

# DISPLAYTRONIC

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*A DIVISION OF ZE XIAMEN CO., LTD.*

## **SPECIFICATIONS FOR LIQUID CRYSTAL DISPLAY**

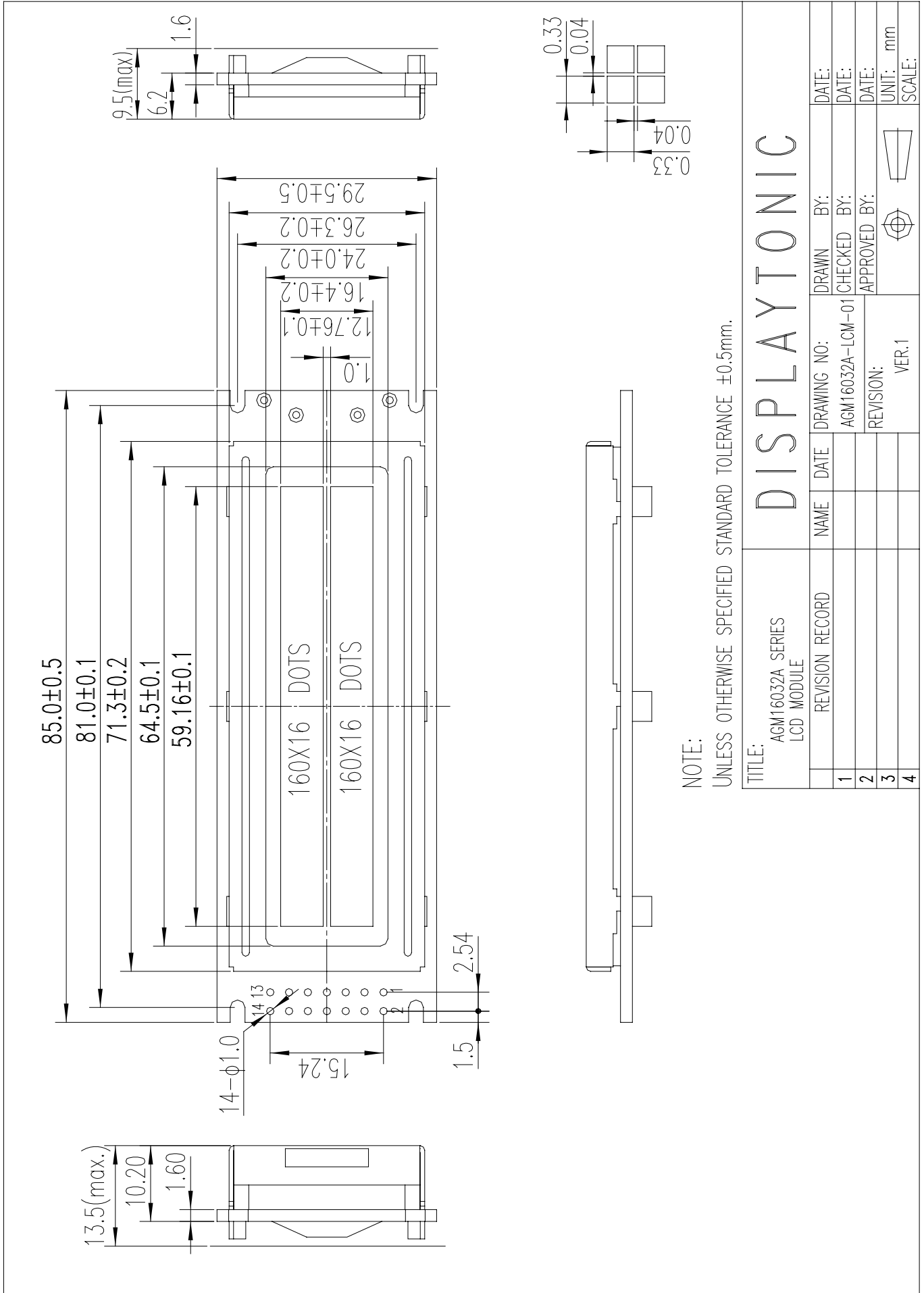
**PART NUMBER:**

**AGM16032A SERIES**

**DATE:**

**April.18.2005**

1.0 MECHANICAL DIAGRAM



NOTE:  
UNLESS OTHERWISE SPECIFIED STANDARD TOLERANCE ±0.5mm.

TITLE: AGM16032A SERIES LCD MODULE		DRAWING NO: AGM16032A-LCM-01		DRAWN BY:		DATE:	
REVISION RECORD		REVISION:		CHECKED BY:		DATE:	
1				APPROVED BY:		DATE:	
2				UNIT: mm		SCALE:	
3				VER.1			
4							

## 2.0 GENERAL SPECS

Item	Description
1. Overall Module Size	85.0mm(W) x 29.5mm(H) x max 13.5mm(D) for LED backlight version 85.0mm(W) x 29.5mm(H) x max 9.5mm(D) for reflective version
2. View Size	64.5 x 16.4mm
3. Active Area	59.16 x 12.76mm
4. Dot Size	0.33mm(W) x 0.33mm(H)
5. Dot Pitch	0.37mm(W) x 0.37mm(H)
6. LC Fluid Options	STN
7. Polarizer Options	Transflective
8. Duty	1/33
9. View Angle	6 Clock
10. Controller IC	ST7920
11. Backlight Options	LED
12. Temperature Range Options	Operate Tmp (-20°C ~ 70°C), Store Tmp (-30°C ~ 80°C)

## 3.0 ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min	Typ	Max	Unit
Operating temperature (Standard)	Top	0	-	50	°C
Storage temperature (Standard)	Tst	-10	-	60	°C
Operating temperature (Wide temperature)	Top	-20	-	70	°C
Storage temperature (Wide temperature)	Tst	-30	-	80	°C
Input voltage	Vin	Vss		Vdd	V
Supply voltage for logic	Vdd- Vss	-0.3	5.0	6.5	V

## 4.0 ELECTRICAL CHARACTERISTICS

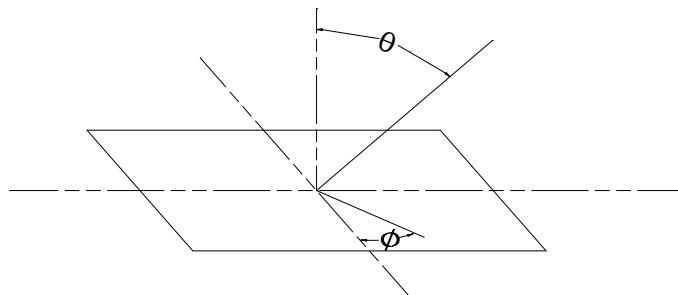
Item	Symbol	Condition	Min	Typ	Max	Unit
Input voltage (high)	Vih	H level	3.5	-	Vdd	V
Input voltage (low)	Vil	L level	0	-	1.5	V
Recommended LC Driving Voltage (Wide Temp)	Vdd -Vo	-20°C	5.1	5.3	5.5	V
		0°C	4.7	4.9	5.2	
		70°C	3.9	4.3	4.5	
Power Supply Current	Idd	Vdd=5.0V	-		10	mA
LED Power Supply Voltage	Vfled	R=6.8Ω	-	5.0	5.25	V
LED Power Supply Current	Ifled	R=6.8Ω	-		120	mA

