Recipe Save and Restore For B&R Power Panel

This document describes the method for saving and restoring recipe and engineering data from/to the Power Panel control system. It is assumed that you are familiar with recognising and setting Network IP addresses and are familiar with operating Windows based software involving file manipulation.
It is possible under adverse conditions to corrupt the data card so great care must be taken before undertaking the procedure to ensure satisfactory results. Always keep the original card safe so it can be possible to return to an operational state in the unlikely event of the procedure failing.

Requirements:
PC loaded with the B&R PVI Transfer utility.
A network connection to the B&R panel which can be direct (Via crossover cable) or normal.
Knowledge of the INA Node address of the panel (Described Later)
Knowledge of the panel ip Address, (also described).

Procedure

Panel INA Node Number

It is neccessary to know the INA address of the panel, this can be foud in 2 ways.

1 The panels INA address is set on rotary switches on the plug in CAN interface in the rear of the panel. This interface card is labelled either IF771 or IF 772. This can sometimes be accessed directly in which case it is easier to find the address this way. Otherwise the switches can only be read by removing the panel from its housing which makes the second method easier.

There are two rotary switches marked CAN X10 and X1 the X10 switch will in most cases be set to 0. The X1 switch will be set to different addresses depending on system and network configuarations.
Generally then with a X10 at 0 and X1 at say 3 the CAN node or INA Address is set to 3.

2 When the panel is powered on the Node address is displayed on the text screen briefly before the operating software boots.
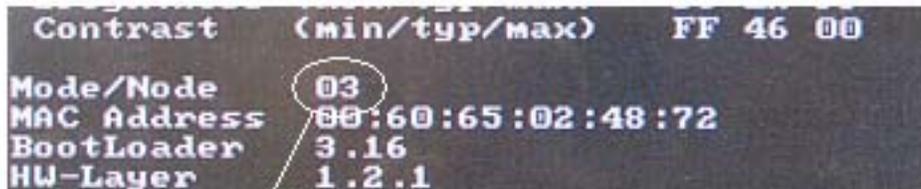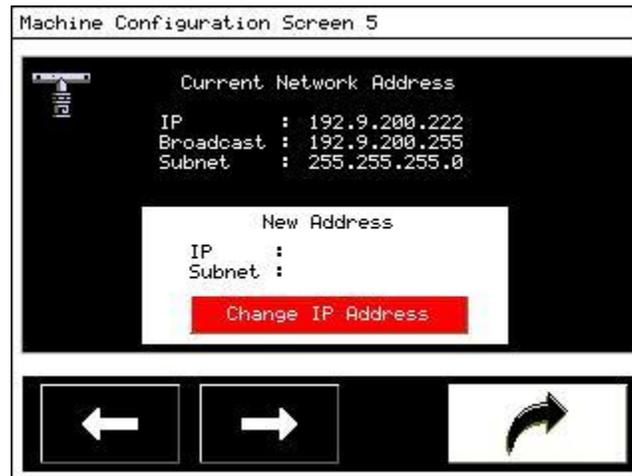

Make a note of the node number.

Panel IP Address

The IP address of the panel can be set or displayed at engineer level or above so while logged in as engineer navigating the engineers parameters within the panel will find a screen which displays and allows the engineer to set the IP address for the panel.

This screen displays the currently set IP address.

In more recent versions of software the ip Address and INA node number are displayed within the operator log on screen
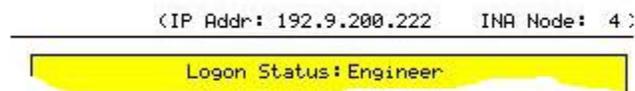
Uploading Data Files

Launch the PVI Transfer utility. This will start with the previous command list still in the main window.

1   Clear the main window by hitting File > New.
2   Select Insert Command > Connection
         This opens a connection parameters window for configuring the connection.

