

PSL-DAQ

Small Sized 2-Channel Data Acquisition Device

[Overview]

PSL-DAQ is a small 2-channel analog signal data acquisition module released with PSL-iModule V2 series(PSL-iECG2, PSL-iEMG2, PSL-iEOG2).

PSL-DAQ is designed to receive analog 2-channel signals and supply DC 5V power source to the sensor module through a single input port. Therefore, it can be simply connected to the sensor module without any other power supply.

PSL-DAQ has 2-channel 16bit ADC and 32bit micom, and re-transmission protocol(PysioLab's USB communication protocol) of it ensures reliable transmission of the obtained data to the PC.

PSL-DAQ provides a powerful monitoring software, and also provides the LabVIEW and Visual C++ libraries together.

[Features]

- 2-channel analog signal data acquisition module
- 2-channel 16bit ADC
- 32bit Micom
- Input signal range of 0~3.3V
- DC 5V supply to the sensor module
- DC 5V power input and communication via the USB port.
- Provide the monitoring software for PC
- Support libraries for LabVIEW and Visual C++

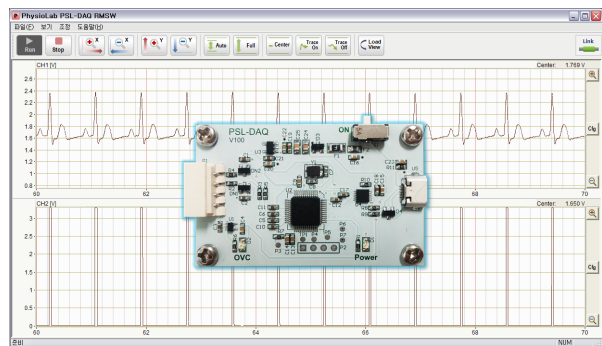
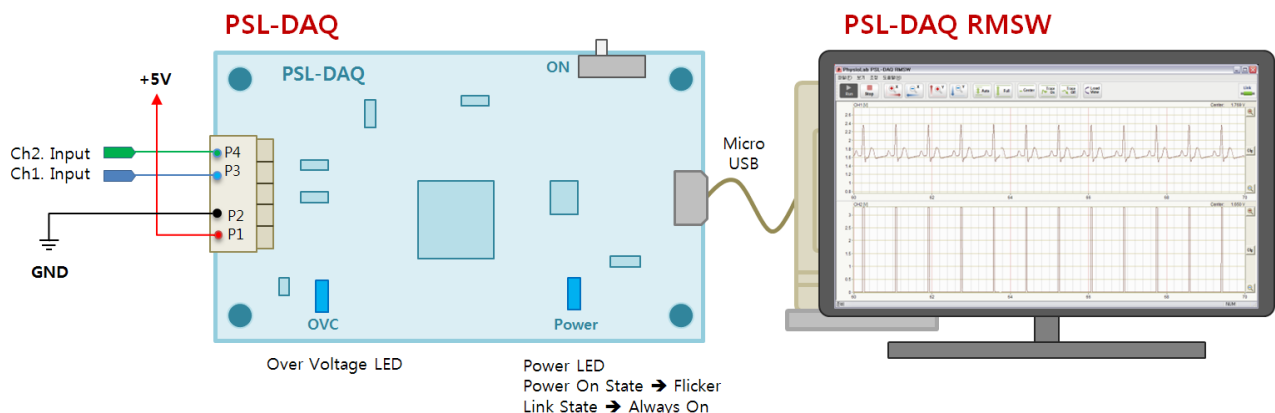


Figure 1. PSL-DAQ

[Block Diagram]



[Note] Please check the number of pin in input port(P1:+5V, P2:GND, P3:Ch1, P4:Ch2).