5.0 OPTICAL CHARACTERISTICS

Item  Mode		Cr (Contrast Ratio)		$\theta$ (Viewing Angle)		$\phi$ (Viewing Angle)	
		25°C		25°C		25°C	
		MIN.	TYP.	MIN	TYP.	MIN	TYP.
R	A						
	B						
	C	-	-	-	-	-	-
S	A						
	B	7.05	7.55	80°	85°	-	35°
	C	-	-	-	-	-	-

Note:

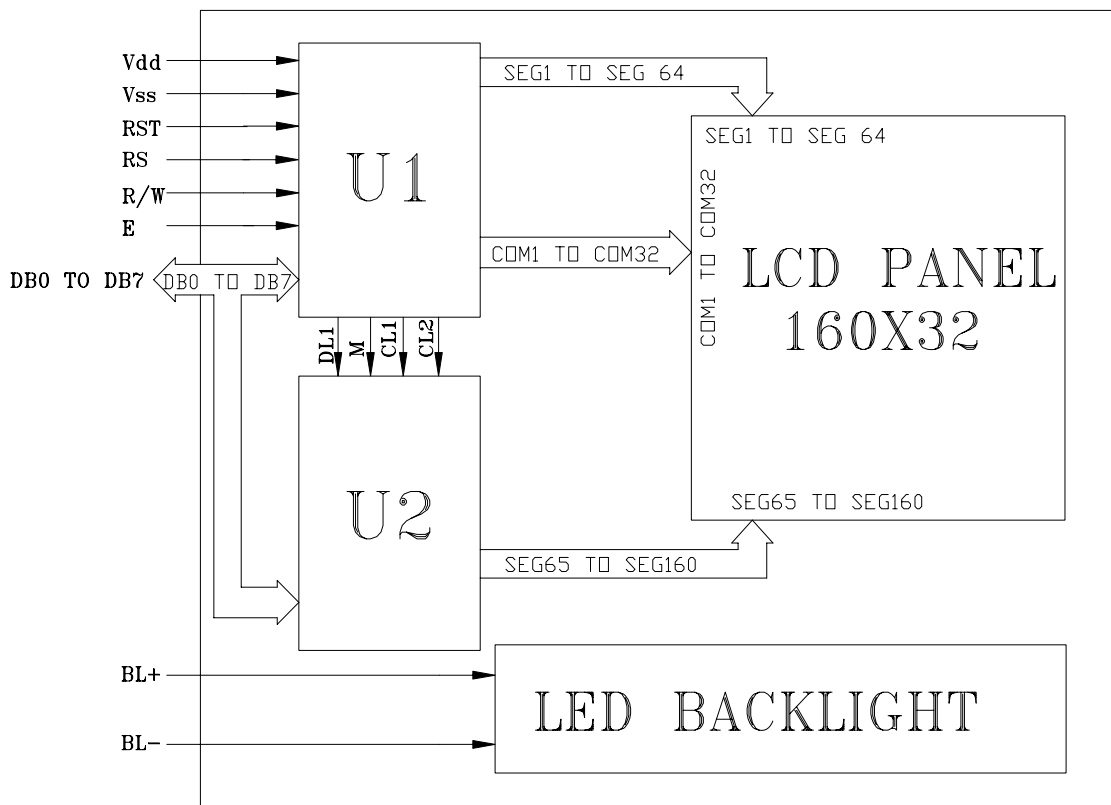
- R: Reflective
- S: Transflective
- A: STN Gray
- B: STN Yellow
- C: FSTN



At:  $\phi = 0^\circ, \theta = 0^\circ$

Item	Symbol	Condition	Min	Typ	Max	Unit
Response time (rise)	Tr	25 °C	-	80	160	ms
Response time (fall)	Tf	25°C	-	50	100	ns

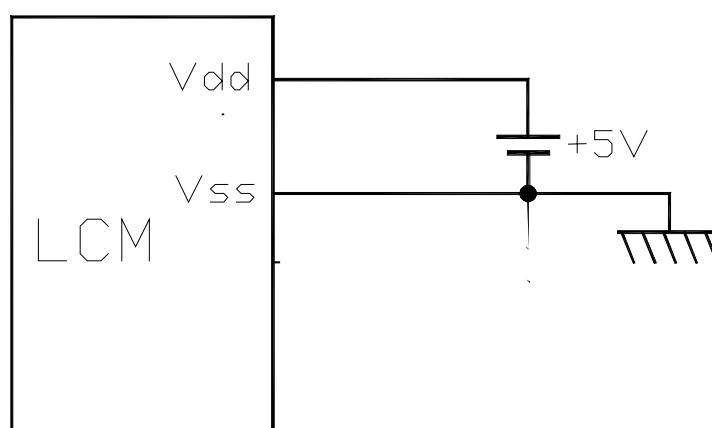
6.0 BLOCK DIAGRAM



## 7.0 PIN ASSIGNMENT

Pin No.	Symbol	Function	Level
1	Vdd	Power Supply For Logic Circuit	+5V
2	Vss	Power Supply For LCD Driving	0V
3	RST	RESET CHIP	LOW ACTIVE
4	RS	REGISTER SELECTOR	H/L
5	R/W	READ/WRITE SIGNAL	H/L
6	E	ENABLE SIGNAL	H/L
7	DB0	Data bit0	H/L
8	DB1	Data bit1	H/L
9	DB2	Data bit2	H/L
10	DB3	Data bit3	H/L
11	DB4	Data bit4	H/L
12	DB5	Data bit5	H/L
13	DB6	Data bit6	H/L
14	DB7	Data bit7	H/L
A	LED/+	Power Supply for BL+	BL+(+5V)
K	LED/-	Power Supply for BL-	BL-(0V)

## 8.0 POWER SUPPLY



## 9.0 TIMING CHARACTERISTICS

Write Mode (Writing data from MPU to AGM16032A) SEE Fig.a						
Tc	Enable Cycle Time	Pin E	1800	-	-	ns
Tpw	Enable Pulse Width	Pin E	160	-	-	ns
TR,TF	Enable Rise/Fall Time	Pin E	-	-	25	ns
TAS	Address Setup Time	Pins:RS,RW,E	10	-	-	ns
TAH	Address Hold Time	Pins:RS,RW,E	20	-	-	ns
TDSW	Data Setup Time	Pins:DB0-DB7	40	-	-	ns
TH	Data Hold Time	Pins:DB0-DB7	20	-	-	ns

Read Mode (Reading data from MPU to AGM16032A) SEE Fig.b						
Tc	Enable Cycle Time	Pin E	1800	-	-	ns
Tpw	Enable Pulse Width	Pin E	320	-	-	ns
TR,TF	Enable Rise/Fall Time	Pin E	-	-	25	ns
TAS	Address Setup Time	Pins:RS,RW,E	10	-	-	ns
TAH	Address Hold Time	Pins:RS,RW,E	20	-	-	ns
TDDR	Data Delay Time	Pins:DB0-DB7	-	-	260	ns
TH	Data Hold Time	Pins:DB0-DB7	20	-	-	ns