3   Select Device Type as Ethernet
4   Select the properties button which opens the properties panel.
5   In the Interface box select TCPIP

The source address box is only relevent when more than 1 controller is connected to the same panel via an ethernet connection. If this is the case then each controller should have a different source address. This can be set to any number up to 64

6   In the Source address box set a unique number, say 10
7   In the Destination Address set the INA Node number discovered previously from the panel
8   Tick the Specify An IP Address button and type in the IP address previously discovered from the panel.

         Check the settings the connection will not work if there is any error.
9   Select the OK button to return to the Parametes window which will show the information you have set in the text boxes.
10   Select the OK button

The connection parameters should be set and a Connection command will have been added to the main command window.

11   Select Insert Command > Module Functions > Upload
         This displays a window in which to insert the upload file information
12   In the module name box type in the following   rec_mod this is the module name within the panel of the recipe data to upload and should be typed exactly as shown.
13   In the Destination File Name box type or browse to the location where the file is to be saved.
14   Select the OK button to add this command to the main window command list.

Repeat 11-14 typing eng_mod into the Module Name box

It is neccessary to remember which file is associated with which module so using a file name such as recmod or engmod would make the download process easier. The names rec_mod and eng_mod are the module names incorporated into the source code and so must be kept the same for this process to be successful.

The Main window command list should display a command list similar to the following.

Connection "/IF=TCPIP /SA=20", "/DA=4 /DAIP=192.9.200.233", "WT=30"
Upload "rec_mod", "C:\Documents and Settings\pvifiles\recmod.BR"
Upload "eng_mod", "C:\Documents and Settings\pvifiles\engmod.BR"

If the command list is ok then select Run > Execute . A confirmation window will appear which allows you to continue or resume editing. Select yes to execute the command list.
Tou should see a window like the following which will show command progress and ultimatley a window like this!
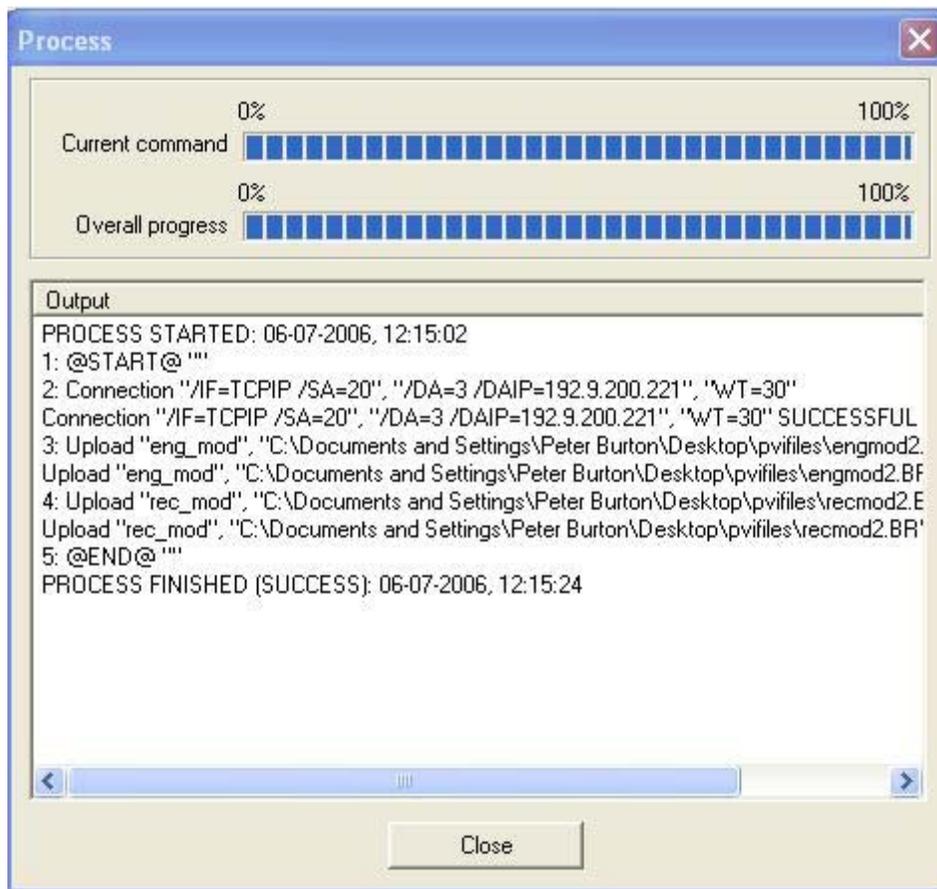
This shows that the command list executed successfully. In the even that there ewre any problems the window will display the FAIL message and information relating to the failure. The connection is usually very reliable as long as the information is correctly set in the options boxes.

