



iVS SOFTWARE PANEL USER'S GUIDE

# *iVS* SOFTWARE PANEL USER'S GUIDE



**Intelligent High Power** 

Prepared by:

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1-88

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# **1 REVISION LEVEL**

# **1.1 REVISION HISTORY**

ISSUE	CRN # DATE	REVISION DESCRIPTION	AUTHOR	APPROVED
01		Initial Release.	Wedner A. Palad	Michael Tumabcao
		Revise Use's manual from iMP User's manual rev 7		
02		Add Sync Function for IVS Case setup	Wedner A. Palad	Michael Tumabcao
		Add New set RPM settings		
		Input parameter set for Single Phase and Three Phase Setting		
		Sync Calibration Function		
03		Add Set Predefined settings using Voltage and Current command.	Wedner A. Palad	Michael Tumabcao
		Modify Parallel Code Setup for IVS		
		Use Output Table for Predefined set reference.		
		Shutdown Mode Function Included		
		Add Fan Speed Override and Frequency Function		
		Correction on Switching Frequency range from 40kHz – 440kHz to 400kHz to 600kHz		
		Correction on View Upper Part to View Upper Slot Button		
		Correction on View Lower Part to View Lower Slot Button		
04		Add 36W Module in the configuration of the GUI.	Wedner A. Palad	Michael Tumabcao
		Add Wireless Communication as added feature (via RS232).		
		Add Data Logging for IVS Parameter then save to file.		
		Update All setting related to 36W module.		

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		Replacing Brand Name for GUI and User's Manual.			
05	20082406	New Bootloader for PIC18F4520	Wedner A. Palad	Melanio Sindayen	Danilo
		Add New Function for Auto Switch Back for Output Index			
		Update on Auto PSU Configuration sequence [Module 1 <sup>st</sup> before Case Update].			
		Support 3phase IVS Power Supply [IVS6, IVS8, IVS8H]			
06	20082008	Add FRU Writer	Wedner A. Palad	Melanio Sindayen	Danilo
		Add New Function for CC Mode and voltage adjust feature for 1500W Module			
		Disable inhibit function for V2 of 144W module			
		36W Module already working in this version			
07	20082910	Add more retries during GUI launch for IVS CASE Bootloader Mode Detection.	Wedner A. Palad	Melanio Sindayen	Danilo
		Add New Feature for Check GUI Update on website			
		Update on GUI Hanging Problem			
		Removing on User's Manual the FAN Voltage and Fan Override Description			
08	20080412	Add Reference file for Module Look- Up table.	Wedner A. Palad	Melanio Sindayen	Danilo
		Add Check GUI Update function			
09	20092604	Include High Speed adapter in the Option.	Wedner A. Palad	Melanio Sindayen	Danilo
		Implement Support for 3phase IVS Case Model and Multiple output modules.			
		Support Back up Memory reference for Update			



10	20121408	Update in Auto switch Back for Multiple Output.	Wedner A. Palad	Kenneth Enrile
		Support Window 7 32 Bit Operating System		
		Support Hi speed Usb to I2C Adapters		
11	20141408	Updated Adapter	Wedner A. Palad	Kenneth Enrile
		Support for 73-558-0005i and 73-558-0006i		
12	20161130	Add Save PSU Update Report	Wedner A. Palad	Kenneth Enrile



# **1.2 REVISION HISTORY**

REV	DATE	SOFTWARE DESCRIPTION	S/W REV.	REMARKS
01	23 March 2007	iVS Software Panel User's Guide	1.1.4	Initial Release.
02	17 May 2007	iVS Software Panel User's Guide	1.1.5	Customer Beta Release
03	28 Aug. 2007	iVS Software Panel User's Guide	1.1.9	Customer 1 <sup>st</sup> Release
04	22 Nov. 2007	iVS Software Panel User's Guide	1.2.0	Customer 2 <sup>nd</sup> Release
05	24 June 2008	iVS Software Panel User's Guide	2.00.00	Customer Release New Version
06	20 Aug 2008	iVS Software Panel User's Guide	2.00.04	Customer Beta Release New Version
07	29 October 2008	iVS Software Panel User's Guide	2.00.05	Customer Beta Release New Version
08	04 December 2008	iVS Software Panel User's Guide	2.00.07	Customer Beta Release New Version
09	26 March 2009	iVS Software Panel User's Guide	2.00.13	Customer Beta Release New Version
10	14 August 2012	iVS Software Panel User's Guide	2.03.00	Customer Release Version
11	14 August 2014	iVS Software Panel User's Guide	2.03.15	Customer Beta Release New Version
12	30 November 2016	iVS Software Panel User's Guide	2.03.32	Customer Beta Release New Version

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# **1.3 DESIGN AUTHORITY:**

**SOFTWARE GROUP** ARTESYN EMBEDDED TECHNOLOGIES EMBEDDED POWER

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## **3 GENERAL INFORMATION**

This GUI Software is designed to make PSU (iVS Power Supply Unit) accessible to the user. It is intended to provide information gathered from the PSU and interactive controls to the basic capabilities of iVS Power supply. The iVS Software must be installed to PC before the user can make use all of the function of this program. This program also support Single-phase and Three-phase power supplies series. Please refer to the system requirement before starting the installation.

## **3.1 SYSTEM REQUIREMENT:**

Before you can install iVS software to your Computer or Laptop, make sure to meet at least the minimum requirement.

- 1. PC or Laptop: Pentium TM (1GHz or higher).
- 2. 100 MB HDD space
- 3. With 512MB minimum memory
- 4. OS: Win2000, Win XP, VISTA
- 5. CD-ROM for Software Installation (Optional), you need LAN card if you don't have CD-ROM
- 6. Communication Interface: iVS/iMP USB to I2C adapter or USB to I2C Adapter from USB to I2C Tools (must be purchase separately).
- 7. USB port.



## 4 iVS GUI (Graphical User Interface) SOFTWARE INSTALLATION

Note: Make sure that other applications are closed before starting the installation.

# 4.1 GUI Installation

1. Insert the installation CD and wait for iVS Software Panel Installer to pop up. To start install program select "Install IVS GUI".



Figure 4-1 iVS Software Panel Installer. Select "Install IVS GUI" to start IVS Software Installation.



2. A pop up window will appear to your screen (see figure below). Click "Next" to proceed.



Figure 4-2 This is the first popup window that will appear to screen after "Install IVS GUI" has been selected.

- 3. You can also select a folder where the application will be installed by clicking "Browse"
- 4. If you want to install iVS program to default folder, just click "Next" to proceed.

IVS Software Panel	
Destination Directory Select the primary installation directory.	
All software will be installed in the following location(s). To install software into a different location(s), click the Browse button and select another directory.	
Directory for IVS Software Panel	
C:\Program Files (x86)\IVS Software Panel\	Browse
Directory for National Instruments products	
C:\Program Files (x86)\National Instruments\	Browse
<< Back Next >	>> <u>C</u> ancel

**Figure 4-3** This window has an option to install iVS program to other directory. Click "Browse" to select location to install program. If you want installation to be installed in the default directory, click "Next" to continue installation.

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5. You must accept the ASTEC iVS Software Panel License Agreement before you can proceed installation. Make sure that you read the license and terms condition before accepting the license agreement then click "Next".

License Agree You must acce	ement ept the license(s) displa	yed below to proceed.		
ASTI	C iVS™ SOFTW	VARE PANEL LIC	ENSE AGREEN	AENT
This iVS™ Software Pa	nel License Agreemen	t ("Agreement") is a legal	agreement between y	ou and your
company (collectively "L	icensee") and Astec A	America, Inc., a Delaware,	United States of Ame	erica,
corporation, ("Astec").	Astec's NS™ Softwar	e Panel, including enhance	ements, upgrades, an	d any future
eleases is made availal	ble exclusively for use	with Astec NS™ produc	ts ("Products"). The f	oregoing,
ncluding any accompan	ying program(s), docu	mentation, images, animat	ion, and text incorpor	ated therein,
collectively "Software"	), is provided solely for	r commercial and industria	I use under the licens	e terms
pecified herein. READ	THESE TERMS AND CO	ONDITIONS CAREFULLY B	EFORE ATTEMPTING	то
OWNLOAD, INSTALL,	OR USE THE SOFTWA	RE. BY DOWNLOADING, I	NSTALLING, OR USIN	IG THE
		laccent th	e License Ågreement	
		l do pot ar	cent the License Agr	; eement
			roops are croomse Agr	Porting R.
		// Back	Nevt	Cancel

Figure 4-4 This window is for ASTEC iVS Software Panel License Agreement.

6. You must accept the National Instrument Software License Agreement before you can proceed installation. Make sure that you read the license and terms condition before accepting the license agreement then click "Next".

VS Software Panel	- • •
License Agreement You must accept the license(s) displayed below to proceed.	
NATIONAL INSTRUMENTS SOFTWARE LICENS	E AGREEMENT
INSTALLATION NOTICE: THIS IS A CONTRACT. BEFORE YOU DOWNLOAD AND/OR COMPLETE THE INSTALLATION PROCESS, CAREFULLY READ T DOWNLOADING THE SOFTWARE AND/OR CLICKING THE APPLICABLE B COMPLETE THE INSTALLATION PROCESS, YOU CONSENT TO THE TERI AGREEMENT AND YOU AGREE TO BE BOUND BY THIS AGREEMENT. IF Y BECOME A PARTY TO THIS AGREEMENT AND BE BOUND BY ALL OF ITS T CONDITIONS, CLICK THE APPROPRIATE BUTTON TO CANCEL THE INST DO NOT INSTALL OR USE THE SOFTWARE, AND RETURN THE SOFTWAR (30) DAYS OF RECEIPT OF THE SOFTWARE (WITH ALL ACCOMPANYING V ALONG WITH THEIR CONTAINERS) TO THE PLACE YOU OBTAINED THEN SHALL BE SUBJECT TO NI'S THEN CURRENT RETURN POLICY.	D THE SOFTWARE THIS AGREEMENT. BY UTTON TO MS OF THIS OU DO NOT WISH TO TERMS AND ALLATION PROCESS, RE WITHIN THIRTY WRITTEN MATERIALS, M. ALL RETURNS
<ul> <li>I accept the License /</li> <li>I do not accept the Li</li> </ul>	Agreement. cense Agreement.
< Cack Net Control	xt>> Cancel

Figure 4-5 This window is for National Instrument Software License Agreement.



7. Click "Next" to proceed installation.

👽 IVS Software Panel 💿 💿	<b>—</b>
Start Installation Review the following summary before continuing.	
Adding or Changing • IVS Software Panel Files	
, Click the Next button to begin installation. Click the Back button to change the installation settings.	
Save File) << Back Next >> Cancel	

Figure 4-6 This is the installation summary for software to be installed.

8. Wait until the installation is complete.

Overall Progress: 23% Complete	
Overall Progress: 23% Complete	
Overall Progress: 23% Complete	
Overall Progress: 23% Complete	
<< Back Next >> Cancel	
<< Back Next>> Cancel	
<< Back Next>> Cancel	_
<< Back Next>> Cancel	
<< Back Next>> Cancel	
<< Back Next>>> Cancel	
<< Back Next>>> Cancel	
<pre>&lt;&lt; Back Next &gt;&gt; Cancel</pre>	
	;el

Figure 4-7 Some files are to be copied and place to the directory being set. Please wait for the installation to complete before you can make use all the features of the iVS software including some NI Software Drivers.



9. Click "Finish" to exit from the pop up window and begin using iVS program.

VS Software Panel	
Installation Complete	
EADME file	
VS GUI Version 2.00.00	
opyright 2008-2010	
11 Rights Reserved	
anuary 03, 2011	
VS GUI will run properly if USBtoI2Cpro driver are prop nstalled together with iVS Software GUI.	erly
ere are some steps to follow for Installation.	
tep 1: Install IVS Software GUI. nstaller for GUI will automatically run when CD is inse ncludes auto run program.	rted. It
<< Back Next>>	<u> </u>

Figure 4-8 Once iVS installation becomes successful then clicked "Finish" to use the program.

10. Install USB-to-I2C Drivers after iVS Installation completed. Once USB-to-I2C installation completed, you can now use the iVS Software Panel.



## 4.2 USB Adapter Installation

IVS GUI will not work without this USB adapter driver. This GUI uses three different drivers and must be installed before it will work. Two of these drivers are already been install together with IVS GUI Installation package. The last USB adapter came from third party vendor serves as another option for USB port communication.

