

**DVS72V VGA
MicroPCI Card**

Version 1.0

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Chapter 1

Introduction

This manual is designed to give you information on the DVS72V VGA MicroPCI Card. It is divided into the following sections:

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The topics covered in this chapter are as follows:

- ◆ Checklist
- ◆ Description
- ◆ Specifications

Checklist

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- A DVS72V VGA MicroPCI Card
- A User's manual
- 1 Disc Containing IPC Serial Driver
- Ribbon cables for DVS72V only

Description

DVS72V perhaps is one of the smallest and most efficient SMI721 VGA MicroPCI card in the world. This card from TMC for embedded system utilizes MicroPCI interface. The Lynx3DM is a power managed, desktop equivalent display controller for notebook and PCs which is embedded on this DVS72V MicroPCI card. This device delivers has enhanced multi-display capabilities, and Motion Compensation for DVD. The Lynx3DM integrates 4MB or 8MB of video memory. The Lynx3DM employs a unique dual memory controller architecture allowing the integrated memory bus and external memory bus to run in parallel. Lynx3DM continues to support all the Dual Application/Dual View capabilities of its predecessor, LynxE. In addition, Lynx3DM can drive two independent digital displays (dual-digital), as well as simultaneously drive LCD, CRT and TV displays (multiview). Support for all of these features is provided under Windows 95, Windows 98, Windows NT 4.0, Windows 2000 and Windows Millennium Edition.

DVS72V Specifications

VGA PART

- Lynx3DM VGA chip on board
- SVGA for CRT & Dual Panel and Dual View
- 1280x1024(True Color) resolution on SVGA
- 44-pin connector for LCD panel, 1,280 x1024 resolution
- LCD panel supports monochrome, color DSN, TFT
- Simultaneous VGA and panel display
- Support Dual Panel and Dual View
- Provides universal digital input port to accept a pixel data stream from a compatible VGA controller (or equivalent) and converts this directly into NTSC.

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Chapter 2

Installations

This chapter provides information on how to use the jumpers and connectors on the DVS72V VGA MicroPCI Card in order to set up a workable system. The topics covered are:

MicroPCI Card Installation	10
Jumpers and Connectors on the LDVS72V	11

DVS72V VGA MicroPCI Daughter Card Installation

The DVS72V VGA MicroPCI Card is integrated with one **MicroPCI socket** that similar to 144-pin socket. This socket can accommodate the VGA, Audio daughter cards.

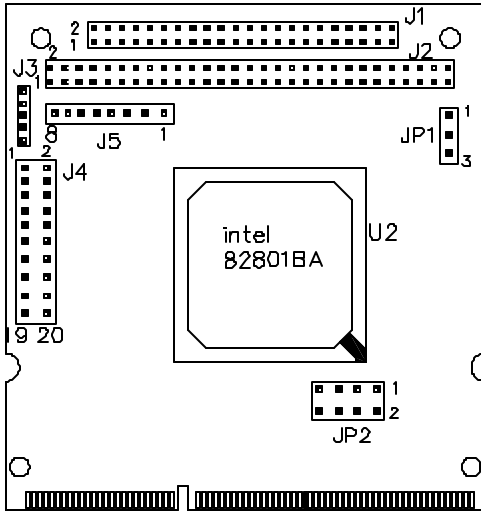
To insert the MicroPCI daughter card, position it at 30 degrees to the PCB and gently push it into the MicroPCI connector. (The card will not fit when inserted at an angle of 45 degrees or 15 degrees). Once inserted, slowly press the card towards the PCB until it locks on both sides to the clips of the connector. Screw the card to the PCB to secure the installation.

Jumpers and Connectors on the DVS72V VGA MicroPCI Card

These jumpers and connectors on the DVS72V allow you to configure your embedded board according to the needs of your applications. If you have doubts about these jumpers and connectors configuration for your need, contact your dealer or sales representative. The following table lists the jumpers and connectors on DVS72V and their respective functions.

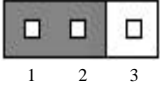
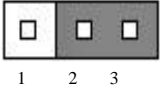
Jumper and Connectors Locations on the DVS72V	12
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Jumper Locations on DVS72V VGA MicroPCI Card
(Front side)



- Jumpers and connectors location:
- JP1: LVDS Panel Voltage
 - JP2: Select Panel Type Setting
 - J1: Primary TFT LCD Connector
 - J2: Secondary TFT LCD Connector
 - J3: LVDS Power Connector
 - J4: LVDS Panel Out Connector
 - J5: LVDS Interter Power Connector

JP1: LVDS Panel Voltage

JP1	Setting	Function
 <p>1 2 3</p>	Pin 1-2 Closed	5V
 <p>1 2 3</p>	Pin 2-3 Closed	3.3V

JP2: Select Panel Type Setting

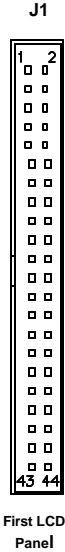


Jumper 1-2 Setting	Jumper 3-4 Setting	Jumper 5-6 Setting	Jumper 7-8 Setting	Resolution
Short	Short	Short	Short	640x480 TFT
Open	Short	Short	Short	640X480 DSTN
Short	Open	Short	Short	800X600 TFT
Open	Open	Short	Short	800X600 DSTN
Short	Short	Open	Short	1024X768 TFT
Open	Short	Open	Short	1024X768 DSTN
Short	Open	Open	Short	1280X1024 TFT
Open	Open	Open	Open	1280X1024 TFT

J1: Primary TFT LCD Connector

J2: Secondary TFT LCD Connector

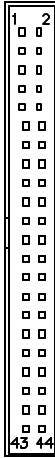
J1, J2 are the pin headers for flat panel LCD displays. These are following tables below list the pin assignments of these connectors.



