

# Key Reference

## Agilent Technologies PSG Signal Generators

This guide applies to the signal generator models listed below. Due to our continuing efforts to improve our products through firmware and hardware revisions, signal generator design and operation may vary from descriptions in this guide. We recommend that you use the latest revision of this guide to ensure you have up-to-date product information. Compare the print date of this guide (see bottom of this page) with the latest revision, which can be downloaded from the website shown below.

E8247C PSG CW  
E8257C PSG Analog  
E8267C PSG Vector

*[www.agilent.com/find/signalgenerators](http://www.agilent.com/find/signalgenerators)*



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# Key Reference

## Symbols

### # of Carriers

**Supported** E8267C with Option 002

This softkey accesses a menu from which you can set the number of carriers for initialization of the multicarrier table.

**Location** Page [M-8](#)

### # Points

**Supported** All

This softkey enables you to define the number of points in a step sweep. When you press this key, the current value is shown in the active entry area.

A step sweep must have a minimum of 2 points.

**Preset** 2

**Range** 2–1601

**Location** Pages [M-4](#), [M-37](#)

### # Skipped Points

**Supported** E8267C with Option 002

This softkey enables you to set the number of points to skip in the range that you are defining. The first point in a range always has a marker set; the skipped points are after that marker. This enables you to set repetitively spaced markers. For example, a skip of 2 produces two points between each marker across the defined range. You can use either the knob or the numeric keys to set the value. The maximum number of skipped points for a selected file is 1 less than the number of points set in the file.

**Preset** 0

**Range** 0 to (last marker point minus first marker point)

**Location** Page [M-22](#)

**$\Phi$ M Dev****Supported** E8257C and E8267C

This softkey enables you to set the deviation of the phase modulation for the currently selected modulation path.

The deviation limits are dependent upon the carrier frequency. This limiting occurs only when the modulation is turned on.

<b>Preset</b>	0.000 rad		
<b>Ranges</b>	<i>Frequency</i>	<i>Normal Bandwidth</i>	<i>High Bandwidth</i>
	100 kHz–250 MHz	0–10 rad	0–1 rad
	> 250–500 MHz	0–5 rad	0–0.5 rad
	> 500 MHz–1 GHz	0–10 rad	0–1 rad
	> 1–2 GHz	0–20 rad	0–2 rad
	> 2–3.2 GHz	0–40 rad	0–4 rad
	> 3.2–10.0 GHz	0–80 rad	0–8 rad
	> 10.0–20.0 GHz	0–160 rad	0–16 rad
	> 20.0–28.1 GHz	0–242.4 rad	0–24.2 rad
	> 28.1–40.0 GHz	0–400 rad	0–40 rad

**Location** Page [M-25](#) **$\Phi$ M Dev Couple Off On****Supported** E8257C and E8267C

This softkey toggles the operating state of the coupled deviation for phase modulation.

- Off The  $\Phi$ M Path 1 and  $\Phi$ M Path deviation values are independent of each other.
- On The  $\Phi$ M Path 1 and  $\Phi$ M Path deviation values are linked. Any change you make to one  $\Phi$ M deviation value is applied to both.

**Preset** Off**Location** Page [M-25](#)

## $\Phi$ M Off On

**Supported** E8257C and E8267C

This softkey toggles the operating state of the currently selected phase modulation.

Off Use this setting to turn off the currently selected phase modulation.

On Use this setting to turn on the currently selected phase modulation.

When phase modulation is on, the  $\Phi$ M annunciator is displayed.

**Preset** Off

**Location** Page [M-25](#)

## $\Phi$ M Path 1 2

**Supported** E8257C and E8267C

This softkey toggles the selection between  $\Phi$ M Path 1 and  $\Phi$ M Path 2.

$\Phi$ M Path 1 This selection enables you to configure the modulation characteristics for  $\Phi$ M Path 1, using the remaining softkeys in the  $\Phi$ M menu.

$\Phi$ M Path 2 This selection enables you to configure the modulation characteristics for  $\Phi$ M Path 2, using the remaining softkeys in the  $\Phi$ M menu.

$\Phi$ M Path 1 and  $\Phi$ M Path 2 define two standard phase modulation configurations which can be used together.

$\Phi$ M Path 1 and  $\Phi$ M Path 2 are summed internally for composite modulation. Either path can be switched to any one of the modulation sources: Internal, Ext1, or Ext2.

$\Phi$ M Path 2 must be set to a deviation less than  $\Phi$ M Path 1.

**Preset**  $\Phi$ M Path 1

**Location** Page [M-25](#)



## $\Phi$ M Rate

**Supported** E8257C and E8267C

This softkey enables you to change the frequency of the currently selected phase modulation.

**Preset** 400.0 Hz

**Range** 500.0 mHz–1.0 MHz

**Location** Page [M-25](#)

## $\Phi$ M Source

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices that enables you to select either an internally generated or an externally applied modulation input for the phase modulation source. The internal modulation is always ac-coupled. For externally applied signals, you can choose between ac- and dc-coupled modulation.

A 1.0 volt peak voltage input is required for calibrated  $\Phi$ M deviation settings. The EXT 1 LO/HI and EXT 2 LO/HI display annunciators will turn on if the peak input voltage differs from 1.0 by more than 3%. (The LO/HI annunciators function only for ac-coupled external inputs.)

**Location** Page [M-25](#)

## $\Phi$ M Start Rate

**Supported** E8257C and E8267C

This softkey enables you to change the starting frequency of the internally generated modulation source for swept-sine phase modulation.

This softkey is coupled to the  $\Phi$ M Rate softkey in the initial  $\Phi$ M menu and the  $\Phi$ M Tone 1 Rate softkey in the  $\Phi$ M Dual-Sine menu. Any value set for  $\Phi$ M Start Rate is reflected in the  $\Phi$ M Rate and  $\Phi$ M Tone 1 Rate softkeys.

**Preset** 400.0 Hz

**Range** 1.0 Hz–1.0 MHz (minimum increment allowed is 1.0 Hz)

**Location** Page [M-25](#)

## $\Phi$ M Stop Rate

**Supported** E8257C and E8267C

This softkey enables you to change the ending frequency of the internally generated modulation source for swept-sine phase modulation.

This softkey is coupled to the  **$\Phi$ M Tone 2 Rate** softkey in the  $\Phi$ M Dual-Sine menu. Any value set for  $\Phi$ M Stop Rate is reflected in the  **$\Phi$ M Tone 2 Rate** softkey.

**Preset** 400.0 Hz

**Range** 1.0 Hz–1.0 MHz (minimum increment allowed is 1.0 Hz)

**Location** Page [M-25](#)

## $\Phi$ M Sweep Rate

**Supported** E8257C and E8267C

This softkey enables you to set the sweep rate for swept-sine phase modulation.

**Preset** 400.0 Hz

**Range** 0.5 Hz–100.0 kHz

**Location** Page [M-25](#)

## $\Phi$ M Sweep Trigger

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices that enables you to select the triggering mode for the swept-sine phase modulation.

You can also configure the polarity of the TTL signal output at the TRIGGER IN connector using the **Trigger In Polarity Neg Pos** softkey on this menu.

**Preset** Free Run

**Location** Page [M-25](#)

## $\Phi$ M Tone 1 Rate

**Supported** E8257C and E8267C

This softkey enables you to set the internal modulation frequency for the phase modulation tone 1 rate of the dual-sine waveform.

This key is coupled to the **ΦM Rate** softkey in the initial **ΦM** menu and the **ΦM Start Rate** softkey in the **ΦM** swept-sine menu. Any value set for **ΦM Tone 1 Rate** is reflected in the **ΦM Rate** and **ΦM Start Rate** softkeys.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-25</a>

## ΦM Tone 2 Ampl Percent Of Peak

**Supported** E8257C and E8267C

This softkey enables you to adjust the amplitude of the alternate frequency as a percentage of the peak LF analog modulation amplitude. For example, if the tone 2 amplitude is set to 30.0% of the total amplitude, then the primary frequency is 70.0% of the total amplitude.

This is applicable for the dual-sine function only.

<b>Preset</b>	50.0%
<b>Range</b>	0.0%–100.0%
<b>Location</b>	Page <a href="#">M-25</a>

## ΦM Tone 2 Rate

**Supported** E8257C and E8267C

This softkey enables you to set the internal modulation frequency for the phase modulation tone 2 rate of the dual-sine waveform.

This key is coupled to the **ΦM Stop Rate** softkey in the **ΦM** swept-sine menu. Any value set for **ΦM Tone 2 Rate** is reflected in the **ΦM Stop Rate** softkey.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-25</a>

## ΦM Waveform

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices that enables you to select the phase modulation waveform that can be produced by the internal modulation source.

This softkey is only enabled when Internal is selected in the  $\Phi$ M Source menu.

**Location**      Page [M-25](#)

## $\pi/4$ DQPSK

Supported      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load an I/Q map into the I/Q table editor.

### **Selecting a $\pi/4$ DQPSK Modulation**

Use this softkey to select  $\pi/4$  differential quadrature phase shift keying ( $\pi/4$  DQPSK) to modulate a continuous stream of the selected data pattern.  $\pi/4$  DQPSK modulation transmits data at the rate of 2 bits per symbol.

**Location**      Pages [M-7](#), [M-13](#)

### **Loading a $\pi/4$ DQPSK I/Q Map into the Table Editor**

Use this softkey to load a  $\pi/4$  differential quadrature phase shift keying ( $\pi/4$  DQPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

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## Numerics

### 1 kHz

**Supported** All

Use this softkey to select an automatic leveling control bandwidth of 1.0 kHz.

**Location** Page [M-3](#)

### 2-Lvl FSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default pattern into the FSK table editor.

#### Selecting a 2-Level FSK Modulation

Use this softkey to select 2-level frequency shift keying (FSK) for modulating a continuous stream of the selected data pattern. Two-level FSK modulation transmits data at the rate of 1 bit per symbol.

The selected modulation is displayed under the **Modulation Type** softkey in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

#### Loading a 2-Level FSK Pattern into the FSK Table Editor

Use this softkey to load a 2-level frequency shift keying (FSK) modulation pattern into the FSK table editor. Two-level FSK modulation transmits data at the rate of 1 bit per symbol. For more information on using the FSK table editor, see the *User's Guide*.

**Location** Page [M-20](#)

### 2.100 MHz

**Supported** E8267C with Option 002

Use this softkey to apply a 2.100 MHz filter to signals that are routed to the I/Q modulator. This filter eliminates spurs above 2.100 MHz.

**Location** Page [M-23](#)

## 4 1's & 4 0's

**Supported** E8267C with Option 002

Use this softkey to select a binary data pattern that consists of four ones followed by four zeroes. Use this selection to generate unframed data patterns or for use with framed data transmissions.

When you select **4 1's & 4 0's**, both the **Data** and the **Other Patterns** softkeys show this selection. In addition, P4 (where "P" refers to Pattern and "4" refers to four ones and four zeroes) appears in the Data field of the table. A single output of a framed P4 data pattern consists of enough repetitions of four ones followed by four zeroes to fill the data fields in TDMA timeslots.

**Location** Page [M-12](#)

## 4-Lvl FSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default pattern into the FSK table editor.

### Selecting a 4-Level FSK Modulation

Press this softkey to select 4-level frequency shift keying (FSK) for modulating a continuous stream of the selected data pattern. Four-level FSK modulation transmits data at the rate of 2 bits per symbol, and conforms with FLEX variants of paging standards.

The selected modulation is displayed under the **Modulation Type** softkey in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

### Loading a 4-Level FSK Pattern into the FSK Table Editor

Press this softkey to load a 4-level frequency shift keying (FSK) modulation pattern into the FSK table editor. Four-level FSK modulation transmits data at the rate of 2 bits per symbol. For more information on using the FSK table editor, see the *User's Guide*.

**Location** Page [M-20](#)

## 4QAM

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default I/Q map into the I/Q table editor.

### Selecting a 4QAM Modulation

Press this softkey to select 4-state quadrature amplitude modulation (4QAM) to modulate a continuous stream of the selected data pattern. 4QAM transmits data at the rate of 2 bits per symbol.

The selected modulation is displayed under the **Select** and **QAM** softkeys in the Modulation Type menu.

**Location**      Pages [M-7](#), [M-13](#)

### Loading a 4QAM I/Q Map into the I/Q Table Editor

Press this softkey to load a 4-state quadrature amplitude modulation (4QAM) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

## 8 1's & 8 0's

**Supported**      E8267C with Option 002

Use this softkey to select a binary data pattern that consists of eight ones followed by eight zeroes. Use this selection to generate unframed data patterns or for use with framed data transmissions.

When you select **8 1's & 8 0's**, both the **Data** and the **Other Patterns** softkeys show this selection. In addition, P8 (where "P" refers to Pattern and "8" refers to eight ones and eight zeroes) appears in the Data field of the table.

A single output of a framed P8 data pattern consists of enough repetitions of eight ones followed by eight zeroes to fill the data fields in TDMA timeslots.

**Location**      Page [M-12](#)

## 8-Lvl FSK

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default pattern into the FSK table editor.

### Selecting a 8-Level FSK Modulation

Press this softkey to select 8-level frequency shift keying (FSK) for modulating a continuous stream of the selected data pattern. Eight-level FSK modulation transmits data at the rate of 3 bits per symbol.

The selected modulation is displayed under the **Modulation Type** softkey in the Modulation Type menu.

**Location**      Pages [M-7](#), [M-13](#)

### Loading a 8-Level FSK Pattern into the FSK Table Editor

Press this softkey to load an 8-level frequency shift keying (FSK) modulation pattern into the FSK table editor. Eight-level FSK modulation transmits data at the rate of 3 bits per symbol. For more information on using the FSK table editor, see the *User's Guide*.

**Location**      Page [M-20](#)

## 8PSK

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load an I/Q map into the I/Q table editor.

### Selecting an 8PSK Modulation

Use this softkey to select 8-state phase shift keying (8PSK) to modulate a continuous stream of the selected data pattern. 8PSK modulation transmits data at the rate of 3 bits per symbol.

The modulation selection appears under the **Select** and **PSK** softkeys in the Modulation Type menus.

**Location**      Pages [M-7](#), [M-13](#)



### **Loading an 8PSK I/Q Map into the Table Editor**

Use this softkey to load an 8-state phase shift keying (8PSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

### **10 kHz**

**Supported**      All

Use this softkey to select an automatic leveling control bandwidth of 10.0 kHz.

**Location**      Page [M-3](#)

### **16 1's & 16 0's**

**Supported**      E8267C with Option 002

Use this softkey to select a binary data pattern that consists of 16 ones followed by 16 zeroes. Use this selection to generate unframed data patterns or for use with framed data transmissions.

When you select **16 1's & 16 0's**, both the **Data** and the **Other Patterns** softkeys show this selection. In addition, P16 (where "P" refers to Pattern and "16" refers to 16 ones and 16 zeroes) appears in the Data field of the table.

A single output of a framed P16 data pattern consists of enough repetitions of 16 ones followed by 16 zeroes to fill the data fields in TDMA timeslots.

**Location**      Page [M-12](#)

### **16-Lvl FSK**

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default pattern into the FSK table editor.

#### **Selecting a 16-Level FSK Modulation**

Press this softkey to select 16-level frequency shift keying (FSK) for modulating a continuous stream of the selected data pattern. 16-level FSK modulation transmits data at the rate of 4 bits per symbol.

The selected modulation is displayed under the **Modulation Type** softkey in the Modulation Type menu.

**Location**        Pages [M-7](#), [M-13](#)

### **Loading a 16-Level FSK Pattern into the FSK Table Editor**

Press this softkey to load a 16-level frequency shift keying (FSK) modulation pattern into the FSK table editor. 16-level FSK modulation transmits data at the rate of 4 bits per symbol. For more information on using the FSK table editor, see the *User's Guide*.

**Location**        Page [M-20](#)

## **16PSK**

**Supported**        E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load an I/Q map into the I/Q table editor.

### **Selecting a 16PSK Modulation**

Use this softkey to select 16-state phase shift keying (16PSK) to modulate a continuous stream of the selected data pattern. 16PSK modulation transmits data at the rate of 4 bits per symbol.

The modulation selection appears under the **Select** and **PSK** softkeys in the Modulation Type menus.

**Location**        Pages [M-7](#), [M-13](#)

### **Loading a 16PSK I/Q Map into the Table Editor**

Use this softkey to load a 16-state phase shift keying (16PSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**        Page [M-19](#)

## **16QAM**

**Supported**        E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default I/Q map into the I/Q table editor.

### Selecting a 16QAM Modulation

Press this softkey to select 16-state quadrature amplitude modulation (16QAM) to modulate a continuous stream of the selected data pattern. 16QAM transmits data at the rate of 4 bits per symbol.

The selected modulation is displayed under the **Select** and **QAM** softkeys in the Modulation Type menu.

**Location**      Pages [M-7](#), [M-13](#)

### Loading a 16QAM I/Q Map into the I/Q Table Editor

Press this softkey to load a 16-state quadrature amplitude modulation (16QAM) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

## 25 Hz

**Supported**      All with Option UNR

This softkey enables you to select an internal or external reference oscillator bandwidth of 25 Hz.

**Location**      Page [M-43](#)

## 32 1's & 32 0's

**Supported**      E8267C with Option 002

Use this softkey to select a binary data pattern that consists of 32 ones followed by 32 zeroes. Use this selection to generate unframed data patterns or for use with framed data transmissions.

When you select **32 1's & 32 0's**, both the **Data** and the **Other Patterns** softkeys show this selection. In addition, P32 (where "P" refers to Pattern and "32" refers to 32 ones and 32 zeroes) appears in the Data field of the table.

A single output of a framed P32 data pattern consists of enough repetitions of 32 ones followed by 32 zeroes to fill the data fields in TDMA timeslots.

**Location**      Page [M-12](#)

## 32QAM

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default I/Q map into the I/Q table editor.

### Selecting a 32QAM Modulation

Press this softkey to select 32-state quadrature amplitude modulation (32QAM) to modulate a continuous stream of the selected data pattern. 32QAM transmits data at the rate of 5 bits per symbol.

The selected modulation is displayed under the **Select** and **QAM** softkeys in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

### Loading a 32QAM I/Q Map into the I/Q Table Editor

Press this softkey to load a 32-state quadrature amplitude modulation (32QAM) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

## 40.000 MHz

**Supported** E8267C

Use this softkey to apply a 40.000 MHz filter to signals that are routed to the I/Q modulator or to the external outputs. This filter eliminates spurs above 40.000 MHz.

**Location** Page [M-23](#)

## 53 Hz

**Supported** All with Option UNR

This softkey enables you to select an internal or external reference oscillator bandwidth of 53 Hz.

**Location** Page [M-43](#)

## 64 1's & 64 0's

**Supported** E8267C with Option 002

Use this softkey to select a binary data pattern that consists of 64 ones followed by 64 zeroes. Use this selection to generate unframed data patterns or for use with framed data transmissions.

When you select **64 1's & 64 0's**, both the **Data** and the **Other Patterns** softkeys show this selection. In addition, P64 (where "P" refers to Pattern and "64" refers to 64 ones and 64 zeroes) appears in the Data field of the table.

A single output of a framed P64 data pattern consists of enough repetitions of 64 ones followed by 64 zeroes to fill the data fields in TDMA timeslots.

**Location** Page [M-12](#)

## 64QAM

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default I/Q map into the I/Q table editor.

### Selecting a 64QAM Modulation

Press this softkey to select 64-state quadrature amplitude modulation (64QAM) to modulate a continuous stream of the selected data pattern. 64QAM transmits data at the rate of 6 bits per symbol.

The selected modulation is displayed under the **Select** and **QAM** softkeys in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

### Loading a 64QAM I/Q Map into the I/Q Table Editor

Press this softkey to load a 64QAM (64-state quadrature amplitude modulation) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

## 100 Hz

**Supported** All

Use this softkey to select an automatic leveling control bandwidth of 100.0 Hz.

**Location** Page [M-3](#)

## 100 kHz

**Supported** All

Use this softkey to select an automatic leveling control bandwidth of 100.0 kHz.

**Location** Page [M-3](#)

## 126 Hz

**Supported** All with Option UNR

This softkey enables you to select an internal or external reference oscillator bandwidth of 126 Hz.

**Location** Page [M-43](#)

## 256QAM

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation or load a default I/Q map into the I/Q table editor.

### Selecting a 256QAM Modulation

Press this softkey to select 256-state quadrature amplitude modulation (256QAM) to modulate a continuous stream of the selected data pattern. 256QAM transmits data at the rate of 8 bits per symbol.

The selected modulation is displayed under the **Select** and **QAM** softkeys in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

### Loading a 256QAM I/Q Map into the I/Q Table Editor

Press this softkey to load a 256-state quadrature amplitude modulation (256QAM) I/Q map into the I/Q table editor. For more information on mapping symbol positions with

the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

## 300

**Supported**      All

This softkey selects 300 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location**      Page [M-42](#)

## 300 Hz

**Supported**      All with Option UNR

This softkey enables you to select an internal or external reference oscillator bandwidth of 300 Hz.

**Location**      Page [M-43](#)

## 650 Hz

**Supported**      All with Option UNR

This softkey enables you to select an internal or external reference oscillator bandwidth of 650 Hz.

**Location**      Page [M-43](#)

## 800MHz Base

**Supported**      All

This softkey selects 800 MHz Base as the frequency band for Personal Digital Cellular (PDC). The output frequency depends on both the channel band and channel number selections.

**Preset**              *Channel: 1*  
                            *Frequency: 810.025 MHz*

**Range**                *Channels: 1–320*  
                            *Frequency: 810.025–818.000 MHz*

**Location**          Pages [M-26](#), [M-28](#)

## 800MHz Mobile

**Supported** All

This softkey selects 800 MHz Mobile as the frequency band for Personal Digital Cellular (PDC). The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*  
*Frequency: 940.025 MHz*

**Range** *Channels: 1–320*  
*Frequency: 940.025–948.000 MHz*

**Location** Page [M-26](#), [M-28](#)

## 1200

**Supported** All

This softkey selects 1200 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## 1500MHz Base

**Supported** All

This softkey selects 1500 MHz Base as the frequency band for Personal Digital Cellular (PDC). The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*  
*Frequency: 1.477 GHz*

**Range** *Channels: 1–480*  
*Frequency: 1.477–1.489 GHz*

**Location** Pages [M-26](#), [M-28](#)



## 1500MHz Mobile

**Supported** All

This softkey selects 1500 MHz Mobile as the frequency band for Personal Digital Cellular (PDC). The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*  
*Frequency: 1.429 GHz*

**Range** *Channels: 1–480*  
*Frequency: 1.429–1.441 GHz*

**Location** Pages [M-26](#), [M-28](#)

## 2400

**Supported** All

This softkey selects 2400 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## 4800

**Supported** All

This softkey selects 4800 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## 8340B,8341B

**Supported** All

This softkey selects 8340B or 8341B compatible commands for remote operation of the signal generator, using the GPIB interface only. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8340B,8341B** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8340B and the 8341B. Choosing this softkey in the Preset Language menu allows you to select this remote language as the

default after you preset the signal generator. Choosing this softkey in the Remote Language menu allows you to immediately use 8340B and 8341B commands for remote operation of the signal generator.

**Location**        Pages [M-42](#), [M-44](#)

## 8360 Series

**Supported**        All

This softkey selects 8360 series-compatible commands for remote operation of the signal generator. The selection appears in two places; the **Preset Language** softkey menu and the **Remote Language** softkey menu.

The **8360 Series** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8360 series. Choosing **8360 Series** in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing **8360 Series** in the Remote Language menu allows you to immediately use 8360 series commands for remote operation of the signal generator.

The selection is not affected by an instrument preset or power cycle.

**Location**        Pages [M-42](#), [M-44](#)

## 9600

**Supported**        All

This softkey selects 9600 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location**        Page [M-42](#)

## 19200

**Supported**        All

This softkey selects 19200 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location**        Page [M-42](#)

## 38400

**Supported** All

This softkey selects 38400 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## 57600

**Supported** All

This softkey selects 57600 as the baud rate for RS-232 data communication.

The baud rate is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## 83711B,83712B

**Supported** All

This softkey selects 83711B or 83712B compatible commands for remote operation of the signal generator, using the GPIB interface only. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **83711B,83712B** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 83711B and the 83712B. Choosing this softkey in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing this softkey in the Remote Language menu allows you to immediately use 83711B and 83712B commands for remote operation of the signal generator.

**Location** Pages [M-42](#), [M-44](#)

## 83731B,83732B

**Supported** All

This softkey selects 83731B or 83732B compatible commands for remote operation of the signal generator, using the GPIB interface only. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **83731B,83732B** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 83731B and the 83732B.

Choosing this softkey in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing this softkey in the Remote Language menu allows you to immediately use 83731B and 83732B commands for remote operation of the signal generator.

**Location**           Pages [M-42](#), [M-44](#)

## 83751B,83752B

**Supported**       All

This softkey selects 83751B or 83752B compatible commands for remote operation of the signal generator, using the GPIB interface only. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **83751B,83752B** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 83751B and the 83752B. Choosing this softkey in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing this softkey in the Remote Language menu allows you to immediately use 83751B and 83752B commands for remote operation of the signal generator.

**Location**           Pages [M-42](#), [M-44](#)

## 87570 System

**Supported**       All

This softkey selects 87570-compatible commands for remote operation of the signal generator, using the GPIB interface only. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **87570 System** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 87570 system. Choosing this softkey in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing this softkey in the Remote Language menu allows you to immediately use 87570 commands for remote operation of the signal generator.

**Location**           Pages [M-42](#), [M-44](#)

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## A

### Abort

**Supported** All

Use this softkey to stop the selected test.

**Location** Page [M-45](#)

### Abort Cal

**Supported** E8267C with Option 002

Use this softkey to abort a calibration in process. If you abort the calibration, the previous calibration data is restored.

**Location** Pages [M-3](#), [M-24](#)

### Add Comment To Seq[n] Reg[nn]

**Supported** All

This softkey enables you to add a comment that is associated with a register in use. The register number is listed in the text area of the display and the comment is shown immediately following the register.

The **Add Comment to Seq[n] Reg[nn]** softkey changes to **Edit Comment In Seq[n] Reg[nn]** after adding a comment to the selected state.

The comment line is limited to 55 alpha-numeric and special characters.

**Location** Page [M-36](#)

### Adjust Phase

**Supported** All

This softkey enables you to change the phase of the RF output signal. The change is relative to whatever phase the signal generator locked to the last time a frequency change was performed. For this reason, the phase adjustment does not survive changes in frequency and must be readjusted. If you first press **Phase Ref Set**, the current output phase is set as a zero reference and any subsequent phase adjustment is displayed as relative to the zero reference.

Phase adjustment cannot be used with frequency or phase modulation. Adjustments to phase can be made in 0.1 degree increments.

- Preset**            0.000 radians
- Range**             $\pm 3.142$  radians or  $\pm 180.0$  degrees
- Location**        Pages [M-26](#), [M-27](#)

## ALC BW

**Supported**        All

Use this softkey to access a menu of choices for automatic leveling control (ALC) bandwidth. In Auto mode, the hardware selects an appropriate bandwidth to optimize performance with the current settings. You can also manually choose an ALC bandwidth and override the Auto setting.

This softkey is inactive when internal I/Q modulation is turned on.

- Preset**            Auto
- Location**        Page [M-3](#)

## ALC Off On

**Supported**        All

This softkey toggles the operating state of the automatic leveling control (ALC) circuit. The RF output power of the signal generator is constantly monitored and controlled by the ALC circuit. Its purpose is to hold output power at its desired level in spite of drift due to temperature and time.

There are some modulation conditions which the ALC circuit cannot handle properly which lead to output level errors. In these conditions, better power level accuracy can be obtained by turning the ALC off and using power search. ALC Off is useful with pulse modulation with a pulse width narrower than 2  $\mu$ s and with certain external I/Q modulation.

Pulse modulation is accomplished using a modulator which precedes the ALC detector. The ALC must, therefore, measure a pulsed signal, and it is able to do this if the pulse width exceeds 2  $\mu$ s. For narrower pulses, set the **ALC Off On** softkey to Off.

With external I/Q modulation, the ALC loop acts to hold the signal generator's average output power constant, in spite of variations in the I/Q input power ( $I^2 + Q^2$ ). Rapid variations of ( $I^2 + Q^2$ ) propagate to the output, while slow variations are removed by the ALC loop, with a high-pass corner of 1 kHz. If you do not want this high-pass filtering,

set the **ALC Off On** softkey to Off. With ALC off, the I/Q modulation will be DC-coupled. Using power search, power level accuracy is preserved if  $\sqrt{I^2 + Q^2} = 0.5 V_{\text{rms}}$ .

When ALC is off, the ALC OFF display annunciator will turn on.

An alternative to setting the ALC off is to set the ALC to a narrow bandwidth.

Off When the ALC circuit is off, the output power level is not controlled.

On When the ALC circuit is on, the output power level is constantly monitored and controlled.

**Preset** On

**Location** Pages [M-3](#), [M-29](#)

## Alignment Left Cent Right

**Supported** E8267C with Option 002

This command will align the two tones either left, center or right of the carrier frequency.

Left This selection aligns the upper tone to the carrier frequency, resulting in a waveform that is left-aligned.

Cent This selection centers the tones on the carrier frequency.

Right This selection aligns the lower tone to the carrier frequency, resulting in a waveform that is right-aligned.

**Preset** Cent

**Location** Page [M-41](#)

## All

**Supported** All

This softkey enables you to specify that all signal generator file types in the user file system are to be listed.

**Location** Page [M-44](#)

## All Timeslots

**Supported** E8267C with Option 002

Use this softkey to output a 1-bit pulse at the EVENT 1 rear panel connector that is

synchronized to the first bit of each timeslot. If you have entered a value for Sync Out Offset, the synchronizing pulse is offset by the number of bits specified.

The **Data Format Pattern Framed** softkey must be set to Framed to enable this softkey. This softkey is grayed out (not accessible) in Custom.

**Location** Page [M-15](#)

## Alternate Sweep Off On

**Supported** All with Option 007

Use this softkey to toggle the state of the alternate sweep function. Turn on alternate sweep to alternate between the current sweep and a previously saved sweep, selected with **Alternate Sweep Register** softkey.

**Preset** Off

**Location** Page [M-39](#)

## Alternate Sweep Register

**Supported** All with Option 007

Use this softkey to select a previously saved ramp sweep state to alternate with the current sweep. Ramp sweep states are saved with the **Save** hardkey. You are limited to saving ramp sweep states to registers 1 through 9 to in sequence 0.

**Preset** 1

**Location** Page [M-39](#)

## AM

**Supported** E8257C and E8267C

Use this hardkey to access a menu of choices that enables you to configure the amplitude modulation type, path, depth and depth coupling, rate, source, mode, and waveform.

**Location** Page [M-2](#)

## AM Depth

**Supported** E8257C and E8267C

This softkey enables you to set the amplitude modulation depth for the selected modulation path. The AM depth for both AM Path 1 and 2 can be user-defined. If AM



Path WB is available, the depth is set at 100% and is not user-defined.

