COMMUNICATION SPECIFICATION

PRODUCT : 42" WIDE PLASMA DISPLAY PANEL

MODEL NAME : PDS4233W-H
PDS4233W-S
PDS4233E-H
PDS4233E-S
PDS4234W-S
PDS4234E-S

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Fujitsu General Ltd.

Contents

1. Application Range

This specification applies to the control of 42" Wide Plasma Display Panel (Hereafter, referred to as PDP) with DTE terminal (Personal computer, etc., and hereafter, referred to as PC).
Refer to User's Manual for the details of the function.

2. Communication Specification

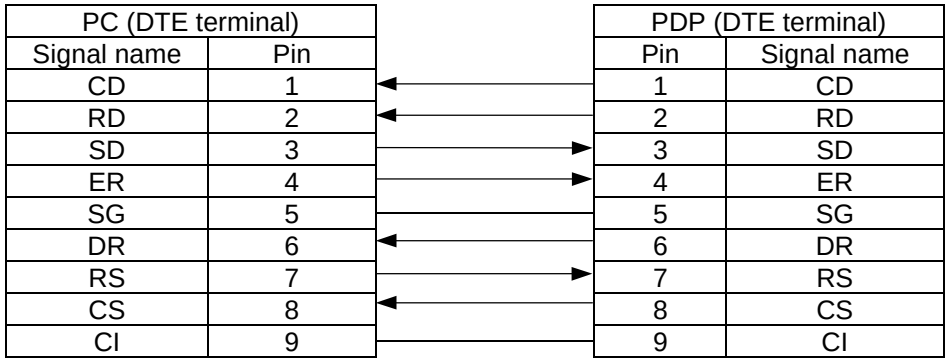
The control of PDP with PC uses the RS-232C interface.
PC sends each control command to PDP, and PDP can execute the function described in the function list.
Basically, procedure structure is 'Handshake in which it starts with @G and terminates with @Q'.
As a rule, the time-sharing by which the answering from PDP is monitored is used.

- Communication parameter

Baud rate	4800 BPS
Data length	8 bits
Parity	None
Stop bit	1 bit
Flow control	RTS/ CTS
Communication code	ASCII code
Reception time out	4 seconds When status is not returned after sending the command, wait for the time out 4 seconds and send the command again.

3. Connection with PC

When using the DOS/V compatible machine, connect with it by the straight D-SUB 9 pins cable.



PC (DTE terminal)			PDP (DTE terminal)	
Signal name	Pin		Pin	Signal name
CD	1	←	1	CD
RD	2	←	2	RD
SD	3	→	3	SD
ER	4	→	4	ER
SG	5	—	5	SG
DR	6	←	6	DR
RS	7	→	7	RS
CS	8	←	8	CS
CI	9	—	9	CI

4. Communication Procedure

The handshake system is used for the communication between PC and PDP, and the status is returned against the command sending.
Moreover, PC sends the communication start command and the communication termination command at the start and termination of the communication.
The key of the remote control and the main unit becomes a disabling condition (does not function) because the communication has the priority when the communication starts after the @Q communication mode terminates.

4-1. Control format

The command and the reception status consist of ASCII code, and this specification describes it by the character string.

4-1-1. Communication start command

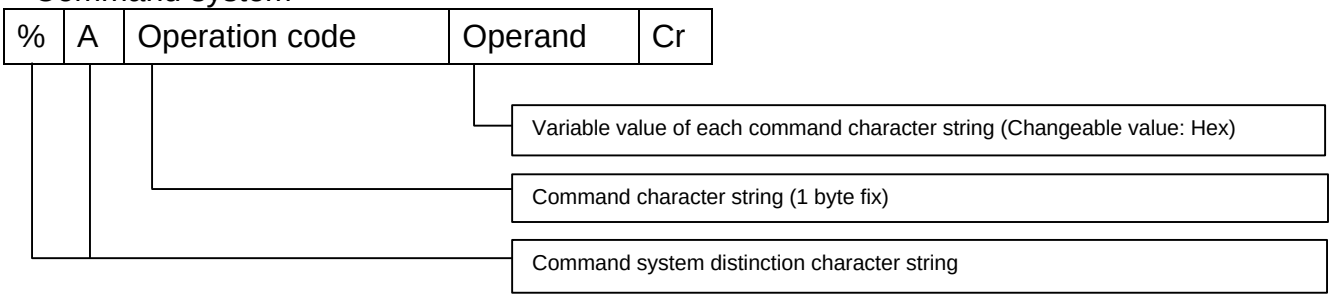
The communication starts.

@	G	Cr

When this command is sent a text communication mode start, and the communication command described in 'Function list' in clause 5 can be accepted.
Wait for the normal reception status after sending this command.
However, resend it even if reception status is not received for 4 seconds.
Resend it until returning the normal reception status because irregular data or ‘irregular data + reception status’ might return after sending the start command. Cr means Carriage Return.

4-1-2. Communication command

Command system



4-1-3. Status

Normal termination

@	S	Cr

PDP returns the status to PC after PDP normally execute the command sent by PC.

Normal termination with condition data

@	S	DT	Cr

PDP sends the operating condition to PC after PC sends the condition reading command.
(Refer to 'Function list' in clause 5 for details of a reading command and above-mentioned DT value character string.)

Abnormal termination

@	E	ST	Cr

PDP sends it to PC if PDP does not normally execute the command sent by PC.
Above-mentioned ST value character string:
01: Communication error (For example, the cable is not correctly connected.)
02: Setting error (For example, the command is not correctly sent.)
03: Function execute error (For example, PDP fails in the execute of the command.)

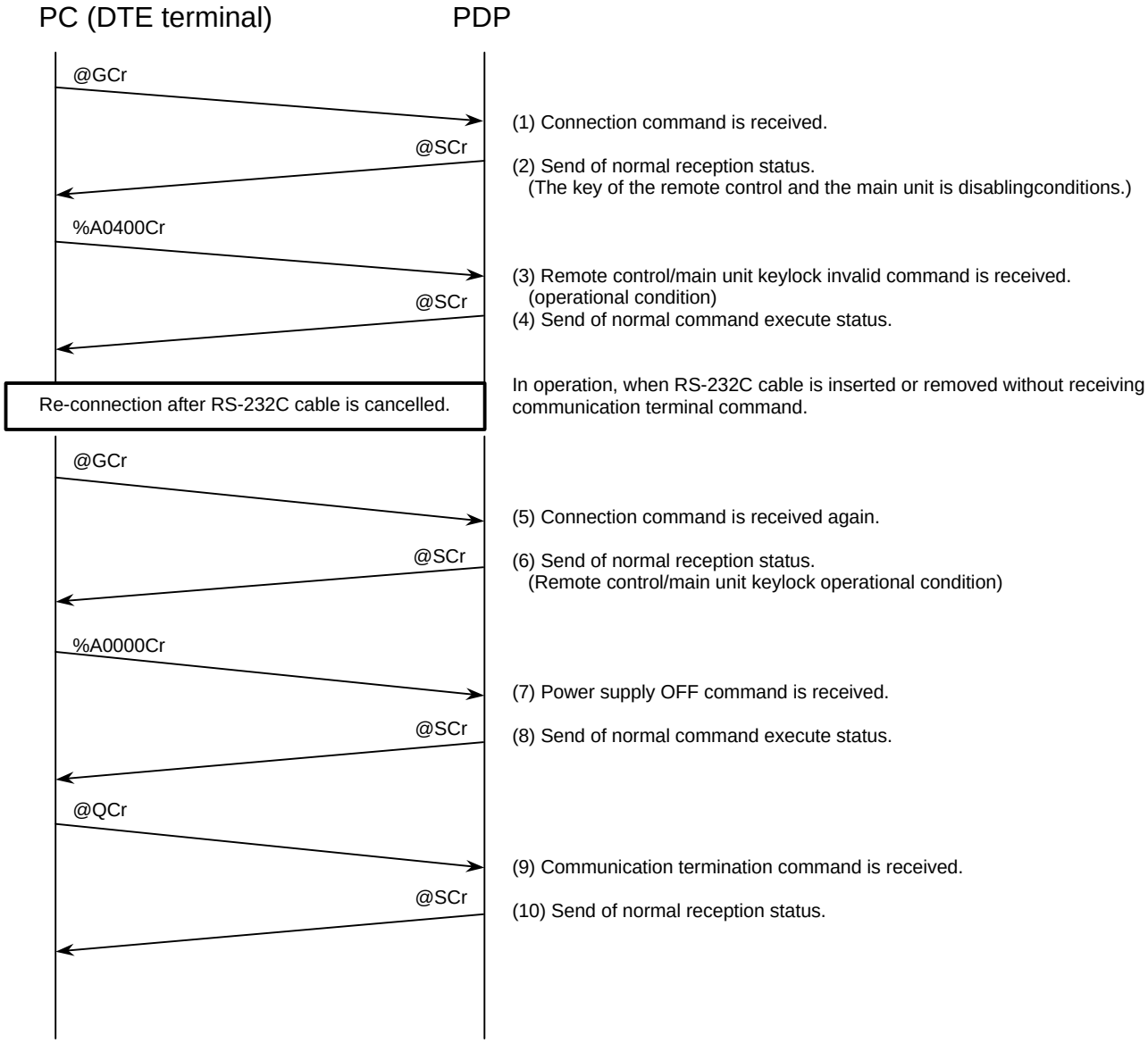
4-1-4. Communication termination command

The communication mode terminates.

