## **Brother FAX-645 LCD initialisation sequence**

v1.4 06 Feb 2021

#### LCD 6 pin interface: DATA, CLK, STB, GND, +5V, GND

DATA Data, write clocked on rising edge of CLK.

Sent least-significant-bit first, 8 bit words, 800uS delay between bytes.

CLK Clock, 28uS (35.714kHz), only present during STB period.

STB Strobe, active low, transitions on the falling edge of CLK. Held low for duration of a

byte, or continuously for duration of a byte sequence.

GND 0V VDD +5V

### **LCD** initialisation:

### Initial code, each byte written with a single pulse to the STB line,

- 08 Display off, cursor off, blink off
- 20 Mode 4 bit, 1 line, 5x7 font
- Set Data cursor to 0x78 (but writes no data as strobe goes high again)
- 01 Clear display.

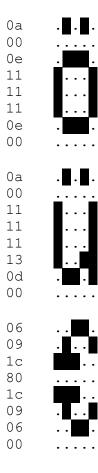
#### 20mS delay

### Second initialisation sequence after 24mS, 800uS between bytes

- 06 Right data entry, no scroll
- Oc Display on, cursor off, blink off

#### The following bytes are written with STB held low for the duration

Write to character generator (characters 0, 1, 2, 3 written)



# First displayed data written at 100 mS after initialisation start, then repeated again at 131 mS and 165 mS

Oc Display on, cursor off, blink off

### The following bytes are written with STB held low for the duration

Write characters to display starting at cursor position 0

", blank

The following two bytes are written	with separate strobes a	and terminate the <b>c</b>	lisplayed character
write			

- Position cursor to position 0, but writes no characters as strobe goes high again
- Oc Display on, cursor off, blink off

# Text written at 198mS, then repeated sequence of blanking and rewriting again at 2.9S, 3.6S and 4.0S

OC Display on, cursor off, blink off

### The following bytes are written with STB held low for the duration

Write characters to display starting at cursor position 0

# The following two bytes are written with separate strobes and terminate the displayed character write

- Position cursor to position 15, but writes no characters as strobe goes high again
- Oc Display on, cursor off, blink off

### At 4.5S Display then blanked again and

"TELEPHONE

" displayed