The new value of AM depth applies only to the AM path selected.

<b>Preset</b>	0.1% <i>Linear</i> 40 dB <i>Exponential</i>
<b>Range</b>	0.0–100.0% <i>Linear</i> (minimum increment is 0.1%) 0–40 dB <i>Exponential</i>
<b>Location</b>	Page <a href="#">M-2</a>

## AM Depth Couple Off On

**Supported** E8257C and E8267C

This softkey toggles the operating state for AM depth coupling. AM depth coupling links the depth values of AM Path 1 and AM Path 2.

When the values are coupled, any change you make to one AM depth value is applied to both.

On	AM depth is coupled and applied to both AM Path 1 and AM Path 2.
Off	AM depth coupling is disabled.

**Preset** Off

**Location** Page [M-2](#)

## AM Mode Normal Deep

**Supported** E8257C and E8267C

This softkey toggles the amplitude modulation mode between normal and deep.

Normal	This selection maintains the standard amplitude modulation behavior.
Deep	This mode provides an amplitude modulation depth with a greater dynamic range than the normal mode when the ALC is enabled.

**Preset** Normal

**Location** Page [M-2](#)

## AM Off On

**Supported** E8257C and E8267C

This softkey turns amplitude modulation either off or on for the AM path selected.

Two paths for amplitude modulation can be simultaneously enabled provided that different sources (for example, Internal, Ext1, or Ext2) are used. When amplitude modulation is on, the front panel AM annunciator is displayed.

Although you can enable amplitude modulation with this key, the RF carrier is modulated only when you set **Mod On/Off** to on and is available at the RF Output connector only after **RF On/Off** is set to on.

On	AM is turned on with this key. If two or more paths are enabled then the modulation signals from the paths are summed internally for composite modulation.
Off	AM for a path(s) is turned off with this key.
<b>Preset</b>	Off
<b>Location</b>	Page <a href="#">M-2</a>

## AM Path 1 2 WB

**Supported** E8257C and E8267C

This softkey enables you to select an amplitude modulation path. AM Path 1, 2, and WB define standard amplitude modulation configurations which can be used together.

AM Path 1, AM Path 2, and AM WB can be summed internally for composite modulation. Either path can be switched to any of the modulation sources: Internal 1, Internal 2, Ext1, or Ext2, for example. All modulation types can be simultaneously enabled, except FM with  $\Phi$ M. The AM, FM, and  $\Phi$ M can sum inputs from any two sources. Any source can be routed to one modulation type.

The RF carrier is available at the RF OUTPUT connector when you set **RF On/Off** to on. Set **Mod On/Off** to enable the modulation that you have selected.

AM Path 1	This selection enables you to configure the modulation characteristics for AM Path 1, using the remaining softkeys in the AM menu.
AM Path 2	This selection enables you to configure the modulation characteristics for AM Path 2, using the remaining softkeys in the AM menu.
AM WB	This selection enables you to configure the modulation characteristics for AM WB, using the remaining softkeys in the AM menu.
<b>Preset</b>	AM Path 1
<b>Location</b>	Page <a href="#">M-2</a>

## AM Rate

**Supported** E8257C and E8267C

This softkey enables you to change the frequency of the selected internal modulation source.

The new value for the AM rate applies only to the AM path selected.

**Preset** 400.0 Hz

**Range** 0.5 Hz–100.0 kHz (minimum increment allowed is 0.5 Hz)  
0.5 Hz–1.0 MHz if a sine wave is selected as the internal waveform

**Location** Page [M-2](#)

## AM Source

**Supported** E8257C and E8267C

Use this softkey to access a menu of available sources for modulation inputs. Internal modulation is always ac-coupled.

A 1.0 volt peak voltage input is required for calibrated AM depth settings. The EXT 1 LO/HI and EXT 2 LO/HI display annunciators will turn on if the peak input voltage differs from 1.0 by more than 3%. (The LO/HI annunciators function only for ac-coupled external inputs.)

**Preset** Internal

**Location** Page [M-2](#)

## AM Start Rate

**Supported** E8257C and E8267C

This softkey enables you to change the start frequency of the swept-sine modulation.

This softkey is coupled to the **AM Rate** softkey in the AM menu and the **AM Tone 1 Rate** softkey in the AM Dual-Sine menu. Any value set for the AM start rate is reflected in the **AM Rate** and **AM Tone 1 Rate** softkeys.

**Preset** 400.0 Hz

**Range** 1.0 Hz–1.0 MHz (minimum increment allowed is 1.0 Hz)

**Location** Page [M-2](#)

## AM Stop Rate

**Supported** E8257C and E8267C

This softkey enables you to change the stop frequency of the swept-sine modulation.

This softkey is coupled to the **AM Tone 2 Rate** softkey in the AM Dual-Sine menu. Any value set for the AM stop rate is coupled to the **AM Tone 2 Rate** softkey.

**Preset** 400.0 Hz

**Range** 1.0 Hz–1.0 MHz (minimum increment allowed is 1.0 Hz)

**Location** Page [M-2](#)

## AM Sweep Rate

**Supported** E8257C and E8267C

This softkey enables you to set the sweep rate for the swept-sine modulation.

**Preset** 400.0 Hz

**Range** 0.5 Hz–100.0 kHz

**Location** Page [M-2](#)

## AM Sweep Trigger

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices enabling you to select a triggering mode for the swept-sine modulation.

**Preset** Free Run

**Location** Page [M-2](#)

## AM Tone 1 Rate

**Supported** E8257C and E8267C

This softkey enables you to set the frequency for AM tone 1 of the dual-sine modulation.

This softkey is coupled to the **AM Rate** softkey in the AM menu and the **AM Start Rate** softkey in the AM Dual-Sine menu. Any value set for the AM tone 1 rate is reflected in the **AM Rate** and **AM Start Rate** softkeys.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-2</a>

## AM Tone 2 Ampl Percent of Peak

**Supported** E8257C and E8267C

This softkey enables you to adjust the tone 2 amplitude of the dual-sine modulation, as a percentage of the total amplitude. For example, if the tone 2 amplitude is set to 30% of the total amplitude, then the tone 1 amplitude is 70% of the total amplitude.

This key is available for the dual-sine mode only.

<b>Preset</b>	50.0%
<b>Range</b>	0.1%–99.9%
<b>Location</b>	Page <a href="#">M-2</a>

## AM Tone 2 Rate

**Supported** E8257C and E8267C

This softkey enables you to set the internal modulation frequency for tone 2 of the dual-sine modulation.

This key is available for the dual-sine mode only.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-2</a>

## AM Type LIN EXP

**Supported** E8257C and E8267C

This softkey toggles the amplitude modulation type between linear and exponential.

LIN	This selection uses a linear (percent/volt) amplitude modulation depth scale.
EXP	This selection uses an exponential (dB/volt) amplitude modulation depth scale.

**Preset**            LIN  
**Location**        Page [M-2](#)

## AM Waveform

**Supported**        E8257C and E8267C

Use this softkey to access a menu of choices enabling you to select an amplitude modulation waveform that can be produced by the internal modulation source. This softkey is available after selecting Internal 1 or Internal 2 as the AM source or after presetting the signal generator.

The waveform selection applies only to the AM path selected and the AM Waveform softkey is available for the internal source only.

**Preset**            Sine  
**Location**        Page [M-2](#)

## Ampl

**Supported**        All

This softkey enables you to set the signal generator to sweep amplitude data only. The frequency is set at a constant value determined by the **Frequency** hardkey.

You can define a sweep containing both amplitude and frequency information and still choose to sweep only amplitude.

**Location**        Pages [M-37](#), [M-39](#)

## Ampl Offset

**Supported**        All

This softkey enables you to change the value for amplitude offset. An amplitude offset changes the value shown in the amplitude area of the display but does not affect the output power. For example, if the current output power is 0.0 dBm and you enter an amplitude offset of -3.0 dBm, the output power will remain at 0.0 dBm but the display will show an amplitude of -3.0 dBm. This feature lets you simulate the power level at a test point beyond the RF OUTPUT connector.

An amplitude offset can be entered at any time during normal operation and also when you are operating in amplitude reference mode.

Changes to this value affect the displayed amplitude value only, the actual RF output power amplitude is not changed.

<b>Preset</b>	0.00 dB
<b>Range</b>	-200 dB to 200 dB
<b>Location</b>	Page <a href="#">M-3</a>

## Ampl Ref Off On

**Supported** All

This softkey toggles the operating state of the amplitude reference mode.

- Off When this mode is turned off, the amplitude value displayed is equal to the current hardware output power plus the amplitude offset, if any.
- On When this mode is turned on, the amplitude value displayed is equal to the current hardware output power minus the reference value set by the **Ampl Ref Set** softkey. All subsequent amplitude parameters are then relative to the reference value.

Amplitude offsets can be used with amplitude reference mode. In this situation, the display will show the amplitude calculated as the current hardware output power minus the reference value plus the amplitude offset.

Amplitude reference mode changes the display only, it does not change the RF output power.

<b>Preset</b>	Off
<b>Location</b>	Page <a href="#">M-3</a>

## Ampl Ref Set

**Supported** All

This softkey enables you to set the current output power as an amplitude reference value. It also causes the **Ampl Ref Off On** key to toggle to the On position, turning on amplitude reference mode. All subsequent output power settings are then relative to the reference value.

This key sets the reference value equal to the current output power. If you have not yet set the reference value, the normal preset value for amplitude reference is 0.0 dBm.

<b>Preset</b>	0.00 dB
---------------	---------

**Range**            -136 to 20 dBm

**Location**        Page [M-3](#)

## Ampl Start

**Supported**        All

This softkey enables you to set the amplitude of the first point in the sweep.

**Preset**            *Standard instruments: -20.00 dBm*  
*Instruments with Option UNB: -135.00 dBm*

**Range**            You can set the value anywhere in the range of the signal generator's specified output power.

**Location**        Pages [M-37](#), [M-39](#)

## Ampl Stop

**Supported**        All

This softkey enables you to set the amplitude of the last point in the sweep.

**Preset**            *Standard instruments: -20.00 dBm*  
*Instruments with Option UNB: -135.00 dBm*

**Range**            You can set the value anywhere in the range of the signal generator's specified output power.

**Location**        Pages [M-37](#), [M-39](#)

## Amplitude

**Supported**        All

This hardkey enables you to change the RF output power. In addition, the key accesses a menu of choices that enables you to configure the automatic leveling control (ALC), power search, user flatness, and amplitude options. The current RF output power level is always shown in the amplitude area of the display except under the following conditions:

- amplitude reference mode is turned on
- an offset is applied
- a step or list amplitude sweep is in process

The amplitude area of the display is blanked whenever an amplitude sweep is selected.



<b>Preset</b>	<i>Standard instruments:</i> –20.00 dBm <i>Instruments with Option UNB:</i> –136.00 dBm
<b>Range</b>	The output power range depends on your signal generator options. For more information, refer to the data sheet.
<b>Location</b>	Page <a href="#">M-3</a>

## Amplitude Markers Off On

**Supported** All with Option 007

This softkey toggles the amplitude marker state for the currently activated markers. When the state is switched on, the RF output signal exhibits a spike with a magnitude relative to the power level at each marker's set frequency. (Use the **Marker Amplitude** softkey to set the magnitude of the spike.) The width of the amplitude spike is a nominal eight buckets, based on 1601 buckets per sweep.

**Preset** Off

**Location** Page [M-27](#)

## APCO 25 C4FM

**Supported** E8267C with Option 002

Use this softkey to select an APCO 25-specified C4FM filter in the Select filter menu. This is a Nyquist filter with an alpha of 0.200 which is combined with a shaping filter.

**Location** Page [M-16](#)

## APCO 25 w/C4FM

**Supported** E8267C with Option 002

Use this softkey to set up a predefined APCO 25-compliant personality with compatible 4-level frequency modulation (C4FM) as the modulation type to modulate a continuous stream of the selected data pattern. The maximum deviation is 1.8 kHz. C4FM uses frequency shift keying (FSK) modulation, which transmits data at the rate of 2 bits per symbol (4.8 ksps).

**Location** Pages [M-6](#), [M-8](#), [M-10](#), [M-15](#)

## APCO 25 w/CQPSK

**Supported** E8267C with Option 002

Use this softkey to set up a predefined APCO 25-compliant personality with compatible quadrature phase shift keying (CQPSK) as the modulation type to modulate a continuous stream of the selected data pattern. CQPSK uses  $\pi/4$  differential quadrature phase shift keying ( $\pi/4$  DQPSK) modulation, which transmits data at the rate of 2 bits per symbol (4.8 ksps).

**Location**            Pages [M-6](#), [M-8](#), [M-15](#)

## Apply Bit Errors

**Supported**        E8267C with Option 002

This softkey has two uses and appears in multiple locations.

### In the Create File/Edit File Menu

In this menu, use the **Apply Bit Errors** softkey to access a menu that enables you to enter a specific number of bit errors or a percentage of bit errors for the current file.

**Location**            Page [M-18](#)

### In the Apply Bit Errors Menu

In this menu, use the **Apply Bit Errors** softkey to apply the currently selected bit-error percentage or number of bit errors to the current file.

**Location**            Page [M-18](#)

## Apply Multicarrier

**Supported**        E8267C with Option 002

Use this softkey to apply the current settings in the Custom Multicarrier table editor.

**Location**            Page [M-7](#)

## Apply Multitone

**Supported**        E8267C with Option 002

Use this softkey to apply, to the signal, any changes you have made in the phase or state parameters.

**Location**            Page [M-32](#)

## Apply Settings

**Supported** E8267C with Option 002

Use this softkey to regenerate the two-tone waveform whenever you make changes to the frequency separation parameter.

**Location** Page [M-41](#)

## Apply To Waveform

**Supported** E8267C with Option 002

Use this softkey to apply the clipping settings to the selected waveform.

Once the clipping has been applied to the waveform, it cannot be undone. If you want to cancel confirmation, press the **Return** hardkey.

Repeated clipping applications are cumulative.

**Location** Page [M-22](#)

## ARB Catalog Types

**Supported** E8267C with Option 002

This softkey selects a menu of ARB type files that can be listed in the user file system.

**Location** Page [M-44](#)

## ARB Off On

**Supported** E8267C with Option 002

This softkey selects the operating state of the dual arbitrary waveform generator.

**Off** If you select Off, the dual arbitrary waveform generator is turned off.

**On** If you select On, the dual arbitrary waveform generator is turned on and the currently selected waveform is played. This waveform resides in volatile memory.

**Preset** Off

**Location** Page [M-21](#)

## ARB Reference Ext Int

**Supported** E8267C with Option 002

This softkey selects the reference for the waveform clock.

**Ext** If you select Ext, you must enter the reference frequency (as described under the **Reference Freq** softkey) and the signal must be applied to the BASEBAND GEN REF IN rear panel connector.

**Int** If you select Int, the internal clock is used for the arbitrary waveform (ARB) frequency reference.

**Preset** Int

**Location** Pages [M-6](#), [M-23](#), [M-32](#)

## ARB Sample Clock

**Supported** E8267C with Option 002

This softkey enables you to adjust the sample clock rate. After entering the desired clock rate, terminate the entry with **GHz**, **MHz**, **kHz**, or **Hz**.

**Preset** 100.0 MHz

**Range** 1.0 Hz–100.0 MHz

**Location** Page [M-23](#)

## ARB Setup

**Supported** E8267C with Option 002

This softkey accesses a menu from which you can adjust the dual arbitrary waveform generator (ARB) reference between internal and external (and the reference frequency for external ARB references), the frequency of the ARB sample clock, the runtime scaling value, the marker polarity, and select the type of I/Q modulation filter.

**Location** Page [M-21](#)

## Arb Waveform Generator

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can operate the custom digital modulation waveform generator.

**Location**      Pages [M-6](#), [M-12](#)

## Atten/ALC Control

**Supported**      All

Use this softkey to access a menu from which you can set the attenuation and ALC parameters.

**Location**      Page [M-3](#)

## Atten Hold Off On

**Supported**      All

This softkey toggles the operating state of the attenuator hold function.

- Off              When this function is turned off, the attenuator is in a dynamic state.
- On              When this function is turned on, the attenuator is frozen at its current setting. You can use this function at any time you want to guarantee that there will be no power discontinuity normally associated with the attenuator switching during power adjustments.

There will be no attenuator switching during power adjustments. The maximum power adjustment range will vary. However, you will have at least +4 dB and at least -13 dB range.

**Preset**              Off

**Location**          Page [M-3](#)

## Auto

**Supported**          E8267C

Use this softkey to enable the ESG to automatically choose a filter based on the active digital modulation settings.

**Location**          Pages [M-3](#), [M-23](#), [M-29](#)

## Aux Fctn

**Supported**          E8267C

This hardkey accesses a menu of auxiliary functions.

**Location**          Page [M-5](#)

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## B

### BBG 1

**Supported** E8267C with Option 002

This softkey appears in the Source 1 and I/Q Out menus.

#### In the Source 1 menu

Use this softkey to route the internal baseband generator I and Q signals to the internal I/Q modulator.

The **Source 1** selection is independent of the **I/Q Out** selection.

**Location** Page [M-33](#)

#### In the I/Q Out menu

Use this softkey to route the internal baseband generator I and Q signals to the rear panel I and Q output connectors.

The **I/Q Out** selection is independent of the **Source 1** selection.

**Location** Page [M-33](#)

### BBG Data Clock Ext Int

**Supported** E8267C with Option 002

Use this softkey to select the internal data clock for the baseband generator or to select an externally supplied data clock. For more information on input and output signals, see the *User's Guide*.

**Ext** In external mode, the baseband generator will use an external data clock as its data clock input, unless the external BBG reference is selected. A data clock or symbol sync input must be supplied through the DATA CLOCK or SYMBOL SYNC input connector when external mode is selected.

**Int** In internal mode, the baseband generator will use the internal data clock as its data clock input.

**Preset** Int

**Location** Page [M-15](#)

## BBG Ref Ext Int

**Supported** E8267C with Option 002

Use this softkey to select the internal baseband generator reference or to select an externally supplied reference.

**Ext** In external mode, an external signal will be used as the reference frequency for the baseband I/Q signal. A signal must be supplied through the rear panel BASEBAND GEN REF IN connector, and the frequency of the signal must be entered using the **Ext BBG Ref Freq** softkey.

**Int** In internal mode, an internally generated 10 MHz signal will be used as the reference source, unless the **BBG Data Clock Ext Int** softkey is set to Ext. In this case, the external data clock signal is used as the reference.

**Preset** Int

**Location** Page [M-15](#)

## Begin Pattern

**Supported** E8267C with Option 002

Use this softkey to output a 1-bit pulse to the EVENT 1 rear panel connector that is synchronized to the first bit of an unframed data pattern. The synchronizing pulse occurs with each repetition of the pattern.

If you enter a value for Sync Out Offset, the synchronizing pulse is offset by the number of bits specified.

When using any of the TDMA digital modulation formats, the **Data Format Pattern Framed** softkey must be set to Pattern for the **Begin Pattern** softkey to appear.

**Location** Page [M-15](#)

## Begin Timeslot

**Supported** E8267C with Option 002

Use this softkey to specify which timeslot triggers the rear-panel external trigger EVENT 1 output (a 1-bit signal synchronized to the first bit of the selected timeslot).

**B**

If you enter a value for Sync Out Offset, the synchronizing pulse is offset by the number of bits specified.

This softkey is grayed out (not accessible) in Custom.

**Location**      Page [M-15](#)

**Beta**

**Supported**      E8267C with Option 002

This softkey is activated automatically when you select the Kaiser windowing function. The default Beta factor provides a good solution for optimizing out-of-band performance (ACP), without seriously compromising passband performance (EVM).

Changing the Beta factor adjusts the trade-off between ACP and EVM:

- Decreasing the value improves EVM.
- Increasing the value improves ACP.

**Preset**          4.000

**Range**          1.000–10.000

**Location**      Pages [M-10](#), [M-17](#)

**Binary**

**Supported**      All

This softkey enables you to specify that only signal generator binary files be listed in the catalog of files.

**Location**      Page [M-44](#)

**Bit**

**Supported**      All

This softkey enables you to specify that only signal generator bit files be listed in the catalog of files.

**Location**      Page [M-44](#)



## Bit Errors (numeric value)

**Supported** E8267C with Option 002

This softkey enables you to specify the number of bit errors applied to the current file when you press the **Apply Bit Errors** terminator softkey. The percent **Bit Errors** softkey also updates to reflect the percentage of bit errors you have chosen.

**Location** Page [M-18](#)

## Bit Errors (percent value)

**Supported** E8267C with Option 002

This softkey enables you to specify the percentage of bit errors applied to the current file when you press the **Apply Bit Errors** terminator softkey. The numeric value **Bit Errors** softkey also updates to reflect the number of bit errors you have chosen.

**Location** Page [M-18](#)

## Black Pixels Screen Test

**Supported** All

This softkey enables you to set all the pixels on the display to black. Pressing the **Local** hardkey returns the display to normal operation.

This key is provided for factory use in testing the display.

**Location** Page [M-42](#)

## Bluetooth

**Supported** E8267C with Option 002

Press this softkey to set up a predefined Bluetooth digital modulation format to modulate a continuous stream of the selected data pattern with the default maximum deviation set to 157.5 kHz. Bluetooth uses 2-level frequency shift keying (FSK) modulation that transmits data at the rate of 1 bit per symbol (1 Msps).

**Location** Page [M-15](#)

## BPSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting a BPSK Modulation

Use this softkey to select binary phase shift keying (BPSK) to modulate a continuous stream of the selected data pattern. BPSK modulation transmits data at the rate of 1 bit per symbol.

The modulation selection appears under the **Select** and **PSK** softkeys in the Modulation Type menus.

**Location** Pages [M-7](#), [M-13](#)

### Loading a BPSK I/Q Map into the Table Editor

Use this softkey to load a binary phase shift keying (BPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

## Brightness

**Supported** All

Use this softkey to adjust the display brightness (intensity). The value shown in the active entry area is a relative value for brightness. Increasing the number increases the brightness; decreasing the number decreases the brightness.

The brightness intensity is not affected by a preset or power cycle.

**Range** 1–50

**Location** Page [M-42](#)

## Build New Waveform Sequence

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to create a new waveform sequence file.

**Location** Page [M-23](#)

## Burst Gate In Polarity Neg Pos

**Supported** E8267C with Option 002

Use this softkey to select the polarity for the TTL signal at the BURST GATE IN connector.

Neg Selecting Neg configures the TTL logic high at 0 volts.

Pos Selecting Pos configures the TTL logic high as +5 volts.

**Location** Page [M-43](#)

## Burst Shape

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can modify the rise and fall time and delay of the burst shape. In addition, you can select the shape and type of the burst or restore the default burst shape values.

**Location** Page [M-12](#)

## Burst Shape Type

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select the burst shape type. You can choose Sine or a user-defined burst shape that is stored in the signal generator's catalog of burst shapes.

**Preset** Sine

**Location** Page [M-14](#)

## Bus

**Supported** All

This softkey sets the trigger source to bus. When the trigger source is set to bus, the signal generator will trigger an event when it receives the appropriate command from the GPIB, RS-232, or LAN.

### **In the Sweep Trigger Menu**

In the Sweep Trigger menu, choosing **Bus** enables you to trigger a full sweep by sending a \*TRG command (GPIB, RS-232, or LAN) or by asserting the GPIB group execute trigger (GET) line.

**Location**           Pages [M-24](#), [M-26](#), [M-30](#), [M-37](#), [M-39](#)

### **In the Point Trigger Menu**

In the Point Trigger menu, choosing **Bus** enables you to trigger a point-by-point sweep by sending a \*TRG command (GPIB, RS-232, or LAN) or by asserting the GPIB group execute trigger (GET) line.

**Location**           Pages [M-37](#), [M-39](#)

### **In the Trigger Source Menu**

In this menu, choosing **Bus** enables you to trigger the internal digital modulation pattern generator by sending a \*TRG command (GPIB, RS-232, or LAN) or by asserting the GPIB group execute trigger (GET) line.

In secondary frame mode, selecting **Bus** allows the next frame type to be toggled by the commands \*TRG or GET. This frame type is used once the current frame type has been completely transmitted.

Pattern Trigger functions are not available if you use either a PN data sequence or an external data source.

**Location**           Pages [M-9](#), [M-15](#), [M-21](#)

### **In the AM, FM, and $\Phi$ M Sweep Trigger Menus**

In the AM, FM, and  $\Phi$ M sweep trigger menus, choosing **Bus** enables you to trigger a swept-sine amplitude, frequency, or phase modulation by sending a \*TRG command (GPIB, RS-232, or LAN) or by asserting the GPIB group execute trigger (GET) line.

**Location**           Page [M-2](#)

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## C

### C4FM

**Supported** E8267C with Option 002

This softkey appears in two different situations, to either select a modulation or load a default pattern into the FSK table editor.

#### Selecting a C4FM FSK Modulation

Use this softkey to select C4FM to modulate a continuous stream of the selected data pattern. C4FM is an APCO 25-compliant, 4-level frequency shift keying (FSK) modulation that transmits data at the rate of 2 bits per symbol.

The modulation selection is displayed under the **Select** softkey in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

#### Loading a C4FM FSK Pattern into the FSK Table Editor

Use this softkey to load a C4FM frequency shift keying (FSK) modulation pattern into the FSK table editor. C4FM FSK modulation transmits data at the rate of 2 bits per symbol. For more information on using the FSK table editor, see the *User's Guide*.

**Location** Page [M-20](#)

### Calibration Type User Full

**Supported** E8267C

This softkey selects the calibration type.

User	In this mode, I/Q calibration is performed over a frequency range which you specify using the <b>Start Frequency</b> and <b>Stop Frequency</b> softkeys. Limiting the frequency range of the calibration will decrease the time required for the calibration to be executed.
Full	In this mode, I/Q calibration is performed over the full frequency range of the signal generator.

The I/Q calibration type setting is not affected by a preset or by a power cycle.

**Location** Page [M-29](#)

## Capture current HW configuration

**Supported** All

Use this softkey to load the current hardware configuration, through consecutive boots, and compare it with all installed devices. Any discrepancies will be reported.

This process will overwrite the previous configuration.

**Location** Page [M-43](#)

## Carrier Phases Fixed Random

**Supported** E8267C with Option 002

This softkey selects the carrier phase operating mode.

Fixed This selection sets the phase of all carriers to 0.

Random This selection sets random phase values for all carriers.

**Location** Page [M-8](#)

## Carrier Setup

**Supported** E8267C with Option 002

This softkey accesses a menu from which you can select a setup for initialization of the multicarrier table.

**Location** Page [M-8](#)

## Catalog Type

**Supported** All

Use this softkey to access a menu of choices enabling you to select the catalog type for displaying files. When you have made your selection, the display is updated and your choice appears below the **Catalog Type** softkey.

Catalog type selection is not affected by a preset or by a power cycle.

**Location** Page [M-44](#)

## CDPD

**Supported** E8267C with Option 002

Press this softkey to set up a predefined Cellular Digital Packet Data (CDPD) digital modulation format to modulate a continuous stream of the selected data pattern. CDPD uses minimum shift keying (MSK) modulation that transmits data at the rate of 1 bit per symbol (19.2 ksps).

**Location**           Pages [M-6](#), [M-8](#), [M-15](#)

## Channel Band

**Supported**       All

Use this softkey to display a menu of softkeys where you can assign channel bands based on the current device settings. The output frequency depends on both the channel band and channel number selections.

**Preset**            P-GSM Base

**Location**        Pages [M-26](#), [M-27](#)

## Channel Number

**Supported**       All

This softkey selects channel numbers (the frame carrier frequency) as the active function based on frequency channels defined in the selected format. The output frequency depends on both the channel band and channel number selections.

**Preset**            1

**Range**            Depends on selected band

**Location**        Pages [M-26](#), [M-27](#)

## Clear Error Queue(s)

**Supported**       All

This softkey enables you to delete all messages that are stored in the error message queues. When the error message queues are empty, the ERR annunciator is turned off.

You cannot undo this action; once the messages are deleted, they cannot be recalled. There are two error message queues: one for front panel operation and one for remote operation.

**Location**        Page [M-42](#)

## Clear Text

**Supported** All

Use this softkey to delete all characters and digits in the active entry area. This key is especially useful when you want to clear the current entry so you can create a new entry.

**Location** Clear Text is located in the table editor menus.

## Clip |I| To

**Supported** E8267C with Option 002

Use this softkey to make the modulation level of the I component the active function. You can then clip (limit) the level to a percentage of full scale. A level of 100.0% equates to no clipping.

Clipping type must be set to |I|, |Q| for this softkey to be active.

**Preset** 100.0%

**Range** 10.0 through 100.0%, in 0.1% increments

**Location** Page [M-22](#)

## Clip |I+jQ| To

**Supported** E8267C with Option 002

Use this softkey to make the modulation level of the combined I and Q waveform the active function. You can then clip (limit) the level to a percentage of full scale. A level of 100.0% equates to no clipping.

Clipping type must be set to |I+jQ| for this key to be active.

**Preset** 100.0%

**Range** 10.0 through 100.0%, in 0.1% increments

**Location** Page [M-22](#)

## Clip |Q| To

**Supported** E8267C with Option 002

Use this softkey to make the modulation level of the Q component the active function. You can then clip (limit) the level to a percentage of full scale. A level of 100.0% equates to no clipping.



Clipping type must be set to  $|I|, |Q|$  for this softkey to be active.

<b>Preset</b>	100.0%
<b>Range</b>	10.0 through 100.0% in 0.1% increments
<b>Location</b>	Page <a href="#">M-22</a>

## Clipping

**Supported** E8267C with Option 002

Use this softkey to access a menu of options for limiting the modulation level.

The current clipping type is displayed under the **Clipping** softkey.

**Location** Page [M-22](#)

## Clipping Type $|I+jQ|$ $|I|, |Q|$

**Supported** E8267C with Option 002

Use this softkey to select either  $|I+jQ|$  or  $|I|, |Q|$  as the clipping type.

$|I+jQ|$  If you select  $|I+jQ|$ , the combined I and Q waveform is clipped (circular clipping).

$|I|, |Q|$  If you select  $|I|, |Q|$ , the I and Q components of the waveform are clipped independently (rectangular clipping). In this case, you can clip I and Q to different levels.

**Preset**  $|I+jQ|$

**Location** Page [M-22](#)

## Common Mode I/Q Offset

**Supported** E8267C

Use this softkey to enter an origin offset voltage for in-phase and quadrature-phase signals that are routed to the external output ports. This offset adjusts the I, I-bar, Q, and Q-bar output signal levels equally, relative to ground.

**Preset** 0.000 V

**Range** -3.000 to 3.000 V

**Location** Page [M-29](#)

## Configure Auto External I/Q Atten Settings

**Supported** E8267C

Use this softkey to access a menu of softkeys for optimizing the automatic external I/Q attenuator.