@	Q	Cr

4-2. Protocol procedure example

The protocol procedure example is as follows.

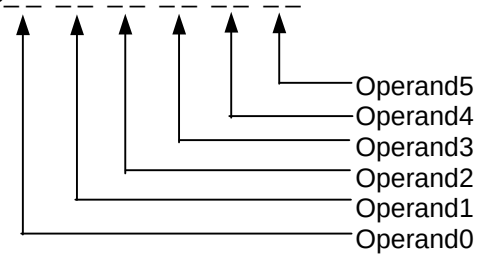


Communication code(hexadecimal) of protocol procedure example.

@GCr	=40 47 0D
@SCr	=40 53 0D
%A0400Cr	=25 41 30 34 30 30 0D
%A0000Cr	=25 41 30 30 30 30 0D
@QCr	=40 51 0D

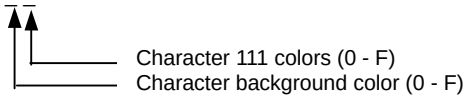
5. Function List

'Cr' is added at the end of all communication commands. Moreover, variable value means the hex.
And only the command of "Power supply On/Off setting" and "Power supply condition reading" is controllable by the power supply standby state.
A power supply standby state shows the state of "Power supply condition Off: @S00"

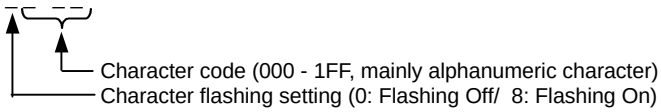
<table>
<tr><th colspan="2">Function</th><th>Communication command</th><th>Note</th></tr>
<tr><td rowspan="3">01</td><td rowspan="2">Power supply On/ Off setting</td><td>Power supply Off: %A0000</td><td></td></tr>
<tr><td>Power supply On: %A0001</td><td></td></tr>
<tr><td>Power supply condition reading</td><td>%A0080
(Return Code)
Power supply condition Off: @S00
Power supply condition On: @S01</td><td></td></tr>
<tr><td rowspan="3">02</td><td rowspan="2">On screen automatic display On/ Off setting</td><td>%A0100: Automatic display Off</td><td>OSD display setting</td></tr>
<tr><td>%A0101: Automatic display On</td><td></td></tr>
<tr><td>On screen automatic display On/Off set condition reading</td><td>%A0180
(Return Code)
@S00: Automatic display condition Off
@S01: Automatic display condition On</td><td></td></tr>
<tr><td>03</td><td>On screen character clear</td><td>%A02</td><td></td></tr>
<tr><td>04</td><td>On screen character display
(A specified character is superimposed on the screen)</td><td>%A03_ _ _ _ _ _ _ _ _ _ _ _
 

(Operand0)
The coordinate of horizontal character
Setting range: 00 - 1D

(Operand1)
The coordinate of vertical character
Setting range: 00 - 0F

(Operand2)
Character background color/ Character color
Setting range:
 

(Operand3)
The number of characters
Setting range: 01 - 0F (15 characters or less)

(Operand4) (Operand5)
Character code
Setting range:
 

(Operand4) and (Operand5) are added according to the number of characters of (Operand3).
Example) The flashing display of "A" in red color on the black background at coordinate (0.0) is %A03000004018041.
Note)
- Pay attention to the screen burn-in by the fixed display for a long time.
- The display of this function is cleared by the OSD display with the key of remote control and the main unit (including communication control).</td><td>Refer to supplement 6-1 for details of the coordinate.

Refer to supplement 6-2 for details of the color number.

Refer to CHART. for details of the character-code.</td></tr>
</table>

Function		Communication command	Note
05	Setting of remote control/ main unit keylock function	Remote control keylock is invalid and main unit keylock is invalid. : %A0400	Note) When the communication is started again after the termination of the communication, the remote control key and the main unit key become a disabling condition (does not function) for the priority of the communication.
		Remote control keylock is invalid and main unit keylock is valid: %A0401	
		Remote control keylock is valid and main unit keylock is invalid: %A0402	
		Remote control keylock is valid and main unit keylock is valid: %A0403	
	Confirmation of remote control/main unit keylock setting	%A0480 (Return Code) @S00: Remote control keylock invalid Main unit keylock invalid @S01: Remote control keylock invalid Main unit keylock valid @S02: Remote control keylock valid Main unit keylock invalid @S03: Remote control keylock valid Main unit keylock valid	
06	Initialization of user adjustable value	%A05	Factory Default
07	Video input selection	RGB_D-SUB input: %A1000	RGB2
		RGB_BNC input: %A1001	RGB3,Comp.video2 (co-used)
		RGB_DVI input: %A1002	RGB1
		Comp. Video input: %A1010	Comp. video, RGB3 (co-used)
		Video input: %A1012	
		S-video input: %A1014	
	Video input select condition reading	%A1080 (Return Code) @S00: RGB_D-SUB input @S01: RGB_BNC input @S02: RGB_DVI input @S10: Comp. video input @S12: Video input @S14: S-video input	

Function		Communication command	Note
08	Display aspect selection	Normal: %A1100	When Comp. video is selected and 720P or HDTV is input, this command is not accepted.
		Wide1: %A1101	When RGB or Comp. video is selected and 720P or HDTV is input, this command is not accepted.
		Wide2: %A1102	When RGB or Comp. video is selected and 720P or HDTV is input, 'Wide' is displayed.
		Zoom1: %A1103	When RGB or Comp. video is selected and 720P or HDTV is input, 'Zoom' is displayed.
		Zoom2: %A1104	When RGB or Comp. video is selected and 720P or HDTV is input, this command is not accepted.
		Auto: %A1108	When NTSC/PAL/SECAM (Video,S-video) is selected.
	Display aspect select condition reading	%A1180 (Return Code) @S00: Normal @S01: Wide1 @S02: Wide2 (When RGB or Comp. Video is selected and 720P or HDTV is input, it is 'Wide'.) @S03: Zoom1 (When RGB or Comp. Video is selected and 720P or HDTV is input, it is 'Zoom'.) @S04: Zoom2 @S08-@S0F: Auto	
09	Video system setting	%A12_ _ **(video input)** 0: NTSC (60Hz) 1: PAL60 (60Hz) 2: 4.43NTSC (60Hz) 3: M-PAL (60Hz) 4: PAL (50Hz) 5: N-PAL (50Hz) 6: SECAM (50Hz) 8: AUTO **(S video input)** 0: NTSC (60Hz) 1: PAL60 (60Hz) 2: 4.43NTSC (60Hz) 3: M-PAL (50Hz) 4: PAL (50Hz) 5: N-PAL (50Hz) 6: SECAM (50Hz) 8: AUTO	

Function		Communication command	Note
Video adjustment			
10	Contrast	%A130062 - %A13009E (Reference value: %A130080)	PDP adjustable range: -30 - +30
	Contrast condition reading	%A1380 (Return Code) @S62 - @S9E	
11	Brightness	%A130144 - %A1301BC (Reference value: %A130180)	PDP adjustable range: -60 - +60
	Brightness condition reading	%A1381 (Return Code) @S44 - @SBC	
12	Color (Excluding RGB).	%A130244 - %A1302BC (Reference value: %A130280)	PDP adjustable range: -60 - +60
	Color condition reading (Excluding RGB).	%A1382 (Return Code) @S44 - @SBC	
13	Tint	(When Video or S-video is selected) %A130362 - %A13039E (Reference value: %A130380)	PDP adjustable range: -30 - +30
		(When RGB, C-Video is selected) %A130344 - %A1303BC (Reference value: %A130380)	PDP adjustable range: -60 - +60
	Tint condition reading	%A1383 (Return Code) @S62 - @S9E: When Video or S-video is selected. @S44 - @SBC: When RGB, C-Video is selected.	
14	Sharpness	(When Video or S-video is selected.) %A130470 - %A130490 (Reference value: %A130480)	PDP adjustable range: -16 - +16
		(When RGB, C-Video is selected.) %A13047C - %A130484 (Reference value: %A130480)	PDP adjustable range: -4 - +4
	Sharpness condition reading	%A1384 (Return Code) @S70 - @S90: When Video or S-video is selected. @S7C - @S84: When RGB, C-Video is selected.	
15	Noise reduction (Only Video, S-video, C-VIDEO)	OFF : %A130500	IP is available. Applicable only when signal is received.
		Min : %A130501	
		Std : %A130502	
		Max : %A130503	
	Noise reduction condition reading (Only Video, S-video, C-VIDEO)	%A1385 [Return Code] @S00 : OFF @S01 : Min @S02 : Std @S03 : Max	