The recipe and engineering data settings will now have been saved from the panel int the specified files. In normal circumstances now the flash card would be changed for a new firmware issue which would not have any recipe data or engineering data entered.

Downloading Data Files

When the saved data files are to be downloaded to the panel, first establish a physical network connection to the panel.

Launch the PVI Transfer utility which will have the last used command list shown in the main command window.

1   Clear the window by selecting File > New.

2   Select Insert Command > Connection
This opens a connection parameters window for configuring the connection.

3   Select Device Type as Ethernet
4   Select the properties button which opens the properties panel.
5   In the Interface box select TCPIP

The source address box is only relevent when more than 1 controller is connected to the same panel via an ethernet connection. If this is the case then each controller should have a different source address. This can be set to any number up to 64

6   In the Source address box set a unique number, say 10
7   In the Destination Address set the INA Node number discovered previously from the panel
8   Tick the Specify An IP Address button and type in the IP address previously discovered from the panel.

Check the settings the connection will not work if there is any error.

9   Select the OK button to return to the Parametes window which will show the i nformation you have set in the text boxes.
10   Select the OK button

The connection parameters should be set and a Connection command will have been added to the main command window.

It is neccessary to delete the modules

11   Select Insert Command > Module Functions > Delete
This displays a window in which to insert the name of the module to delete.
Type rec_mod to delete this module from the card installed in the panel
And select OK
12   Repeat the Insert Command > Module Functions >Delete and enter module name eng_mod.
13   Select Insert Command > Module Functions > Download
This displays a window in which to insert the Download file information
In the file name box type in or browse to the saved files and load the file associated with the rec_mod module
14   In the User Defined Module Name on PLC box enter   rec_mod It is important that this is exactly as typed.
15   In the Memory type options list select User ROM
16   Select OK

17   Repeat 12-16 typing eng_mod into the User Defined Module Name on PLC box

18   Select Insert Command > Service Functions > Cold Restart. A window will appear asking for a timout. Enter 20 for 20 seconds and select OK

The Main window command list should display a command list similar to the following.

Connection "/IF=TCPIP /SA=20", "/DA=3 /DAIP=192.9.200.221", "WT=30"
Delete "rec_mod"
Delete "eng_mod"
Download "C:\Documents and Settings\pvifiles\recmod2.BR", "User ROM", "ModuleName=rec_mod"
Download "C:\Documents and Settings\pvifiles\engmod2.BR", "User ROM", "ModuleName=eng_mod"
Coldstart "20"

Where the IP Address (/DAIP) and INA Node number (/DA) matches those taken from your panel.