Figure 2. Block diagram of PSL-DAQ

[Specification]

Categories		Item	PSL-DAQ
Hardware	General	Size	56 x 35(mm)
		Power	DC 5V, Micro USB
	ADC	Input Channel	2 channel analog signal input
		Resolution	16Bit
		Sampling Rate	1,000 SPS
		Input Range	0~3.3V
Software	PSL-DAQ RMSW	Graph	2 channels graph display in realtime
		Save	Save 2 channels signal data simultaneously
		Review	Review the saved data
		Data conversion	Conversion *.pdq to *.txt (Notepad, Excel, MATLAB compatibility)
		Graph option	Trace, Center, Auto, Full, etc.
		Print	Preview & Print

[Package Contents]

Item	Quantity	Note
PSL-DAQ module	1EA	- PSL-DAQ module
PSL-DAQ RMSW	1EA	- Included on the CD
PSL-DAQ LabVIEW Library	1EA	- Included on the CD
PSL-DAQ Visual C++ Library	1EA	- Included on the CD
Input Cable	2EA	- For PSL-iModule V2(150mm, molex to molex) - For an universal usage(molex - pin)
Output Cable	1EA	- Micro USB cable
Manual	1EA	- Printed and included on the CD

[General application]

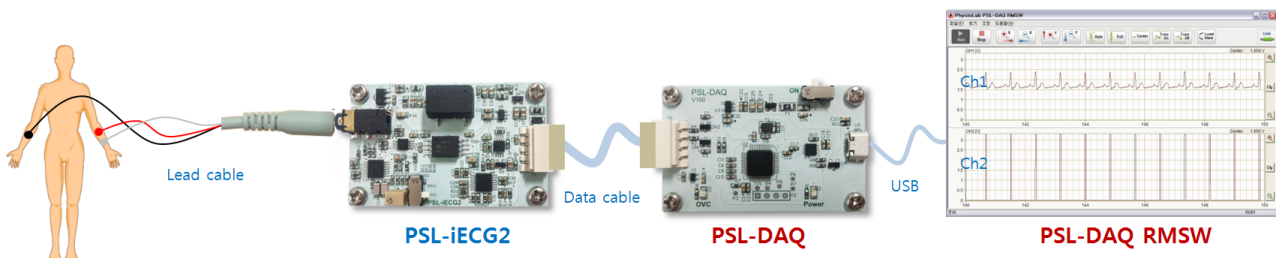


Figure 3. General application of PSL-DAQ

[PSL-DAQ RMSW]

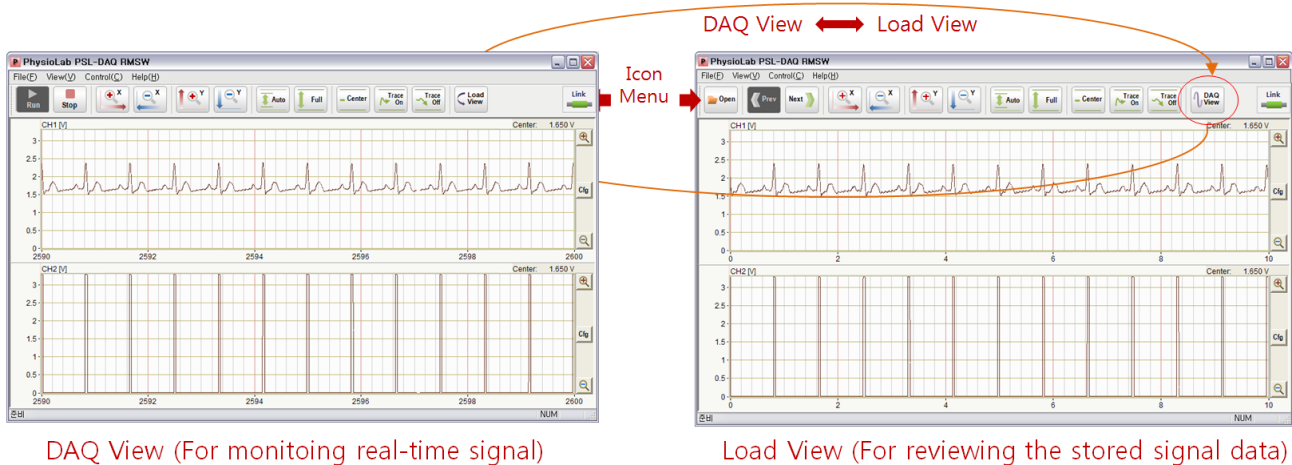
○ Installation of USB driver

- Double-click to install the driver setup file that is located "PSL-DAQ RMSW\Driver\CDM v2.12.06 WHQL Certified.exe" in the supplied CD.