Function		Communication command	Note
Video adjustment			
16	Color temperature (Color Temp.)	Warm : %A130600	
		Standard : %A130601	
		Cool : %A130602	
		User : %A130603	
	Color temperature condition reading	%A1386 (Return Code) @S00 : Warm @S01 : Standard @S02 : Cool @S03 : User	
17	User Color temperature(R) (User Color Temp.)	%A130700 - %A1307FF	PDP adjustable range: 0 - 255
	User Color temperature (R) condition reading	%A1387 (Return Code) @S00 - @SFF	
18	User Color temperature(G) (User Color Temp.)	%A130800 - %A1308FF	PDP adjustable range: 0 - 255
	User Color temperature (G) condition reading	%A1388 (Return Code) @S00 - @SFF	
19	User Color temperature(B) (User Color Temp.)	%A130900 - %A1309FF	PDP adjustable range: 0 - 255
	User Color temperature (B) condition reading	%A1389 (Return Code) @S00 - @SFF	

Function		Communication command	Note
Video adjustment			
20	Dot clock (Only RGB <except DVI>)	%A130A44 - %A130ABC (Reference value: %A130A80)	PDP adjustable range: -60 - +60
	Dot clock condition reading	%A138A (Return Code) @S44 - @SBC	
21	Clock phase (Only RGB <except DVI>).	%A130B00 - %A130B1F	PDP adjustable range: 1 - 32
		Automatic adjustment: %A130B80	
	Clock phase condition reading	%A138B (Return Code) @S00 - @S1F When automatic adjustment, it is @S80 - @S9F.	
22	Vertical synchronizing signal correction (Only RGB <except DVI>) (Vertical Sync)	%A130C7F - %A130C81 (Reference value: %A130C80)	PDP adjustable range: -1 - +1
	Vertical synchronizing signal correction condition reading	%A138C (Return Code) @S7F - @S81	
23	Clamp pulse position (Only RGB and Comp.Video <except DVI>). (Clamp Position)	%A130D78 - %A130D88 (Reference value: %A130D80)	PDP adjustable range: -8 - +8
	Clamp pulse position condition reading	%A138D (Return Code) @S78 - @S88	
24	3D Y/C (Only Video_NTSC signal) (3D Y/C)	OFF (3LINE Y/C) : %A130E00	
		ON (3D Y/C) : %A130E01	
	3D Y/C Condition reading (Only Video_NTSC signal)	%A138E [Return Code] @S00 : OFF (3LINE Y/C) @S01 : ON (3LINE Y/C)	
25	Picture mode setting (Picture mode)	Dynamic : %A130F00	
		Fine : %A130F01	
		Real 1 : %A130F02	
		Real 2 : %A130F03	
		Static : %A130F04	
	Picture mode setting Condition reading	%A138F (Return Code) @S00 : Dynamic @S01 : Fine @S02 : Real 1 @S03 : Real 2 @S04 : Static	
26	24 Frame mode (Only Video, S-video, C-VIDEO) (24 Frame Mode)	OFF : %A131000	
		ON : %A131001	
	24 Frame mode Condition reading	%A1391 (Return Code) @S00 : OFF @S01 : ON	
27	Auto calibration (Only RGB <except DVI>)	Execute (execute): %A131200	
		Original (Factory shipping value): %A131201	

Function		Communication command	Note
Video position/ size setting			
28	Video horizontal position setting (Horizontal Position)	(When RGB_D-SUB/BNC/DVI is selected.) %A1400076A - %A14000896 (Reference value: %A14000800)	PDP adjustable range: -150 - +150
		(When Comp. video, D-SUB, BNC is selected, and SDTV, 525P, or 625P is input.) %A140007F0 - %A14000810 (Reference value: %A14000800)	PDP adjustable range: -16 - +16
		(When Comp. video, D-SUB, BNC is selected, and 720P or HDTV is input.) %A140007E0 - %A14000820 (Reference value: %A14000800)	PDP adjustable range: -32 - +32
		(When Video or S-video is selected.) %A140007E2 - %A1400081E (Reference value: %A14000800)	PDP adjustable range: -30 - +30
	Video horizontal position condition reading	%A1480 (Return Code) @S076A - @S0896	
29	Video vertical position setting (Vertical Position)	(When RGB_D-SUB/BNC/DVI is selected.) %A1401076A - %A14010896 (Reference value: %A14010800)	PDP adjustable range: -150 - +150
		(When Comp. video, D-SUB, BNC is selected, and SDTV, 525P, or 625P is input.) %A140107F0 - %A14010810 (Reference value: %A14010800)	PDP adjustable range: -16 - +16
		(When Comp. video, D-SUB, BNC is selected, and 720P or HDTV is input.) %A140107E0 - %A14010820 (Reference value: %A14010800)	PDP adjustable range: -32 - +32
		(Video and S-video. Screen size Normal, Wide1, or Wide2 is selected.) %A140107F9 - %A14010807 (Reference value: %A14010800)	PDP adjustable range: -7-+7
		(Video and S-video. Screen size Zoom1 or Zoom2 is selected.) %A140107F1 - %A1401080F (Reference value: %A14010800)	PDP adjustable range: -15 - +15
	Video vertical position condition reading	%A1481 (Return Code) @S076A - @S0896	
30	Video horizontal width setting (Horizontal Size)	(When RGB_D-SUB/BNC/DVI is selected. %A140267 - %A1402B2 (Reference value: %A140280)	PDP adjustable range: -25 - +50
		(When C-Video_D-SUB/BNC selected.) %A14027C - %A140284 (Reference value: %A140280)	PDP adjustable range: -4 - +4
		(When Video or S-video is selected.) %A140279 - %A140287 (Reference value: %A140280)	PDP adjustable range: -7 - +7
	The video horizontal width condition reading	%A1482 (Return Code) @S67 - @SB2	
31	Video vertical height setting (Vertical Size)	(When RGB_D-SUB/BNC/DVI is selected. %A140367 - %A1403B2 (Reference value: %A140380)	PDP adjustable range: -25 - +25
		(When C-Video_D-SUB/BNC is selected.) %A14037C - %A140384 (Reference value: %A140380)	PDP adjustable range: -4 - +4
		(When Video or S-video is selected.) %A140379 - %A140387 (Reference value: %A140380)	PDP adjustable range: -7- +7
	Video vertical height condition reading	%A1483 (Return Code) @S67 - @SB2	

Function		Communication command	Note
Audio setting			
32	Audio input setting D-SUB terminal (Audio Input)	[No audio] %A200000	
		[Audio input 1] %A200001	
		[Audio input 2] %A200002	
	Audio input setting D-SUB terminal condition reading	%A200080 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	
33	Audio input setting BNC terminal (Audio Input)	[No audio] %A200100	
		[Audio input 1] %A200101	
		[Audio input 2] %A200102	
	Audio input setting BNC terminal condition reading	%A200180 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	
34	Audio input setting DVI terminal (Audio Input)	[No audio] %A200200	
		[Audio input 1] %A200201	
		[Audio input 2] %A200202	
	Audio input setting DVI terminal condition reading	%A200280 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	
35	Audio input setting C-Video terminal (Audio Input)	[No audio] %A200300	
		[Audio input 1] %A200301	
		[Audio input 2] %A200302	
	Audio input setting C-Video terminal condition reading	%A200380 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	

Function		Communication command	Note
Audio setting			
36	Audio input setting Video terminal (Audio Input)	[No audio] %A200500	
		[Audio input 1] %A200501	
		[Audio input 2] %A200502	
	Audio input setting Video terminal condition reading	%A200580 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	
37	Audio input setting S-Video terminal (Audio Input)	[No audio] %A200600	
		[Audio input 1] %A200601	
		[Audio input 2] %A200602	
	Audio input setting S-Video terminal condition reading	%A200680 [Return Code] @S00 : No audio @S01 : Audio input 1 @S02 : Audio input 2	
38	Volume setting (Audio volume)	[Audio mute OFF] %A2200 (Volume Low) - %A2228 (Volume High)	PDP adjustable range 0 - 40
		[Audio mute ON] %A2240	
	Volume setting condition reading	%A2280 [Return Code] @S00 (Volume Low) - @S28 (Volume High) @S40 - @S68: Audio mute	
39	Tone balance setting (Audio Balance)	[Balance] %A2306 (Left) - %A231A (Right) (Reference value:%A2310)	PDP adjustable range: -10 - +10
		[Bass] %A232A (Down) - %A2336 (Up) (Reference value:%A2330)	PDP adjustable range: -6 - +6
		[Treble] %A234A (Down) - %A2356 (Up) (Reference value:%A2350)	PDP adjustable range: -6 - +6
	Tone balance setting condition reading	%A2380 [Return Code] @S06 (Left) - @S1A (Right) : Balance	
		%A23A0 [Return Code] @S0A (Down) - @S16 (Up) : Bass	
		%A23C0 [Return Code] @S0A (Down) - @S16 (Up) : Treble	

