

TechnoVeins

LCD160U サンプルプログラム

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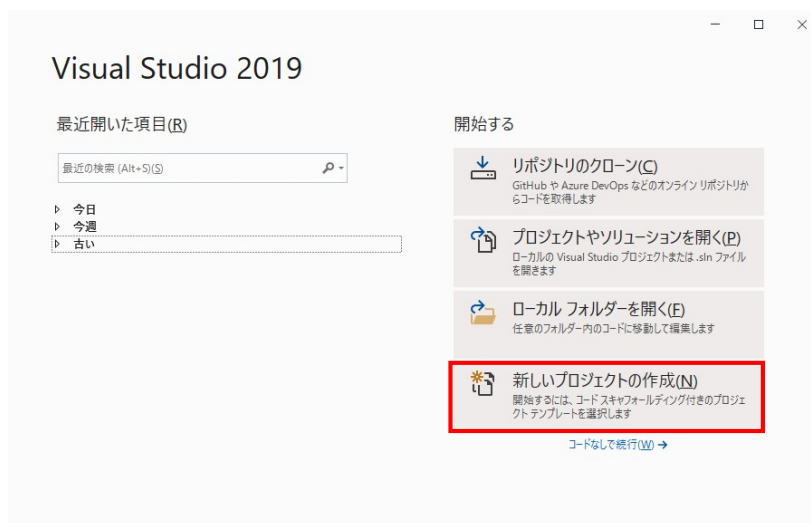
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1 制御プログラム

下記の動作環境で、LCD160U に文字を表示させるフォームアプリケーション制御プログラムを作成します。

(動作環境) Visual Studio 2019、Windows 10 64bit 版
.NET Framework 4.8.1、Visual Basic

1. Visual Studio 2019 の「新しいプロジェクトの作成」を選択します。



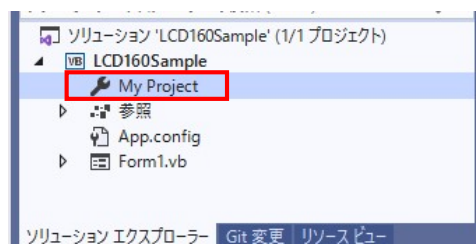
2. 「Windows フォームアプリケーション(.NET Framework)」を選択、「次へ」をクリックします。



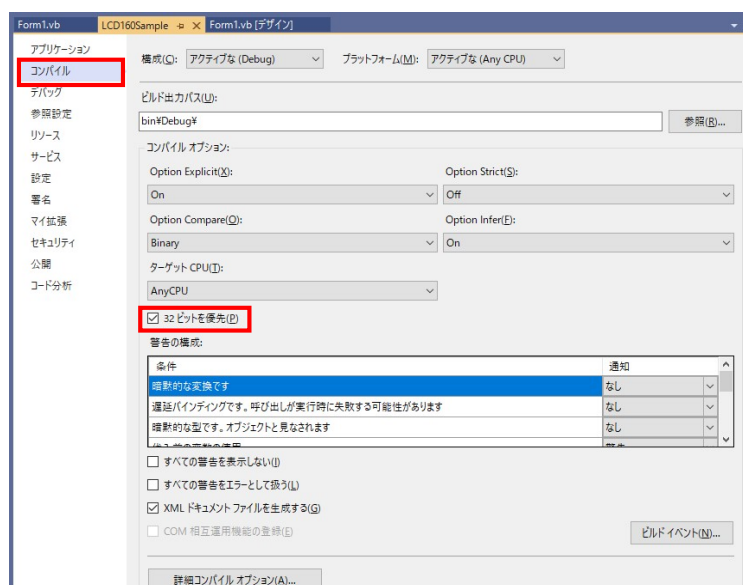
- 「プロジェクト名」、「フレームワーク」を入力、「作成」をクリックします。
※ 「フレームワーク」は「.NET Framework4.5」以上を指定して下さい。



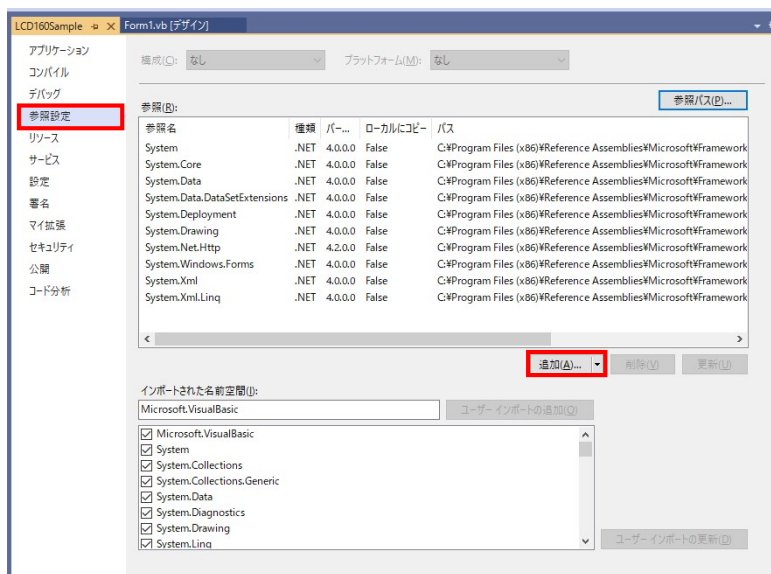
- ソリューションエクスプローラの「My Project」をダブルクリックします。