The GUI use this third party USB driver as reserved driver for iVS case communication. This driver must be installed also.

Hardware for this driver must be purchase separately (visit: www.I2Ctools.com)

Here are some quick steps for USB adapter driver installation:

- 1. To Start USB driver Installation click "Install USB to I2C Drivers".
- 2. A Welcome pop up window will appear, click "Next" to proceed installation.



Figure 4-9 This is the first popup window that will appear to screen after "Install USB to I2C Drivers" has been selected.



3. An agreement window will appear, select "I accept..." then click next to start installation



Figure 4-10 The user must select I accept option before installation will proceed.

4. Click "Next" to install this driver into default directory.

License Agreement Please read the following license agreem	nent carefully.	<b>.</b>	->•	
Please read this agreement can Program. SB Solutions, Inc. 5 you if you first accept the te installing the Program. If you agreement, promptly notify the 1. License. This Program is licensed and r Title to the Program does not other than those granted You u Agreement. The term "Program" revision, enhancements, update	refully befor will only lic erms of this 1 do Not agre a provider of not sold. pass to You. under this Pr " means the c as, or the li	e installing eense the Prog agreement by e to the term : the Program. You obtain n cogram License vriginal (incl ke) and all w	the ram to s of this o rights uding any hole or	4 III >
I accept the terms in the license agreeme I go not accept the terms in the license a stallShield	ent agreement		Print	
ISCAILOT IICIU	< Back	Next >	Cancel	

Figure 4-11 It is better to install this driver to default location, just click "Next".

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5. Wait until installation been completed.

늻 USB-to-I2	2C Professional for Win32 - InstallShield Wizard
Installing The prog	USB-to-I2C Professional for Win32 ram features you selected are being installed.
12	Please wait while the Installation Wizard installs USB-to-I2C Professional for Win32. This may take several minutes.
	Status:
	Validating install
instalishield –	
	< paox Next > Cancel

Figure 4-12 Installation will take only few seconds, wait until installation completed.

6. Click "Finish" to exit from the pop up window and begin using iVS program.

😸 USB-to-12C Professio	😾 USB-to-I2C Professional for Win32 - InstallShield Wizard				
izctools.com	InstallShield Wizard Completed				
USB-to-I2C Installation	The Wizard has successfully installed USB-to-I2C Professional for Win32. Click Finish to exit the wizard.				
	< Back Einish Cancel				



Now those installations already complete, you can now start using IVS GUI.

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## **5 GETTING STARTED**

#### **GENERAL SETUP**

To provide proper communication between the GUI software and power supply, both case and the modules must be loaded with correct firmware version compatible with the GUI.

#### FIRMWARE COMPATIBILITY

- 1. iVS PMBus Protocol
- 2. Case Firmware Version: Primary v2.01 / Secondary v1.06 or latest
- 3. Module Firmware: v2.14 or latest for 210W, 360W, 750W
  - : v1.51 or latest for 1500W
    - : v3.18-01 or latest for 144W

#### HARDWARE SETUP

- 1. Plug Standard USB adapter to your PC using compatible USB cable.
- 2. Wait until you PC detect it as new Hardware (It only happens when first time use in USB port).
- 3. If USB adapter is detected by your PC, plug the connecting cable from USB adapter to I2C port of the PSU Case.

Note: Make sure that the iVS Power Supply already power up to have proper communication with iVS's GUI Software.



## 5.1 LAUNCH iVS SOFTWARE PANEL PROGRAM

To start using the iVS GUI Software Panel, go to "Start" menu, select "Programs" then select the "iVS Software Panel 2.03.00".



Figure 5-0 Click the iVS Soft Panel Rev 2.03.00 or above version of executable file to launch the program.

## 5.2 SOFTWARE PANEL INITIALIZATION

Once the program has been launched, iVS GUI software will run through initialization process for Panel and USB adapter detection. Panel below is the updated version of the iVS GUI. (See *figure below*).



Figure 5.1 This is the first window that will be displayed once the program is executed.



## 5.3 GUI MAIN WINDOW

If the iVS Software detect the iVS device it will be display as "**iVS Device in Normal Mode**" with green background. You will have initial reading once communication became successful upon launching the software.

The initial readings to be displayed are the following:

- 1. iVS Case
- 2. Model Part Number
- 3. Primary SW Version
- 4. Secondary SW Version
- 5. Mod (Modification number for Primary Version)
- 6. Mod (Modification number for Secondary Version)
- 7. Adapter FW Version



**Figure 5-2** This is the main window for iVS program. If communication is successful after initialization, all necessary information will be displayed.

The default setup for iVS GUI is "USB iVS I2C Port" using "PMBus Mode".

Note: If you got error upon launching the program, proceed to the troubleshooting guide of this manual to provide you proper solution on this matter.

Once the device is detected, you can continue using the GUI with the default setup. At SIMULATION Mode iVS Case and Model Part Number can be change for Setup (See Section 7).



### 5.3.1 CONTINUOUS READING

Set this button to ON to set the iVS software in real time operation. This means that it will give you continuous reading and update upon using this program.





Once this function is set to ON, the prompt of "Communication Disabled" at the bottom of the window will change to "Communication On-going", and Online (green) LED lights ON and a progress pop up window will appear to your screen.

Wait until the upload process complete then windows will automatically change to Monitoring Panel.

VS	Module Configuration Data
Uploading (	Configuration Data Epots value

Figure 5-4 Wait until uploading of module information from smart module attached to case slot is complete.

#### 5.3.2 SETUP CONFIGURATION

Click "SETUP CONFIGURATION" to enter in the iVS Monitoring Panel.



Figure 5-5 Press this button to proceed to iVS Monitoring Panel.



## 5.4 MONITORING PANEL

This panel represents the whole iVS power supply. This window will only appear after Upload Module configuration completed.

It contains information provided by the PSU. This monitoring panel consists of the following sub panels:

- 1. Input Readings (Dependent on Case Model for Single and Three Phase Power Supply)
- 2. PSU Case Status
- 3. Module Status

See figure below.







#### DESCRIPTION AND PRIORITY FOR MONITORING PANEL

Some information being showed on this panel serves as indicator and other serves as control to change PSU conditions and status. The following only serve as indicator that shows the information gathered from the PSU.

Note: Readings for monitoring panel depends on the polling rate settings. Refer to iVS Settings to change the polling rate.

#### 5.4.1 DISPLAY INFORMATION FROM MONITORING PANEL

#### 5.4.1.1 Input Readings

This sub panel shows the recently captured readings from primary circuit of the PSU. Description of this panel changes every time a different PSU type is detected. It changes display for Single-Phase Power supply to Three Phase Power Supply.





- *Input Voltage* (Return input AC RMS Voltage of the PSU)
- Input Current (Return input current of the PSU)
- *Input Power* (Return computed input power of the PSU)
- *Primary Temp*(Return Temperature of the PSU Primary Side)

#### 5.4.1.2 Case Ambient Temperature and FAN Speed

This sub panel displays fan speed and case temperature readings from PSU. Display varies depending on case model. For IVS1 and IVS6, it has only has single Fan Display. And there are Two Fan display for IVS3, IVS8 and IVS8H.

	FAN 1	O RPM
1	FAN 2	0 RPM
1	CASE TEMP	0 ℃

Figure 5-8 Sub panel for PSU Case Status.

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	-					



- FAN 1 (Speed Reading in FAN1)
- FAN 2 (Speed Reading in FAN2)
- *CASE* Temp (PSU Temperature reading)

#### 5.4.1.3 Total Output Power

It displays the total power of all smart modules connected to case.

Total Pout:	2.29 W
•	



#### 5.4.1.4 PSU Status Flag

It indicates the PSU Condition while it running.



**Figure 5-10** It displays the condition of the PSU.

- *FAN OK* (Green LED if Good condition, off if Fault Condition)
- **TEMP OK** (Green LED if Good condition, off if Fault Condition)
- AC OK (Green LED if Good condition, Red if Fault Condition)
- DC OK (Green LED if Good condition, Red if Fault Condition)

#### 5.4.1.5 Module Monitoring

This sub panel shows the output characteristics of the module attached on the case slots. It displays the voltage, current, and power output as well as the fault condition of every module. When the module is not detected on the slot, then module panel will display empty slot.



**Figure 5-11** This sub panel represents the whole module conditions and status. It only serves, as display and not controls.

- *Vout*  $\rightarrow$  Shows module output voltage.
- *Iout*  $\rightarrow$  Shows module output current.
- *Pout*  $\rightarrow$  Shows module computed output power.
- **PSON**  $\rightarrow$  PS Turn ON/OFF Flag (Green LED lights ON if Good condition).
- $DCOK \rightarrow DC \text{ OK Flag}$  (Green LED lights ON if Good condition ).
- $UVP \rightarrow$  Under Voltage Protection (Red LED lights ON if Fault condition).
- $OCP \rightarrow$  Over Current Protection (Red LED lights ON if Fault condition).



- $OTP \rightarrow$  Over Temperature Protection (Red LED lights ON if Fault condition).
- $OVP \rightarrow Over Voltage Protection (Red LED lights ON if Fault condition).$
- $OTW \rightarrow Over Temp Warning (Red LED lights ON if Fault condition).$
- $UVP \rightarrow$  Under Voltage Protection (Red LED lights ON if Fault condition).
- *Temp*  $\rightarrow$  Shows module temperature reading.
- *SW Version*  $\rightarrow$  Shows Module current version and the Firmware Branch.

#### 5.4.1.6 Module Information Monitoring

This shows the current operating condition of the module attached to the case slot.

VSet
20.0¥
Mod Type
360W/15V

Figure 5-12 It only serves as display for Voltage range and Power rating for the corresponding module.

- **VSet**  $\rightarrow$  Display Current Voltage Setting of the Module
- Mod Type  $\rightarrow$  Power rating and Voltage Range of the module

#### 5.4.2 CONTROL INFORMATION FROM MONITORING PANEL

#### 5.4.2.1 FAN SPEED OVERRIDE

This will set the FAN override flag in the PSU Configuration Register and it contains the Minimum Fan speed (in RPM) that the unit will operate on. This Override works in conjunction with the temperature-based fan control as well as the load base control. Whichever requires the higher fan speed will control the fan.



Figure 5-13 This is used to adjust the speed of the PSU FAN.

#### 5.4.2.2 PSU Status

This is used to Turn ON and OFF the iVS PSU.



Figure 5-14 This control serve as control to activate the Global Inhibit of the PSU.

#### 5.4.2.3 Address

This function was commonly use in redundancy test. The users change the address to corresponding MCU address of the PSU connected.

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Figure 5-15 This function is commonly use in redundancy test only.

#### 5.4.2.4 Module Output Index

This is use to read the second output of the Dual Output module. The monitoring panel will show only the modules, which are categorized as dual output. Single output display will be visible only when V1 is selected.



**Figure 5-16** It is use to display the corresponding output. If no multiple output modules are detected then this function is disabled.

#### 5.4.2.5 Configure and Remove Panel

This is used to proceed in the Module configuration window. Remove button is used to hide the module display from the panel and disabling the module from the PSU configuration. It also include inhibit button to disable module output.



**Figure 5-17** To configure Module, click "CONFIGURE" button else if you want to remove the Module from display screen click "REMOVE" button.

#### 5.4.2.6 Change CASE Setup Button

This will direct you to the next window for PSU case configuration. Function of this button is almost the same on "CONFIGURE" buttons in configure and remove panel.



Figure 5-18 This button is used to show the configuration panel window for PSU Case.

Note: For "CONFIGURE" button, the configuration window that will appear to your screen will be two items, one for PSU Case configuration and the other item were for module configuration. For "CHANGE CASE SETUP" button, only the PSU configuration window can be view from the screen. Proceed to the next item for iVS Configuration window.



## 5.4.2.7 View Case Part

#### 5.4.2.7.1 View Lower Slot

This is use to change the Monitoring panel view from Upper Part of the Case to Lower Part of Case Panel.

Note: For IVS1 and IVS6: Module views are from Slot location 1 to 5. For IVS 3, IVS8, and IVS8H: Module views are from Slot Location 1 to 8.

View Lower Slot



#### 5.4.2.7.2 View Upper Slot

This is use to change the Monitoring Panel view from Lower Part of the Case to Upper Part of Case Panel.

Note: For IVS1 and IVS6: Module views are from Slot location 6 to 9. For IVS3: Module views are from Slot Location 9 to 15. ForIVS8 and IVS8H: Module views are from Slot Location 9 to 14.

