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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.

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> [–] **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.
>
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[–] **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)
```

```
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

SW-7  SW1-6 SW1-5  speed
 OFF   OFF   OFF    9600
 OFF   OFF    ON  115200
 OFF    ON   OFF   57600
 OFF    ON    ON   38400
  ON   OFF   OFF   19200
  ON   OFF    ON    9600
  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)

    <ESC> % + 1 char        0x1B 0x25 0x?? <data> with MSB=1 causes wierd things to happen
    <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??
    <ESC> = + 1 char        0X1B 0x3D 0x?? (turns on command echo - commands stop working))
    <ESC> ? + 1 char        0x1B 0x3F 0x??
    <ESC> R + 1 char        0x1B 0x52 0x??
    <ESC> W + 2 char    0x1B 0x57 0x?? 0x??
    <ESC> 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 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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