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Fiber Optical Tunable Filter User Manual

Agiltron Inc.

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1. General Information

The package includes the tunable filter device, a wall pluggable power supply, a USB cable, a USB flash disk containing driver GUI, and a user manual.

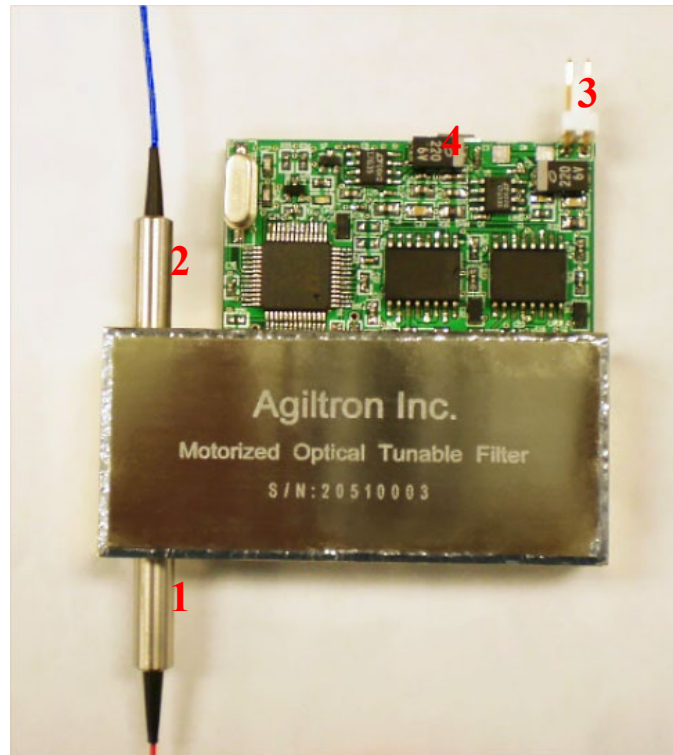


Fig.1 Tunable filter device

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- (1) Optical Input
 - (2) Optical Output
 - (3) Power Connector
 - (4) USB Interface Connector to Computer
-

2. Operations of Evaluation Software

2.1 Install the program

- (1) Inset the USB flash disk in a PC.
- (2) Copy all files to a specified folder.

2.2 Run the program

- (1) Connect the Tunable Filter with the PC by the USB cable.
- (2) Power the Tunable Filter with the "5V DC power supply adapter" in the package. It takes about 30 seconds for initialization.

(3) Run the file "Motorcon.exe". The user interface "Agiltron Tunable Filter Control" shows on the monitor if the PC communicates with the Tunable Filter successfully. See Fig. 2.

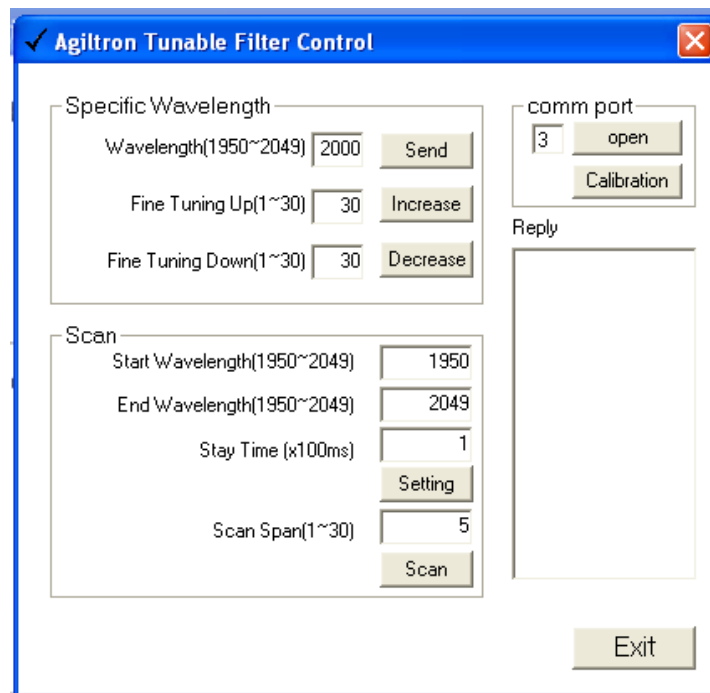


Fig.2 User Interface

If it shows the message in Fig.3, Pleright-click clicks the 'regsvr32.exe' and set the compatibility to administrator, then apply. Drag the 'MSCOMM32.OCX' over to regsvr32.exe to register it. See Fig. 4.