View Upper Slot



#### 5.4.2.8 Refresh Monitor

This is use to Reinitialized detection of the PSU. This will read all the current configuration of the PSU then display it monitoring Panel. Function of this button is almost the same function of the Continuous Reading button (see Section 5.3.1).



Figure 5-21 It will update the monitoring screen with module display and information data gathered from the PSU.



## 5.5 CONFIGURATION PANEL

This panel is used for iVS case and module configuration. There are two ways to go through this panel. These are the following:

- 1. Click "Change CASE Setup" button
- 2. Click "Configure" Button in the Module Monitoring display.

## 5.5.1 PSU CASE CONFIGURATION PANEL



Figure 5-22 This is used to configure PSU Case. This screen will be display after "CHANGE CASE SETUP" button was clicked. To return to the preview window, click "BACK TO MONITOR" button.

#### **Description and Priority for Module Configuration Panel**

PSU Configuration is used to set the OTP Limit of the PSU and some configuration of the PSU such as the following:

1. *OTP Settings* → this is used to set the Over Temperature Limit of the Case. Press Update Case OTP to include new setting to EEPROM. (Note: Need Log-in name and password to update case OTP.)

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- 2. *NO FAN OPTION* → if this flag is set, FAN Fault detection for the PSU is disabled (useful for the PSU without fans).
- 3. *FAN OFF at STBY*  $\rightarrow$  at standby, fans operates at quite mode by default. If this flag is set, the fans will be turned off at standby mode.
- 4. *FAN Direction* → Fan speed is based on the hottest temperature reading and reaches the maximum speed at 50 degrees Celsius. If reverse direction is set, reverse fan airflow is assumed and fan speed reaches the maximum speed at 40 degrees Celsius.

#### 5. GLOBAL INHIBIT Logic

- INHIBIT (INH0/INH1)  $\rightarrow$  if this flag is set PSU Control signal is set to High.
- ENABLE (EN0/EN1)  $\rightarrow$  if this flag is set PSU control signal is set to Low.

#### 6. INHIBIT CONTROL

- *Enable all* → if this flag is set, PSU status will be functional. It means that the PSU can be enabled or disabled through the use of PSU Status button (see function in the Monitoring Panel section). SW Control and HW Control can be also enabled and disabled if this flag is set.
- *SW Control* (Software Inhibit)  $\rightarrow$  if this flag is set, Inhibit through software will be available.
- *HW Control* (Hardware Inhibit)  $\rightarrow$  if this flag is set, Inhibit through switch or hardware will be available.

#### 7. View Ordering Code button

It only works in simulation mode (see Section 7.3).

#### 8. Frequency

This command is used to set the switching frequency of the device to a specific value. Frequency ranges from 400kHz to 600Khz only.

#### 9. Save Case Configuration

This is use to store all contents of the Operating Memory in User Configuration Memory Location of the IVS Case. It is use to stored PSU configuration to its Permanent Memory. Once Power Supply power been recycled, it will use its stored configuration setup.

SAVE CONFIGURATION

Figure 5-23 Use to Store configuration into IVS Case.

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Sync Duty - this is use to control the duty of a PWM signal which is use to determine Sync Frequency.

**Sync Frequency** – this is the value of sync frequency being read and need to be loaded to complete a calibration point.

10. View iVS Faults button

This is used to view the PSU faults (applicable on PSU with PMBus version only).



**Figure 5-24** This window is used to see the current configuration of the PSU and the faults given by the PSU and output modules. Faults being display in the windows are errors and fault conditions happen before. This window serves as history of fault for the iVS while the PSU is ON.

Click "CLEAR FAULT" button to clear the fault flags set in PM bus Status byte, Case Fault Byte, and on Module Communication Error.

#### 11. View Switch Back Status button

This feature was use for changing the automatic switch back delay of output index dictated by the case to V1 from any state of V2 and V3. It will only applicable on Case with multiple output of module attached on it (144W and 36W). It also supports case with firmware version of 2.19 and above.



Figure 5-25 Use to view Switchback Status window.

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11.1Auto Switch Back Panel – this panel consist of Auto Switch Back enabling and the delay. You can set the setting you desired by pressing the set button then return to monitoring panel. Change the output index from V1 to V2 and wait till V2 return to V1 again.

i	Auto Switch Back 📃 🗖 🔀	3
	Auto Switch Back 🗹 ENABLED	
	Switch Back Delay: 👌 30 Sec	
	SET CANCEL	

Figure 5-26 This is the Switchback Status window



## 5.5.2 MODULE CONFIGURATION PANEL

To be able to adjust voltage setting and current limit of the module, the user must configure the smart module. Smart module limit can be also set in this panel. Make sure to follow instruction to configure module correctly.

Also refer to PSU Configuration.



**Figure 5-27** This window is used mainly for Module configuration. The user can set new output voltage and current rating for the smart module. Other limits such as OVP, UVP, OTP limit, and Turn-ON delay can be set in this window. The user can also change OCP Mode and Control Signal.

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#### **Description and Priority for Module Configuration Panel**

Below are the description of each display and controls for Module configuration.

#### 5.5.2.1 Module Information

It displays Voltage range and Power rating of the current module being configured.

ivs module information							
	Max Power: 1500 W 🗸						
	Vrange:	12 V	$\nabla$				
	Slot Number:	Slot 9	$\nabla$				

- **Figure 5-28** This window is used as reference for module being configure. It also sometimes serves as control if the user wants to go on the other slot location. By selecting slot number, module configuration will automatically update the panel to corresponding module.
  - Max Power → it serves as display for Power rating of current smart module attached to the PSU case slot. This function becomes a control for non-smart module setup only.
  - Vrange → this serve as display for Power rating of current module attached to the PSU case slot.
  - Slot Number → the user can use this function to get through on other module configuration with exiting the configuration window.

#### 5.5.2.2 Preset and Firmware Version Display Panel

Model Number:	73-552-0015i				
Load Settings:	Select Settings	$\nabla$	SET		
Mod FW Version:	3.15.0	V1	$\nabla$		

- **Figure 5-29** It Display current Module location and the firmware version of the module attached to PSU case. Load settings only serve as preset value of the module.
  - *Module Number* → Display the part number of the module
  - *Module Version*  $\rightarrow$  Firmware version of the module being configured.
  - Load Settings → this is the Pre-defined setting being stored inside the smart module. It will set the calibrated value of voltage and current setting (Factory Default).
    - Module Output Index  $\rightarrow$  this is use to change the current display of the Multiple output module. If V1 is selected then the module will read and display settings of the first output. If V2 is selected then it will read and display setting of the second output. If module is a single module output then this function is disabled.

Click "SET" to load the pre-defined value inside the smart module.

#### 5.5.2.3 Module Monitoring

Refer to Section 5.4.1.4.

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#### 5.5.2.4 iVS Module Readings

This is the uploaded data setting from the smart module. Data display in this panel was extracted from the smart module when "Continuous Reading" switch was set to ON. It is also updated after "Refresh Monitor" button was set.

Module readings also get updated every time the user set new value and limits in Module settings.

Voltage Set:	12.00	۷
Curr Rating:	140.00	A
OVP Limit:	115	%
UVP Limit:	85	%
OTP Limit:	85	°C
Ton Delay:	0	ms

**Figure 5-30** It Display current Module configuration of the module attached to the PSU case slot. It updates every time the user set new limit to the module. This is the reading coming from stored data inside the smart module.

These values are only readings of the configured module and only used as reference, if the data being set in the module settings are being stored inside the module EEPROM after it is being set.

## 5.5.2.5 iVS Module Settings

This sub panel is used to configure module settings and fault limits. The user can initially put value but it will only be set after "SET" button was pressed.

To check if the value is being set to the module is accepted, see iVS Module Readings for the updated value.

Some values that the user that will be inputted will be restricted dependent on the current voltage and power rating of the module being configured. Make sure to input values that are within the desired limits of module. Refer to module specification for output load limit value.

		-
Voltage and Curren	t Settings	7
Output Voltage: 🌖	12.00 V	SET
Current Rating:	140.00 A	SET
SET NEW MODULE LIMITS		
New OVP Limit: 🌖	115 %	
New UVP Limit:	85 %	SET
New OTP Limit: 🌖	85 ℃	
New Tex Delaw	0 mc	

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**Figure 5-31** This is used to configure the module. By means of inputting new limit and updating it by "Set" command button, value will be stored inside the module and will be used as the default setting.

#### 5.5.2.5.1 Output Voltage

This is the value to be input in module as new voltage setting.

Click "**SET**" to update the voltage of the output module.

Voltage Range	Adjustment Ranges (V)		
5V	1.8 - 6.1		
12V	5.4 -13.2		
15V	12.6 - 22.0		
24V	21.6 - 39.6		
48V	37.8 - 60.0		

#### 5.5.2.5.2 Current Rating

This is the value to be input in module as new current setting. Need actual external load connected to the output module to be configured – for re-calibration.

Click "SET" to set new maximum current of the output module.

Current Rating Limitation Table						
Voltage	Voltage Range	210Watts	360Watts	750Watts	144Watts	
					V1	V2
2.00 V	1.8 - 2.09	35.00A	60.00A	150.00A		10.00A
2.20 V	2.10 - 2.59	35.00A	60.00A	150.00A		10.00A
3.00 V	2.6 - 3.14	35.00A	60.00A	150.00A		10.00A
3.30 V	3.15 - 4.14	35.00A	60.00A	150.00A		10.00A
5.00 V	4.15 - 5.09	35.00A	60.00A	150.00A	10.00A	10.00A
5.20 V	5.10 - 5.34	35.00A	60.00A	144.00A		10.00A
5.50 V	5.35 - 6.10	34.00A	58.00A	137.00A		10.00A
6.00 V	5.40 - 6.99	23.00A	42.00A	97.50A	10.00A	10.00A
8.00 V	7.0 - 8.99	20.00A	36.00A	84.37A	10.00A	4.00A
10.00 V	9.0 -10.49	18.00A	32.00A	75.00A	10.00A	4.00A
11.00 V	10.5 - 11.49	17.00A	31.00A	68.00A	10.00A	4.00A
12.00 V	11.5 - 13.2	17.00A	30.00A	62.50A	10.00A	4.00A
14.00 V	12.6 - 14.49	14.00A	21.00A	53.5A	9.00A	4.00A
15.00 V	14.5 - 16.49	14.00A	20.00A	50.00A	8.00A	4.00A
18.00 V	16.5 - 18.99	11.00A	19.00A	41.60A		
20.00 V	19.0 -22.0	10.50A	18.00A	37.50A		
24.00 V	21.6 - 25.99	8.50A	15.00A	30.00A	4.00A	2.00A
28.00 V	26.0 - 28.99	6.70A	11.00A	26.80A	3.00A	2.00A

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30.00 V	29.0 - 31.49	6.50A	11.00 A	25.00A	 
33.00 V	31.5 - 34.49	6.20A	10.90A	22.70A	 
36.00 V	34.5 - 39.6	5.80A	10.00A	20.80A	 
42.00 V	37.8 - 44.99	4.20A	7.50A	16.00A	 
48.00 V	45.0 - 50.99	4.00A	7.50A	15.60A	 
54.00 V	51.0 - 56.99	3.70A	6.00A	13.90A	 
60.00 V	57.0 - 60	3.50A	6.00A	12.50A	 

• 20% Load → Value for 20 percent loading of the output module. This value must be set after current rating value was set.

Click "SET" to set 20% loading of the maximum current of the output module.

Note: If New Current Rating value to be set is higher than the existing current rating, select from Load Settings (Pre-defined setting, refer to Section 5.5.2.2) with higher current rating. This will require recalibration using actual external load; then perform above procedures.

#### 5.5.2.5.3 New OVP Limit

This is the value to be input in module will be new Over Voltage Limit.

#### For Single Output

- GUI Range: 5V Range
- Actual Range: 2-5.5V
- OVP LIMIT: 122% to 134%.
- GUI Range: 12V Range
- Actual Range: 6-12V
- OVP LIMIT: 110% to 120%.
- GUI Range: 15V Range
- Actual Range: 14-20V
- OVP LIMIT: 110% to 120%.
- GUI Range: 24V Range
- Actual Range: 24-36V
- OVP LIMIT: 110% to 120%.
- GUI Range: 48V Range
- Actual Range: 42-60V
- OVP LIMIT: 110% to 120%.