	Function	Communication command	Note
Extended features			
40	OSD Rotate display (OSD Rotate)	Standard (horizontal putting): %A310000	
		+90 degree rotation: %A310001	The remote control receiver is put at the lower position.
		-90 degree rotation: %A310002	The remote control receiver is put at the upper position.
	OSD Rotate display condition reading	%A3180 (Return Code) @S00: Standard (horizontal putting) @S01: +90 degree rotation @S02: -90 degree rotation	
41	Language selection	English: %A310100	
		German: %A310101	
		Spanish: %A310102	
		French: %A310103	
		Italian: %A310104	
		Portuguese: %A310105	
		Russian: %A310106	Only PDS423*E
	Language select condition reading	%A3181 (Return Code) @S00: English @S01: German @S02: Spanish @S03: French @S04: Italian @S05: Portuguese @S06: Russian	
42	DPMS setting	DPMS OFF : %A310200	
		Black background. 1 minute: %A310201	
		Black background. 15 minutes: %A310202	
		Black background. 45 minutes: %A310203	
		Black background. 60 minutes: %A310204	
		White background. 1 minute: %A310281	
		White background. 15 minutes: %A310282	
		White background. 45 minutes: %A310283	
		White background. 60 minutes: %A310284	
	DPMS setting condition reading	%A3182 (Return Code) @S00: DPMS Off @S01: Black background. 1 minute. @S02: Black background. 15 minutes. @S03: Black background. 45 minutes. @S04: Black background. 60 minutes. @S81: White background. 1 minute. @S82: White background. 15 minutes. @S83: White background. 45 minutes. @S84: White background. 60 minutes.	No DVI function
43	White screen display	White screen display Off: %A310300	
		White screen display On: %A310301	
	White screen display condition reading	%A3183 (Return Code) @S00: White screen display Off @S01: White screen display On	

Function		Communication command	Note
Extended features			
44	Screen orbiter setting (Only RGB) (Screen Orbiter)	Screen orbiter Off: %A310401	
		Minimum turn at constant intervals: %A310410	About 5dots orbiter
		Standard turn at constant intervals: %A310411	About 10dots orbiter
		Maximum turn at constant intervals: %A310412	About 15dots orbiter
		Minimum turn at each mode change: %A310420	About 5dots orbiter
		Standard turn at each mode change: %A310421	About 10dots orbiter
		Maximum turn at each mode change: %A310422	About 15dots orbiter
	Screen orbiter condition reading	%A3184 (Return Code) @S01: Screen orbiter Off @S10: Minimum turn at constant intervals @S11: Standard turn at constant intervals @S12: Maximum turn at constant intervals @S20: Minimum turn at each mode change @S21: Standard turn at each mode change @S22: Maximum turn at each mode change	
45	Input priority	Off : %A310500	
		RGB_D-sub : %A310502	
		RGB_BNC : %A310503	
		Video : %A310504	
		S-video : %A310505	
		Comp. video : %A310507	
	Input priority condition reading	%A3185 (Return Code) @S00: Off @S02: RGB_D-sub @S03: RGB_BNC @S04: Video @S05: S-video @S07: Comp. video	
46	Monitor number setting (Monitor No.)	Off: %A310600	
		1: %A310601	
		2: %A310602	
		3: %A310603	
		4: %A310604	
	Monitor number setting condition reading	%A3186 (Return Code) @S00: Off @S01: 1 @S02: 2 @S03: 3 @S04: 4	
47	Code setting (RGB only) (Code setting)	Auto: %A310780	Except DVI
		Manual RGB parameter code: %A310700 - %A31072A	
	Code setting condition reading (RGB only)	%A3187 (Return Code) @S80 - @SAA: Auto @S00 - @S2A: Manual RGB parameter code	

Function		Communication command	Note
Extended features			
48	Direct setting (Only RGB)	Auto : %A310800	
		VGA : %A310801	
		WVGA : %A310802	
		XGA : %A310804	
		WXGA : %A310805	
		SXGA : %A310806<except DVI>	
		SXGA+ : %A310807<except DVI>	
		480P : %A310803 <except DVI>	
	Direct set condition reading (Only RGB)	%A3188 (Return Code) @S00: Auto @S01: VGA @S02: WVGA @S04: XGA @S05: WXGA @S06: SXGA @S07: SXGA+ @S03: 480P	
49	Installation setting (Installation)	Horizontal (Horizontal putting): %A310900	
		Vertical (Vertical putting): %A310901	
	Installation set condition reading	%A3189 (Return Code) @S00: Horizontal (Horizontal putting) @S01: Vertical (Vertical putting)	

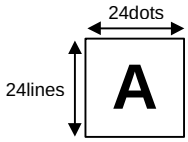
Function		Communication command	Note
Extended features			
50	BNC input setting (BNC input)	RGB-PC_Mask_OFF : %A310A00	RGB3 or Comp. video terminal
		RGB-Decoder_Mask_OFF : %A310A10	
		RGB-Decoder_Mask_5 dots : %A310A11	
		RGB-Decoder_Mask_10 dots : %A310A12	
		RGB-Decoder_Mask_15 dots : %A310A13	
		C-VIDEO Mask OFF : %A310A20	
		C-VIDEO Mask 5 dots : %A310A21	
		C-VIDEO Mask 10 dots : %A310A22	
		C-VIDEO Mask 15 dots : %A310A23	
	BNC input setting condition reading	%A318A (Return Code) @S00: RGB-PC_Mask_OFF @S10: RGB-Decoder_Mask_OFF @S11: RGB-Decoder_Mask_5 dots @S12: RGB-Decoder_Mask_10 dots @S13: RGB-Decoder_Mask_15 dots @S20: C-VIDEO_Mask_OFF @S21: C-VIDEO_Mask_ 5 dots @S22: C-VIDEO_Mask_ 10 dots @S23: C-VIDEO_Mask_ 15 dots	
51	RGB D-SUB input setting (D-SUB input)	RGB-PC Mask Off: %A310B00	RGB2 terminal
		RGB decoder mask Off: %A310B10	
		RGB decoder mask 5 dots: %A310B11	
		RGB decoder mask 10 dots: %A310B12	
		RGB decoder mask 15 dots: %A310B13	
	RGB D-SUB input setting condition reading	%A318B (Return Code) @S00: RGB-PC mask Off @S10: RGB decoder mask Off @S11: RGB decoder mask 5 dots @S12: RGB decoder mask 10 dots @S13: RGB decoder mask 15 dots	
52	Exhibition mode setting (Exhibition mode)	Off: %A310C00	
		On: %A310C01	
	Exhibition mode setting condition reading	%A318C (Return Code) @S00: Off @S01: On	

Function		Communication command	Note
Remote control code			It does not function when remote control is prohibited.
53	Power turns On/Off	%A3200	
54	Power On	%A3201	
55	Power Off	%A3202	
56	Input toggle	%A3203	
57	Video input toggle	%A3205	
58	Video	%A3206	
59	RGB input toggle	%A3208	
60	RGB2	%A3209	
61	RGB3	%A320A	
62	S-video	%A320B	
63	C-video 2	%A320C	
64	RGB 1	%A320E	
65	C-video 1	%A320F	
66	Volume up	%A3220	
67	Volume down	%A3221	
68	Mute ON/OFF	%A3222	
69	Mute ON	%A3223	
70	Mute OFF	%A3224	
71	Menu cursor	%A323E	
72	Menu cursor	%A323F	
73	Menu button	%A3240	
74	Menu cursor	%A3241	
75	Menu cursor	%A3242	
76	Enter	%A325B	
77	Aspect toggle	%A3280	
78	Aspect Auto	%A3281	
79	Aspect Normal	%A3282	
80	Aspect Wide 1	%A3283	
81	Aspect Wide 2	%A3284	
82	Aspect Zoom 1	%A3285	
83	Aspect Zoom 2	%A3286	

6. Supplement

6-1. Details of display coordinate of on screen character

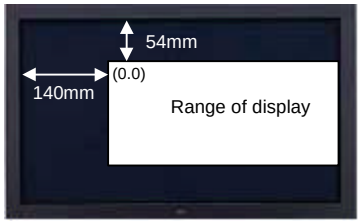
[Size of character]



About 26 x 26 mm

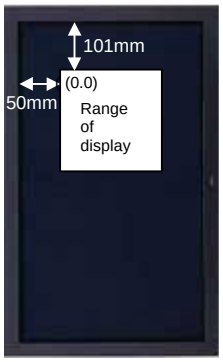
[Range of display and number of characters]

< OSD Rotate display: Normal >



Origin of coordinates of range of display:
Upper left of the range of display of left figure
(Installation condition: 140 mm in horizontal and 54 mm in vertical from upper left of screen)
The number of character in horizontal direction: 30 characters
(Simultaneous display is 16 characters.)
The number of character in vertical direction: 16 characters

< OSD Rotate display: +90 Degree. The remote control receiver is put at the upper position. >



Origin of coordinates of range of display:
Upper left of the range of display of left figure
(Installation condition: 50 mm in horizontal and 101 mm in vertical from upper left of screen)
The number of character in horizontal direction: 16 characters
The number of character in vertical direction: 16 characters

