SPECT-DM Hardware Set-Up Guide

Version v1.0

Date	Version	Who	What
09/16/2014	1	CMS	Initial Creation

Contents

Purpose

This document has been created to guide the user through the process of configuring the hardware and making the appropriate connections prior to operating the SPECT-DM device.

Contact Information

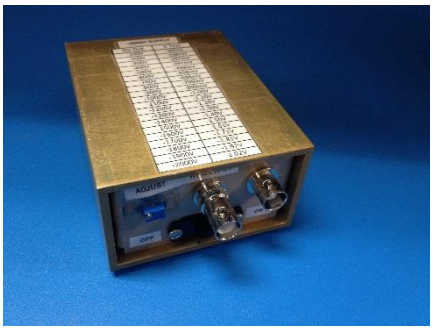
For technical questions regarding this product, please contact: support@evproducts.com

Package Contents

(1) SPECT-DM Device

(1) 5VDC Power Supply
(ELPAC POWER SYSTEMS)
FWA020005A)
*** for use with camera only ***

(1) HV Power Supply



(1) 12VDC Power Supply
(CUI Inc)
(EMSA120050)
*** for use with HV power supply only ***

(1) HV Cable

NOTE: The 5VDC and 12VDC power supplies have the same output connector but have incompatible voltage outputs and polarities. Use caution when selecting the appropriate power supply!

Unpacking the Device

CAUTION: Electrostatic Sensitive Device
Wear proper electrostatic grounding equipment.

1) Remove the SPECT-DM device from the packaging.
2) Remove the (4) screws securing the black carbon fiber window on the top of the unit.
3) Carefully remove the warning tag and packing foam to expose the detectors.
   (Note: If required, lift and remove the aluminium light shield surrounding the detectors, using care not to touch the detector edges with the shield.)

4) Discard the packing foam and warning tag.
5) Replace the light shield (if required) and the carbon fiber window.
6) Tighten the (4) screws to secure the carbon fiber window.

Configuring the High Voltage Supply

CAUTION: Turn off power to the equipment and externally connected equipment before connecting cables. Electric shock or damage to the equipment can result, even under low voltage conditions.

1) Remove the 12VDC Power Supply from the packaging and configure it for the appropriate AC blade arrangement.
2) Connect a DC volt meter to the BNC jack (labeled 'TEST') on the front of the HV power supply.
3) Confirm the switch on the front of the HV power supply is in the OFF position.
4) Plug the output of the 12VDC supply into the barrel jack (labeled '12VDC') on the back of the HV power supply and plug the 12VDC supply into a wall outlet.
5) Change the switch on the front of the HV power supply to the ON position.
6) Using the conversion table on the top of the HV power supply, slowly turn the potentiometer (labeled 'ADJUST') on the front of the HV power supply until the desired bias voltage is achieved.
   Note: For 5mm thick detectors, the recommended bias voltage is -800VDC.
   For 10mm thick detectors, the recommended bias voltage is -1600VDC.
7) Change the switch on the front of the HV power supply back to the OFF position until further connections are made.

Making the Connections

1) Confirm the switch (labeled ‘PWR’) on the front of the SPECT-DM is in the OFF position.
2) Remove the 5VDC Power Supply from the packaging (labeled ‘POWER SUPPLY FOR CAMERA’) and connect its output to the barrel jack (labeled ‘5V IN’) on the front of the SPECT-DM.
3) Confirm the switch on the front of the HV power supply is in the OFF position.
4) Using the HV cable, connect the HV jack (labeled ‘EXT-HV’) on the front of the SPECT-DM to the HV jack (labeled ‘HV-OUTPUT’) on the front of the HV power supply.
5) Using an Ethernet cable (not provided), connect the RJ-45 connector (labeled ‘LAN GBE’) on the front of the SPECT-DM to the network interface card on the data acquisition system.

6) Change the switch (labeled ‘PWR’) on the front of the SPECT-DM to the ON position.
7) Confirm the green LED (labeled ‘SYS’) on the front of the device is blinking slowly.
8) Continue with the SPECT-DM Installation Instructions document for installing the application software on the data acquisition system and configuring the local area network.

Appendix A: User Interface

SYS LED (green)

BEHAVIOR	MEANING
Off	System is not powered.
Slow Blink	System is receiving power.
On Solid	System has been started and is ready to start a collection session.
Fast Blink	An active collection session is in process.

HV LED (red)

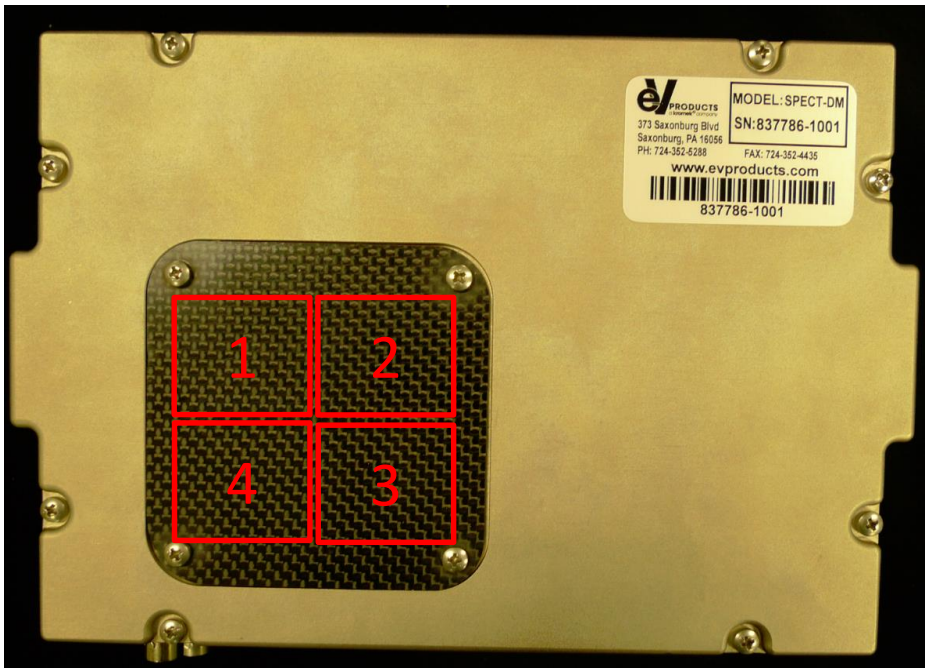
The red HV LED is only an indication that the internal high voltage supply is being utilized. When applying high voltage via the external jack, this LED will NOT be illuminated.

HV Switch
FAN-GM Switch
FAN-2 Switch

These switches have been permanently disabled and have no function.

Appendix B: Gamma Module Assignment

Gamma modules are assigned in a clockwise direction, starting with number 1 in the upper left corner. See figure below.



NOTE: The device will only operate when populated with 4 gamma modules or 1 gamma module. When only a single gamma module is populated, it must be populated in location 3 (lower right corner) and will check-in with an id of 1.