

## User Interfaces

The iXblue Photonics ModBox-FE is a complete front-end laser system that is used as a seed source in high energy density laser facilities. The system is available at 1030 nm, 1053 nm and 1064 nm, it allows to generate 125 ps to 100 ns, custom shaped optical pulses with high stability and high extinction ratio > 60 dB.

A multiyear collaboration experience with major intense laser facilities all over the world allows iXblue to propose high performance, reliable and easy to use systems perfectly suited to the various applications related with high energy optical pulse generation.

A new and revolutionary control interface has been recently released. It allows a dynamic and easy control and optimization of the output signal wanted. An [on-line video](#) presents this new system. The remote interface connection is coming with Ethernet port (only).

### Seed Laser Control

- Switch On/Off
- Read & Write Optical power
- Read & Write the wavelength

The Read & Write is an indirect measurement: it allows to read and write in the directory where the value has been placed.

### Optical amplifier power control

- Switch On/Off
- Alarms are displayed in real time
- Read the amplifier's optical input power
- Read & Write the control mode (current or power)
- Read & Write of the optical output power level
- Read & Write the pump current level

### MBC circuits parameters control

- Auto / Manual mode control selection
- Read (real time) & Write modulator bias value
- Start a new calibration and scan

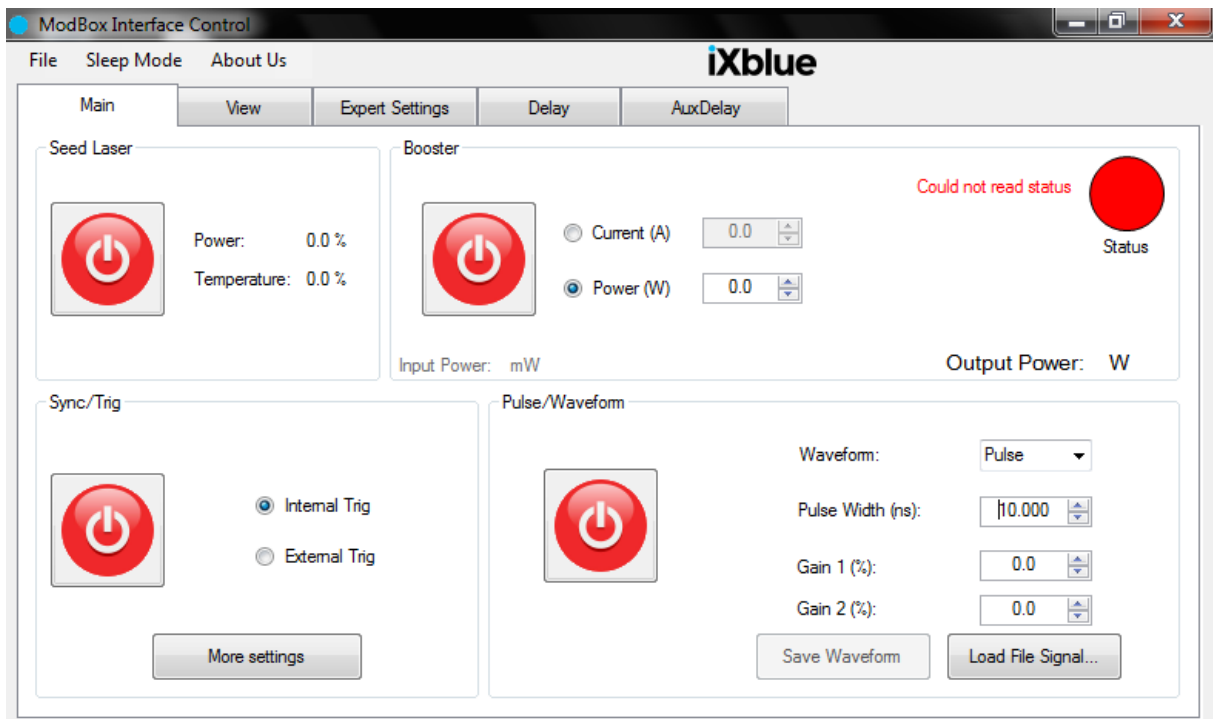
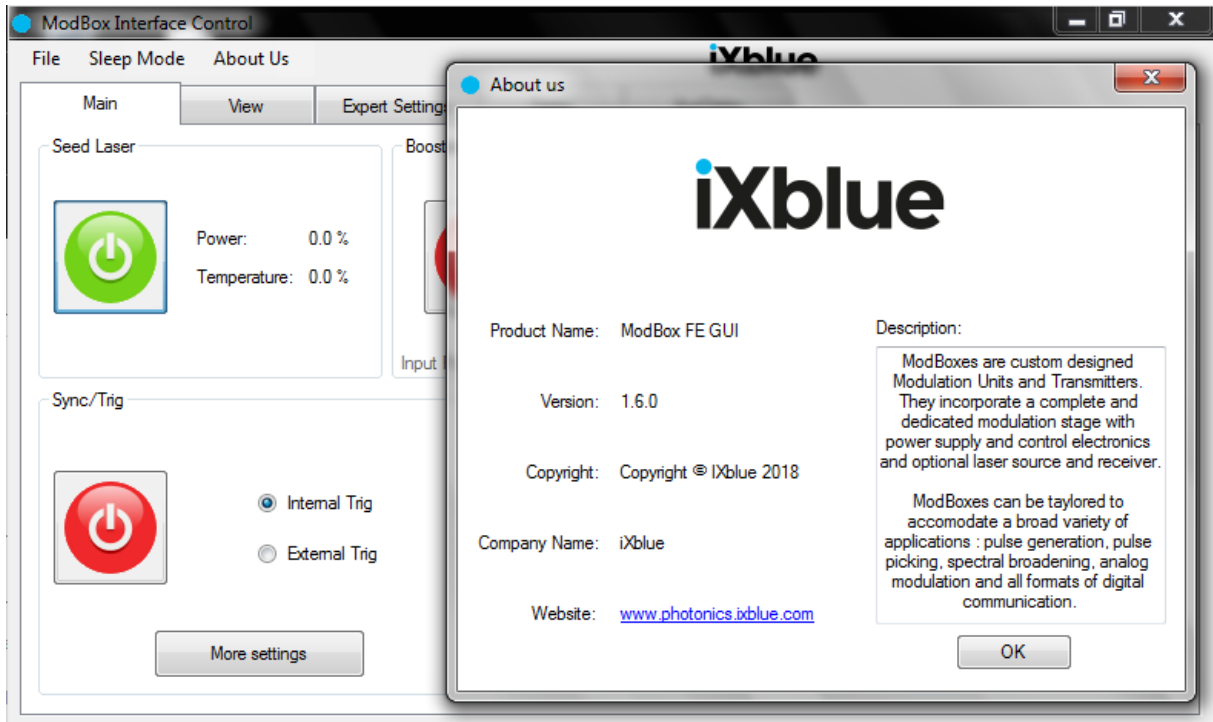
### Linear RF driver control

