APPLICATION NOTE

CP600 CONVERTING A CP600 PROJECT TO A CP600 2ND GENERATION PROJECT
HINTS AND TIPS
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1 Introduction

1.1 Scope of the document
Support Users to convert a project made for CP600 to project for CP600 2nd.
The document describes the general differences between the CP600 and CP600 2nd generation and gives some hints to execute all necessary steps for conversion.

1.2 Compatibility
The application example explained in this document have been used with the below engineering system versions. They should also work with other versions, nevertheless some small adaptations may be necessary, for future versions.
- CP600 / CP600 2nd generation
- Panel Builder V2.8.1.477 or newer

1.3 Overview
2 General Differences

2.1 Hardware, OS

<table>
<thead>
<tr>
<th></th>
<th>CP6xx</th>
<th>CP64xx</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Speed</strong></td>
<td>ARM Cortex A8 600MHz</td>
<td>ARM Cortex A8 1 GHz</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>• Flash Disk 128Mbyte</td>
<td>• Flash Disk 4 GB</td>
</tr>
<tr>
<td></td>
<td>• 256MB DDR</td>
<td>• 512 MB DDR</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td>Microsoft Windows CE 6.0</td>
<td>Linux</td>
</tr>
<tr>
<td><strong>Application Memory</strong></td>
<td>30…60MB</td>
<td>150 MB</td>
</tr>
</tbody>
</table>

2.2 Interfaces and Slots

<table>
<thead>
<tr>
<th></th>
<th>CP6xx</th>
<th>CP64xx</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethernet</strong></td>
<td>2x ETH 10/100 Mbit</td>
<td>2x ETH 10/100 Mbit</td>
</tr>
<tr>
<td><strong>Serial ports</strong></td>
<td>1x SER RS-232/-485/-422</td>
<td>1x SER RS-232/-485/-422</td>
</tr>
<tr>
<td><strong>Card Slot</strong></td>
<td>1x SD-card Slot</td>
<td>1x SD-card Slot</td>
</tr>
<tr>
<td><strong>USB</strong></td>
<td>2x USB Host</td>
<td>2x USB Host</td>
</tr>
</tbody>
</table>

2.3 SD Card

<table>
<thead>
<tr>
<th></th>
<th>CP6xx</th>
<th>CP64xx</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>Max. 2 GB (ABB tested Cards)</td>
<td>Max. 2 GB (ABB tested Cards)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>Standard</td>
<td>SDHC supported (Delivery from ABB in preparation)</td>
</tr>
<tr>
<td><strong>Card Function</strong></td>
<td>• Update Project</td>
<td>• Update Project</td>
</tr>
<tr>
<td></td>
<td>• Update Runtime</td>
<td>• Update Runtime</td>
</tr>
</tbody>
</table>

2.4 Licenses

Same as before. There are no changes in the licenses system.
2.5 Replacement Options

If you want to transfer a PB610 project form a today´s CP635, CP651 or CP676, which have direct successors in CP600 2nd generation (CP6407, CP6410, CP6415), you will face no difference in screen size and resolution, means, your current application will fit for the successor screen without any borders or other mismatches. If you want to replace a today´s CP620, CP630, CP661, CP665, which don´ t have direct successors in CP600 2nd generation, screen sizes and resolutions might be different. In that even after optimal adaption of the PB610 application some borders will remain on the new target control panel.