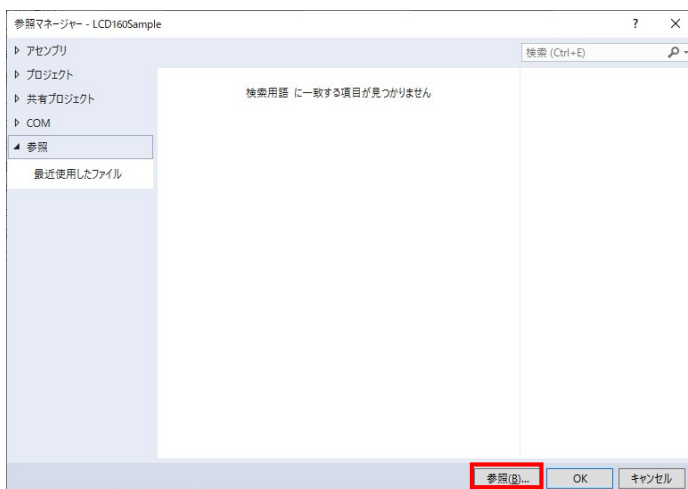
- 「コンパイル」を選択、「32 ビットを優先」にチェックを入れます。



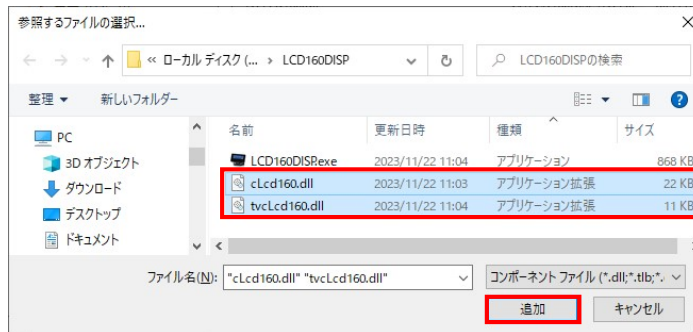
6. 「参照設定」を選択、「追加」ボタンをクリックします。



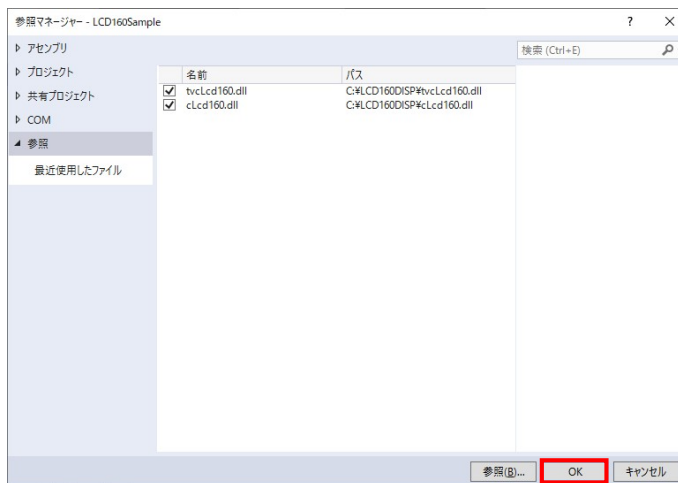
7. 「参照」ボタンをクリックします。



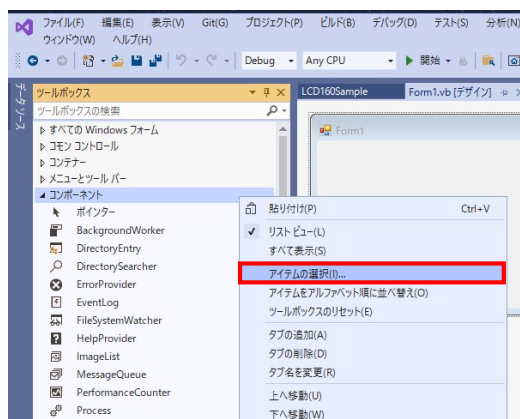
8. 「cLcd160.dll」「tvLcd160.dll」ファイルを選択、「追加」ボタンをクリックします。



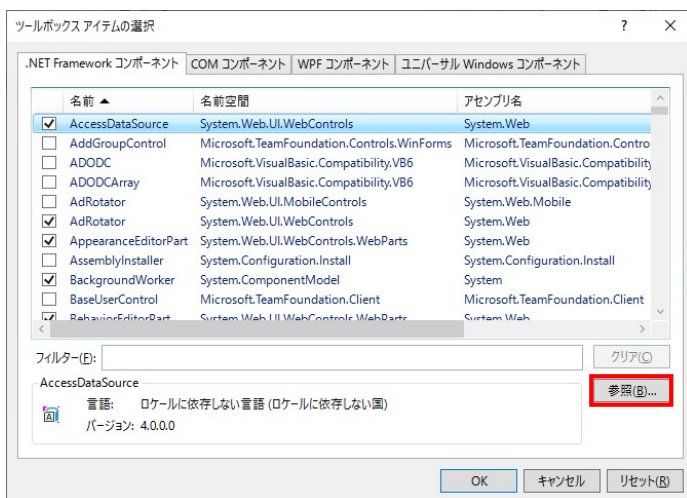
9. 「OK」をクリックします。



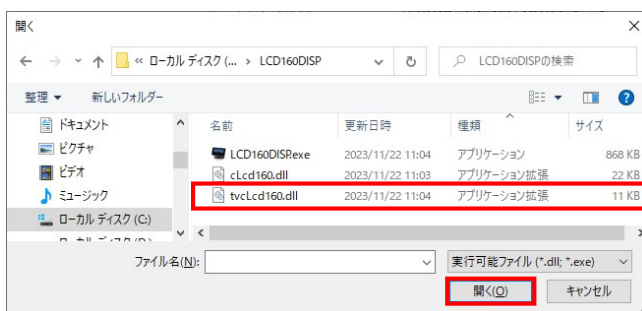
10. 「Form1.vb[デザイン]」タブをクリックします。「ツールボックス」の「コンポーネント」にポインタを移動し、右クリックして「アイテムの選択」をクリックします。



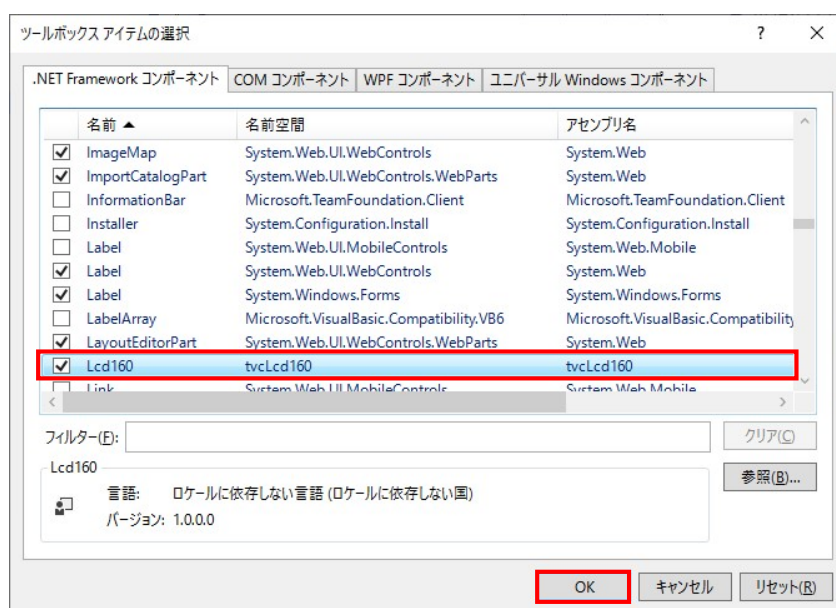
1 1. 「.NET Framework コンポーネント」タブ内の「参照」ボタンを押します。