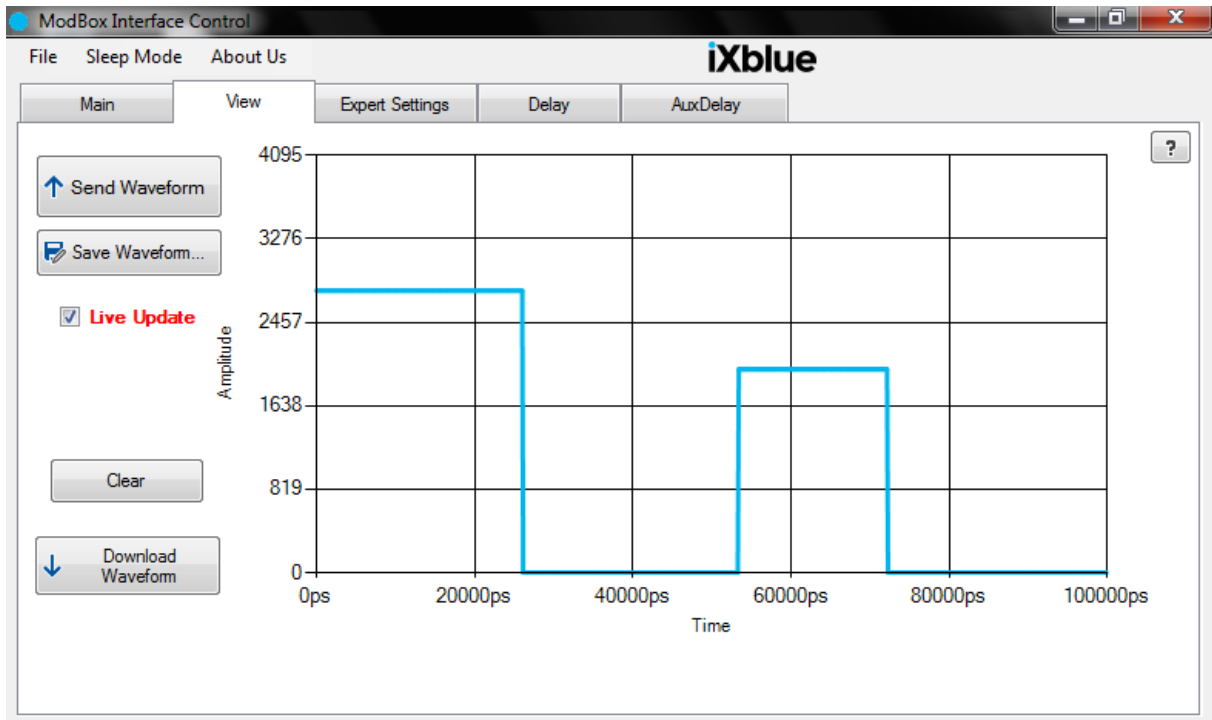
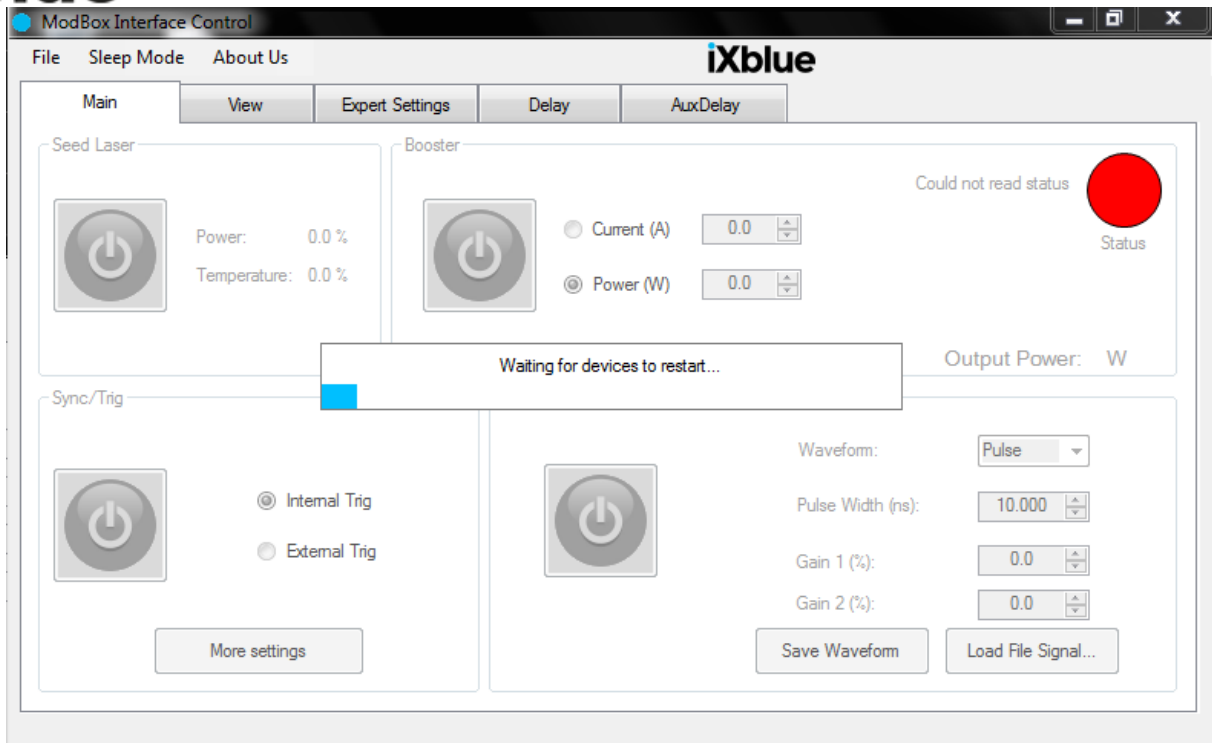
- Switch On/Off
- Read & Write gain (percentage)