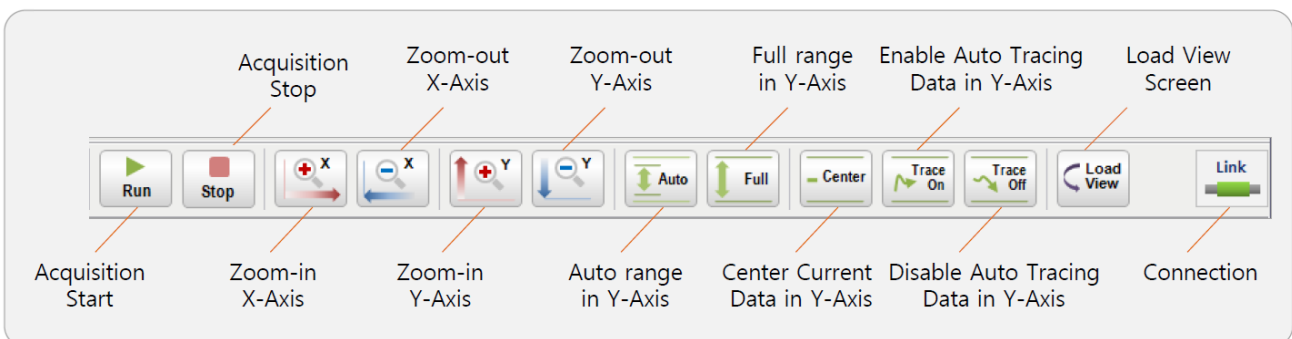
[Note] The PC must have Administrator authority to install the driver. After completing installation, we recommend to perform a reboot for stable operation. The latest drivers are available for downloading from the website of Ftdichip company ("<http://www.ftdichip.com/Drivers/D2XX.htm>").

○ Main Screen - DAQ View Screen and Load View Screen

- DAQ View : When you run the SW, the DAQ-View screen comes. It is screen for monitoring real-time signals received from the PSL-DAQ. To perform the real-time monitoring, it should be required connection with the PSL-DAQ.
- Load View : On the DAQ-View screen, press the Load View icon to run the Load View screen. The Load View is a screen for reviewing and printing of the stored signal data.

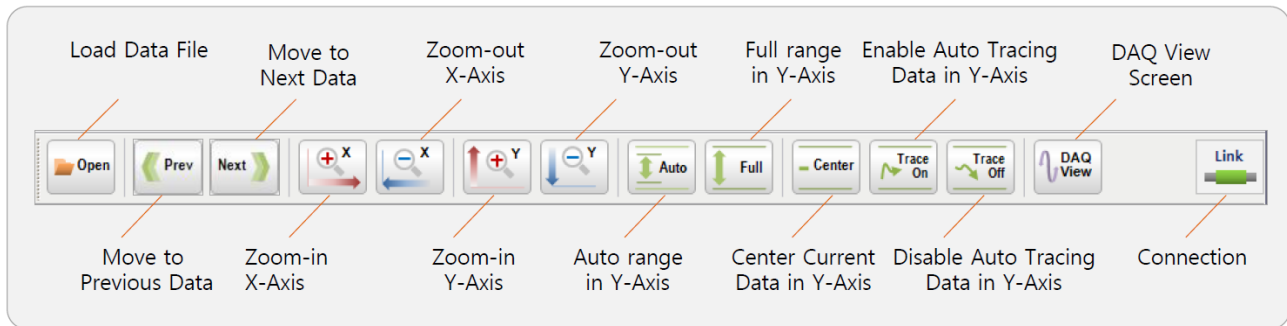


◦ DAQ View Icon



- In order to monitor real-time signals well, you should understand the graph options("Auto", "Center", "Full", and "Trace On/Off", etc.) to utilize it.

