

41 Series Video Screen User Manual V2.5

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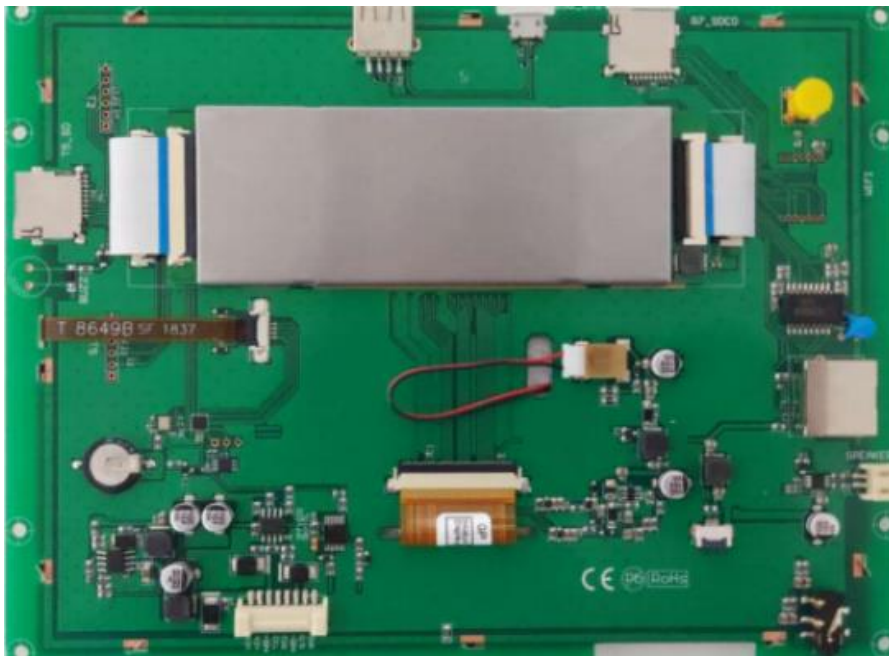
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Chapter 1 Overview

Streaming media screen is a multimedia series product based on DWIN chip and equipped with DGUSII system. The product provides an SD card interface for storing and playing video and audio files. The USB interface can connect a USB camera. Its main features are as follows:

- 1) Fully possess all the features of the DGUS 2 system;
- 2) Through simple settings, videos and cameras can be displayed at any position;
- 3) Support SD card to play audio and video files;
- 4) Can be directly connected to speakers for language playback.

Chapter 2 Description of the Variable Space Address



The first address of the variable space(0x)	Definition	Length	Type	Description
0500	Display position setting	12	Control	Set the display position D23:D22 the page to be displayed on. D21: D24 Coordinate (Xs, Ys) + (Xe, Ye). Xs is the X coordinate of the upper left position. Ys is the Y coordinate of the upper left position. Xe is the width and Ye is the length. D13:D12 0x5aa5 means triggering a display.
050c	Camera control	1	Control	D1: The camera channel number. Valid when there are multiple cameras. Starting from 1. D0: 1 to turn on the camera, 2 to turn off the camera.
050d	Multimedia	1	Control	"D1:

	setting			0x01: Play SD card 0x02: Play U disk D0: 0x00: Play the video 0x01: Play audio 0x02: Play picture 0xff: Turn off the player"
050e	Open file by number	1	Control	"D1: D0 The number of audios, videos, or pictures to be played. (Need to be used with address 0x050d)"
0510	Multimedia control	1	Control	"D1: 0x5A triggers a control operation. Others are invalid. D1: Control command type 0x00: Play 0x01: Pause 0x02: Stop 0x03: Fast forward 0x04: Rewind 0x05: Resume playback 0x06: Previous file 0x07: Next file 0x09: Carousel from the current file 0x0A: Stop file carousel, only play the current file 0x0D: The current single video carousel. 0x0A is to trigger, then the current video will only be played once.
0511	Volume control	1	Control	D1: 0x5A triggers an operation. Others are invalid. D1: Control command type 0-0x64: Sound volume (0-100) 0xFF: Increase the volume by 1 0xFE: Decrease the volume by 1 0x00: Mute
0512	Backlight brightness control	1	Control	D1: 0x5A triggers an operation. Others are invalid. D1: Control command type 0-0x64: Backlight brightness (0-100) 0xFF: Increase the brightness by 1 0xFE: Decrease the brightness by 1
0513	Inquire the status	1	Inquire	Read status D1: 0x5A start D0: 0x0F read status
0514	Inquire file information	1	Inquire	"Read file information D1: The first file number to be read (0x00-0xfe) "

