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Rack High-Power Multi-Channel 1060nm SM/PM Booster Fiber Amplifier

User Manual

P/N: YTFA-11xxx0xxxxx

Version: 2026-9



Warning

When Emission Button is turned on the output of amplifier will be on at the power level previously set at factory, which is 25dBm total. This power level can be changed through provided GUI.

Warning

For amplifiers with maximum output power is or higher than 30dBm/1W one of the two options of output fiber below is required.

- A pair of fiber optic patch cables with matched high-power connectors
- Splicing of two matched fiber optic cables

Fail to do so will cause severe damage to output fiber, even to amplifier.

Warning

All fiber connectors need to be cleaned and inspected before connecting them to the input and output of amplifier.

Fail to do so might cause poor performance of amplifier, severe damage to fiber and even amplifier.

1 Warning

- 1) Only single mode fiber (Hi1060 or PM980) cable is compatible to this amplifier. Using of other fiber cables, including multimode fiber cables and single-mode fiber cables with different core size, may cause poor performance or even damage to the amplifier.
- 2) Only connectors as indicated on the front panel are allowed, such as FC/APC, SC/APC, etc.
- 3) Clean and inspect connectors and fiber ends prior to installation.
- 4) Use only industry approved methods, materials, and solutions for cleaning.
- 5) Always turn off the YTFA prior to plugging/unplugging fiber cable. Failure to do so may cause permanent damage to the YTFA.

2 Summary

The front and rear panels of YTFA are shown in Figure 1.



Figure 1: Front and rear panels of multi-channel YTFA

- The module needs 100-240V AC power. Its on-off power switch locates on rear panel.
 - The fiber connectors on its front panel are for laser input and output. Hi1060 or PM 980 optical fiber cables are required for this model.
 - The male RS-232 port on rear panel is for remote control.
- Note: the USB port on the rear panel is not functional for this model.
- The Emission Button is for ON/OFF of whole unit.

Note:

- a. When it is OFF RS-232 functions are disabled.
- b. The YTFA is designed to work between -10 ~ 60°C temperature range. Humidity should not exceed 90%. Installation is recommended in a temperature & humidity controlled, dust-free environment.

3 Connection and Operation

Warning

- **This YTFA will have 25dBm output once the ‘Emission’ button lights up and > -5dBm input laser power is sent to the input port, even without GUI connection.**
 - **An initial 25dBm output was set in factory and can be changed and saved by using GUI.**
- 1) Plug the AC power cord into the receptacle on the rear panel of the module, and connect to 100-240V AC power source.
 - 2) Clean the connectors of single-mode optical fiber cables properly, and then connect them to the corresponding input/output ports.
 - 3) Connect the YTFA to a host computer.

Option 1: use the RS-232 cable coming with the YTFA to connect it to a RS-232 port of the host computer.

Option 2; use both the RS-232 cable and a provided RS-232-to-USB cable to connect YTFA to a USB port of the host computer.

FTDI driver needs to be installed on the host computer, which is available on the flash drive coming with the YTFA.

- 4) Turn power on using the rocker switch on the rear panel of the device.
- 5) Push the Emission button down to turn on the whole device. The Emission Button will be lighted up in blue. Now the device will have 26dBm output power.
- 6) Remote software control (GUI) provided can be used for getting YTFA status, changing output power, saving setting, etc. Please see Part 4 for detailed instruction.

Please note that the output power level set in GUI is the total power of all output channels.

- 7) Pushing the Emission button to turn off the YTFA.

4 Software Instruction

Note:

USB to COM driver for FTDI devices needs to be installed on the host computer for USB remote control. The driver can be downloaded from <https://ftdichip.com/drivers/vcp-drivers/>.

- 1) Download GUI software 'EDFA GUI V3.1' from the link below, under Other Download.