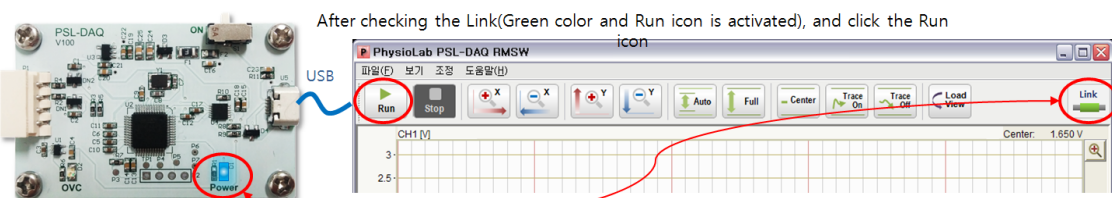
◦ Load View Icon



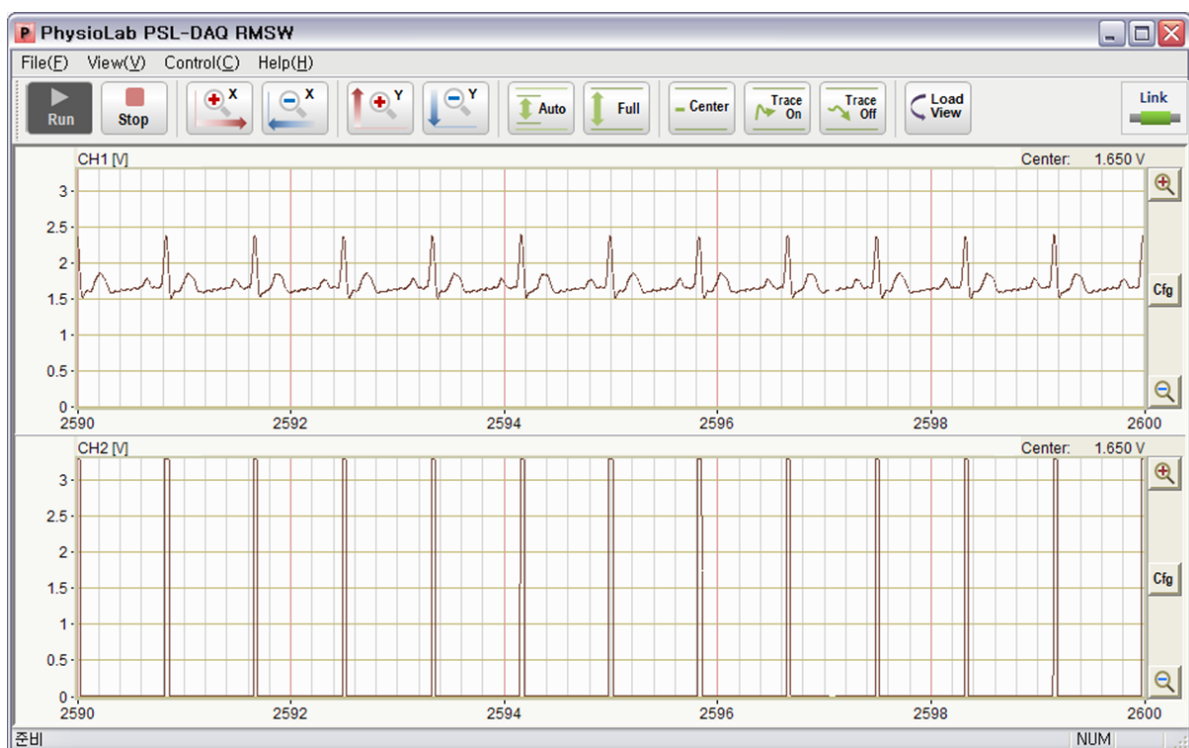
○ [DAQ View Screen] PSL-DAQ RMSW enables to monitor real-time signals

- Real-time signal monitoring - SW start ➡ Link check ➡ Run ➡ Setting graph options

(Note) The Data Save Dialog is loaded automatically by pressing the Stop button.



Once linked, the Power LED is always On state (Otherwise Blink state is not linked).