< OSD Rotate display: -90 Degree. The remote control receiver is put at the lower position. >

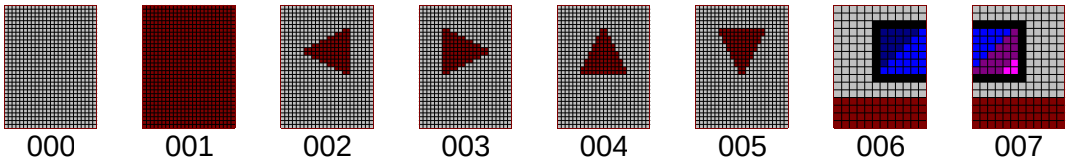
Origin of coordinates of range of display:
Upper left of the range of display of left figure
(Installation condition: 49 mm in horizontal and 116 mm in vertical from upper left of screen)
The number of character in horizontal direction: 16 characters
The number of character in vertical direction: 16 characters

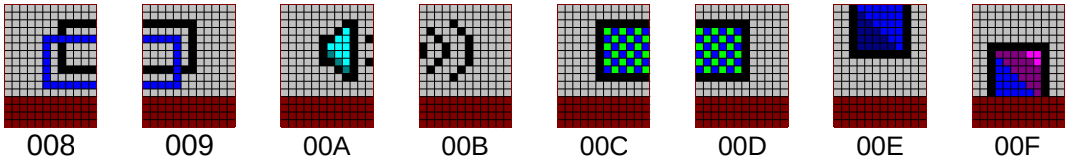
Note) A physical position of origin of coordinates (0. 0) changes by the rotation setting of OSD as shown in the above.
The position of the origin of coordinates of display range is just a guide.
(Showing actual value from the panel display starting position.)

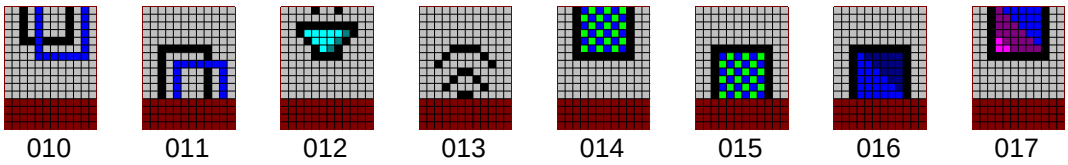
6-2. Details of display color number of on screen character

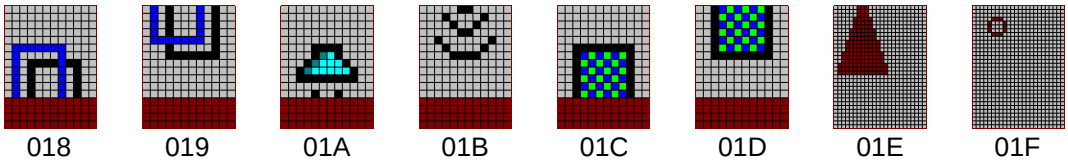
Color number	Color of screen	Color number	Color of screen
0	Black	8	----
1	Blue	9	Light Blue
2	Green	A	Light Green
3	Cyan	B	Light Cyan
4	Red	C	Light Red
5	Magenta	D	Light Magenta
6	Brown	E	Yellow
7	White	F	White(high intensity)

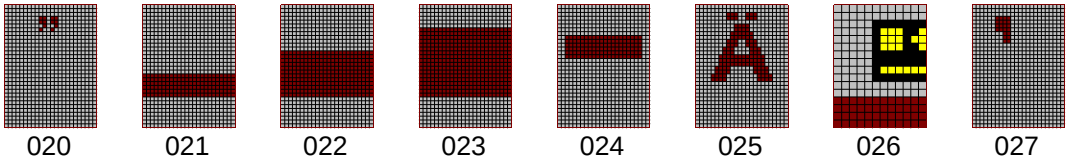
CHART.Details of display character code of on screen character.

