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parts Where can I find a datasheet for a Noritake-Itron CU20026SCPB-T23C? (self.AskElectronics)

submitted 8 years ago by devicemodder hobbyist

I have looked all over the web and the closest I can find is for a CU20026SCPB-T20A. I even emailed Noritake and asked where I can get a datasheet and was told that this VFD is an OEM part. I found out from a prof at my college that they are used in fortress phones. I have some control codes figured out, what I would like to know is where I can get a datasheet for this display and how I would go about making it display katakana and custom chars.

The display in question: http://imgur.com/a/bTU4Q

I have gotten it to display basic ascii text from an arduino.

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[-] classicsat 3 points 8 years ago

Maybe you need to find another bit on the controller. Katakana might be 0x80 and above. At least it was when I last played with character LCDs.

Maybe see for other T23 displays.

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[-] **devicemodder** hobbyist [S] 1 point 8 years ago 0x80

I'll try. Thanks.

permalink embed save parent report reply

[-] \_sbrk 2 points 8 years ago

Likely the same as the HD44780 char set, at least all the noritake displays I've used were. link. Though your unit is somewhat different so it could be different.

Bottom 7bits is normal ASCII, top deck is katakana. Other region mask-rom was available, so top deck ~could~ be cyrillic or something else. JP definitely seems to be the most common/default, with Hitachi being Japanese and all.

First 8 ascii control chars are "user" characters you have to program. You can reprogram them on the fly, but you can only display 8 different user characters at once. It's pretty limited, in that respect.

permalink embed save report reply

[-] **devicemodder** | hobbyist | [S] 1 point 8 years ago

My unit also has cryllic and european characters. What I would like to figure out is how to add custom characters. **permalink embed save parent report reply** 

[-] Chris-Mouse 2 points 7 years ago

I have one of these as well. I've figured out many of the commands, but not all of them. Here is what I have figured out:

Vaccuum flourescent display module notes.

manufacturer: Noritake itran, Japan. Model: CU20026SCPB-T23C

Connector pinout

- 1 GND
- 2 RS-232 Tx Data (from display)
- 3 RS-232 Rx Data (to display)

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```
4 RS-232 Rx (Handshake?)
5 RS-232 Tx (Handshake?)
6 GND
7 VCC (+12V)
8 GND
```

### on board switches

```
SW2 - power on/off
SW1 - configuration
                    (changes only take effect after reset)
    SW1-1 - unknown
    SW1-2 - Data Length
        ON = 7 bit
        OFF = 8 bit
    SW1-3 - Parity Enable
        ON = PARITY ON
       OFF = No Parity
    SW1-4 - Parity select
        ON = even
        OFF = odd
    Sw1-5 - speed select
    sw1-6 - speed select
    SW1-7 - speed select
    SW1-8 - self test
        ON = self test
        OFF = normal
Speed selections
     SW1-6 SW1-5 speed
SW-7
0FF
      0FF
             0FF
                    9600
OFF
      0FF
                 115200
             ON
0FF
                   57600
       ON
             0FF
OFF
       ON
                   38400
             ON
      0FF
            0FF
                   19200
 ON
      0FF
                    9600
 ON
             ON
 ON
       ON
            OFF
                    4800
```

```
ON ON ON 2400
```

Display character set is extended ASCII, including character set above 0x80 ASCII Control codes

```
<ctrl>H 0x08 - cursor moves left one position
<ctrl>I 0x09 - cursor moves right one position
<ctrl>J 0x0A - cursor moves down one line
<ctrl>K 0x0B - cursor moves to row 1, column 1
<ctrl>L 0x0C - Clear display and home cursor
<ctrl>M 0x0D - cursor moves to column 1
<ctrl>X 0x18 - cursor moves to column 1, and line clears
```

All movement wraps from bottom back to top. and right side to left side. cursor wrap from sides includes line feed.

There are escape code sequences, but I don't have a clue what they do.

```
Sequences that appear to be possible commands as they swallow one or more extra bytes
    (these are case sensitive)
                              0x1B 0x25 0x?? <data> with MSB=1 causes wierd things to happen
    <ESC> % + 1 char
    <ESC> & + 1 char
                              0x1B 0x26 0x?? <data> with MSB=1 causes wierd things to happen
    <ESC> & + 0x01 + 3 char 0x1B 0x26 0x00 0x?? 0x?? 0x??
    \langle ESC \rangle = + 1 \text{ char}
                              0X1B 0x3D 0x?? (turns on command echo - commands stop working))
    <ESC> ? + 1 char
                               0x1B 0x3F 0x??
                              0x1B 0x52 0x??
    <ESC> R + 1 char
    \langle ESC \rangle W + 2 char
                          0x1B 0x57 0x?? 0x??
    \langle ESC \rangle t + 1 char
                               0x1B 0x74 0x??
    <ESC> 0x9C + 1 char
                               0x1B 0x9C 0x??
```

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```
[-] devicemodder hobbyist [S] 1 point 7 years ago*

This looks oddly familiar to a piece of particle.
```

This looks oddly familiar to a piece of paper I have somewhere...

EDIT: Found it!

http://i.imgur.com/q6ylrXz.jpg

http://i.imgur.com/fEM4FeH.jpg

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[-] devicemodder hobbyist [S] 1 point 7 years ago

Thanks.

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