This softkey becomes active only when **Modulator Atten Manual Auto** is set to Auto, the Source 1 selection is **Ext 50 Ohm** or **Ext 600 Ohm**, and I/Q is on.

**Location** Page [M-33](#)

## Configure Cal Array

**Supported** All

Use this softkey to access a menu of softkeys for defining a user flatness list sweep. Each point in this sweep will contain a frequency and amplitude correction pair.

**Location** Page [M-3](#)

## Configure Differential Encoding

**Supported** E8267C with Option 002

Press this softkey to display a menu and editor (a differential state map) where you can create user-defined differential encoding for the current user-defined modulation table. Use this table to enter the symbol table offset for each binary data bit. For more information on differential encoding and the Differential State Map editor, see the *User's Guide*.

**Location** Pages [M-19](#), [M-20](#)

## Configure Hardware

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can set a particular latch or hardware configuration to meet user-specific needs.

**Location** Page [M-15](#)

## Configure List Sweep

**Supported** All

Use this softkey to access a menu of softkeys for defining a list sweep. In this menu, you

can insert and delete points in a sweep. Each point can contain frequency, amplitude, and dwell time information.

**Location**      Pages [M-37](#), [M-39](#)

## Configure Ramp/Step Sweep

**Supported**      All with Option 007

Use this softkey to access a menu of softkeys for defining a ramp or step sweep. The available selections depend upon the sweep type selected.

In step mode, you can set the frequency and power range, number of points, and dwell time at each point.

In ramp mode, you can set the frequency and power range, sweep time, and enable an alternate sweep.

**Location**      Page [M-39](#)

## Configure Step Array

**Supported**      All

Use this softkey to access a menu of softkeys that enables you to define a step sweep with a user flatness connection. In this menu, you can set the start frequency, stop frequency, and the number of points for the sweep.

**Location**      Page [M-4](#)

## Configure Step Sweep

**Supported**      All

Use this softkey to access a menu of softkeys for defining a step sweep. In this menu, you can set the start and stop frequencies and power levels for a sweep, and you can set the number of points in the sweep with the dwell time at each point.

**Location**      Page [M-37](#)

## Confirm Change

**Supported**      All

Use this softkey to confirm re-configuration of a selected signal generator option. After modifying the license key and proceeding with a re-configuration, pressing this key will implement the change.

Pressing this key re-boots the signal generator.

**Location**        Pages [M-42](#), [M-43](#)

## Confirm Delete

**Supported**        All

Use this softkey to continue to delete the selected file.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location**        Confirm Delete is located in various menus.

## Confirm Delete Of All Rows

**Supported**        E8267C with Option 002

Use this softkey to continue to delete all rows in the current table.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location**        Confirm Delete Of All Rows is located in the table editor menus.

## Confirm Delete of NVWFM Files

**Supported**        E8267C with Option 002

Use this softkey to continue to delete all NVWFM files.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location**        Page [M-22](#)

## Confirm Delete of WFM1 Files

**Supported**        E8267C with Option 002

Use this softkey to continue to delete all WFM1 files.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location**        Page [M-22](#)

## Confirm Load From File

**Supported** E8267C with Option 002

Use this softkey to continue to load the highlighted file into the current table.

**Location** Confirm Load From File is located in the table editor menus.

## Confirm Load From Step Data

**Supported** All

Use this softkey to continue to load the step data into the user flatness table or the list sweep table.

**Location** Pages [M-4](#), [M-38](#), [M-40](#)

## Confirm Load Mirror Image of Fall Shape

**Supported** E8267C with Option 002

Use this softkey to continue to load the Rise Shape Editor with a mirror image of the Fall Shape Editor when editing a burst shape.

**Location** Page [M-14](#)

## Confirm Load Mirror Image of Rise Shape

**Supported** E8267C with Option 002

Use this softkey to continue to load the Fall Shape Editor with a mirror image of the Rise Shape Editor when editing a burst shape.

**Location** Page [M-14](#)

## Confirm Restore Sys Defaults

**Supported** All

Use this softkey to restore the signal generator to preset system conditions.

Pressing this key re-boots the signal generator.

**Location** Page [M-44](#)

## Continuous

**Supported** E8267C with Option 002

This softkey is one of the choices in both the Trigger and Segment Advance (trigger) menus of the Dual Arbitrary Waveform Generator personality.

### In the Trigger and Pattern Trigger Menus

This softkey sets the trigger type to continuous. In continuous trigger mode, the waveform repeats itself indefinitely. You can control the initial triggering of the continuous waveform using the **Continuous Mode** softkey.

**Location** Pages [M-6](#), [M-15](#), [M-21](#)

### In the Segment Advance Menu

This softkey sets the segment advance mode to continuous. After receiving a trigger, the next segment is played continuously. A segment that is being played when a trigger is received is completed before the next trigger event starts.

This segment advance selection becomes active only when the trigger type is set to Segment Advance.

**Location** Page [M-21](#)

## Continuous Mode

**Supported** E8267C with Option 002

Use this softkey to access a menu of triggering choices for the continuous mode.

Free Run	A sequence or segment plays immediately and continuously without a trigger.
Trigger & Run	A sequence or segment waits for a trigger and then runs continuously and does not respond to further triggers.
Reset & Run	A sequence or segment waits for a trigger and then runs continuously and responds to further triggers by restarting back at the start of the sequence or segment.

The continuous mode menu selection becomes active when the trigger type is set to Continuous.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

## Copy File

**Supported** All

This softkey enables you to copy and rename a file in the displayed catalog of files.

When you have entered the new file name, press the **Enter** terminator softkey. If you have changed your mind, press the **Return** hardkey. Once you press **Enter**, the new file is stored and displayed immediately in the catalog list.

**Location** Pages [M-18](#), [M-44](#)

## Create File

**Supported** E8267C with Option 002

Use this softkey to create a new bit file. After the new file is automatically opened by the Bit File Editor, you can edit bits individually, or select from a menu of editing tools.

The Bit File Editor automatically assigns a generic file name, which you can change using the **Rename** softkey.

**Location** Page [M-12](#)

## Custom

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select the real time I/Q baseband generator or the arbitrary waveform generator to create a custom digital modulation.

**Location** Pages [M-6](#), [M-12](#), [M-31](#)

## Custom Digital Mod State

**Supported** E8267C with Option 002

This softkey displays the Digital Modulation Setup Select File menu. From this menu, you can choose a custom digital modulation setup that has previously been defined and stored in the signal generator's memory. Use the front-panel knob, arrow keys, or the data entry keypad to highlight the desired file, then press **Select File** to activate the custom digital modulation state.

**Location** Pages [M-6](#), [M-8](#)

## Custom Off On

**Supported** E8267C with Option 002

This softkey toggles the operating state of the real time custom modulator.

**Off** When the **Custom Off On** softkey is set to Off, the real time custom modulator is disabled.

**On** When the **Custom Off On** softkey is set to On, the real time custom modulator builds a modulation that is specified by the user. You can create custom modulation formats for transmitting continuous streams of unframed data patterns.

**Preset** Off

**Location** Page [M-12](#)



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## D

### D8PSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

#### Selecting a D8PSK Modulation

Use this softkey to select differential 8-state phase shift keying (D8PSK) to modulate a continuous stream of the selected data pattern. D8PSK modulation transmits data at the rate of 3 bits per symbol.

The modulation selection appears under the **Select** and **PSK** softkeys in the Modulation Type menus.

**Location** Pages [M-7](#), [M-13](#)

#### Loading a D8PSK I/Q Map into the Table Editor

Use this softkey to load a differential 8-state phase shift keying (D8PSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

## Data

**Supported** E8267C with Option 002

Use this softkey to access a menu of choices from which you can select pseudorandom bit patterns, fixed 4-bit repeating sequences, alternating bit patterns, user files or external data.

The current selection is displayed under the **Data** softkey.

**Location** Page [M-12](#)

### Data Clock Out Polarity Neg Pos

**Supported** E8267C with Option 002

This softkey is used to configure the polarity of the TTL signal for the data clock out signal. The data clock out signal is available from the AUXILIARY I/O connector on the rear panel of the signal generator.

Neg            Selecting Neg uses the falling edge of the TTL signal.

Pos            Selecting Pos uses the rising edge of the TTL signal.

**Location**    Page [M-43](#)

## Data Clock Polarity Neg Pos

**Supported**    E8267C with Option 002

This softkey is used to configure the polarity of the TTL signal at the DATA CLOCK connector.

Neg            Selecting Neg uses the falling edge of the TTL signal.

Pos            Selecting Pos uses the rising edge of the TTL signal.

This softkey is disabled during external data pattern input and external clock input.

**Preset**        Pos

**Location**    Page [M-43](#)

## Data Out Polarity Neg Pos

**Supported**    E8267C with Option 002

This softkey is used to configure the polarity of the TTL signal for the data out signal. The data out signal is available from the AUXILIARY I/O connector on the rear panel of the signal generator.

Neg            Selecting Neg configures the CMOS logic high as 0 volts.

Pos            Selecting Pos configures the CMOS logic high as +3.3 volts.

**Preset**        Pos

**Location**    Page [M-43](#)

## Data Polarity Neg Pos

**Supported**    E8267C with Option 002

This softkey is used to configure the polarity of the TTL compatible input signal at the DATA connector.

Neg	This choice configures the TTL logic high as 0 volts.
Pos	This choice configures the TTL logic high as +5 volts.
<b>Location</b>	Page <a href="#">M-43</a>

## Data/Clk/Sync Rear Outputs Off On

**Supported** E8267C with Option 002

This softkey is used to disconnect the output signals from the rear panel AUXILIARY I/O data out, data clock out and symbol sync out connectors. Normally, these output signals should be connected (softkey set to On position). However, disconnecting these outputs will decrease spurious signals that are sometimes present when you are operating at high symbol rates.

Off Selecting Off disconnects rear panel output signals.

On Selecting On connects rear panel output signals.

**Location** Page [M-43](#)

## Date Format MDY DMY

**Supported** All

This softkey is used to set the format of the display of the date.

MDY Use this format to display the date as month-day-year.

DMY Use this format to display the date as day-month-year.

**Location** Page [M-43](#)

## DC

**Supported** E8257C and E8267C

Use this softkey to specify a dc level as the modulation waveform for the internally generated signal.

This softkey is available after selecting the internal source to operate as a function generator.

**Location** Page [M-30](#)

## DCFM/DCΦM Cal

**Supported** E8257C and E8267C

This softkey enables you to initiate a DCFM or a DCΦM calibration, depending upon which type of modulation is currently active. This calibration eliminates the offset in DCFM or DCΦM so that the carrier frequency remains the same with no modulation applied.

Use this calibration for externally applied signals. While the calibration can also be performed for internally generated signals, dc offset is not a normal characteristic for them.

---

**NOTE** If the calibration is performed with a dc signal applied, any deviation provided by the dc signal will be removed and the new zero reference point will be at the applied dc level. The calibration will have to be performed again when the dc signal is disconnected to reset the carrier signal to the correct zero reference.

---

**Location** Pages [M-24](#), [M-25](#)

## DCS Base

**Supported** All

This softkey selects DCS 1800 Base as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 512*  
*Frequency: 1.805 GHz*

**Range** *Channels: 512–885*  
*Frequency: 1.805–1.879 GHz*

**Location** Pages [M-26](#), [M-27](#)

## DCS Mobile

**Supported** All

This softkey selects DCS 1800 Mobile as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 512*

	<i>Frequency:</i> 1.710 GHz
<b>Range</b>	<i>Channels:</i> 512–885
	<i>Frequency:</i> 1.710–1.784 GHz
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## DECT

**Supported** E8267C with Option 002

Use this softkey to select a predefined Digital European Cordless Telecommunications (DECT) personality for the current custom digital modulation format.

**Location** Pages [M-6](#), [M-8](#)

## DECT Standard

**Supported** All

This softkey selects a frequency band for DECT. The output frequency depends on both the frequency band and channel selection.

**Preset** *Channel:* 9  
*Frequency:* 1.881 GHz

**Range** *Channels:* 0–9  
*Frequency:* 1.897–1.881 GHz

**Location** Pages [M-26](#), [M-27](#)

## Default Gateway

**Supported** All

Use this softkey to enter a gateway for LAN access to the signal generator from outside the current sub-network. The entry can remain empty which allows the signal generator to be accessed only by local hosts on the LAN.

Your IT service can set up the default gateway.

**Location** Page [M-42](#)

## Define User Burst Shape

**Supported** E8267C with Option 002

Press this softkey to display a table editor where you can edit the rise and fall shapes of waveforms, and save them for later use. For more information on user burst shapes, see the *User's Guide*.

**Location**      Page [M-14](#)

## Define User FIR

**Supported**      E8267C with Option 002

This softkey displays a table editor from which you can create and modify FIR filters. The FIR table editor allows a maximum filter length of 1024 coefficients, but the ESG hardware is limited to 64 symbols for real-time and 512 symbols for arbitrary waveform generation. The number of symbols equals the number of coefficients divided by the oversample ratio.

If you enter more than 64 symbols for real-time and 512 symbols for arbitrary waveform generation, the ESG cannot use the filter.

**Location**      Pages [M-10](#), [M-16](#)

## Define User FSK

**Supported**      E8267C with Option 002

Use this softkey to display the FSK table editor, where you can define custom asymmetric (or symmetric) FSK modulation patterns. The FSK table editor enables you to define a frequency deviation and load a default symmetric FSK pattern (2-Lvl, 4-Lvl, 8-Lvl, 16-Lvl, or C4FM) or create a modulation pattern based on user-defined frequency values.

**Location**      Page [M-13](#)

## Define User I/Q

**Supported**      E8267C with Option 002

Use this softkey to display the I/Q table editor, where you can directly define symbol positions. The I/Q table editor enables you to create custom constellation diagrams that you can save to an I/Q file catalog. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-13](#)

## Delete

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select different methods of removing bits from the current bit file.

**Location** Delete is located in the bit file editor menus.

## Delete All Files

**Supported** All

Use this softkey to delete all of the files in the displayed catalog of files. The files will not be deleted until you press **Confirm Delete All Files**. If you change your mind and do not want to delete the files, press the **Return** hardkey before confirming the deletion.

**Location** Page [M-44](#)

## Delete All NVWFM Files

**Supported** E8267C with Option 002

Use this softkey to delete all files of the currently displayed catalog type from the non-volatile waveform memory. Note that confirmation is required, by pressing **Confirm Delete of NVWFM Files**, before the segment will be deleted. This will delete all non-volatile marker (NVMKR) files as well.

To activate this key, the **Load Store** softkey on page 1 of this menu must be set to Load. Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location** Page [M-22](#)

## Delete All Regs in Seq [*n*]

**Supported** All

This softkey enables you to delete the data saved in all of the registers of the selected sequence. Do not press this key until you have selected the correct sequence using the **Select Seq** key.

You cannot recover data after this step. If you change your mind and do not wish to delete the data, press the **Return** hardkey.

**Location** Pages [M-35](#), [M-36](#)

## Delete All Rows

**Supported** E8267C with Option 002

Use this softkey to delete all rows in the current table. The files will not be deleted until you press the **Confirm Delete All Files**. If you change your mind and do not want to delete the files, press the **Return** hardkey before confirming the deletion.

**Location** Delete All Rows is located in the table editor menus.

## Delete All Sequences

**Supported** All

This softkey enables you to delete all of the data in all saved registers of all sequences.

You cannot recover data after this step. If you change your mind and do not wish to delete the data, press the **Return** hardkey.

**Location** Pages [M-35](#), [M-36](#)

## Delete All Waveforms

**Supported** E8267C with Option 002

Use this softkey to delete all waveforms from the sequence currently being edited. To save the changes, highlight the sequence and store.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location** Page [M-23](#)

## Delete All WFM1 Files

**Supported** E8267C with Option 002

Use this softkey to delete all files of the currently displayed catalog type from waveform memory. Note that confirmation is required, by pressing **Confirm Delete of WFM1 Files**, before the segment will be deleted.

To activate this key, the **Load Store** softkey on page 1 of this menu must be set to Store. Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location** Page [M-22](#)



## Delete Bits

**Supported** E8267C with Option 002

Use this softkey to delete bits from the current bit file, including the currently highlighted bit and moving to the right. The number of bits is specified using the **Number of Bits** softkey.

**Location** Delete Bits is located in the bit file editor menus.

## Delete File

**Supported** All

This softkey enables you to delete a file in the catalog listing. Use the up and down arrow keys until the file you wish to delete is highlighted. Press **Delete File** and then press the **Confirm Delete** softkey. If you do not want to delete the file, press **Return** instead of **Confirm Delete**.

**Location** Delete File is located in the table editor menus.

## Delete Previous Comment

**Supported** All

This softkey will appear when you overwrite a previously saved register that contains comments. Press this key if you want to delete the comment for the newly saved state. Press the **Keep Previous Comment** softkey if you want to keep the comment.

**Location** Page [M-36](#)

## Delete Row

**Supported** All

This softkey enables you to delete a selected row in the list. Use the up and down arrow keys until any item is selected in the row you wish to delete. Press **Delete Row** and the entire row is deleted. If the last row in a list is deleted, it is replaced by the default value.

You cannot recover data after this step. If you change your mind and do not wish to delete the row, press the **Return** hardkey.

**Location** Delete Row is located in the table editor menus.

## Delete Segment

**Supported** E8267C with Option 002

Use this softkey to delete the selected waveform segment in the displayed catalog. Note that confirmation is required, by pressing **Confirm Delete**, before the segment will be deleted.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location** Page [M-22](#)

## Delete Selected Waveform

**Supported** E8267C with Option 002

Use this softkey to delete the highlighted waveform.

Deletions cannot be recovered. If you want to cancel the delete process, press the **Return** hardkey.

**Location** Page [M-23](#)

## Delete Seq[n] Reg[nn]

**Supported** All

Use this softkey to delete the contents of a specified register in a specified sequence, once you have selected the correct sequence and register using the **Select Seq** and **Select Reg** softkeys.

You cannot recover the data after this step. If you change your mind and do not wish to delete the data, press the **Return** hardkey.

**Location** Pages [M-35](#), [M-36](#)

## Delete To Beginning

**Supported** E8267C with Option 002

Use this softkey to delete all bits to the beginning of the file, not including the currently highlighted bit.

**Location** Delete to Beginning is located in the bit file editor menus.

## Delete To End

**Supported** E8267C with Option 002

Use this softkey to delete all bits to the end of the file, including the currently highlighted bit.

**Location** Delete To End is located in the bit file editor menus.

## Delete Waveform Sequence

**Supported** E8267C with Option 002

Use this softkey to delete the highlighted waveform sequence from the displayed catalog. Deletions cannot be recovered. Note that confirmation is required, by pressing **Confirm Delete**, before the sequence will be deleted.

Deletions cannot be recovered. If you want to cancel confirmation, press the **Return** hardkey.

**Location** Page [M-23](#)

## Delta Ref Set

**Supported** All with Option 007

Use this softkey to designate the reference marker when using markers in delta mode. The frequency values for all other markers become relative to the reference marker. Ref appears in the far right column (also labeled Ref) of the marker table editor to indicate which marker is the reference.

**Range** 0–9

**Preset** 0

**Location** Page [M-27](#)

## Device BTS MS

**Supported** All

This softkey sets the frequency band type.

**BTS** This mode selects the base transceiver station as the frequency band type.

**MS** This mode selects mobile as the frequency band type

The selected mode will be displayed under the **Channel Band** softkey.

**Preset**            BTS

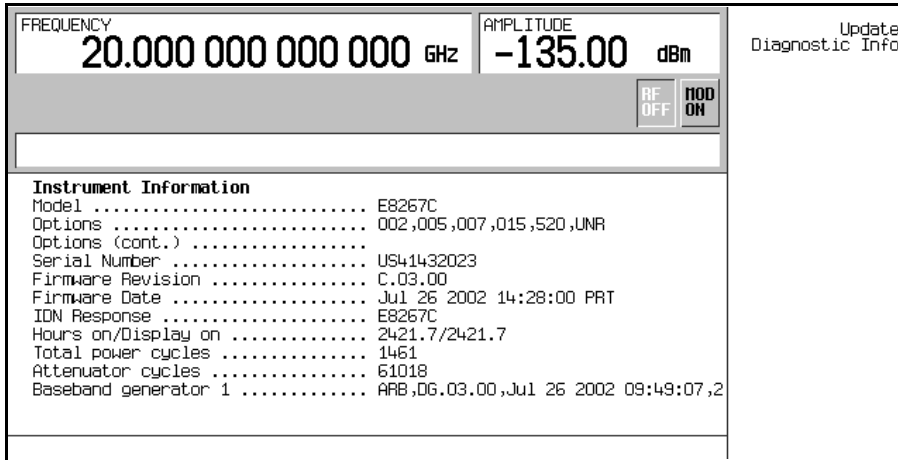
**Location**        Pages [M-26](#), [M-27](#)

## Diagnostic Info

**Supported**      All

Use this softkey to access diagnostic information about the signal generator. Refer to [Figure 1](#) for information on what is included in the display.

**Figure 1            Diagnostic Instrument Information**



Model	the model number of the signal generator
Options	a list of installed hardware and software options
Serial Number	the factory assigned serial number
Firmware Revision	the revision number for the signal generator's firmware
IDN Response	the characters returned after a remote *IDN query
Total hours on	the number of hours that the signal generator has been powered on
Total hours display has been on	the number of hours the display has been active (value does not include hours using the screen saver)

Total power cycles	the number of times the line power has been switched on
Attenuator cycles	the number of times the attenuator has been switched
Reverse Power Protection Trips	the number of times the reverse power protection circuit has been tripped.

**Location**      Page [M-45](#)

## Diff Data Encode Off On

**Supported**      E8267C with Option 002

This softkey toggles the operational state of the signal generator's differential data encoding.

Off	When the <b>Diff Data Encode Off On</b> softkey is set to Off, data bits are not encoded prior to modulation.
On	When the <b>Diff Data Encode Off On</b> softkey is set to On, data bits are encoded prior to modulation. Differential encoding uses an exclusive-OR function to generate a modulated bit. Modulated bits will have a value of 1 if a data bit is different from the previous bit, or they will have a value of 0 if a data bit is the same as the previous bit.

For more information on differential data encoding, see the *User's Guide*.

**Preset**          Off

**Location**      Page [M-15](#)

## Diff. Mode I Offset

**Supported**      E8267C

Use this softkey to enter a differential offset voltage for an in-phase signal that is routed to an external output connector. For example, if you enter a 200.0 mV offset value, the I output signal will have a 100.0 mV offset and the I-bar output signal will have a -100.0 mV offset.

**Preset**          0.000 V

**Range**          -3.000 to 3.000 V

**Location**      Page [M-29](#)

## Diff. Mode Q Offset

**Supported** E8267C

Use this softkey to enter a differential offset voltage for a quadrature-phase signal that is routed to an external output connector. For example, if you enter a 200.0 mV offset value, the Q output signal will have a 100.0 mV offset and the Q-bar output signal will have a -100.0 mV offset.

**Preset** 0.000 V

**Range** -3.000 to 3.000 V

**Location** Page [M-29](#)

## Differential Encoding Off On

**Supported** E8267C with Option 002

Press this softkey to change the operational state of the user-defined differential encoding. For more information on differential encoding, see the *User's Guide*.

This setting is not affected by a preset or by a power cycle.

**Off** When differential encoding is set to Off, the user-defined differential encoding is disabled.

**On** When differential encoding is set to On, the user-defined differential encoding table is applied to the current user-defined modulation table.

**Location** Pages [M-19](#), [M-20](#)

## Digital Mod Define

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to set the symbol rate and assign a modulation type and filter for a custom digital modulation state. This menu also allows you to store the custom state to a file.

This softkey is only available when the **Multicarrier Off On** softkey is toggled to Off.

**Location** Page [M-6](#)

## Digital Modulation Off On

**Supported** E8267C with Option 002

This softkey toggles the operating state of the arbitrary custom digital modulation generator.

**Off** When the **Digital Modulation Off On** softkey is set to Off, the custom digital modulation generator is disabled.

**On** When the **Digital Modulation Off On** softkey is set to On, the custom digital modulation generator builds a waveform that is specified by the user. You can create custom waveforms using predefined modulation types and filters.

**Preset** Off

**Location** Page [M-6](#)

## Display

**Supported** All

Use this softkey to access a menu for adjusting and testing the display functions. In this menu you can set up the screen saver, change the display brightness, and perform black and white pixel screen tests. In addition, inverse video can be selected and update in remote turned on or off.

**Location** Page [M-42](#)

## Display Burst Shape

**Supported** E8267C with Option 002

Use this softkey to display a graph of the rise and fall burst shapes. For more information on burst shapes, see the *User's Guide*.

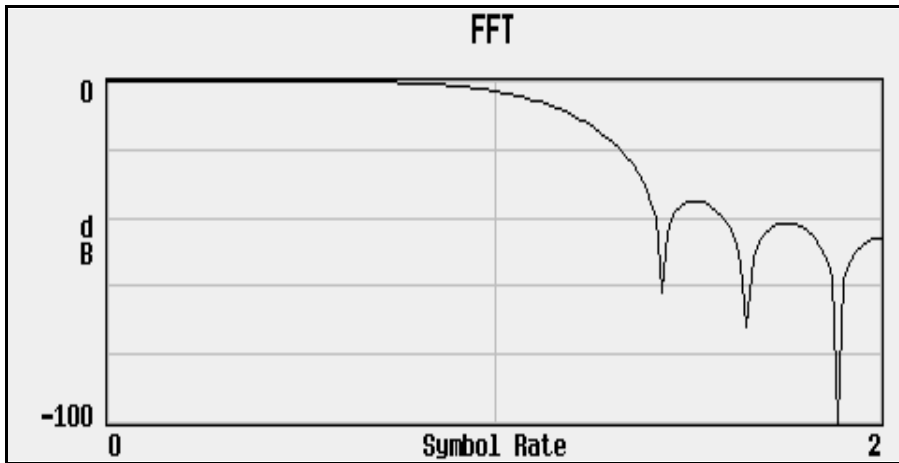
**Location** Page [M-14](#)

## Display FFT

**Supported** E8267C with Option 002

Use this softkey to display a graphical representation of the filter frequency response (calculated using a fast Fourier transform). The following is an example of the frequency

response of a root Nyquist filter with an oversample ratio of 4.

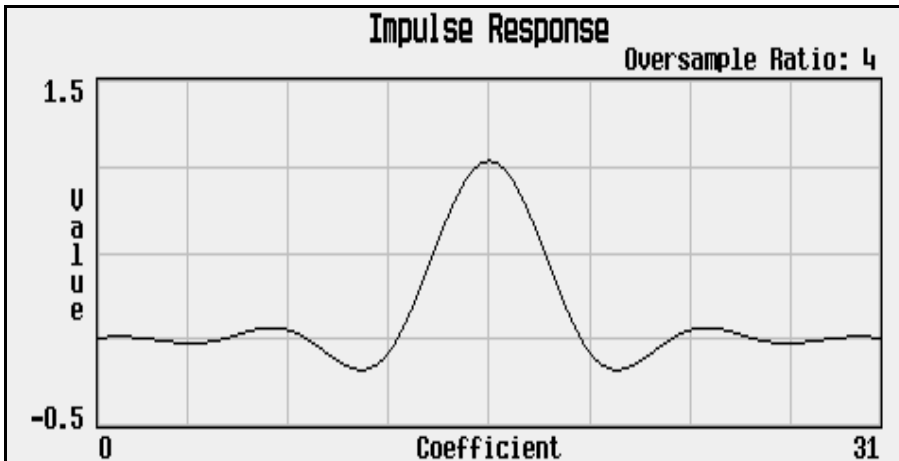


**Location**      Pages [M-10](#), [M-17](#)

## Display Impulse Response

**Supported**      E8267C with Option 002

Use this softkey to display a graphical representation of the filter impulse response in time. The following is an example of the impulse response of a root Nyquist filter with an oversample ratio of 4.





**Location**      Pages [M-10](#), [M-17](#)

## Display I/Q Map

**Supported**      E8267C with Option 002

Use this softkey to display an I/Q constellation map diagram of the current set of I/Q points. For more information on I/Q constellation map diagrams, see the *User's Guide*.

**Location**      Page [M-19](#)

## DMOD

**Supported**      All

Press this softkey to set the current catalog type to DMOD and display the catalog of DMOD files.

**Location**      Page [M-44](#)

## Do Cal

**Supported**      All

This softkey enables you to start a flatness calibration using the information from the user flatness list sweep table.

**Location**      Page [M-3](#)

## Do External Input Level Measurement

**Supported**      E8267C

Use this softkey to measure the voltage level at the external I/Q inputs. The measurement will be used as the input level setting.

This softkey becomes active only when **Ext Input Level Default Man Meas** is set to Meas.

**Location**      Page [M-33](#)

## Done

**Supported**      E8267C with Option 002

This softkey is a terminator key. Press it to accept the current values that you are setting up.

**Location**      Page [M-8](#)

## Done Inserting

**Supported**      E8267C with Option 002

Use this softkey to exit the insertion mode and return to the edit menu.

**Location**      Page [M-23](#)

## Do Power Search

**Supported**      E8267C

Use this softkey to execute the power search calibration routine one time. Power search is an internal calibration routine used to achieve calibrated output power when the ALC is off. You can execute a power search at any time by pressing this softkey.

The routine will execute only if RF is on and ALC is off.

**Location**      Pages [M-3](#), [M-29](#)

## Dual ARB

**Supported**      E8267C with Option 002

This softkey accesses a menu of choices for generating data patterns using the dual arbitrary waveform generator. Within these menus, you will be able to select and/or modify the waveform, waveform segments, waveform sequences, as well as the waveform generator's sample clock rate, internal/external reference (and with an external reference, the reference frequency) and an I/Q modulation filter.

**Location**      Pages [M-21](#), [M-31](#)

## Dual-Sine

**Supported**      E8257C and E8267C

Use this softkey to select dual sine waves as the modulation for the signal. This softkey will access a menu of choices enabling you to set parameters for the dual-sine amplitude modulation waveform. You can set the rates for two separate tones according to the modulation type.

In the LF Out menu, this softkey is available after selecting the internal source to operate as a function generator.

**Location**      Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Dwell Type List Step

**Supported** All

This softkey selects the source data which defines the dwell times for the current sweep.

**List** Choose List to sweep with dwell times that you have defined in the list sweep.

**Step** Choose Step to sweep each point in the list with a dwell time set by the **Step Dwell** softkey in the Configure Step Sweep menu.

When you are sweeping using the step sweep dwell time, the list sweep dwell time values are grayed out to indicate that they are not being used.

**Preset** List

**Location** Pages [M-38](#), [M-40](#)

## E

### E4416A

**Supported** All

This softkey enables you to select an Agilent E4416A power meter to perform the automated user flatness correction process.

**Location** Page [M-3](#)

### E4417A

**Supported** All

This softkey enables you to select an Agilent E4417A power meter to perform the automated user flatness correction process.