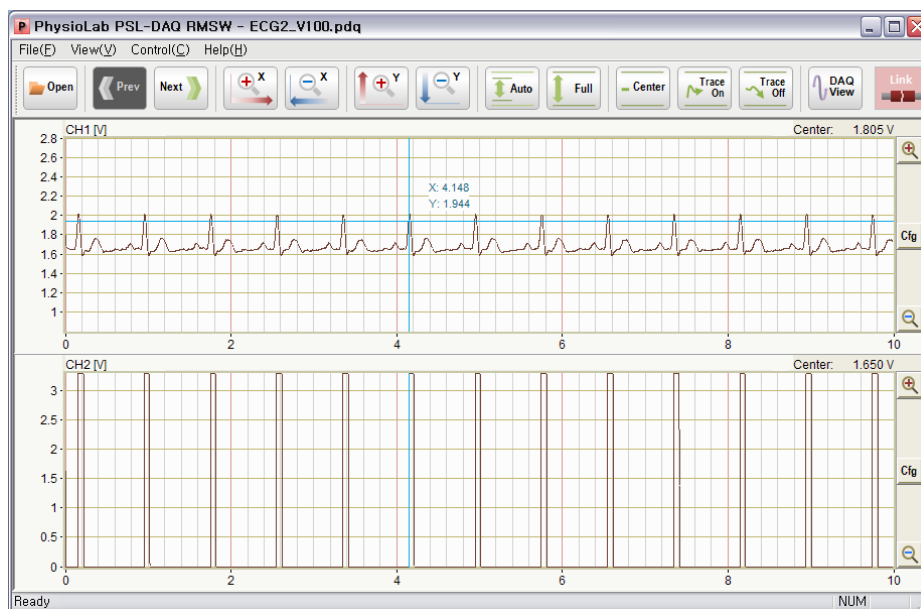


○ [Load View Screen] PSL-DAQ RMSW enables to review the stored signal

- **Reviews the stored signal** - DAQ View Screen ➡ Click the **Load View icon** ➡ Click the **Open icon** ➡ Setting graph options

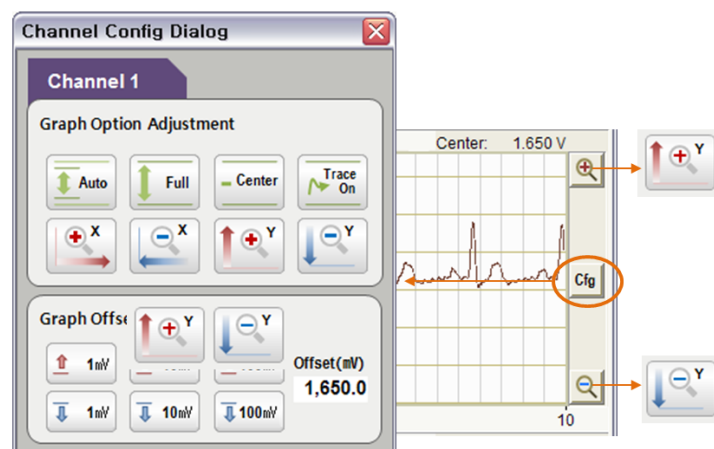
(Note) The stored signal is located in the folder of "PSL-DAQ RMSW\SaveW" and has the extension of "*.pdq".

- Even if a PSL-DAQ device is not connected, you can use Load View screen to review the stored signal.
- If you move the mouse pointer to the graph, the X-axis and Y-axis values of signal are displayed.



○ PSL-DAQ RMSW - Other functions.

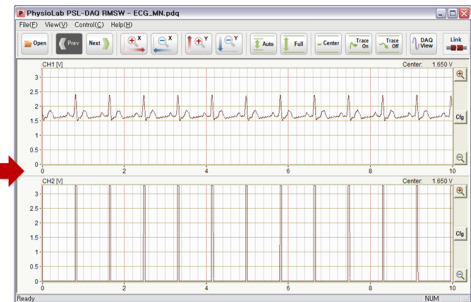
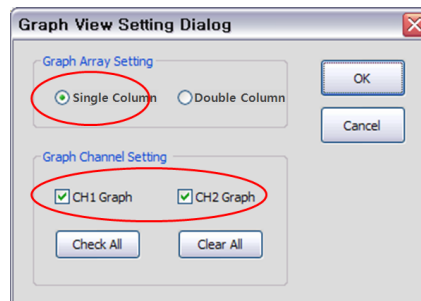
- **Channel Config Dialog Box** - If you want to adjust graph options for each channel, click the Cfg icon of the channel to be adjusted and set graph options.



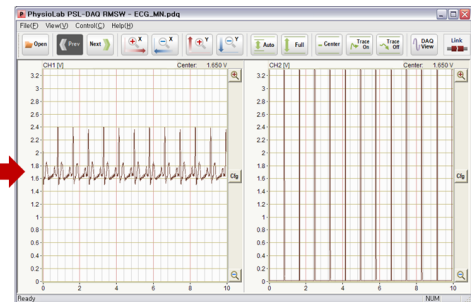
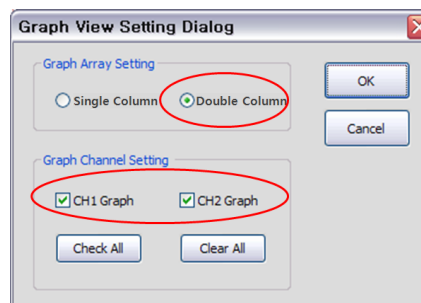
• **Graph View Setting Dialog Box** - Main menu>View>Graph View Setup

- The graph arrays is support Single Column setting and Double Column setting, and you can select graph channels to be observed.

