Agilent 871xE to E5061A/E5062A State File Converter

User's Guide

First Edition

Agilent Technologies

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Manual Printing History

The manual's printing date and part number indicate its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates that are incorporated at reprint do not cause the date to change.) The manual part number changes when extensive technical changes are incorporated.

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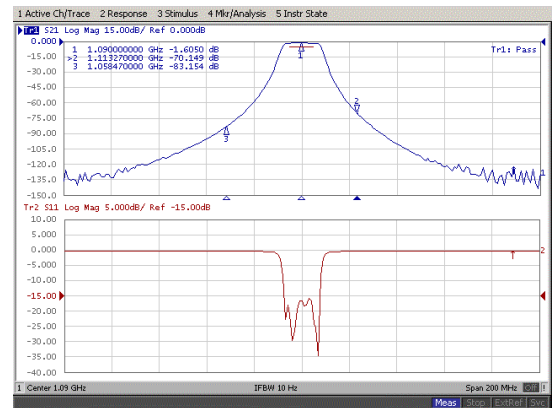**Agilent 871xE to E5061A/E5062A State File Converter User's Guide**

1. Overview of the program

The 871xE to E5061A/E5062A State File Converter Program reads the state files of 871xE series network analyzers and sets up the E5061A or E5062A network analyzer according to the obtained state file data. The program is a VBA program that runs in the E5061A/E5062A analyzers.

871xE State
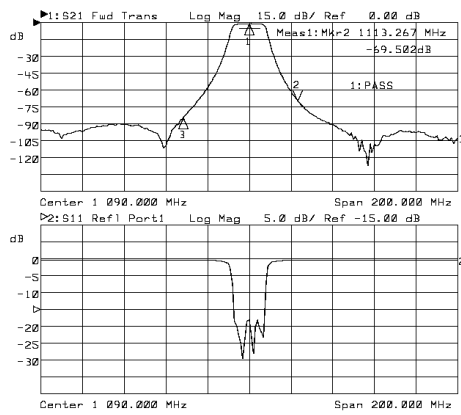
E5061A/E5062A State

## 2. How to convert the 871xE state file to the E5061A/E5062A state file

Step1.   Press **[Macro Setup]** and **{Load Project}**.

Step2.   The Open dialog box appears. Specify the file name **"stat871x.vba"** and press the **Open** button.

Step3.   Press **[Macro Run]** to start the macro.

NOTE   If you save a VBA program directory under D:¥VBA in the analyzer, you can load and run the program by pressing **[Macro Setup]** and **{Load&Run}.**

Step4.   The 871x state file selection dialog box appears as shown in the figure below. Specify the state file name to convert and press the **Open** button to set up the analyzer.
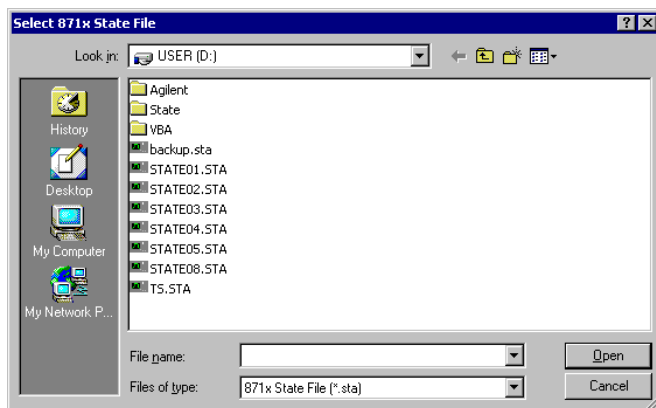
NOTE   The converter program only can read state files of the 871xE series. If you have state files of older analyzers, such as the 871xC, convert the state files to the 871xE series format by using the 871xE network analyzers.

Step5.   Modify the analyzer settings as necessary. Refer to the following sections for information on the settings that might need modifications.

Step6.   Save the analyzer state in the E5061A/E5062A format by pressing **[Save/Recall]**, **{Save State}**, and the corresponding softkeys. Refer to the analyzer User's Guide for complete procedures on how to save this state.