				D0: The total number of files to be read (0-32, up to 32 files) Note: When D1-D0 is: 0xFFFF, it means the number of all files read.
0520-0521	Save playback state	2	Display	D3: 0x00 means video, 0x01 means audio D2-D1: The file number currently being played D0: Playback state 0x01: Normal play 0x02: Pause playback 0x03: Stop playing
0530	Picture play	1	Control	D1: 0x52 starts an operation D0: 0x01: Play the first picture 0x02: Play the next picture 0x03: Play the previous picture 0xff: Close the play
0531	Delete pictures	1	Control	5a01: Delete the current picture 5a02: Delete the current picture and play the next picture
0532	Camera video recording	1	Control	0x5aa5: Judge the recording status. Stop recording while recording. Start recording if the recording stops.
0533	2 by 2 grid video playback	1	Control	D1: 0x5a starts an operation. D0: 0x01: Start playing 2 by 2 grid once 0x02: 2 by 2 grid turn the page 0x03: 2 by 2 grid page down 0xff: Exit 2 by 2 grid playback
0534	2 by 2 grid playback video select	1	Control	01: Select the first one. 02: Select the second one. 03: Select the third one. 04: Select the fourth one.
0535	Delete the current file	1	Control	5a01: Delete the current video. 5a02: Delete the current video and play the next video.
0536	Recording state	1	Control	0: Stop recording; 1: Start recording.
0537	Rotate the playing video	1	Control	0x05: Start a rotation 00: Rotate 0 degree clockwise 01: Rotate 90 degrees clockwise 02: Rotate 180 degrees clockwise 03: Rotate 270 degrees clockwise
053c	Display stop motion state	1	Display	0x00: No stop motion 0x01: Stop motion state
053d	Search result selection and page turning	1	Control	0001: Select the first one 0002: Select the second one 0003: Select the third one 0004: Select the fourth one

				5a01: The first page of searching results 5a02: Page up 5a3: Page down
0542	Display position after contrast	12	Display	Set display position D23:D22 Reserved D21:D14 coordinate (Xs, Ys) + (Xe, Ye) D13:D12 0x5AA5 D11:D0 Reserved
054f	Inquire the total number of files	1	Control	d1: 0x5a starts an operation d0: Type of query 0x00: Inquire the total number of videos (used with folder) 0x01: Inquire the total number of audios 0x02: Inquire the total number of pictures 0x03: Inquire the total number of folders 0x04: Inquire the total number of all files
0550	Return result of the total number of videos	1	Display	The total number of videos under VIDEO directory
0551	Return result of the total number of audios	1	Display	The total number of audios under MUSIC directory
0552	Return result of the total number of pictures	1	Display	The total number of pictures under PICTURE directory
0553	One-click smart screenshot	1	Control	D1: 0x5a starts an operation. Others are invalid. D0: 0x01 starts a screen capture and needs to be used with e110. 0x02: Print screen and stop motion. 0x03: Cancel the stop motion. 0x04: Cancel the screenshot and print the screen again. The number does not change. 0x05: Print screen with a specified file name and need to be used with e0a0.
0554	Print screen with the number 'before'	1	Control	0x5A01-0X5A04 (Screenshot with name) 0x5A11-0X5A14 (Screenshot without name)
0555	Print screen with the number 'after'	1	Control	0x5A01-0X5A04 (Screenshot with name) 0x5A11-0X5A14 (Screenshot without name)
0556	Play the screenshot with number 'before'	1	Control	0x5A01-0X5A04 (Screenshot with name) 0x5A11-0X5A14 (Screenshot without name)
0557	Play the screenshot with number 'after'	1	Control	0x5A01-0X5A04 (Screenshot with name) 0x5A11-0X5A14 (Screenshot without name)

0559	Open the web camera	1	Control	0x5a01
055a	Close the web camera	1	Control	0x5a01
055b	Send the IP address of the web camera	1	Control	0x5a01
055c	Export customer data	1	Control	D1: 0x01: Export to the SD card 0x02: Export to the U disk D0: 0x00: Overwrite the previous data 0x01: Add in the end (Need to be used with address 4000)
055d	Download pictures	1	Control	0x5a: Start an operation 0x01: Download pictures
055e	Inquire the state of SD card or U disk	1	Control	0x5a: Start an operation 0x01: Inquire the state of SD card 0x02: Inquire the state of U disk
055f	Return state of SD card or U disk	1	Display	d1: State of SD card 0x00: No SD card inserted 0x01: SD card inserted 0x02: Full SD card d0: state of U disk 0x00: No U disk inserted 0x01: U disk inserted 0x02: Full U disk
0561	File lookup	1	Control	0x5a01: Conduct a search
0562	File path lookup	1	Control	0x5a01: Conduct a search
0563	Clear display	1	Control	D1: 0x5a triggers an operation. Others are invalid. D0: 0x01 starts a purge
0564	Set network card or read network card information	1	Control	D1: 0X5a D0: State of the network 0x00: Turn off 0x01: Turn on 0xFF: Read the state of network (Need to be used with E140, E170, E180, E190, E1A0)
0565	Open the specified IP or domain name camera and display it to the specified location or close the camera.	1	Control	D1: 0x5A D0: State of the switch 0x00: Turn off 0x01: Turn on (Need to be used with 0500, E1B0)
3000	Set RTC time	1	Control	D1: 0x5a triggers an operation. Others are