### Arbitrary Waveforms and Delay Generators Control

- For an external clock source, selection of the clock reference value (10 MHz, 80 MHz)
- Selection of the trigger mode, internal or external (0 to 100 kHz)
- For an internal trigg (delay generator), Read & Write Frequency Repetition Rate (AWG)
- Read & Write pulse widths (AWG)
- Read & Write delays and synchronization pulses widths (delay generator) for all the channels
- Mode Pulse: Read & Write optical pulse widths and height of the square pulses (AWG)
- Arbitrary Mode: Read & write the stitch files, access to the import waveform (optical waveform to be generated, the ModBox realizes an automatic non-linear modulator response correction) stitch file (file using a ".txt" extension)
- Real time display (during the system operation) pulse waveform update







**ModBox Interface Control**

File Sleep Mode About Us **ixblue**

Main View **Expert Settings** Delay AuxDelay

**Seed Laser**  
 Power (%): 0.0  
 Temperature (%): 0.0

**RF:**  
 Gain 1 (%): 0.0 Gain 2 (%): 100.0  
 Enabled  Enabled  
 Optical Correction  
 Enabled Order: 3.0  
 Reload Waveform  
 Max Pulse Amplitude : (Pulse mode only) 4095  
 Step Channel:  
 Step Amplitude (mV): 3600  
 Step Delay (ps): 10  
 Step Width (ps): 20


**MBC1 Control:**  
 AUTO  MAN  
 DC : 1.000  
 Step (V): 0.1  
 MIN  MAX  
 Scan restart Record DC Bias  
 Photodiode Polarity  
 Not Inverted DC: mV  
 Inverted  
 Dither Amp. (mV): 0  
 Dither Freq. (Hz): 920  
 Photodiode Gain : 50  
 Save parameters

**MBC2 Control:**  
 AUTO  MAN  
 DC : 1.000  
 Step (V): 0.1  
 MIN  MAX  
 Scan restart Record DC Bias  
 Photodiode Polarity  
 Not Inverted DC: mV  
 Inverted  
 Dither Amp. (mV): 30  
 Dither Freq. (Hz): 1080  
 Photodiode Gain : 50  
 Save parameters

**ModBox Interface Control**

File Sleep Mode About Us **ixblue**

Main **View** Expert Settings Delay AuxDelay



Internal Trig  
 External Trig

Channel:	Delay (ns):	Amplitude (mV) :	Width (ns) :
SCOPE		5000	100
AOM:	0.00	5000	100
EOM:	0.00	5000	100
SB:	0.00	5000	100
AMP:	0.00	5000	100

**External Trigger Settings**  
 Threshold: 1200 mV  
 Prescaler: 1  
 Polarity  
 Falling Edge  
 Rising Edge

**Internal Trigger Settings**  
 Repetition Rate: 1000 Hz