Signal Name	Pin #	Pin #	Signal Name
+12V	1	2	+12V
GND	3	4	GND
VDD	5	6	VDD
VEEP	7	8	GND
PD0	9	10	PD1
PD2	11	12	PD3
PD4	13	14	PD5
PD6	15	16	PD7
PD8	17	18	PD9
PD10	19	20	PD11
PD12	21	22	PD13
PD14	23	24	PD15
PD16	25	26	PD17
PD18	27	28	PD19
PD20	29	30	PD21
PD22	31	32	PD23
GND	33	34	GND
SHFCLK	35	36	FLM
MDE	37	38	LP
GND	39	40	ENABKL
GND	41	42	
VDDP	43	44	VDD

Noted: The function of this connector is supporting Dual Panel.

J2



Second
LCD Panel

Signal Name	Pin #	Pin #	Signal Name
+12V	1	2	+12V
GND	3	4	GND
VDD	5	6	VDD
VEEP	7	8	GND
PD24	9	10	PD25
PD26	11	12	PD27
PD28	13	14	PD29
PD30	15	16	PD31
PD32	17	18	PD33
PD34	19	20	PD35
PD36	21	22	PD37
PD38	23	24	PD39
PD40	25	26	PD41
PD42	27	28	PD43
PD44	29	30	PD45
PD46	31	32	PD47
GND	33	34	GND
FP1SCLK	35	36	FP1
FP1DISP	37	38	LP1
GND	39	40	FPEN
GND	41	42	NC
VDDP	43	44	VDD

Flat Panel Display Interface Pin Descriptions

@ Figure 1

Pin Name	DSTN		TFT				
	16-bit	24-bit	9-bit	12-bit	18-bit	24-bit	12-bitx2
LP/FHSYNC	LP	LP	HSYNC	HSYNC	HSYNC	HSYNC	HSYNC
FP/FVSYNC	FP	FP	VSYNC	VSYNC	VSYNC	VSYNC	VSYNC
FPCLK	XCK	XCK	CK	CK	CK	CK	CK
DE			ENAB	ENAB	ENAB	ENAB	ENAB
FPEN	FPEN	FPEN	FPEN	FPEN	FPEN	FPEN	FPEN
FPVDDEN	VDD	VDD	VDD	VDD	VDD	VDD	VDD
VBIASEN	VEE	VEE	VEE	VEE	VEE	VEE	VEE
FPDATA35							
FPDATA34							
FPDATA33							
FPDATA32							
FPDATA31							
FPDATA30							
FPDATA29							
FPDATA28							
FPDATA27							
FPDATA26							
FPDATA25							
FPDATA24							
FPDATA23		UD11				R7	RB3
FPDATA22		UD10				R6	RB2
FPDATA21		UD9			R5	R5	RB1
FPDATA20		UD8			R4	R4	RB0
FPDATA19	UD7	UD7		R3	R3	R3	RA3
FPDATA18	UD6	UD6	R2	R2	R2	R2	RA2
FPDATA17	UD5	UD5	R1	R1	R1	R1	RA1
FPDATA16	UD4	UD4	R0	R0	R0	R0	RA0
FPDATA15	UD3	UD3				G7	GB3
FPDATA14	UD2	UD2				G6	GB2
FPDATA13	UD1	UD1			G5	G5	GB1
FPDATA12	UD0	UD0			G4	G4	GB0
FPDATA11		UD11		G3	G3	G3	GA3
FPDATA10		UD10	G2	G2	G2	G2	GA2
FPDATA9		LD9	G1	G1	G1	G1	GA1
FPDATA8		LD8	G0	G0	G0	G0	GA0
FPDATA7	LD7	LD7				B7	BB3
FPDATA6	LD6	LD6				B6	BB2
FPDATA5	LD5	LD5			B5	B5	BB1
FPDATA4	LD4	LD4			B4	B4	BB0
FPDATA3	LD3	LD3		B3	B3	B3	BA3
FPDATA2	LD2	LD2	B2	B2	B2	B2	BA2
FPDATA1	LD1	LD1	B1	B1	B1	B1	BA1
FPDATA0	LD0	LD0	B0	B0	B0	B0	BA0