#### **For Dual Output**

- GUI Range: 5V Range
- Actual Range: 2-6V
- OVP LIMIT: 122% to 134%.
- GUI Range: 12V Range
- Actual Range: 12-15V
- OVP LIMIT: 110% to 120%.
- GUI Range: 15V Range



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- Actual Range: Not Available.
- OVP LIMIT: Not Available.
- GUI Range: 24V Range
- Actual Range: 24-28V
- OVP LIMIT: 110% to 120%.
- GUI Range: 48V Range
- Actual Range: Not Available.
- OVP LIMIT: Not Available.

#### **For Triple Output**

- No OVP provided yet.

#### 5.5.2.5.4 New UVP Limit

This is the value to be input in module will be new Under Voltage Limit. Range: 0 - 96% Maximum.

#### 5.5.2.5.5 New OTP Limit

This is the value to be input in module will be new Over Temperature Limit. Range: 20°C to 90°C.

#### 5.5.2.5.6 New Ton Delay

This is the value to be input in module as new Turn-ON delay. Range: 0 mSec to 255 mSec.

Click "**SET**" to set new limits to the output module. To configure OVP, UVP, OTP limit, and Ton Delay there is only one command button available for all.

Update Module configuration pop up window will appear every time "**SET**" command button been accessed. Let the update configuration complete before attempting to do other task.



**Figure 5-32** Uploading pop up window always appear every time the "SET" button was pressed. It uploads the data from the module being configured.



## 5.5.2.6 OCP Mode and Control Signal Panel

This Panel contains Configuration flag that Control Module Operation such as OCP Mode and Control Signal.

OCP Mode	CONTROL SIGNAL
	MOD INHIBIT
	MOD ENABLE
SHUIDOWN	

**Figure 5-33** To is use to change Module Operation. This change will only take effect after PSU Power Cycling.

- OCP Mode → This will only be applicable for 210W/ 360W/ 750W Module with Version 3.xx and up . 1500W module already supported.
- Control Signal  $\rightarrow$  If Inhibit mode is set, Module output is disabled if the inhibit signal is high.
- Shutdown Mode → if this mode is enabled: Latched Shutdown at OCP, it overrides OCP Mode. If this mode is disabled, then OCP Mode function will be active.



## **6** SOFTWARE PANEL MENU FUNCTION

Additional program and iVS function can be viewed and use through the help of Menu function. This is the additional feature of the iVS Software Panel Program. Current setup of the PSU can be saved and uploaded through the use of "File Menu" option.

Other function such as "Display Current Setup", "Graphical Display", "FRU reader", and "Communication settings" are some added features for this program. It also has Context help menu to provide proper description of each display and function inside the Software Panel program.

Access security of this program is one of the added features also. It also provides security for some function that is not to be change and unsafe to be configured.

It also has the revision history being placed in the "Program Information".

## 6.1 File Menu of Option

This is the first function in the menu option for Software panel. In this function, you can load the previous setup being done and save the current setup of the PSU.

i iV	S Software Panel V2.03.00						
File	Tools Help						
Lo	Load Configuration						
Sa	Save Configuration						
Sa	Save As						
Ex	ät						

Figure 6-1 Click "File Menu" to view its function available for Software Panel.

1. Load Configuration  $\rightarrow$  these is used to upload previous setup being saved and then display to the Monitoring panel. Uploaded data are useful for new PSU unit to be configured.

Use this file as reference for setting up new PSU to be configured. This is the prerequisite of the "Update PSU Config" in Tools menu.

Make sure to follow procedure to accomplish complete loading without warning upon loading the file.



Figure 6-2 Click "Details" to see the warning information and instruction to remove warning.



Click "Details" to see the warning information and follow the instruction given. It will not allow the user to load file until correct file have been loaded.

Follow instruction correctly, this setup will be the reference for Updating PSU configuration. If warning always exist, you will not allowed to update you PSU using "Update PSU Config" in Tools menu.

#### **PROCEDURE:**

Place or Replace Module with the right Power Rating.

To replace/place a new Smart module Switch Off the Power Supply then place new SMART Module to Case Slot.

Switch ON the PSU then Clicked Refresh Monitor to detect new Smart Module being place on Case Slot then Load Configuration Again.

If no warning detecting, this means that your setup that PSU detected during initialization is the same to file to be configured (see Update PSU Config)

- 2. Close  $\rightarrow$  this is use to stop the iVS program execution then close it windows afterward.
- 3. Save Configuration  $\rightarrow$  this use for saving current setup of the PSU. It can also save the newly setup of PSU in simulation mode.
- 4. Save  $As \rightarrow$  same functions of save configuration, just need to make a new name of the file. Formats of file are text format.
- 5. *EXIT*  $\rightarrow$  use to close the program and closing all windows related to iVS software.



# 6.2 Tools Menu of Option

This is the function related to the iVS Software Panel operation. Some functions in this program are software related to the main operation and other are independent program which can be run alone. See more details in the following topic below.

i iV	S Software Panel V2.03.00									
File	Tools Help									
	Settings									
F	Graph Display									
	Read FRU									
	Display Current Setup									
	Update PSU Config									
	CaseBootloader									
	ModuleBootloader									
	Internal EEPROM Update									
	Data Logger									
	Configure 1500W Module									
	Configure 1500W Module									
	Data Logger									
	Internal EEPROM Update									
	ModuleBootloader									

Figure 6-3 Click "Tools Menu" then select function you want to perform.

#### 6.2.1 Settings

There are different firmware versions and format used in iVS PSU. To be able to make the iVS software program to communicate with those formats, the user must change the setting of the iVS software.

To go through the settings window, click on "Tools Menu" then select "Settings" to configure communication interface and select firmware format being used by the PSU.

This setup window is being used to change the Mode of I2C format, communication interface, address, and polling rate. Refer to description for further information.



C Device Setup	Mode Selection
MCU: 3E EEPROM: AE	<ul><li>SIMULATION</li><li>PMBUS MODE</li></ul>
<ul> <li>Philips Adapter</li> <li>73-769-001 USB Adapter</li> </ul>	PEC DISABLED
<ul> <li>73-769-002 USB Adapter</li> <li>73-769-003 USB Adapter</li> <li>Reserved</li> </ul>	Polling Rate 50 mse Frequency 100 KHz

**Figure 6-4** This is the communication setup window, the location where communication interface and firmware format option of the PSU must be selected. It also includes the addresses for microcontroller (MCU) and EEPROM address being used inside the iVS Power Supply. Look on the manufacturer manual to get the correct addresses of the MCU and EEPROM.

#### **Description and Priority for Device Hardware Setup**

Below are the descriptions of each function for Device Hardware Setup.

- 1. I2C Device Setup
  - 1.1  $MCU \rightarrow$  Microcontroller address of the PSU Case (Currently set to default: **3E**).
  - 1.2 *EEPROM*  $\rightarrow$  Storage address for PSU case (Currently set to default: AE).
- 2. Communication Interface
  - 2.1 *USB I2C Standard Port* → USB adapter made by other manufacturer. (Preferred: USB to I2C adapter by Philips)
  - 2.2 USB iVS I2C PORT → USB adapter to be use is the ASTEC USB to I2C adapter. (Default)
  - 2.3 *CAN*  $\rightarrow$  for future application (not yet available)
  - 2.4 *RS232*  $\rightarrow$  (not yet available)
- 3. Mode Selection
  - 3.1 **SIMULATION**  $\rightarrow$  use for manual configuration without the actual unit. If hardware is not detected (USB adapter) the program will automatically set to this mode.
  - 3.2 *PMbus Mode* → this is the currently standard firmware format use by the new release product of iVS Power Supply. This is the default setup for Mode selection. (Default)
- 4. *Timing Setup*  $\rightarrow$  this is the polling rate of the iVS Software panel. Time interval of each reading. (Default: 100ms).



## 6.2.2 Graphical Display

Data gathered from the monitoring panel is graphically being displayed in this window. It can be displayed simultaneous with the iVS Software Panel.

To display this window, click "Tools" then select "Graph Display".

Data being graph to this window are the real time reading from the PSU case and output module of iVS power supply.



**Figure 6-5** Value being displayed in this panel is the same as in the monitoring panel of the iVS Software. Data are being displayed in graphical form rather than in digital display.

For Fan Speed, display depends on the model of the IVS's Case being monitored. For IVS1 and IVS6, only one fan is being used and for other model (IVS3, IVS8, IVS8H) there are two fan speed data to be displayed.

For Output Voltage, Current, and Temperature graph, it will be graphed dependent on the numbers of the smart module detected by the iVS Software.

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In IVS Series, Module number also varies. Graph display only show up to maximum of 8 Module per window. For the user to be able to see the rest of the module graph date click "NEXT", then wait for window to change. See figure below for details.



Figure 6-6 Press next to proceed to next window for Graph Display Panel.



See figure below about next window upon press "NEXT" function.

**Figure 6-7** This is the graphical window for Module in slot location 9 to 15. Click Back to change window from slot location 1 to 8.



## 6.2.3 FRU Reader

To be able to view all the data being stored inside the PSU EEPROM, this window will display all the necessary information of the PSU. To display this window, click "Tools" then select "Read FRU".

EMBEDDED TECHNOLOGIES		
Common Header Area (Hex):	Multi Record area:	DC Output Record 1:
Format Version	Max Power	Output Type
Internal Use Area Offset	Peak Power	Nom Output Voltage
Chassis Info Area Offset	Inrush Current	Max Neg Voltage
Board Area Offset	Inrush Interval	Max Pos Voltage
ProductInfo Area	Input Voltage 1 Low	Ripple
Multi Record Area	Input Voltage 1 High	Min Current Draw
	Input Voltage 2 Low	Max Current Draw
	Input Voltage 2 High	
Product Information Area:	Input Frequency Low	DC Output Record 2:
Language	Input Frequency High	Output Type
Manufacturer	AC Dropout	Nom Output Voltage
Product Name	Peak Wattage	Max Neg Voltage
Product Part Numbe	Combined Wattage	Max Pos Voltage
Product Version	Fan Tacho Threshold	Ripple
Product Serial #		Min Current Draw
Asset Tag		Max Current Draw
FRU Revision		

Figure 6-8 This is the default value being set to the EEPROM of the PSU.

EMBEDDEDTE	CHNOLOGIE	8		l	V	3		FRO		U	DE	CC	D	ER			/		_	E	m	D	ea	a	ec	P	0	vv	E	R1
Operation	FRU INFORMA	TIO	N		_	_	HE	X D/	ATA		_		_	_	_								AS	CII						
OPEN	Hex Address	00	01	02	03	04	05	06	07.08	09	<b>0</b> A	0B	<b>0C</b>	0D	OE	OF	0	1	2	3	4	5	6 7	7 8	9	A	В	С	D	EF
	00	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
SAVE	01	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0 0	0 0
	02	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
	03	00	00	00	00	00	00	00	00 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 0	0	0	0	0	0	0 0
AE V	04	00	00	00	00	00	00	00	00 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
	05	00	00	00	00	00	00	00	00 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
Commands	06	00	00	00	00	00	00	00	00 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
	07	00	00	00	00	00	00	00	00 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
WRITE ALL BYTE	08	00	00	00	00	00	00	00	00_00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	) (
	09	00	00	00	00	00	00	00	00_00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	) (
READ ALL BYTE	AO	00	00	00	00	00	00	00	00_00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0	0	0	0	0	0	) (
	OB	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0	0	0	0	0	0	0 0
	0C	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
Minus Definition	0D	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
view Definition	OE	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0 0	0 (	0	0	0	0	0	0 0
View Printable Data	OF	00	00	00	00	00	00	00	00 - 00	00	00	00	00	00	00	00	0	0	0	0	0	0	0	0 0	0	0	0	0	0	0 0
view i mitable Data																														

Figure 6-9 This is the Definition Table for the EEPROM being read from the FRU.



# iVS SOFTWARE PANEL USER'S GUIDE

	<b>iVS</b> ™[	der 🕙 🛛	Embedded <b>POWER</b>
FRU Data			
FRU Data HEX 01 12 00 00 10 90 0E3 01 08 19 C5 43 C6 69 56 53 33 20 20 D2 37 33 2D 30 30 30 31 49 20 20 20 20 20 20 22 39 38 31 30 38 32 34 30 30 30 30 32 5 C2 20 20 C2 30 41 C1 86 000 21 8 F6 00 28 32 34 21 84 67 E0 21 68 88 00 00 00 00 00 00 10 10 D3 A B7 01 58 9C 30 75 00 00 14 32 01 82 0D 1D 53 01 0D 02 96 00 00 00 88 03 00 01 94 88 01 94 11 0A 00 00 00 00 00 00 00 00 00 00 00 00 00	41 53 54 45 9 31 39 30 2D 30 41 D1 45 59 30 41 43 8 E 00 00 00 00 0A 16 00 98 7C 92 40 82 F4 01 DB 11 56 13 2F 00 00 00 00 00		A H
SAVE TO FILE			BACK To Reader<<

**Figure 6-10** This is the Printable Definition Table for the EEPROM being read from the FRU (*Save as Text File*).

### 6.2.4 Display Current Setup

This is the current setup both for PSU case and the entire output module. To display this window, click "Tools" then select "Display Current Setup".