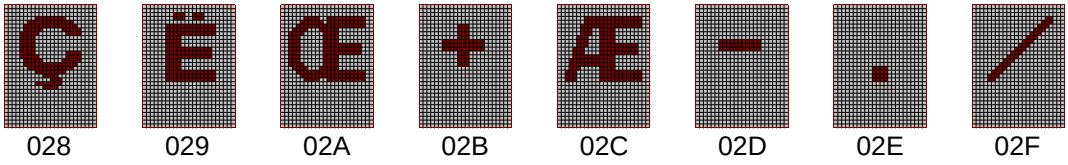


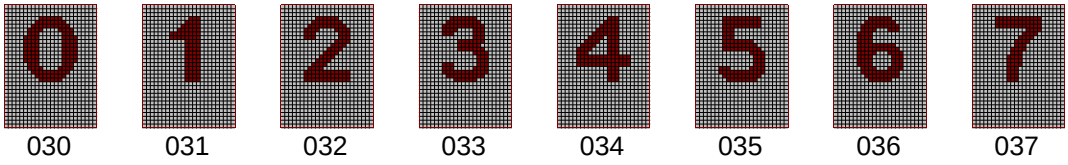


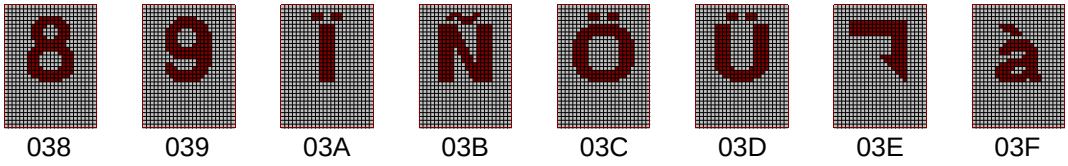


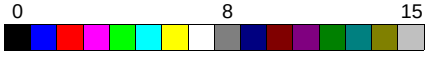


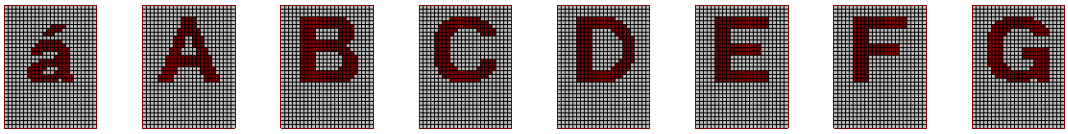




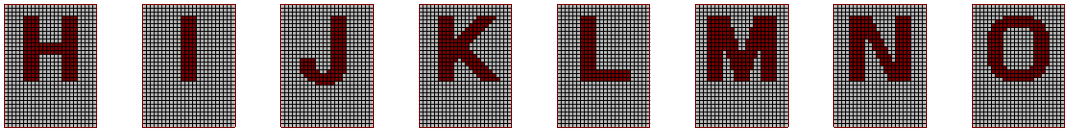




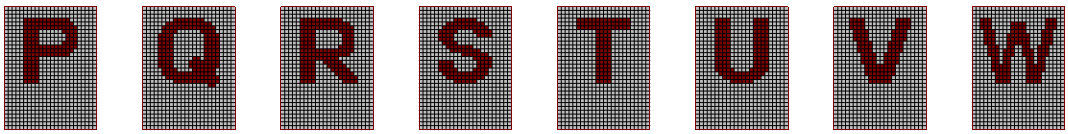




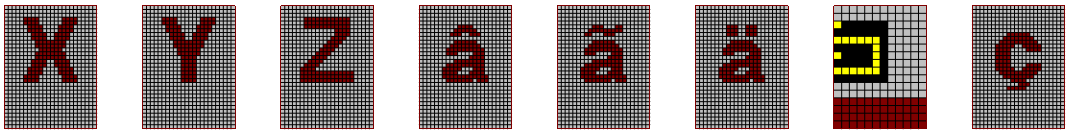
040 041 042 043 044 045 046 047



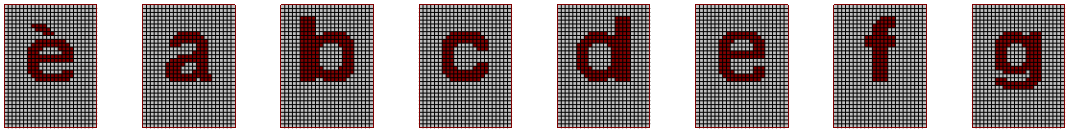
048 049 04A 04B 04C 04D 04E 04F



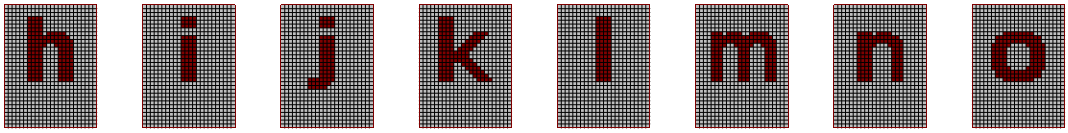
050 051 052 053 054 055 056 057



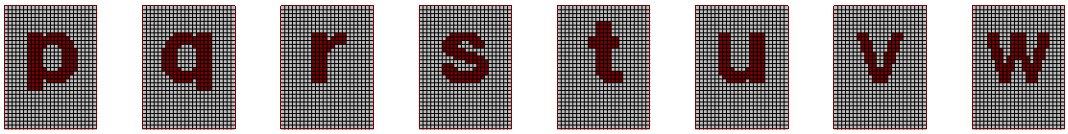
058 059 05A 05B 05C 05D 05E 05F



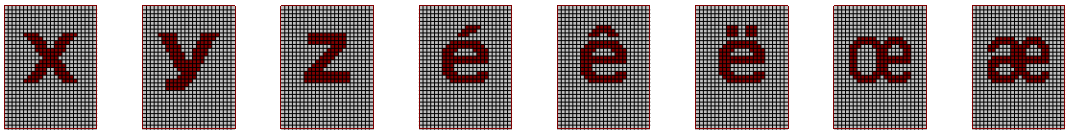
060 061 062 063 064 065 066 067



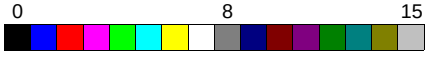
068 069 06A 06B 06C 06D 06E 06F

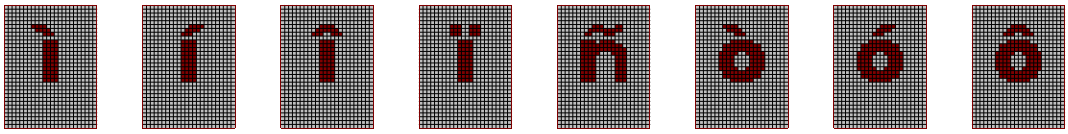


070 071 072 073 074 075 076 077



078 079 07A 07B 07C 07D 07E 07F

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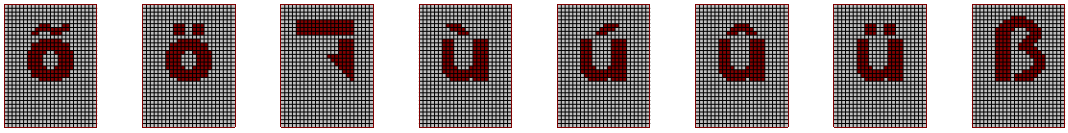
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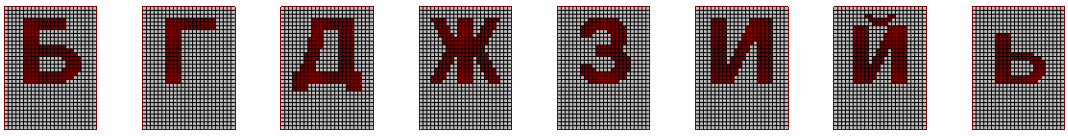
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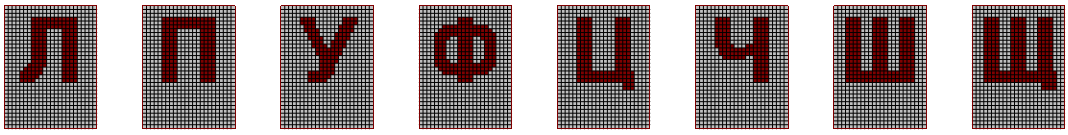
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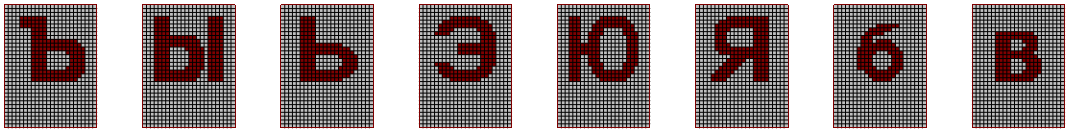
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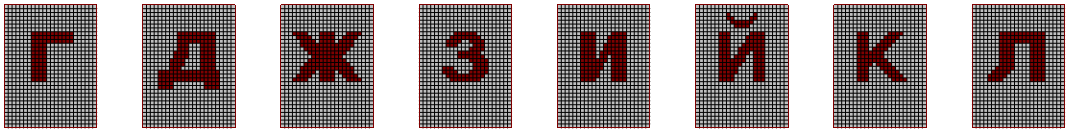
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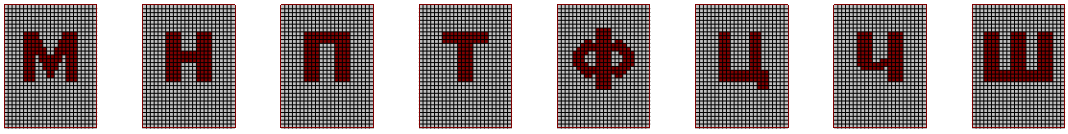
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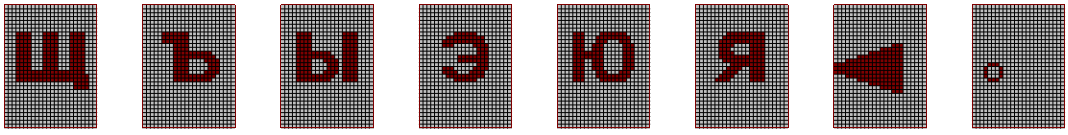
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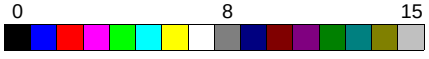
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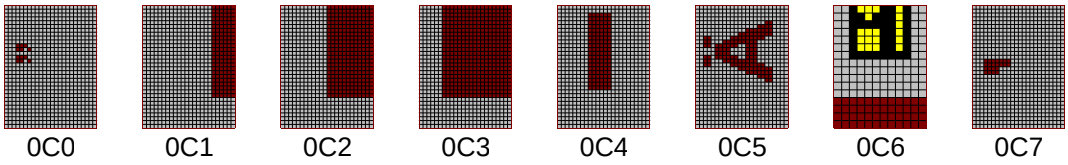
15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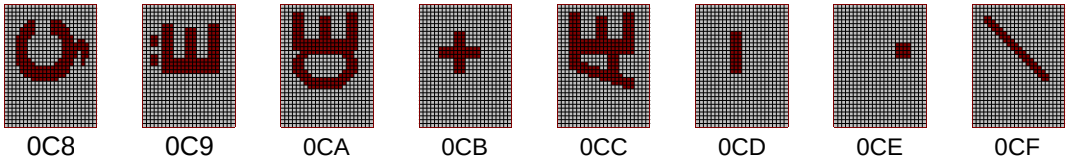
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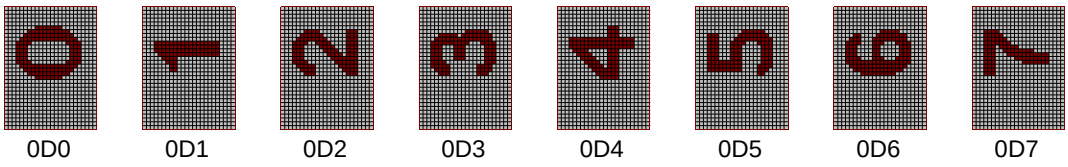
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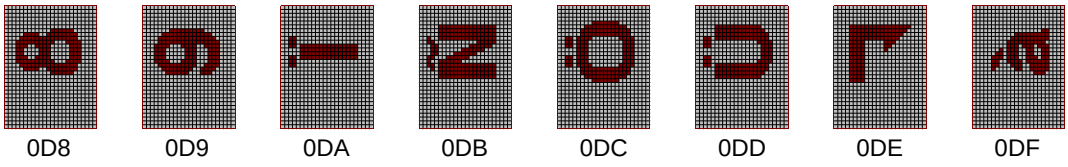