@ Figure 2

Pin Name	18-bitx2	24-bitx2 ; TFT/18bitx2	TFTs: FP1+FP2
DE	DE	DE	FP1 DISP
FP FVSYNC	FP FVSYNC	FP FVSYNC	FP1 FVSYNC
LP FHSYNC	LP FHSYNC	LP FHSYNC	LP1 FHSYNC
FP SCLK	FP SCLK	FP SCLK	FP1 SCLK
FPEN	FPEN	FPEN	FPEN
FPVDDEN	FPVDDEN	FPVDDEN	FPVDDEN
VBIASEN	VBIASEN	VBIASEN	VBIASEN
FPDATA47	RB5	RB7	FB2 R7
FPDATA46	RB4	RB6	FB2 R6
FPDATA45	RA5	RA7	FB2 R5
FPDATA44	RA4	RA6	FB2 R4
FPDATA43	GB5	GB7	FB2 R3
FPDATA42	GB4	GB6	FB2 R2
FPDATA41	GA5	GA7	FB2 R1
FPDATA40	GA4	GA6	FB2 R0
FPDATA39	BB5	BB7	FB2 G7
FPDATA38	BB4	BB6	FB2 G6
FPDATA37	BA5	BA7	FB2 G5
FPDATA36	BA4	BA6	FB2 G4
FPDATA35	RB3	RB5	FB2 G3
FPDATA34	RB2	RB4	FB2 G2
FPDATA33	RA3	RA5	FB2 G1
FPDATA32	RA2	RA4	FB2 G0
FPDATA31	GB3	GB5	FB2 B7
FPDATA30	GB2	GB4	FB2 B6
FPDATA29	GA3	GA5	FB2 B5
FPDATA28	GA2	GA4	FB2 B4
FPDATA27	BB3	BB5	FB2 B3
FPDATA26	BB2	BB4	FB2 B2
FPDATA25	BA3	BA5	FB2 B1
FPDATA24	BA2	BA4	FB2 B0
FPDATA23	RB1	RB3	FB2 VSYNC
FPDATA22	RB0	RB2	FB2 HSYNC
FPDATA21		RB1	FB1 R5
FPDATA20		RB0	FB1 R4
FPDATA19	RA1	RA3	FB1 R3
FPDATA18	RA0	RA2	FB1 R2
FPDATA17		RA1	FB1 R1
FPDATA16		RA0	FB1 R0
FPDATA15	GB1	GB3	FP2 DE
FPDATA14	GB0	GB2	
FPDATA13		GB1	FP1 G5
FPDATA12		GB0	FP1 G4
FPDATA11	GA1	GA3	FP1 G3
FPDATA10	GA0	GA2	FP1 G2
FPDATA9		GA1	
FPDATA8		GA0	
FPDATA7	BB1	BB3	
FPDATA6	BB0	BB2	
FPDATA5		BB1	FP1 B5
FPDATA4		BB0	FP1 B4
FPDATA3	BA1	BA3	FP1 B3
FPDATA2	BA0	BA2	FP1 B2
FPDATA1		BA1	FP1 B1
FPDATA0		BA0	FP1 B0
LVDSCLK			FP2 SCLK

J3: LVDS Power Connector

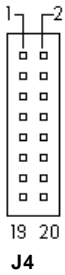


1
2
3
4
5

Pin #	Signal Name
1	Ground
2	Ground
3	Ground
4	+12V
5	+12V

J4: LVDS Panel Out Connector

J4 is a 20-pin header LVDS Panel Out Connectors.



Signal Name	Pin #	Pin #	Signal Name
PTX0-	1	2	PTX0+
STX0-	3	4	STX0+
PTX1-	5	6	PTX1+
STX1-	7	8	STX1+
PTX2-	9	10	PTX2+
STX2-	11	12	SPTX2+
PTXCK-	13	14	PTXCK+
STXCK-	15	16	STXCK+
PTX3-	17	18	PTX3+
STX3-	19	20	STX3+

J5: LVDS Inverter Power Connector



1
2
3
4
5
6
7
8

Pin #	Signal Name
1	VDD1
2	Ground
3	DE
4	NC
5	Ground
6	+12V
7	+12V
8	Ground

Chapter 3

SMI721 VGA Driver

Installation Guide

This chapter provides information on how to install the SMI721 VGA drivers that come in the driver CD with DVS72V MicroPCI card. Please follow the instructions set forth in this chapter carefully. Please note that there must be relevant software installed in your system before you could proceed to install the SMI721 VGA drivers.

The following items are covered in this chapter:

Installing the Drivers for Windows 98SE	20
Installing the Drivers for Windows 2000	20
Installing the Drivers for Windows NT 4.0.....	20

Installing the VGA Drivers for Windows 98SE Windows 2000 Windows NT 4.0

The following section describes the SMI721 driver installation procedures for Windows 98SE, Windows 2000 and Windows NT 4.0.

Step 1: Insert the driver CD into CD-ROM.

Step 2: Click *Micro-PCI*

Step 3: Click *DVS72V*

Step 4: Click *SMI 721 VGA Driver*.

Step 5: Click *Next*.

Step 6: Click *Finish*. You must restart your computer now.