

Version: 1.00

Date: 6 July 2020

Application Note

Procedure to update the firmware (U6) on DT-1920-DP board.





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Revision History

Date	Rev No.	Page	Summary				
6 Jul 2020	1.00	All	First issued				



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The DT-1920-DP controller is an easy to use high quality DP input interface for LCD panels up to 1920x1200 resolution.

One of the features of the DT-1920-DP is the ability to update its firmware as detailed in this Application Note.

IMPORTANT NOTE: Firmware Upgrading must only be done by suitably qualified professionals or technicians. Digital View is not responsible for damage or injury caused by the firmware upgrade procedure.

2 Firmware Upgrade procedure

DT-1920-DP firmware upgrade is done using a dedicated USB programming interface board P/N 4111024xx-3 available from DigitalView, this connects to the CP1 connector on the DT-1920-DP via programming cable P/N 4111024xx-3.

PC Requirements:

- On the PC the software required is an application called MStar ISP Utility which runs under Windows 7.
- The relevant firmware upgrade program MStar ISP Utility V4.5.1.8.6 or up revision, this is available from your local Digital View office.

Additional Hardware Requirements :

• Dedicated USB programming interface board, called Programming board P/N 4111024xx-3 is required for firmware upgrade process. It connects to the CP1 connector on the DT-1920-DP via programming cable P/N 4111024xx-3.



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DT-1920-DP Requirements:

• DT-1920-DP to be upgraded needs to be fully connected with power and a display. This should be a bench or assembly setup and care must be taken to avoid short circuits or electrical shock. Digital View does not accept responsibility for damage caused during a firmware upgrade procedure – care must be exercised



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Hardware Configuration

1. Connect the USB type B connector on programming board P/N 4111024xx-3 to USB2.0 port of the computer via USB type A male to USB type B male cable. (USB3.0 port is not supported).

2. Connect the CON6 connector on Programming board P/N 4111024xx-3 to CP1 connector on DT-1920-DP via P/N 426306400-3 cable



3. Insert 12V power source to PP2 connector and short JP6 / power on the DT-1920-DP.



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Software Configuration

Step 1 : Install the MStar USB driver.

- Check the Microsoft Windows operating system by opening "Control Panel" -> "System and Security" -> "System". Then check the operating system is either 32-bit or 64-bit as below :

	33X-07H at	POD Autor Autor	A 8				
🚫 🗢 👰 🕨 Control Panel 🕨	System and Security 🔸 System	-	• 😽 Search Control Panel	٩			
Control Panel Home Device Manager Remote settings System protection Advanced system settings	View basic information about your computer Windows edition Windows 7 Professional Copyright © 2009 Microsoft Corporation. All rights reserved. Service Pack 1 Get more features with a new edition of Windows 7						
	System Rating: Processor: Installed memory (RAM): System type: Pen and Touch:	5:9 Windows Experience Index Intel(R) Core(TM) i5-4440 CPU @ 3.10GHz 3.1 8:00 GB (7.82 GB usable) 64-bit Operating System No Perror-Toecht input is available for this Dispersional control of the second sec	0 GHz play	lenovo.			
			St	upport Information			
	Computer name, domain, and	d workgroup settings					
	Computer name:	dv02-14pc	(Change settings			
	Full computer name:	dv02-14pc					
	Computer description:	Raymond Ho					
	Workgroup:	DV					
See also	Windows activation						
Action Center	Windows is activated			ask for			
Windows Update	Product ID: 00371-OEM-8		genuine X				
Performance Information and Tools				software Learn more online			

- For 32-bit Operating System, please decompress the file "Win 32bit CDM v2.12.04 WHQL Certified.zip" and install "dp-chooser.exe" (provided by DigitalView) to start driver installation.

- For 64-bit Operating System, please decompress and install the file "Win 64bit CDM v2.12.04 WHQL Certified.zip" (provided by DigitalView) and install "dp-chooser.exe" to start driver installation.

- Re-start the computer after installation to make effective the driver.



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- To verify if the driver is installed successfully, connect the programming board P/N 4111024xx-3 to USB2.0 port of the computer. (USB3.0 port is not supported). Go to Device Manager of Microsoft Windows, open Universal Serial Bus controllers. There should be two new drivers: USB Serial Converter A and USB Serial Converter B shown below :





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Step 2 : Open the firmware upgrade program "ISP_Tool_v45186.exe" (provided by DigitalView).