EMBEDDED TECHNOLOGIES iVS Case Information	
I	
VS Case: iVS3	
iVS Part Number: 73-190-0001I	E
Smart Modules : 14 module(s)	
Non - Smart Modules : 0 module(s)	
NO FAN OPTION : DISABLED FAN OFF W/ INHIBIT : DISABLED FAN DIRECTION : FORWARD FAN OVERRIDE : DEFAULT GLOBAL INHIBIT LOGIC : INHIBIT (INH0/INH1) OTP : 85 Degrees	
MODULE INFORMATION	
Module Address: 1i	-
EXIT WINDOW	

**Figure 6-11** It display all the necessary information about the PSU case and the module connected to the case slot of the power supply.

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## 6.2.5 UPDATE PSU CONFIG

This is used for updating PSU configuration. Configuration file must load before we can start the configuration update. To load, go to File menu then select "Load Configuration" then click OPEN. If no warning has been detected, it means that your configuration file and the actual PSU setup are compatible, and ready for update.



Figure 6-12 This is the Auto Configuration window, use for updating PSU base on configuration file.

You can start update the PSU by clicking the "START LOADING" button.

Status of configurations will be displayed in status panel, if PSU Configuration was loaded in to the Power supply successfully then Update Status will indicate "SUCCESSFUL" if not then it will indicate "Failed".



#### 6.2.6 VS CaseBootloader

This is use to Update PSU Case Firmware version. Instead of using MPlab to update PSU Microcontroller, this GUI already has the capability of upgrading firmware. This Case bootloader can support PIC16F and PIC18F microcontroller firmware update. If firmware versions are old, as it is required, that is the time you will need to use MP lab.

This operation was supported by user login. The users need to enter correct user access before Bootloader Start.

iVS Software Panel V2.03.15	
ile Tools Help	
INITIATE VS CASE BOOTLOADER MODE  UC Bootloader Data Information:  Bootloader Version: 0X0201 Bootloader Checksum: 0X73D0 Bootloader Device ID: PIC18F4520 Device Confinuention Value: 0XFEFE	File Path: <sup>1</sup> / <sub>2</sub> D:\Presentation2012\Rev5\Firmware\IVS Case Secondary\ OPEN File ID: [45][02][01][54] Bootloader Data Information (Hex File): Bootloader Version: 0X0201 Bootloader Checksum: 0X7300 Bootloader Device ID: PIC18F4520 Device Configuration Value: 0XFEFE
uf Device Configuration:	Device Configuration (Hex File):
	OVEFEF
vC Bootloader Data File(in):	▼ Bootloader Data File(Hex File):
Port A/Port B TRIS Values: 0X3FF9	Port A/Port B TRIS Values: 0X3FF9
Port A/Port B PIN Values: 0X3FFF	Port A/Port B PIN Values: 0X3FFF
Port C/Port D TRIS Values: 0XD900	Port C/Port D TRIS Values: 0XD900
Port C/Port D PIN Values: 0XD990	Port C/Port D PIN Values: 0XD990
Port E PIN & TRIS Values: 0X0707	Port E PIN & TRIS Values: 0X0707
User Code Version: JFFF	User Code Version: 0X0220
User Code Checksum: 0539	User Code Checksum: JUX31F1
READ DEVICE INFORMATION UPDATE FIRMWARE	VIEW PROGRAM MEMORY
Firmware Update Status: Write Code @ 0%	< <exit bootloader="" panel<="" td=""></exit>
8/14/2014 Device Detected in Bootloader Mode Online	C Error OX00: No Error 3:00:36 PM

# **Figure 6-13** This is the bootloader panel for PSU Case. To Update Firmware Case Version refer to the following steps below.

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#### Here are quick steps for Case Bootloading operation:

1. You must load the correct hex file first. If incorrect file have been loaded, IVS Case bootloading will not proceed. Once loaded the correct hex file then follow next step.

ontext Help	8
iVS GUI Information	*
iVS Software Panel	
Version 2.0.0 - n+1	
by: EMERSON NETWORK Power	
Eastwood Cyber Park,	
Bagumbayan, Q.C	
Philippines	
wednerpalad@emerson.com	
Digitally monitored and controlled	
multi-output modular AC-DC	
power supply system	
1 1177	
Program for Intelligent VS Series	
iVS GUI Copyright 2007-2010	
All Rights Reserved.	-
F 品 (2) く	
	·

Figure 6-14 Load the correct file first before initiating the Case Bootloader mode.

2. Click Initiate VS Case to Bootloader Mode button to set the case mode from normal to bootloader mode.



Figure 6-15 Select yes to set Case to Bootloader Mode.

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3. Wait until it prompt that case already on Bootloader Mode.





4. Then press "Update Firmware" button to start firmware update. Wait until bootloader update completed.



Figure 6-17 Wait until firmware update completed.

5. If Update Successful window will return to its previous window after your confirmation, else you need to update the firmware again.



## 6.2.7 VS ModuleBootloader

This is use to Update Module Firmware version. There are some restrictions for Module firmware Update. Firmware Update from Version 2.16 and below was not allowed to be updated in this GUI. You will need MP Lab instead. Version 2.17 to Version 3.0 and above will be accepted to be update in this GUI.

Note: Make sure that you selected the correct module to be update. Read restriction carefully before proceeding to Module firmware Update.

This operation was supported by user login. The users need to enter correct user access before Bootloader Start.

i VS Software Panel V2.03.15	
File Tools Help	
Module Slot(): Slot 1 🗸	File Path(Mod): B Z:\Hex Files Code\Team17\iMP\Module\Test\73-
✓ INITIATE VS/MP MODULE BOOTLOADER MODE	Mod File ID: [70][01][00][20]
uC Mod Bootloader Data Information:	Mod Bootloader Data Information (Hex File):
Bootloader Version: 0X0100 Bootloader Checksum: 0X893E Bootloader Device ID: PIC16F876A Device Configuration Value: 0X1F7E	Bootloader Version: 0X0100 Bootloader Checksum: 0X893E Bootloader Device ID: PIC16F876A Device Configuration Value: 0X1F7E
uC Mod Device Configuration: BootloaderSystem Clock(MHz): 0	Mod Device Configuration (Hex File): Hex BootloaderSystem Clock(MHz): 0
OSCILLATOR: HS WATCHDOG TIMER: ENABLED POWER-UP TIMER: DISABLED BROWN-OUT RESET: ENABLED	OSCILLATOR: HS WATCHDOG TIMER: ENABLED E BROWN-OUT RESET: ENABLED V
uC Mod Bootloader Data File(in):	ModBootloader Data File(Hex File):
Port A/Port B TRIS Values: 0X3FF3	Port A/Port B TRIS Values: 0X3FF3
Port A/Port B PIN Values: 0X3FFF	Port A/Port B PIN Values: 0X3FFF
Port C/Port D TRIS Values: 0X3C00	Port C/Port D TRIS Values: 0X3C00
Port C/Port D PIN Values: 0X3F00	Port C/Port D PIN Values: 0X3F00
Port E PIN & TRIS Values: 0X0000	Port E PIN & TRIS Values: 0X0000
User Code Version: 3FFF	User Code Version: 0XA322
User Code Checksum: 08DC	User Code Checksum: 0X90AE
READ DEVICE INFORMATION	VIEW PROGRAM MEMORY
UPDATE MODULE FIRMWARE Mod Firmware Update Status:	< <u><exit bootloader="" mod="" panel<="" u=""></exit></u>
8/14/2014 IVS Device Detected Online	Error OX00: No Error 5:14:08 PM

# **Figure 6-18** This is the bootloader panel for Module Firmware Update. To Update Module firmware refer to the following procedures below.

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#### Module Bootloader Procedure:

- 1. Select the corresponding Module for update (*Strictly need to follow first*).
- 2. Load correct hex file. If incorrect file have been loaded VS Module bootload will not proceed.

Look in:	鷆 Test	-	o 🌶 📂 🖽	
(Pa)	Name	*	Date modified	Туре
2×	🔒 OLD		10/12/2009 4:08 PM	File folder
ecent Places	73-55x-00	xxi_MODULE_V03.22.01_20090203	2/3/2009 8:54 AM	HEX File
	73-55x-00	xxi_MODULE_VA3.22.00.hex	2/3/2010 9:05 AM	HEX File
Desktop				
Libraries				
Computer				
Network	•			÷.
NEWOIK	File name:	73-55x-00xxi_MODULE_V03.22.01	_20090203. 🗸 🚺	ОК
	Files of type:	Custom Pattern (* hex)	-	Cancel

Figure 6-19 Load the correct file first before initiating the Module Bootloader mode.

3. Initiate VS Module to Bootloader Mode to be able to update firmware. Press the "Initiate VS Module to Bootloader Mode button to set Module to Bootloader Mode.



Figure 6-20 Select "Yes" to set selected module to Bootloader Mode.



4. Wait until it prompt for Module Bootloader Mode Enabled.



Figure 6-21 This will inform the user if initiation to bootloader mode is successful.

5. Then Update Module Firmware. Wait until bootload update completed.



Figure 6-22 Wait untill module firmware update completed.

6. If Update Successful window will return to monitoring panel or if Update version was from V2.17 to 3.XX it will send the user to EEPROM Update for EEPROM Comparison.

i	<b>—</b>
Write Coo Firmware	: Finished! Bootflag Update Successful! Jpdate Completed and Successful!
	ОК

Figure 6-23 Click "OK" to return on Monitoring panel.

7. If Firmware Update Failed, Update firmware again.



#### 6.2.8 Internal EEPROM Update

This is use for monitoring Internal and external EEPROM data of the current module selected. EEPROM reading was dependent on current module version. If module versions are 2.XX then EEPROM data are coming from the External EEPROM. While module versions V3.XX and above, EEPROM data will be read from Internal EEPROM (*Applicable in 210W, 360W and 750W module only*).

This is also use by module bootloader if update version is coming from Version V2.X (v2.17 to v2.19) to V3.XX (v3.0 and above). It is commonly use for verification of EEPROM data.

Tool	ls He	lp																																
							ſ		_																									
	000	оте	CH	NOI	.06	IES			Ŵ	.Α.Ρ	U	PC	DA.	TE	M	ODU	JL	E INT	ER	N/	۱L	EE	PR	0	М		E	mb	ec	lde	d	<b>PO</b>	W	ER
				Sale	act S	loti					lat 1				_	_1	T															_	-	
CDDO1		14/24		Jen							101 1	-			-		L																	_
EPROF	vi Dati	a vvit	n co	ntig	data	tov	vrite				Extr	act (	Chec	ksun	n:  0	_		EEPROM	DAT	A										Rea	d Ch	ecksi	ım:	6C
	00	01	02	03	04	05	06	07	08	09	0A	OB	0C	0D	0E	OF		L	00	01	02	03	04	05	06	07	08	09	0A	OB	0C	0D	OE	OF
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		00	00	74	0A	55	4C	04 P0	A4	06	50	B1	20	3D P1	90	1A 06	3D	90 20
02	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		02	F1	06	64	SE	07	58	02	FC	08	58	02	FC	08	20	03	20 D0
03	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	03	07	E8	03	08	07	4C	04	A4	06	BO	04	A4	06	BO	04	A4
04	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	04	06	96	96	55	2F	22	15	15	6F	6F	39	1B	11	07	07	00
05	00	00	00	00	00	00	00	0D	00	00	00	00	00	00	00	00	Ш	05	B0	04	A4	06	96	B1	20	F1	15	07	22	11	00	00	<b>0</b> A	00
06	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		06	00	00	00	00	0A	00	00	00	00	00	00	00	00	00	00	00
07	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	07	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	6B
08	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	н	08	101	/4	0A	35	40	04 P0	A4	06	50	10	20	3D D1	90	1A 06	3D 01	20
09	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	04	F1	06	64	SE	07	58	02	FC	08	58	02	FC	08	20	03	20 D0
OB	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	OB	07	E8	03	08	07	4C	04	A4	06	BO	04	A4	06	BO	04	A4
<b>0C</b>	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	0C	06	96	96	55	2F	22	15	15	6F	6F	39	1B	11	07	07	00
<b>0D</b>	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	Ш	0D	B0	04	A4	06	96	B1	20	F1	15	07	22	11	00	00	<b>0</b> A	00
OE OF	00 00		OE OF	00 00	00 00	00 00	00 00	0A 00	00 00	00 00	00 6B																							
[	)		E	XTRA		EEPR	OM	DAT	А ТС	WR	TE						l					R	FAD	FFP	ROM	INF	ORM	ΔΤΙ	DN			_	1	
[					WR	ITE E	EPRO	DM C	DATA	4																								
		_		_			ddra		0						_								E	ACK	UP 8	th M	lemo	ory					]	•
:	SINGL	E DA	TA A	CCES	s		Da	ita: C	0		WRI	TE D	ΑΤΑ										<	EXI	EEF	RON	1 PA	NEL						
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	,					_	_	_	_	_	_	_	_	_	_	_	_	_	

**Figure 6-24** This is used for displaying EEPROM data. It is dependent on the Module version. If Module versions are V2.XX then EEPROM data will be read from External EEPROM. If Module Versions are V3.XX then EEPROM data will be read from Internal EEPROM.



