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# Application Note

## Digital View, **AI Ready** – Demo 1

Using an LLM AI to control a  
Digital View LCD controller board

**Revision History**

Date	Rev No.	Page	Summary
13 Nov 2025	1.00	All	First draft
15 Nov 2025	1.01	All	Minor updates
17 Nov 2025	1.02	6	Explain how to select Port
18 Nov 2025	1.03	All	Add DDC/CI command support; Update screen capture of the new application version
18 Nov 2025	1.04	All	Add an option to select sending either DDC/CI or RS232 command; Update screen capture of the new application version
20 Nov 2025	1.05	All	Arrange LED indicators in 4 columns; Add appendix for API configuration instructions App version 2.3

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## A. Objectives

Use the conversational power of an LLM such as ChatGPT, Llama, or Gemini to control the functionality of a Digital View LCD controller board and display.

## B. What You Need

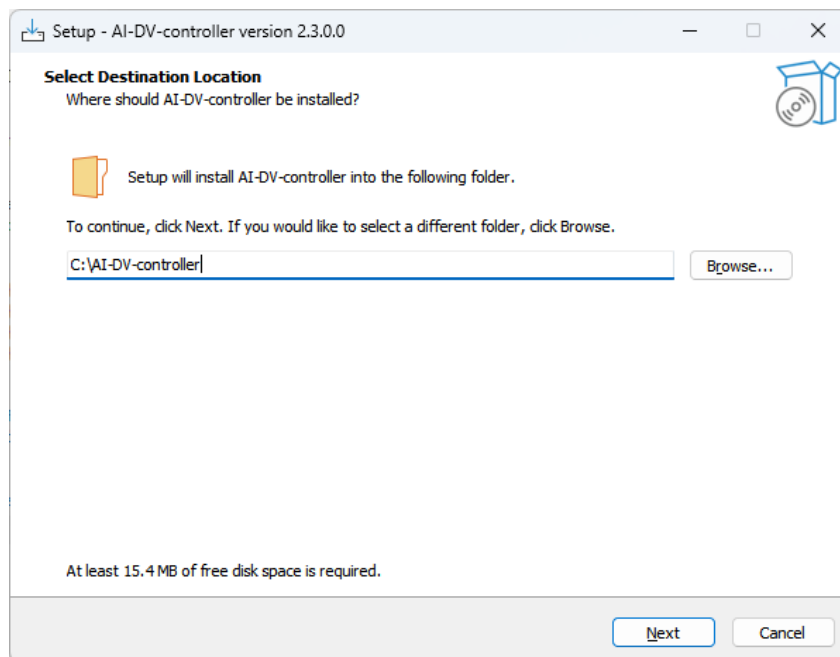
- PC running Windows 10 or 11
- Digital View application setup file [AI-DV-controller-vX.X-setup.exe](#)
- USB to RS-232 cable, e.g., USB-C to RS-232 converter cable
- Digital View LCD controller board (aka DV controller), e.g., DT-4096, and LCD panel.