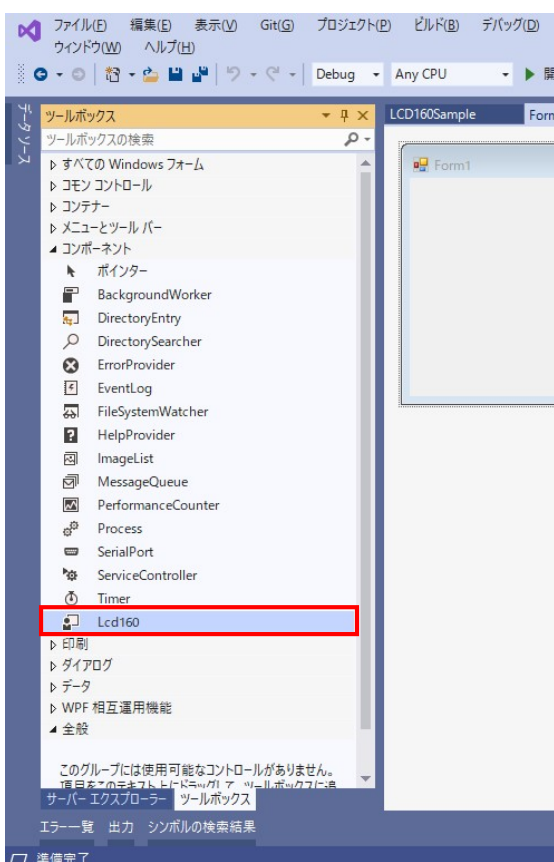
1 2. 「tvclcd160.dll」ファイルを選択し「開く」ボタンを押します。



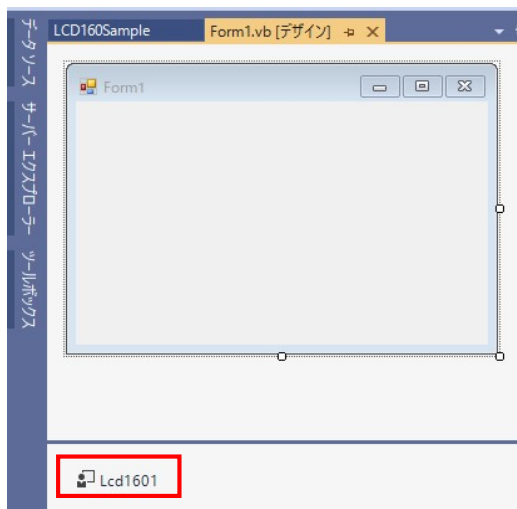
1 3. 「Lcd160」にチェックが入っていることを確認して「OK」ボタンを押します。



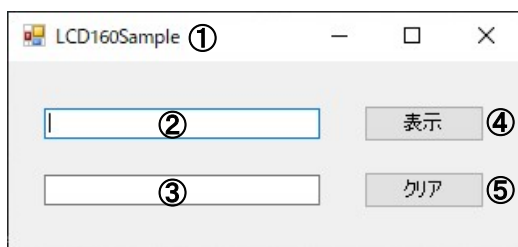
14. 「ツールボックス」の「コンポーネント」一覧に「Lcd160」が追加されていることを確認してください。



15. 「ツールボックス」の一覧の「Lcd160」を選択してドラッグアンドドロップで「Form1[デザイン]」のForm1の上に持ってきます。下図のように、「Lcd1601」が表示されます。



1 6. Form に以下のようにコントロールを配置します。



各コントロール名

- ① LCD160Sample
- ② Text1
- ③ Text2
- ④ BtnDisp
- ⑤ BtnClr

1 7. プログラムコードを記述します。

以下は LCD160 で表示するサンプルコードです。

```
Public Class LCD160Sample

    ' 表示ボタンをクリック
    Private Sub BtnDisp_Click(sender As Object, e As EventArgs) Handles BtnDisp.Click
        Lcd1601.Msg0 = Text1.Text
        Lcd1601.Msg1 = Text2.Text
        Lcd1601.DispLCD()
    End Sub

    ' クリアボタンをクリック
    Private Sub BtnClr_Click(sender As Object, e As EventArgs) Handles BtnClr.Click
        Lcd1601.CLS()
    End Sub

End Class
```

※本サンプルは参考のための一例であり、全てのお客様の環境で動作保証するものではありません。

2 .Net 用コンポーネント Lcd160 の使い方

本製品付属の DLL ファイル「tvcLcd160.dll」を Visual Studio の参照に追加することで、「Lcd160」という .Net 用コンポーネントを使用できるようになります。この「Lcd160」に対して表示したい文字列を設定することで、LCD160U への表示を行います。ここでは、「Lcd160」の使い方を説明します。

2.1 表示文字列の設定

■Lcd160.Msg0 = テキスト

LCD160Uの1行目に表示する文字列を「テキスト」で設定します。

■Lcd160.Msg1 = テキスト

LCD160Uの2行目に表示する文字列を「テキスト」で設定します。

2.2 LCD160U 書込み前のクリア処理

■Lcd160.AutoInit = **True**

LCD160Uに書き込む前に画面をクリアします。

■Lcd160.AutoInit = **False**

LCD160Uに書き込む前に画面をクリアしません。

AutoInitを指定しない場合は「True」です。

2.3 表示

■Lcd160.DispVFD()

「2.1 表示文字列の設定」で設定した文字列を LCD160U に表示させます。

2.4 クリア

■Lcd160.CLS()

LCD160U の表示をクリアにします。

2.5 コントラスト設定

■Lcd160.Contrast (明暗比)

「明暗比」・・・ 0~6 までの数値を指定。指定しない場合は「3」です。

2.6 USB 接続のリトライ回数

■Lcd160.UsbRetry = 「リトライ回数」

USB 接続でエラーが発生した場合のリトライ回数を設定します。

指定しない場合は「3」です。

2.7 画像の表示

■Lcd160.DispImage (BMP ファイル)

BMP ファイルを LCD160U に表示します。

```
Dim bmpPath As String = "C:\sample.gif"
Dim bmp As System.Drawing.Bitmap = _
    DirectCast(System.Drawing.Image.FromFile(bmpPath), System.Drawing.Bitmap)
Lcd1601.Displmage(bmp)
```