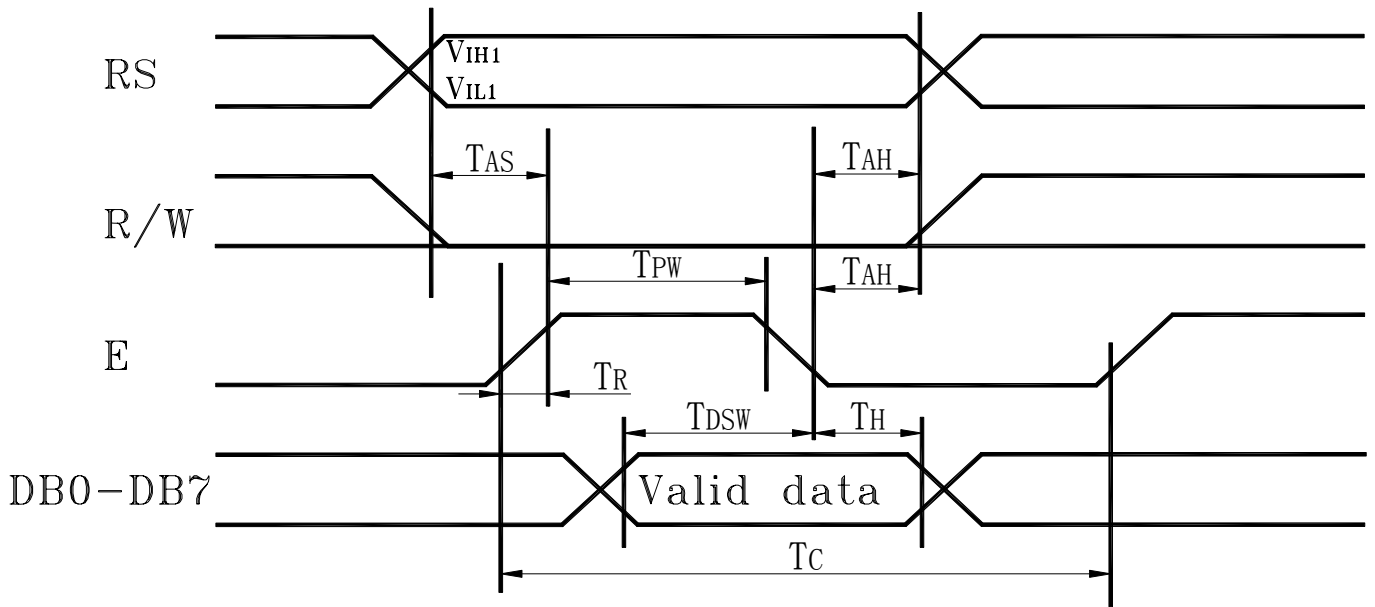


Fig. a Interface timing (data write)

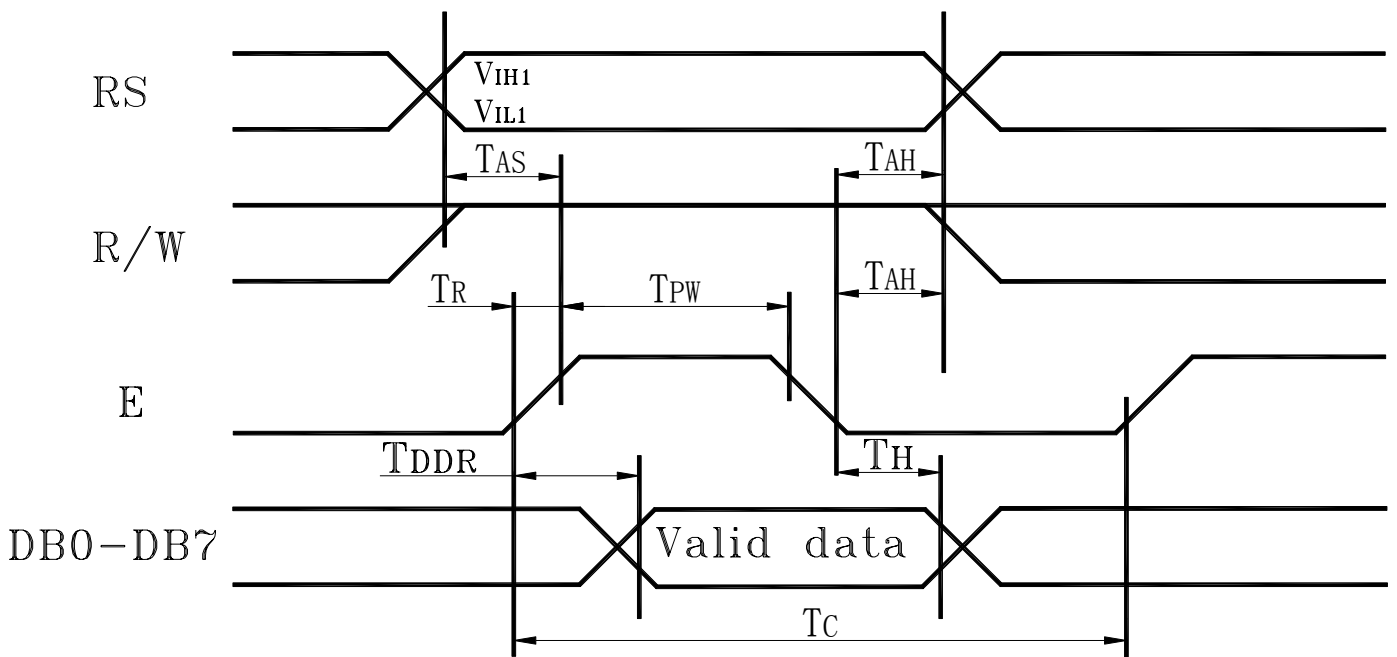
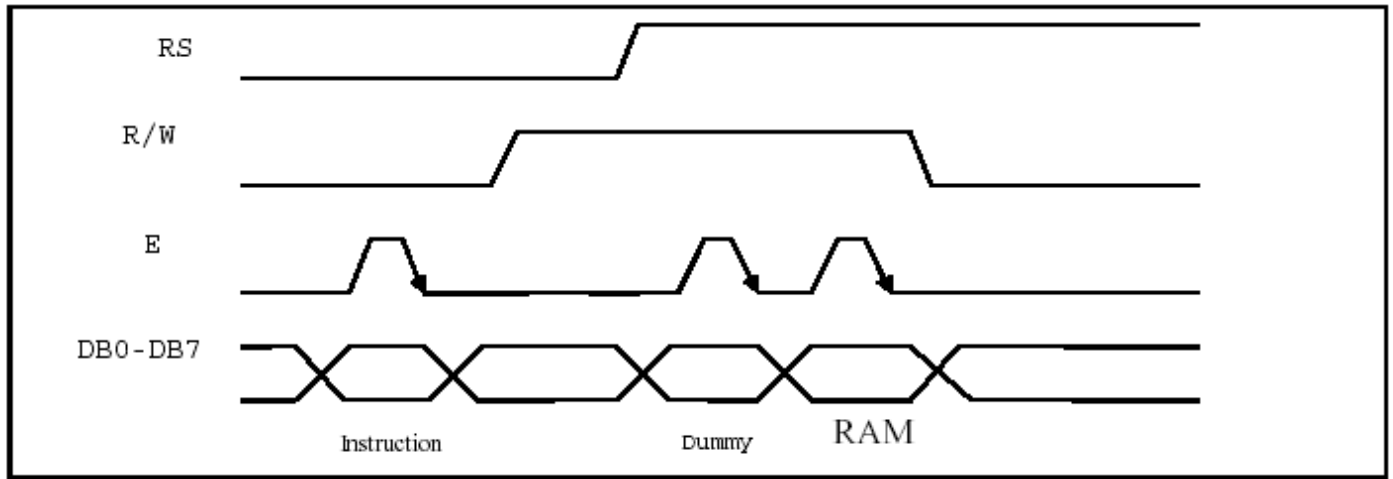