If the command list is ok then select Run > Execute . A confirmation window will appear which allows you to continue or resume editing. Select yes to execute the command list.
Tou should see a window like the following which will show command progress and ultimatley a window like this!

```
Process                                                          [×]

                    0%                                    100%
    Current command  ████████████████████████████████████████

                    0%                                    100%
    Overall progress ████████████████████████████████████████

    ┌─Output──────────────────────────────────────────────────┐
    │ PROCESS STARTED: 06-07-2006, 13:55:45                    │
    │ 1: @START@ ""                                            │
    │ 2: Connection "/IF=TCPIP /SA=20", "/DA=3 /DAIP=192.9.200.221", "WT=30"│
    │ Connection "/IF=TCPIP /SA=20", "/DA=3 /DAIP=192.9.200.221", "WT=30" SUCCESSFUL│
    │ 3: Delete "rec_mod"                                      │
    │ Delete "rec_mod" SUCCESSFUL                              │
    │ 4: Delete "eng_mod"                                      │
    │ Delete "eng_mod" SUCCESSFUL                              │
    │ 5: Download "C:\Documents and Settings\Peter Burton\Desktop\pvifiles\engmod2.BR", "RC│
    │ Download "C:\Documents and Settings\Peter Burton\Desktop\pvifiles\engmod2.BR", "ROM│
    │ 6: Download "C:\Documents and Settings\Peter Burton\Desktop\pvifiles\recmod2.BR", "RO│
    │ Download "C:\Documents and Settings\Peter Burton\Desktop\pvifiles\recmod2.BR", "ROM"│
    │ 7: @END@ ""                                              │
    │ PROCESS FINISHED (SUCCESS): 06-07-2006, 13:56:12         │
    │ ◄                              ▥                       ► │
    └──────────────────────────────────────────────────────────┘

                        [    Close    ]
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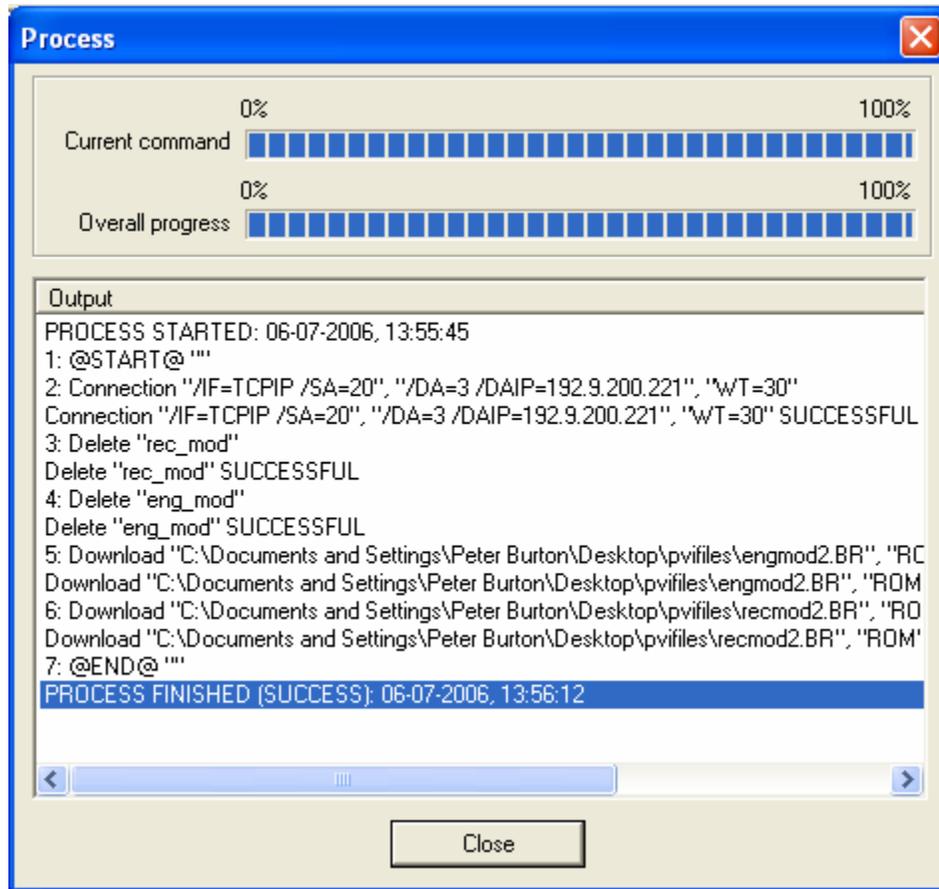
If the message window indicates that the operation was successful then the recipes and engineering dtaa saave dfrom the previous card upload will have been saved to the new system which will then execute a cold reset which clears all remaining memory and restarts with the old recipe and engineering data ready to be used.

In the event of a failure it would be worth re-trying the command. If the module delete commands executed successfully which can be seen from the message window then remove the delete commands from the command list before re-executing as a failed delete will halt the process. Highlight the command by clicking on it and press the delete key to delete.