2.8 USB 使用確認

■Lcd160.IsAvail ()

LCD160U が使用可能な場合、True を返します。

LCD160U が使用不可な場合、False を返します。

2.9 コマンド送信

■Lcd160.SendCmd (バイト配列)

LCD160U のコマンドを送信します。コマンド一覧は「3 コマンド一覧」をご参照下さい。

例えば、クリアコマンドを送信したい場合は以下のように記述します。

```
Dim byteClr As Byte() = {&H1B, &H5B, &H32, &H4A}
Lcd1601.SendCmd(byteClr)
```

3 コマンド一覧

| | コマンド名 | コード (16進数表記) | 機能 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | BACKSPACE | 08 | カーソルを1文字左に移動します。 カーソルが下段の左端にある場合、上段の右端に移動します。上段の左端にある場合は、下段の右端に移動します。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | HORIZONTAL TAB | 09 | カーソルを1文字右に移動します。 カーソルが下段の右端にある場合、上段の左端に移動します。上段の右端にある場合は、下段の左端に移動します。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | LINE FEED | 0A | 1段下にカーソルを移動します。 桁は同じ位置になります。カーソルが下段にあるとき、上段に移動します。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | CARRIAGE RETURN | 0D | カーソルを現在ある段の左端に移動させます。 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | GRAPHIC MODE | 1B 20 Pd...Pd | <p>イメージデータをディスプレイに表示します。 (0,0)の位置から描画します。 Pd...Pd : Pd1...Pd800</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>MSB</td> <td>Pd1</td> <td>Pd2</td> <td>Pd3</td> <td>Pd4</td> <td>Pd5</td> <td>Pd6</td> <td>Pd7</td> <td>Pd8</td> <td>Pd9</td> <td>Pd10</td> <td>Pd11</td> <td>Pd12</td> <td>Pd13</td> <td>Pd14</td> <td>Pd15</td> <td>Pd16</td> <td>Pd17</td> <td>Pd18</td> <td>Pd19</td> <td>Pd20</td> <td>Pd21</td> <td>Pd22</td> <td>Pd23</td> <td>Pd24</td> <td>Pd25</td> <td>Pd26</td> <td>Pd27</td> <td>Pd28</td> <td>Pd29</td> <td>Pd30</td> <td>Pd31</td> <td>Pd32</td> <td>Pd33</td> <td>Pd34</td> <td>Pd35</td> <td>Pd36</td> <td>Pd37</td> <td>Pd38</td> <td>Pd39</td> <td>Pd40</td> <td>Pd41</td> <td>Pd42</td> <td>Pd43</td> <td>Pd44</td> <td>Pd45</td> <td>Pd46</td> <td>Pd47</td> <td>Pd48</td> <td>Pd49</td> <td>Pd50</td> <td>Pd51</td> <td>Pd52</td> <td>Pd53</td> <td>Pd54</td> <td>Pd55</td> <td>Pd56</td> <td>Pd57</td> <td>Pd58</td> 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<td>Pd788</td> <td>Pd789</td> <td>Pd790</td> <td>Pd791</td> <td>Pd792</td> <td>Pd793</td> <td>Pd794</td> <td>Pd795</td> <td>Pd796</td> <td>Pd797</td> <td>Pd798</td> <td>Pd799</td> <td>Pd800</td> </tr> </table> <p style="text-align: center;">5 × 160 byte</p> | MSB | Pd1 | Pd2 | Pd3 | Pd4 | Pd5 | Pd6 | Pd7 | Pd8 | Pd9 | Pd10 | Pd11 | Pd12 | Pd13 | Pd14 | Pd15 | Pd16 | Pd17 | Pd18 | Pd19 | Pd20 | Pd21 | Pd22 | Pd23 | Pd24 | Pd25 | Pd26 | Pd27 | Pd28 | Pd29 | Pd30 | Pd31 | Pd32 | Pd33 | Pd34 | Pd35 | Pd36 | Pd37 | Pd38 | Pd39 | Pd40 | Pd41 | Pd42 | Pd43 | Pd44 | Pd45 | Pd46 | Pd47 | Pd48 | Pd49 | Pd50 | Pd51 | Pd52 | Pd53 | Pd54 | Pd55 | Pd56 | Pd57 | Pd58 | Pd59 | Pd60 | Pd61 | Pd62 | Pd63 | Pd64 | Pd65 | Pd66 | Pd67 | Pd68 | Pd69 | Pd70 | Pd71 | Pd72 | Pd73 | Pd74 | Pd75 | Pd76 | Pd77 | Pd78 | Pd79 | Pd80 | Pd81 | Pd82 | Pd83 | Pd84 | Pd85 | Pd86 | Pd87 | Pd88 | Pd89 | Pd90 | Pd91 | Pd92 | Pd93 | Pd94 | Pd95 | Pd96 | Pd97 | Pd98 | Pd99 | Pd100 | Pd101 | Pd102 | Pd103 | Pd104 | Pd105 | Pd106 | Pd107 | Pd108 | Pd109 | Pd110 | Pd111 | Pd112 | Pd113 | Pd114 | Pd115 | Pd116 | Pd117 | Pd118 | Pd119 | Pd120 | Pd121 | Pd122 | Pd123 | Pd124 | Pd125 | Pd126 | Pd127 | Pd128 | Pd129 | Pd130 | Pd131 | Pd132 | Pd133 | Pd134 | Pd135 | Pd136 | Pd137 | Pd138 | Pd139 | Pd140 | Pd141 | Pd142 | Pd143 | Pd144 | Pd145 | Pd146 | Pd147 | Pd148 | Pd149 | Pd150 | Pd151 | Pd152 | Pd153 | Pd154 | Pd155 | Pd156 | Pd157 | Pd158 | Pd159 | Pd160 | Pd161 | Pd162 | Pd163 | Pd164 | Pd165 | Pd166 | Pd167 | Pd168 | Pd169 | Pd170 | Pd171 | Pd172 | Pd173 | Pd174 | Pd175 | Pd176 | Pd177 | Pd178 | Pd179 | Pd180 | Pd181 | Pd182 | Pd183 | Pd184 | Pd185 | Pd186 | Pd187 | Pd188 | Pd189 | Pd190 | Pd191 | Pd192 | Pd193 | Pd194 | Pd195 | Pd196 | Pd197 | Pd198 | Pd199 | Pd200 | Pd201 | Pd202 | Pd203 | Pd204 | Pd205 | Pd206 | Pd207 | Pd208 | Pd209 | Pd210 | Pd211 | Pd212 | Pd213 | Pd214 | Pd215 | Pd216 | Pd217 | Pd218 | Pd219 | Pd220 | Pd221 | Pd222 | Pd223 | Pd224 | Pd225 | Pd226 | Pd227 | Pd228 | Pd229 | Pd230 | Pd231 | Pd232 | Pd233 | Pd234 | Pd235 | Pd236 | Pd237 | Pd238 | Pd239 | Pd240 | Pd241 | Pd242 | Pd243 | Pd244 | Pd245 | Pd246 | Pd247 | Pd248 | Pd249 | Pd250 | Pd251 | Pd252 | Pd253 | Pd254 | Pd255 | Pd256 | Pd257 | Pd258 | Pd259 | Pd260 | Pd261 | Pd262 | Pd263 | Pd264 | Pd265 | Pd266 | Pd267 | Pd268 | Pd269 | Pd270 | Pd271 | Pd272 | Pd273 | Pd274 | Pd275 | Pd276 | Pd277 | Pd278 | Pd279 | Pd280 | Pd281 | Pd282 | Pd283 | Pd284 | Pd285 | Pd286 | Pd287 | Pd288 | Pd289 | Pd290 | Pd291 | Pd292 | Pd293 | Pd294 | Pd295 | Pd296 | Pd297 | Pd298 | Pd299 | Pd300 | Pd301 | Pd302 | Pd303 | Pd304 | Pd305 | Pd306 | Pd307 | Pd308 | Pd309 | Pd310 | Pd311 | Pd312 | Pd313 | Pd314 | Pd315 | Pd316 | Pd317 | Pd318 | Pd319 | Pd320 | Pd321 | Pd322 | Pd323 | Pd324 | Pd325 | Pd326 | Pd327 | Pd328 | Pd329 | Pd330 | Pd331 | Pd332 | Pd333 | Pd334 | Pd335 | Pd336 | Pd337 | Pd338 | Pd339 | Pd340 | Pd341 | Pd342 | Pd343 | Pd344 | Pd345 | Pd346 | Pd347 | Pd348 | Pd349 | Pd350 | Pd351 | Pd352 | Pd353 | Pd354 | Pd355 | Pd356 | Pd357 | Pd358 | Pd359 | Pd360 | Pd361 | Pd362 | Pd363 | Pd364 | Pd365 | Pd366 | Pd367 | Pd368 | Pd369 | Pd370 | Pd371 | Pd372 | Pd373 | Pd374 | Pd375 | Pd376 | Pd377 | Pd378 | Pd379 | Pd380 | Pd381 | Pd382 | Pd383 | Pd384 | Pd385 | Pd386 | Pd387 | Pd388 | Pd389 | Pd390 | Pd391 | Pd392 | Pd393 | Pd394 | Pd395 | Pd396 | Pd397 | Pd398 | Pd399 | Pd400 | Pd401 | Pd402 | Pd403 | Pd404 | Pd405 | Pd406 | Pd407 | Pd408 | Pd409 | Pd410 | Pd411 | Pd412 | Pd413 | Pd414 | Pd415 | Pd416 | Pd417 | Pd418 | Pd419 | Pd420 | Pd421 | Pd422 | Pd423 | Pd424 | Pd425 | Pd426 | Pd427 | Pd428 | Pd429 | Pd430 | Pd431 | Pd432 | Pd433 | Pd434 | Pd435 | Pd436 | Pd437 | Pd438 | Pd439 | Pd440 | Pd441 | Pd442 | Pd443 | Pd444 | Pd445 | Pd446 | Pd447 | Pd448 | Pd449 | Pd450 | Pd451 | Pd452 | Pd453 | Pd454 | Pd455 | Pd456 | Pd457 | Pd458 | Pd459 | Pd460 | Pd461 | Pd462 | Pd463 | Pd464 | Pd465 | Pd466 | Pd467 | Pd468 | Pd469 | Pd470 | Pd471 | Pd472 | Pd473 | Pd474 | Pd475 | Pd476 | Pd477 | Pd478 | Pd479 | Pd480 | Pd481 | Pd482 | Pd483 | Pd484 | Pd485 | Pd486 | Pd487 | Pd488 | Pd489 | Pd490 | Pd491 | Pd492 | Pd493 | Pd494 | Pd495 | Pd496 | Pd497 | Pd498 | Pd499 | Pd500 | Pd501 | Pd502 | Pd503 | Pd504 | Pd505 | Pd506 | Pd507 | Pd508 | Pd509 | Pd510 | Pd511 | Pd512 | Pd513 | Pd514 | Pd515 | Pd516 | Pd517 | Pd518 | Pd519 | Pd520 | Pd521 | Pd522 | Pd523 | Pd524 | Pd525 | Pd526 | Pd527 | Pd528 | Pd529 | Pd530 | Pd531 | Pd532 | Pd533 | Pd534 | Pd535 | Pd536 | Pd537 | Pd538 | Pd539 | Pd540 | Pd541 | Pd542 | Pd543 | Pd544 | Pd545 | Pd546 | Pd547 | Pd548 | Pd549 | Pd550 | Pd551 | Pd552 | Pd553 | Pd554 | Pd555 | Pd556 | Pd557 | Pd558 | Pd559 | Pd560 | Pd561 | Pd562 | Pd563 | Pd564 | Pd565 | Pd566 | Pd567 | Pd568 | Pd569 | Pd570 | Pd571 | Pd572 | Pd573 | Pd574 | Pd575 | Pd576 | Pd577 | Pd578 | Pd579 | Pd580 | Pd581 | Pd582 | Pd583 | Pd584 | Pd585 | Pd586 | Pd587 | Pd588 | Pd589 | Pd590 | Pd591 | Pd592 | Pd593 | Pd594 | Pd595 | Pd596 | Pd597 | Pd598 | Pd599 | Pd600 | Pd601 | Pd602 | Pd603 | Pd604 | Pd605 | Pd606 | Pd607 | Pd608 | Pd609 | Pd610 | Pd611 | Pd612 | Pd613 | Pd614 | Pd615 | Pd616 | Pd617 | Pd618 | Pd619 | Pd620 | Pd621 | Pd622 | Pd623 | Pd624 | Pd625 | Pd626 | Pd627 | Pd628 | Pd629 | Pd630 | Pd631 | Pd632 | Pd633 | Pd634 | Pd635 | Pd636 | Pd637 | Pd638 | Pd639 | Pd640 | Pd641 | Pd642 | Pd643 | Pd644 | Pd645 | Pd646 | Pd647 | Pd648 | Pd649 | Pd650 | Pd651 | Pd652 | Pd653 | Pd654 | Pd655 | Pd656 | Pd657 | Pd658 | Pd659 | Pd660 | Pd661 | Pd662 | Pd663 | Pd664 | Pd665 | Pd666 | Pd667 | Pd668 | Pd669 | Pd670 | Pd671 | Pd672 | Pd673 | Pd674 | Pd675 | Pd676 | Pd677 | Pd678 | Pd679 | Pd680 | Pd681 | Pd682 | Pd683 | Pd684 | Pd685 | Pd686 | Pd687 | Pd688 | Pd689 | Pd690 | Pd691 | Pd692 | Pd693 | Pd694 | Pd695 | Pd696 | Pd697 | Pd698 | Pd699 | Pd700 | Pd701 | Pd702 | Pd703 | Pd704 | Pd705 | Pd706 | Pd707 | Pd708 | Pd709 | Pd710 | Pd711 | Pd712 | Pd713 | Pd714 | Pd715 | Pd716 | Pd717 | Pd718 | Pd719 | Pd720 | Pd721 | Pd722 | Pd723 | Pd724 | Pd725 | Pd726 | Pd727 | Pd728 | Pd729 | Pd730 | Pd731 | Pd732 | Pd733 | Pd734 | Pd735 | Pd736 | Pd737 | Pd738 | Pd739 | Pd740 | Pd741 | Pd742 | Pd743 | Pd744 | Pd745 | Pd746 | Pd747 | Pd748 | Pd749 | Pd750 | Pd751 | Pd752 | Pd753 | Pd754 | Pd755 | Pd756 | Pd757 | Pd758 | Pd759 | Pd760 | Pd761 | Pd762 | Pd763 | Pd764 | Pd765 | Pd766 | Pd767 | Pd768 | Pd769 | Pd770 | Pd771 | Pd772 | Pd773 | Pd774 | Pd775 | Pd776 | Pd777 | Pd778 | Pd779 | Pd780 | Pd781 | Pd782 | Pd783 | Pd784 | Pd785 | Pd786 | Pd787 | Pd788 | Pd789 | Pd790 | Pd791 | Pd792 | Pd793 | Pd794 | Pd795 | Pd796 | Pd797 | Pd798 | Pd799 | Pd800 |