<https://photonwares.com/product/erbium-doped-fiber-amplifier-module/>

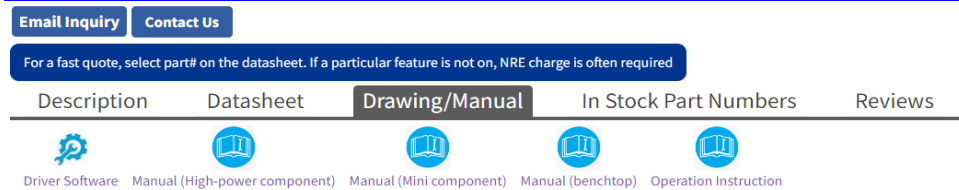


Figure 2: Driver download link

- 2) Unzip the file and run setup.exe to install the GUI on host computer.
- 3) Turn on Emission on the front panel of the YTFA to power up the whole unit and enable RS-232 functions.
- 4) Run EDFA GUI V3.1.
- 5) Choose device model.
 - Maximum output power 1W/30dBm or less: **YTFA-BL**
 - Maximum output power 2W/33dBm or higher. **YTFA-BH**

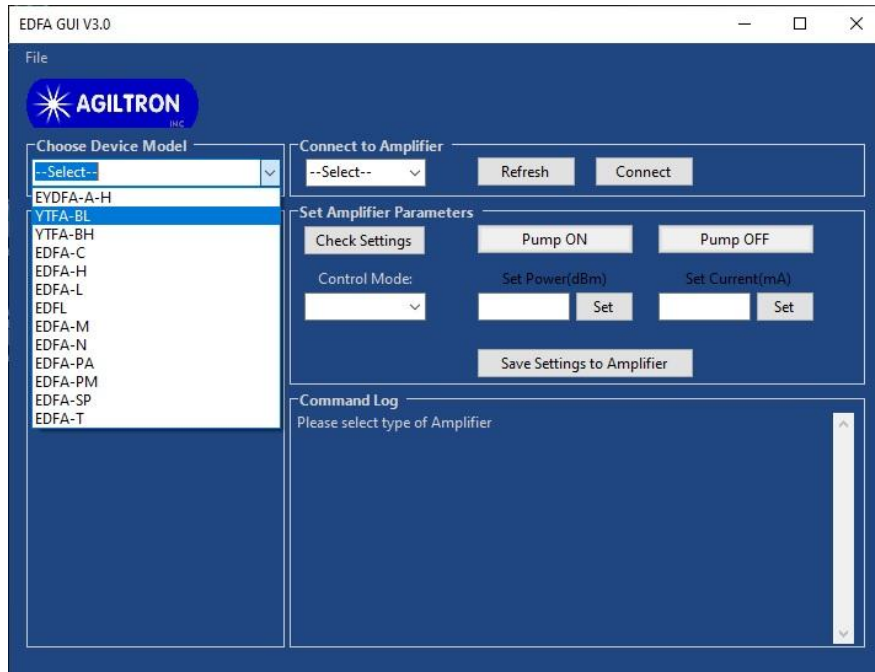


Figure 3: Remote control software: model selection

6) Port Selection:

Select the serial port, to which the YTFA is connected, from the 'Port List', and click 'Connect'. If the desired port doesn't show up click 'Refresh' button and try again.