**EEPROM Data with Config data to write**  $\rightarrow$  It displays the Extracted default and calibration data together with the computed load setting which are base on Power and Voltage range. Data will be displayed after pressing EXRACT EEPROM DATA TO WRITE button.

**EEPROM Data** $\rightarrow$  It displays all the EEPROM data from current module. (Either version v2.XX and v3.XX). Data will be displayed after pressing READ EEPROM INFORMATION button.

**WRITE EEPROM DATA→** (Restricted) it will write data to EEPROM location. (Dependent on the Module Version)

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#### 6.2.9 Data Logger

This is use for monitoring input and output parameter. Save Data to file also available in this version. Data to be log on file will start only after enabling Save Data to File.

Logging time interval every complete reading can be change, depending on the polling rate setting. Minimum Interval time is 100mSec if the polling rate is also set to 100mSec. Minimum Interval time varies depending on the current setting of the polling rate.

ools Help													
BEDDED TECHNOLOGIES			PSU	U Da	ita I	Jogg	ing				☑ Er □ Sa	nable Data Ive Data T	i Log 'o File
OPTION TO LOG	Date	Time	Vin	Iin	Pin	Pri-T	Sec-T	Fan1	Fan2	IE-Low	IE-Hi	AC_OK	BUL! A
V Input Voltage	8/14/2014	4:01:50 PM	223.72	0.00	0.00	30.75	26	3330.00	3390.00	True	False	OK	0
7 Input Current	8/14/2014	4:02:00 PM	224.06	0.00	0.00	30.75	26	3330.00	3390.00	True	False	OK	0
Input Current	8/14/2014	4:02:10 PM	223.04	0.00	0.00	30.75	26	3330.00	3390.00	True	False	OK	0
	8/14/2014	4:02:20 PM	222.70	0.00	0.00	30.75	26	3270.00	3390.00	True	False	OK	0
Primary Temperature	8/14/2014	4:02:30 PM	222.70	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
Secondary Temperature	8/14/2014	4:02:40 PM	222.02	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
Fan Speed1	8/14/2014	4:02:50 PM	222.70	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
Fan Speed 2	8/14/2014	4:03:01 PM	223.04	0.00	0.00	30.75	26	3270.00	3390.00	True	False	OK	0
Output Voltage	8/14/2014	4:03:11 PM	222.70	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
Output Current	8/14/2014	4:03:21 PM	222.02	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
Output Power	8/14/2014	4:03:31 PM	222.36	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
Module Temperature	8/14/2014	4:03:41 PM	222.36	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
ter Male aver that were	8/14/2014	4:03:51 PM	222.36	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
ote: Make sure that you properly selected option	8/14/2014	4:04:01 PM	223.04	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
to log before enabling	8/14/2014	4:04:11 PM	222.36	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
Save Data to File.	8/14/2014	4:04:21 PM	222.02	0.00	0.00	31.00	26	3270.00	3330.00	True	False	OK	0
	8/14/2014	4:04:31 PM	222.70	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
STATUS & FAULT TO LOG	8/14/2014	4:04:41 PM	223.04	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
	8/14/2014	4:04:51 PM	222.36	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
Case Status Byte	8/14/2014	4:05:01 PM	222.70	0.00	0.00	30.75	26	3270.00	3330.00	True	False	OK	0
✓ Case Fault Byte	8/14/2014	4:05:11 PM	223.04	0.00	0.00	30.75	26	3330.00	3330.00	True	False	OK	0
Module Status Flag													7
PM Bus Status Flag	4				1								Þ
Estimated me Delay(mSec) 👌 10000					RESET	LOG DIS	PLAY						
Delay for Every Log Cycle Fime Delay: 5mSec Minimum					<u>&lt;<bac< u=""></bac<></u>	K TO MOI	ITOR		1				
									_				

Figure 6-25 Data Logging section for Logging PSU and Module information.

**OPTION TO LOG** – Use this option for selecting parameter that you want to log in display and to file.

**STATUS & FAULT TO LOG** – Use this option for selecting case status and Flags parameter that you want to log in display and to file.

Use RESET LOG DISPLAY to clear data logger display. This will not affect the file that was being saved to file. This function is only applicable on display panel.

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## 6.2.10 Configure 1500W Module

This is to configure 1500W as new features. This function will only work if IVS Case detect 1500W connected to it. Once no module detected then it will prompt the user about this matter. See figure below.



Figure 6-26 No1500W Module detected in the IVS Case.

There are two features available in 1500W module.

- 1. Output CC Mode Enabling this is use the enable the original CC mode configuration.
- 2. Voltage Adjust Unlocked this is use to unlocked hardware trimming function located at the back of the 1500W module.

Here is the 1500W Configure window.

1500W CC N	IODE AND VADJUST FUNCTION
1500W Reference	
Slot 1	
Slot 2	
Slot 3	
Slot 4	
Slot 5	Note: Select corresponding slot base
Slot 6	on 1000W Reference.
Slot 7	Slot Number: Slot 9
Slot 8	
Slot 9	Enabling CC MODE & VADJST Setting
Slot 10	OUTPUT CCMODE ENABLED
Slot 11	
Slot 12	UNLOCKED VADJOST
Slot 13	
Slot 14	SET CANCEL

**Figure 6-27** This is the new feature of 1500W module. Make sure to select slot number base on the 1500W reference.

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# 6.3 Help Menu of Option

Help menu option are used for supporting all the instruction and information about the iVS Program. It also has the information about the history of the Software structure and revision for iVS Software Panel.



Figures 6-28 Click "Help" Menu then select function you want to perform.

#### 6.3.1 Show Context Help

It shows the description of every indicators and controls inside the iVS Software Panel. Point the mouse pointer to the control you want to know the description and it will be displayed in the Context help window.

To display this window, click "Help" then select "Show Context Help".

ontext Help	×
i¥S GUI Information	^
iVS Software Panel Version 2.0.0 - n+1	
by: EMERSON NETWORK Power Eastwood Cyber Park, Bagumbayan, Q.C Philippines	
wednerpalad@emerson.com	
Digitally monitored and controlled multi-output modular AC-DC power supply system	
Program for Intelligent VS Series iVS GUI Copyright 2007-2010 All Rights Reserved.	
< ?	:

Figure 6-29 It shows the description of each control and indicators inside the iVS Software Panel.

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# iVS SOFTWARE PANEL USER'S GUIDE

## 6.3.2 Programmer Setup

For Authorized Personnel use only.

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VP ELECTRONIQUE - 91300 MASSY - Tel: 01.69.20.08.69 - contact@vpelec.com - www.vpelec.com



### 6.3.3 View Error log

This is use for logging I2C errors. It is useful for error reference in iVS Case module communication by saving data into file by enabling the Log file.

TIME	PMBUS COMMAND	ERROR CODE	ERROR DESCRIPTION	
3:18:33 PM	0xD1	FF	Error (0XFF): Hardware Not Detected or USB Error	
3:21:16 PM	0xEA	12	Error (0X12): Bus Collision (Occurs when sending Start or Stop bit)	
3:23:29 PM	0xEC	12	Error (0X12): Bus Collision (Occurs when sending Start or Stop bit)	
3:25:03 PM	0xD9	12	Error (0X12): Bus Collision (Occurs when sending Start or Stop bit)	
3:26:56 PM	0xEA	12	Error (0X12): Bus Collision (Occurs when sending Start or Stop bit)	
3:27:08 PM	0x00	12	Error (0X12): Bus Collision (Occurs when sending Start or Stop bit)	
3:51:32 PM	0x00	FF	Error (0XFF): Hardware Not Detected or USB Error	
3:51:33 PM	0xEA	FF	Error (0XFF): Hardware Not Detected or USB Error	
3:51:36 PM	0xE8	FF	Error (0XFF): Hardware Not Detected or USB Error	
3:51:38 PM	0xE9	FF	Error (0XFF): Hardware Not Detected or USB Error	
4:03:14 PM	0x00	10	Error (0X10): I2C Timeout	
AB Embeo		R	Clear Error L	og

Figure 6-30 It shows I2C Errors and description, including the time when the error occurred.

The following error codes are returned by the various functions in USB-to-I2Cpro.dll:

0x00: No error 0x01: Address not Acknowledged 0x02: Data not Acknowledged 0x07: Arbitration lost 0x08: I2C Time Out 0x80: Unsupported function (make sure you have the latest firmware) 0xFF: Hardware not detected or USB error

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## 6.3.4 Check for GUI Update

This will direct you to the Emerson Network Power website for Updated GUI Version.



Figure 6-31 Official download site for IVS GUI.



## 6.3.5 Revision History

This give the details of update being made per version release.

i VS Software Panel V2.03.15				X
File Tools Help				
		<b>Tare Panel</b> LIGENT VS SERIES	<b>REVISION HISTORY</b>	
//Kevision History Format: Latest to Old.		*****		•
V2.03.15 Update Company Logo to Artesyn Include 73-558-0006i in the Configuration. Beta Version for 73-558-0006i (6V/ 1500W) Update Module configuration SubVI Add Bool 6V_1500W as reference Add Smart Multiple 6V_1500W Boolean Ch Update Part Number for Module inside Up Add Control for 6V_1500W Add Option to Select 73-558-0006i or 73-51 Update Sequence 10 of Displaying Part Nu Add Smart Multiple 1500W 6V/1500W Refe Update Extract Module Information SubVI Update Sequence 27 of Generating Part Nu Add Smart Multiple 1500W 6V Reference GI Update Sequence 3 of Panel Display Refres Add Smart Multiple 1500W 6V Detection R Update Voltage Setting for 6V_1500W Limi Add Namt Multiple 1500W 6V Detection R Arrange Information SubVI for Set Voltage Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Set current. Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Current Rat Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Current Rat Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Current Rat Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Current Rat Add Smart Multiple 1500W 6V Detection F Arrange Information SubVI for Current Rat Add Smart Multiple 1500W 6V Detection F	uster. date Module Configuration SubVI 58-0005i mber rence Global with option for 5V and 6V. imber lobal SubVI with Smart Module 1500W 6V ih when index Change eference for Extract Module Part Nu t rom 4.5V to 8.8V rence for Voltage max and Voltage N leference and Cluster to Array Conve in eference and Cluster to Array Conve ing Change Event. leference and Cluster to Array Conve ing Change Event. leference and Cluster to Array Conve ing Change Event. leference and Cluster to Array Conve ing Change Event.	Detection Cluster mber. /lin. erter for Get erter for Get erter for Get		Ŧ
			_<< BACK TO N	IONITORING PANEL
8/14/2014 iVS Detected in	Normal Mode Offli	ne 🕘 Error 🔴	Communication Disabled	4:53:13 PM

Figure 6-32 It shows the updates made through the release versions.

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#### 6.3.6 About Program

It is the information about iVS Software Program.

To display this window, click "Help" then select "About Program".



Figure 6-33 It shows Information about the iVS Software Panel.



## 7 SIMULATION Mode Functionality

Some GUI features only work at Simulation Mode. This Function was designed for marketing purposes. It will enable the functions of creating new PSU profile and setup depending on customer's demands.

Special features:

# 7.1 Manual Case Model Selection



Figure 7-1 It is use to select Case Model.

- This is use to select case model for iVS before creating new configuration.
- IVS case options are iVS1, iIVS3, iVS6, IVS8 and iIVS8H.