3. Settings that might be different from the 871x settings

Power level

When the 871x setting is larger than the maximum power setting of the E5061A/E5062A, the power level is set to the maximum available setting of 10 dBm. When the 871x setting is smaller than the minimum setting of the E5061A/E5062A, the level is set to the minimum available setting of either –5 dBm (without attenuator options) or –45 dBm (with attenuator options).

Power Sweep Start/Stop

When the stop power setting of the 871x is larger than the maximum power setting of the E5061A/E5062A, the level is set to the maximum available setting of the analyzer. When the stop power setting of the 871x is smaller than that of the E5061A/E5062A, the level is set to the minimum available setting of the analyzer.

The power range is selected according to the stop power setting, and the start power level is set as close to the 871x setting as possible within the power range.

The following table lists the power rangesthat may be selected:

Power ranges
-5 to 10 dBm
-15 to 0 dBm
-25 to –10 dBm
-35 to –20 dBm
-45 to –30 dBm

Only the –5 to 10 dBm power range is available when the analyzer is not equipped with the attenuator options.

IF Bandwidth

The table below shows the IF bandwidth conversion. Note that with these settings, the E5061A/E5062A provides a wider dynamic range and smaller trace noise than the 871x. The wider IF bandwidth can be used to maximize measurement speed.

871x	E5061A/E5062A
Wide 6500 Hz	30 kHz
Med Wide 4000 Hz	10 kHz
Medium 3700 Hz	10 kHz
Med Narrow 1200 Hz	3 kHz
Narrow 250 Hz	1 kHz
Fine 15 Hz	10 Hz

Channel and Trace

Channel and trace are set as follows, depending on the alternate sweep setting of the 871x:

Altenate sweep	871x	E5061A/E5062A
ON	Meas 1	Ch1_Tr1
	Meas 2	Ch2_Tr1
OFF	Meas 1	Ch1_Tr1
	Meas 2	Ch1_Tr2

4. Major settings that are disregarded in the converter program

The settings related to the following functions are disregarded because these functions are not available for use with the E5061A/E5062A

- Broadband detector measurement
- Absolute power measurement
- Marker limit test

NOTE The marker function and limit line test function themselves are available; however, the marker limit test function that allows limit tests based on marker values is not available.

The settings related to the following functions are disregarded, but you can manually set up the analyzer if necessary:

- Calibration
- Trace Data
- Multiport Test Set Control

The table below lists the 871x commands corresponding to the 871xE series state file data that are disregarded by the converter program.

