH ROUTING	2
WINDOWS XP DRIVER INSTALLATION	3
WINDOWS VGA/4 INSTALLATION	3

## Introduction

The driver package is made for WN video controllers based on “**Silicon Motion LynxEM4+**” chip SM712. They support all **WN BA7x** (Panel link) TFT displays!

- **Panel link (PLINK) controller** standard PCI slot card (CRAF-PCI-DDC4). Provides a PLINK interface for WN TFT displays BA7x.
- **Second CRT controller** sub module (CRCL-0110). Provides VGA / RGB (DSUB15) interface for a standard VGA monitors; e.g. TFT instead of old fashioned cathode ray tube (CRT) screens.
- **Second TFT controller** sub module (CRCL-0111 & CRCL-0120). Provides a PLINK interface for WN TFT displays BA7x, in case of all PCI slots are already in use.
- **BA69W controller** (CRBA-6910) VGA/4 PCI card provides two VGA/4 interfaces.

The WN sub module connector of BEETLE motherboards provides a minimal PCI interface. Therefore the same driver as used for the PCI slot device can be installed.

## New features, improvements, fixed problems

- The driver package is completely redesigned for newer WN motherboards!
- The driver is now tested with VGA/4 (BA69) controller based on LynxEM4+ and Windows XP pro.

## Known problems / restrictions

- **This driver release is NOT valid for old WN motherboards! D2, E1, F1/F2 do need the older driver release! Go for our web site...**
- Windows XP provides a **generic display driver** for SM712 display controllers. They do not provide the special functionality for WN displays! ***Always download and install newest WN display drivers for WN displays.***
- The SM712 driver for Windows is not signed.
- If you do order WN TFT displays today, you will receive **BA7xA-2 (DDC)** types. Older configurations and hard disk images may be based on previous, non DDC displays. You need to test and adapt these older installations.
- If you use SM712 controller already for long time, you may received the very first hardware release of **controller based on LynxEM+ chip** (2MB onboard memory only), you may notice the restricted setup option 800 x 600 x 24bit or 1024 x 768 x 16bit only. The newer type is based on chip **LynxEM4+** (4MB video memory) and does not show this restriction!
- Windows on **VGA/4 (BA69)** is of course restricted - its only 25% of screen available – but it works so far. We tested it in our lab with Windows XP.
- While boot up **BIOS output and Windows start screen is not shown on BA69**, its sent to non present VGA screen at onbaord VGA connector. After driver has taken control, all screen out is presented on BA69. Don't try to change the video out option of BIOS SETUP from IGD to PCI. This is not recommended! We could sporadically see no screen out anymore.
- The controller (driver) does not support Windows **DirectX**.

## Installation

### Hardware

Non DDC are not supported on newer mainboards G1imp and higher...

### DDC chain

For full plug and play functionality you do need a closed "DDC chain": DDC screen + DDC cable + DDC controller (the SM712 is one). **If you can not see any or unreadable display output on screen, a non DDC cable might be the reason.**

See general README.PDF of G1imp or H1 mainboard...

### Touch routing

WN PLINK controllers provide the full WN PLINK interface (connector), including RS232 wires for **touch routing**. You may use the DSUB RS232 connector of the display controller or (if no BEETLE COM port is available for external touch connection) the piggy back solution: The WN PCI COM baord connected to PLINK controller board by internal the cable, delivered with the WN PCI COM board.

### **Windows XP driver installation**

At start up Windows will find new SM712 hardware and the generic Windows XP driver will be installed automatically. Therefore, the actual SiliconMotion driver (made for WN) needs to be reinstalled.

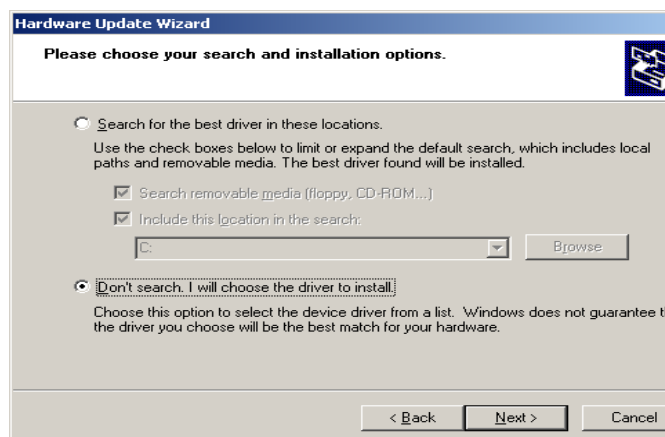
Start device manager and update driver. Choose “select from a list” option...

→ **The generic Windows XP driver (Microsoft) for Silicon Motion SM712 does not work properly with WN displays!**

**Always download and install the newest one from the WM site.**

**Select “Don’t search...” →**

**And afterwards “HAVE DISK” ...**



### **Windows VGA/4 installation**

The driver is valid for BA69W controller; “W” is a shortcut for “Windows”. Don’t use other VGA/4 controllers!

We tested the following, recommended installation procedure:

- 1) Ensure actual BIOS - 05/07 (G1imp) or 01/01 (H1) when this doc was written - is installed on mainboard and BIOS SETUP is set to default values.
- 2) A BA69 is already connected to controller
- 3) BEETLE are always delivered with a analog VGA video interface; also called VGA, DSUB15, RGB, “CRT”. If you have to do maintenance at the customer, don’t forget to take such a screen with you! Its needed for installation!
- 4) Install Windows XP on target system (if not already done) using VGA screen.
- 5) After final reboot you can see the Silicon Motion graphics adapter with a “!”. This is because of the automatically installed Windows generic driver.
- 6) Install new SM driver ...292 and reboot; no more “!” shown!  
Note! You have to select “don’t search, I will choose” and “have disk” button...
- 7) Open display / desktop properties → settings and extend desktop to BA69
- 8) Setup BA69 to 640x480 pixel by advanced button and adaptor section!
- 9) You may setup one of the Windows high contrast appereances in the same display properties dialog.
- 10) Make BA69 primary screen and reboot
- 11) Ready!

You may additionally not extend desktop to VGA screen, if wanted.