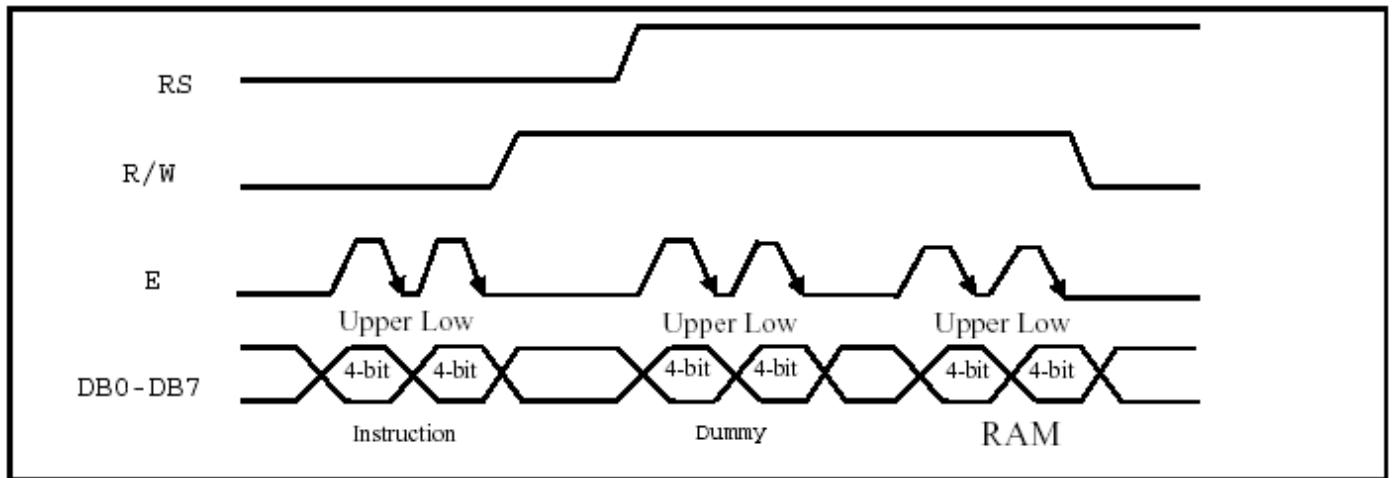
Fig. b Interface timing (data read)

**Parallel interface :**

AGM16032A can select 8 bit or 4-bit bus interface by function set instruction DL control bit. MPU can control ( RS , RW , E , and DB0..DB7 ) pins to complete the data transmission. In 4-bit transfer mode, every 8 bits data or instruction is separated into 2 parts. Higher 4 bits ( DB7~DB4 ) data will transfer First and placed into data pins ( DB7~DB4 ) . Lower 4 bits ( DB3~DB0 ) data will transfer second and placed into data pins ( DB7~DB4 ) . (DB3~DB0) data pins are not used.



Timing Diagram of 8-bit Parallel Bus Mode Data Transfer



Timing Diagram of 4-bit Parallel Bus Mode Data Transfer



## 10.0 DISPLAY CONTROL INSTRUCTION

Instruction set 1: (RE=0: basic instruction)

Ins	code										Description	Exec time (540KHZ)
	R S	R W	D B 7	D B 6	D B 5	D B 4	D B 3	DB 2	D B 1	DB 0		
CLEAR	0	0	0	0	0	0	0	0	0	1	Fill DDRAM with "20H", and set DDRAM address counter ( AC ) to "00H"	1.6 ms
HOME	0	0	0	0	0	0	0	0	0	1 X	Set DDRAM address counter( AC)to "00H", and put cursor to origin ; the content of DDRAM are not changed	72us
ENTRY MODE	0	0	0	0	0	0	0	1	I/ D	S	Set cursor position and display shift when doing write or read operation	72us
DISPLAY ON/OFF	0	0	0	0	0	0	1	D	C	B	D=1: display ON C=1: cursor ON B=1: blink ON	72us
CURSOR DISPLAY CONTROL	0	0	0	0	0	1	S/ C	R/ L	X	X	Cursor position and display shift control ; the content of DDRAM are not changed	72us
FUNCTION SET	0	0	0	0	1	D L	X	0 RE	X	X	DL=1 8-BIT interface DL=0 4-BIT interface <b>RE=1: extended instruction</b> <b>RE=0: basic instruction</b>	72us
SET CGRAM ADDR.	0	0	0	1	A C 5	A C 4	A C 3	AC 2	A C 1	AC 0	Set CGRAM address to address counter(AC) <u>Make sure that in extended instruction SR=0(scroll or RAM address select)</u>	72us
SET DDRAM ADDR.	0	0	1	0 A C 6	A C 5	A C 4	A C 3	AC 2	A C 1	AC 0	Set DDRAM address counter(AC) AC6 is fixed to 0	72us
READ BUSY FLAG(BF)& ADDR	0	1	B F	A C 6	A C 5	A C 4	A C 3	AC 2	A C 1	AC 0	Read busy flag (BF) for completion of internal operation,also Read out the value of address counter(AC)	0 us
WRITE RAM	1	0	D 7	D 6	D 5	D 4	D 3	D2	D 1	D0	Write data to inter RAM (DDRAM/CGRAM/IRAM/GDRAM)	72us
READ RAM	1	1	D 7	D 6	D 5	D 4	D 3	D2	D 1	D0	Read data from internal RAM(DDRAM/CGRAM/IRAM/GDRAM)	72us

11.0 FONT TABLE

A140 ` ° , . . : ; ? ! \* ° ^ ~ ^

A150 — — \ \ > > // 全々々々〇— — - / \

A160 ~ || | ... .. ‘ ’ “ ” ( ) [] {

A170 } < > 《 》 「 」 『 』 【 】 + - ± ×

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A1B0 ¥ \$ ¢ £ % # & \* @ § ☆ ★ ○ ● ◎ ◇

A1C0 ◆ □ ■ △ ▲ ▽ ▼ ※ → ← ↑ ↓ =

A1D0 ∈ ∋ ⊆ ⊇ ⊂ ⊃ U

A1E0 ∩ ∧ ∨ ¬ ⇒ ⇔ ∇ ∃

A1F0 ∠ ⊥ ^ ∂

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A250 Å ‰ # b ♪ † ‡ ¶ ○ !

