1. Outline of U3800 Vector Correction (Using External SG)

The vector correction of 8GHz or more is done by using external SG. The correction data of Specific Span or InBand can be acquired with U3800, external SG, and a personal computer using GPIB or LAN. (U3800's firmware version is **D00** or later.)

The sample software that exists in the U3800 manual is offered by the electronic file.

Please refer to the following chapter for details of the content.

6.13 Multiple-Points Correction Using External Signal Sources

6.14.2 Example Program for Correcting Multiple Points Using External Signal Source
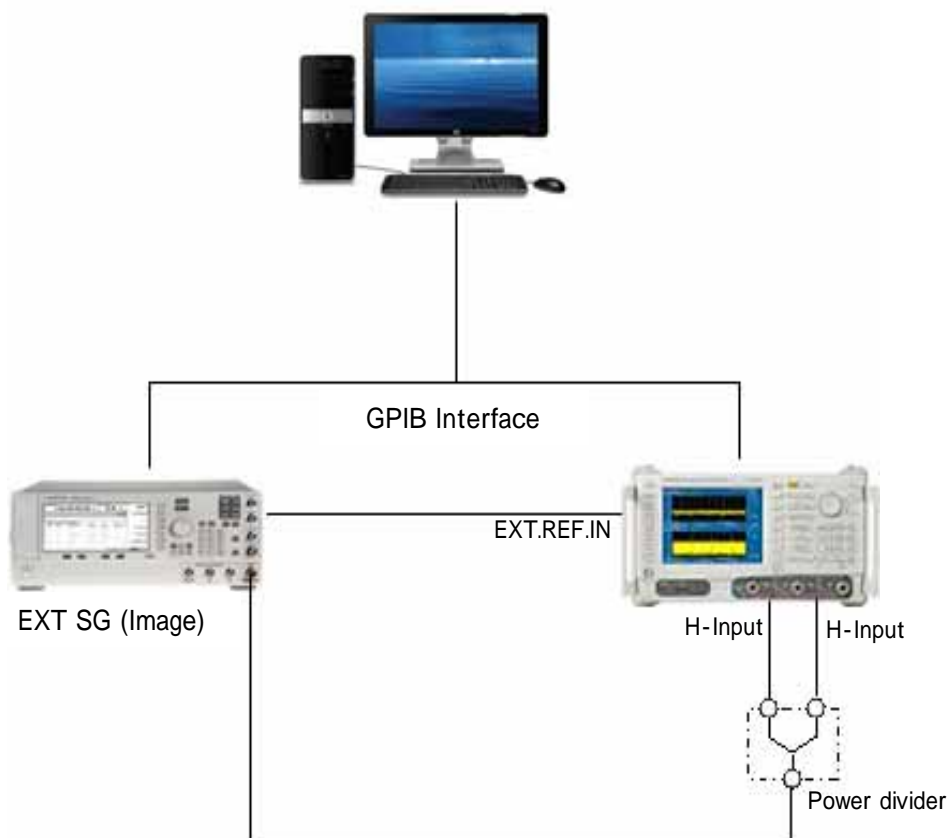
1.1. <u>Configuration (GPIB)</u>

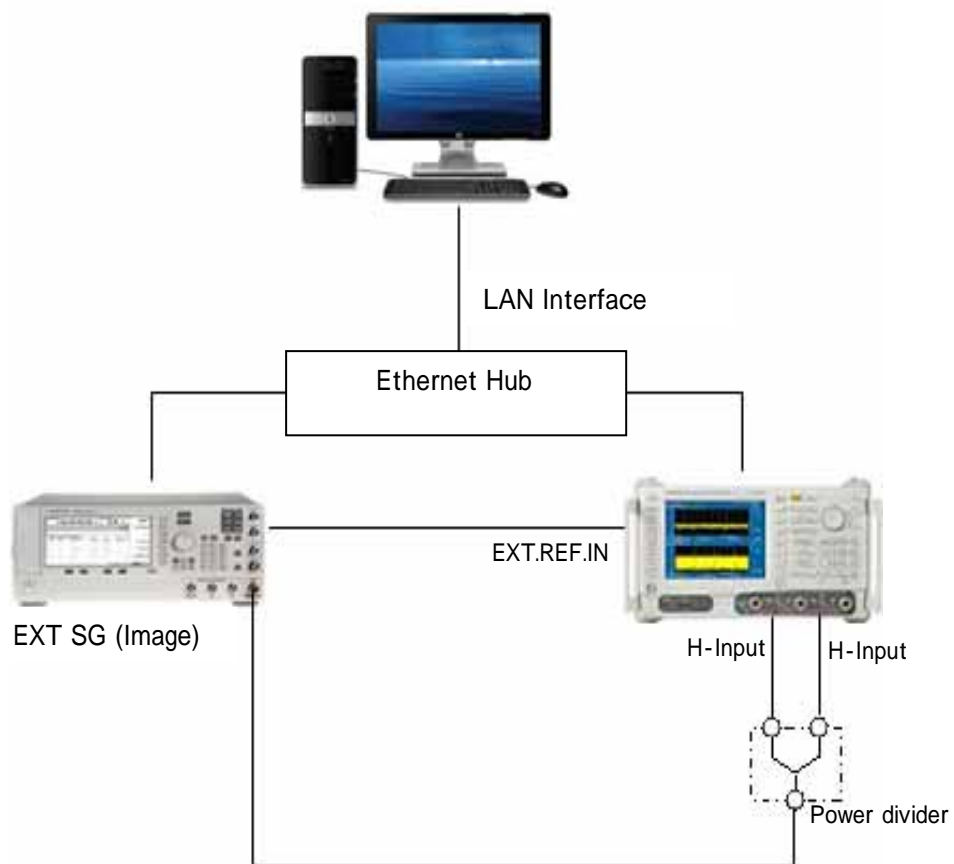Fig.1 Configuration (GPIB)