ABORt	DISPlay:ANNotation:LIMit:ICON[1|2] :POSition:Y
CALCulate[1|2]:DATA?	DISPlay:ANNotation:LIMit:ICON[1|2] :TEXT[:STATe]
CALCulate[1|2]:FORMat:UNIT:MLIN	DISPlay:ANNotation:MARKer[1|2]:NUMBers [:STATe]
CALCulate[1|2]:FORMat:UNIT:MLOG	DISPlay:ANNotation:MARKer[1|2][:STATe]
CALCulate[1|2]:GDAPerture:APERture	DISPlay:ANNotation:MESSage:AOFF
CALCulate[1|2]:GDAPerture:SPAN	DISPlay:ANNotation:MESSage:CLEar
CALCulate[1|2]:LIMit:DISPlay:FLATness:MAXimum	DISPlay:ANNotation:MESSage:DATA
CALCulate[1|2]:LIMit:DISPlay:FLATness:MINimum	DISPlay:ANNotation:MESSage:STATe
CALCulate[1|2]:LIMit:MARKer:*	DISPlay:ANNotation:YAXis:MODE
CALCulate[1|2]:LIMit:SEGMent:AOFF	DISPlay:CMAP:COLor[1|2|16]:*
CALCulate[1|2]:MARKer:AOFF	DISPlay:CMAP:DEFault
CALCulate[1|2]:MARKer:FUNCtion:RESult?	DISPlay:CMAP:SCHeme
CALCulate[1|2]:MARKer[1|2|8]:GDELay?	DISPlay:FORMat:EXPAND
CALCulate[1|2]:MARKer[1|2|8]:MAXimum	DISPlay:MENU:*
CALCulate[1|2]:MARKer[1|2|8]:MAXimum:LEFT	DISPlay:PROGram[:MODE]
CALCulate[1|2]:MARKer[1|2|8]:MAXimum:RIGHt	DISPlay:WINDow[1|2|10]:GEOMetry:*
CALCulate[1|2]:MARKer[1|2|8]:MINimum	DISPlay:WINDow[1|2|10]:GRAPhics:*
CALCulate[1|2]:MARKer[1|2|8]:MINimum:LEFT	DISPlay:WINDow[1|2]:TRACe:GRATicule:GRID[:STATe]
CALCulate[1|2]:MARKer[1|2|8]:MINimum:RIGHt	DISPlay:WINDow[1|2]:TRACe[1|2][:STATe]
CALCulate[1|2]:MARKer:REFerence:X?	DISPlay:WINDow[1|2]:TRACe:Y[:SCALe]:AUTO
CALCulate[1|2]:MARKer:REFerence:Y?	DISPlay:WINDow[1|2|10]:TRACe[1|2]:Y:TRACk
CALCulate[1|2]:MARKer[1|2|8]:Y?	DISPlay:WINDow[1|2|10]:TRACe[1|2]:Y:TRACk:FREQuency
CALCulate[1|2]:MARKer[1|2|8]:Y:INDuctance?	FORMat:BORDer
CALCulate[1|2]:MARKer[1|2|8]:Y:MAGNitude?	FORMat[:DATA]
CALCulate[1|2]:MARKer[1|2|8]:Y:PHASe?	HCOPy:*
CALCulate[1|2]:MARKer[1|2|8]:Y:REACtance?	INITiate[1|2][:IMMediate]
CALCulate[1|2]:MARKer[1|2|8]:Y:RESistance?	INPut:GAIN:AUTo
CALCulate[1|2]:MATH[:EXPRession]	INPut:GAIN:SETTing
CALibration:SELF:ALL	MMEMory:*
CALibration:ZERO:AUTO	PROGram:*
CONFigure	ROUTe[1|2]:PATH:DEFine
CONTrol[1|2]:MULTiport:STATE	SENSe[1|2]:AVERage:CLEar
DISPlay:ANNotation:CHANnel[1|2][:STATe]	SENSe[1|2]:CORRection:*
DISPlay:ANNotation:CHANnel[1|2]:USER:LABel:DATA	SENSe[1|2]:CORRection:IMPedance:INPut:MAGNitude:SELect
DISPlay:ANNotation:CHANnel[1|2]:USER:STATe	SENSe[1|2]:CORRection:LENGth:COAX ⟨num⟩
DISPlay:ANNotation:CLOCk:DATE:FORMat	SENSe[1|2]:DETector[:FUNCtion]
DISPlay:ANNotation:CLOCk:DATE:MODE	SENSe[1|2]:FREQuency:SPAN:MAXimum
DISPlay:ANNotation:CLOCk:SEConds[:STATe]	SENSe[1|2]:FUNCtion:*
DISPlay:ANNotation:FREQuency[1|2]:RESolution	SENSe[1|2]:FUNCtion:SRL:SCAN[:IMMediate]
DISPlay:ANNotation:FREQuency[1|2]:USER:LABel:DATA	SENSe[1|2]:ROSCillator:SOURce
DISPlay:ANNotation:FREQuency[1|2]:USER:STARt	SOURce:POWer:PRESet
DISPlay:ANNotation:FREQuency[1|2]:USER:STATe[OFF|ON]	STATus:*
DISPlay:ANNotation:FREQuency[1|2]:USER:STOP	SYSTem:*
DISPlay:ANNotation:FREQuency[1|2]:USER:SUFFix[:DATA]	TEST:*
DISPlay:ANNotation:LIMit:ICON[1|2] :POSition:X	TRACe:*