/\*

u8g\_com\_atmega\_parallel.c

Universal 8bit Graphics Library

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PIN\_D0 8

PIN\_D1 9

PIN\_D2 10

PIN\_D3 11

PIN\_D4 4

PIN\_D5 5

PIN\_D6 6

PIN\_D7 7

PIN\_CS1 14

PIN\_CS2 15

PIN\_RW 16

PIN\_DI 17

PIN\_EN 18

u8g\_Init8Bit(u8g, dev, d0, d1, d2, d3, d4, d5, d6, d7, en, cs1, cs2, di, rw, reset)

u8g\_Init8Bit(u8g, dev, 8, 9, 10, 11, 4, 5, 6, 7, 18, 14, 15, 17, 16, U8G\_PIN\_NONE)

\*/

#include "u8g.h"

#if defined(\_\_AVR\_\_)

static void u8g\_com\_atmega\_parallel\_write(u8g\_t \*u8g, uint8\_t val) U8G\_NOINLINE;

static void u8g\_com\_atmega\_parallel\_write(u8g\_t \*u8g, uint8\_t val)

{

u8g\_SetPILevel(u8g, U8G\_PI\_D0, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D1, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D2, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D3, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D4, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D5, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D6, val&1);

val >>= 1;

u8g\_SetPILevel(u8g, U8G\_PI\_D7, val&1);

/\* EN cycle time must be 1 micro second \*/

u8g\_SetPILevel(u8g, U8G\_PI\_EN, 1);

u8g\_MicroDelay(); /\* delay by 1000ns, reference: ST7920: 140ns, SBN1661: 100ns \*/

u8g\_SetPILevel(u8g, U8G\_PI\_EN, 0);

u8g\_10MicroDelay(); /\* ST7920 commands: 72us \*/

u8g\_10MicroDelay(); /\* ST7920 commands: 72us \*/

}

uint8\_t u8g\_com\_atmega\_parallel\_fn(u8g\_t \*u8g, uint8\_t msg, uint8\_t arg\_val, void \*arg\_ptr)

{

switch(msg)

{

case U8G\_COM\_MSG\_INIT:

/\* setup the RW pin as output and force it to low \*/

u8g\_SetPIOutput(u8g, U8G\_PI\_RW);

u8g\_SetPILevel(u8g, U8G\_PI\_RW, 0);

u8g\_SetPIOutput(u8g, U8G\_PI\_D0);

u8g\_SetPIOutput(u8g, U8G\_PI\_D1);

u8g\_SetPIOutput(u8g, U8G\_PI\_D2);

u8g\_SetPIOutput(u8g, U8G\_PI\_D3);

u8g\_SetPIOutput(u8g, U8G\_PI\_D4);

u8g\_SetPIOutput(u8g, U8G\_PI\_D5);

u8g\_SetPIOutput(u8g, U8G\_PI\_D6);

u8g\_SetPIOutput(u8g, U8G\_PI\_D7);

u8g\_SetPIOutput(u8g, U8G\_PI\_EN);

u8g\_SetPIOutput(u8g, U8G\_PI\_CS1);

u8g\_SetPIOutput(u8g, U8G\_PI\_CS2);

u8g\_SetPIOutput(u8g, U8G\_PI\_DI);

u8g\_SetPILevel(u8g, U8G\_PI\_CS1, 1);

u8g\_SetPILevel(u8g, U8G\_PI\_CS2, 1);

break;

case U8G\_COM\_MSG\_STOP:

break;

case U8G\_COM\_MSG\_CHIP\_SELECT:

if ( arg\_val == 0 )

{

/\* disable \*/

u8g\_SetPILevel(u8g, U8G\_PI\_CS1, 1);

u8g\_SetPILevel(u8g, U8G\_PI\_CS2, 1);

}

else if ( arg\_val == 1 )

{

/\* enable \*/

u8g\_SetPILevel(u8g, U8G\_PI\_CS1, 0);

u8g\_SetPILevel(u8g, U8G\_PI\_CS2, 1);

}

else if ( arg\_val == 2 )

{

/\* enable \*/

u8g\_SetPILevel(u8g, U8G\_PI\_CS1, 1);

u8g\_SetPILevel(u8g, U8G\_PI\_CS2, 0);

}

else

{

/\* enable \*/

u8g\_SetPILevel(u8g, U8G\_PI\_CS1, 0);

u8g\_SetPILevel(u8g, U8G\_PI\_CS2, 0);

}

break;

case U8G\_COM\_MSG\_WRITE\_BYTE:

u8g\_com\_atmega\_parallel\_write(u8g, arg\_val);

break;

case U8G\_COM\_MSG\_WRITE\_SEQ:

{

register uint8\_t \*ptr = arg\_ptr;

while( arg\_val > 0 )

{

u8g\_com\_atmega\_parallel\_write(u8g, \*ptr++);

arg\_val--;

}

}

break;

case U8G\_COM\_MSG\_WRITE\_SEQ\_P:

{

register uint8\_t \*ptr = arg\_ptr;

while( arg\_val > 0 )

{

u8g\_com\_atmega\_parallel\_write(u8g, u8g\_pgm\_read(ptr));

ptr++;

arg\_val--;

}

}

break;

case U8G\_COM\_MSG\_ADDRESS: /\* define cmd (arg\_val = 0) or data mode (arg\_val = 1) \*/

u8g\_SetPILevel(u8g, U8G\_PI\_DI, arg\_val);

break;

case U8G\_COM\_MSG\_RESET:

u8g\_SetPILevel(u8g, U8G\_PI\_RESET, arg\_val);

break;

}

return 1;

}

#else

uint8\_t u8g\_com\_atmega\_parallel\_fn(u8g\_t \*u8g, uint8\_t msg, uint8\_t arg\_val, void \*arg\_ptr)

{

return 1;

}

#endif /\* ARDUINO \*/