1.2   Configuration (TCP/IP)

Fig.2 Configuration (TCP/IP)

2 U3800 External Vector Correction Command List

To execute U3800 Vector Correction, the special commands are prepared.

The table is shown in the following.

Specific Span Command List

No.	Function	Command (EXE, SET)		Query (GET)	
		Code	Arguments	Code	Output
1	Vector Correction Specific Span Initialize	VCFSEXTINIT	---	---	---
2	Vector Correction Specific Span Get Step Size	---	---	VCFSEXTSTPSZ?	Integer
3	Vector Correction Specific Span Set Index	VCFSEXTIDX*	Integer	---	---
4	Vector Correction Specific Span Get Correction Data	VCFSEXTEXE	---	---	---
5	Vector Correction Specific Span Finish	VCFSEXTFINISH	---	---	---
6	Vector Correction Specific Span Abort	VCFSEXTABORT	---	---	---

InBand Command List

No.	Function	Command (EXE,SET)		Query (GET)	
		Code	Arguments	Code	Output
1	Vector Correction InBand Initialize	VCINBEXTINIT	---	---	---
2	Vector Correction InBand Get Step Size	---	---	VCINBEXTSTPSZ?	Integer
3	Vector Correction InBand Set Index	VCINBEXTIDX*	Integer	---	---
4	Vector Correction InBand Get Frequency Offset	---	---	VCINBEXTFO?	Frequency
5	Vector Correction InBand Get Correction Data	VCINBEXTEXE	---	---	---
6	Vector Correction InBand Finish	VCINBEXTFINISH	---	---	---
7	Vector Correction InBand Abort	VCINBEXTABORT	---	---	---

21. **Application Software for GPIB**

There are the source files and U3800_Ext_SG_VCorrection.exe in folder Vb.6.0_gpib.
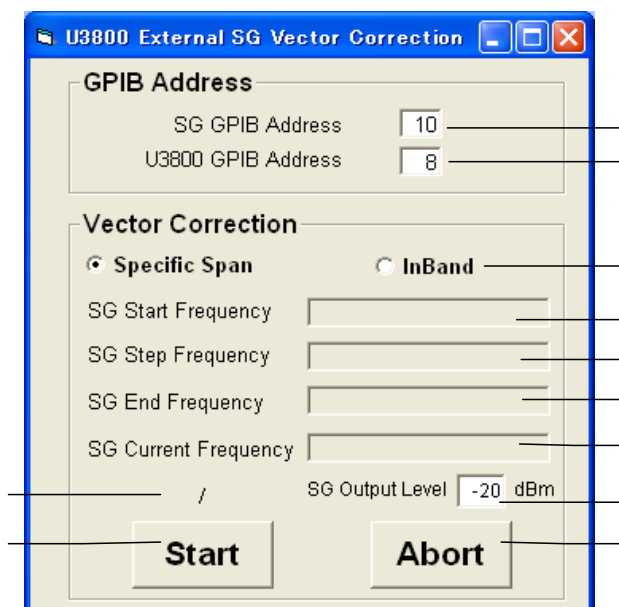When the EXE file is executed, the following screens are displayed.