A260 " # ¥ % & ' ( ) \* + , - . / 0 1

A270 2 3 4 5 6 7 8 9 : ; < = > ? @

A2A0 A B C D E F G H I J K L M N O

A2B0 P Q R S T U V W X Y Z [ \ ] ^ \_

A2C0 ` a b c d e f g h i j k l m n o

A2D0 p q r s t u v w x y z { | } — あ

A2E0 あいいううええおおかがきぎくぐけ

A2F0 げごござざしじすずせぜそぞただ

A340 ちぢっつづてでとどなにぬねのはば

A350 ぱひびびふぶへべへほぼほまみむ

A360 めもややゆゆよよらりるれろわわゐ

A370 ゑをんーア

A3A0 アイウウエエオオカガキギクグ

A3B0 ケゲゴゴサザシジスズセゼソゾタダ

A440 チヂッツツツテデトドナニヌネノハバ

A450 パヒビピフブフへべへホボボマミム

A460 メモヤヤユユヨヨラリルレロウウキ

A470 エヲンヴカケーA

A4A0 Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π

A4B0 Ρ Σ Τ Υ Φ Χ Ψ Ω

A4C0 α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π

A4D0 ρ σ τ υ φ χ ψ ω ` ° ^ ~ ^

A4E0 ˆ ˘ ˙ ˚ ˛ ˜ ˜ ˘ ˙ ˚ ˛ ˜ ˜ ˘ ˙ ˚ ˛ ˜ ˜

A4F0 ˘ ˙ ˚ ˛ “ ” ? “ ” Α

A540 Б В Г Д Е Ё Ж З И Й К Л М Н О П

A550 Р С Т У Ф Х Ц Ч Ш Щ Ъ Ы Ь Э Ю Я

A560 а

A570 б в г д е ё ж з и й к л м н о

A5A0 п р с т у ф х ц ч ш щ ъ ы ь э

A5B0 ю я —

A5C0 | Γ γ ∟ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥

A5D0 ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥

A5E0

A5F0

A640 亜啞娃阿哀愛挨始逢葵茜穉惡握渥旭

A650 葦芦鱗梓庄斡扱宛姐虻飴綯綾鮎或粟  
 A660 裕安庵按暗案闇鞍杏以伊位依偉困夷  
 A670 委威尉惟意慰易椅為畏異移維緯胃  
 A6A0 萎衣謂違遺医井亥域育郁磯一壹溢  
 A6B0 逸稻茨芋鰓允印咽員因姻引飲淫胤蔭  
 A6C0 院陰隱韻吋右宇烏羽迂雨卯鶻窺丑確  
 A6D0 白渦噓唄蔚蔚鰻姥厖浦瓜閨囀云運雲  
 A6E0 荏餌叡營嬰影映曳榮永泳洩瑛盈穎穎  
 A6F0 英衛詠銳液疫益馱悅謁越閱榎厭阡  
 A740 園堰奄宴延怨掩援沿演炎焰煙燕猿緣  
 A750 艷苑菌遠鉛鴛塩於汚甥凹央奧往忒押  
 A760 旺橫欧毆王翁襖鶯鳴黃岡冲荻億屋憶  
 A770 臆桶牡乙俺卸恩温穩音下化佻何伽  
 A7A0 倆佳加可嘉夏嫁家寡科暇果架歌河  
 A7B0 火珂禍禾稼箇花苛茄荷華菓蝦課嘩貨  
 A7C0 迦過霞蚊俄峨我牙画臥芽蛾賀雅餓駕  
 A7D0 介会解回塊壞迴快怪悔恢懷戒拐改魁  
 A7E0 晦械海灰界皆繪芥蟹開階貝凱効外咳  
 A7F0 害崖慨概涯碍蓋街該鎧骸湮馨蛙垣  
 A840 柿蛎鈎劃嚇各廓拈攪格核殼獲確穫覺  
 A850 角赫較郭閣隔革学岳樂額顎掛笠櫪樞  
 A860 梶鯀瀉割喝恰括活渴滑葛褐轄且鯉叶  
 A870 枕樺鞞株兜竈蒲釜鎌嚙鴨栢茅萱粥  
 A8A0 刈苻瓦乾侃冠寒刊勘勸卷喚堪姦完  
 A8B0 官寬干幹患感慣憾換敢柑桓棺款歛汗  
 A8C0 漢澗灌環甘監看竿管簡緩缶翰肝艦莞  
 A8D0 觀諫貫還鑑間閑閑陷韓館館丸含岸巖  
 A8E0 玩癌眼岩翫贗雁頑顏願企伎危喜器基  
 A8F0 奇嬉寄岐希幾忌揮机旗既期棋棄機

A940 帛毅氣汽畿祈季稀紀徽規記貴起軌輝  
 A950 飢騎鬼龜偽儀妓宜戲技擬欺犧疑祇義  
 A960 蟻誼議掬菊鞠吉吃喫桔橘詰砧杵黍却  
 A970 客脚虐逆丘久仇休及吸宮弓急救朽  
 A9A0 求汲泣灸球究窮笈級糾給旧牛去居  
 A9B0 巨拒扱拳渠虛許距鋸漁禦魚亨享京供  
 A9C0 俠僑兇競共凶協匡卿叫喬境峽強疆怯  
 A9D0 恐恭挾教橋況狂狹矯胸脅興蕃鄉鏡響  
 A9E0 饗驚仰凝堯曉業局曲極玉桐秆僅勤均  
 A9F0 巾錦斤欣欽琴禁禽筋緊芹茵衿襟謹  
 AA40 近金吟銀九俱句区狗玖矩苦軀馱駙駒  
 AA50 具愚虞喰空偶寓遇隅串櫛釧屑屈掘窟  
 AA60 沓靴轡窪熊隈彙栗繰桑鋤勳君薰訓群  
 AA70 軍郡卦袞袂係傾刑兄啓圭珪型契形  
 AAA0 徑惠慶慧憩揭携敬景桂溪哇稽系經  
 AAB0 繼繫野莖荊蚩計詣警輕頸鷄芸迎鯨劇  
 AAC0 戟擊激隙桁傑欠決潔穴結血訣月伴儉  
 AAD0 倦健兼券劍喧圈堅嫌建憲懸拳捲檢權  
 AAE0 牽犬猷研硯絹鼎肩見謙賢軒遣鍵險頭

AAF0 驗齡元原巖幻弦減源玄現絃絃言諺  
 AB40 限乎個古呼固姑孤己庫弧戶故枯湖狐  
 AB50 糊袴股胡菰虎誇跨鈷雇顧鼓五互伍午  
 AB60 吳吾娛後御悟梧檣瑚碁語誤護醐乞鯉  
 AB70 交佼侯候倖光公功效勾厚口向后喉  
 ABA0 坑垢好孔孝宏工巧巷幸庑庚康弘恒  
 ABB0 慌抗拘控攻昂晃更杭校梗構江洪浩港  
 ABC0 溝甲皇硬稿糠紅紘絞綱耕考肯肱腔膏  
 ABD0 航荒行衡講貢購郊醉鉞砭鋼閣降項香  
 ABE0 高鴻剛劫号合壕拷濠豪轟趨克刻告国  
 ABF0 穀酷鵠黑獄漉腰甌忽惚骨狍込此頃  
 AC40 今困坤墾婚恨懇昏昆根梱混痕紺艮瑰  
 AC50 些佐叉唆嗟左差查沙瑤砂詐鎖袞坐座  
 AC60 挫債催再最哉塞妻宰彩才採栽歲濟災  
 AC70 采犀碎砦祭齋細菜裁載際劑在材罪  
 ACA0 財冴坂阪堺榭肴咲崎埼碯鷺作削咋  
 ACB0 擗昨朔柵窄策索錯桜鮭笹匙冊刷察撈  
 ACC0 撮擦札殺薩雜阜鯖捌鏑鮫皿晒三傘參  
 ACD0 山慘撒散棧燦珊產算纂蚕讚贊酸餐斬  
 ACE0 暫殘仕仔伺使刺司史嗣四士始姉姿子  
 ACF0 屍市師志思指支孜斯施旨枝止死氏