## C. Connection & Setup

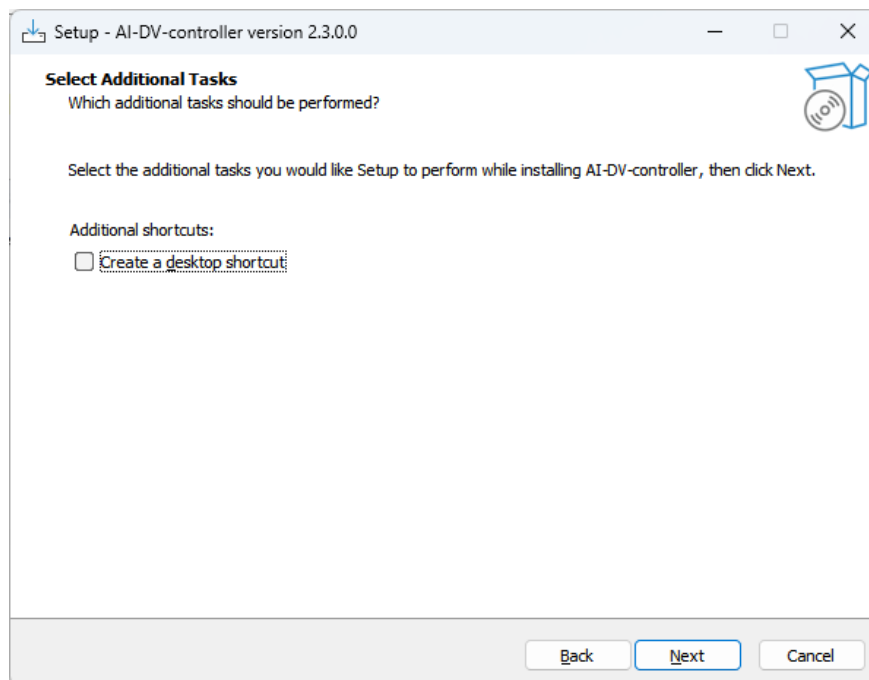
- Connect the USB to RS-232 converter cable to a USB port on the Windows PC and the DB-9 serial port on a DV controller. Then, power on the DV controller.
- Install the Digital View application [AI-DV-controller-vX.X-setup.exe](#), see the following Section D.

## D. Install the AI DV Controller Application

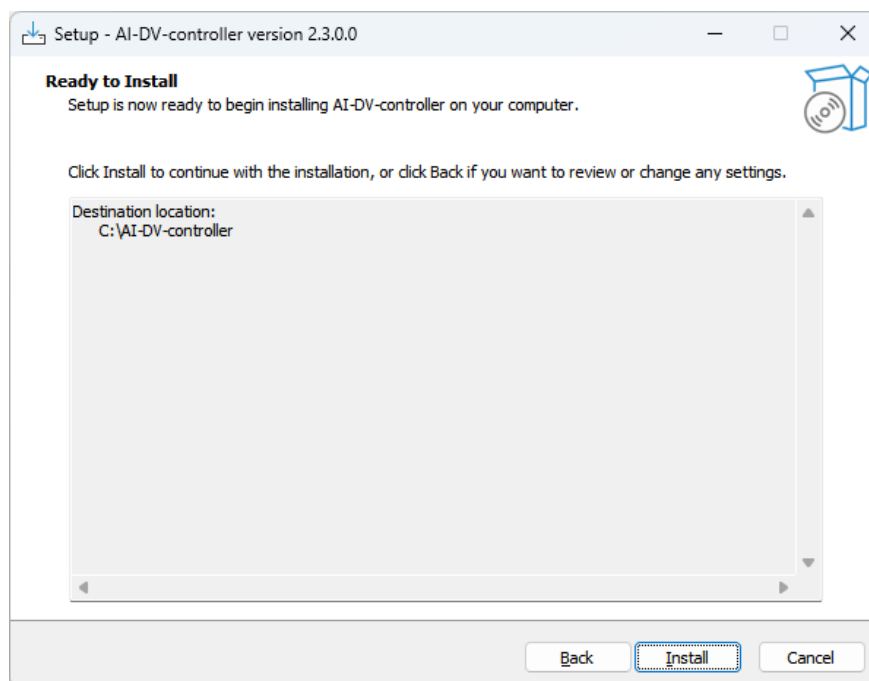
- Run [AI-DV-controller-vX.X-setup.exe](#) on the Windows PC
- After the following screen appears, accept or change the installation folder. It is **important** to choose a folder with user access rights (e.g. [C:\AI-DV-controller](#)) for saving the application's configuration file.
- Click [Next](#) button to continue