**Location** Page [M-3](#)

### E4418B

**Supported** All

This softkey enables you to select an Agilent E4418B power meter to perform the automated user flatness correction process.

**Location** Page [M-3](#)

### E4419B

**Supported** All

This softkey enables you to select an Agilent E4419B power meter to perform the automated user flatness correction process.

**Location** Page [M-3](#)

## EDGE

**Supported** E8267C with Option 002

This softkey selects a predefined Enhanced Data Rates for GSM Evolution (EDGE)

personality for the custom digital modulation format. Selecting EDGE automatically configures the format with an EDGE filter and digital modulation type.

The EDGE filter and digital modulation type are preset with the EDGE personality.

**Location**      Pages [M-6](#), [M-8](#)

## Edit Comment In Seq[n] Reg[nn]

**Supported**      All

This softkey enables you to edit an existing comment that is associated with a register in use. The register number is listed in the text area of the display and the comment is shown immediately following the register.

The **Add Comment to Seq[n] Reg[nn]** softkey changes to **Edit Comment In Seq[n] Reg[nn]** after adding a comment to the selected state.

The comment line is limited to 55 alpha-numeric and special characters.

**Location**      Page [M-36](#)

## Edit Fall Shape

**Supported**      E8267C with Option 002

Use this softkey to make the Fall Shape Editor the active function when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

Note that this softkey is available when the Rise Shape Editor is the active function; when the Fall Shape Editor is the active function, this softkey toggles to **Edit Rise Shape**.

**Location**      Page [M-14](#)

## Edit File

**Supported**      E8267C with Option 002

Use this softkey to begin editing the selected file. You can edit bits individually, or select from a menu of editing tools. Binary files are automatically converted to bit files for editing.

There is no undo capability. Bit files are saved after every modification.

**Location**      Page [M-12](#)

## Edit Item

**Supported** All

This softkey allows you to edit the currently highlighted field entry in any editor table. Once the edit has been made, the field will be updated with the selection.

**Location** Edit Item is located in the table editor menus.

## Edit Repetitions

**Supported** E8267C with Option 002

This softkey enables you to edit the number of repetitions of the highlighted sequence. Use the arrow keys, knob, or numeric keypad to enter the number of repetitions.

**Location** Page [M-23](#)

## Edit Rise Shape

**Supported** E8267C with Option 002

Use this softkey to make the Rise Shape Editor the active function when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

Note that this softkey is available when the Fall Shape Editor is the active function; when the Rise Shape Editor is the active function, this softkey toggles to **Edit Fall Shape**.

**Location** Page [M-14](#)

## Edit Selected Waveform Sequence

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to edit the selected waveform sequence.

**Location** Page [M-23](#)

## Editing Keys

**Supported** All

Use this softkey to access a menu from which you can create and edit text. In this menu you can delete the existing text in the active entry area, and you can toggle the editing mode from inserting text to replacing text.

**Location** This softkey is located in the table editor menus.

## Editing Mode Insert Replace

**Supported** All

Use this softkey to toggle the editing mode between insert and replace modes.

**Insert** Insertion mode causes text to be added directly to the left of the character that is highlighted by the cursor.

**Replace** Replacement mode causes text to be entered in the position held by the cursor, overwriting any existing text in that position.

**Preset** Insert

**Location** This softkey is located in the table editor menus.

## E-GSM Base

**Supported** All

This softkey selects E-GSM 900 Base as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*

*Frequency: 935.200 MHz*

**Range** *Channels: 0–124, 975–1023*

*Frequency: 935.000–959.800 MHz, 925.200–934.800 MHz*

**Location** Pages [M-26](#), [M-27](#)

## E-GSM Mobile

**Supported** All

This softkey selects E-GSM 900 Mobile as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*

*Frequency: 890.200 MHz*

**Range** *Channels: 0–124, 975–1023*

*Frequency: 890.000–914.800 MHz, 880.200–889.800 MHz*

**Location** Pages [M-26](#), [M-27](#)

## Error Info

**Supported** All

Use this softkey to access a menu of choices enabling you to view and clear error messages. In this menu you can view any of the error messages in the queue, you can also clear all of the error messages in the queue.

The error queue will hold up to 30 error messages before deleting the oldest error message to make room for the 31st error message.

**Location** Page [M-42](#)

## Execute Cal

**Supported** E8267C

Use this softkey to begin the I/Q calibration routine for the specified frequency range.

You can perform an I/Q calibration on a frequency range without disturbing calibrations that have already been performed on other frequency ranges.

I/Q calibration data is not affected by a preset or by a power cycle.

The calibration can be aborted at any time during the procedure by pressing the **Abort Cal** softkey. If you abort the calibration, the previous calibration data is restored.

**Location** Page [M-29](#)

## Ext

**Supported** All

This softkey is one of the choices in the Data, Sweep Trigger, Point Trigger, Pattern Trigger, Frame Trigger, Trigger Source, Alt Ampl Trigger, and AM, FM and  $\Phi$ M Sweep Trigger menus. Your available settings depend on which menu you have selected.

### In the AM, FM, $\Phi$ M, LF Output, and Sweep Trigger Menus

In the AM, Amplitude, FM,  $\Phi$ M, LF Output, and sweep trigger menus, choosing **Ext** enables you to trigger a swept-sine amplitude, frequency, or phase modulation on either the negative or positive edge of a signal applied to the TRIGGER IN rear panel connector.

Set the polarity of the trigger signal using the **Trigger In Polarity Neg Pos** softkey.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#), [M-37](#), [M-39](#)



### In the Data Menu

In the Data menu, choosing **Ext** enables you to use an external signal as the modulating data stream.

**Location**      Page [M-12](#)

### In the Pattern Trigger Menu

In this menu, the softkey is grayed out (inactive).

### In the Point Trigger Menu

In the Point Trigger menu, choosing **Ext** enables you to trigger a point-by-point sweep on either the negative or positive edge of a signal applied to the TRIGGER IN rear panel connector.

Set the polarity of the trigger signal using the **Trigger In Polarity Neg Pos** softkey.

**Location**      Pages [M-37](#), [M-39](#)

### In the Trigger Source Menu

In the Trigger Source menu, choosing **Ext** enables you to use one of the PATTERN TRIG IN rear-panel inputs as the trigger source.

Select the desired PATTERN TRIG IN input using the **Ext Source** softkey.

**Location**      Pages [M-9](#), [M-15](#), [M-21](#)

## Ext1

**Supported**      E8257C and E8267C

Use this softkey to select an externally applied signal as the modulation waveform after a signal source has been connected to the EXT 1 INPUT connector.

The externally applied, ac-coupled input signal is tested for a voltage level and a display annunciator will indicate either a high or low condition if that voltage is  $> \pm 3\%$  of  $1 V_p$ .

**Location**      Pages [M-2](#), [M-24](#), [M-25](#)

## Ext2

**Supported**      E8257C and E8267C

Use this softkey to select an externally applied signal as the modulation waveform after a signal source has been connected to the EXT 2 INPUT connector.

The externally applied, ac-coupled input signal is tested for a voltage level and a display annunciator will indicate a high or low condition if that voltage is  $>$  or  $\pm 3\%$  of  $1 V_p$ .

**Location**        Pages [M-2](#), [M-24](#), [M-25](#)

## Ext 50 Ohm

**Supported**        E8267C

This softkey appears in the Source 1 and I/Q Out menus.

### In the Source 1 menu

Use this softkey to route external 50 ohm I and Q input signals to the internal I/Q modulator.

The **Source 1** selection is independent of the **I/Q Out** selection.

**Location**        Page [M-33](#)

### In the I/Q Out menu

Use this softkey to route external 50 ohm I and Q input signals to the rear panel I and Q output connectors.

The **I/Q Out** selection is independent of the **Source 1** selection.

**Location**        Page [M-33](#)

## Ext 600 Ohm

**Supported**        E8267C

This softkey appears in the Source 1 and I/Q Out menus.

### In the Source 1 menu

Use this softkey to route external 600 ohm I and Q input signals to the internal I/Q modulator.

The **Source 1** selection is independent of the **I/Q Out** selection.

**Location**        Page [M-33](#)

### In the I/Q Out menu

Use this softkey to route external 600 ohm I and Q input signals to the rear panel I and Q output connectors.

The **I/Q Out** selection is independent of the **Source 1** selection.

**Location** Page [M-33](#)

## Ext BBG Ref Freq

**Supported** E8267C with Option 002

Use this softkey to enter the frequency of the baseband generator reference signal that is supplied to the rear panel BASEBAND GEN REF IN connector.

This softkey is used only when the **BBG Ref Ext Int** softkey is set to Ext.

**Preset** 13.0000000 MHz

**Range** 250.0000 kHz–100.0000000 MHz

**Location** Page [M-15](#)

## Ext Data Clock Normal Symbol

**Supported** E8267C with Option 002

Use this softkey to toggle the external data clock between Normal and Symbol.

This softkey has no effect in internal data mode.

**Normal** When you select Normal, you must supply a bit clock signal to the DATA CLOCK input connector, and a one-shot or continuous signal to the SYMBOL SYNC input connector (an unlock occurs if you select external data without these signals).

**Symbol** When you select Symbol, a symbol clock must be provided to the DATA CLOCK input.

For 2-bit-per-symbol modulation formats (such as  $\pi/4$ DQPSK), no signal is required at the DATA CLOCK input connector. Instead, the data is clocked on both the rising and falling edges of the SYMBOL SYNC signal.

**Preset** Normal

**Location** Page [M-15](#)

## Ext Delay Bits

**Supported** E8267C with Option 002

Use this softkey to make the number of bits for the external trigger delay the active

function. When **Ext Delay Off On** is On, transmission of the triggered data is delayed after the external trigger event by the number of bits specified.

This softkey is inactive until an external triggering source is selected.

Pattern Trigger functions are not available if you use either a PN data sequence or an external data source.

<b>Preset</b>	0
<b>Range</b>	0–1,048,575 bits
<b>Location</b>	Page <a href="#">M-15</a>

## Ext Delay Off On

**Supported** E8267C with Option 002

Use this softkey to enable or disable the insertion of a delay in the path of the selected external trigger.

This softkey is inactive until an external triggering source is selected.

Pattern Trigger functions are not available if you use either a PN data sequence or an external data source.

- Off When you select Off, no delay is inserted into the path of the externally applied trigger.
- On When you select On, the selected delay is inserted into the path of the externally applied trigger. The duration of the delay is specified using the **Ext Delay Bits** softkey, or the **Ext Delay Time** softkey.

<b>Preset</b>	Off
<b>Location</b>	Pages <a href="#">M-9</a> , <a href="#">M-15</a> , <a href="#">M-21</a>

## Ext Delay Time

**Supported** E8267C with Option 002

This softkey enables you to set the time for the external trigger delay. External trigger delay may be adjusted to trigger a waveform at a specified length of time after an external trigger signal has been received at the PATTERN TRIG IN or AUXILIARY I/O rear panel connectors.

This softkey is inactive until an external triggering source is selected.

<b>Preset</b>	1.0 ms
---------------	--------

**Range** 10.0 ns through 40 s

**Location** Pages [M-9](#), [M-21](#)

## Ext Detector

**Supported** All

Use this softkey to select external ALC leveling. In this mode you can use the ALC INPUT connector to control levels.

**Location** Page [M-3](#)

## Ext Detector Coupling Factor

**Supported** All

Use this softkey to set the external detector coupling factor.

**Location** Page [M-3](#)

## Ext In 600 Ohm I Offset

**Supported** E8267C

Use this softkey to enter an origin offset voltage for externally applied in-phase signals. This offset is used to remove imperfections in the in-phase signal or to introduce calibrated impairments.

This adjustment applies only when the Ext 600 Ohm is selected as the Source 1 input.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

**Preset** 0.000 V

**Range** -5.000 to 5.000 V

**Location** Page [M-29](#)

## Ext In 600 Ohm Q Offset

**Supported** E8267C

Use this softkey to set an origin offset voltage for externally applied quadrature-phase signals. This offset is used to remove imperfections in the quadrature-phase signal or to introduce calibrated impairments.

This adjustment applies only when the Ext 600 Ohm is selected as the Source 1 input.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

<b>Preset</b>	0.000 V
<b>Range</b>	-5.000 to 5.000 V
<b>Location</b>	Page <a href="#">M-29</a>

## Ext Input Level (nnn mV) Default Man Meas

**Supported** E8267C

Use this softkey to set the external trigger source polarity.

This softkey is inactive until an external triggering source is selected.

Default	Use this choice to set the external I/Q input level to the default value of 500.0 mV.
Man	Use this choice to manually set the external I/Q input level.
Meas	Use this choice to measure the voltage level at the external I/Q inputs. The measurement will be used as the input level setting.
<b>Preset</b>	Default (500.0 mV)
<b>Range</b>	100.0 mV rms-1.0 V rms
<b>Location</b>	Page <a href="#">M-33</a>

## Ext Polarity Neg Pos

**Supported** E8267C with Option 002

Use this softkey to set the external trigger source polarity.

This softkey is inactive until an external triggering source is selected.

Neg	When this softkey is set to Neg, the signal generator will trigger an event when it receives a negative change in the signal at the PATTERN TRIG IN or AUXILIARY I/O rear panel connectors.
Pos	When this softkey is set to Pos, the signal generator will trigger an event when it receives a positive change in the signal at the PATTERN TRIG IN or AUXILIARY I/O rear panel connectors.
<b>Preset</b>	Neg
<b>Location</b>	Pages <a href="#">M-9</a> , <a href="#">M-15</a> , <a href="#">M-21</a>

## Ext Polarity Normal Inverted

**Supported** E8257C and E8267C

Use this softkey to set the external pulse source polarity.

Normal This selects the normal polarity for the external pulse source.

Inverted This selects an inverted polarity for the external pulse source.

**Preset** Normal

**Location** Page [M-34](#)

## Ext Pulse

**Supported** E8257C and E8267C

This softkey enables you to generate a pulse modulation that follows an external pulse signal applied to the PULSE/TRIG GATE INPUT connector.

**Location** Page [M-34](#)

## Ext Source

**Supported** All

Use this softkey to access a menu from which you can select an external triggering source. You can select either **Patt Trig In 1** (the PATTERN TRIG IN rear panel BNC connector), or **Patt Trig In 2** (the AUXILIARY I/O D-shell rear panel connector).

The current external triggering source selection appears under the **Ext Source** softkey.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

## External Ref Bandwidth

**Supported** All with Option UNR

This softkey enables you to adjust the bandwidth of the external reference oscillator.

**Location** Page [M-43](#)

## F

### Fall Delay

**Supported** E8267C with Option 002

Press this softkey to adjust the burst shape fall delay.

**Preset** 0.000 bits

**Range** Minimum and maximum values depend on symbol rate.

**Location** Page [M-14](#)

### Fall Time

**Supported** E8267C with Option 002

Press this softkey to adjust the burst shape fall time.

**Preset** 5.000 bits

**Range** Minimum and maximum values depend on symbol rate.

**Location** Page [M-14](#)

### Filter

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select a filter type, restore the default filter, define a unique FIR filter, or optimize the filter for the best EVM or ACP.

You can also adjust the filter alpha when Nyquist or root Nyquist filters are selected or the bandwidth time product for Gaussian filters.

**Location** Pages [M-7](#), [M-12](#)

### Filter Alpha

**Supported** E8267C with Option 002

Use this softkey to make the filter's alpha parameter active in either the Filter menu or the Load Default FIR menu.



### In the Filter Menu

In this menu, the **Filter Alpha** softkey changes the alpha parameter of the selected root Nyquist or Nyquist filter.

This key only appears after choosing a root Nyquist or Nyquist filter. If a Gaussian filter is in use, you will see **Filter BbT**. If any other filter is in use, this key is replaced with a grayed-out key labeled **Filter Factor N/A**.

<b>Preset</b>	0.350
<b>Range</b>	0.000–1.000
<b>Location</b>	Pages <a href="#">M-10</a> , <a href="#">M-16</a>

### In the Load Default FIR Menu

In this menu, the **Filter Alpha** softkey changes the alpha parameter of the root Nyquist or Nyquist filter coefficients loaded into the FIR table editor. After entering the alpha value, you can press **Generate** to modify the filter coefficients in the table editor.

<b>Preset</b>	0.350
<b>Range</b>	0.000–1.000
<b>Location</b>	Pages <a href="#">M-11</a> , <a href="#">M-17</a>

## Filter BbT

**Supported** E8267C with Option 002

Use this softkey to make the bandwidth-multiplied-by-bit-time (BbT) filter parameter active in either the Filter menu or the Load Default FIR menu.

### In the Filter Menu

In this menu, the **Filter BbT** softkey changes the BbT parameter of the selected Gaussian filter.

This key only appears after choosing a Gaussian filter. If a root Nyquist or Nyquist filter is in use, you will see **Filter Alpha**. If any other filter is in use, this key is replaced with a grayed-out key labeled **Filter Factor N/A**.

<b>Preset</b>	0.350
<b>Range</b>	0.000–1.000
<b>Location</b>	Pages <a href="#">M-10</a> , <a href="#">M-16</a>

### In the Load Default FIR Menu

In this menu, the **Filter BbT** softkey changes the BbT parameter of the Gaussian filter coefficients loaded into the FIR table editor. After entering the BbT value, press **Generate** to modify the filter coefficients in the table editor.

<b>Preset</b>	0.200
<b>Range</b>	0.000–1.000
<b>Location</b>	Pages <a href="#">M-11</a> , <a href="#">M-17</a>

### Filter Factor N/A

**Supported** E8267C with Option 002

This grayed-out softkey is displayed when a filter is in use that does not contain an adjustable alpha or BbT parameter (such as the IS-95 filter selections or a user-defined FIR filter).

This softkey changes to either **Filter Alpha** or **Filter BbT** when the appropriate root Nyquist, Nyquist or Gaussian filter is selected for use.

**Location** Pages [M-10](#), [M-11](#), [M-16](#), [M-17](#)

### Filter Symbols

**Supported** E8267C with Option 002

This softkey selects the number of symbols for the current FIR filter. The FIR table editor allows a maximum filter length of 1024 coefficients with a maximum oversample ratio of 32 and a maximum of 64 symbols. If you create a FIR filter with greater than 32 symbols, the maximum symbol rate decreases by one half. If you create a FIR filter with greater than 16 and less than or equal to 32 symbols, the maximum symbol rate decreases by one quarter.

<b>Preset</b>	8
<b>Range</b>	1–64
<b>Location</b>	Pages <a href="#">M-11</a> , <a href="#">M-17</a>

### FIR

**Supported** All

This softkey enables you to specify that only signal generator FIR files be listed in the catalog of files.

**Location** Page [M-44](#)

## First Mkr Point

**Supported** E8267C with Option 002

This softkey enables you to set the first marker point when you define a range of points. You can use either the knob or the numeric keys to set this value, which must be greater than or equal to 1, and less than or equal to the total number of waveform points in the selected waveform.

**Preset** 1

**Range** 1–total number of waveform points

**Location** Page [M-22](#)

## FIX4

**Supported** E8267C with Option 002

Use this softkey to select a 4-bit repeating sequence data pattern and make it the active function. The selected 4-bit pattern will be repeated as necessary to fill the data area.

**Preset** 0000

**Range** 0000–1111

**Location** Page [M-12](#)

## Flatness Off On

**Supported** All

This softkey toggles the operating state of the user flatness corrections to the output power.

**Off** When flatness is off, user flatness correction is not applied to the output power.

**On** When flatness is on, user flatness correction is applied to the output power. You can use flatness correction to maintain a constant power level at the point of detection.

**Preset** Off

**Location** Page [M-3](#)

**FM/ΦM****Supported** E8257C and E8267C

Use this hardkey to access a menu from which you can configure modulation type (FM, normal phase modulation, or wideband phase modulation), path, deviation and deviation coupling, source, rate, waveform, and DCFM/DCΦM calibration.

**Location** Pages [M-24](#), [M-25](#)**FM ΦM Normal High BW****Supported** E8257C and E8267C

This softkey toggles between the menus for frequency modulation (FM), normal phase modulation (ΦM), and wideband phase modulation (ΦM High BW).

The deviation limits are dependent upon the carrier frequency. This limiting occurs only after the modulation is turned on.

**Normal** This choice enables you set the phase deviation as high as  $N \times 80$  radians with a 3.0 dB bandwidth at 100.0 kHz. Refer to the **FM Dev** softkey description for  $N$  values.

**High BW** This choice provides increased bandwidth while restricting the maximum deviation to deviation settings up to  $N \times 8$  radians. Refer to the **FM Dev** softkey description for  $N$  values.

**Preset** FM**Location** Pages [M-24](#), [M-25](#)**FM Dev****Supported** E8257C and E8267C

This softkey enables you to set the frequency deviation for the currently selected modulation path. The range of values allowed depends on the carrier frequency. The maximum peak deviation for a frequency is calculated by multiplying  $N$  times 8 MHz. ([Table 1](#) lists the values for  $N$  and the resulting maximum peak deviations.)

**Table 1**

<i>Carrier Frequency</i>	<i>N</i>	<i>Maximum Peak Deviation</i>
100 kHz to 250 MHz	1	8 MHz

**Table 1**

<i>Carrier Frequency</i>	<i>N</i>	<i>Maximum Peak Deviation</i>
> 250 MHz to 500 MHz	1/2	4 MHz
> 500 MHz to 1 GHz	1	8 MHz
> 1 GHz to 2 GHz	2	16 MHz
> 2 GHz to 4 GHz	4	32 MHz
> 4 GHz to 10 GHz	8	64 MHz
> 10 GHz to 20 GHz	16	128 MHz
> 20 GHz to 28.1 GHz	24.24	193.92 MHz
> 28.2 GHz to 40 GHz	40	320 MHz

For example, if you choose a carrier frequency of 450 MHz, multiply 1/2 by 8 MHz resulting in a 4 MHz maximum peak deviation.

The new value of FM deviation applies only to whichever FM path configuration you have currently selected. Also, whenever FM Path 1 is used with FM Path 2, the deviation for FM Path 1 must be greater than or equal to the deviation for FM Path 2.

<b>Preset</b>	1.0 kHz
<b>Range</b>	Depends on current carrier frequency setting.
<b>Location</b>	Page <a href="#">M-24</a>

## **FM Dev Couple Off On**

**Supported** E8257C and E8267C

This softkey toggles the operating state of the FM deviation coupling.

Off	When FM deviation coupling is off, the FM Path 1 and FM Path 2 deviation values are independent of each other.
On	When FM deviation coupling is on, the FM Path 1 and FM Path 2 deviation values are linked. Any change you make to one FM deviation value is applied to both.

**Preset** Off

**Location** Page [M-24](#)

## FM Off On

**Supported** E8257C and E8267C

This softkey toggles the operating state of the currently selected frequency modulation.

Off Use this setting to turn off the currently selected frequency modulation.

On Use this setting to turn on the currently selected frequency modulation.

Whenever frequency modulation is enabled, the FM annunciator is turned on in the display.

Although you can turn on frequency modulation with this key, the RF carrier is modulated by the enabled modulation only when you have also set **Mod On/Off** to On.

**Preset** Off

**Location** Page [M-24](#)

## FM Path 1 2

**Supported** E8257C and E8267C

This softkey toggles the selection between FM Path 1 and FM Path 2.

FM Path 1 This selection enables you to configure the modulation characteristics for FM Path 1, using the remaining softkeys in the FM menu.

FM Path 2 This selection enables you to configure the modulation characteristics for FM Path 2, using the remaining softkeys in the FM menu.

FM Path 1 and FM Path 2 define two standard frequency modulation configurations which can be used together. FM Path 1 and FM Path 2 are summed internally for composite modulation. Either path can be switched to any one of the modulation sources: Internal, Ext1, or Ext2.

FM Path 2 is limited to a maximum rate of 1 MHz. FM Path 2 must be set to a deviation less than FM Path 1.

**Preset** FM Path 1

**Location** Page [M-24](#)

## FM Rate

**Supported** E8257C and E8267C

This softkey enables you to change the internal modulation frequency for the FM Path 1 and FM Path 2 configurations.

The new value of FM rate applies only to whichever FM path configuration you have currently selected.

**Preset** 400.0 Hz

**Range** 500.0 mHz–100.0 kHz (minimum increment is 0.1 Hz)  
500.0 mHz–1.0 MHz (if sinewave is selected as the internal waveform)

**Location** Page [M-24](#)

## FM Source

**Supported** E8257C and E8267C

Use this softkey to access a menu from which you can select an internally generated or externally applied modulation input for the frequency modulation source. The internal modulation is always ac-coupled. For externally applied signals, you can choose between ac- and dc-coupled modulation.

A 1.0 volt peak voltage input is required for calibrated FM deviation settings. The EXT 1 LO/HI and EXT 2 LO/HI display annunciators will turn on if the peak input voltage differs from 1.0 volt by more than 3%. (The LO/HI annunciators only function for ac-coupled external inputs.)

**Preset** Internal

**Location** Page [M-24](#)

## FM Start Rate

**Supported** E8257C and E8267C

This softkey enables you to change the starting frequency of the internally generated modulation source for swept-sine frequency modulation.

This key is coupled to the **FM Rate** softkey in the initial FM menu and the **FM Tone 1 Rate** softkey in the FM dual-sine menu. Any value set for **FM Start Rate** is reflected in the **FM Rate** and **FM Tone 1 Rate** softkeys.

**Preset** 400.0 Hz

**Range** 1.0 Hz–1.0 MHz (minimum increment is 1.0 Hz)

**Location**      Page [M-24](#)

## FM Stop Rate

**Supported**      E8257C and E8267C

This softkey enables you to change the ending frequency of the internally generated modulation source for swept-sine frequency modulation.

This key is coupled to the **FM Tone 2 Rate** softkey in the FM dual-sine menu. Any value set for **FM Stop Rate** is reflected in the **FM Tone 2 Rate** softkey.

**Preset**            400.0 Hz

**Range**            1.0 Hz–1.0 MHz (minimum increment is 1.0 Hz)

**Location**        Page [M-24](#)

## FM Sweep Rate

**Supported**      E8257C and E8267C

Use this softkey to set the sweep rate of the swept sine analog modulation.

**Preset**            400.0 Hz

**Range**            0.5 Hz–100.0 kHz

**Location**        Page [M-24](#)

## FM Sweep Trigger

**Supported**      E8257C and E8267C

Use this softkey to access a menu from which you can select the triggering mode for the swept-sine frequency modulation.

You can also configure the polarity of the TTL signal output at the TRIGGER IN connector using the **Trigger In Polarity Neg Pos** softkey on this menu.

**Preset**            Free Run

**Location**        Page [M-24](#)

## FM Tone 1 Rate

**Supported**      E8257C and E8267C

This softkey enables you to set the internal modulation rate for tone 1 of the dual-sine



FM waveform.

This key is coupled to the **FM Rate** softkey in the initial FM menu and the **FM Start Rate** softkey in the FM swept-sine menu. Any value set for FM Tone 1 Rate is reflected in the **FM Rate** and **FM Start Rate** softkeys.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-24</a>

## FM Tone 2 Ampl Percent Of Peak

**Supported** E8257C and E8267C

This softkey enables you to adjust the amplitude of the alternate frequency as a percentage of the peak analog modulation amplitude. For example, if the tone 2 amplitude is set to 30.0% of the total amplitude, then the amplitude of the primary frequency is 70.0% of the total amplitude.

This is applicable only for the dual-sine function.

<b>Default</b>	50.0%
<b>Range</b>	0.0%–100.0%
<b>Location</b>	Page <a href="#">M-24</a>

## FM Tone 2 Rate

**Supported** E8257C and E8267C

This softkey enables you to set the internal modulation rate for tone 2 of the dual-sine FM waveform.

This key is coupled to the **FM Stop Rate** softkey in the FM swept-sine menu. Any value set for FM Tone 2 Rate is reflected in the **FM Stop Rate** softkey.

<b>Default</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-24</a>

## FM Waveform

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices that enables you to select the frequency modulation waveform that can be produced by the internal modulation source.

This softkey is only enabled when Internal is selected in the FM Source menu.

**Preset**            Sine

**Location**        Page [M-24](#)

## Free Run

**Supported**        All

This softkey appears in the Continuous Mode, Sweep Trigger, and Point Trigger Menus.

### In the Continuous Mode Menu

When this softkey is selected, the waveform generator immediately plays a sequence or segment continuously without waiting for a trigger. The waveform generator does not respond to triggers.

**Location**        Pages [M-9](#), [M-15](#), [M-21](#)

### In the Sweep Trigger and Point Trigger Menus

Sweep              Selecting the **Free Run** softkey in the Sweep Trigger menu  
Trigger              immediately triggers the sweep.

Point                The **Free Run** softkey in the Point Trigger menu causes the sweep to  
Trigger              pause for the dwell time that has been configured for each point in  
                            the sweep.

**Location**        Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#), [M-37](#), [M-39](#)

## Freq

**Supported**        All

This softkey enables you to set the signal generator to sweep frequency data only. The amplitude is set at a constant level determined by the **Amplitude** hardkey.

You can define a sweep containing both amplitude and frequency information and still choose to sweep frequency only.

**Location**        Pages [M-37](#), [M-39](#)

## Freq & Ampl

**Supported** All

Use this softkey to set the signal generator to sweep both frequency and amplitude data when using ramp or step as the sweep type.

In a list sweep, both the frequency and the amplitude lists must have the same number of points or one must have only one point. If a list has only one point, then that point is used for each of the other list's points.

**Location** Pages [M-37](#), [M-39](#)

## Freq Center

**Supported** All with Option 007

This softkey sets the center frequency for a ramp sweep. The center frequency symmetrically divides the selected frequency span and is coupled to the start and stop frequency settings.

**Preset** *Option 520: 20GHz*  
*Option 540: 40GHz*

**Range** *Option 520: 100kHz–20GHz*  
*Option 540: 100kHz–40GHz*

**Location** Page [M-27](#)

## Freq Channels

**Supported** All

Use this softkey to display a menu of softkeys from which you can assign frequency channels and frequency bands.

**Location** Pages [M-26](#), [M-27](#)

## Freq Channels Off On

**Supported** All

This softkey sets the operating state of the RF output.

Freq offset and Freq Multiplier still affect the real RF output frequency when Freq Channels is On.

**Off** When you select off, the state of the RF output is set in terms of Hertz.

<b>On</b>	When you select on, the operating state of the RF output frequency is determined by the frequency band and frequency channel settings.
<b>Preset</b>	Off
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## Freq CW

**Supported** All with Option 007

This softkey activates the CW frequency mode. Any currently running frequency sweeps are turned off and the current CW frequency settings control the output frequency. Pressing this softkey also allows you to change the frequency value.

<b>Preset</b>	<i>Option 520:</i> 20GHz <i>Option 540:</i> 40GHz
<b>Range</b>	<i>Option 520:</i> 100kHz–20GHz <i>Option 540:</i> 100kHz–40GHz
<b>Location</b>	Page <a href="#">M-27</a>

## Freq Dev

**Supported** E8267C with Option 002

This softkey appears in two different situations. You can use this softkey to select the maximum frequency deviation for an FSK modulation or to set a deviation for the FSK table editor.