AD40 獅祉私糸紙紫肢脂至視詞詩試誌諮資  
 AD50 賜雌飼齒事似侍兒字寺慈持時次滋治  
 AD60 爾璽痔磁示而耳自蒔辭汐鹿式識鳴竺  
 AD70 軸穴雫七叱執失嫉室悉濕漆疾質寔  
 ADA0 蓓篠偲柴芝屢蕊縞舍写射捨赦斜煮  
 ADB0 社紗者謝車遮蛇邪借勺尺杓灼爵酌积  
 ADC0 錫若寂弱惹主取守手朱殊狩珠種腫趣  
 ADD0 酒首儒受呪寿授樹綬需囚収周宗就州  
 ADE0 修愁拾洲秀秋終繡習臭舟蒐衆襲讐蹠  
 ADF0 輯週酋酬集醜什住充十從戎柔汁洪  
 AE40 猷縱重銃叔夙宿淑祝縮肅塾熟出術述  
 AE50 俊峻春瞬竣舜駿准循旬楯殉淳準潤盾  
 AE60 純巡遵醇順処初所暑曙渚庶緒署書薯  
 AE70 諸諸助叙女序徐恕鋤除傷償勝匠升  
 AEA0 召哨商唱嘗獎妾娼宵将小少尚庄床  
 AEB0 廠彰承抄招掌捷昇昌昭晶松梢樟樵沼  
 AEC0 消涉湘燒焦照症省硝礁祥称章笑粧紹  
 AED0 肖菖蔣蕉衝裳訟証詔詳象賞醬鉦鍾鐘  
 AEE0 障鞞上丈丞乘冗剩城場壤孃常情擾条  
 AEF0 杖淨狀暈穰蒸讓釀錠囑埴飾拭植殖  
 AF40 燭織職色觸食蝕辱尻伸信侵唇娠寢審  
 AF50 心慎振新晋森榛浸深申疹真神秦紳臣  
 AF60 苾薪親診身辛進針震人仁刃塵壬尋甚  
 AF70 尽腎訊迅陣鞞箭諷須酢凶厨逗吹垂  
 AFA0 帥推水炊睡粹翠衰遂醉錐錘随瑞髓  
 AFB0 崇嵩数枢趨雛据杉梠菅頗雀裾澄摺寸  
 AFC0 世瀨畝是凄制勢姓征性成政整星晴棲

AFD0 栖正清性生盛精聖声製西誠誓請逝醒  
 AFE0 青静齐税脆隻席惜戚斥昔析石積籍績  
 AFF0 脊責赤跡蹟碩切拙接撰折設窃節說  
 B040 雪絕舌蟬仙先千占宣專尖川戰扇撰栓  
 B050 梅泉浅洗染潜煎煽旋穿箭線織羨腺舛  
 B060 船薦詮賤踐選遷錢銑閃鮮前善漸然全  
 B070 禪繕膳糲噌塑咀措曾曾楚狙疏疎礎  
 B0A0 祖租粗素組蘇訴阻遡鼠僧創双叢倉  
 B0B0 喪壯奏爽宋層匝忽想搜掃挿搔操早曹  
 B0C0 巢槍槽漕燥争瘦相窓糟総綜聰草莊葬  
 B0D0 蒼藻装走送遭鎗霜騷像增憎臟藏贈造  
 B0E0 促側則即息捉束測足速俗属賊族統卒  
 B0F0 袖其揃存孫尊損村遜他多太汰訖唾

B140 墮妥惰打柁舵梢陀馱驢体堆对耐岱帶  
 B150 待怠態戴替泰滯胎腿苔袋貸退逮隊黛  
 B160 鯛代台大第醜題鷹淹瀧卓啄宅托挾拓  
 B170 沢濯琢託鐸濁諾茸夙蛸只叩但達辰  
 B1A0 奪脱異豎迪棚谷狸鱒樽誰丹单嘆坦  
 B1B0 担探旦歎淡湛炭短端箏綻耽胆蛋誕鍛  
 B1C0 团壇彈断暖檀段男談值知地弛恥智池  
 B1D0 痴稚置致蜘蛛遲馳築畜竹筑蓄逐秩室茶  
 B1E0 嫡着中仲宙忠抽昼柱注虫衷註耐鑄駐  
 B1F0 樗瀦猪苧著貯丁兆凋喋寵帖帳疔弔  
 B240 張彫微懲挑暢朝潮牒叮眺聽脹腸蝶調  
 B250 諜超跳銚長頂烏勅挾直朕沈珍賃鎮陳  
 B260 津墜椎槌追鎚痛通塚拇摑槻佃漬柘辻  
 B270 蔦綴鏢椿潰坪壺孀紬爪吊鈞鶴亭低  
 B2A0 停偵剃貞呈堤定帝底庭廷弟悌抵挺  
 B2B0 提梯汀碇禎程締艇訂諦蹄逋邸鄭釘鼎  
 B2C0 泥摘擢敵滴的笛適鏑溺哲徹撒轍迭鉄  
 B2D0 典填天展店添纏甜貼轉顛点伝殿澱田  
 B2E0 電兎吐堵塗妬屠徒斗杜渡登菟賭途都  
 B2F0 鍍砥砺努度土奴怒倒党冬凍刀唐塔  
 B340 塘套宕島嶋悼投搭東桃梲棟盜淘湯涛  
 B350 灯燈当痘禱等答筒糖統到董蕩藤討膳  
 B360 豆踏逃透鐙陶頭騰鬪働動同堂導懂撞  
 B370 洞瞳童胴萄道銅峠鵠匿得德澆特督  
 B3A0 秃篤毒独誦枋椽凸突椴届鳶苦寅酉  
 B3B0 瀨噸屯惇敦沌豚遁頓吞曇鈍奈那内乍  
 B3C0 凧薙謎灘捺鍋槓馴繩啜南楠軟難汝二  
 B3D0 尼弑迕勾賑肉虹廿日乳入如尿菲任妊  
 B3E0 忍認濡襦祢寧葱猫熱年念捻撚燃粘乃  
 B3F0 迺之埜囊惱濃納能腦膿農視蚤巴把  
 B440 播霸杷波派琶破婆罵芭馬俳糜拝排敗  
 B450 杯盃牌背肺輩配倍培媒梅煤煤狼買壳  
 B460 賠陪這蠅秤矧菽伯剥博拍柏泊白箔粕  
 B470 舶薄迫曝漠爆縛莫駁麦函箱谿箸肇  
 B4A0 筭櫨幡肌畑畠八鉢澆癸醜髮伐罰拔

B4B0 筏闊鳩嘶塙蛤隼伴判半反叛帆搬斑板  
 B4C0 汜汎版犯班畔繁般藩販範采煩頒飯挽  
 B4D0 晚番盤磐蕃蠻匪卑否妃庇彼悲扉批披  
 B4E0 斐比泌疲皮碑秘緋罷肥被誹費避非飛  
 B4F0 樋簸備尾微枇毘琵琶眉美鼻佟稗匹疋