Display at monitoring panel for iVS1 and iVS6 cover 9 slots:





Display at monitoring panel for iVS3, iIVS8 and iVS8H covers 14 Slots:





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## 7.2 Create Case Model Part number

- This is the marketing choice of Part number X can be change by the user.
- *IVS1* = 73-180-XXXXI
- IVS3 = 73-190-XXXXI
- *IVS6* = 73-650-XXXXI
- *IVS8* = 73-680-XXXXI
- *IVS8H* = 73-680-XXXXIH
- Response if incorrect input: "Error: Invalid Model Part Number".



## 7.3 Set New PSU Configuration

PSU settings will work the same even in SIMULATION Mode. Restriction will remain the same. For setting up new PSU Settings please refer to *Section 5.5* to *Section 5.5.1* of this manual.

Some functions only exist in Simulation mode such as HUP Code, Software Code and Parallel Code. These functions are useful during Ordering code generation (commonly use by marketing).

					Intelligent High F
Para Coo	llel iVS1,6 le		īVS3, 8, 8H	Possible Configurations	
1	AC 9 8 7 6 5 4 3 2	1&2	AC 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	210 210; 210 144; 144 144	
2	AC 9 8 7 6 5 4 5 2 1	2&3	AC 15 14 13 12 11 10 9 8 7 6 5 4 <b>5 1</b>	360 360; 360 210; 360 144; +above	
3	AC 9 8 7 6 5 🖛 3 2 1	3&4	AC 15 14 13 12 11 10 9 8 7 6 5 4 6 2 1	750 750; 750 360; 750 210; 750 144; + above	
4	AC 9 8 7 6	4&5	AC 15 14 13 12 11 10 9 8 7 6 🗯 3 2 1	1500 1500; 1500 750; 1500 360; 1500 210; 1500 144 + above	
5	AC 9 8 7 6	3,4&5	AC 15 14 13 12 11 10 9 8 7 6 <del>3 - 3</del> 2 1	750 210 210; 750 210 144; 750 144 144	
6	AC 9 8 7 5 5 3 2 1	4&6		1500 1500	
7	AC 9 8 7 5	4,5&6	AC 15 14 13 12 11 10 9 8 7 6	1500 210 210; 1500 210 144; 1500 144 144	
8		4,5&9	AC 15 14 13 12 11 10 3 8 7 6 5 7 3 2 1	1500 1500 1500; 1500 1500 750; 1500 1500 360; 1500 1500 210; 1500 1500 144	
9		4, 5, 9, 1 & 13	2 AC 15 14 15 2 11 10 5 8 7 6 5 3 2 1	1500 1500 1500 750; 1500 1500 1500 360 1500 1500 1500 210; 1500 1500 1500 144	

Figure 7-4Parallel Code Option



Figure 7-5Ordering Code Option Window[See figure 7-12 for more details.]

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## 7.4 Add Module Functions

This is used to add smart and non-smart module. This is the first task before the qualified user can add configuration for module setup.

ADD MODULE	SMART

Figure 7-6 Add Command Module Function.

Note: Make sure to add a module to its proper location. Please refer into module models for slot reference.

Modules Setup	
Module Power Range	Covered Slot
210 Watts	1 slot
360 Watts	2 slots
600 Watts	3 slots
750 Watts	3 slots
144 Watts	1 slot
1500 Watts	4 slot
36 Watts	1 slot

600-Watts module is applicable for Non Smart Only.750-Watts module is applicable for Smart Only.1500-Watts module is applicable for Smart Only.

Rules for adding module: "High Power Modules will be first in line PSU case slots."

#### **Reminder:**

If you want to add a 1500 watts module, start to add module in 4<sup>th</sup> slot.

If you want to add a 750 watts or 600 watts module, start to add module in 3<sup>rd</sup> slot.

If you want to add a 360 watts module, start to add module in 2<sup>nd</sup> slot.

If you want to add a 210 watts and 36 watts module, start to add module in 1<sup>st</sup> slot.



### 7.4.1 Add Smart Module

This is use for adding Intelligent Module to new setup.

ADD Smart Module Command	
	Action
Button Activated	TRUE
Display	Response
Panel Change	FALSE
Smart Module	Visible
Non-Smart Module	Hidden
Add Module Panel	Hidden
Part number Panel	Visible
Configure / Remove Panel	Visible

Make sure to follow the <u>rules</u> for adding module in PSU case. Use figure below as reference for adding smart module.

**Figure 7-7** Adding smart modules in PSU case. High Power Module should be first to add and low power module should be the last to be place in PSU Case slot.

#### 7.4.2 Add Non-Smart Module

This is use for adding Non-Intelligent module.

ADD Non-Smart Module Command	
	Action
Button Activated	TRUE
Display	Response
Panel Change	FALSE
Smart Module	Hidden
Non-Smart Module	Visible
Add Module Panel	Hidden
Part number Panel	Visible
Configure / Remove Panel	Visible

Make sure to follow the <u>rules</u> of adding module in PSU case. Use figure below as reference for adding smart module.



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**Figure 7-8** Adding non-smart modules in PSU case. High Power Module should be first to add and low power module should be the last to be place in PSU Case slot.

# 7.5 Configure / Remove Module function

#### 7.5.1 Configure Module Function

This is the command button to change panel into configuration display. Smart and Non-smart Module display in configuration panel will be dependent on what did the user add. That is the pre-requisite of the configuration panel display setup. Other displays are not listed because they will remain visible regardless of module type.



Figure 7-9 Configure and Remove Command. Inhibit Function is disabled at Simulation Mode.

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#### Table for Configuration Panel Response for Smart Module

Configure Module Command (Smart)	
	Action
Button Activated	TRUE
Display	Response
Panel Change	TRUE
Smart Module	Visible
Non-Smart Module	Hidden
IVS Module Reading	Visible
IVS Module Setting	Visible
OCP Mode / Control Signal	Visible

Table for Configuration Panel Response for Non Smart Module

Configure Module Command (Non-Smart)	
	Action
Button Activated	TRUE
Display	Response
Panel Change	TRUE
Smart Module	Hidden
Non-Smart Module	Visible
IVS Module Reading	Hidden
IVS Module Setting	Hidden
OCP Mode / Control Signal	Hidden

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### 7.5.2 Remove Module Function

This is the command button to remove existing module panel regardless of module types. It will also remove configuration setup from memory.

Remove Module Command	
	Action
Button Activated	TRUE
Display	Response
Panel Change	FALSE
Smart Module	Hidden
Non-Smart Module	Hidden
Add Module Panel	Visible
Part number Panel	Hidden
Configure / Remove Panel	Hidden

Inhibit Module Function -- >Not functional in SIMULATION Mode.

No message display will prompt on GUI version 1.41 and below.

Remove Module Command (v1.42)	
	Action
Button Activated	TRUE
Display	Response
Panel Change	FALSE
Message	"Warning: Function Disabled at Simulation Mode!"

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# 7.6 Module Information Setup and Load Settings

- This is use to select Module Power Range and Voltage range. It is also have a connection in module configuration setup. Refer to section 5.5.2.5 for more details. It is still follows the rule from *Section 7.3* (Adding Modules).

#### Note:

Setting up a new configuration has a priority pattern. The user must select Power Range first then Vrange will be next in sequence to be selected and last but not the least is selecting the pre-defined load.

#### Sequence for Setting up new configuration.

Sequence 1: Select Power Range for Module (Max Power).Sequence 2: Select Vrange for Module.Sequence 3: Select Pre-defined Setting (Load Settings) to be input in Voltage and Current Rating.



# **Figure 7-10** Follow the correct sequence for setting up new configuration to complete data entry in configuration panel. For Module settings please refer to *Section 5.5.2.5*.

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Table for Module information if All are selected. (Not remain in "SELECT" and "Select Settings")

Module Information Setup			
	Action		
Max Power Selected	TRUE		
Vrange Selected	TRUE		
Load Settings Selected	TRUE		
Display	Response		
Panel Change	FALSE		
Output Voltage	Vrange Default Value		
Output Current	Current Default Value		
Message after Back to Monitor is Selected			

#### Warning:

Make sure that iVS Mode was set to SIMULATION mode. ,If it is not set to that mode then all configurations made will not be place on respective memory allocation. The user should start to configure new setup again.

Table for Module information (Vrange and Load Setting not selected)

Module Information Setup			
	Action		
Max Power Selected	TRUE		
Vrange Selected	False		
Load Settings Selected	False		
Display	Response		
Panel Change	FALSE		
Output Voltage	Vrange Default Value		
Output Current	Current Default Value		
Message after Back to	"Warning: Vrange and Load		
Monitor is Selected	Setting not set! Please Set Vrange		
	and Load Settings."		



Module Information Setup				
	Action			
Max Power Selected	FALSE			
Vrange Selected	FALSE			
Load Settings Selected	FALSE			
Display	Response			
Panel Change	TRUE			
Output Voltage				
Output Current				
Message after Back to Monitor is Selected				

Table for Module Information (No Option Selected)

## 7.7 Module Settings

Module settings will work the same even in SIMULATION Mode. Restriction will remain the same. For setting up new module limits please refer to *Section 5.5.25* to *Section 5.5.26* of this manual.

## 7.8 Save Configuration to File

Once PSU and Module configuration already completed make sure to save all the settings into the file. This file will be save as text format and can be use to load into the real unit. Name of the file will be dependent on your PSU Configuration. See figure 7.10 for reference.

i Save File				×
Save in:	鷆 Load Config	uration	• 🗿 🤌 📂 🛄 •	
Recent Places	Name iVS1-3Q0-2 iVS1-3W-2	2L0-3W0-00-A.b.t L-3W0-00-A.b.t	Date modified 8/18/2011 7:41 AM 8/18/2011 9:58 AM	Type Text Docu Text Docu
Libraries Computer				
Network	•			
	File name:	iVS1-1E0-00-A.bd	•	OK
				Creat

Figure 7-11 Save Complete PSU Configuration into file.

*Section 8* will discuss about loading this file into the power supply.

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This is a sample code generated from IVS Configuration. It will be change for IVS on next release of user's manual revisions.

#### Ordering Information

Sample below is 3210W case with 12V @ 125A; 24V @ 8.5A; 5V @ 60A; 12V @ 10A and 12V @ 4A; with no options.



Figure 7-12 File names for Test Script is base on above configuration.



File name was base in the complete configuration setup below.

**Figure 7-13** This is the complete setup for iVS Configuration at simulation mode following the RULES for adding modules into PSU.

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# 7.9 Load Configuration from File

This function in Simulation mode will only be useful for viewing PSU configuration being saved from the original power supply or new configuration created at this mode.

Details of Load Configuration to actual PSU will be discussed in the *Section 8*.

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# 8 UPDATING iVS CONFIGURATION FILE TO PSU

All information from the PSU can be stored as a file and can be retrieved after sometime when it is needed. Using "Save Configuration" from files menu, current setup of the PSU can be saved and stored as a file.

The user can also make a setup even without the actual power supply. This operation can be done in SIMULATION Mode. The actual setup can be also view in monitoring panel. It will serve as a virtual setup as preparation for incoming iVS Power Supply Unit.

#### Reminder:

Make sure that the power range of module connected in the module slots are the same power range from the configuration file. The program will automatically detect your setup if is applicable or not. PSU Loading will not proceed if modules setup in PSU Case are not same setup in the configuration file.

# 8.1 **PSU Update Procedure:**

## 8.1.1 Step1: PSU Load Configuration Menu

Go to Menu then select Update PSU Config to proceed in Load Configuration Panel.





Once "Update PSU Config" was selected from the Tools Menu, a new window will appear. Same as the figure 8.2



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iVS Software Panel V2.03.15	
ile Tools Help	
	Embedded <b>POWER</b>
Load Configuration Status	
	Update Module Backup Memory V ENABLED
	Configuration File Path:
	g Status of Loading
	Status of Eddaling
	Opdate status:
	$iVS^{**}$
	INTELLIGENT VS SERIES
	the second s
	ASTEC INTERNATIONAL LIMITED
	COPYRIGHT 2006-2010. ALL RIGHTS RESERVED
	START LOADING
	- CONTRACT OF MONITOR
8/14/2014 iVS Device Detected	rror 🕘 0X00: No Error 4:58:44 P

**Figure 8-2** This is the Load Configuration Window.

This panel contains the following section:

1. Update Module Backup Memory:

This is use to enable backup memory update after module configuration. It will allow you to save the default setting into the backup memory location (Password Protected).