### Selecting a Symmetric FSK Modulation

Press this softkey to set the maximum frequency deviation for symmetric FSK modulation.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0 Hz–4 times the current symbol rate setting (20 MHz maximum)
<b>Location</b>	Pages <a href="#">M-7</a> , <a href="#">M-13</a>

### Loading a Symmetric FSK Pattern into the FSK Table Editor

Press this softkey to define a custom frequency deviation convention in the FSK table editor. For more information on using the FSK table editor, see the *User's Guide*.

This setting is not affected by a preset or by a power cycle.

<b>Preset</b>	3.1250000 Hz
<b>Range</b>	0 Hz–20 MHz
<b>Location</b>	Page <a href="#">M-20</a>

## Freq Multiplier

**Supported** All

This softkey enables you to multiply the frequency shown on the display without changing the frequency output at the RF OUTPUT connector (simulating the frequency at the output of a harmonic multiplier).

For any multiplier other than 1, the **MULT** indicator is shown in the frequency area of the display.

The displayed frequency value is equal to the actual frequency, minus the reference frequency, times the multiplier, plus the offset frequency.

<b>Preset</b>	1
<b>Range</b>	–100 to +1000 (excluding 0)
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## Freq Offset

**Supported** All

This softkey enables you to set a value for frequency offset. For example, if the current output frequency is 1.0 MHz and you enter a frequency offset of 3.0 MHz, the output frequency will remain at 1.0 MHz but the display will show a frequency of 4.0 MHz. This feature enables you to simulate the frequency at the output of a frequency translating device.

When an offset has been entered, the **OFFS** indicator is turned on in the frequency area of the display.

A frequency offset can be entered at any time during normal operation and also when you are operating in frequency reference mode.

A frequency offset changes the value shown in the frequency area of the display but does not affect the output frequency.

<b>Preset</b>	0.00 Hz
<b>Range</b>	–200.0 GHz to 200.0 GHz

**Location** Pages [M-26](#), [M-27](#)

## Freq Ref Off On

**Supported** All

This softkey toggles the operating state of the frequency reference mode.

**Off** The frequency reference mode is turned off, and the output frequency is not affected by the reference value set by the **Freq Ref Set** softkey.

**On** The frequency value displayed is equal to the current hardware output frequency minus the reference value set by the **Freq Ref Set** softkey. All frequency parameters will now be set as relative to the reference value.

Frequency offsets can be used with frequency reference mode. In this situation, the display will show the frequency calculated as the current hardware output frequency minus the reference value plus the frequency offset.

Frequency reference mode only changes the display; it does not change the RF output frequency.

**Preset** Off

**Location** Pages [M-26](#), [M-27](#)

## Freq Ref Set

**Supported** All

Use this softkey to set the current output frequency plus the offset frequency as the frequency reference value. Pressing this softkey also causes the **Freq Ref Off On** softkey to toggle to the On position, turning on frequency reference mode. All frequency parameters are then set as relative to the reference value.

**Preset** 0.00 Hz

**Range** 0.00 Hz–highest frequency (depends on the signal generator option)

**Location** Pages [M-26](#), [M-27](#)

## Freq Separation

**Supported** E8267C with Option 002

This softkey enables you to set the spacing between tones in a two-tone waveform. The mid point between the tones is placed at the carrier frequency.

<b>Preset</b>	10.000 kHz
<b>Range</b>	100.0 Hz–80.0 MHz
<b>Location</b>	Page <a href="#">M-41</a>

## Freq Spacing

**Supported** E8267C with Option 002

This softkey enables you to set the spacing between tones in the multitone table editor. When there are an odd number of tones, the center tone is placed at the carrier frequency and the other tones are spaced incrementally, according to the set value. With an even number of tones, the mid-point of the two center tones is placed at the carrier frequency.

<b>Preset</b>	10.000 kHz
<b>Range</b>	100.0 Hz–80.0 MHz (depends on the number of tones)
<b>Location</b>	Pages <a href="#">M-8</a> , <a href="#">M-32</a>

## Freq Span

**Supported** All with Option 007

This softkey enables you to configure a sweep based on the span and the center frequency. In ramp sweep, this setting is coupled with the start frequency and stop frequency settings.

<b>Preset</b>	0.00 Hz
<b>Range</b>	00.0 Hz–highest frequency minus 100kHz (depends on the signal generator option)
<b>Location</b>	Page <a href="#">M-27</a>

## Freq Start

**Supported** All

This softkey enables you to set the frequency start point for a step sweep or ramp sweep (Option 007). In a ramp sweep setup, the selected value must be less than or equal to the value selected for the frequency stop point (**Freq Stop** softkey). In ramp sweep, this setting is coupled with the span and center frequency settings.

<b>Preset</b>	Highest frequency (depends on the signal generator option)
---------------	--

**Range** 0.00 Hz–highest frequency (depends on the signal generator option)

**Location** Pages [M-4](#), [M-27](#), [M-37](#), [M-39](#)

## Freq Stop

**Supported** All

This softkey enables you to set the frequency stop point for a step sweep or ramp sweep (Option 007). In a ramp sweep setup, the selected value must be greater than or equal to the value selected for the frequency start point (**Freq Start** softkey). In ramp sweep, this setting is coupled with the span and center frequency settings.

**Preset** Highest frequency (depends on the signal generator option)

**Range** 0.00 Hz–highest frequency (depends on the signal generator option)

**Location** Pages [M-4](#), [M-27](#), [M-37](#), [M-39](#)

## Frequency

**Supported** All

This hardkey enables you to change the RF output frequency. In addition, the key accesses a menu of softkeys that enables you to configure the reference frequency and the phase, and specify the oscillator source.

When Freq Channels is turned On this hardkey enables Frequency Channel selection.

**Preset** Highest frequency (depends on the signal generator option)

**Range** 100 kHz–highest frequency (depends on the signal generator option)

**Location** Pages [M-26](#), [M-27](#)

## FSK

**Supported** E8267C with Option 002

Use this softkey to access a menu of frequency shift keying (FSK) modulation types for modulating a continuous stream of the selected data pattern. You can also change the default frequency deviation.

**Location** Pages [M-7](#), [M-13](#)

## Function Generator 1

**Supported** E8257C and E8267C



This key configures the first internal source to operate as a function generator.

When you use the internal source in this capacity, any modulation with the internal source selected is turned off.

**Location**      Page [M-30](#)

## **Function Generator 2**

**Supported**      E8257C and E8267C

This key configures the second internal source to operate as a function generator.

When you use the internal source in this capacity, any modulation with the internal source selected is turned off.

**Location**      Page [M-30](#)

## G

### Gate Active Low High

**Supported** E8267C with Option 002

This softkey toggles the polarity of the “through” or active state of a gated trigger signal.

This softkey is inactive until the trigger selection has been set to Gated.

**Low** Set this softkey to Low to output the signal while the signal level at the PATTERN TRIG IN connector is in a TTL low state.

**High** Set this softkey to High to output the signal while the signal level at the PATTERN TRIG IN connector is in a TTL high state.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

### Gated

**Supported** E8267C with Option 002

This softkey sets the trigger type to Gated. Using a gated trigger, you can set the signal to output when a TTL high or low is present at the PATTERN TRIG IN connector. To set the gate to trigger on either high or low, press **Gated** and then press **Gate Active Low High**.

**Location** Pages [M-6](#), [M-15](#), [M-21](#)

### Gaussian

**Supported** All

This softkey selects a Gaussian pre-modulation filter from either the Select (filter) menu or the Load Default FIR menu.

#### In the Select (filter) Menu

In this menu, use the **Gaussian** softkey to select this FIR filter for use in a modulation setup.

**Location** Pages [M-10](#), [M-16](#)

#### In the Load Default FIR Menu

In this menu, use the **Gaussian** softkey to access a menu from which you can change the

filter BbT value, specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a Gaussian filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

**Location**        Pages [M-11](#), [M-17](#)

### **In the Noise Menu**

This softkey enables you specify noise with a Gaussian distribution as the modulation waveform for the internally generated, ac-coupled signal.

**Location**        Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## **Generate**

**Supported**        E8267C with Option 002

Use this softkey to create a new FIR table that is based on the user-specified alpha or filter Bbt value, number of symbols, and windowing selection.

**Location**        Pages [M-11](#), [M-17](#)

## **Goto**

**Supported**        All

Use this softkey to access a menu from which you can select a row or page in a table or list of items.

**Location**        Goto is located in the table editor menus and in the catalogs of files.

## **Goto Bottom Row**

**Supported**        All

Use this softkey to move the selection bar to the last row in the current table or list of items.

**Location**        Goto Bottom Row is located in the table editor menus and in the catalogs of files.

## **Goto Middle Row**

**Supported**        All

Use this softkey to move the selection bar to the middle row in the current table or list of

items.

**Location** Goto Middle Row is located in the table editor menus and in the catalogs of files.

## Goto Row

**Supported** All

Use this softkey to access a menu from which you can select a row in the current table or list of items.

**Location** Goto Row is located in the table editor menus and in the catalogs of files.

## Goto Top Row

**Supported** All

Use this softkey to move the selection bar to the first row in the current table or list of items.

**Location** Goto Top Row is located in the table editor menus and in the catalogs of files.

## GPIB Address

**Supported** All

This softkey enables you to change the signal generator's GPIB address. The GPIB address is set to 19 at the factory.

The GPIB address setting is not affected by a preset or by a power cycle.

**Preset** 19

**Range** 0–30

**Location** Page [M-42](#)

## GPIB Listener Mode

**Supported** All

Use this softkey to return the GPIB back to the listener mode after a user flatness calibration.

**Location** Page [M-3](#)

## GPIB/RS-232/LAN

**Supported** All

Use this softkey to access a menu of configuration choices for GPIB, RS-232, and LAN.

**Location** Page [M-42](#)

## Gray Coded QPSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting a Gray Coded QPSK Modulation

Use this softkey to select Gray Coded quadrature phase shift keying (QPSK) to modulate a continuous stream of the selected data pattern. Gray Coded QPSK modulation transmits data at the rate of 2 bits per symbol. The constellations for this modulation type are designed so that adjacent symbols differ by only one bit. The modulation selection appears under the **Select, QPSK and OQPSK**, and **PSK** softkeys in the Modulation Type menus.

**Location** Pages [M-7](#), [M-13](#),

### Loading a Gray Coded QPSK I/Q Map into the Table Editor

Use this softkey to load a Gray Coded quadrature phase shift keying (QPSK) I/Q map into the I/Q table editor.

For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

## GSM

**Supported** E8267C with Option 002

Use this softkey to select a predefined Global System for Mobile Communication (GSM) personality for the digital modulation format.

**Location** Pages [M-6](#), [M-8](#)

## GSM/Edge Bands

**Supported** All

This softkey accesses a menu from which you can select the frequency bands for GSM. The output frequency depends on both frequency band and channel selections.

**Location** Pages [M-26](#), [M-27](#)

## GSM 450 Base

**Supported** All

This softkey selects GSM 450 Base as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 259*  
*Frequency: 460.600 MHz*

**Range** *Channels: 259–293*  
*Frequency: 460.600–467.400 MHz*

**Location** Pages [M-26](#), [M-27](#)

## GSM 450 Mobile

**Supported** All

This softkey selects GSM 450 Mobile as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 259*  
*Frequency: 450.600 MHz*

**Range** *Channels: 259–293*  
*Frequency: 450.600–457.400 MHz*

**Location** Pages [M-26](#), [M-27](#)

## GSM 480 Base

**Supported** All

This softkey selects GSM 480 Base as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

<b>Preset</b>	<i>Channel: 306</i> <i>Frequency: 489.000 MHz</i>
<b>Range</b>	<i>Channels: 306–340</i> <i>Frequency: 489.000–495.800 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## GSM 480 Mobile

**Supported** All

This softkey selects GSM 480 Mobile as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

<b>Preset</b>	<i>Channel: 306</i> <i>Frequency: 479.000 MHz</i>
<b>Range</b>	<i>Channels: 306–340</i> <i>Frequency: 479.000–485.800 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## GSM 850 Base

**Supported** All

This softkey selects GSM 850 Base as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

<b>Preset</b>	<i>Channel: 128</i> <i>Frequency: 869.200 MHz</i>
<b>Range</b>	<i>Channels: 128–251</i> <i>Frequency: 869.200–893.800 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>

## GSM 850 Mobile

**Supported** All

This softkey selects GSM 850 Mobile as the frequency band for GSM. The output frequency depends on both the channel band and channel number selections.

<b>Preset</b>	<i>Channel: 128</i> <i>Frequency: 824.200 MHz</i>
<b>Range</b>	<i>Channels: 128–251</i> <i>Frequency: 869.200–848.800 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-27</a>



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## H

### Hamming

**Supported** E8267C with Option 002

Use this softkey to apply the Hamming windowing function to the selected filter.

Windowing can be applied to any default FIR filter that you load into the Define User FIR table. Windowing improves out of band performance (ACP), but simultaneously degrades passband performance (EVM), by smoothing the filter's transition to zero.

Hamming is the windowing type applied when you toggle the **Optimize FIR For EVM ACP** softkey to the ACP selection.

**Location** Pages [M-11](#), [M-17](#)

### Hann

**Supported** E8267C with Option 002

Use this softkey to apply the Hann windowing function to the selected filter.

Windowing can be applied to any default FIR filter that you load into the Define User FIR table. Windowing improves out of band performance (ACP), but simultaneously degrades passband performance (EVM), by smoothing the filter's transition to zero.

**Location** Pages [M-11](#), [M-17](#)

### Help Mode Single Cont

**Supported** All

The utility menu **Instrument Info/Help mode** softkey access the **Help Mode Single Cont** softkey. The help text is a short description of any hardkey or softkey. There are two help modes available on the signal generator: single and continuous.

The help mode is not affected by a preset or by a power cycle.

**Single** In single mode, when you press the **Help** hardkey, help text is provided for your next key press. Pressing any key afterward exits the help function and activates the key.

**Cont** In continuous mode, when you press the **Help** hardkey, help text is provided for each key press in addition to activating the function of the

key (except for the **Preset** hardkey). You will remain in continuous mode until either the **Help** softkey is pressed again or the help mode is toggled back to single mode.

**Location** Page [M-45](#)

## High Crest Mode Off On

**Supported** All

This softkey toggles the operating state of the high crest mode.

This softkey is enabled only if the I/Q source is external and I/Q is turned on.

- Off Turn high crest mode off to disable the high crest mode.
- On Turn high crest mode on for externally applied signals with high crest factors. High crest mode allows the signal generator to process these signals with less distortion. For crest factors higher than 4 dB, I/Q drive levels should be reduced by 1 dB for each dB above that level. In high crest mode, the maximum output level is reduced and power level accuracy is degraded.

**Preset** On

**Location** Page [M-29](#)

## Hostname

**Supported** All

This softkey enables you to enter the hostname for the local area network connection. No hostname is entered at the factory.

The hostname setting is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

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## I

### Immediate

**Supported** E8267C with Option 002

Use this softkey to enable immediate retriggering for single trigger operation. In this state, the waveform will reset and replay from the start immediately upon receiving a trigger.

**Location** Pages [M-9](#), [M-21](#)

### Initialize Phase Fixed Random

**Supported** E8267C with Option 002

This softkey sets the initial state for the tones, as part of initializing the multitone table editor.

**Fixed** When you select Fixed, the initial phase of all tones are set to 0 degrees.

**Random** When you select Random, the initial phase of the tones is set to randomly generated phases based on the **Random Seed Fixed Random** softkey selection.

**Preset** Fixed

**Location** Page [M-32](#)

### Initialize Table

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to set the initial values for the multitone configuration.

**Location** Pages [M-8](#), [M-32](#)

### Insert

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select different methods of

inserting bits, or to execute the insertion of a specified number of bits.

**Location**            Insert is located in the bit file editor menus.

## Insert 0's

**Supported**        E8267C with Option 002

Use this softkey to insert a specified number of zeros into the current position of the bit file editor.

**Location**            Insert 0's is located in the bit file editor menus.

## Insert 1's

**Supported**        E8267C with Option 002

Use this softkey to insert a specified number of ones into the current position of the bit file editor.

**Location**            Insert 1's is located in the bit file editor menus.

## Insert PN9

**Supported**        E8267C with Option 002

Use this softkey to adjust the seed value of a 9-bit pseudorandom bit sequence. You can then insert it into the current bit file.

**Location**            Page [M-18](#)

## Insert PN15

**Supported**        E8267C with Option 002

Use this softkey to adjust the seed value of a 15-bit pseudorandom bit sequence. You can then insert it into the current bit file.

**Location**            Page [M-18](#)

## Insert Row

**Supported**        All

Use this softkey to insert a copy of the highlighted row directly above that row in a table or list.

**Location**      Insert Row is located in the table editor menus.

## Insert Selected Waveform

**Supported**      All

Use this softkey to insert the highlighted waveform into the sequence you are building.

**Location**      Page [M-23](#)

## Insert Waveform

**Supported**      All

This softkey accesses a menu and table editor which enable you to insert a waveform into the current row of the table editor.

**Location**      Page [M-23](#)

## Insert Waveform Sequence Contents

**Supported**      All

Use this softkey to insert the contents of the highlighted sequence into the sequence you are building.

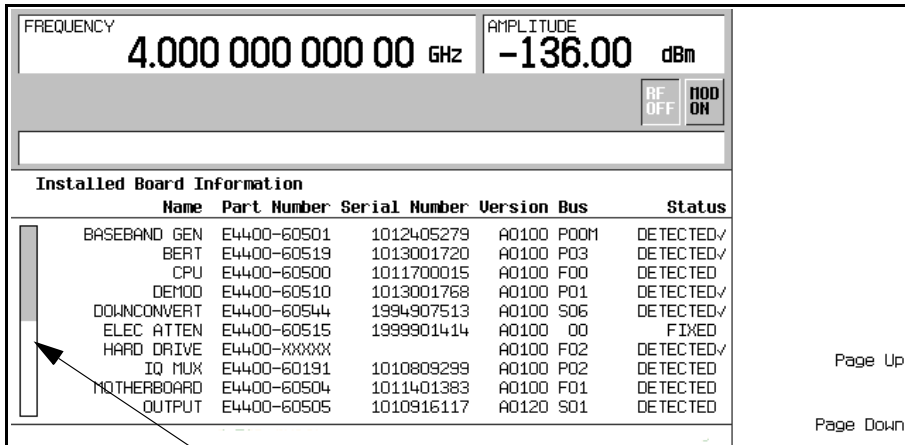
**Location**      Page [M-23](#)

## Installed Board Info

**Supported**      All

Use this softkey to display information about the installed boards in the signal generator. Refer to [Figure 2](#).

**Figure 2 Installed Board Information**



**Additional Page Indicator**

The gray and white vertical bar on the left side of the display indicates that there is an additional page of information. Use the **Page Down** softkey to display the next page. Use the **Page Up** softkey to return to the previous page.

A status of DETECTED means that the installed board was automatically detected by the internal computer.

A status of INSTALLED or FIXED means that the installed board is available for use.

**Location** Page [M-45](#)

## Instrument Adjustments

**Supported** All

Use this softkey to access a menu of front panel adjustments for the signal generator. This menu enables you to adjust the reference oscillator, set the value of the step keys and the front panel knob and so forth.

**Location** Page [M-42](#)

## Instrument Info/Help Mode

**Supported** All

Use this softkey to display a menu of softkeys detailing some of the signal generator functions and operations.

**Location** Page [M-42](#)

## Instrument Options

**Supported** All

Use this softkey to access a menu from which you can install license keys and manage hardware options.

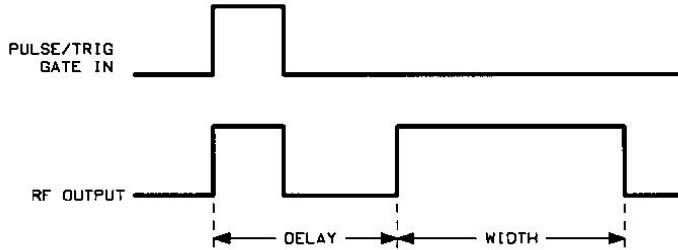
**Location** Page [M-43](#)

## Int Doublet

**Supported** E8257C and E8267C

Use this softkey to select an internal doublet pulse modulation. When doublet pulse is enabled, each trigger event will produce two pulses at the RF OUTPUT connector. The first pulse will follow the external trigger signal that is applied to the TRIGGER IN connector. The second pulse will have delay and width parameters as set via the front panel or with programming commands. Pulse delay is measured from the leading edge of the external trigger signal. Refer to [Figure 2-2](#).

**Figure 2-2**



This modulation source requires an external trigger source.

**Location** Page [M-34](#)

## Int Free Run

**Supported** E8257C and E8267C

This softkey enables you to internally generate a continuously running pulse modulation with user-defined period, width and delay.

**Location** Page [M-34](#)

## Int Gated

**Supported** E8257C and E8267C

This softkey enables you to internally generate a gated pulse modulation. An RF pulse train will occur at the RF OUTPUT connector when a valid gate signal occurs at the TRIGGER IN connector. The generated pulse train will have a user-defined period and width.

**Location** Page [M-34](#)

## Int Phase Polarity Normal Invert

**Supported** E8267C

Use this softkey to invert the internal Q signal, reversing the rotation direction of the phase modulation vector.



Normal	When you choose Normal, the phase relationship between the I and Q signals is not altered by the phase polarity function.
Invert	When you choose Invert, the in-phase component lags the quadrature-phase component by 90° in the resulting modulation.
<b>Preset</b>	Normal
<b>Location</b>	Page <a href="#">M-29</a>

## Int Triggered

**Supported** E8257C and E8267C

This softkey enables you to internally generate a triggered pulse modulation. An RF pulse will occur at the RF OUTPUT connector when a valid trigger signal occurs at the TRIGGER IN connector. The generated pulse will have a user-defined period, width and delay.

**Location** Page [M-34](#)

## Internal

**Supported** All

Use this softkey to select internal ALC leveling.

**Location** Page [M-3](#)

## Internal 1

**Supported** E8257C and E8267C

This softkey selects the first internal source to generate an AC-coupled signal as the modulation output.

**Location** Pages [M-2](#), [M-24](#), [M-25](#)

## Internal 2

**Supported** E8257C and E8267C

This softkey selects the second internal source to generate an AC-coupled signal as the modulation output.

**Location** Pages [M-2](#), [M-24](#), [M-25](#)

## Internal 1 Monitor

**Supported** E8257C and E8267C

This softkey selects the first internal source as the low frequency output. The signal is available at the LF OUTPUT connector. The frequency and shape of the signal is internally configured.

The internal 1 monitor is selected after an instrument preset or when the on/off power-line switch is cycled.

**Location** Page [M-30](#)

## Internal 2 Monitor

**Supported** E8257C and E8267C

This softkey selects the second internal source as the low frequency output. The signal is available at the LF OUTPUT connector. The frequency and shape of the signal is internally configured.

**Location** Page [M-30](#)

## Internal Ref Bandwidth

**Supported** All with Option UNR

This softkey enables you to adjust the bandwidth of the internal reference oscillator.

**Location** Page [M-43](#)

## Internal Square

**Supported** E8257C and E8267C

This softkey enables you to internally generate a square wave as the modulation waveform.

**Location** Page [M-34](#)

## Inverse Video Off On

**Supported** All

This softkey selects the display mode, text and background, for the signal generator.

The inverse video state is not affected by a preset or by a power cycle.

- Off** Inverse mode is off, the signal generator has dark text on a light background; the normal display mode for the signal generator.
- On** Inverse mode is on, the signal generator display has light text on a dark background.

**Location** Page [M-42](#)

## I Offset

**Supported** E8267C

This softkey adjusts the level of the in-phase signal. This key appears as a percentage of full scale for standard I/Q and as an offset voltage for wideband I/Q.

### For Standard I/Q

Use this softkey to enter an origin offset for standard in-phase signals. 100% offset is equivalent to 500 mV DC at the input connector. This offset is used to remove imperfections in the in-phase signal or to introduce calibrated impairments.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

When using this key to minimize the LO feedthrough signal, optimum performance is achieved when the adjustment is made after all other I/Q path adjustments, such as those made with the **Int Phase Polarity Normal Invert** or **Modulator Atten nnn db Manual Auto** softkeys. If other adjustments are made after minimization is performed, the LO feedthrough signal may increase.

**Preset** 0.0%

**Range** -50% to 50%

**Location** Page [M-29](#)

### For Wideband I/Q (Option 015)

Use this softkey to enter an origin offset for in-phase signals in wideband I/Q mode. This offset is used to remove imperfections in the in-phase signal or to introduce calibrated impairments.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

**Preset** 0.0000 V

**Range** -1.0000 V to 1.0000 V

**Location** Page [M-29](#)

## IP Address

**Supported** All

This softkey enables you to enter the internet protocol (IP) address for your IP network connection. No IP address is entered at the factory.

The IP address setting is not affected by a preset or by a power cycle.

**Location** Page [M-42](#)

## I/Q

**Supported** E8267C

Use this hardkey to access a menu from which you can configure the internal I/Q modulator.

**Location** Page [M-29](#)

## I/Q Adjustments

**Supported** E8267C

Use this softkey to access a menu of I/Q adjustment choices for internally generated or externally applied I and Q signals. In this menu you can change the I/Q gain balance, I and Q offset voltages, and quadrature skew. You can also toggle the operational state of these I/Q adjustments.

The current operating state of the I/Q adjustments function is displayed under the **I/Q Adjustments** softkey.

**Location** Page [M-29](#)

## I/Q Adjustments Off On

**Supported** E8267C

This softkey toggles the operating state of the I/Q adjustments.

Off When this softkey is in the off position, I/Q adjustment values are not applied to the I and Q signals.

On When this softkey is in the on position, the values entered for I/Q gain balance, quadrature skew, I offset, and Q offset are applied to the I and Q signals.

**Preset** Off

**Location**      Page [M-29](#)

## I/Q Calibration

**Supported**      E8267C

Use this softkey to access a menu from which you can configure and execute an I/Q calibration. You can set the start and stop frequency for a user-defined I/Q calibration, or choose an I/Q calibration over the entire frequency range of the signal generator. In this menu, you can also restore the original factory calibration data for the I/Q modulator.

You can perform an I/Q calibration on a frequency range without disturbing calibrations that have already been performed on other frequency ranges.

I/Q calibration data is not affected by a preset or by a power cycle.

An I/Q calibration should be performed approximately every 30 days or if the temperature changes  $\pm 5^{\circ}\text{C}$ , but it can be performed at any time to peak the performance of the I/Q modulator.

**Location**      Page [M-29](#)

## I/Q Gain Balance Source 1

**Supported**      E8267C

Use this softkey to change the I to Q gain balance for the **Source 1** selection. For example, if you enter a value of 1 dB, the I signal will have 1 dB more amplitude than the Q signal. The gain balance adjustment can be used with externally applied I and Q signals or with internally generated I and Q signals. Use the gain balance to remove imperfections in I and Q or to introduce calibrated impairments.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

**Preset**            0.00 dB

**Range**            -4 dB to 4 dB

**Location**      Page [M-29](#)

## I/Q Mod Filter Manual Auto

**Supported**      E8267C

Use this softkey to access a menu from which you can either manually apply an I/Q modulation filter or select **Auto** to enable the ESG to automatically choose a filter based on the active digital modulation settings. You can override the automatic mode at any

time by manually selecting a filter from this menu.

The selected filter type is displayed in parentheses.

**Preset** Auto

**Location** Pages [M-23](#), [M-29](#)

## I/Q Off On

**Supported** E8267C

This softkey toggles the operating state of the internal I/Q modulator.

**Off** This setting disables the internal I/Q modulator. You can turn off the I/Q modulation with this softkey even though the digital modulation mode is enabled. With this configuration, the RF output signal would not be modulated but the I/Q signals will be present at the rear panel I/Q outputs.

**On** This setting enables the internal I/Q modulator. **I/Q Off On** is also toggled automatically to On when any of the digital modulation formats are enabled.

When this softkey is set to On, the I/Q annunciator will be displayed.

RF output power will be attenuated if the I/Q modulator is turned on and an I/Q signal is not applied.

Although you can enable I/Q modulation with this softkey, the RF carrier is modulated only when you have also set **Mod On/Off** to On.

**Preset** Off

**Location** Page [M-29](#)

## I/Q Out

**Supported** E8267C

Use this softkey to access a menu from which you can select a signal source to be routed to the rear panel I and Q output connectors.

When a digital modulation format is turned on, the **Source 1** and **I/Q Out** selections automatically switch to BBG1. When the digital modulation is turned off, the **Source 1** and **I/Q Out** selections automatically switch to Ext 50 Ohm. You can override the automatic settings by manually selecting a different source.

**Preset** Ext 50 Ohm

**Location**      Page [M-33](#)

## I/Q Out Gain Balance

**Supported**      E8267C

Use this softkey to change the I to Q gain balance at the rear panel I and Q external outputs. For example, if you enter a value of 1 dB, the I signal will have 1 dB more amplitude than the Q signal. Use the gain balance to remove imperfections in I and Q or to introduce calibrated impairments.

**Preset**          0.00 dB

**Range**          -4 dB to 4 dB

**Location**      Page [M-29](#)

## I/Q Output Atten

**Supported**      E8267C

Use this softkey to set the attenuation level of the I/Q signal at the rear panel I and Q output connectors. A setting of 0.00 dB will result in 100 percent output signal power, while a setting of 40.00 dB will result in 0.01 percent output signal power.

**Preset**          6.00 dB

**Range**          0.00–40.00 dB

**Location**      Pages [M-29](#), [M-33](#)

## I/Q Output Control

**Supported**      E8267C

Use this softkey to access a menu from which you can change the parameters that control the I and Q output signals. In this menu you can control the I/Q output attenuation levels, I/Q output gain balance, and I and Q offset voltages. You can also select an I/Q output filter.

**Location**      Page [M-29](#)

## I/Q Output Filter Manual Auto

**Supported**      E8267C

Use this softkey to access a menu from which you can either manually apply an I/Q

output filter or select **Auto** to enable the ESG to automatically choose a filter based on the active settings. You can override the automatic mode at any time by manually selecting a filter from this menu.

The selected filter type is displayed in parentheses.

**Preset** Auto

**Location** Page [M-29](#)

## I/Q Path Normal Wide

**Supported** E8267C with Option 015

This softkey toggles the I and Q modulator inputs between the mux source or the rear panel wide I and Q inputs.

Normal This choice sets the I and Q inputs to the **Source 1** selection under the Mux hardkey.

Wide This choice sets the I and Q inputs to the external WIDE I and WIDE Q rear panel input connectors.

**Preset** Normal

**Location** Page [M-29](#)

## I/Q Scaling

**Supported** E8267C with Option 002

Use this softkey to adjust the amplitude of the I/Q outputs (for better ACP).