Single Column Setting

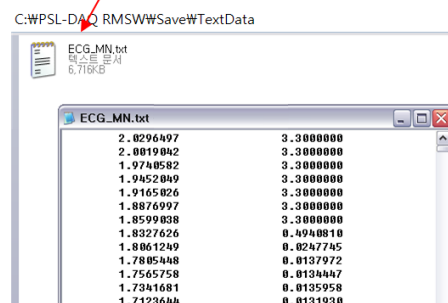
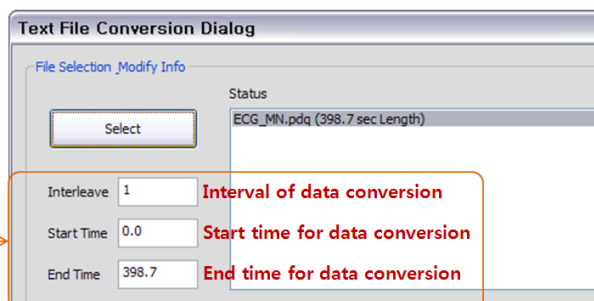
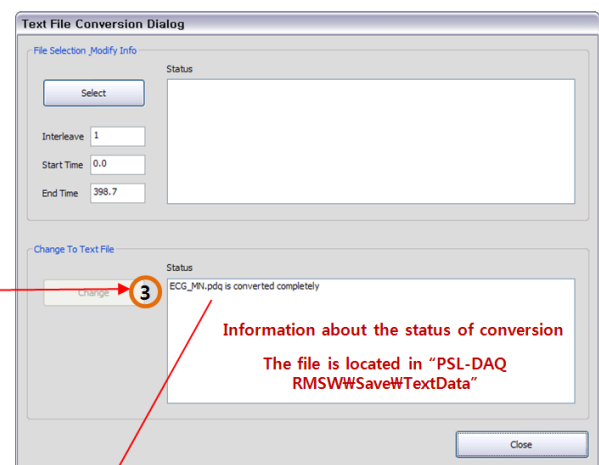
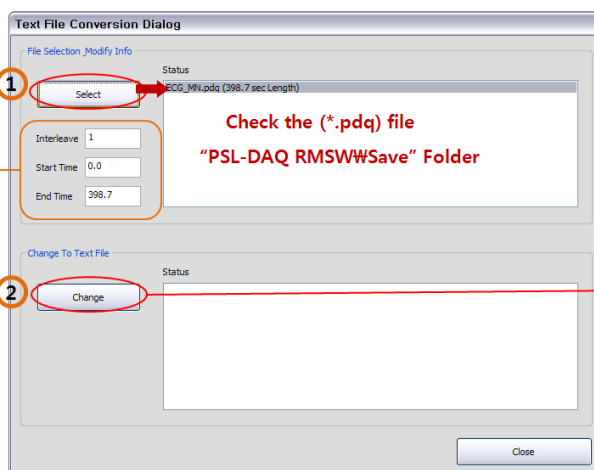


