Uniden WDECT2315 phone LCD initialisation sequence

v1.3 08 Feb 2021

Phone was manufactured about 2017.

Display is a character module, 3 lines of 16 character, but seems to be addressed as 1 line of 48 characters. Characters are formed from a 5x7 pixel grid.

LCD 8 pin, 4 wire SPI interface : CS, DATA, CLK, RS, , RESET, Vcc, GND, Vlcd

with Vbat = 3.3V

CS	Chip Select, active low
	asserted 7uS before first CLK pulse
	held low for duration of a byte until 583nS after last CLK rising
DATA	Data, write clocked on rising edge of CLK.
	Sent most-significant-bit first, 8 bit words, 1000uS delay between bytes.
CLK	Clock, 5uS (214kHz), only present when clocking data bits.
RS	Register Select
	Low = command, High = data
	asserted 333nS to 667ns before CS
RST	0V jumps to 3.24V after short delay on power-up
Vcc	3.24V
GND	0V (battery -ve)
Vlcd	-2.65V

LCD initialisation:
(each byte is a command, unless designated with a "☝" as data)

```
31
```

6mS delay

```
31
31
08
01
```

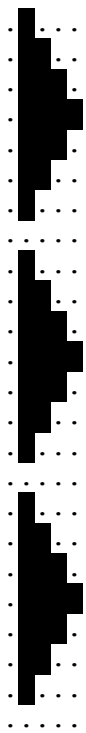
4mS delay

```
06
```

Store programmable character patterns

```
C0          Set CGRAM addr register to 0000000
08d         .#...
0Cd         .##..
0Ed         .###.
0Fd         .####
0Ed         .###.
0Cd         .##..
08d         .#...
00d         .....
```

08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d



0C

Clear text display

" "
" "
" "

02 Home cursor

20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d

```
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
```

400mS delay

```
31
```

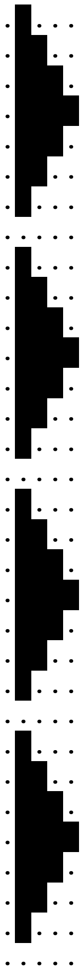
6mS delay

```
31
31
06
```

2mS delay

Store programmable character patterns

```
C0          Set CGRAM addr register to 0000000
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
08d
0Cd
0Ed
0Fd
0Ed
0Cd
08d
00d
```



```
  0C

"                "
"    Welcome!    "
" Please Wait... "
  02          Home cursor
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d
  20d

  20d
  20d
  20d
  20d
  57d         W
  65d         e
  6Cd         l
  63d         c
  6Fd         o
  6Dd         m
  65d         e
  21d         !
  20d
  20d
  20d
  20d

  20d
  50d         P
  6Cd         l
  65d         e
  61d         a
  73d         s
  65d         e
  20d
  57d         W
  61d         a
  69d         i
  74d         t
  2Ed         .
  2Ed         .
  2Ed         .
  20d

  31
  31
  31
  06
```

Store programmable character patterns

```
  C0          Set CGRAM addr register to 0000000
  0Ed         .▀▀▀.
  11d         ▀...▀
  13d         ▀..▀▀
  17d         ▀.▀▀▀
  1Fd         ▀▀▀▀▀
  1Fd         ▀▀▀▀▀
  1Fd         ▀▀▀▀▀
  00d         .....

  08d         .▀....
  0Cd         .▀▀...
  0Ed         .▀▀▀..
  0Fd         .▀▀▀▀.
  0Ed         .▀▀▀..
  0Cd         .▀▀...
  08d         .▀....
  00d         .....
  08d         .▀....
  0Cd         .▀▀...
  0Ed         .▀▀▀..
  0Fd         .▀▀▀▀.
  0Ed         .▀▀▀..
  0Cd         .▀▀...
  08d         .▀....
  00d         .....
  08d         .▀....
  0Cd         .▀▀...
  0Ed         .▀▀▀..
  0Fd         .▀▀▀▀.
  0Ed         .▀▀▀..
  0Cd         .▀▀...
  08d         .▀....
  00d         .....

  0C

"   SUN 12:00A  ▒"
"  BUS STUD #1   "
"                "
  02          Home cursor
  20d
  20d
  20d
  53d         S
  55d         U
  4Ed         N
  20d
  31d         1
  32d         2
  3Ad         :
  30d         0
  30d         0
  41d         A
  20d
  20d
  00d         battery symbol

  20d
  20d
  42d         B
  55d         U
```

53d	S
20d
53d	S
54d	T
55d	U
44d	D
20d
23d	#
31d	1
20d
20d
20d

20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d
20d