**Preset** 100%

**Range** 1–200%

**Location** Page [M-15](#)

## IS95 OQPSK

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting an IS95 OQPSK Modulation

Use this softkey to select IS95 offset quadrature phase shift keying (OQPSK) for



modulating a continuous stream of the selected data pattern. IS95 OQPSK modulation transmits data at the rate of 2 bits per symbol.

The modulation selection appears under the **Select, QPSK and OQPSK**, and **PSK** softkeys in the Modulation Type menus.

**Location**            Pages [M-7](#), [M-13](#)

### **Loading an IS95 OQPSK I/Q Map into the Table Editor**

Use this softkey to load an IS95 offset quadrature phase shift keying (OQPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**            Page [M-19](#)

## **IS95 QPSK**

**Supported**        E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### **Selecting an IS95 QPSK Modulation**

Use this softkey to select IS95 quadrature phase shift keying (QPSK) for modulating a continuous stream of the selected data pattern. IS95 QPSK modulation transmits data at the rate of 2 bits per symbol.

The modulation selection appears under the **Select, QPSK and OQPSK**, and **PSK** softkeys in the Modulation Type menus.

**Location**            Pages [M-7](#), [M-13](#)

### **Loading an IS95 QPSK I/Q Map into the Table Editor**

Use this softkey to load an IS95 quadrature phase shift keying (QPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**            Page [M-19](#)

## K

### Kaiser

**Supported** E8267C with Option 002

Use this softkey to apply the Kaiser windowing function to the selected filter. Selecting **Kaiser** also activates the Beta factor which you can adjust to change the trade-off between optimized ACP or EVM.

Windowing can be applied to any default FIR filter that you load into the Define User FIR table. Windowing improves out of band performance (ACP), but simultaneously degrades passband performance (EVM), by smoothing the filter's transition to zero.

**Location** Pages [M-11](#), [M-17](#)

### Keep Previous Comment

**Supported** All

This softkey will appear when you overwrite a previously saved register that contains comments. Press this key if you want to keep the comment for the newly saved state. Press the **Delete Previous Comment** softkey if you do not want to keep the comment.

**Location** Page [M-36](#)

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## L

### LAN Setup

**Supported** All

Use this softkey to access a menu enabling you to enter a local area network (LAN) host name and IP address for communication over the LAN.

**Location** Page [M-42](#)

### Last Mkr Point

**Supported** E8267C with Option 002

This softkey enables you to set the last marker point when you define a range of points. You can use either the knob or the numeric keys to set this value, which must be greater than or equal to 1, and less than or equal to the total number of waveform points in the selected waveform.

If you enter a value for either the first marker point or the last marker point that would make the first marker point occur after the last, the last marker point is automatically adjusted to match the first marker point.

**Preset** last waveform point

**Range** 1–total number of waveform points

**Location** Page [M-22](#)

### Leveling Mode

**Supported** All

Use this softkey to access a menu from which you can select a leveling mode.

**Location** Page [M-3](#)

### LF Out

**Supported** All

Use this hardkey to access a menu of softkeys that enable you to configure the internal, low frequency source.

**Location**      Page [M-30](#)

## LF Out Amplitude Into 50 Ohms

**Supported**      E8257C and E8267C

This softkey enables you to scale the output of the signal at the LF OUTPUT connector.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting dual-sine as the waveform type.

**Preset**          0.0 V

**Range**          0.0–3.5 V<sub>p</sub>

**Location**      Page [M-30](#)

## LF Out Freq

**Supported**      E8257C and E8267C

Pressing this key allows you to enter a frequency for the internal function generator.

This softkey is available after selecting Function Generator 1 or 2 as the LF Out Source.

**Preset**          400.0 Hz

**Range**          0.5 Hz–1.0 MHz if sine or dual sine is selected.  
1.0 Hz–1.0 MHz if swept sine is selected.  
0.5 Hz to 100.0 kHz if triangle, ramp or square wave is selected.

**Location**      Page [M-30](#)

## LF Out Off On

**Supported**      E8257C and E8267C

This softkey toggles the operating state of the source at the LF OUTPUT connector on and off.

Off              The low frequency output is disabled and no signal is available at the LF OUTPUT connector.

On              The selected source, for example function generator, is enabled and the signal is available at the LF OUTPUT connector.

Refer to [LF Out Source](#) for more information on choosing the source.

Once you have toggled this state on, the signal is immediately available at the LF OUTPUT connector. Neither the **RF On/Off** hardkey nor the **Mod On/Off** hardkey affect this state.

**Preset**            Off  
**Location**        Page [M-30](#)

## LF Out Source

**Supported**        E8257C and E8267C

Use this softkey to access a menu of available sources for the low frequency output. You can choose to output the signal from one of the internal sources as it is being used by a modulation or you can use the internal source as a function generator and select that signal to output at the LF OUTPUT connector.

If you choose an internal source, the frequency and shape of the signal at the LF OUTPUT connector is set by the internal source. For example, if the internal source is currently assigned to an AM path configuration and AM is turned on, the signal output at the LF OUTPUT connector will have the frequency and shape of the amplitude modulating signal. You can scale the amplitude of the output signal using the **LF Out Amplitude Into 50 Ohms** softkey.

If you choose to set the internal source as a function generator, you can select a frequency and shape in addition to selecting the amplitude for the LF output signal.

When you use an internal source as a function generator, any modulation with the internal source selected is turned off.

**Preset**            Internal 1 Monitor  
**Location**        Page [M-30](#)

## LF Out Start Freq

**Supported**        All

This softkey enables you to change the starting frequency for swept-sine low frequency output. This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Tone 1 Freq** softkey in the LF Out dual-sine menu. An LF Out start frequency setting is reflected in the **LF Out Freq** and **LF Out Tone 1 Freq** softkeys. Conversely, if you change the value for either the **LF Out Freq** softkey or the **LF Out Tone 1 Freq** softkey, the value for the LF Out start frequency is changed.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting swept-sine as the waveform type.

<b>Preset</b>	400.0 Hz
<b>Range</b>	1.0 Hz–1.0 MHz (minimum increment is 1.0 Hz)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Stop Freq

**Supported** All

This softkey enables you to change the stop frequency for swept-sine low frequency output.

This key is coupled to the **LF Out Tone 2 Freq** softkey in the LF Out Dual-Sine menu. Any value set for the LF Out stop frequency is reflected in the **LF Out Tone 2 Freq** softkey.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting swept-sine as the waveform type.

<b>Preset</b>	400.0 Hz
<b>Range</b>	1.0 Hz–1.0 MHz (minimum increment is 1.0 Hz)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Sweep Rate

**Supported** All

This softkey enables you to set the sweep rate for the low frequency swept-sine output. The signal generator will sweep from the specified start frequency to the stop frequency at the rate set with this key.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting swept-sine as the waveform type.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–100 kHz (minimum increment is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Sweep Trigger

**Supported** All

Use this softkey to access a menu of choices that enables you to select the triggering mode for the swept-sine low frequency output.

Free Run	The source will continue sweeping without a trigger signal.
Trigger Key	The source will sweep after the front panel <b>Trigger</b> hardkey is pressed.
Bus	The GPIB is used to trigger the source for a sweep.
Ext	An external trigger, either a positive or negative signal, is used to generate a sweep. Use the <b>Trigger In Polarity Neg Pos</b> softkey to set the external trigger polarity.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting swept-sine as the waveform type.

<b>Preset</b>	Free Run
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Tone 1 Freq

**Supported** E8257C and E8267C

This softkey enables you to set the frequency for the low frequency output tone 1.

This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Start Freq** softkey in the LF Out Swept-Sine menu. An LF Out tone 1 frequency setting is reflected in the **LF Out Freq** and **LF Out Start Freq** softkeys.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting dual-sine as the waveform type.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Tone 2 Ampl % Of Peak

**Supported** E8257C and E8267C

This softkey enables you to set the amplitude of the alternate frequency as a percent of the peak modulated amplitude. The sum of the two LF Out amplitudes results in the total LF Out amplitude set by the **LF Out Amplitude** softkey in the LF Out menu.

For example, if the total LF Out amplitude is  $300 \text{ mV}_p$  and you set the LF Out tone 2 amplitude percent of peak to 33%, then the amplitude of LF Out tone 1 will be  $200.0 \text{ mV}_p$  and the amplitude of LF Out tone 2 will be  $100.0 \text{ mV}_p$  (33% of  $300.0 \text{ mV}_p$ ). The amplitude of the two tones will equal  $300.0 \text{ mV}_p$ .

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting dual-sine as the waveform type.

<b>Preset</b>	50.0%
<b>Range</b>	0.0–100% (minimum increment is 0.1%)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Tone 2 Freq

**Supported** E8257C and E8267C

This softkey enables you to change the alternate frequency of the modulation source. The alternate frequency is the second frequency in the dual-sine mode or the stop frequency in swept-sine mode. This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Stop Freq** softkey in the LF Out Swept-Sine menu.

This softkey is available after selecting the internal source to operate as Function Generator 1 and selecting dual-sine as the waveform type.

<b>Preset</b>	400.0 Hz
<b>Range</b>	0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)
<b>Location</b>	Page <a href="#">M-30</a>

## LF Out Waveform

**Supported** E8257C and E8267C

This softkey accesses a menu from which you can choose a waveform to be generated by the internal modulation source.

This softkey is only enabled when Function Generator 1 or 2 is selected in the LF Out Source menu.

**Location** Page [M-30](#)

## List

### In the Sweep Type Menu

**Supported** All with Option 007

Use this softkey to select list as the sweep type.

**Location** Page [M-39](#)



### **In Catalog Type Menu**

**Supported**      All

This softkey enables you to specify that only signal generator list sweep files be included in the catalog of files.

**Location**      Page [M-44](#)

### **Load All from NVWFM Memory**

**Supported**      E8267C with Option 002

This softkey enables you to load all of the files from non-volatile arbitrary waveform (NVWFM) memory to waveform (WFM1) memory where you can play the waveforms.

**Location**      Page [M-22](#)

### **Load Cal Array From Step Array**

**Supported**      All

This softkey enables you to set up a table that includes the start frequency, stop frequency, and number of points that are defined in the Configure User Flatness Step Array menu.

**Location**      Page [M-4](#)

### **Load Default FIR**

**Supported**      E8267C with Option 002

Use this softkey to access a menu for automatically filling the FIR table editor with coefficient values from pre-defined filters such as root Nyquist, Nyquist, Gaussian and rectangle. The default filter parameters can also be selected in this menu allowing you to choose the filter alpha or BbT and the number of filter symbols.

**Location**      Pages [M-10](#), [M-17](#)

### **Load Default FSK**

**Supported**      E8267C with Option 002

Use this softkey to access a menu from which you can select a default symmetric FSK modulation and configure the frequency deviation for the FSK modulation selected.

**Location**      Page [M-20](#)

## Load Default I/Q Map

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select a standard I/Q mapping from a set of either PSK or QAM modulations.

**Location** Page [M-19](#)

## Load From Selected File

**Supported** All

Use this softkey to replace the current information in a table editor with the information in the highlighted file. You will be prompted for confirmation.

This key is inactive unless at least one file has been stored to memory.

**Location** Load From Selected File is located in each of the catalog of files.

## Load List From Step Data

**Supported** All

This softkey enables you to copy the step sweep data points into the list sweep data points.

You can have only one sweep list at a time so be certain that you wish to overwrite the existing list.

**Location** Pages [M-38](#), [M-40](#)

## Load Mirror Image of Fall Shape

**Supported** E8267C with Option 002

Use this softkey to load the Rise Shape Editor with a mirror image of the Fall Shape Editor when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

This softkey is available when the Rise Shape Editor is the active function; when the Fall Shape Editor is the active function, this softkey toggles to **Load Mirror Image of Rise Shape**.

**Location** Page [M-14](#)

## Load Mirror Image of Rise Shape

**Supported** E8267C with Option 002

Use this softkey to load the Fall Shape Editor with a mirror image of the Rise Shape Editor when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

This softkey is available when the Fall Shape Editor is the active function; when the Rise Shape Editor is the active function, this softkey toggles to **Load Mirror Image of Fall Shape**.

**Location** Page [M-14](#)

## Load Segment from NVWFM Memory

**Supported** E8267C with Option 002

This softkey enables you to load the selected file from non-volatile arbitrary waveform (NVWFM) memory to waveform (WFM1) memory where you can play the waveform.

**Location** Page [M-22](#)

## Load/Store

**Supported** All

Use this softkey to access a menu for loading tables from, and storing tables to, non-volatile memory. Non-volatile memory enables you to retain files for future use after an instrument power cycle.

**Location** Load/Store is located in the table editor menus.

## Load Store

**Supported** All

This softkey accesses a menu that enables you to load table values from, and store table values to, non-volatile memory. Non-volatile memory retains files for future use after an instrument power cycle.

**Load** This enables you to load arbitrary waveform (NVARB) segments to the displayed catalog of files.

**Store** This enables you to store waveform segments (WFM1) from volatile memory to non-volatile arbitrary waveform (NVWFM) memory.

**Location** Load Store is located in the table editor menus.

## Loop Selected Tests

**Supported** All

This softkey is provided for self test diagnostics. Refer to the troubleshooting chapter of the service guide for more information.

This key is included for use by service personnel.

**Location** Page [M-45](#)

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## M

### M1->Start M2->Stop

**Supported** All with Option 007

This softkey sets the start and stop frequencies for a ramp sweep to be equal to the current frequencies of marker 1 and marker 2, respectively. This action cannot be undone.

**Location** Page [M-27](#)

### Manual Freq

**Supported** All with Option 007

This softkey enables you to choose an individual frequency value in a frequency-only ramp sweep to control the RF output. **Manual Mode Off On** must be set to On for this key to be active.

**Preset** Depends on the model of signal generator

**Range** Freq Start to Freq Stop

**Location** Page [M-39](#)

### Manual Mode Off On

**Supported** All

This softkey toggles the operating state for manual mode in a step, list, or ramp sweep.

**Off** When manual mode is off, normal sweeping occurs in accordance with the current sweep parameters.

**On** When manual mode is turned on in a step or list sweep, the selected manual sweep point controls the RF output. The sweep point is selected with the **Manual Point** softkey.

When manual mode is turned on in ramp sweep, the selected manual frequency value controls the RF output. This value is selected with the **Manual Freq** softkey.

This key is disabled when the **Sweep** softkey is set to Off.

<b>Preset</b>	Off
<b>Location</b>	Pages <a href="#">M-37</a> , <a href="#">M-39</a>

## Manual Point

<b>Supported</b>	All
------------------	-----

This softkey enables you to choose an individual point in a step or list sweep to control the RF output. **Manual Mode Off On** must be set to On for this key to be active.

If list or step mode is controlling frequency and/or power, then the indexed point in the respective list(s) will be used.

If the point selected is beyond the maximum number in current sweep configuration, then the point will be set to the maximum possible point, and an error will be generated.

<b>Preset</b>	1
<b>Range</b>	1–maximum number in current sweep configuration
<b>Location</b>	Page <a href="#">M-37</a>

## Marker 1 2

<b>Supported</b>	All
------------------	-----

This softkey selects the active marker for setting or clearing.

- 1 This selects marker 1 as the active marker.
- 2 This selects marker 2 as the active marker.

<b>Preset</b>	1
<b>Location</b>	Page <a href="#">M-22</a>

## Marker Amplitude

<b>Supported</b>	All with Option 007
------------------	---------------------

Use this softkey to set the relative power for the amplitude spikes at each marker's set frequency when the amplitude marker mode is activated. (Use the **Amplitude Markers Off On** softkey to activate the amplitude marker mode.)

<b>Preset</b>	2.0 dB
<b>Range</b>	–10.0 dB to 10 dB
<b>Location</b>	Page <a href="#">M-27</a>

## Marker->Center Freq

**Supported** All with Option 007

This softkeys sets the center frequency to the frequency value in the highlighted marker row of the marker table editor. The marker does not have to be turned on for this function to work. This action cannot be undone.

**Location** Page [M-27](#)

## Marker Delta Off On

**Supported** All with Option 007

Use this softkey to display the marker frequency values relative to the designated reference marker. The reference marker must be designated before this mode can be selected. (Use the **Delta Ref Set** softkey to select the reference marker.)

**Location** Page [M-27](#)

## Marker Freq

**Supported** All with Option 007

Use this softkey to set the frequency for the highlighted marker. The frequency value must be within the current sweep range.

**Preset** 525 MHz

**Range** equivalent to current sweep range

**Location** Page [M-27](#)

## Marker On/Off

**Supported** All with Option 007

Use this softkey to toggle the state of the highlighted marker in the marker table editor.

**Preset** Off

**Location** Page [M-27](#)

## Markers

**Supported** All with Option 007

Use this softkey to access a menu of marker function softkeys and a table editor for

configuring markers. The menu and table editor allow you to configure the markers on the PSG for viewing on the 8757D.

**Location**      Page [M-27](#)

## Master

**Supported**      All with Option 007

Use this softkey to select this instrument as the master in a dual-PSG ramp sweep setup. The PSG in master mode provides the triggering for the setup.

**Location**      Page [M-39](#)

## MDMOD

**Supported**      All

Press this softkey to set the current catalog type to MDMOD and display the catalog of MDMOD files.

Catalog type selection is not affected by a preset or by a power cycle.

**Location**      Page [M-44](#)

## Memory Catalog

**Supported**      All

Use this softkey to access a menu of choices enabling you to display a catalog of user files. In addition, the menu displays file management functions and a menu for choosing file types.

**Location**      Page [M-42](#)

## Meter Address

**Supported**      All

This softkey enables you to select the external power meter GPIB address for use during the user flatness calibration.

The meter address is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

**Range**            0–30



**Location** Page [M-3](#)

## Meter Channel A B

**Supported** All

Use this softkey to toggle external power meter monitoring between channel A and channel B.

A The external power meter is instructed to monitor channel A for input.

B The external power meter is instructed to monitor channel B for input.

This softkey is only available when using external power meters that have two channels.

The power meter channel selection is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

**Location** Page [M-3](#)

## Meter Timeout

**Supported** All

This softkey enables you to select the remote timeout length of the external power meter during user flatness calibration.

The meter timeout setting is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

**Range** 1.0 ms–100.0 s

**Location** Page [M-3](#)

## Mirror Table

**Supported** E8267C with Option 002

Use this softkey to mirror the FIR table entries such that the table doubles in size and the values in the top half of the table are duplicated in the bottom half of the table in reverse order.

**Location** Page [M-10](#)

## Mkr 2 To RF Blank Off On

**Supported** All

This softkey enables you to select the operating state of the RF blanking function.

- Off            When you select Off, RF blanking is turned off when marker 2 is set low.
- On            When you select On, RF blanking is turned on when marker 2 is set low.
- Preset**       Off
- Location**     Page [M-23](#)

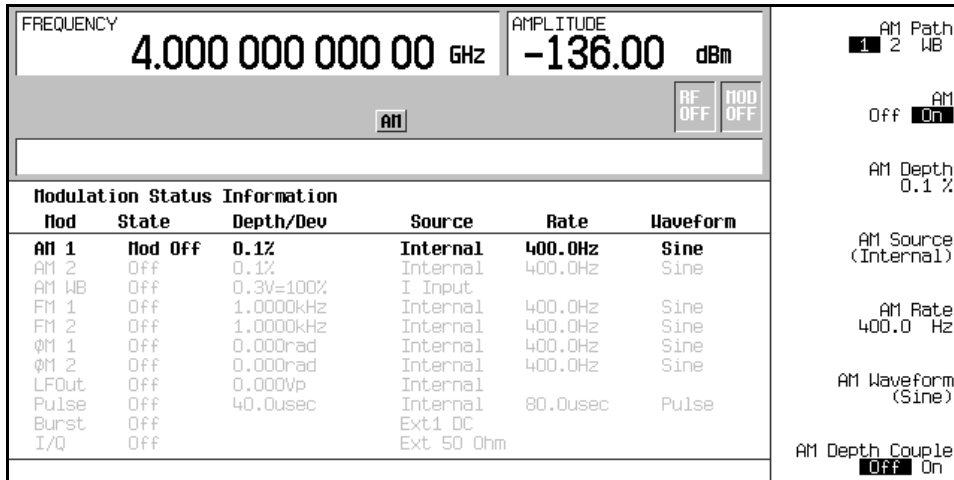
### Mod Status Info Off On

**Supported**     All

This softkey turns the Modulation Status Information listing on or off.

- On            When the modulation status is set to on, modulation information is displayed when you access one of the modulation menus, for example AM as shown in [Figure 3 on page 150](#).
- Off            When the modulation status is set to off, information about the status of the modulation is not displayed.

**Figure 3            Modulation Status Information**



**Preset**            On

**Location**        Page [M-45](#)

## Mode

**Supported** E8267C with Option 002

Use this hardkey to access a menu of digital modulation formats.

**Location** Page [M-31](#)

## Mode Setup

**Supported** E8267C with Option 002

Use this hardkey to return to the main menu of the digital modulation format you most recently accessed under the **Mode** hardkey. If a digital modulation format offers softkey selections for both **Arb Waveform Generator** and **Real Time I/Q Baseband**, as it does with the Custom format, you must select one of these choices for the **Mode Setup** key to recognize you accessed the format, so it can return you to its main menu. After a power cycle, if you have not yet accessed a digital modulation format, the **Mode Setup** key accesses the digital modulation format menu, as if you pressed the **Mode** key.

**Location** Page N/A

## Modify License Key

**Supported** All

Press this softkey to enter the license key for the highlighted software option. Software options are linked to specific hardware options that must be installed before the software option is valid. Adding new software options requires the use of a license key provided by Agilent Technologies at the time of purchase. Once the license key is entered, the software option will be enabled when you press the **Proceed with Reconfiguration** softkey.

If you enable an option that does not have the required hardware installed, the menus for that option will be activated but the option cannot operate, regardless of what the menus may indicate.

**Location** Page [M-43](#)

## Modulation Catalog Types

**Supported** All

Press this softkey to reveal a menu of real time I/Q modulation file types that can be selected.

**Location** Page [M-44](#)

## Modulation Type

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can select predefined or custom modulation types, create user-defined I/Q and FSK modulations, or restore the default modulation type.

**Location** Pages [M-7](#), [M-12](#)

## Modulator Atten (nnn dB) Manual Auto

**Supported** E8267C

This softkey toggles the attenuation mode of the internal I/Q modulator between manual and automatic.

**Manual** In the manual mode, you can manually set the attenuation level of the I/Q modulator. A setting of 0.00 dB will result in 100 percent signal power, while a setting of 40.00 dB will result in 0.01 percent signal power.

**Auto** In the automatic mode, the attenuation level is automatically set to a factory-determined value for best performance, based on the digital modulation settings.

**Preset** Auto

**Range** *Manual:* 0.00–40.00 dB  
*Auto:* N/A

**Location** Page [M-33](#)

## MSK

**Supported** E8267C with Option 002

Use this softkey to select minimum shift keying (MSK) modulation for modulating a continuous stream of the selected data pattern. MSK modulation transmits data at the rate of 1 bit per symbol.

The current phase deviation value appears under the **MSK** softkey in the Modulation Type menu.

**Location** Pages [M-7](#), [M-13](#)

## MTONE

**Supported** E8267C with Option 002

Press this softkey to set the current catalog type to MTONE and display the catalog of MTONE files.

**Location** Page [M-44](#)

## Multicarrier Off On

**Supported** E8267C with Option 002

This softkey toggles the operating state of the multicarrier mode.

Off In this state, the selected modulation format has a single carrier.

On In this state, you can select a user-defined custom multicarrier signal.

**Preset** Off

**Location** Page [M-6](#)

## Multitone

**Supported** E8267C with Option 002

This softkey accesses a menu of softkeys that enables you to create multitone signals using the dual arbitrary waveform generator. Within these menus, you will be able to create, select, and/or modify the waveform.

**Location** Pages [M-31](#), [M-32](#)

## Multitone Off On

**Supported** E8267C with Option 002

This softkey sets the operating state for the multitone function of the dual-arbitrary waveform generator.

Off When you select Off, the multitone signal is turned off.

On When you select On, the multitone signal is turned on.

**Preset** Off

**Location** Page [M-32](#)

## Mux

**Supported**      E8267C

Use this hardkey to access a menu from which you can configure the I/Q multiplexer.

**Location**      Page [M-33](#)

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## N

### NADC

**Supported** E8267C with Option 002

Use this softkey to select a predefined North American Digital Cellular (NADC) personality for the digital modulation format.

**Location** Pages [M-6](#), [M-8](#)

### NADC Base

**Supported** All

This softkey selects Standard Base as the frequency band for NADC. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*

*Frequency: 870.030 MHz*

**Range** *Channels: 1–799, 990–1023*

*Frequency: 870.030–893.970 MHz, 869.010–870.000 MHz*

**Location** Pages [M-26](#), [M-27](#)

### NADC Mobile

**Supported** All

This softkey selects Standard Mobile as the frequency band for NADC. The output frequency depends on both the channel band and channel number selections.

**Preset** *Channel: 1*

*Frequency: 825.030 MHz*

**Range** *Channels: 1–799, 990–1023*

*Frequency: 825.030–848.970 MHz, 824.010–825.000 MHz*

**Location** Pages [M-26](#), [M-27](#)

## Name And Store

**Supported** All

This softkey enables you to store and rename (if necessary) the highlighted sequence.

**Location** Page [M-23](#)

## Negative

**Supported** E8257C and E8267C

This key enables you to select a negatively sloped ramp, or sawtooth, as the modulation waveform for the internally generated, ac-coupled, signal.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Noise

**Supported** E8257C and E8267C

Use this softkey to select noise as the modulation waveform.

The selected waveform applies to the path configuration you have selected. In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator.

Noise is generated as a peak to peak value; the RMS value is about 80.0% of the displayed value.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## None

**Supported** E8267C with Option 002

### In the Predefined Mode Menu

In this menu, use the **None** softkey to set up **Custom** based on no particular format.

**Location** Page [M-15](#)

### In the Window Menu

No windowing function is used for the selected filter. The filter is optimized for maximum passband performance: error vector magnitude (EVM).

**Location** Pages [M-11](#), [M-17](#)



## Number of Bits

**Supported** E8267C with Option 002

Use this softkey to specify the number of bits that will be affected by the current operation. Press the **Enter** softkey to apply the specified value.

**Preset** 1

**Location** Page [M-18](#)

## Number of Tones

**Supported** E8267C with Option 002

This softkey enables you to set the number of tones in the multitone table editor. This is done as part of initializing the table editor.

**Preset** 10

**Range** 2–64

**Location** Page [M-32](#)

## NVARB Catalog Types

**Supported** All

This softkey accesses a menu from which you can select a non-volatile ARB waveform file type.

**Location** Page [M-44](#)

## NVMKR

**Supported** All

This softkey specifies that only non-volatile ARB marker file types be listed in the catalog of files.

**Location** Page [M-44](#)

## NVWFM

**Supported** All

This softkey specifies that only non-volatile ARB waveform file types be listed in the catalog of files.

**Location**      Page [M-44](#)

## Nyquist

**Supported**      E8267C with Option 002

This softkey selects a Nyquist (raised cosine) pre-modulation filter from either the Select (filter) menu or the Load Default FIR menu.

### In the Select (filter) Menu

In this menu, use the **Nyquist** softkey to select this FIR filter for use in a modulation setup.

**Location**      Pages [M-10](#), [M-16](#)

### In the Load Default FIR Menu

In this menu, use the **Nyquist** softkey to access a menu from which you can change the filter alpha value, specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a Nyquist filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

**Location**      Pages [M-11](#), [M-17](#)

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## O

### Off

#### In the Retrigger Mode Menu

Use this softkey to disable retriggering for single trigger operation. In this state, triggers are ignored if they occur while a waveform is playing.

**Location**      Pages [M-9](#), [M-21](#)

#### In the Sweep Menu

Use this softkey to turn off all sweep functions. The output signal is then set according to the current frequency and amplitude settings defined by the **Frequency** and **Amplitude** hardkeys.

**Location**      Pages [M-37](#), [M-39](#)

#### In the Sweep Control Menu (Option 007)

Use this softkey to turn off master or slave mode when the PSG is being used in a dual-PSG ramp sweep setup.

**Location**      Page [M-39](#)

#### In the Source 1 Menu

**Supported**      E8267C

Use this softkey to turn off the Source 1 signal routing function. When this softkey is selected, no signals are routed to the internal I/Q modulator.

The **Source 1** selection is independent of the **I/Q Out** selection.

**Location**      Page [M-33](#)

#### In the I/Q Out Menu

**Supported**      E8267C

Use this softkey to turn off the I/Q Out signal routing function. When this softkey is selected, no signals are routed to the rear panel I and Q output connectors.

The **I/Q Out** selection is independent of the **Source 1** selection.

**Location**      Page [M-33](#)

## Offset Q Off On

**Supported**      E8267C with Option 002

Press this softkey to change the operational state of the user I/Q offset Q.

Off                  When this softkey is set to Off, the Q output is not delayed from the I output.

On                    When this softkey is set to On, the Q output is delayed by 1/2 symbol from the I output.

This setting is not affected by a preset or by a power cycle.

**Location**      Page [M-19](#)

## On

**Supported**      E8267C with Option 002

Use this softkey to enable retriggering for single trigger operation. In this state, the waveform will retrigger at the end and play one more time if a trigger occurs while the waveform is playing.

Retriggers do not accumulate. If several triggers are received during a waveform, it will only be replayed only once.

**Location**      Pages [M-9](#), [M-21](#)

## Optimize FIR For EVM ACP

**Supported**      E8267C with Option 002

Use this softkey to optimize the filter for minimized error vector magnitude (EVM) or for minimized adjacent channel power (ACP).

EVM                  The EVM selection provides the most ideal passband.

ACP                    The ACP selection improves stopband rejection.

This feature applies only to root Nyquist, and Nyquist filters; the softkey is grayed out when any other filter is selected.

**Preset**              EVM

**Location**      Page [M-16](#)

## Optimize for (nnn sps) Bandwidth

**Supported** E8267C

Use this softkey to set the expected bandwidth of the external I/Q signal. The automatic external I/Q attenuator will use this setting to determine the proper attenuation level.

**Preset** 1.0 Msps

**Range** 1.0 ksps–100.0 Msps

**Location** Page [M-33](#)

## Options Info

**Supported** All

Use this softkey to display all available options and the associated hardware. Refer to [Figure 4 on page 161](#).