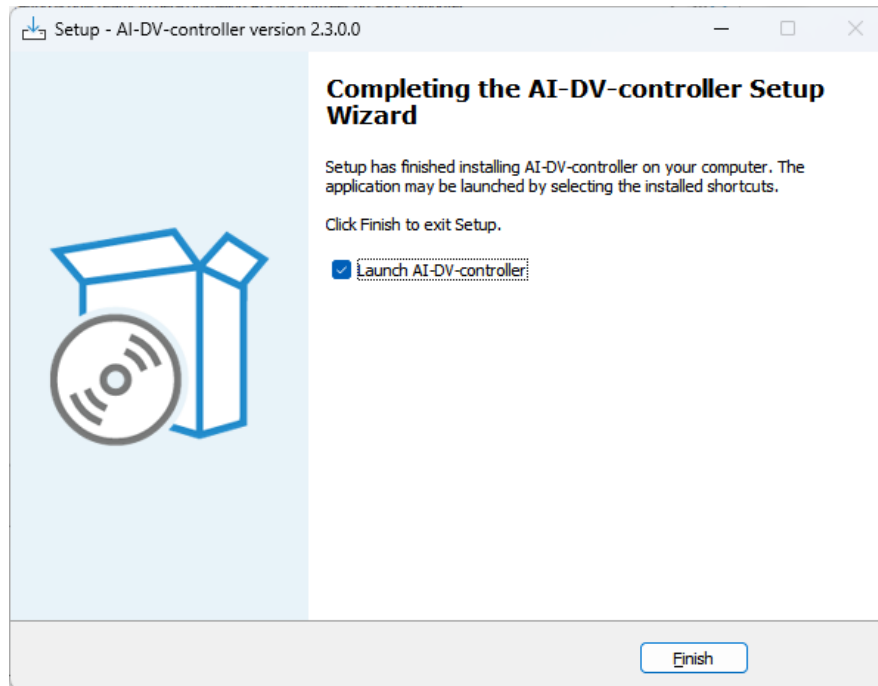
- Click [Next](#) button again



- Click [Install](#) button



- Click **Finish** button to complete the installation



## E. Run the AI DV Controller Application

The AI DV Controller Application has a single window, as shown below, with four sections:

- API Configuration: See the appendix for example instructions.
- Port Configuration: Use Windows' Device Manager to find out the newly created COM port just after connecting USB to RS-232 converter, select this COM port from the [Select COM Port](#) drop-down list and then click [Set Port](#) button
- Text window: For user natural language instructions
- Response window: The LLM text response
- Action indicators: A visual confirmation of the action taken

If the application is installed in a folder with user access rights, its settings will be stored in a local configuration file and loaded the next time the application runs.

AI DV controller v2.3

**API Configuration**

LLM URL:

API Key:

Bot Name:

**Port Configuration**

Select COM Port:

Enter your sentence:

☒ DDC/CI command ☐ RS232 command

Response:

Action taken:

<input type="radio"/> osd menu on	<input type="radio"/> osd menu off	<input type="radio"/> osd select down	<input type="radio"/> osd select up
<input type="radio"/> osd select right	<input type="radio"/> osd select left	<input type="radio"/> power on	<input type="radio"/> power off
<input type="radio"/> brightness max	<input type="radio"/> brightness min	<input type="radio"/> brightness normal	<input type="radio"/> contrast max
<input type="radio"/> contrast min	<input type="radio"/> contrast normal	<input type="radio"/> reset parameters	<input type="radio"/> reset all parameters
<input type="radio"/> volume max	<input type="radio"/> volume min	<input type="radio"/> volume normal	<input type="radio"/> mute
<input type="radio"/> unmute			



If you enter a normal inquiry (e.g. [who are you](#)) in the text box labeled [Enter your sentence](#) and then click the [Submit](#) button or simply press [<Enter>](#), the message will be sent to the LLM. The LLM’s response will then be displayed in the [Response](#) box.

AI DV controller v2.3

API Configuration

LLM URL: https://api.openai.com/v1/chat/completions

API Key: \*\*\*\*\*

Bot Name: gpt-4.1

Save API Settings

Port Configuration

Select COM Port: COM4

Refresh PortsSet Port

Enter your sentence:

DDC/CI command

RS232 command

who are you

Submit

Clear

Response:

gpt-4.1: I'm a helpful assistant designed to answer your questions and provide guidance, especially about Digital View controller commands and related topics. If you have questions about how to use Digital View controllers, send specific commands, troubleshoot issues, or need documentation or examples, just let me know!

