

**Manual Supplement**

**Agilent Technologies**  
**ESG-D Series Signal Generators**  
**Option H61**

**Use this information to supplement the ESG-D Series Signal Generator manuals set. In all cases, this information supersedes the information in the manuals.**



**Part Number E4400-90264**

**Printed in USA**

**February 2000**

Supersedes October 1998

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# Introduction

Option H61 adds the following triggering functionality.

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## Trigger System

The trigger subsystem has a Trigger menu, a Trigger Setup menu, and a Trigger Source Menu.

### Trigger Menu

```
[ :SOURce ]:RADio:ARB:TRIGger:TYPE CONT | SINGLE | GATE  
[ :SOURce ]:RADio:ARB:TRIGger:TYPE?  
[ :SOURce ]:RADio:CDMA:ARB:TRIGger:TYPE CONT | SINGLE | GATE  
[ :SOURce ]:RADio:CDMA:ARB:TRIGger:TYPE?  
[ :SOURce ]:RADio:WCDMa:ARB:TRIGger:TYPE CONT | SINGLE | GATE  
[ :SOURce ]:RADio:WCDMa:ARB:TRIGger:TYPE?
```

**Continuous** (default) restarts the waveform as soon as it reaches the end. In this case, the settings in the Trigger Setup and Trigger Source menus have no effect.

**Single** triggers the waveform exactly once, leaving it in the state corresponding to the first point in the waveform.

**Gated** trigger causes the output to occur when the trigger source is above or below the CMOS switching threshold. The waveform stops at the current point when the trigger goes to the inactive level, and resumes from that point when the trigger becomes active again. The Gate Active menu key sets whether output occurs with high or low levels.

**Trigger Setup** displays the Trigger Setup menu.

### Trigger Setup Menu

Use this menu to determine the action that will take place if a trigger occurs *during* the output of a waveform. No more than a single trigger is queued at any one time.

**Trigger Source** displays the Trigger Source Menu.

### Retrigger On Off

```
[ :SOURce ]:RADio:ARB:RETrigger ON | OFF | 1 | 0  
[ :SOURce ]:RADio:ARB:RETrigger?  
[ :SOURce ]:RADio:CDMA:ARB:RETrigger ON | OFF | 1 | 0  
[ :SOURce ]:RADio:CDMA:ARB:RETrigger?  
[ :SOURce ]:RADio:WCDMA:ARB:RETrigger ON | OFF | 1 | 0  
[ :SOURce ]:RADio:WCDMA:ARB:RETrigger?
```

**On** causes the output to finish to the end of the current waveform, then start a new one if a trigger occurred during the waveform. Triggers are not cumulative; if two or more triggers occur during one waveform, only one subsequent waveform is output.

**Off** causes a trigger to be ignored if it occurs during the waveform. If there is no waveform output when a trigger occurs, the waveform is triggered normally.

**Gate Active** sets whether an output occurs with high or low levels.

```
[ :SOURce]:RADio:ARB:TRIGger:TYPE:GATE:ACTive LOW|HIGH
[ :SOURce]:RADio:ARB:TRIGger:TYPE:GATE:ACTive?
[ :SOURce]:RADio:CDMA:ARB:TRIGger:TYPE:GATE:ACTive LOW|HIGH
[ :SOURce]:RADio:CDMA:ARB:TRIGger:TYPE:GATE:ACTive?
[ :SOURce]:RADio:WCDMA:ARB:TRIGger:TYPE:GATE:ACTive LOW|HIGH
[ :SOURce]:RADio:WCDMA:ARB:TRIGger:TYPE:GATE:ACTive?
```

## Trigger Source Menu

Use this menu to select which trigger source will activate the arb output. When the trigger type is *Continuous*, you can set the trigger source, but it will have no effect until another trigger type is selected.

```
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE] KEY|EXT|BUS
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]?
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE] KEY|EXT|BUS
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]?
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE] KEY|EXT|BUS
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]?
```

**Trigger Key** sets the trigger source to the front panel hardkey labeled **Trigger**.

**Bus** sets the trigger source to the GPIB bus.

**External** sets the trigger source to the rear-panel BNC connector labeled **PATTERN TRIG IN**.

**External Polarity** (default = Neg) determines whether the trigger will occur on the rising or falling edge of the trigger waveform. Neg = falling edge.

```
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:SLOPe POSitive|NEGative
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:SLOPe?
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:SLOPe POSitive|NEGative
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:EXTernal:SLOPe?
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:SLOPe POSitive|NEGative
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:EXTernal:SLOPe?
```

**External Delay** (default = Off) toggles the delay on/off. This is the settable delay from when the external trigger is received until the output actually starts.

```
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:DELay:STATE ON|OFF|1|0
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:DELay:STATE?
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:DELay:STATE ON|OFF|1|0
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:EXTernal:DELay:STATE?
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:DELay:STATE ON|OFF|1|0
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:EXTernal:DELay:STATE?
```

**Ext Delay Time** (default = 2ms) sets the length of time the output is prevented from occurring after an external trigger.

```
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:DELay <value>
[ :SOURce]:RADio:ARB:TRIGger[:SOURCE]:EXTernal:DELay?
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:DELay <value>
[ :SOURce]:RADio:CDMA:ARB:TRIGger[:SOURCE]:EXTernal:DELay?
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:DELay <value>
[ :SOURce]:RADio:WCDMA:ARB:TRIGger[:SOURCE]:EXTernal:DELay?
```