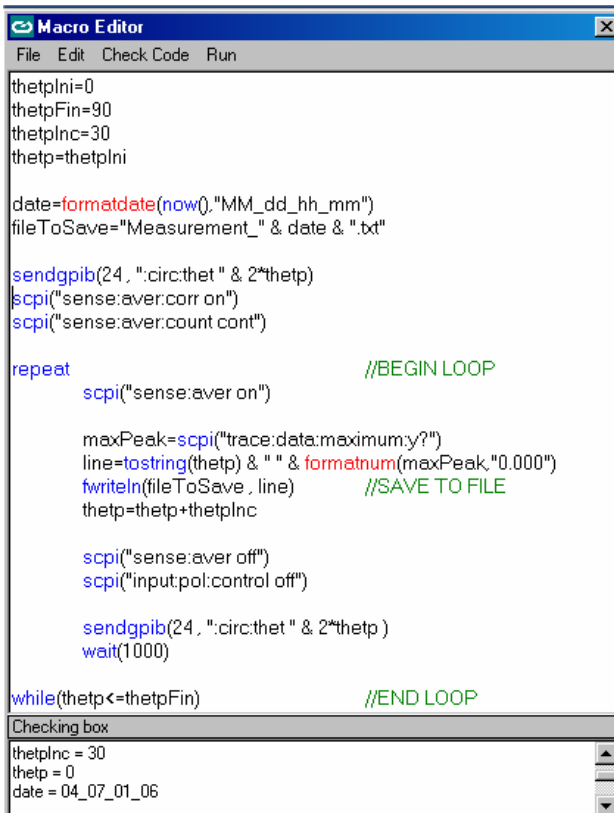


Macro Editor Tool in the **BOSA**

*Abstract: The Macro Editor Tool in the **BOSA** allows you to control and program your own high optical resolution applications.*

The Macro Editor Tool is a new programming function in the BOSA that allows you to automate measurements, processes and create specific applications. Using the BOSA you are able to program anything, set the measurement conditions from span range to number of averages or sampling rate, manipulate markers, save data to file, store traces on disk and control external instruments.



```

Macro Editor
File Edit Check Code Run

thetpIni=0
thetpFin=90
thetpInc=30
thetp=thetpIni

date=formatdate(now(),"MM_dd_hh_mm")
fileToSave="Measurement_" & date & ".txt"

sendgpib(24, ".circ:thet " & 2*thetp)
scpi("sense:aver:corr on")
scpi("sense:aver:count cont")

repeat //BEGIN LOOP
  scpi("sense:aver on")

  maxPeak=scpi("trace:data:maximum.y?")
  line=tostring(thetp) & " " & formatnum(maxPeak,"0.000")
  fwriteIn(fileToSave, line) //SAVE TO FILE
  thetp=thetp+thetpInc

  scpi("sense:aver off")
  scpi("input:pol:control off")

  sendgpib(24, ".circ:thet " & 2*thetp)
  wait(1000)

while(thetp<=thetpFin) //END LOOP

Checking box
thetpInc = 30
thetp = 0
date = 04_07_01_06
  
```

Fig.1 – Macro editor window

We have developed a friendly and easy to use programming language which allows String, Boolean or Numeric Data Types, Math Operation and Control Flux to automate measurement and control the operation of the BOSA. This is done thanks to the function 'scpi()', that executes a SCPI command locally in the BOSA, and even controlling other instruments connected to the BOSA using its GPIB interface without the need of a external computer.

The macro editor tool consists of a syntax highlight text window that can be opened from the menu "Tools -> Macro Editor", a new macro can be written or you can load a saved one from disk. There is not any limit concerning the number of the macros or the number of steps in a macro.

To execute a macro: open the macro editor, load the macro (or write a new one) and click the “Run” menu item of the editor itself, the editor window is then minimized and the execution begins. Before running the macro you may check the code and if any error is detected the macro editor warns you.

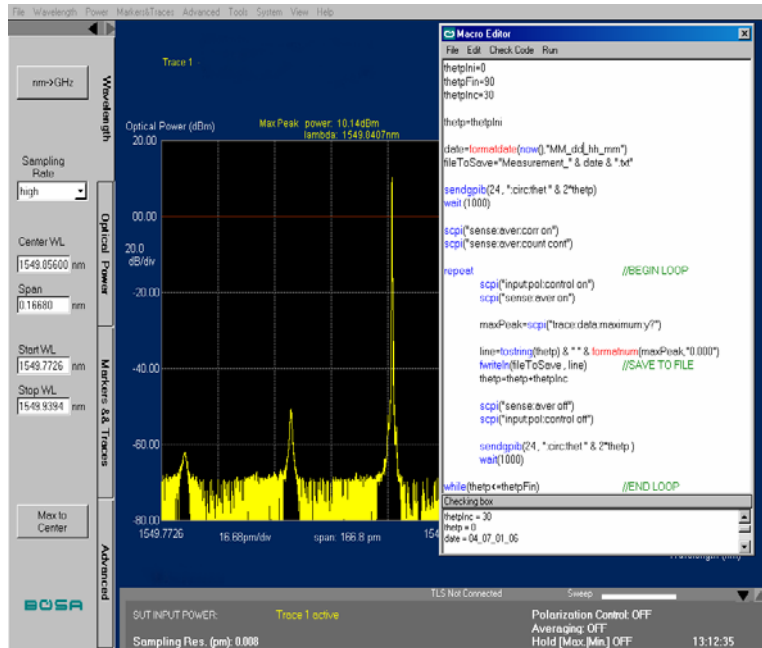


Fig.2 – Macro editor tool

During the macro running you will be informed about the macro progress, and the results can be saved on data files to be processed or analysed with other specific software tools.

Benefits of using the Macro Editor Tool in the **BOSA**

- Now you are able to **perform automatic measurements** eliminating any tedious operations and without the use of an external computer.
- Develop and **program your own experiments and applications** based on high resolution optical spectrum measurements.
- Use the **BOSA as GPIB controller** for external equipment in your measurement system.
- We can help you in the development of any specific function or **customized application** you need to carry out your experiments.

All the best

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