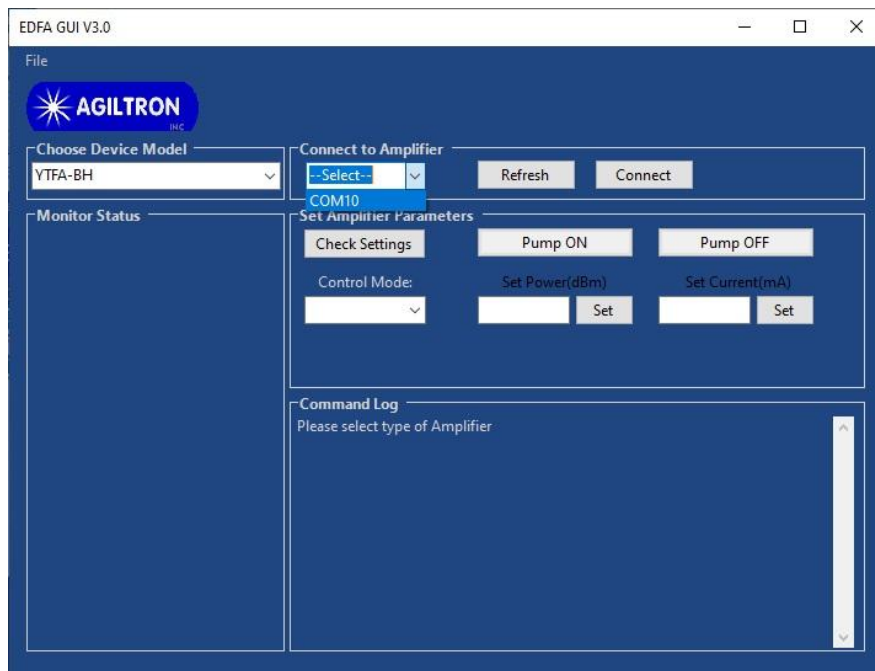


Figure 4: Remote control software: port selection

- 7) Click 'Connect' button to build the connection between computer and the YTFA.
- 8) Once YTFA has been connected successfully the status of the YTFA will be displayed in Monitor Status window. The status keeps updating at an interval of 1 second.

9) Check Setting

Click to get the settings from the YTFA.

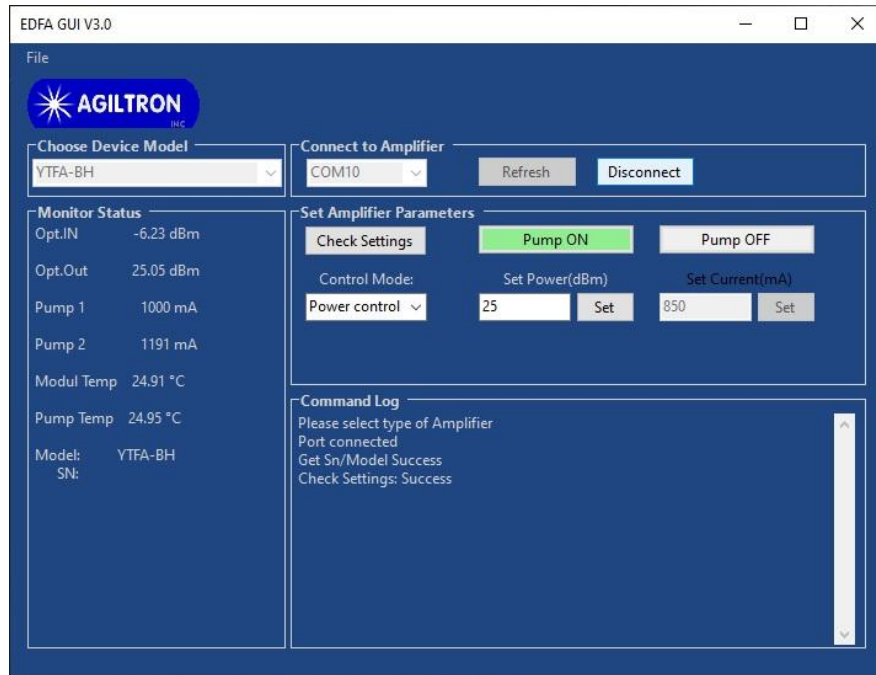


Figure 5: Remote control software: connected successfully.

10) Control Mode Selection

Click 'Control Mode' button to get the current mode setting of YTFA.

- Power Control: constant power control mode.

Adjustable range: 10% - 100% (10dB)

- Current mode: constant current control mode

Adjustable range: 0 ~ 100% (Note: there is a threshold current).

Select the desired mode and input setting value into the corresponding 'Set Power(dBm)' or 'Set Current(mA)' box, then click 'Set' button.

Note:

The power setting in GUI is for the total output power of all channels.

11) Save Settings

Each time when 'Set' button is clicked current settings will be saved to the YTFA.

When turn on the YTFA next time it will run under saved settings, even without GUI connection.