Double Column Setting



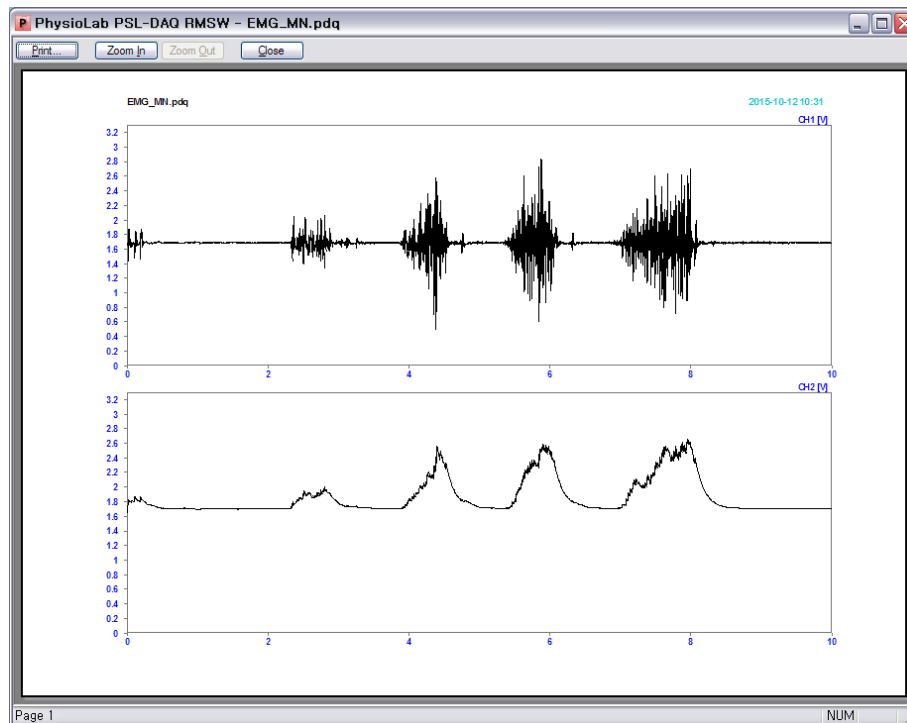
• **Text File Conversion Dialog Box** - Main menu>File>Text File Conversion

- The dialog box supports the conversion of multiple files at the same time.
- The current reviewed file can not be converted.



- **Print** - Main menu>File>Print

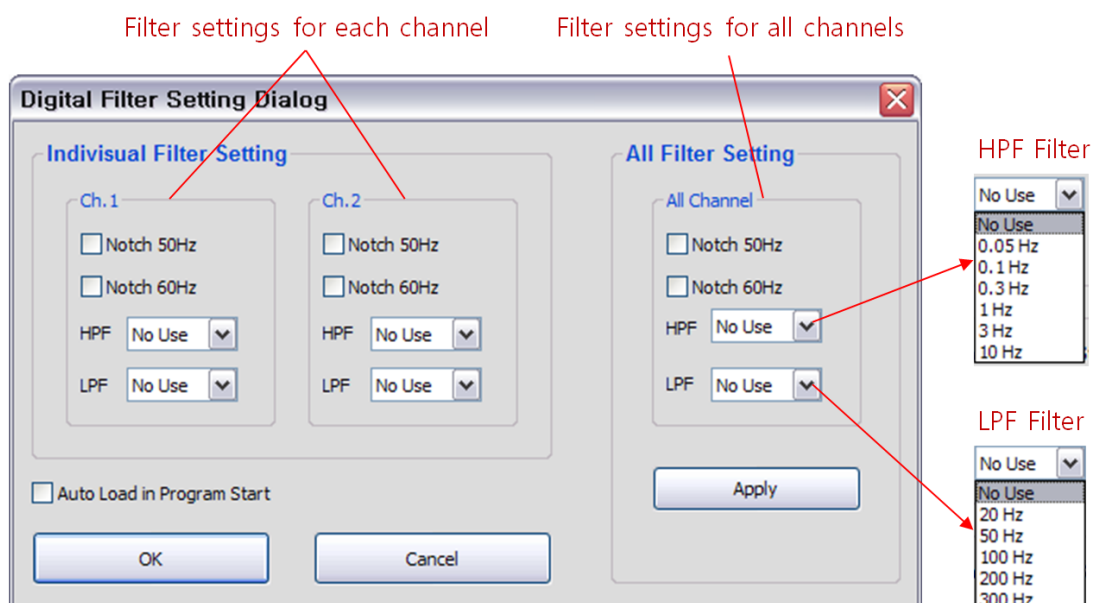
- Print setup  Select paper orientation  Print preview  Print