Action taken:

osd menu on

osd menu off

osd select down

osd select up

osd select right

osd select left

power on

power off

brightness max

brightness min

brightness normal

contrast max

contrast min

contrast normal

reset parameters

reset all parameters

volume max

volume min

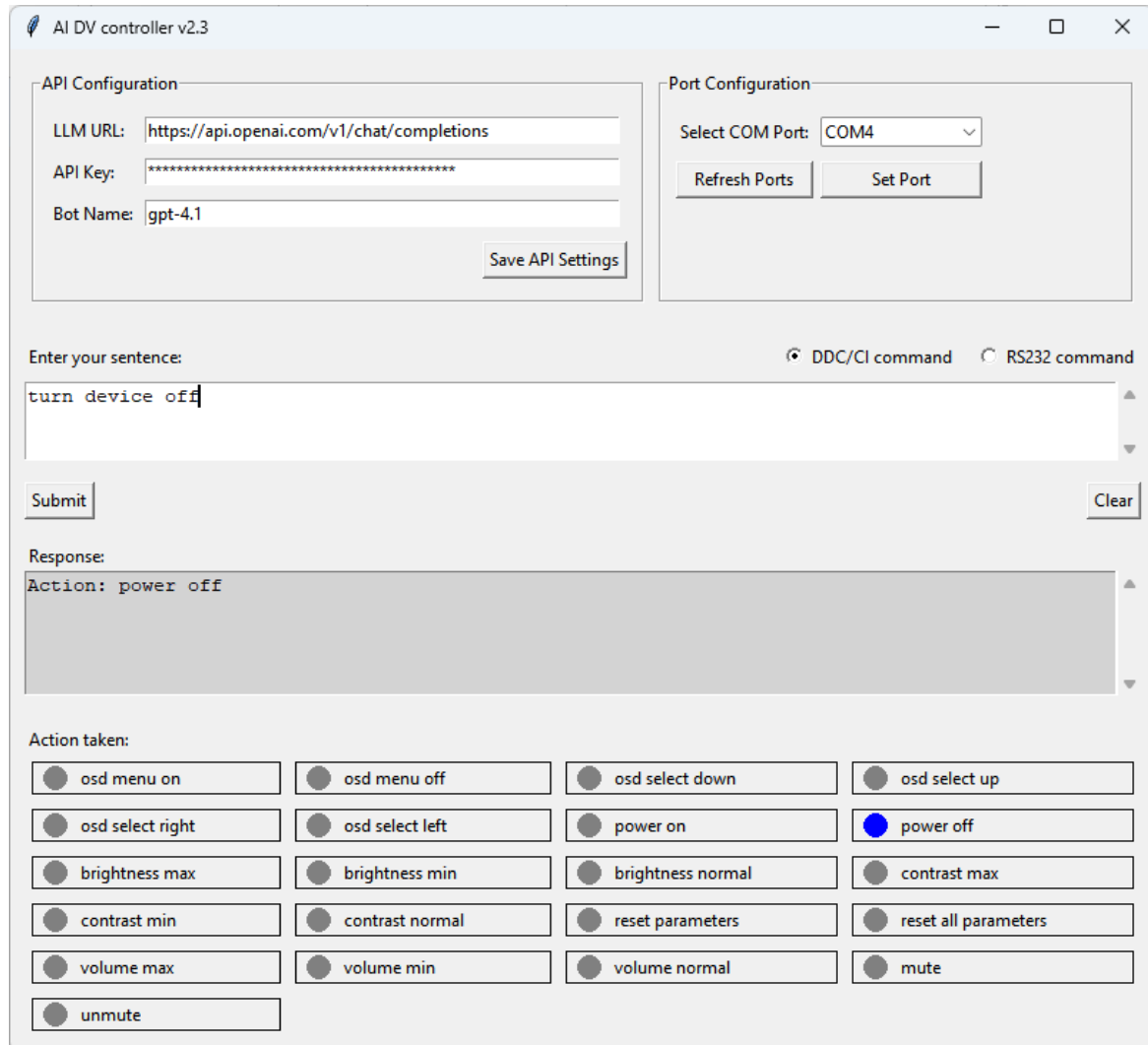
volume normal

mute

unmute

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If you enter a panel operations-related command (e.g. [turn device off](#)) in the same text box and then click the [Submit](#) button or simply press [<Enter>](#), the corresponding LED in the [Action taken](#) section would blink. According to the radio button selection, the application would send either DDC/CI command to the display monitor or RS232 command to the DV controller.