				invalid. D0: 0x01 conducts a setting
3001	Input RTC year	1	Input and display	Write and display the variable. 09 is displayed as 2009.
3002	Input RTC month	1	Input and display	Write and display the variable month. (0x01-0x0C)
3003	Input RTC day	1	Input and display	Write and display the variable day. (0x01-0x0F)
3004	Input RTC hour	1	Input and display	Write and display the variable day. (0x01-0x17)
3005	Input RTC minute	1	Input and display	Write and display the variable minute. (0x01-0x3B)
3006	Input RTC second	1	Input and display	Write and display the variable second. (0x01-0x3B)
4000-406f	Customer data storage address	0x70	Input and display	0x4000-0x400f: The folder name of the customer in the root directory 0x4010-0x406f: Customer data storage address
D000-D7BF	Display file information	32*64	Display	Used with address 0514 control command. Display N (N is the file number read) file names from a certain file number. From D000 to D7C0 and up to 32 file names. For example, D000 display the first file name. D040 display the second file name. D7C0 displayed the 32 nd file name.
E110	Specified file path	16	Input and display	Write specified file path. The multi-level menu is separated by / and the default is MEIRONG/
E060	The top left cell of a 4-cell grid	12	Control	Set the display position D23:D22 the page to be displayed on. D21: D24 Coordinate (Xs, Ys) + (Xe, Ye). Xs is the X coordinate of the upper left position. Ys is the Y coordinate of the upper left position. Xe is the width and Ye is the length. D13:D12 0x5aa5 means triggering a display.
E070	The top right cell of a 4-cell grid	12	Control	Set the display position D23:D22 the page to be displayed on. D21: D24 Coordinate (Xs, Ys) + (Xe, Ye). Xs is the X coordinate of the upper left position. Ys is the Y coordinate of the upper left

				position. Xe is the width and Ye is the length. D13:D12 0x5aa5 means triggering a display.
E080	The bottom left cell of a 4-cell grid	12	Control	Set the display position D23:D22 the page to be displayed on. D21: D24 Coordinate (Xs, Ys) + (Xe, Ye). Xs is the X coordinate of the upper left position. Ys is the Y coordinate of the upper left position. Xe is the width and Ye is the length. D13:D12 0x5aa5 means triggering a display.
E090	The bottom right cell of a 4-cell grid	12	Control	Set the display position D23:D22 the page to be displayed on. D21: D24 Coordinate (Xs, Ys) + (Xe, Ye). Xs is the X coordinate of the upper left position. Ys is the Y coordinate of the upper left position. Xe is the width and Ye is the length. D13:D12 0x5aa5 means triggering a display.
e0a0	Store the file name of one-click smart screenshot	16	Input and display	The address to store the file path and name. Need to be used with 5a05 display of the one-clock smart screenshot
E140		10	Input and display	
E170		10	Input and display	
E180		10	Input and display	
E190		10	Input and display	
E1A0		10	Input and display	
E1B0		40	Input and display	Write and display RTSP address information in ASCII

Chapter 3 Serial Communication Protocol

3.1 Serial Port Settings

115200, 8, N, 1

Baud rate: 115200, can be set, while 0 needs to modify the configuration file

Data bits: 8

stop bits: 1

Check digit: none

3.2 Communication Data Frame

Address	0x00	0x02	0x03	0x04
Definition	0X5AA5	LEN	CMD	DATA_Pack
Description	Frame header	Subsequent data length, including instruction, data	Command (0x82/0x83)	Data

3.3 Interface Command Description

Command	Data	Description
0x82	Send: variable space first address (0x1000-0xFFFF) + written data Answer: 0x4F 0x4B	Specify address to write data to variable space
0x83	Send: variable space first address (0x1000-0xFFFF) + read data byte length (0x01-0x7D) Answer: variable space first address + variable data word length + read variable data	Read the specified length word data from the specified address in the variable space.