- **Digital Filter Setting Dialog Box** - Main menu>View>Digital Filter Setting

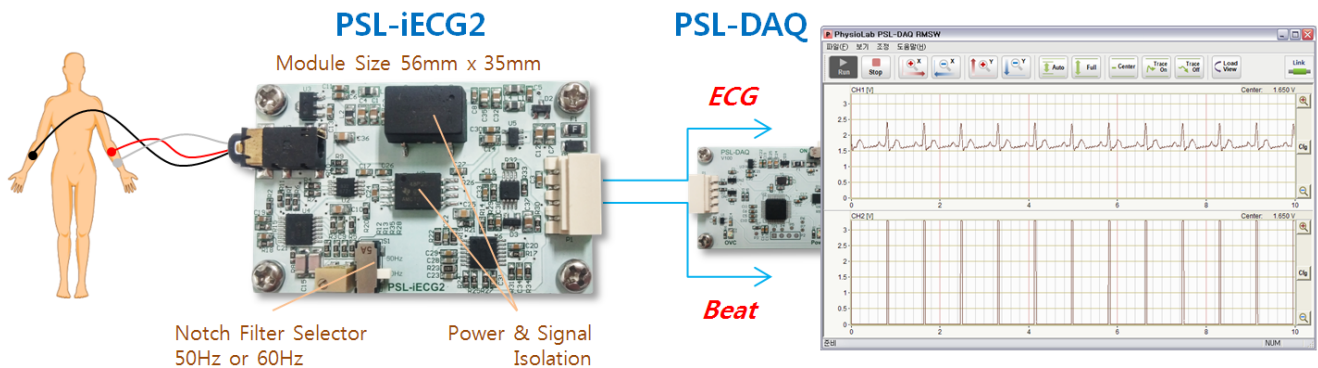
- The Digital Filter Setting Dialog box support various digital filters(Notch, HPF, LPF) to apply the signals

(Note) If you apply a digital filter in the real-time signal monitoring, the stored data is also applied by the digital filter.

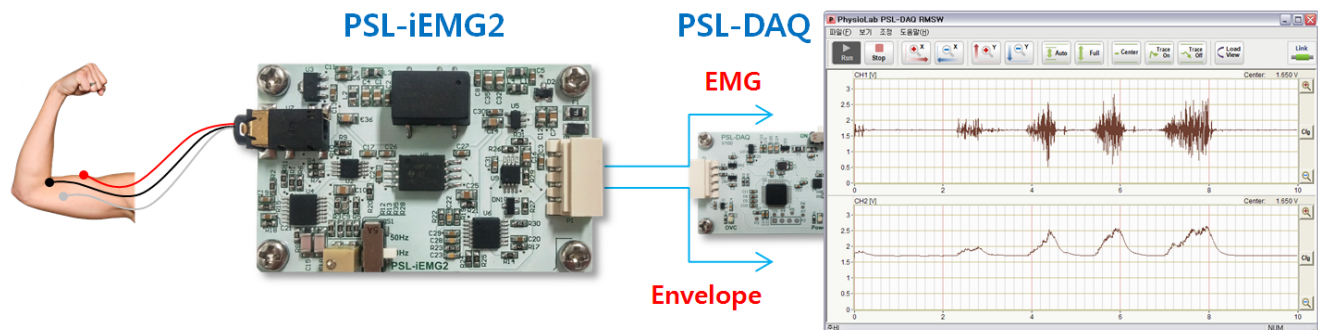


[Application - PSL-iModule V2]

- Connection to PSL-iECG2 module

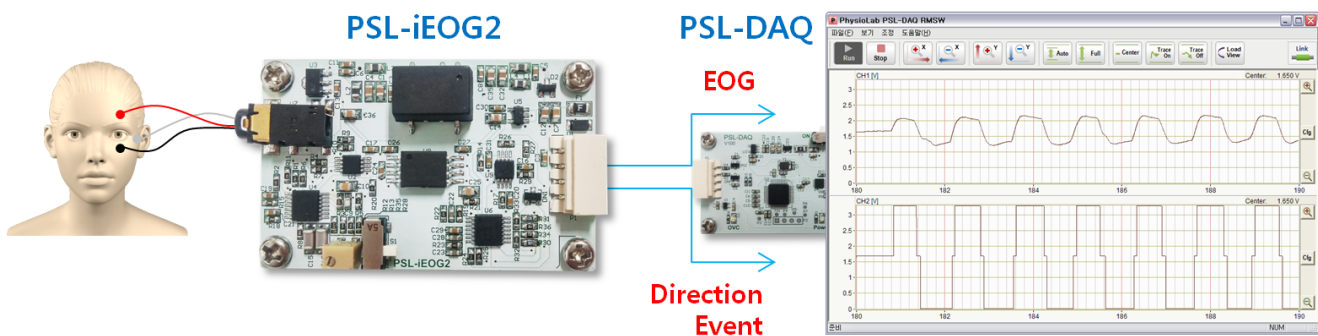


- Connection to PSL-iEMG2 module



- Connection to PSL-iEOG2 module

• PSL-iEOG2



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