Fig.3 Application Screen for GPIB

SG GPIB Address   Default: 10
U3800 GPIB Address   Default: 8
Specific Span / InBand Correction Select Botton   Default: Specific Span
SG Start Frequency (Display the Start Frequency of Specific Span)
SG Step Frequency (Display the Step Frequency of Specific Span)
SG Start Frequency (Display the End Frequency of Specific Span)
SG Current Frequency (Frequency of SG)
Vector Correction (Display the measurement counter)
Set the Output Level of SG   Default: -20 dBm
Start: Vector Correction Start Botton
Stop: Vector Correction Stop Bptton

Vector Correction is

(Xmath)
        1.Power Ratio Phase Diff
        2.Differential
        4.Math
When either is turned on, it is possible to acquire it.

When you execute the Specific Span.
Please set the Start/Stop/Step frequency by the U3800.
The menu is in the Vector Correction Config of the Get Specific Span Corr Data
that exists in U3800.

2.2 Application Software for TCP/IP

There are the source files and U3800_Ext_SG_VCorrection.exe in folder Vb.6.0_lan.
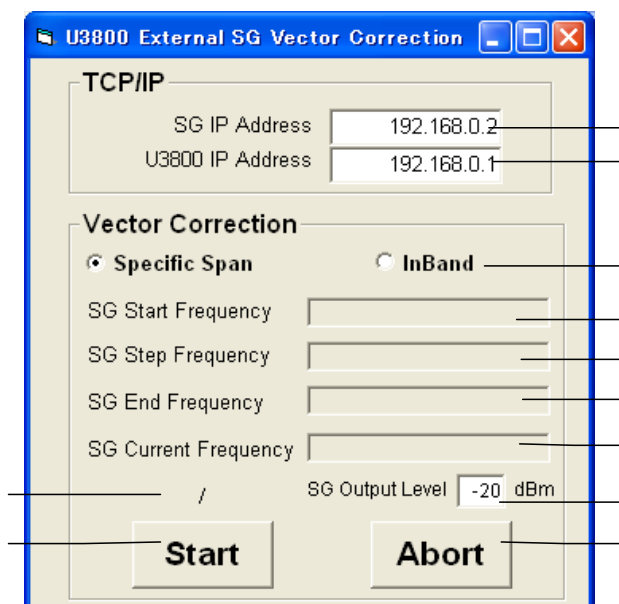When the EXE file is executed, the following screens are displayed.

Fig.4 Application Screen for LAN

SG TCP/IP Address   Default 192.168.0.2
U3800 TCP/IP Address   Default 192.168.0.1
Specific Span / InBand Correction Select Botton   Default: Specific Span
SG Start Frequency (Display the Start Frequency of Specific Span)
SG Step Frequency (Display the Step Frequency of Specific Span)
SG Start Frequency (Display the End Frequency of Specific Span)
SG Current Frequency (Frequency of SG)
Vector Correction (Display the measurement counter)
Set the Output Level of SG   Default: - 20 dBm
Start: Vector Correction Start Botton
Stop: Vector Correction Stop Bptton

Vector Correction is

(Xmath)
        1.Power Ratio Phase Diff
        2.Differential
        4.Math
When either is turned on, it is possible to acquire it.

When you execute the Specific Span.
Please set the Start/Stop/Step frequency by the U3800.
The menu is in the Vector Correction Config of the Get Specific Span Corr Data
that exists in U3800.

2.3 About the .ini File of this software

When U3800_Ext_SG_VCorrection.exe is executed, the U3800_Ext_SG_VCorrection .ini file is generated automatically.

The SG of the user specification can be used by editing the INI file.

(Default SG: E8257D (Agilent) PSG 250kHz - 50GHz)

```
[GPIB]
U38=8
SG=10

[SG_OUTPUT]
LEVEL=-20
OUTPUT_CMD=OUTP
OUTPUT__ON=ON
OUTPUT_OFF=OFF
LEVEL_CMD=SOUR:POW
LEVEL_UNIT=DBM
FREQ_CMD=SOUR:FREQ
FREQ_UNIT=HZ

[VCorr]
Type=Specific Span

[TCPIP]
U38_ADRS=192.168.0.1
SG_ADRS=192.168.0.2
U38_PORT=5025
SG_PORT=5025
```

OUTPUT_CMD = ON/OFF Command of RF Output

OUTPUT__ON = ON Parameter of RF Output

OUTPUT_OFF = OFF Parameter of RF Output

LEVEL_CMD = Output Level setting command

LEVEL_UNIT = Unit of Output Level

FREQ_CMD = Frequency setting command

FREQ_UNIT = Unit of Frequency

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