The screenshot shows the 'AI DV controller v2.3' application window. It is divided into several sections:

- API Configuration:** Contains fields for 'LLM URL' (https://api.openai.com/v1/chat/completions), 'API Key' (masked with asterisks), and 'Bot Name' (gpt-4.1). A 'Save API Settings' button is at the bottom right.
- Port Configuration:** Includes a 'Select COM Port' dropdown menu set to 'COM4', and 'Refresh Ports' and 'Set Port' buttons.
- Command Entry:** A section titled 'Enter your sentence:' with a radio button selection for 'DDC/CI command' (selected) and 'RS232 command'. Below is a text input field containing 'turn device off'.
- Action Buttons:** 'Submit' and 'Clear' buttons are located below the text input.
- Response:** A text area labeled 'Response:' showing 'Action: power off'.
- Action taken:** A grid of 19 buttons, each with a radio button and a label:
  - osd menu on, osd menu off, osd select down, osd select up
  - osd select right, osd select left, power on, power off (selected with a blue dot)
  - brightness max, brightness min, brightness normal, contrast max
  - contrast min, contrast normal, reset parameters, reset all parameters
  - volume max, volume min, volume normal, mute
  - unmute

## F. Points to be noted

- a) The following RS232 command functions have been enabled. Depending on the model of the Digital View LCD controller board, there may be many more functions that could be enabled.
  - osd menu on
  - osd menu off
  - osd select down
  - osd select up

- osd select right
- osd select left
- power on
- power off
- brightness max
- brightness min
- brightness normal
- contrast max
- contrast min
- contrast normal
- reset parameters
- reset all parameters
- volume max
- volume min
- volume normal
- mute
- unmute
- set brightness <number>
- set contrast <number>
- set color temperature <5800K, 6500K, 7500K, 9300K or sRGB>

- b) The following DDC/CI command functions have been enabled. Depending on the model of the Digital View LCD controller board, there may be many more functions that could be enabled.

- power on
- power off
- brightness max
- brightness min
- brightness normal
- contrast max
- contrast min
- contrast normal
- set brightness <number>
- set contrast <number>
- set color temperature <5800K, 6500K, 7500K, 9300K or sRGB>

## G. Appendix 1

The user should change the default LLM API setting to their own in the [API configuration](#) section.

- Edit the [LLM URL](#) text box to your own LLM API endpoint  
For example,  
<https://api.openai.com/v1/chat/completions>  
<https://generativelanguage.googleapis.com/v1beta/openai/chat/completions>  
<https://api.llama.com/v1/chat/completions>

- Copy and paste your own API key in **API Key** text box
- Edit **Bot Name** text box to one of the LLM names provided by the API provider  
For example,  
**gpt-4.1** or **gpt-5.1** from **openai.com**

AI DV controller v2.3

**API Configuration**

LLM URL:

API Key:

Bot Name:

**Port Configuration**

Select COM Port:

Enter your sentence: DDC/CI command ☒ RS232 command ☐

Response:

Action taken:

<input type="radio"/> osd menu on	<input type="radio"/> osd menu off	<input type="radio"/> osd select down	<input type="radio"/> osd select up
<input type="radio"/> osd select right	<input type="radio"/> osd select left	<input type="radio"/> power on	<input type="radio"/> power off
<input type="radio"/> brightness max	<input type="radio"/> brightness min	<input type="radio"/> brightness normal	<input type="radio"/> contrast max
<input type="radio"/> contrast min	<input type="radio"/> contrast normal	<input type="radio"/> reset parameters	<input type="radio"/> reset all parameters
<input type="radio"/> volume max	<input type="radio"/> volume min	<input type="radio"/> volume normal	<input type="radio"/> mute
<input type="radio"/> unmute			

## H. Appendix 2 - Troubleshooting

If you enter the API key but it doesn't save, you may need to choose another folder with suitable access rights to allow the system to save the settings.

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Specifications subject to change without notice

Appnote – Concept for AI Ready on Windows System (18 Nov 2025)