B540 髭彥膝菱肘弼必畢筆逼桧姬媛紐百謬  
 B550 倭彪標冰漂瓢票表評豹廟描病秒苗錨  
 B560 鉍蒜蛭鱗品彬斌浜瀕貧賓頻敏瓶不付  
 B570 埠夫婦富富布府怖扶敷斧普浮父符  
 B5A0 腐膚芙譜負賦赴阜附侮撫武舞葡蕪  
 B5B0 部封楓風葺落伏副復幅服福腹複覆淵  
 B5C0 弗舛沸佻物鮒分吻噴墳憤扮焚奮粉糞  
 B5D0 紛雰文聞丙併兵塤幣平弊柄並蔽閉陸  
 B5E0 米頁僻壁癖碧別瞥蔑篋偏變片篇編辺  
 B5F0 返遍便勉媿弁鞭保舖鋪圃捕步甫補  
 B640 輔穗募墓慕戍暮母簿菩倣俸包呆報奉  
 B650 宝峰峯崩庖抱捧放方朋法泡烹砲縫胞  
 B660 芳萌蓬蜂褒訪豐邦鋒飽鳳鵬乏亡傍剖  
 B670 坊妨帽忘忙房暴望某棒冒紡肪膨謀  
 B6A0 貌貿錚防吠頰北僕卜墨撲朴牧睦穆  
 B6B0 釦勃沒殆堀幌奔本翻凡盆摩磨魔麻埋  
 B6C0 妹昧枚每哩榭幕膜枕鮪枉鱗榭亦俣又  
 B6D0 抹末沫迄佻繭磨万慢滿漫蔓味未魅巳  
 B6E0 箕岬密蜜湊蓑稔脈妙耗民眠務夢無牟  
 B6F0 矛霧鷓掠婿娘冥名命明盟迷銘鳴姪  
 B740 牝滅免棉綿緬面麵摸摸茂妄孟毛猛盲  
 B750 網耗蒙儲木默目杳勿餅尤戾刼貫問悶  
 B760 紋門勿也冶夜爺耶野弥矢厄役約藥詛  
 B770 躍靖柳蕞鍵愉愈油癒諭輸唯佑優勇  
 B7A0 友宥幽悠憂揖有柚湧涌猶猷由祐裕  
 B7B0 誘遊邑郵雄融夕予余与譽輿預傭幼妖  
 B7C0 容庸揚搖擁曜楊樣洋溶熔用窯羊耀葉  
 B7D0 蓉要謠踊遙陽養慾抑欲沃浴翌翼淀羅  
 B7E0 螺裸来萊賴雷洛絡落酪乱卵嵐欄濫藍  
 B7F0 蘭覽利吏履李梨理璃痢裏裡里離陸  
 B840 律率立葦掠略劉流溜琉留硫粒隆竜龍  
 B850 侶慮旅虜了亮僚兩凌寮料梁涼獺療瞭  
 B860 稜糧良諒遼量陵領力綠倫厘林淋淋琳  
 B870 臨輪隣鱗麟瑠墨淚累類令伶例冷勵  
 B8A0 嶺伶玲礼苓鈴隸零靈麗齡曆歷列劣  
 B8B0 烈裂廉恋憐漣煉簾練聯蓮連鍊呂魯櫓  
 B8C0 炉賂路露勞婁廊弄朗樓榔浪漏牢狼籠  
 B8D0 老蠶蠟郎六麓祿肋錄論倭和話歪賄脇  
 B8E0 惑梓鷺互互鰐詫藁蕨椀湾碗腕  
 B8F0

B940 、 。 • - ~ 〃 〃 々 — ~ || … ‘ ’ “  
 B950 ” ( ) < > 《 》 「 」 『 』 【 〓 】 ±



BE40 父负富附妇该改盖干甘感冈刚港高稿  
 BE50 告哥歌戈革葛格隔个各给根跟更庚耿  
 BE60 工功龚供公宫弓巩贡共勾狗构辜古骨  
 BE70 谷顾固瓜怪关官观管馆光广规圭归  
 BEA0 鬼癸桂贵郭国果过哈海亥害韩含寒  
 BEB0 翰旱汗汉杭航毫郝好号荷核和何合盒  
 BEC0 河赫贺黑很横衡洪弘红侯猴候后呼胡  
 BED0 狐糊虎护互花华滑画划化话怀坏欢环  
 BEE0 桓缓换宦荒黄皇幌灰回惠会婚混活火  
 BEF0 获或霍货击基机积肌激鸡姬吉  
 BF40 极辑籍集及急疾汲即级几己薊技冀季  
 BF50 剂济寄计记际继纪夹佳家加贾甲假价  
 BF60 架监坚尖间兼检柬简俭剪减见件健渐  
 BF70 建姜将江疆蒋讲降焦胶交脚角教较  
 BFA0 叫接节杰捷洁结解姐界介金今津紧  
 BFB0 进靳晋禁近尽荆京惊精经井警景静境  
 BFC0 镜究久九酒旧就鞠居举聚据巨具句剧  
 BFD0 卷觉决绝均菌军喀卡开楷凯堪坎看康  
 BFE0 抗亢考柯科壳可克刻客肯空孔控口寇  
 BFF0 苦酷库夸跨块快宽匡狂矿况困  
 C040 扩拉腊莱来赖蓝篮兰览郎朗浪劳老烙  
 C050 勒乐雷累类泪冷黎离理李里礼厉历利  
 C060 立力联连廉练粮梁良两量亮疗了廖料  
 C070 列裂烈猎林零铃凌灵领令琉留刘流  
 C0A0 柳六龙聋隆娄漏卢鲁露路禄录陆吕  
 C0B0 旅律率绿卵乱略轮伦论罗落洛骆妈麻  
 C0C0 码马买麦卖脉满曼慢芒盲忙茅毛卯冒  
 C0D0 帽么梅没每美门蒙猛孟糜迷米秘密免  
 C0E0 缅甸苗描秒民明名命谬模膜磨摩魔末  
 C0F0 莫墨默漠牟某姆母慕木目牧穆

C140 拿哪那纳奶南男难脑闹内嫩能倪泥尼  
 C150 拟你年念鸟尿聂您宁牛钮纽农弄奴努  
 C160 怒女挪诺欧帕拍排派潘盘庞泡裴配佩  
 C170 喷彭蓬朋皮匹偏片骗票频贫品平坡  
 C1A0 破葡蒲埔朴普浦期欺戚七漆其奇歧  
 C1B0 齐祁骑起器气弃汽乾钱前浅枪强桥乔  
 C1C0 巧切钦亲秦琴勤青轻倾清情请庆琼秋  
 C1D0 丘邱球求酋区曲屈驱取去权全缺却确  
 C1E0 群然冉染壤让饶绕热壬人任认日戎荣  
 C1F0 融容柔肉茹如乳入软阮瑞闰弱  
 C240 撒萨塞赛三散桑骚扫色森杀沙杉山删  
 C250 闪善伤商赏上尚稍烧韶少邵绍蛇舌射  
 C260 社设申身深神沈慎声生升盛剩圣师失  
 C270 狮施湿诗十石时什食实识史使始式  
 C2A0 示士世事逝势是适释饰市室视试收  
 C2B0 手首守寿授售受输叔舒书熟暑鼠属术  
 C2C0 述树束数帅霜双水睡税说斯撕思司丝  
 C2D0 死四似已松送宋苏俗素速宿酸算碎孙



C2E0 损梭缩索锁所他塔抬台泰太态檀谭谈  
 C2F0 坦探汤唐糖萄逃陶讨套特提题  
 C340 体天添田条跳贴铁听廷停庭通同童统  
 C350 痛投头透突图徒途涂屠土兔团推退托  
 C360 脱拓瓦外弯湾玩完宛万汪王网旺望威  
 C370 微危韦围为维委伟尾纬未蔚味魏位  
 C3A0 谓尉卫温文闻纹问翁挝我沃巫乌污  
 C3B0 屋无吴毋武五午舞伍戊物勿务误西吸  
 C3C0 息希悉夕席习喜洗系戏细下夏先鲜咸  
 C3D0 贤闲显险现宪限线相香详想响享项像  
 C3E0 向象萧消宵小校肖笑效些协斜写谢辛  
 C3F0 新心信星兴型形邢行幸性姓匈  
 C440 雄熊休修戌需虚须徐许叙序绪续轩宣  
 C450 旋选薛学雪血询讯压牙雅亚烟盐严研  
 C460 岩延言颜阎炎眼演燕厌验央杨羊洋阳  
 C470 氧仰养样摇尧遥姚药要耶野冶也页  
 C4A0 业叶夜液一医依伊衣夷遗移仪疑宜  
 C4B0 己乙以艺易意义益议异因殷音阴银寅  
 C4C0 饮尹引隐印英应营迎影硬雍永用优尤  
 C4D0 由邮油游酉有友右诱又于虞愚余俞鱼  
 C4E0 雨与禹宇语域郁喻育预元袁原援辕员  
 C4F0 圆源远愿院约越钥岳月阅云运