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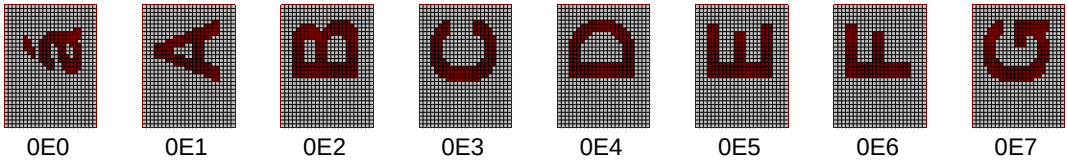
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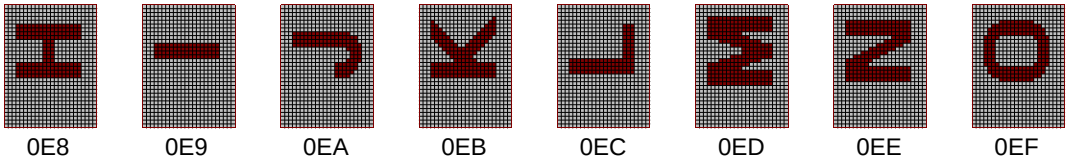
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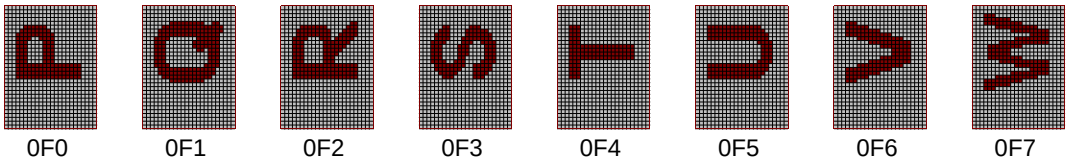
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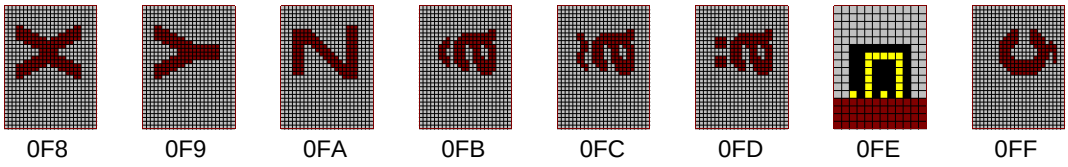
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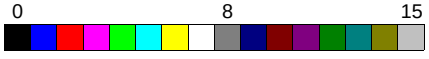
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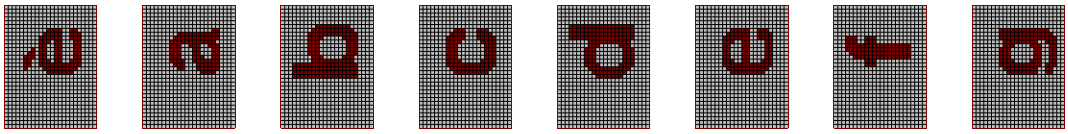
15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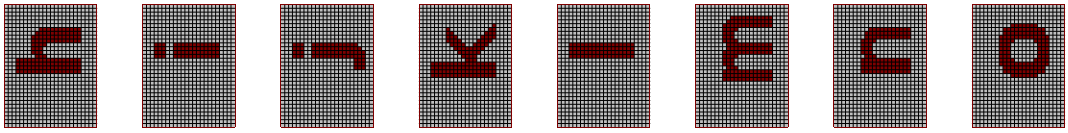
107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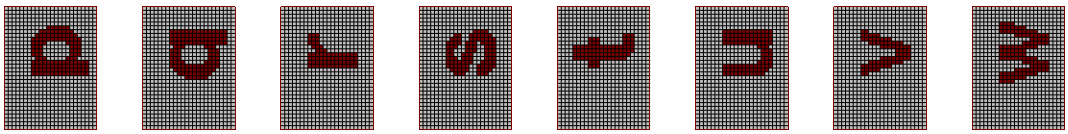
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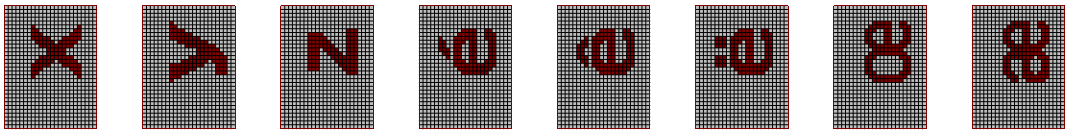
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11D
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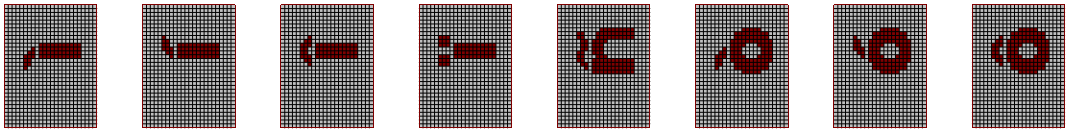
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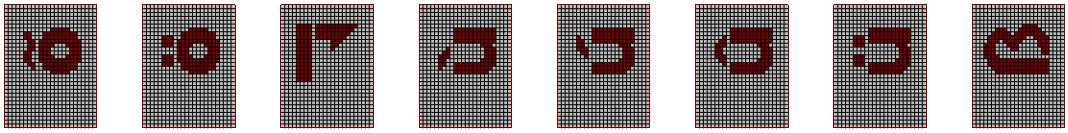
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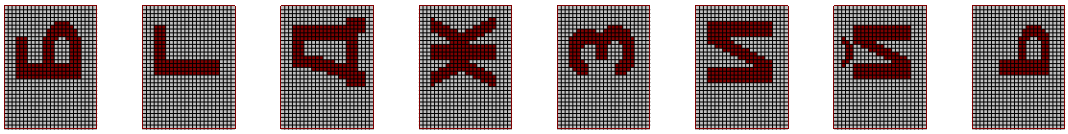
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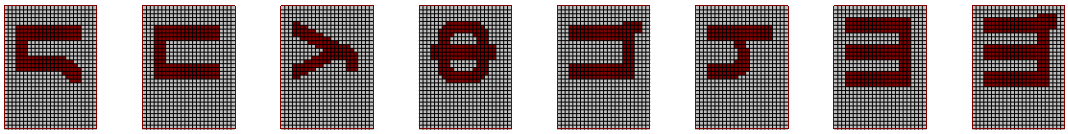
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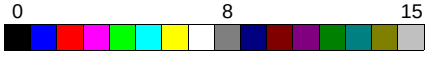
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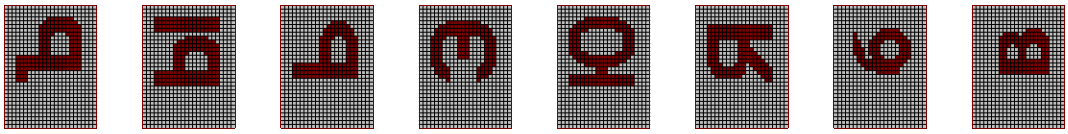
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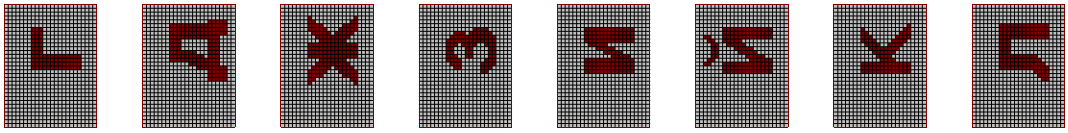
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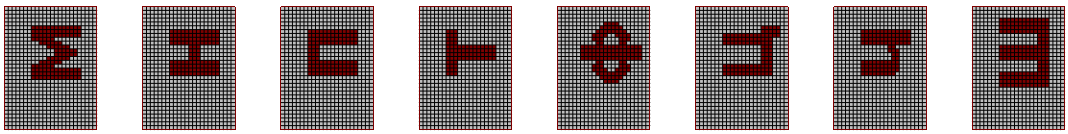
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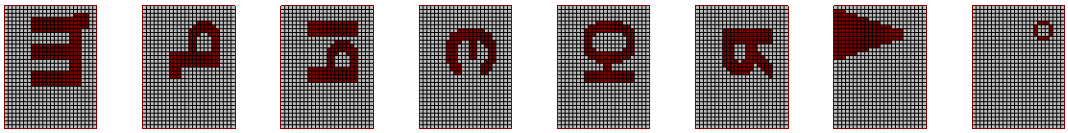
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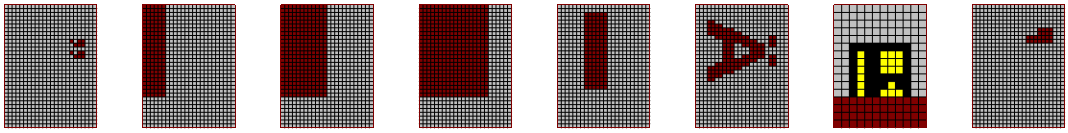
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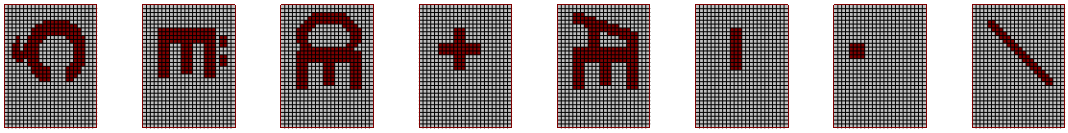
