

## Generator and System SETUP

**Before operating the system be sure to read the Generator Manual, which can be found on the following address:**

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

The system can be controlled on two different ways:

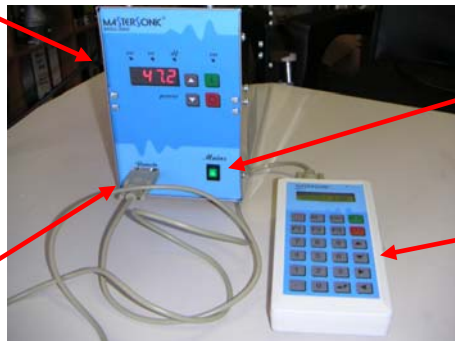
- A) Using the Handheld Control Unit MSH-1 (Remote Control Panel),  
or
- B) Connecting the generator to a PC serial port and controlling the system operation from the PC with the provided interface software.

Both options will produce the same results, but using the PC and control software is presenting much more flexible and comfortable way with additional visual and real time information about all operating system parameters.

### A) Generator Control using the MSH-1

MMM  
Generator:  
MSG.1200.IX

RS485 generator  
input connector

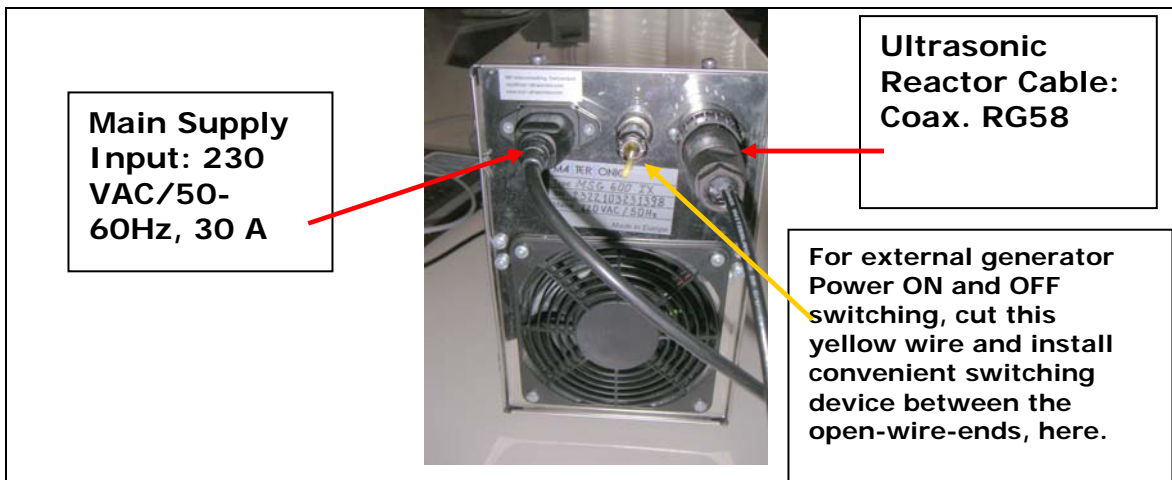


Main Power Switch  
for power ON and  
OFF

MSH-1

1. Plug-in the connectors between the Handheld Control Unit MSH-1 and RS485-connector on the front panel of the MSG.1200.IX generator. Handheld Control Unit MSH-1 will operate taking the power directly from the generator (no need for external DC power supply). See instructions regarding how to use MSH-1 on the system manual pages 26 to 29:

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)



**Main Supply  
Input: 230  
VAC/50-  
60Hz, 30 A**

**Ultrasonic  
Reactor Cable:  
Coax. RG58**

**For external generator  
Power ON and OFF  
switching, cut this  
yellow wire and install  
convenient switching  
device between the  
open-wire-ends, here.**

2. Connect the Ultrasonic Reactor and Main Power Supply cable to the rear panel of the MGG.1200.IX generator. Attention: Apply European 230 VAC, 50/60 Hz, 30 Amp. input power line. When using step-up or step-down transformer, use a 5 kW transformer (to have large safety margin for pulsed-power operations). See instructions on the system manual pages 8, 9 and 10:

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

Then Switch ON the Main Switch on the generator front panel: See the picture from the step 1.

Comments: Main Supply voltage variations between 220 VAC and 235 VAC are acceptable. Do not use 208 VAC, 60 Hz, because the system power would be reduced, and internal drivers of the MSG.1200.IX would not operate properly.

### B) Generator Control using the PC serial (RS) port



3. Switch-ON your PC and Download the generator control software file from the following address (if mentioned address can not be activated from this Adobe PDF document, go directly to internet and download the exe file):

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/inox%20control%20panel-17.5-28khz.exe](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/inox%20control%20panel-17.5-28khz.exe)

and then place it on the PC Desktop (the first screen you will see on your monitor, after initiating MS Windows, before using any software). You will see on your PC



desktop the following **Integrated Circuit Icon**: **Inox.exe** . Later, by clicking on that icon you will be able to activate the interface software for MSG.1200.IX control. Wait with software activation until you finalize the step 4. (see below).

4. Take the serial interface MMM-Link-2339 (or MSA2218, RS485 Adapter) and plug its cable-connectors between the PC serial port and RS485-connector on the front panel of the MSG.1200.IX generator (see pictures in step 3.). See instructions regarding how to use MMM-Link-2339 on the system manual (pages 30 and 31):

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

As noted in the step 2. The Main power supply and Reactor cable should be connected to the rear panel of the Generator.

Do not open the generator box. The system is factory regulated in the best possible way, so that you will be able to control your system from the MSH-1 or from the PC interface software.

5. Activate the Generator using the MSH-1 (option A)): See instructions regarding how to use MSH-1 on the system manual pages 26 to 29: ^

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

Or you can also activate and control the generator by clicking on the interface-



software icon: **Inox.exe** (option B)). See instructions regarding how to use software control on the system manual pages 30 and 31:

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

6. Apply the following, initial generator settings (before activating the generator START button, or before sending the ultrasonic power to the reactor):

- a) Read pages 13 and 14 of the following document:

[http://mastersonic.com/documents/mmm\\_basics/mmm\\_power\\_supplies/msg-ix-generators/latest/um\\_msg\\_ix\\_v6.pdf](http://mastersonic.com/documents/mmm_basics/mmm_power_supplies/msg-ix-generators/latest/um_msg_ix_v6.pdf)

- b) Set the Generator Power to not more than 30% of the total power,
- c) Set the MAX current to minimum,
- d) Set PWM period to: 0.010 s,
- e) Set PWM ratio to: 100%,
- f) Read and apply the specific document with the **best settings for your Ultrasonic Reactor** that will be sent to you by MPI.