Press "Connect" button at the top menu bar, then a dialog box pops up and shows the part number of the flash IC, which is used to save the firmware shown below. Press "OK" button to dismiss the dialog box





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Step 3 : Press the "Read" button at the top menu bar, then the "Read" page is shown as below.

М	MStar ISP Utility V4.5.1.8.6 -							
Device Load Read	uto B. P. V. Restore	EDID HDCP Erase	e Config Connect Dis Con					
🖻 Read			•					
Checksum :	Hex files Unused Bytes: 0x00 O 0xFF	File Status Start Addr. : End Addr. : Cal. Check Sum Addr. : Update Check	~ sum :					
Batch File								
WP Pin & CS Pin: Default Program buffer is empty. If there is WP table, please read file first.								
Elapsed Time:	C	Can't find USB Device Status: Connecting						

Step 4 : Click the "Read" button beside the directory text box to select the bin file to be programmed

M • MStar ISP Utility V4.5.1.8.6 - 🗆 🗠								
Device Load Read	Auto B. P. V. Restore	EDID HDCP Erase	Config Connect Dis Con					
Fread Checksum :	Hex files Unused Bytes: © 0x00 ° 0xFF	File Status Start Addr. : End Addr. : Cal. Check Sum Addr. : Update Checks	~					
Batch File								
WP Pin & CS Pin: Default Program buffer is empty. If there is WP table, please read file first.								
Elapsed Time:		Can't find USB Device	Status: Connecting					



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Step 5 : After the checksum is shown, press the "AUTO" button at the top menu bar, then the "Auto" page is shown as follows.





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Step 6 : Ensure that the following items inside this page are selected:

- a) ReConnect
- b) Read File
- c) Erase Device
 - i. All Chip
- d) Blank
- e) Program
- f) Verify
- g) Exit ISP

ReConnect	🔽 Blank	
🔽 Read File	HDCP Key	
Checksum : 0x6	333 Key #:1	Program File Ready !!
🔽 Restore Data	EDID file	
	🔽 Program	
Erase Device	Verify	
@ All Chip	🔽 Exit ISP	
C File Area		
C Erase Area		🚰 Run
C Partial Erase	First 512 KBytes	
	Setup	🖵 Base

Step 7 : Press "Run" to start firmware update to DT-1920-DP.

ReConnect	🔽 Blank		
Read File	□ HDCP	Key	
Checksum : 0x6333	Key #:1		Program File Ready !!
Restore Data	EDID f	ile	
	✓ Progra	m	
Erase Device	Verify		
All Chip	🔽 Exit IS	P	
C File Area			
C Erase Area		2	Run
🔿 Partial Erase 🛛 🗌	irst 512	KBytes	
	etup		🔲 Base



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Step 8 : Once firmware programming is completed successfully, the status text box shows Blank OK, Program OK and Verify OK. Also, at the bottom right side of the page, it shows the green word "Pass".

MStar ISP Utility V4.5.1	1.8.6					1.00			X
Second Control Second	ad Auto	<u>у</u> В. Р. V.	Restore	EDID	HDCP	<u></u> Erase	Config	Sonnect	Dis Con
Src: Z:\ALR-1400V2 E1.00.00\Project\OUTPUT\0BJ\TSUMxx_ChkSum.BIN 30/6/2016 15:08:04									
 ✓ Read File Checksum : 0x63 ☐ Restore Data 	F HDCl HDCl 333 Key # F EDID	P Key 1 file am		llank Messa Ilank OK. Yogram Mes Yogram OK	ige : Blankin ssage : Prog	ıg ramming		^	
 Erase Device All Chip 	✓ Verif✓ Exit	ý ISP	4	erify OK nd time: 15	:53:30	y		=	
🔿 File Area 🔿 Erase Area			,	Run					
C Partial Erase	Base Shift Addres 900000								
WP Pin & CS Pin: Default				_					
Elapsed Time:				USB 18	6KHz	F	ash Status	: 8C	

Step 9 : Power Off the DT-1920-DP.

-END-

Points to be noted :

- If firmware programming is failed, the status text box shows error message. Please try to program again by press "Run" button.

- If firmware programming is failed for several times, please press "Config" button at the top of the menu bar. Then set the I²C speed to lower speed options.





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