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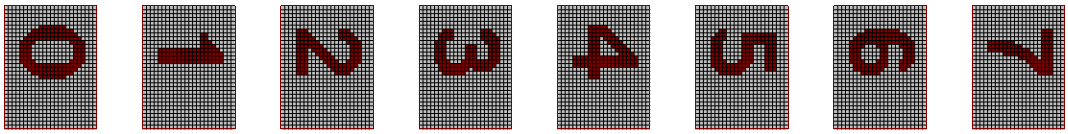
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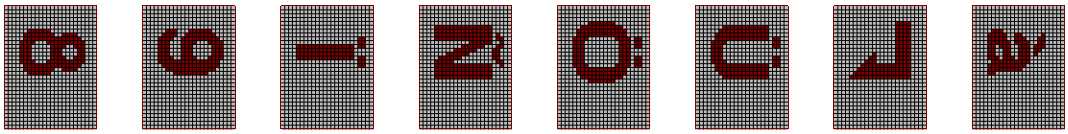
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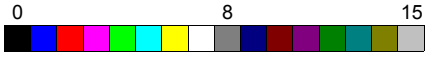
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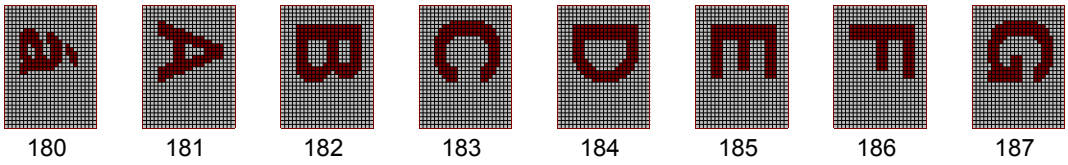
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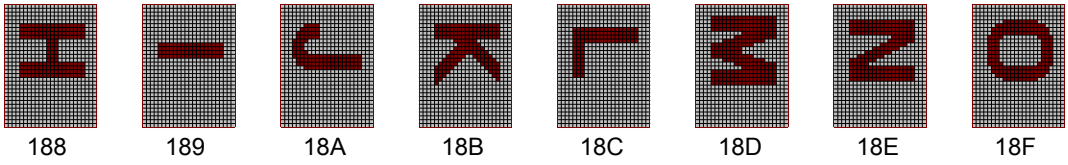
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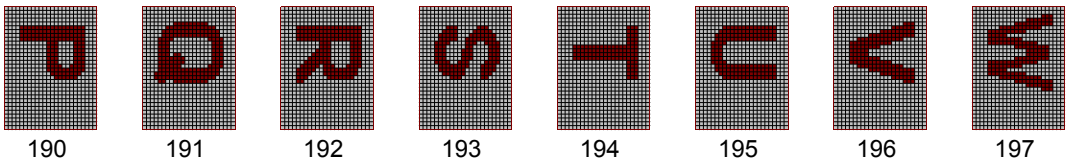
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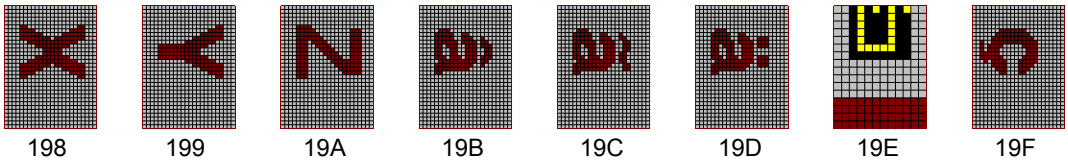
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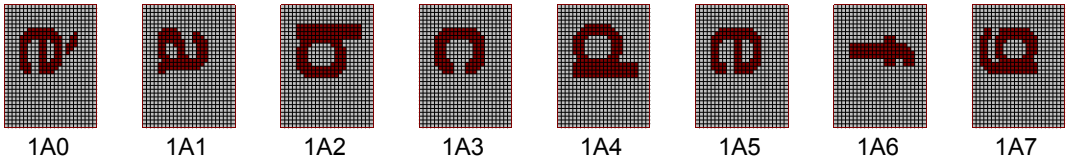
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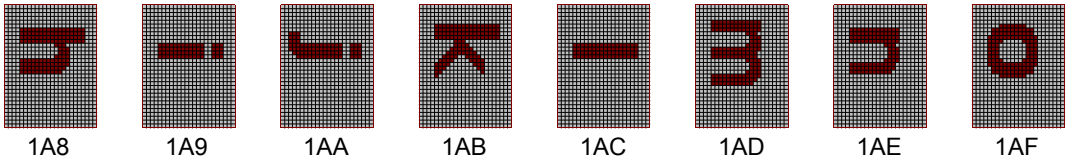
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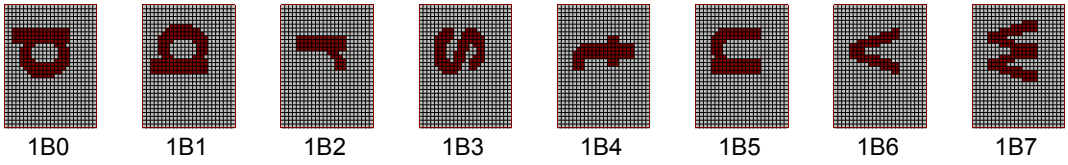
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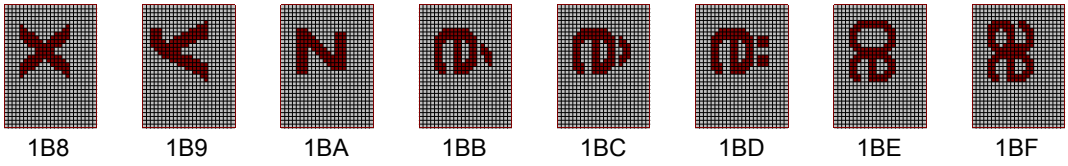
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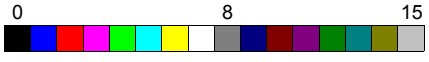
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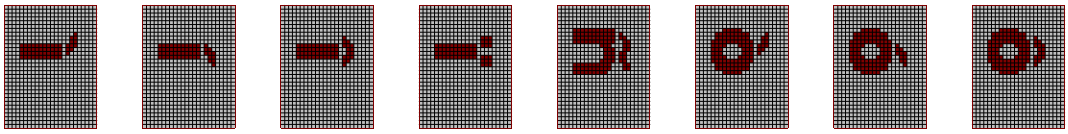
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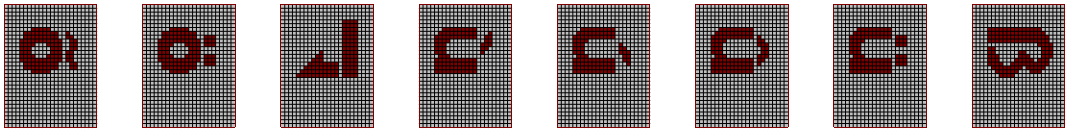
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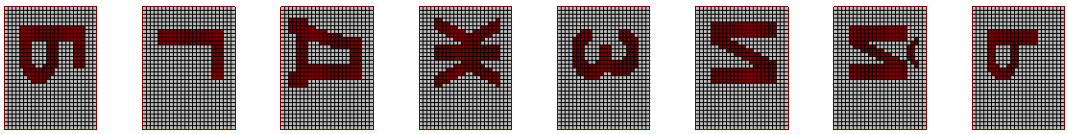
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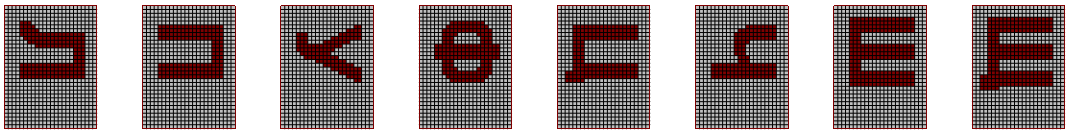
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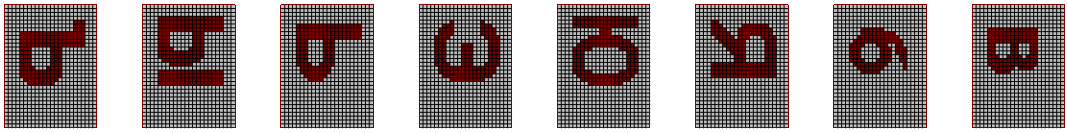
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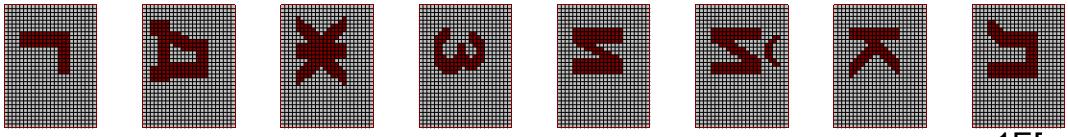
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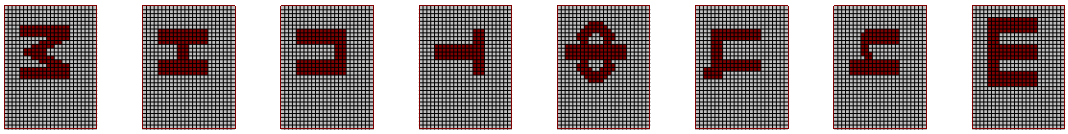
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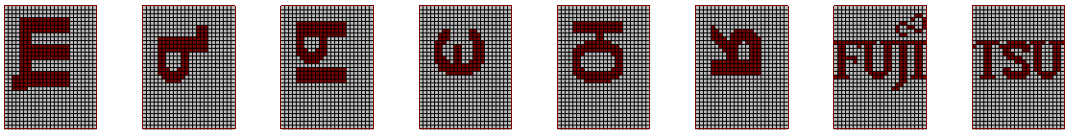
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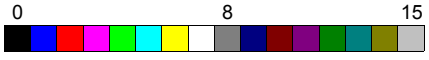
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