C540 杂灾宰载再在赞脏造责择增曾扎札乍  
 C550 寨詹展占战站湛章张杖找赵照折蛰者  
 C560 这真甄针镇征争整正政症郑证芝枝支  
 C570 知脂之织职直植殖执值指止只纸志  
 C5A0 至致置制智质治中钟终种重仲众周  
 C5B0 州洲珠朱猪诸逐竹主著柱助筑住注祝  
 C5C0 专转庄装状追缀准卓桌着兹资滋子自  
 C5D0 字宗总纵邹走奏足族祖阻组醉最罪尊  
 C5E0 左做作座廿卅蒯仇佟佻俟余夔譙阪隗  
 C5F0 郛邝郇郈郇郇郇郇郇郇郇郇郇  
 C640 奚岑崴庾闫闾闾闾闾洵浏澹濮宓甯迦  
 C650 逢逯驷纆繆璫璩栾梵臧咎晁晏贲滕爻  
 C660 斐扈矾钶锺嵇竇褚胥颀竺笮裘暨羿鞠  
 C670 瞿瞿

C940 ， 、 。 · . ; : ? ! : ... .. , 、 .  
 C950 . ; : ? ! | - | - | . . ~ ( ) ^  
 C960 ~ { } ~ ~ [ ] ^ ~ 【】 ~ ~ 《》 ~  
 C970 ≅ < > ^ ~ 「 」 ~ 『 』 ~ ( )  
 C9A0 { } [ ] ‘ ’ “ ” “ ” ~ ~ # & \*  
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 CA40 \ / . \$ ¥ ¤ £ % @ °C °F \$ % @ mil



CEF0 岸岳帕帛幸庚府底  
 CF40 延往佛彼忽念性或房所拉拓放於旺易  
 CF50 昌明朋杭東果林松武河波法況治泊爭  
 CF60 版牧物狀狗狐的盲直知社祁空竺者肯  
 CF70 芝花芬虎初表迎邵  
 CFA0 邱采金長門陀阿雨青非俱宓芮邴邵  
 CFB0 信侯便保俟俗俄俞前則南卻咸品哈垂  
 CFC0 型城奐姜姿娃姚威宣宦客封帝帥度建  
 CFD0 很律後思拜按指括拾政故施春是星柱  
 CFE0 某東柯查柏柳柒段洋洲洪活派洛洵爲  
 CFF0 炮玻珍界癸皆皇盈  
 D040 省相看研祈禹科秒秋突紅紀約美羿耶  
 D050 胥胡范茅苦苗英要計訂負軍迦迪郊郎  
 D060 郁重降面革韋音頁風飛食首香咎倍值  
 D070 借們個候修倪倫凌  
 D0A0 剛原唐哥員哪哦埔埃夏奚娘娜娛姬  
 D0B0 孫宰家宴宮宵容展峽島差席師庫徒徐  
 D0C0 恩息拳拿挪捌料旅時晉晏晁書朗校案  
 D0D0 桓根桂桌桑柴格殊殷氣泰消浦海浴涅  
 D0E0 烙烈烏特班琉珠留益真祕祖神祝秦站  
 D0F0 索純紐納紙紛缺翁  
  
 D140 耘耕耿胸脈能航般荆茲茹荀蚩袁記討  
 D150 訊貢起軒送退追郝酒配閃除馬高鬼涂  
 D160 逢邾郗郃乾停假健偵偏剪勒務動區參  
 D170 曼喬啞問國域基堂  
 D1A0 堵執培夠婁婦婆寇寅寄宿密尉專將  
 D1B0 屠崇崔巢常帶康庾張強彩得從您情戚  
 D1C0 扈控接捷掃掛推授排敖教敗啓敘族晝  
 D1D0 晚曹望梁梵棄梭梅條梨欲毫淳添淺清  
 D1E0 深猜球理現畢盛祭移第符統紹細組終  
 D1F0 習聊脫莘莫莊荷處  
 D240 蛇術被許設軟這通連速逝逐透途部郭  
 D250 都閉陵陳陸陰陶雪章竟魚烏麥麻笱閩  
 D260 傅備最凱創剩勞博喀喜單喻喬圍堪場  
 D270 報堡壹媚寒富尊就  
 D2A0 嵌嵇幾彭復惠描提揮換揚敦散斐斯  
 D2B0 普景暑智曾期森植棚欽港游渡減湛湯  
 D2C0 測焦無然猴琴甦登發硬稍程稅童等答  
 D2D0 筋結給舒華著萊菲荀裁視註訴象貼貳  
 D2E0 賁費賀買越趁跋辜週進鄂郵量鈕閔閩  
 D2F0 開間階陽隆雅雄雲  
 D340 項順須馮黃黑甯遠斜亂傳催勤嗎園圓  
 D350 塞塔奧媽幌廉微愚意感想愛愈慎搭敬  
 D360 新暗暖會業楚楷檄楊歲源溫滑準溪煙  
 D370 照獅瑟瑞當督祿禁  
 D3A0 萬禽節經置罪義群聖肆腦蒂落葉葛  
 D3B0 葡董虞號蜂補裘裝解該詳試詩話詢詹  
 D3C0 訾資賈路較載農運遊道達過遍鄒鈴隔

D3D0 雍雷電零預頓鼠鄔隗靳像僑嘛嘉團圖  
 D3E0 塵境墓壽嫩寧實寨察對廖慣暨榮歌漏  
 D3F0 漢滿漆漸漁熊爾瑪  
 D440 甄疑盡碩福種稱端管算精綠網綵維緒  
 D450 翠翟聞臧臺與舞蒙蒲蓋蒼裴製褚誌語  
 D460 認誤說賓赫趙輔遠遙銀際需韶餅魂鳳  
 D470 麼齊粿蒯鄔億劇劉  
 D4A0 厲增嬉寮寫廟廣廠影德慶慧慕摩撥  
 D4B0 撕撒播數暮暴樞標模樊樂歐潔潮潤潘  
 D4C0 滕熱確碼穀稻範緞緬編線膠蔚蔣蔡蓬  
 D4D0 衛衝複談誕請諸調論豬賞賢質趣踏輪  
 D4E0 適鄭鄧閻閱震鞏養餘駟髮鬧魯黎墨齒  
 D4F0 緱冀凝劑器學導憲  
  
 D540 憶戰據整曆樹橋機歷澤澳澹燈燕獨盧  
 D550 穆築篤翰興蕭融衡親諾賴輯輸辨辦選  
 D560 遲遺醒錯錢閻隨雕霍頻頭駱鮑龍禡儲  
 D570 應戲戴檀檔濟濮營  
 D5A0 燦燥據環磯穗糜縮繆總繁聲聯舉薄  
 D5B0 薛薊螫謎講謝賽蹈轅還鍾雖霜鞠韓鮮  
 D5C0 點螫斷歸瀏瞿穉簡糧聶舊薩藍藉覆謬  
 D5D0 豐轉醫釐鎖鎮闕離雙雞顏題顛騎魏龐  
 D5E0 懷獸穫簿繩羅臘藝藥識譚譙邊鏡關難  
 D5F0 類翹嚴壤寶竇競籍  
 D640 繼藺蘇覺議警鐘饒黨闕夔屬爛續蘭覽  
 D650 護躍鐵露響顧驅鄆權歡籠聶鄺冀變顯  
 D660 驚體樂讓鹽灣觀鬱  
 D670  
 D6A0  
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