**Figure 4** Installed Option Information

FREQUENCY		4.000 000 000 00 GHz		AMPLITUDE		-136.00 dBm	
BLUETHH				I/Q	ERR	RF OFF	MOD OFF
<b>Installed Options Information</b>							
	<b>Option Description</b>	<b>Version</b>	<b>DSP-Version</b>				
	002 BASEBAND GENERATOR (32 MSAMPLE)	A	06.02.00				
	005 HARD DRIVE	A	-				
	400 3GPP W-CDMA FDD PERSONALITIES	-	-				
	401 CDMA2000 AND IS95A PERSONALITIES	-	-				
	402 TDMA: GSM/EDGE/NADC/PDC/PHS/TETRA/DECT	-	-				
	403 CALIBRATED NOISE PERSONALITY	-	-				
	404 ENABLES 1XEV-DO SIGNAL STUDIO SOFTWARE	-	-				
	405 ENABLES 802.11B SIGNAL STUDIO SOFTWARE	-	-				
	406 ENABLES BLUETOOTH SIGNAL STUDIO SW	-	-				
	407 RESERVED	-	-				
				Page Up			
				Page Down			

**Option** The option number

**Option Version** An alphabetic representation of the option revision

**DSP Version** Version number of additional DSP code used with some hardware options

**Location**      Page [M-45](#)

## OQPSK

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting a OQPSK Modulation

Use this softkey to select offset quadrature phase shift keying (OQPSK) for modulating a continuous stream of the selected data pattern. OQPSK modulation transmits data at the rate of 2 bits per symbol.

The modulation selection appears under the **Select, QPSK and OQPSK**, and **PSK** softkeys in the Modulation Type menus.

**Location**      Pages [M-7](#), [M-13](#)

### Loading a OQPSK I/Q Map into the Table Editor

Use this softkey to load an offset quadrature phase shift keying (OQPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

## Other Patterns

**Supported**      E8267C with Option 002

Use this softkey to access a menu from which you can select a data pattern. Each pattern contains an equal number of ones and zeroes. The selected pattern will be repeated as necessary to fill the data area.

**Location**      Page [M-12](#)

## Output Blanking Off On Auto

**Supported**      All

This softkey sets the state for RF Output blanking. Blanking occurs when the RF output is momentarily turned off as the sweep transitions from one frequency segment (band) to another, allowing the signal to settle. Blanking also occurs during the retrace, so the signal can settle before the next sweep. In CW mode, blanking occurs whenever you

change the frequency.

- Off            Blanking is always disabled.
- On            Blanking occurs on all frequency changes, including segment transitions and retrace.
- Auto         The signal generator determines the blanking occurrences for optimum performance.

**Preset**        Auto

**Location**     Page [M-3](#)

## Oversample Ratio

**Supported**     E8267C with Option 002

This softkey enables you to set the oversample ratio (number of filter coefficients per symbol) to be applied to a custom FIR filter design. Acceptable values range from 1 through 32, where the maximum combination of symbols and oversample ratio is 1024 coefficients.

Generally, the higher the symbol rate, the lower the oversample ratio of the resampled filter. [Table 3](#) describes the signal generator's maximum oversample ratio capabilities for each real-time modulation type:

**Table 3**                    **Maximum Oversample Ratio Capabilities**

Modulation Type	BPS	Maximum Oversample Ratio
BPSK MSK 2-LVL FSK	1	16
QPSK IS95 QPSK ISAT QPSK OQPSK IS95 OQPSK	2	16
8PSK D8PSK 8-LVL FSK	3	15

**Table 3**                      **Maximum Oversample Ratio Capabilities**

<b>Modulation Type</b>	<b>BPS</b>	<b>Maximum Oversample Ratio</b>
16PSK 16QAM	4	16
32QAM	5	15
64QAM	6	15
256QAM	8	16

When the filter is selected for use, the signal generator may resample the filter with an oversample ratio between 2 and 16, based on the number of symbols, the symbol rate, and the number of bits per symbol of the modulation type.

This oversample ratio setting is not affected by a preset or by a power cycle.

**Range**                      1–32

**Location**                Pages [M-10](#), [M-16](#)



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## P

### Page Down

**Supported** All

This softkey enables you to move down in the display one page at a time.

**Location** Page Down is located in the table editor menus and in the catalogs of files.

### Page Up

**Supported** All

This softkey enables you to move up in the display one page at a time.

**Location** Page Up is located in the table editor menus and in the catalogs of files.

### Patt Trig In 1

**Supported** E8267C with Option 002

This softkey enables you to trigger the internal digital modulation pattern generator with a TTL/CMOS signal applied to the PATTERN TRIG IN rear panel BNC connector.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

### Patt Trig In 2

**Supported** E8267C with Option 002

This softkey enables you to trigger the internal digital modulation pattern generator with a signal applied to the AUXILIARY I/O rear panel D-connector. For a description of the AUXILIARY I/O rear panel D-connector, refer to the rear panel section of chapter 1 of the *User's Guide*.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

### Pattern Trigger

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can choose between the continuous, single or gated triggering modes. The menu also contains a **Trigger Setup** softkey that enables you to adjust the trigger source, the continuous mode, and the gate active polarity.

The pattern trigger function is not available if you use either a PN data sequence, or an external data source.

**Location**      Page [M-15](#)

## PCS Base

**Supported**      All

This softkey selects PCS 1900 Base as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset**          *Channel: 512*

*Frequency: 1.930 GHz*

**Range**          *Channels: 512–810*

*Frequency: 1.930–1.989 GHz*

**Location**      Pages [M-26](#), [M-27](#)

## PCS Mobile

**Supported**      All

This softkey selects PCS 1900 Mobile as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset**          *Channel: 512*

*Frequency: 1.930 GHz*

**Range**          *Channels: 512–810*

*Frequency: 1.850–1.909 GHz*

**Location**      Pages [M-26](#), [M-27](#)

## PDC

**Supported**      E8267C with Option 002

Use this softkey to select a predefined Personal Digital Cellular (PDC) personality for

the digital modulation format.

**Location**      Pages [M-6](#), [M-8](#)

## PDC Bands

**Supported**      All

Use this softkey to access a menu from which you can select the frequency bands for PDC. The output frequency depends on both frequency band and channel selections.

**Location**      Pages [M-26](#), [M-27](#)

## P-GSM Base

**Supported**      All

This softkey selects P-GSM 900 Base as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset**            *Channel: 1*  
*Frequency: 935.2 MHz*

**Range**            *Channel: 1–124*  
*Frequency: 935.2–959.8 MHz*

**Location**      Pages [M-26](#), [M-27](#)

## P-GSM Mobile

**Supported**      All

This softkey selects P-GSM 900 Mobile as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

**Preset**            *Channel: 1*  
*Frequency: 890.2 MHz*

**Range**            *Channel: 1–124*  
*Frequency: 890.2–913.8 MHz*

**Location**      Pages [M-26](#), [M-27](#)

## Phase Dev

**Supported** E8267C with Option 002

Use this softkey to set the phase deviation for minimum shift keying (MSK) modulation.

The current phase deviation value appears under the **MSK** softkey in the Modulation Type menu.

**Preset** 90°

**Range** 0°–100°

**Location** Page [M-13](#)

## Phase Polarity Normal Invert

**Supported** E8267C with Option 002

Use this softkey to invert the internal Q signal, reversing the rotation direction of the phase modulation vector.

**Normal** When you choose Normal, the phase relationship between the I and Q signals is not altered by the phase polarity function.

**Invert** When you choose Invert, the in-phase component lags the quadrature-phase component by 90° in the resulting modulation. Inverted phase polarity is required by some radio standards, and it is useful for lower sideband mixing applications. The inverted selection also applies to the I, I-bar, Q, and Q-bar output signals.

**Preset** Normal

**Location** Page [M-15](#)

## Phase Ref Set

**Supported** All

This softkey enables you to define the current relative phase of the RF output signal as zero. Then all phase parameters are set relative to this zero reference.

**Location** Pages [M-26](#), [M-27](#)

## PHS

**Supported** E8267C with Option 002

Use this softkey to select a predefined Personal Handy Phone System (PHS) personality for the digital modulation format.

**Location**            Pages [M-6](#), [M-8](#)

## PHS Standard

**Supported**        All

This softkey selects a frequency band for PHS. The output frequency depends on both the frequency band and channel selection.

**Preset**            *Channel: 1*

*Frequency: 1.895 GHz*

**Range**            *Channels: 1–82, 251–255*

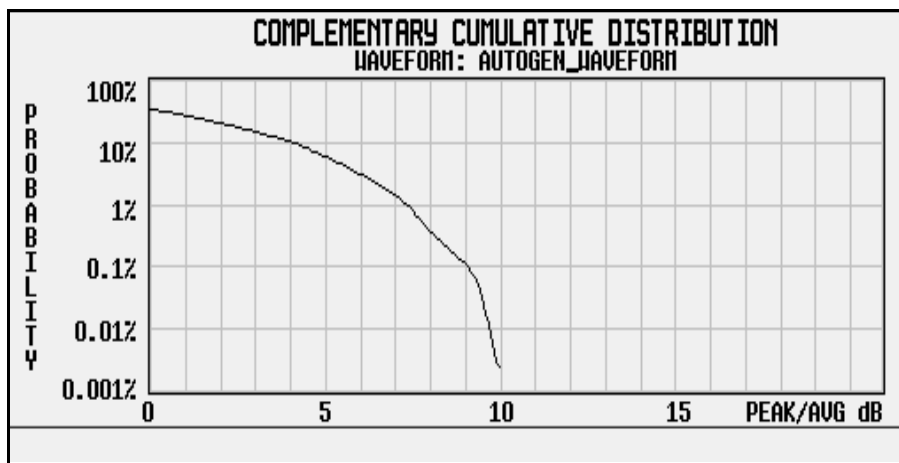
*Frequency: 1.895–1.919 GHz, 1.893–1.894 GHz*

**Location**        Pages [M-26](#), [M-27](#)

## Plot CCDF

**Supported**        E8267C with Option 002

This softkey displays a plot of the complementary cumulative distribution function for the selected waveform. The plot displays the probability that the instantaneous envelope power is  $x$  dB above the average power, where  $x$  is the number on the horizontal axis.



**Location**            Pages [M-6](#), [M-22](#), [M-32](#)

## PN9

**Supported** E8267C with Option 002

This softkey selects an internally generated, ITU standard PN9 pseudorandom bit pattern.

**Location** Page [M-12](#)

## PN9 Mode Preset Normal Quick

**Supported** All

This softkey selects the preset value for PN9 mode.

Normal The PN9 sequence is continuous from ONE timeslot to a matching timeslot.

Quick The PN9 sequence is reset at the beginning of each timeslot.

**Location** Page [M-44](#)

## PN11

**Supported** E8267C with Option 002

This softkey selects an internally generated, ITU standard PN11 pseudorandom bit pattern.

**Location** Page [M-12](#)

## PN15

**Supported** E8267C with Option 002

This softkey selects an internally generated, ITU standard PN15 pseudorandom bit pattern.

**Location** Page [M-12](#)

## PN20

**Supported** E8267C with Option 002

This softkey selects an internally generated, ITU standard PN20 pseudorandom bit pattern.

**Location** Page [M-12](#)

## PN23

**Supported** E8267C with Option 002

This softkey selects an internally generated, ITU standard PN23 pseudorandom bit pattern.

**Location** Page [M-12](#)

## PN Sequence

**Supported** E8267C with Option 002

Use this softkey to access a menu of choices for pseudorandom internal data generation.

**Preset** PN23

**Location** Page [M-12](#)

## Point Trigger

**Supported** All

Use this softkey to access a menu from which you can select a triggering mode for a point-by-point sweep. You can also configure the polarity of the TTL signal output at the TRIGGER IN connector using the **Trigger In Polarity Neg Pos** softkey in this menu. This softkey is disabled when ramp is the selected sweep type.

**Preset** Free Run

**Location** Pages [M-37](#), [M-39](#)

## Positive

**Supported** E8257C and E8267C

This key enables you to select a positively sloped ramp as the modulation waveform for the internally generated, ac-coupled signal.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Power Meter

**Supported** All

Use this softkey to access a menu from which you can select the external power meter model for use during the user flatness calibration.

The power meter selection is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

**Location**      Page [M-3](#)

## Power On Last Preset

**Supported**      All

This softkey selects the power-on operating state for the signal generator. You can select either last or preset.

Last	Each time you cycle power to the signal generator, it will turn on using the same settings as when last turned off.
Preset	Each time you cycle power to the signal generator, it will turn on in either the factory-defined preset condition or in a user-defined preset condition. You make the choice between factory and user-defined preset with the <b>Preset Normal User</b> softkey.

If Last is active, the signal generator must not receive commands for at least 3 seconds before the power is turned off to guarantee that the most recent state is saved. The power-on state is not affected by a preset or by a power cycle.

**Location**      Page [M-44](#)

## Power On/Preset

**Supported**      All

Use this softkey to access a menu of choices for power on and preset conditions. Refer to “Power On Last Preset” on page 172, “Preset Normal User” on page 174, and “Save User Preset” on page 194.

**Location**      Page [M-42](#)

## Power Search

**Supported**      E8267C

Use this softkey to access the **Power Search Manual Auto** softkey. Power search is an internal calibration routine that improves output power accuracy when the automatic leveling control circuit (ALC) is off.

If you are using external I/Q modulation, the power search routine assumes that the I/Q input level is  $\sqrt{I^2 + Q^2} = 0.5 V_{\text{rms}}$ . Actual output amplitude will scale directly with  $\sqrt{I^2 + Q^2}$ .



The **ALC Off On** softkey must be set to Off to enable the power search mode.

**Location** Pages [M-3](#), [M-29](#)

## Power Search Manual Auto

**Supported** E8267C

This softkey toggles the power search mode between auto and manual.

**Manual** The routine is not run until the **Do Power Search** softkey is pressed.

**Auto** The routine will run automatically with each change to the RF frequency or power, and with each change to the AM, burst, pulse, or I/Q modulation state.

The **ALC Off On** softkey must be set to Off to enable the power search mode.

**Preset** Manual

**Location** Pages [M-3](#), [M-29](#)

## Power Search Reference Fixed Mod

**Supported** E8267C

Use this softkey to select the reference used by the power search mode.

**Fixed** A 0.5 V reference is used in this mode.

**Mod** In modulated mode, the reference is the RMS value of the current I/Q modulation.

The **ALC Off On** softkey must be set to Off to enable the power search mode.

**Preset** Fixed

**Location** Pages [M-3](#), [M-29](#)

## Predefined Mode

**Supported** E8267C with Option 002

This softkey accesses a menu of single-keypress setups for various formats. When you select a format, default values for components of the format (such as modulation type, filter, and bits per symbol) are automatically set up.

**Location** Page [M-15](#)

## Preset Language

**Supported** All

Use this softkey to access a menu of choices for selecting the programming language that is implemented after the **Preset** key is pressed. You can choose between SCPI, which is the language chosen for the signal generator for remote implementation of all features, 8648-compatible, and four versions of 8656/57-compatible languages. The 8648- and 8656/67-compatible languages are provided for remote implementation of some features so that this signal generator can be compatible with systems that use those instruments. Refer to the programming guide for specifics on which commands are implemented.

The preset language is not affected by an instrument preset or by a power cycle.

**Location** Page [M-44](#)

## Preset List

**Supported** All

This softkey enables you to delete the current sweep list and replace it with a new list consisting of one point at a default frequency, amplitude, and dwell time.

Be certain that you want to delete the current sweep list; you cannot recover the information once you press **Preset List**.

**Location** Pages [M-4](#), [M-38](#), [M-40](#)

## Preset Normal User

**Supported** All

This softkey enables you to select a factory-defined preset or user-defined preset state for the signal generator.

Normal A factory-defined preset is used if **Normal** is selected.

User A user-defined preset is used if **User** is selected.

A user-defined preset state is saved with the **Save User Preset** softkey.

**Location** Page [M-44](#)

## Proceed With Reconfiguration

**Supported** All

Press this softkey to enable the selected hardware or software options. In the Hardware

Options menu, selected options are indicated by an X in the column to the left of the option number. In the Software Options menu, selected options include any options that have a license key entered. After pressing this softkey, press the **Confirm Change** softkey to verify that you want to reconfigure the signal generator with the options selected. Pressing the Confirm Change softkey also reboots the signal generator. If you do not want to continue, press the **Return** key.

If you enable an option that does not have the required hardware installed, the menus for that option will be activated but the option cannot operate, regardless of what the menus may indicate.

**Location**           Pages [M-42](#), [M-43](#)

## PSK

**Supported**       E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting a PSK Modulation

Use this softkey to display a menu of phase shift keying (PSK) modulation types to modulate a continuous stream of the selected data pattern. You can choose from QPSK and OQPSK, BPSK,  $\pi/4$  DQPSK, 8PSK, 16PSK, D8PSK and EDGE.

**Location**           Pages [M-7](#), [M-13](#)

### Loading a PSK I/Q Map into the I/Q Table Editor

Use this softkey to display a menu of phase shift keying (PSK) modulation types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**           Page [M-19](#)

## Pulse

**Supported**       E8257C and E8267C

Use this hardkey to access a menu of choices that enables you to configure the pulse modulation.

**Location**           Page [M-34](#)

## Pulse Delay

**Supported** E8257C and E8267C

This softkey enables you to change the pulse delay of the internally generated pulse modulation source.

The pulse delay applies only to internal pulse modulation; when external pulse modulation or internal square pulse modulation is selected, this key is disabled.

**Preset** 0.0 s

**Range** Depends on pulse period and pulse width settings.

**Location** Page [M-34](#)

## Pulse Off On

**Supported** E8257C and E8267C

This softkey toggles the operating state for the currently selected pulse modulation source.

When pulse modulation is on, the PULSE annunciator is shown in the display.

The RF carrier is modulated by the enabled modulation only when you have also set **Mod On/Off** to On.

**Preset** Off

**Location** Page [M-34](#)

## Pulse Period

**Supported** E8257C and E8267C

This softkey enables you to change the pulse period for internally generated pulse modulation.

If the value for pulse period is less than the value for pulse width, pulse width is changed to be 20  $\mu$ s less than pulse period.

The pulse period applies only to internal free-run and gated pulse modulation.

**Preset** 2.0  $\mu$ s

**Range** 70.0 ns–42.0 s

**Location** Page [M-34](#)

## Pulse Rate

**Supported** E8257C and E8267C

This softkey enables you to change the pulse rate for the internal square pulse modulation.

The new value of pulse rate applies only to internal square pulse modulation; when external pulse modulation or internal pulse modulation is selected, this key is disabled.

**Preset** 400.0 Hz

**Range** 100.0 mHz–10.0 MHz

**Location** Page [M-34](#)

## Pulse Source

**Supported** E8257C and E8267C

Use this softkey to access a menu of choices that enables you to select the pulse source for modulation inputs.

The RF carrier is modulated by the enabled modulation only when you have also set **Mod On/Off** to On.

**Preset** Internal Pulse

**Location** Page [M-34](#)

## Pulse Width

**Supported** E8257C and E8267C

This softkey enables you to change the pulse width for internally generated pulse modulation source.

If the value for pulse period is less than the value for pulse width, pulse width is changed to be 20 ns less than pulse period.

The pulse width applies only to internal pulse modulation; when external pulse modulation or internal square pulse modulation is selected, this key is disabled.

**Preset** 1.0  $\mu$ s

**Range** 10.0 ns–41.99999998 s

**Location** Page [M-34](#)

## PWT

**Supported**      E8267C with Option 002

This softkey selects a predefined personal wireless telephone (PWT) personality for the digital modulation format. The PWT standard is an adaptation of the DECT air-interface with a  $\pi/4$  DQPSK modulation to reduce radio channel bandwidth.

**Location**      Pages [M-6](#), [M-8](#)

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## Q

### QAM

**Supported** E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load a default I/Q map into the I/Q table editor.

#### Selecting a QAM Modulation

Use this softkey to display a menu of quadrature amplitude modulation (QAM) types to modulate a continuous stream of the selected data pattern. You can choose from 4QAM, 16QAM, 32QAM, 64QAM, and 256QAM.

The modulation selection appears under the **Select** and **QAM** softkeys in the Modulation Type menus.

**Location** Pages [M-7](#), [M-13](#)

#### Loading a QAM I/Q Map into the I/Q Table Editor

Use this softkey to display a menu of quadrature amplitude modulation (QAM) types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location** Page [M-19](#)

### Q Offset

**Supported** E8267C

This softkey adjusts the level of the quadrature-phase signal. This key appears as a percentage of full scale for standard I/Q and as an offset voltage for wideband I/Q.

#### For Standard I/Q

Use this softkey to enter an origin offset for standard quadrature-phase signals. 100% offset is equivalent to 500 mV DC at the input connector. This offset is used to remove imperfections in the quadrature-phase signal or to introduce calibrated impairments.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

When using this key to minimize the LO feedthrough signal, optimum performance is

achieved when the adjustment is made after all other I/Q path adjustments, such as those made with the **Int Phase Polarity Normal Invert** or **Modulator Atten nnn db Manual Auto** softkeys. If other adjustments are made after minimization is performed, the LO feedthrough signal may increase.

**Preset**            0.0%  
**Range**            -50% to 50%  
**Location**        Page [M-29](#)

### For Wideband I/Q (Option 015)

Use this softkey to enter an origin offset for quadrature-phase signals in wideband I/Q mode. This offset is used to remove imperfections in the quadrature-phase signal or to introduce calibrated impairments.

The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

**Preset**            0.0000 V  
**Range**            -1.0000 V to 1.0000 V  
**Location**        Page [M-29](#)

## QPSK

**Supported**        E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load an I/Q map into the I/Q table editor.

### Selecting a QPSK Modulation

Use this softkey to select quadrature phase shift keying (QPSK) to modulate a continuous stream of the selected data pattern. QPSK modulation transmits data at the rate of 2 bits per symbol.

The modulation selection appears under the **Select, QPSK and OQPSK**, and **PSK** softkeys in the Modulation Type menus.

**Location**        Pages [M-7](#), [M-13](#)

### Loading a QPSK I/Q Map into the Table Editor

Use this softkey to load a quadrature phase shift keying (QPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.



**Location**      Page [M-19](#)

## QPSK and OQPSK

**Supported**      E8267C with Option 002

This softkey appears in two different situations, enabling you to either select a modulation, or load a default I/Q map into the I/Q table editor.

### Selecting a QPSK and OQPSK Modulation

Use this softkey to access a menu of quadrature phase shift keying (QPSK) and offset quadrature phase shift keying (OQPSK) modulation types to modulate a continuous stream of the selected data pattern. QPSK and OQPSK modulations transmit data at the rate of 2 bits per symbol. You can choose from QPSK, IS95 QPSK, Gray Coded QPSK, OQPSK, and IS95 OQPSK.

**Location**      Pages [M-7](#), [M-13](#)

### Loading a QPSK and OQPSK I/Q Map into the Table Editor

Use this softkey to access a menu of quadrature phase shift keying (QPSK) and offset quadrature phase shift keying (OQPSK) modulation types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

**Location**      Page [M-19](#)

## Quadrature Skew

**Supported**      E8267C

Use this softkey to adjust the phase angle between the I and Q vectors. When the quadrature skew is zero, the phase angle is 90 degrees. Positive skew increases the angle from 90 degrees while negative skew decreases the angle from 90 degrees.

This softkey is only available for internally generated I and Q.

**Preset**          0.0 degrees

**Range**           $\pm 10$  degrees, minimum increment of 0.01 degrees

**Location**      Page [M-29](#)

## R

### Ramp

#### In the Sweep Type Menu

**Supported** All with Option 007

Use this softkey to select ramp as the sweep type.

**Location** Page [M-39](#)

#### In All Other Menus

**Supported** E8257C and E8267C

Use this softkey to access a menu from which you can select ramp as the modulating waveform with either a positive or negative slope.

In the LF Out menu this key is available after selecting the internal source to operate as a function generator.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

### Random Seed Fixed Random

**Supported** E8267C with Option 002

This softkey sets the mode of the random seed for the randomly generated phases of the multitone table editor tones. This is done as part of initializing the multitone table editor.

- |        |  |
|--------|--|
| Fixed  | When you select Fixed, the same random phases will be generated after each initialization. |
| Random | When you select Random, new phases will be generated after each initialization.            |

Use this softkey when the **Initialize Phase Fixed Random** softkey is set to the Random selection.

**Preset** Fixed

**Location** Page [M-32](#)

## Real Time I/Q Baseband

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can build customized unframed data formats using the real time I/Q baseband generator.

**Location** Pages [M-6](#), [M-12](#)

## Recall

**Supported** All

Use this hardkey to access a menu of softkeys that enables you to select or delete registers and sequences.

**Preset** RECALL Reg

**Location** Page [M-35](#)

## Recall Ref Osc Setting

**Supported** All

Use this softkey to recall the last saved reference oscillator coarse and fine adjustment setting.

This adjustment is intended for use by service personnel. Refer to the calibration guide for more information.

**Location** Page [M-43](#)

## RECALL Reg

**Supported** All

Use this softkey to recall an instrument state from a saved register. Recalling a register also selects that register number for all keys which specify a register number in this menu. You can also use the front panel knob and the up and down arrow keys to scroll through all saved registers for the selected sequence.

**Location** Page [M-35](#)

## Rectangle

**Supported** E8267C with Option 002

Use this softkey to select a, rectangular pre-modulation filter from either the Select menu or the Load Default FIR menu.

### **In the Select (filter) Menu**

In this menu, pressing the **Rectangle** softkey selects this FIR filter for use in a modulation setup.

**Location**      Pages [M-10](#), [M-16](#)

### **In the Load Default FIR Menu**

In this menu, use the **Rectangle** softkey to access a menu from which you can specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a rectangular filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

**Location**      Pages [M-11](#), [M-17](#)

## **Ref Osc Coarse**

**Supported**      All

This softkey is provided for adjusting the internal reference oscillator. Refer to the calibration guide for more information.

This adjustment is intended for use by service personnel.

**Location**      Page [M-43](#)

## **Ref Osc Fine**

**Supported**      All

This softkey is provided for adjusting the internal reference oscillator. Refer to the calibration guide for more information.

This adjustment is intended for use by service personnel.

**Location**      Page [M-43](#)

## **Ref Oscillator Source Auto Off On**

**Supported**      All

This softkey switches off and on the signal generator's capability of automatically selecting between the internal reference oscillator and an external reference oscillator.

Off	The signal generator uses the internal reference only, even if an external reference is connected.
On	The signal generator detects when a valid reference signal is present at the 10 MHz IN connector and automatically switches from internal to external reference operation.
<b>Preset</b>	On
<b>Location</b>	Page <a href="#">M-26</a>

## Reference Freq

**Supported** E8267C with Option 002

This softkey enables you to set the reference frequency of the external clock.

This softkey is only available when you are using an external ARB reference applied to the BASEBAND GEN REF IN connector.

**Preset** 10.0000000 MHz

**Range** 250.0000 kHz–100.0000000 MHz

**Location** Pages [M-6](#), [M-23](#), [M-32](#)

## Reference Oscillator Adjustment

**Supported** All

Use this softkey to access a menu of keys that are provided for adjusting the internal reference oscillator.

This adjustment is intended for use by service personnel. Refer to the calibration guide for more information.

**Location** Page [M-43](#)

## Remote Language

**Supported** All

Pressing this softkey reveals a menu of choices for the signal generator's remote language. The language selected will be implemented immediately without presetting the signal generator. Instrument specific languages such as 8657D NADC are available for compatibility with the signal generator. The SCPI language implements all of the signal generator's functions.

Numerous instrument compatible languages are available for use by the signal generator. Refer to the programming guide for specifics on commands and information on programming languages.

**Location**      Page [M-42](#)

## Rename

**Supported**      E8267C with Option 002

Use this softkey to rename the current bit file.

**Location**      Page [M-18](#)

## Rename File

**Supported**      All

This softkey enables you to rename the highlighted file in the displayed catalog of files. When you have entered the new file name, press the **Enter** terminator softkey. If you have changed your mind, press the **Return** hardkey. Once you press **Enter**, the new file is stored and displayed immediately in the catalog list.

**Location**      Page [M-44](#)

## Rename Segment

**Supported**      E8267C with Option 002

This softkey enables you to rename the selected waveform segment in the displayed catalog.

**Location**      Page [M-22](#)

## Re-SAVE Seq[n] Reg[nn]

**Supported**      All

This softkey enables you to save the current instrument state in the specified register within the specified sequence. If data has already been stored in this location, it will be overwritten. The instrument state includes all of your setup selections except list sweep data and functions that do not change by the preset function or by a power cycle.

The **SAVE Seq[n] Reg[nn]** softkey changes to **Re-SAVE Seq[n] Reg[nn]** when an instrument state has been saved or selected.

**Location**      Page [M-36](#)

## Reset & Run

**Supported** E8267C with Option 002

Use this softkey to select the Reset & Run mode for continuous triggering. When this mode is selected, the waveform generator plays a sequence or frame continuously upon triggering. The waveform generator responds to subsequent triggers by immediately restarting the sequence.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

## Reset RS-232

**Supported** All

Use this softkey to clear the RS-232 read/write buffer. Any unprocessed data is cleared and the buffer is readied for sending and receiving data over the RS-232 interface.

All other RS-232 communication parameters are unaffected.

**Location** Page [M-42](#)

## Restore Default Burst Shape

**Supported** E8267C with Option 002

Use this softkey to reset the burst shape parameters to their preset values.

**Location** Page [M-14](#)

## Restore Default Filter

**Supported** E8267C with Option 002

Use this softkey to replace the current FIR filter with the default filter for the selected format.

**Preset** Root Nyquist  $\alpha = 0.350$

**Location** Pages [M-10](#), [M-16](#)

## Restore Default Modulation Type

**Supported** E8267C with Option 002

Use this softkey to restore the default modulation type for the current real time custom digital modulation setup.

**Location**      Page [M-13](#)

## Restore Default Signal Polarities

**Supported**      All

This softkey is used to restore the signal generator's default signal polarities.

**Location**      Page [M-43](#)

## Restore Default Symbol Rate

**Supported**      E8267C with Option 002

Use this softkey to replace the current symbol rate with the default symbol rate for the selected format.

**Preset**          24.300000 ksps

**Location**      Page [M-12](#)

## Restore Factory Defaults

**Supported**      All with Option UNR

This softkey re-sets the bandwidth of the reference oscillator to the factory-defined default state. The default value for the internal reference bandwidth is 125 Hz. The default value for the external reference bandwidth is 25 Hz

**Location**      Page [M-43](#)

## Restore Sys Defaults

**Supported**      All

This softkey is used to restore the signal generator's system defaults.

**Location**      Page [M-44](#)

## Retrigger Mode

**Supported**      E8267C with Option 002

Use this softkey to access a menu for operating the retrigger mode of single trigger operation. The retrigger mode enables the user to choose between normal single triggering (Off), retriggering after the completion of the current sequence (On), or



immediately resetting a sequence and running from the start (Immediate).

The retriggers do not accumulate. If several triggers are received during a waveform, it will only be replayed once.

**Preset**            On

**Location**        Pages [M-9](#), [M-21](#)

## Revert to Default Cal Settings

**Supported**       E8267C

Use this softkey to restore the original factory calibration data for the internal I/Q modulator.

**Location**        Page [M-29](#)

## R-GSM Base

**Supported**       All

This softkey selects R-GSM 900 Base as the channel band for GSM. The output frequency depends on both the frequency band and channel selection.