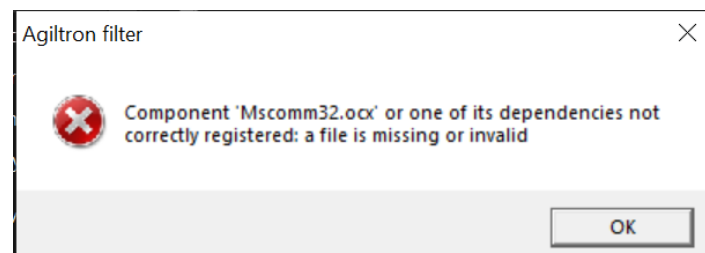


Fig.3 Registration Error

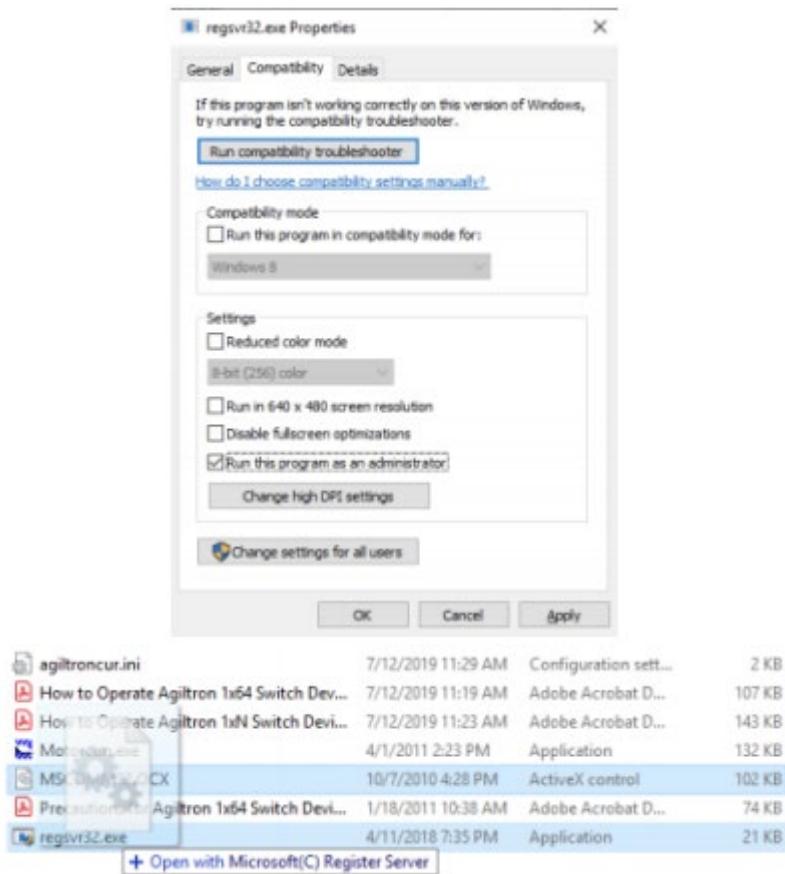


Fig.4 Registration process

If the "Comm port" number is different from the actual port connected, then there will be a message bumping up. See Fig. 5.

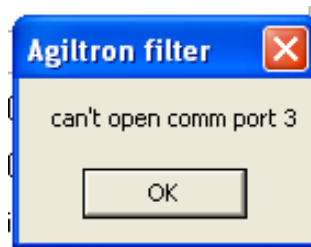


Fig.5 Wrong Com Port Message

Once you click the "OK" button, the "Agiltron Tunable Filter Control" interface will be displayed. Now you can set up the "Comm Port" number to match which one is being used. Click the "Open" button to open the Com port. The "Reply" window will display "open successfully."

(4) The evaluation program has three functions.

Function 1: "Specific Wavelength." Set up a wavelength between 1510 nm to 1589 nm and click the button "Send" the filter will be tuned to that wavelength.

Function 2: "Fine Tuning." Click the "Increase" or "Decrease" button to tune the filter finely to higher or lower wavelength positions. Each click can run the step motor 1 to 30 steps. For example, it takes about ten steps to tune 1 nm.

Function 3: "Scan." Set up "Starting Wavelength," "End Wavelength," and "Stay Time" by clicking the button "Setting." Input 1 nm to 30 nm "Scan Span" and click

the button "Scan" the filter continuously continues scanning of the defined wavelength range.

(5) Click the "Exit" button to exit the software (The device will continue to finish its current task).

3. Communication protocol

Users can use the following protocol to communicate with the Tunable Filter and control its position.

Hardware setting: com port, 9600 bits per second, No parity, Data bits 8, 1 stop bit.

Command description:

When powered up, the device sends 'V2'. After successful initialization, the device sends 'o'; otherwise, it sends 'e' if there is an error in the hardware.

Each command is terminated with ','.

When there is a hardware error, unrecognized command, incorrect command format, or the previous command has not been completed, the device replies with 'e.'

command	format	range	reply
Select channel	C[n],	[n] wavelength(nm); 1510<[n]<1589	C
Scan start	S[n],	[n]: scan span; 1<[n]<30	S: start; S[n]: current wavelength; O: finish
Scan start wavelength	L[n],	[n]: start wavelength(nm); 1510<[n]<1589	L[n]: previous value
Scan end wavelength	H[n],	[n]: end wavelength(nm); 1510<[n]<1589	H[n]: previous value
Scan pause time for each wavelength	T[n],	[n]: wait time(second); 1<[n]<30; default 1	T[n]: previous value
Increase the wavelength	I[n],	[n]: Fine-tuning up n steps 1<[n]<30	I
Decrease the wavelength	D[n],	[n]: Fine-tuning down n steps 1<[n]<30	D
Version	V,		V2