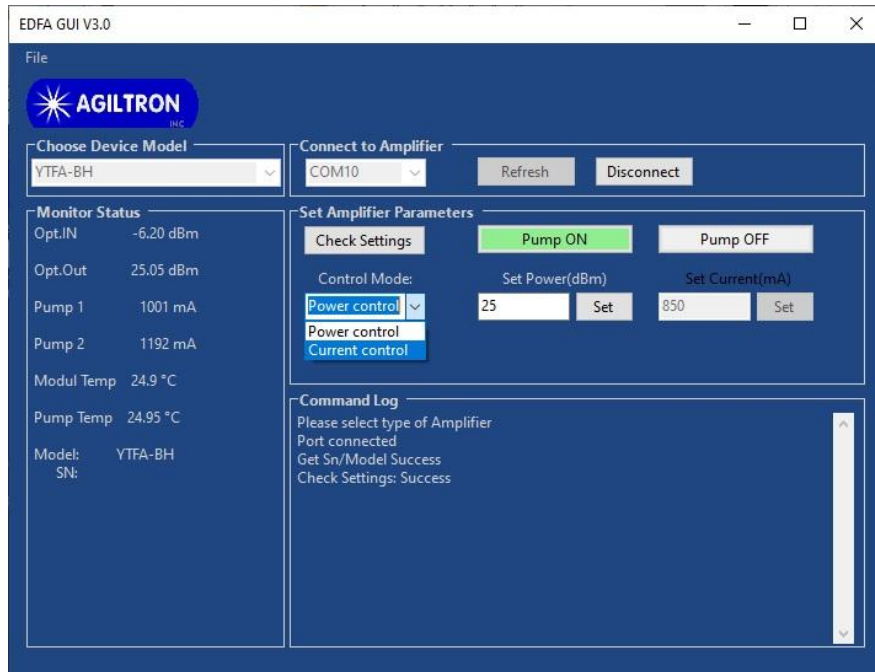


Figure 6: Remote control software: control mode selection

12) Pump ON/OFF

Click to turn on/off the YTFA pump laser, thus to turn on/off its output.

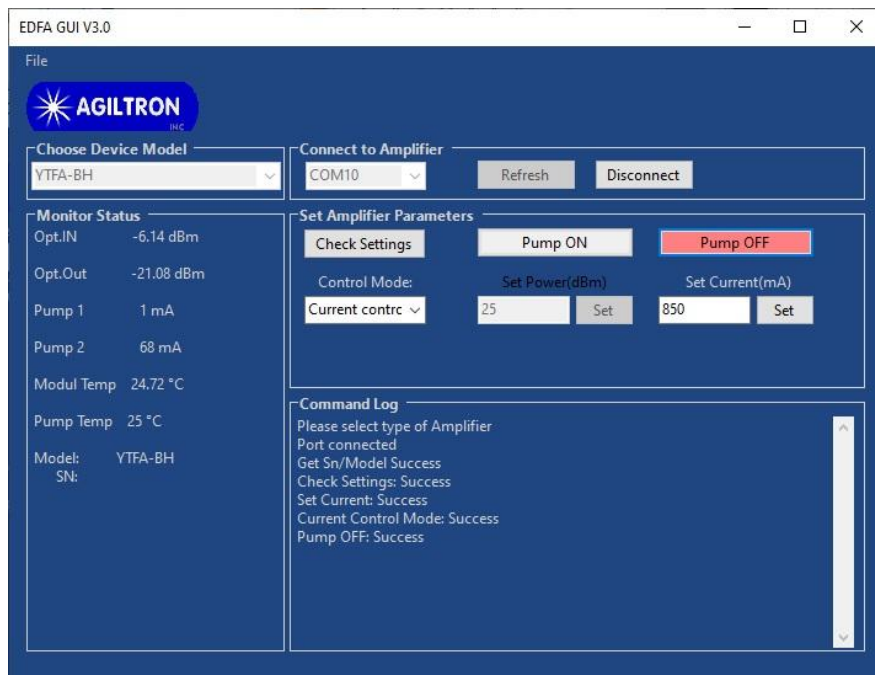


Figure 7: Remote control software: output is turned off.