| MSB | Pd1 | Pd2 | Pd3 | Pd4 | Pd5 | Pd6 | Pd7 | Pd8 | Pd9 | Pd10 | Pd11 | Pd12 | Pd13 | Pd14 | Pd15 | Pd16 | Pd17 | Pd18 | Pd19 | Pd20 | Pd21 | Pd22 | Pd23 | Pd24 | Pd25 | Pd26 | Pd27 | Pd28 | Pd29 | Pd30 | Pd31 | Pd32 | Pd33 | Pd34 | Pd35 | Pd36 | Pd37 | Pd38 | Pd39 | Pd40 | Pd41 | Pd42 | Pd43 | Pd44 | Pd45 | Pd46 | Pd47 | Pd48 | Pd49 | Pd50 | Pd51 | Pd52 | Pd53 | Pd54 | Pd55 | Pd56 | Pd57 | Pd58 | Pd59 | Pd60 | Pd61 | Pd62 | Pd63 | Pd64 | Pd65 | Pd66 | Pd67 | Pd68 | Pd69 | Pd70 | Pd71 | Pd72 | Pd73 | Pd74 | Pd75 | Pd76 | Pd77 | Pd78 | Pd79 | Pd80 | Pd81 | Pd82 | Pd83 | Pd84 | Pd85 | Pd86 | Pd87 | Pd88 | Pd89 | Pd90 | Pd91 | Pd92 | Pd93 | Pd94 | Pd95 | Pd96 | Pd97 | Pd98 | Pd99 | Pd100 | Pd101 | Pd102 | Pd103 | Pd104 | Pd105 | Pd106 | Pd107 | Pd108 | Pd109 | Pd110 | Pd111 | Pd112 | Pd113 | Pd114 | Pd115 | Pd116 | Pd117 | Pd118 | Pd119 | Pd120 | Pd121 | Pd122 | Pd123 | Pd124 | Pd125 | Pd126 | Pd127 | Pd128 | Pd129 | Pd130 | Pd131 | Pd132 | Pd133 | Pd134 | Pd135 | Pd136 | Pd137 | Pd138 | Pd139 | Pd140 | Pd141 | Pd142 | Pd143 | Pd144 | Pd145 | Pd146 | Pd147 | Pd148 | Pd149 | Pd150 | Pd151 | Pd152 | Pd153 | Pd154 | Pd155 | Pd156 | Pd157 | Pd158 | Pd159 | Pd160 | Pd161 | Pd162 | Pd163 | Pd164 | Pd165 | Pd166 | Pd167 | Pd168 | Pd169 | Pd170 | Pd171 | Pd172 | Pd173 | Pd174 | Pd175 | Pd176 | Pd177 | Pd178 | Pd179 | Pd180 | Pd181 | Pd182 | Pd183 | Pd184 | Pd185 | Pd186 | Pd187 | Pd188 | Pd189 | Pd190 | Pd191 | Pd192 | Pd193 | Pd194 | Pd195 | Pd196 | Pd197 | Pd198 | Pd199 | Pd200 | Pd201 | Pd202 | Pd203 | Pd204 | Pd205 | Pd206 | Pd207 | Pd208 | Pd209 | Pd210 | Pd211 | Pd212 | Pd213 | Pd214 | Pd215 | Pd216 | Pd217 | Pd218 | Pd219 | Pd220 | Pd221 | Pd222 | Pd223 | Pd224 | Pd225 | Pd226 | Pd227 | Pd228 | Pd229 | Pd230 | Pd231 | Pd232 | Pd233 | Pd234 | Pd235 | Pd236 | Pd237 | Pd238 | Pd239 | Pd240 | Pd241 | Pd242 | Pd243 | Pd244 | Pd245 | Pd246 | Pd247 | Pd248 | Pd249 | Pd250 | Pd251 | Pd252 | Pd253 | Pd254 | Pd255 | Pd256 | Pd257 | Pd258 | Pd259 | Pd260 | Pd261 | Pd262 | Pd263 | Pd264 | Pd265 | Pd266 | Pd267 | Pd268 | Pd269 | Pd270 | Pd271 | Pd272 | Pd273 | Pd274 | Pd275 | Pd276 | Pd277 | Pd278 | Pd279 | Pd280 | Pd281 | Pd282 | Pd283 | Pd284 | Pd285 | Pd286 | Pd287 | Pd288 | Pd289 | Pd290 | Pd291 | Pd292 | Pd293 | Pd294 | Pd295 | Pd296 | Pd297 | Pd298 | Pd299 | Pd300 | Pd301 | Pd302 | Pd303 | Pd304 | Pd305 | Pd306 | Pd307 | Pd308 | Pd309 | Pd310 | Pd311 | Pd312 | Pd313 | Pd314 | Pd315 | Pd316 | Pd317 | Pd318 | Pd319 | Pd320 | Pd321 | Pd322 | Pd323 | Pd324 | Pd325 | Pd326 | Pd327 | Pd328 | Pd329 | Pd330 | Pd331 | Pd332 | Pd333 | Pd334 | Pd335 | Pd336 | Pd337 | Pd338 | Pd339 | Pd340 | Pd341 | Pd342 | Pd343 | Pd344 | Pd345 | Pd346 | Pd347 | Pd348 | Pd349 | Pd350 | Pd351 | Pd352 | Pd353 | Pd354 | Pd355 | Pd356 | Pd357 | Pd358 | Pd359 | Pd360 | Pd361 | Pd362 | Pd363 | Pd364 | Pd365 | Pd366 | Pd367 | Pd368 | Pd369 | Pd370 | Pd371 | Pd372 | Pd373 | Pd374 | Pd375 | Pd376 | Pd377 | Pd378 | Pd379 | Pd380 | Pd381 | Pd382 | Pd383 | Pd384 | Pd385 | Pd386 | Pd387 | Pd388 | Pd389 | Pd390 | Pd391 | Pd392 | Pd393 | Pd394 | Pd395 | Pd396 | Pd397 | Pd398 | Pd399 | Pd400 | Pd401 | Pd402 | Pd403 | Pd404 | Pd405 | Pd406 | Pd407 | Pd408 | Pd409 | Pd410 | Pd411 | Pd412 | Pd413 | Pd414 | Pd415 | Pd416 | Pd417 | Pd418 | Pd419 | Pd420 | Pd421 | Pd422 | Pd423 | Pd424 | Pd425 | Pd426 | Pd427 | Pd428 | Pd429 | Pd430 | Pd431 | Pd432 | Pd433 | Pd434 | Pd435 | Pd436 | Pd437 | Pd438 | Pd439 | Pd440 | Pd441 | Pd442 | Pd443 | Pd444 | Pd445 | Pd446 | Pd447 | Pd448 | Pd449 | Pd450 | Pd451 | Pd452 | Pd453 | Pd454 | Pd455 | Pd456 | Pd457 | Pd458 | Pd459 | Pd460 | Pd461 | Pd462 | Pd463 | Pd464 | Pd465 | Pd466 | Pd467 | Pd468 | Pd469 | Pd470 | Pd471 | Pd472 | Pd473 | Pd474 | Pd475 | Pd476 | Pd477 | Pd478 | Pd479 | Pd480 | Pd481 | Pd482 | Pd483 | Pd484 | Pd485 | Pd486 | Pd487 | Pd488 | Pd489 | Pd490 | Pd491 | Pd492 | Pd493 | Pd494 | Pd495 | Pd496 | Pd497 | Pd498 | Pd499 | Pd500 | Pd501 | Pd502 | Pd503 | Pd504 | Pd505 | Pd506 | Pd507 | Pd508 | Pd509 | Pd510 | Pd511 | Pd512 | Pd513 | Pd514 | Pd515 | Pd516 | Pd517 | Pd518 | Pd519 | Pd520 | Pd521 | Pd522 | Pd523 | Pd524 | Pd525 | Pd526 | Pd527 | Pd528 | Pd529 | Pd530 | Pd531 | Pd532 | Pd533 | Pd534 | Pd535 | Pd536 | Pd537 | Pd538 | Pd539 | Pd540 | Pd541 | Pd542 | Pd543 | Pd544 | Pd545 | Pd546 | Pd547 | Pd548 | Pd549 | Pd550 | Pd551 | Pd552 | Pd553 | Pd554 | Pd555 | Pd556 | Pd557 | Pd558 | Pd559 | Pd560 | Pd561 | Pd562 | Pd563 | Pd564 | Pd565 | Pd566 | Pd567 | Pd568 | Pd569 | Pd570 | Pd571 | Pd572 | Pd573 | Pd574 | Pd575 | Pd576 | Pd577 | Pd578 | Pd579 | Pd580 | Pd581 | Pd582 | Pd583 | Pd584 | Pd585 | Pd586 | Pd587 | Pd588 | Pd589 | Pd590 | Pd591 | Pd592 | Pd593 | Pd594 | Pd595 | Pd596 | Pd597 | Pd598 | Pd599 | Pd600 | Pd601 | Pd602 | Pd603 | Pd604 | Pd605 | Pd606 | Pd607 | Pd608 | Pd609 | Pd610 | Pd611 | Pd612 | Pd613 | Pd614 | Pd615 | Pd616 | Pd617 | Pd618 | Pd619 | Pd620 | Pd621 | Pd622 | Pd623 | Pd624 | Pd625 | Pd626 | Pd627 | Pd628 | Pd629 | Pd630 | Pd631 | Pd632 | Pd633 | Pd634 | Pd635 | Pd636 | Pd637 | Pd638 | Pd639 | Pd640 | Pd641 | Pd642 | Pd643 | Pd644 | Pd645 | Pd646 | Pd647 | Pd648 | Pd649 | Pd650 | Pd651 | Pd652 | Pd653 | Pd654 | Pd655 | Pd656 | Pd657 | Pd658 | Pd659 | Pd660 | Pd661 | Pd662 | Pd663 | Pd664 | Pd665 | Pd666 | Pd667 | Pd668 | Pd669 | Pd670 | Pd671 | Pd672 | Pd673 | Pd674 | Pd675 | Pd676 | Pd677 | Pd678 | Pd679 | Pd680 | Pd681 | Pd682 | Pd683 | Pd684 | Pd685 | Pd686 | Pd687 | Pd688 | Pd689 | Pd690 | Pd691 | Pd692 | Pd693 | Pd694 | Pd695 | Pd696 | Pd697 | Pd698 | Pd699 | Pd700 | Pd701 | Pd702 | Pd703 | Pd704 | Pd705 | Pd706 | Pd707 | Pd708 | Pd709 | Pd710 | Pd711 | Pd712 | Pd713 | Pd714 | Pd715 | Pd716 | Pd717 | Pd718 | Pd719 | Pd720 | Pd721 | Pd722 | Pd723 | Pd724 | Pd725 | Pd726 | Pd727 | Pd728 | Pd729 | Pd730 | Pd731 | Pd732 | Pd733 | Pd734 | Pd735 | Pd736 | Pd737 | Pd738 | Pd739 | Pd740 | Pd741 | Pd742 | Pd743 | Pd744 | Pd745 | Pd746 | Pd747 | Pd748 | Pd749 | Pd750 | Pd751 | Pd752 | Pd753 | Pd754 | Pd755 | Pd756 | Pd757 | Pd758 | Pd759 | Pd760 | Pd761 | Pd762 | Pd763 | Pd764 | Pd765 | Pd766 | Pd767 | Pd768 | Pd769 | Pd770 | Pd771 | Pd772 | Pd773 | Pd774 | Pd775 | Pd776 | Pd777 | Pd778 | Pd779 | Pd780 | Pd781 | Pd782 | Pd783 | Pd784 | Pd785 | Pd786 | Pd787 | Pd788 | Pd789 | Pd790 | Pd791 | Pd792 | Pd793 | Pd794 | Pd795 | Pd796 | Pd797 | Pd798 | Pd799 | Pd800 | | | | |
| 6 | SET COUNTRY CODE | 1B 52 n | <p>フォントテーブルを 00 ≤ n ≤ 0D, 30 ≤ n ≤ 3D (16進数) から選択します。 電源投入時の初期設定は、00(USA)、30(PC437)です。 n : 00 USA - default 01 France</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|----------|--------------------------|-------------|--|
| | | | <p>02 Germany 03 Great Britain 04 Denmark 05 Sweden 06 Italy 07 Spain 08 Japan 09 Norway 0A Germany 0B Great Britain 0C Denmark 0D Sweden</p> <p>n : 30 PC437 (USA: Standard Europe) – default 31 Katakana 32 PC850 (Multilingual) 33 PC860 (Portuguese) 34 PC863(Canadian-French) 35 Page 5 [PC865 (Norwegian)] 36 WPC1252 37 PC866 [Cyrillic #2] 38 PC852 [Latin 2] 39 Page 19 [PC858] 3A Japanese font(shift JIS) 3B Simplified Chinese(GB2312) 3C Traditional Chinese(Big5) 3D Hanguk(KSC5601)</p> |
| 7 | DELETE TO END OF LINE | 1B 5B 30 4B | <p>カーソルのある段を消去します。 このコマンドを実行した後、カーソルは左端へ移動します。</p> |
| 8 | CLEAR SCREEN | 1B 5B 32 4A | <p>ディスプレイされている文字を全消去します。 このコマンドを実行した後、カーソルはホームポジションへ移動します。</p> |
| 9 | HOME POSITION | 1B 5B 48 27 | <p>ホームポジションの位置にカーソルを移動します。 ホームポジションは、上段の最初の桁を示します。</p> |