#### 2. Configuration File Path:

It indicated the current directory of the load configuration file being loaded. These also include the file name of the load configuration.

#### 3. Status of Loading:

This section indicated the activity being done by configuration during update operation.

#### 4. Update Status:

Indicated if update being done was successful or not.

#### 5. Load Configuration Status:

This section logs every sequence and update being done by the GUI during auto configuration.

#### 6. START LOADING:

This is use to initiate to start Auto Configuration.

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## 8.1.2 Step 2: Load Configuration File

Load the Configuration file through file Menu. Make sure to load the configuration file base on your current setup of PSU case and Module.

Save in:	Documents	•	🎯 🤌 📂 🛄 🗸	
æ.	Name	^	Date modified	Туре 🔶
and the second s	Alcohol 52	%	7/27/2011 1:21 PM	File fol
lecent Places	DevExpress	2010.2 Demos	6/17/2011 5:24 PM	File fol
	dumps		11/3/2011 4:35 PM	File fol
·	鷆 gegl-0.0		6/23/2011 8:05 AM	File fol
Desktop	🔒 LabVIEW D	ata	8/3/2011 9:36 AM	File fol =
-	📙 LG PC Suit	e IV	11/3/2011 9:24 AM	File fol
6778	My Receive	ed Files	12/13/2011 1:41 PM	File fol
Libraries	\rm National Ir	struments	7/29/2011 4:08 PM	File fol
	🔰 Visual Stud	lio 2008	12/12/2011 10:24	File fol
	📄 false.txt		9/14/2011 5:40 PM	Text D
Computer	iVS3-2U0-1	H0-1Q2-5L2-1K0-1R2-00-A.txt	12/13/2011 7:32 PM	Text D
	Project list	.txt	9/13/2011 6:22 PM	Text D
	tempPrint.	txt	12/13/2011 7:27 AM	Text Di 👻
Network	•	m		•
	File name:	IVS3-2U0-1H0-1Q2-5L2-1K0-1R2	00-A.txt 🔻 🗧	ОК
	Save as hine:	Custom Pattern (*h4)		Cancel

**Figure 8-3** Load the corresponding PSU Configuration to GUI.

If the loading file configuration already loaded into the GUI, you will see the message in the load configuration status that "Load Configuration already load to PC Memory", see figure 8-4.

If file doesn't match the actual configuration you see the error details.

Make sure to follow the reminder before proceeding in PSU Load Configuration. If Configuration file is different from the actual setup of the IVS PSU, you cannot load the file to the PSU.

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i VS Software	Panel V2.03.32			
File Tools H	elp			
		ofiguration		Embedded <b>POWER</b>
Load Cont	figuration Status			
Load Cor	figuration already loaded to PC Memory.		*	
Data are i	now ready to be loaded to IVS Case and Module.			Configuration File Path:
To begin	loading Press START LOADING button			D:\Win7SoftwareDevFile\Software Panel V2.00.00(IVS)\     Status of Loading
				Update Status: Update Configuration
				INTELLIGENT VS SEPIES
				ASTEC INTERNATIONAL LIMITED COPYRIGHT 2006-2010. ALL RIGHTS RESERVED
			Ŧ	START LOADING << BACK TO MONITOR ABORT
			_	
12/7/2016	iVS Device Detected	Online 🥥	Error 🔘	0X00: No Error 4:14:34 PM

Figure 8-4 O

Once configuration file setup already loaded into PC Memory, it is now read to be loaded in actual IVS Case and Module.

## 8.1.3 Step 3: Start Loading

You can start loading the configuration file to the PSU by pressing "START LOADING" button.



Figure 8-5 Press "START LOADING" button to begin Loading the configuration file to PSU.



## 8.1.4 Step 4: Wait until update completed

Click OK once update completed.

i VS Software Panel V2.03.32		
File Tools Help		
	ad Configuration	Embedded <b>POWER</b>
Load Configuration Status		Undate Module Backup Memory V ENABLED
Change Output Index to 0	·	
		Configuration File Path:
Parameter Checking and Verification		Status of Loading
· · · · · · · · · · · · · · · · · · ·		Saving Setup to PSU Completed
		Update Status: RUNNING
		Loading Status
Default Setting Location Reference:	i 💌	
IMP Module> 0X04-0X0A,0X20,0X5A-0X5B IVS Module> 0X04-0X08	Update Successful!	
Backup Setting Location Reference: IMP Module> 0X50-0X59	ОК	<i>i</i> VS <sup>™</sup>
IVS Module> 0X55-0X58		INTELLIGENT VS SERIES
Data to Write : B0  4  E8  3  A  7D  19  F1  45  50		
Data Read : B0  4  E8  3  A  7D  19  F1  45  50		
Module Update for Backup Memory Successful!		the second s
Undefine OTD of DSU Coord Diseas Weit		
OTP Case Update Successful!		ASTEC INTERNATIONAL LIMITED
Updating Over Temperature Warning!		COPYRIGHT 2006-2010. ALL RIGHTS RESERVED
OTW Case Update Successful! Global Inhibit Set Successful!		START LOADING
Setting PSU Configuration Successful!		< <u>SACK TO MONITOR</u>
12/7/2016 iVS Device Detected	Online 🥥 Error 🔴	0X00: No Error 4:29:33 PM

**Figure 8-6** Load the corresponding PSU Configuration to GUI.

If update successful, it will ask the user's to reset power supply.

i	
Warr	ing: Reset Power Supply before PSU config flag take effect. Press OK if PSU already been reset!
	ОК

**Figure 8-7** Reset the PSU and make sure that the AC Supply is properly restored before pressing the OK Button.

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## 8.1.5 Step 5: Choose File Directory and Enter Top Assembly Serial Number

After PSU Configuration completed (pass or fail) it will ask the user to save the configuration report to file. Select directory you preferred to save the file and enter Top Assembly Serial number as your file name.

Note: No needs to add any additional name just enter the top assembly serial number and the GUI will automatically include the PSU part number and date into its filename.

i Choose File Di	rectory and Enter	Top Assembly Serial Number		×
Save <u>i</u> n:	🔒 PSU Update F	Report 👻	G 🤌 📂 🛄 🗸	
Ca.	Name	*	Date modified	Туре
Recent Places		No items match you	ur search.	
Desktop				
Libraries				
Computer				
	•			
Network	File <u>n</u> ame:	Enter_UUT_Top_Assembly_Serial_I	Number 👻	ОК
	Save as type:	Custom Pattern (*.txt)	•	Cancel

Figure 8-8 Enter Top Serial number as PSU Update Report filename.

G v k Cocumentation + PSL	J Update Report	<b>- 4</b> ∳ S	earch PSU Update Report	×
Organize 🔻 Include in library 🔻	Share with 👻 New folde	er		0
<ul> <li>★ Favorites</li> <li>■ Desktop</li> <li>▶ Downloads</li> <li>&gt; Recent Places</li> </ul>	Name	^ 811 _E537093909P006380	Da _120716_1639h 12. Selec to pr	t a file eview.
Documents		11	þ	

# Figure 8-9Once the user entered the serial number, GUI will automatically generate filename.<br/>Finame format: Partnumber\_TopAssemblySerialNumber\_Date\_Time

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## 8.1.6 Step 6: Wait for the GUI to automatically refresh Monitoring

Once update completed, the GUI will automatically refresh monitor. If update fails it will stay in PSU Update configuration window. Click start loading button to restart PSU update. If failure still occurred check the PSU Setup.

If update successful, you can see status window same as figure below.



Figure 8-10 Successful status update after PSU update completed.

Make sure to follow Step 1 to 5 for Loading PSU Configuration.



# **9 TROUBLESHOOTING GUIDE**

## 9.1 Errors and Solutions

## 9.1.1 Error: The Application failed to initialize properly.



Figure 9-1 This is the error shows when USB Adapter not found (patterned in IVS GUI).

**Solution:** Make Sure to install USB adapter. This driver was included in the GUI Installer CD. Once the installations become successful, start running the program again.

#### 9.1.2 USB Hardware Not Detected... Please set it manually!



Figure 9-1 This is the error displays if the program does not detect USB Adapter.

**Solution 1**: Check if USB Adapter is connected to the USB port of your computer. Connect USB cable from USB Port to USB Adapter. Make sure to connect the other connecting cable of the USB adapter to I2C port of the power supply to avoid another error message.

**Solution 2**: If USB Adapter is first time to be connected in the corresponding USB port, make sure that system has already detected the USB adapter as "Human Device Interface".

I	Desired Result:			
	5/11/2007	iVS Device Detected	Online 🧿	Error 🔴
l			r	

Figure 9-2 Result after the USB Adapter is being connected to the PC through the I2C Port of the PSU.

## 9.1.3 Communication Disabled

J	Offline 🔘	Error 🤴	Communication Disabled	3:18:08 PM	
_					4

**Figure 9-3** This is the error display if "Continuous Reading" switch is set to OFF.

**Solution 1**: Set the Continuous Reading switch to ON then Communication message will change to "Communication On-going".

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# iVS SOFTWARE PANEL USER'S GUIDE

Refer to figure below.



Figure 9-4 Set "Continuous Reading" switch to ON to set the communication to enabled status.

Desired result:

Online 🧿 Error 🌰	0X00: No Error	4:36:29 PM
------------------	----------------	------------



#### 9.1.4 iVS Device Not Detected

	Interface: USB iVS I2C PORT		
5/17/2007	iVS Device Not Detected	Offline 🔵	Error 🥚
Figure 0.5 this is	the error display is USP adapter is not connected to the	a 12C Port of the	Dowor supply

Figure 9-5 this is the error display is USB adapter is not connected to the I2C Port of the Power supply but connected to PC only.

**Solution 1**: Connect the other connecting cable of the USB adapter to I2C port of the power supply. Desired result: Refer to Figure 5-2.

### 9.1.5 Monitor Screen is displaying scramble setup

This screen problem occurred because some computers are using screen setup.

**Solution 1 for Win 2000**: Go to your desktop then right click to your mouse, select properties then Appearance. Make sure to set the Scheme to "Window Standard" and Item should be set to "Desktop" and the default color should be blue.

Select Tab to Settings then make sure that your screen area is set to "1024 x 768 pixels". If already set, click on "Advanced..." button then set your font size to "Small Fonts". (Normal size = 96 DPI).

**Solution 2 for Win XP**: Go to your desktop then right click to your mouse, select properties then Appearance. Make sure to set the Windows and buttons to "Window XP style" and Color scheme should be set to "Default (blue)" and the Font size should be Normal.

Select Tab to Settings then make sure that your screen resolution is set to "1024 x 768 pixels". If already set, click on "Advanced" button and set the DPI setting to "Normal size (96 DPI)". Click "OK" to save all settings for your display setup.

#### 9.1.6 Error Occurs

This Error occurred because of the frequency Setting. If frequency is to fast, iVS Case sometime did not reply on I2C Query. This causes the GUI to display some error.

**Solution 1:** You could change the frequency setting in Device Setup. Go to Tools menu then select settings and change frequency setting. Minimum frequency settings can be set to 50Khz.

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## 9.1.7 Bootloading Error:

#### ERROR: VERSION NOT SUPPORTED

This occurs when loading incorrect file.

It is cause by incorrect bootloader version. Bootloader Version is located in address 0x2001 and 0x2002.

8192	1FFF	1F7E
8193	2000	0070
8194	2001	0001
8195	2002	0002
8196	2003	0054

Solution: Update firmware through the use of Mplab. GUI does not support incompatible bootloader version.

#### Error: Invalid Hex File! Incorrect Data Configuration! Use MPlab to update firmware.

This occurs when loading incorrect file.



Figure 9-6 Device Setup for bootloading operation.

It is cause by incorrect device configuration. Configuration address is located in 0x1FFF.

Solution: Update firmware through the use of Mplab. GUI does not support incompatible data configuration.

## 9.1.8 PC hang after Change uC Address of the PSU.

This problem when the changing address in the GUI and in the PSU while there are connected.

Solution: Make sure that the GUI was not in continuous polling state before changing the address of PSU. If PSU address already been change, go to settings then change the address then goes back to original state. Now you can start using the GUI again.



## 9.1.9 PSU Case was hanged and remain in Bootloader mode

These happen when unsuccessful firmware update and accidentally close the GUI.

Solution: Connect the PSU for PC and launched the GUI. IVS Software Panel will automatically detect if is in bootloader mode or not. If the PSU has been detected in bootloader then you will see the user prompt like the figure below.



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