3.4 Example

Set to stop playing: the address of the variable space to stop playing is 0x0510, the command to be issued is: 5A A5 05 82 05 10 5A 02, and the return command is: 5A A5 03 82 4F 4B

Read the current playback state: the variable space address of the state variable is 0x0520, the command needs to be issued: 5A A5 04 83 05 20 02, and the return command is: 5A A5 07 83 05 2001, take the last four bytes, among which 00: indicates video; 0001 indicates that video No. 1 is being played (starting from zero), 01 indicates normal playback.

Chapter 4 Example of Using DGUSII

The following example is a brief introduction of how to use DGUSII to develop a streaming media screen. The default has a certain understanding of the DGUS TOOL development environment.

(1) Open the DGUS TOOL tool, build the project according to the screen resolution, and add the pictures designed in advance.

(2) On the 0.bmp page, select [Key Return] in the touch control, select the playing position in the picture as the area, and in the property setting, the variable address is: 0510, and the key value is: 5A00. This completes the setup of the playback controls.

(3) On the 0.bmp page, select [Data variable transfer] in the display control, select the area where the video needs to be displayed, and in the property setting, the variable address is: 0500 (only this value). Write the predefined data into 5AA5 to complete the setting of the display area, and you can set the corresponding display area on any other interface.

Note: The width and height of the control should be a multiple of 2.

(4) Save the project and generate configuration files.

(5) Control the process of playing video through the serial port. The default is to play the first video, as follows:

050D: Turn on video or audio

0500: Set the display range of playback

0510: To control video playback, you must first send the 5A00 playback command, and then send other playback control commands

Please follow the above process, otherwise it may cause abnormal video and audio playback.

(6) Note: When playing video, the maximum video file format standard is: 720P.

Chapter 5 SD Card Upgrade Software and Boot Logo Replacement

The streaming media screen supports SD card upgrades, and both the T5L and the video playback chip support SD card upgrades.

(1) T5L upgrade:

- a) Create a new DWIN_SET folder in the root directory of the SD card, and copy the files to be upgraded into this folder;
- b) The screen is powered off, and the SD card is inserted into the T5L SD card slot. After powering on for a while, you can see the upgrade interface, and wait for the upgrade to complete;

(2) Video player chip software upgrade:

- a) Create a new UPDATE folder in the root directory of the SD card, and copy the software to be upgraded (OTA file, no decompression) into this folder;
- b) The screen is powered off, and the SD card is inserted into the SD card slot of the video playback chip. After power-on, it will enter the upgrade process. There will be 2 restarts during the upgrade process. Do not intervene in this process.

Chapter 6 Boot Logo Replacement

- 1) Create a new DWIN_VIDEO folder under the root directory of the SD card, and copy the boot logo picture into this folder. The boot logo save name is fixed as 0_logo***, where *** is any character, and the boot logo picture format is bmp format, ARGB_8888 Attributes.
- 2) When the screen is powered off, insert the SD card into the SD card slot of the video player chip, and then power on, the screen will go black first, and then turn on again. After the system is stable, restart to see the new boot logo.

Chapter 7 Internal FLASH Playback Audio and Video File Copy Method

- 1) Create a new DWIN_VIDEO folder in the root directory of the SD card, and copy the audio and video files into this folder. The video file naming method is: 0_VIDEO***, 1_VIDEO***,... The audio file naming method is: 0_AUDIO ***, 1_AUDIO***...;

- 2) When the screen is powered off, insert the SD card into the card slot of the video playback chip, power on, and wait for the boot interface to stabilize.

After setting, it means that the audio and video have been copied. Copy the video file first, and then copy the audio file. The maximum sum of copied files is 32M. If the sum of files from 0 to N is greater than 32M, only 0 to N-1 files will be copied. If file 0 is larger than 32M, it will not be copied.

Note: This is the method of internal FLASH broadcast audio and video, not the method of SD card broadcast audio and video, SD card audio and video can be directly placed in the root directory.

Chapter 8 USB Screenshot and Playback Picture

For USB camera screenshots, the customer needs to create a MEIRONG folder under the root directory of the SD card, and the captured pictures are under the name and date corresponding to the MEIRONG directory of the SD card, for example, MEIRONG/A/2019.09.09/. In turn, pictures are played under the names and dates of the people in the above directory.

Revision records

Rev	Revise Date	Content	Editor
00	2023-02-27	English version	Allision
01	2023-03-30	Update variable space address	Chen Lvzhi

Disclaimer: The product design is subject to alternation and improvement without prior notice.

Please contact us if you have any questions about the use of this document or our products, or if you would like to know the latest information about our products:

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Thank you all for continuous support of DWIN, and your approval is the driving force of our progress!