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|----|----------------------------------|--|---|
| 10 | TURN ON/OFF DISPLAY | 1B 5B n 50 | LCDのバックライト ON/OFF を制御するコマンドです。 n = 0 でバックライトは OFF n = 1 でバックライトは ON ON/OFF の状態は再度このコマンドを送信するか、 初期化されるまで続きます。 |
| 11 | SPECIFIED POSITION | 1B 5B Py 3B Px 48 | Py 段の Px 桁目の位置にカーソルを移動します。 コマンドが範囲を超えた Py、Px の値を指定している場合、 このコマンドは無視されカーソルは移動しません。 01 ≤ Px ≤ 14 (16 進数) 01 ≤ Py ≤ 02 (16 進数) |
| 12 | CURSOR MODE | 1B 5C 3F 4C 43 Ps | カーソルの表示・非表示を設定します。 Ps = 1 のとき、カーソルは点滅 Ps = 2 のとき、カーソルは点灯 Ps = 0 でカーソルは消灯 |
| 13 | LCD CONTRAST & VFD BRIGHTNESS | 1B 5C 3F 4C 44 Pc Pb | LCDのコントラストとVFDの輝度を設定します。 LCDのコントラストは、Pcの値で設定します。 Pc : 00 ~ 06 (16 進数) デフォルトは 03 VFDの輝度は、Pbの値で設定します。 ※本製品ではVFDの輝度設定を使用しないため、 Pbの値は Pb=03 と設定してください。 |
| 14 | USER DEFINED CHARACTERS | 1B 5C 3F 4C 57 Pf 3B Pn 3B Pc 3B Pd ... | 外字を定義します。 定義した外字は Pc の文字コードにより表示されます。 外字フォントデータは RAM 上に確保されるため、電 源遮断により消去されます。 各フォントサイズで登録できる最大の文字数は以下となり ます。指定されたフォント番号に既に外字が登録されてい る場合、登録されている外字を解除し新たに外字登録を行 います。 Pf = 1 : 半角 8×16 最大 32 文字 Pf = 2 : 全角 16×16 最大 16 文字 文字コード(Pc)に 00 (Pf = 1) を指定した場合、指定され たフォント番号に登録されている外字を解除します。 |

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| | | | <p>Pf = 1 : 1B,5C,3F,4C,57,Pf,3B,Pn,3B,00,3B Pf = 2 : 1B,5C,3F,4C,57,Pf,3B,Pn,3B,00,00,3B</p> <p>Pf : Font size フォントサイズ Pf = 1 : One-byte character 8×16 dot Pf = 2 : Two-byte character 16×16 dot</p> <p>Pn : Font number フォント番号 00 ≤ Pn ≤ 1F (Pf = 1) 00 ≤ Pn ≤ 0F (Pf = 2)</p> <p>Pc: Character code 文字コード 20 ≤ Pc ≤ 7F (Pf = 1) ※SET COUNTRY CODE が 3A(shift JIS)の場合、 以下の範囲が追加されます。 A0 ≤ Pc ≤ DF (Pf = 1) 80 00 ≤ Pc ≤ FF FF (Pf = 2)</p> <p>Pd: Font data フォントデータ 16 byte (Pf = 1) 32 byte (Pf = 2)</p> |
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タイトル LCD160U サンプルプログラム

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