<table>
<thead>
<tr>
<th>Current Panel</th>
<th>Size</th>
<th>Resolution</th>
<th>Replacement</th>
<th>Size</th>
<th>Resolution</th>
<th>Factor</th>
<th>Borders</th>
<th>Cutout</th>
<th>Interfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP620</td>
<td>4.3&quot;</td>
<td>480x272</td>
<td>CP604</td>
<td>4.3&quot;</td>
<td>480x272</td>
<td>1.000</td>
<td>no</td>
<td>same</td>
<td>-1xETH, -SD</td>
</tr>
<tr>
<td>CP630</td>
<td>5.7&quot;</td>
<td>320x240</td>
<td>CP6407</td>
<td>7&quot;</td>
<td>800x480</td>
<td>2.000</td>
<td>80 px left+right</td>
<td>same</td>
<td></td>
</tr>
<tr>
<td>CP635</td>
<td>7&quot;</td>
<td>800x480</td>
<td>CP6407</td>
<td>7&quot;</td>
<td>800x480</td>
<td>1.000</td>
<td>no</td>
<td>same</td>
<td></td>
</tr>
<tr>
<td>CP651</td>
<td>10.4&quot;</td>
<td>800x600</td>
<td>CP6410</td>
<td>10.4&quot;</td>
<td>800x600</td>
<td>1.000</td>
<td>no</td>
<td>same</td>
<td></td>
</tr>
<tr>
<td>CP661</td>
<td>12.1&quot;</td>
<td>800x600</td>
<td>CP6415</td>
<td>15&quot;</td>
<td>1024x768</td>
<td>1.280</td>
<td>no</td>
<td>bigger</td>
<td></td>
</tr>
<tr>
<td>CP665</td>
<td>13.3&quot;</td>
<td>1280x800</td>
<td>CP6615</td>
<td>15.6&quot;</td>
<td>1366x768</td>
<td>0.960</td>
<td>69 px left+right</td>
<td>wider</td>
<td></td>
</tr>
<tr>
<td>CP676</td>
<td>15&quot;</td>
<td>1024x768</td>
<td>CP6415</td>
<td>15&quot;</td>
<td>1024x768</td>
<td>1.000</td>
<td>no</td>
<td>same</td>
<td></td>
</tr>
</tbody>
</table>
3 Convert Application

3.1 Update Project or new Project

Update Project can be done by “Project Properties” in the section “Project -> Project Type” (see chapter Convert Project with Panel Builder)

- Target HMI will be changed
- Standard application will be transferred

3.2 Convert Project with Panel Builder with same screen size

- Create backup of your current Panel Builder project
- Open existing project with Panel Builder in version V2.8.1.447 or newer
- You will be asked if you want to update the project

- Confirm with “Convert”
• Double Click “Project Properties”

• Expand the Project entry and select Project Type

• Push Button right to “+” Button

• Select the matching target, the table is shown in chapter 2.5 Replacement Options

• Confirm with Finish

• A hint will be shown, that the target will be changed
- Confirm with Yes

CAUTION!

If IRC5 driver is used, it has to be replaced by IRC5 Linux driver with relevant configuration parameters.
3.3 Convert Project with Panel Builder with different screen size

- Create backup of your current Panel Builder project
- Open existing project with Panel Builder in version V2.8.1.447 or newer
- You will be asked if you want to update the project
  - Confirm with "Convert"
  - Double Click "Project Properties"

  ![Warning dialog]

  ![Project properties]

- Expand the Project entry and select Project Type
- Push Button right to "+" Button
- Select the matching target, the table is shown in chapter 2.5 Replacement Options

- Confirm with Finish

- A hint will be shown, that the resolution of the new target is different. Quadruple resolution of the application, adapted from CP630 800x480 pixels instead of former 320x240 pixels

- Select Keep page size and confirm with Yes
• Some additional parameters must be adapted. Please enable the Show Advances properties button in the upper left corner

• Set the parameters as seen in the screenshot below

- Current target device (here: project type) „CP630“ has to be replaced by „CP6407“
- Checking the box keep page size will make sure, that current application can just be zoomed correctly
- PageWidth and PageHeight represent the resolution of the target device and are updated automatically with the selection of CP6407
- Image DB Enable: „true“, the standard setting for CP600, shall be replaced by „false“ This enables new rendering in CP6407 for increased resolution without loss of quality.
- Target zoom factor: It shall be defined in that way, that at least one - either the horizontal or the vertical - resolution meets the equivalent resolution of the new target device.

In this example – target zoom factor: 2 ➔ 2x (320x240) ➔ 640x480 (see table in chapter 2.5)

  • the zoomed vertical resolution complies with the vertical resolution of the new CP6407
  • The zoomed horizontal resolution of 640 is by 160 less than 800 of the new CP6407 ➔ Since the application is displayed with central alignment there will be two stripes (width of 80 pixels each) of background left and right on the CP6407

- Background color: This option defines the color of the borders, which will be visible on the panels screen left and right from the presentation of the application. In this example blue color was selected for better visibility of the borders. In real applications black background color [0, 0, 0] might be the best solution.
The result from the above settings:

- CAUTION!
  
  If IRC5 driver is used, it has to be replaced by IRC5 Linux driver with relevant configuration parameters.