**Preset**            *Channel: 1*

*Frequency: 935.200 MHz*

**Range**            *Channels: 0–124, 975–1023*

*Frequency: 935.000–959.800 MHz, 921.200–934.800 MHz*

**Location**        Pages [M-26](#), [M-27](#)

## R-GSM Mobile

This softkey selects R-GSM 900 Mobile as the channel band for GSM. The output frequency depends on both the frequency band and channel selection.

**Supported**       All

**Preset**            *Channel: 1*

*Frequency: 890.200 MHz*

**Range**            *Channels: 0–124, 975–1023*

*Frequency: 890.000–914.800 MHz, 876.200–889.800 MHz*

**Location**      Pages [M-26](#), [M-27](#)

## Rise Delay

**Supported**      E8267C with Option 002

Press this softkey to adjust the burst shape rise delay.

**Preset**          0.000 bits

**Range**          Minimum and maximum values depend on modulation type and symbol rate.

**Location**      Page [M-14](#)

## Rise Time

**Supported**      E8267C with Option 002

Press this softkey to adjust the burst shape rise time.

**Preset:**         5.000 bits

**Range**          Minimum and maximum values depend on modulation type and symbol rate.

**Location**      Page [M-14](#)

## Root Nyquist

**Supported**      E8267C with Option 002

This softkey selects a root Nyquist (root-raised cosine) pre-modulation filter from either the Select menu or the Load Default FIR menu.

### In the Select (filter) Menu

In this menu, use the **Root Nyquist** softkey to select this FIR filter for use in a custom modulation setup.

**Location**      Pages [M-10](#), [M-16](#)

### In the Load Default FIR Menu

In this menu, use the **Root Nyquist** softkey to access a menu from which you can change the filter alpha value, specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a root Nyquist filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR

table.

**Location**      Pages [M-11](#), [M-17](#)

## RS-232 Baud Rate

**Supported**      All

Use this softkey to access a menu of choices enabling you to set the baud rate for data communication over the RS-232 interface.

The baud rate is not affected by a preset or by a power cycle.

**Range**            300 – 57600 baud

**Location**        Page [M-42](#)

## RS-232 Echo Off On

**Supported**      All

This softkey selects the operating state of the RS-232 echo function.

On                  When set to on, every character sent to the signal generator is echoed to the controller display.

Off                 When set to off, characters sent to the signal generator are not echoed to the controller display.

The echo state is not affected by a preset or by a power cycle.

**Location**        Page [M-42](#)

## RS-232 Setup

**Supported**      All

Use this softkey to access a menu of choices enabling you to configure communication protocol over the RS-232 interface.

**Location**        Page [M-42](#)

## RS-232 Timeout

**Supported**      All

This softkey enables you to set the RS-232 interface timeout period. If further input is not received within the assigned timeout period while a SCPI command is being

processed, then the command is aborted and the RS-232 input buffer is cleared.

The timeout period value is not affected by a preset or by a power cycle.

**Location**      Page [M-42](#)

## Run Complete Self Test

**Supported**      All

Use this softkey to run an automated, internal diagnostic test that checks for detectable hardware failures. If there are hardware failures in the signal generator, refer to the troubleshooting section of the service guide.

This key is included for use by service personnel.

**Location**      Page [M-45](#)

## Run Highlighted Tests

**Supported**      All

This softkey is provided for self-test diagnostics. If any tests fail then refer to the troubleshooting section of the service guide.

This key is included for use by service personnel.

**Location**      Page [M-45](#)

## Run Selected Tests

**Supported**      All

This softkey is provided for self-test diagnostics. If any tests fail then refer to the troubleshooting section of the service guide.

This key is included for use by service personnel.

**Location**      Page [M-45](#)

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## S

### Save

**Supported** All

Use this hardkey to access a menu from which you can select, delete, and re-save registers (instrument states) and sequences (groups of registers). The menu shows the registers in use and any comments associated with the registers for the last sequence accessed. The menu is updated whenever you make any changes to the registers or to the comments.

Up to 100 storage registers and 10 register sequences are available, depending on the number and size of files.

**Location** Page [M-36](#)

### Save Reg

**Supported** All

Use this softkey to save the current instrument state in the specified register.

**Location** Page [M-36](#)

### SAVE Seq[n] Reg[nn]

**Supported** All

This softkey enables you to save the current instrument state in the specified register within the specified sequence. The instrument state includes all of your setup selections except list sweep data and functions that do not change by the preset function or by a power cycle.

Do not press this key until you have specified the correct sequence and register using the **Select Seq** and **Select Reg** softkey.

The **SAVE Seq[n] Reg[nn]** softkey changes to **Re-SAVE Seq[n] Reg[nn]** when an instrument state has been saved or selected.

**Location** Page [M-36](#)

## Save User Preset

**Supported** All

Use this softkey to establish a user-defined preset state. Set up the signal generator for conditions that you want to use for your unique preset state. Once defined, press the **Save User Preset** softkey to save the state. Only one user-defined preset state is allowed, any previously-saved state will be over-written. Press the **Preset Normal User** softkey to select **User**, and your instrument state will be recalled by the signal generator any time you press **Preset**. Refer to “[Preset Normal User](#)” on page 174 for more information.

The user’s state definition is a state file; it is not affected by an instrument preset or by a power cycle.

**Location** Page [M-44](#)

## Scalar

**Supported** All

This softkey enables you to internally generate a 27 kHz square pulse, which is needed for a scalar network analyzer sweep setup.

**Location** Page [M-34](#)

## Scale Waveform Data

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to scale the waveform data. To enable scaling of non-volatile waveform (NVWFM) memory, move the waveform to WFM1 memory first. This can be done by selecting the waveform in NVWFM memory, the **Load Store** softkey must be set to Load, and selecting Load Segment from NVWFM memory. Then toggle the **Load Store** softkey to Store. This activates the **Waveform Utilities** softkey from which you can select the **Scale Waveform Data** softkey.

As the waveform is scaled down, it can lose bits of resolution. Once a bit of resolution is lost, it can not be regained by increasing the scaling value of the waveform.

**Location** Page [M-22](#)

## Scaling

**Supported** E8267C with Option 002

This softkey enables you to change the scaling percentage of the selected waveform

segment. You can set the scaling percentage to a resolution of 0.01% within the specified range. After entering the desired scaling percentage, terminate the entry with the % softkey.

<b>Preset</b>	100.00%
<b>Range:</b>	1.00%–100.00%
<b>Location</b>	Page <a href="#">M-22</a>

## SCPI

**Supported** All

This softkey is available in the Preset Language menu and the Remote Language menu. All signal generator features can be accessed using SCPI (Standard Commands for Programmable Instruments). Choosing **SCPI** in the Preset Language menu allows you to select this remote language as the default after a normal preset. Choosing **SCPI** in the Remote Language menu allows you to immediately use this language to control the signal generator.

**Location** Pages [M-42](#), [M-44](#)

## Screen Saver Delay:

**Supported** All

This softkey enables you to set a time interval before the screen saver is activated. This event, activating the screen saver, occurs after the specified time interval if there is no input from the front panel.

The screen saver delay state is not affected by a preset or by a power cycle.

**Range** 1–12 hours

**Location** Page [M-42](#)

## Screen Saver Mode

**Supported** All

This softkey selects **Light Only** or **Light & Text** for the screen saver. When you set the screen saver to Light Only, the display light is turned off after screen saver delay time has expired. When you set the screen saver to Light & Text, the display light and the text are turned off.

The screen saver mode is not affected by a preset or by a power cycle.

If you are leaving the display unchanged for long periods of time, set the mode to light & text; this prevents text burn-in on the display.

**Location**      Page [M-42](#)

## Screen Saver Off On

**Supported**      All

This softkey selects the screen saver mode.

- Off              With the screen saver off, the display remains on indefinitely.
- On              With the screen saver on, the display is turned off after a specified time interval when no input from the front panel has occurred. The display will turn back on when any front panel signal generator key is pressed

The screen saver mode is not affected by a preset or by a power cycle.

**Location**      Page [M-42](#)

## Seed

**Supported**      E8267C with Option 002

Use this softkey to enter the initial value of the pseudorandom bit sequence.

**Location**      Page [M-18](#)

## Seg Advance Mode

**Supported**      E8267C with Option 002

This softkey accesses a menu of choices for segment advance as the dual arbitrary waveform (ARB) generator trigger type.

**Location**      Page [M-21](#)

## Segment Advance

Supported      E8267C with Option 002

This softkey selects segment advance as the dual arbitrary waveform (dual ARB) generator trigger type. After receiving a trigger, while operating with a waveform sequence, the sequencer will play the next segment in the sequence.

**Location**      Page [M-21](#)



## Select

**Supported** E8267C with Option 002

There are two softkeys named Select, one in the Filter menu and one in the Modulation type menu. In the Filter menu, you can select a pre-modulation filter type; in the Modulation type menu, you can select a modulation.

### Selecting a Filter

In the Filter menu, use this softkey to access a menu for selecting the pre-modulation filter type. You can choose from Root Nyquist, Nyquist, Gaussian, Rectangle, APCO 25 C4FM, and UN3/4 GSM Gaussian (for backward compatibility with previous models of ESG). In addition to the pre-defined filters, you can access the catalog of files stored in the signal generator memory. You can select any filter that you have either created externally and downloaded into memory, or that you have created internally in the Define User FIR menu and then subsequently stored.

The selected filter type is displayed under the **Select** softkey.

**Preset** Root Nyquist

**Location** Pages [M-10](#), [M-16](#)

### Selecting a Modulation

In the Modulation Type menu, use this softkey to access a menu for defining the modulation types. In addition to the pre-defined modulations, you can access a catalog of FSK or I/Q files stored in the signal generator memory, where you can select a modulation that you have created and stored in either the Define User FSK or Define User I/Q menu.

The selected modulation type is displayed under the **Select** softkey.

**Preset**  $\pi/4$  DQPSK

**Location** Page [M-13](#)

## Select/Deselect All

**Supported** All

This softkey is provided for self-test diagnostics. Refer to the troubleshooting section of the service guide.

This key is intended for use by service personnel.

**Location** Page [M-45](#)

## Select/Deselect Test

**Supported** All

This softkey is provided for self-test diagnostics. Refer to the troubleshooting section of the service guide.

This key is intended for use by service personnel.

**Location** Page [M-45](#)

## Select File

**Supported** E8267C with Option 002

Use this softkey to select a file in the displayed catalog of files. If you select a custom file as a data pattern for modulated transmissions, `UserFile` appears in the `Data` field of the text display. If you select a custom file as the modulation type, `UserFile` appears in the `Mod Type` field of the text display.

**Select File** is located in each of the catalogs of files.

**Location** Pages [M-6](#), [M-8](#), [M-10](#), [M-12](#), [M-13](#), [M-14](#), [M-16](#)

## Select Reg

**Supported** All

Use this softkey to select a specific register to be highlighted in the list of saved states.

If you use the front panel knob, each state is automatically activated as you pass over it.

**Location** Page [M-36](#)

## Select Reg:

**Supported** All

This softkey enables you to select a register for all softkeys that specify a register in this menu. For example, if you want to select register 5, press **Select Reg:**. The currently selected register is displayed in the active entry area. Change the number to 5 and press the **Select Reg** terminator softkey. Register 5 is now displayed in all softkeys which specify a register in this menu.

You can also use this softkey to select a register and save the current instrument state to that register. For example, if you want to select and save to register 6, press **Select Reg:**. The currently selected register is displayed in the active entry area. Change the number

to 6 and press the **Save Reg** terminator softkey. Register 6 is now displayed in all softkeys which specify a register in this menu and the current instrument state has been saved to register 6.

This setting is not affected by a preset or by a power cycle.

**Range** 00–99

**Location** Page [M-36](#)

## Select Seq:

**Supported** All

This softkey enables you to select a sequence for all softkeys which specify a sequence in this menu. For example, if you want to select sequence 4, press **Select Seq:**. The currently selected sequence is displayed in the active entry area. Change the number to 4 and press the **Enter** terminator softkey. Sequence 4 is now displayed in all softkeys that specify a sequence in this menu.

This setting is not affected by a preset or by a power cycle.

**Range** 0–9

**Location** Pages [M-35](#), [M-36](#)

## Select Waveform

**Supported** E8267C with Option 002

This softkey enables you to select the type of signal for the dual arbitrary waveform (Dual ARB) to generate.

If there are no waveforms or sequences, this softkey selects None.

**Location** Page [M-21](#), [M-22](#)

## Self Test

**Supported** All

This softkey accesses an automatic, internal diagnostic test that checks for detectable hardware failures. If there are hardware failures in the signal generator, refer to the troubleshooting section of the service guide.

This key is intended for use by service personnel.

**Location** Page [M-45](#)

## Seq

**Supported** All

Press this softkey to set the current catalog type to Seq and display the catalog of sequence files.

This key is intended for use by service personnel.

**Location** Page [M-44](#)

## Set ALC Level

**Supported** All

This softkey enables you to change the ALC level. The output power is the ALC level minus the attenuator setting.

This key is active only when you have toggled the **Atten Hold Off On** key to On.

**Preset** -20.00 dBm

**Range** -20.00 dBm to 25.00 dBm

**Location** Page [M-3](#)

## Set Atten

**Supported** All

This softkey enables you to change the amount of attenuation in 5.0 dB steps. The output power is the ALC level minus the attenuator setting.

This key is active only when you have toggled the **Atten Hold Off On** key to On.

**Preset** 115.00 dB

**Range** 0.00 dB–115.00 dB

**Location** Page [M-3](#)

## Set Date

**Supported** All

This softkey is used to set the date of the display clock. Enter the date in the year-month-day (YYYYMMDD) format and terminate the entry by pressing the **Enter** softkey.

**Location**      Page [M-43](#)

## Set Marker Off All Points

**Supported**      E8267C with Option 002

This softkey enables you to clear the active marker from all waveform points.

This softkey is not available unless a waveform segment is selected.

**Location**      Page [M-22](#)

## Set Marker Off Range Of Points

**Supported**      E8267C with Option 002

This softkey accesses a menu that enables you to clear the active marker over a range of points on the selected waveform.

This softkey is not available unless a waveform segment is selected.

**Location**      Page [M-22](#)

## Set Marker On First Point

**Supported**      E8267C with Option 002

This softkey turns on the active marker on the first point of the selected waveform.

This softkey is not available unless a waveform segment is selected.

**Location**      Page [M-22](#)

## Set Marker On Range Of Points

**Supported**      E8267C with Option 002

This softkey accesses a menu that enables you to set the active marker over a range of points on the selected waveform.

This softkey is not available unless a waveform segment is selected.

**Location**      Page [M-22](#)

## Set Markers

**Supported**      E8267C with Option 002

This softkey accesses a menu that enables you to set waveform markers on a selected waveform in arbitrary waveform (ARB) memory. To set markers in non-volatile arbitrary waveform (NVARB) memory, move the waveform to ARB memory first. This can be done by selecting the waveform in NVARB memory and setting the **Load Store** softkey to Store. This activates the **Set Markers** softkey.

**Location**      Page [M-22](#)

## Set Time

**Supported**      All

This softkey is used to set the time of the display clock in the 24 hour format. Enter the hour values (00–23), minute and seconds values (00–59), and terminate the entry by pressing the **Enter** softkey.

**Location**      Page [M-43](#)

## Setup Select

**Supported**      E8267C with Option 002

Use this softkey to access a menu for defining the type of custom digital modulation setup required for your application.

**Preset**          NADC

**Location**      Page [M-6](#)

## Show Waveform Sequence Contents

**Supported**      E8267C with Option 002

This softkey displays the contents of the selected waveform sequence in a table format. The content information displayed is a list of the waveforms and corresponding repetitions for that sequence.

This softkey is only active when a sequence is highlighted.

**Location**      Pages [M-22](#), [M-23](#)

## Signal Polarity Setup

**Supported**      E8267C with Option 002

This softkey accesses a menu of external signals and choices for selecting the polarity of those signals.

**Location**      Page [M-43](#)

## Sine

**Supported**      E8257C and E8267C

This softkey appears in two different situations, enabling you to either select a sine burst shape, or specify sine as a modulation waveform.

### Selecting Sine as a Burst Shape

Use this softkey to specify sine for the timeslot burst shape. Sine, as it is modified by the default burst rise and fall values, is the default burst shape.

**Location**      Page [M-14](#)

### Specifying Sine as a Modulation Waveform

This softkey enables you to specify sine as the modulation waveform for the internally generated, ac-coupled signal.

The selected waveform applies only to the path configuration you have currently selected.

**Location**      Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Single

**Supported**      E8267C with Option 002

### In the Trigger Menu

This softkey sets the trigger type to single. After receiving a trigger, the waveform will play once and then wait for another signal from the selected trigger source before playing again.

**Location**      Pages [M-6](#), [M-15](#), [M-21](#)

### In the Seg Advance Mode Menu

This softkey sets the segment advance mode to single. After receiving a trigger, the next segment is played once. Triggers received during play are ignored.

This segment advance selection becomes active only when the trigger type is set to Segment Advance.

**Location**      Page [M-21](#)

## Single Sweep

**Supported**      All

Use this softkey to arm the sweep. The signal generator will begin the sweep as soon as the sweep trigger is received. The sweep sets the power and the frequency to the first point of the sweep while it is not initiated or is waiting for the sweep trigger. If you have set the sweep trigger to **Free Run**, a sweep is initiated as soon as you arm the sweep.

The ARMED annunciator will turn on in the display, unless the sweep trigger is set to **Free Run**.

This key is disabled when **Sweep** is set to Off.

**Location**      Pages [M-37](#), [M-39](#)

## Slave

**Supported**      All with Option 007

Use this softkey to select this instrument as the slave in a dual-PSG ramp sweep setup. In slave mode, this instrument submits to the triggering parameters provided by the master PSG in a dual-PSG ramp sweep setup. However, you must set the slave PSG triggering to continuous.

**Location**      Page [M-39](#)

## Software Options

**Supported**      All

This softkey accesses a menu from which you can configure your signal generator to enable any software option that you have purchased. Software options are linked to specific optional hardware that must first be installed before the software option can be used. Adding new software options requires the use of a license key that is provided by Agilent Technologies at the time of purchase.

Do not modify the license key for enabled software options: you will disable the option.

**Location**      Page [M-43](#)



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**NOTE** If a previously installed software option becomes disabled, verify the following:

- the optional hardware is present/installed.
- the hardware option is enabled.
- the software option is enabled with the correct license key.

Refer to your License Key Certificate for the correct license key or, if the option was installed by Agilent Technologies, contact your local service office and tell them the instrument's model number, the host ID number, and the software option that should be enabled

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## Source 1

**Supported** E8267C

Use this softkey to access a menu from which you can select a signal source to be routed to the internal I/Q modulator.

When a digital modulation format is turned on, the **Source 1** and **I/Q Out** selections automatically switch to BBG1. When the digital modulation is turned off, the **Source 1** and **I/Q Out** selections automatically switch to Ext 50 Ohm. You can manually override the automatic settings.

**Preset** Ext 50 Ohm

**Location** Page [M-33](#)

## Source Module

**Supported** All

Use this softkey to use an external source module for leveling control.

**Location** Page [M-3](#)

## Source Module Off On

**Supported** All

Use this softkey to toggle the state of the external source module. Turning the source module on also selects **Source Module** as the leveling mode.

**Preset** Off

**Location** Pages [M-26](#), [M-27](#)

## Square

**Supported** E8257C and E8267C

This softkey enables you specify a square wave as the modulating waveform.

In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator. The modulation applies only to the path configuration you have selected.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Start Frequency

**Supported** E8267C

Use this softkey to set the start frequency for an I/Q calibration.

You can select a portion of the frequency range for an I/Q calibration by setting the **Calibration Type User Full** softkey to User and entering new start and stop frequencies. This softkey is automatically set to the minimum specified frequency of the signal generator if you have set the **Calibration Type User Full** softkey to Full. If you toggle back to User from the Full setting, the User value for **Start Frequency** will be restored.

This softkey is grayed out (not editable) unless the calibration type is set to User.

The **Start Frequency** setting is not affected by an instrument preset or by a power cycle.

**Range** 100 kHz–stop frequency setting (up to maximum frequency of instrument)

**Location** Page [M-29](#)

## Step

**Supported** All with Option 007

Use this softkey to select Step as the sweep type.

**Location** Page [M-39](#)

## Step Dwell

**Supported** All

This softkey enables you to set the dwell time for each point of a step sweep. The dwell

time is the amount of time the sweep is guaranteed to pause after setting the frequency and power for the current sweep/list point.

Dwell time is used when the point trigger is set to **Free Run**.

<b>Preset</b>	2.0 ms
<b>Range</b>	1.0 ms–60.0 s (in 1.0 ms increments)
<b>Location</b>	Page <a href="#">M-37</a>

## Step/Knob Ratio

**Supported** All

This softkey enables you to set the ratio between the increment value of the step keys and the front panel knob. For example, if you set the increment value for frequency to 1.0 MHz and set the step/knob ratio to 10/1, when frequency is the active function the up and down arrow keys will change the frequency in 1.0 MHz steps and the front panel knob will change the frequency in 1/10th of 1.0 MHz steps.

When you press **Step/Knob Ratio** the number displayed in the active entry area represents the arrow keys step size in the ratio. To enter a new value, rotate the front panel knob until the desired value is displayed, use the up and down arrow keys, or enter the value using the numeric keypad and press the **Enter** terminator key.

This ratio applies only when you have a function active that has an associated increment value. The step/knob ratio is not affected by a preset or by a power cycle.

<b>Range</b>	1–10,000
<b>Location</b>	Page <a href="#">M-43</a>

## Stop Frequency

**Supported** E8267C

Use this softkey to set the stop frequency for an I/Q calibration.

You can select a portion of the frequency range for an I/Q calibration by setting the **Calibration Type User Full** softkey to User and entering new start and stop frequencies. This softkey is automatically set to the maximum specified frequency of the signal generator if you have set the **Calibration Type User Full** softkey to Full. If you toggle back to User from the Full setting, the User value for **Stop Frequency** will be restored.

This softkey is grayed out (not editable) unless the calibration type is set to User.

The **Stop Frequency** setting is not affected by an instrument preset or by a power cycle.

**Range** Current start frequency setting–maximum frequency of instrument

**Location** Page [M-29](#)

## Store All To NVWFM Memory

**Supported** E8267C with Option 002

This softkey enables you to store all of the files from arbitrary waveform (WFM1) memory to non-volatile arbitrary waveform (NVWFM) memory.

**Location** Page [M-22](#)

## Store Custom Dig Mod State

**Supported** E8267C with Option 002

This softkey accesses a menu that enables you to store the current custom digital modulation state into a user-defined file. Afterward, you can recall this custom state from the signal generator’s memory using the **Custom Digital Mod State** softkey.

This softkey stores the following signal generator state information to the memory catalog:

- filter information
- symbol rate
- modulation type
- FSK deviation

This softkey is only available when **Multicarrier Off On** is toggled to Off.

**Location** Page [M-7](#)

## Store Ref Osc Setting

**Supported** All

This softkey enables you to store the current coarse and fine reference oscillator adjustment settings. Refer to the calibration guide for more information.

This adjustment is intended for use by service personnel.

**Location** Page [M-43](#)

## Store Segment To NVWFM Memory

**Supported** E8267C with Option 002

This softkey enables you to store the selected file from arbitrary waveform (WFM1) memory to non-volatile arbitrary waveform (NVWFM) memory.

**Location** Page [M-22](#)

## Store To File

**Supported** All

Use this softkey to store the current data to a file in the internal non-volatile memory for later recall and use.

The file name can consist of up to 23 alpha-numeric and special characters.

**Location** Store To File is located in each of the catalog of files.

## Subnet Mask

**Supported** All

This softkey is used to configure the LAN subnet mask.

Your IT service can define up a subnet mask for the signal generator.

**Location** Page [M-42](#)

## Sweep

**Supported** All

This softkey accesses a menu that enables you to configure the sweep parameters. In this menu you can choose to sweep frequency only, amplitude only, or both frequency and amplitude. You can also choose to turn off all sweep functions.

**Preset** Off

**Location** Pages [M-37](#), [M-39](#)

## Sweep Control

**Supported** All with Option 007

This softkey accesses a menu that enables you to designate whether the PSG is performing as the master or the slave in a dual-PSG ramp sweep setup.

**Preset** Off

**Location** Page [M-39](#)

## Sweep Direction Down Up

**Supported** All

This softkey enables you to change the direction of a list or step sweep. This softkey is disabled when ramp is the selected sweep type.

**Down** Choose Down to sweep from the last point in the list sweep to the first point, or from the step sweep stop frequency and amplitude to the start frequency and amplitude.

**Up** Choose Up to sweep from the first point in the list sweep to the last point, or from the step sweep start frequency and amplitude to the stop frequency and amplitude.

**Preset** Up

**Location** Pages [M-37](#), [M-39](#)

## Sweep/List

**Supported** All

Use this hardkey to access a menu of softkeys that enable you to configure step, list, and ramp (Option 007) sweeps.

**Location** Pages [M-37](#), [M-39](#)

## Sweep Repeat Single Cont

**Supported** All

This softkey toggles the sweep repetition between single sweep and continuous sweep types. The sweep and point triggers will then trigger the sweep.

**Single** Choose Single to configure the instrument to perform a single sweep upon triggering.

**Cont** Choose Cont to configure the instrument to perform a continuous sweep loop upon triggering.

**Preset** Cont

**Location** Pages [M-37](#), [M-39](#)

## Sweep Time Manual Auto

**Supported** All with Option 007

Use this softkey to set the sweep time mode for a ramp sweep.

The sweep time is the duration of the sweep from the start frequency to the stop frequency. It does not include the bandcross time that occurs during a sweep or the retrace time that occurs between sweep repetitions.

**Manual** This choice enables you to manually set the sweep time for a ramp sweep. The sweep time cannot be set to a value faster than what the automatic mode provides.

**Auto** This choice enables the signal generator to automatically calculate and set the fastest allowable sweep time.

**Preset** Auto

**Range** 13 ms–99 s

**Location** Page [M-39](#)

## Sweep Trigger

**Supported** All

Use this softkey to access a menu from which you can select a triggering mode for a sweep. You can choose triggering that, once a sweep is armed, occurs immediately, is supplied by the GPIB or LAN, occurs on either the positive or negative edge of a signal supplied to the TRIG IN connector, or is initiated by the **Trigger** hardkey.

You can also configure the polarity of the TTL signal at the TRIGGER IN connector using the **Trigger In Polarity Neg Pos** softkey on this menu.

**Preset** Free Run

**Location** Page [M-37](#), [M-39](#)

## Sweep Type

**Supported** All with Option 007

This softkey accesses a menu that enables you select between the following sweep types:

**Ramp** You can create a ramp sweep by supplying the frequency, amplitude, and sweep time for the sweep.

**List** You can create a list sweep by supplying the frequency, amplitude, and

	dwelt time for each point in the sweep.
<b>Step</b>	You can create a step sweep by supplying the start and stop frequency and amplitude, the number of points, and a dwell time. The signal generator then calculates the points between the first and last point in a linear manner.
<b>Preset</b>	Ramp
<b>Location</b>	Page <a href="#">M-39</a>

## Sweep Type List Step

**Supported** All without Option 007

This softkey toggles the sweep type between list sweep and step sweep.

<b>List</b>	You can create a list sweep by supplying the frequency, amplitude, and dwell time for each point in the sweep.
<b>Step</b>	You can create a step sweep by supplying the start and stop frequency and amplitude, the number of points, and a dwell time. The signal generator then calculates the points between the first and last point in a linear manner.
<b>Preset</b>	List
<b>Location</b>	Page <a href="#">M-37</a>

## Swept-Sine

**Supported** E8257C and E8267C

This softkey selects a swept-sine wave for the modulation waveform. A menu of choices for setting the parameters is also available with this softkey. The menu selections are dependent on the modulation format.

In each of these menus the TRIGGER OUT polarity can be selected to be either positive or negative.

In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Symbol Rate

This softkey occurs in different locations.



**As a menu****Supported** E8267C with Option 002

Use this softkey to access a menu from which you can set a new transmission symbol rate or restore the default symbol rate.

**Location** Page [M-12](#)**As a Setting****Supported** E8267C with Option 002

Use this softkey to set a new transmission symbol rate value.

The current symbol rate is displayed under the **Symbol Rate** setting softkey.

**Preset** 24.300 ksp/s

**Range** *Arb Custom:* 1.000 ksp/s–50.000000 Msp/s  
*Real Time Custom:* 45.000 sp/s–50.000000 Msp/s

**Location** Pages [M-7](#), [M-12](#)**Symbol Sync Out Polarity Neg Pos****Supported** E8267C with Option 002

This softkey is used to configure the polarity of the TTL signal at the SYM SYNC OUT pin of the AUXILIARY I/O connector.

Neg Selecting Neg configures the TTL logic high at 0 volts.

Pos Selecting Pos configures the TTL logic high as +5 volts.

**Location** Page [M-43](#)**Symbol Sync Polarity Neg Pos****Supported** E8267C with Option 002

This softkey is used to configure the polarity of the TTL signal at the SYMBOL SYNC connector.

Neg Selecting Neg configures the TTL logic high at 0 volts.

Pos Selecting Pos configures the TTL logic high as +5 volts.

**Preset** Pos**Location** Page [M-43](#)

## Sync Out

**Supported**      E8267C with Option 002

Use this softkey to access a menu of choices for outputting a 1-bit synchronization signal to the EVENT 1 rear panel connector. You can set the synchronization signal to occur at various points, relative to the selected data pattern.

**Preset**            Begin Pattern

**Location**        Page [M-15](#)

## Sync Out Offset

**Supported**      E8267C with Option 002

Press this softkey to set an offset from the synchronization location.

The **Data Format Pattern Framed** softkey must be set to Pattern to enable this softkey.

This softkey is grayed out (not accessible) in Custom.

**Location**        Page [M-15](#)

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## T

### TETRA

**Supported** E8267C with Option 002

Use this softkey to select a predefined Trans European Trunked Radio (TETRA) personality for the digital modulation format.

**Location** Pages [M-6](#), [M-8](#)

### TETRA Bands

**Supported** All

Use this softkey to access a menu from which you can select the frequency bands for TETRA. The output frequency depends on both frequency band and channel selections.

**Location** Pages [M-26](#), [M-27](#)

### TETRA Base 390/400

**Supported** All

This softkey selects Base 390–400 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

**Preset** *Channel: 3600*  
*Frequency: 390.000 MHz*

**Range** *Channels: 3600–4000*  
*Frequency: 390.000–400.000 MHz*

**Location** Pages [M-26](#), [M-28](#)

### TETRA Base 420/430

**Supported** All

This softkey selects Base 420–430 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

**Preset** *Channel: 800*

	<i>Frequency: 420.000 MHz</i>
<b>Range</b>	<i>Channels: 800–1200</i>
	<i>Frequency: 420.000–430.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Base 460/470**

**Supported** All

This softkey selects Base 460-470 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 2400</i>
	<i>Frequency: 460.000 MHz</i>
<b>Range</b>	<i>Channels: 2400–2800</i>
	<i>Frequency: 460.000–470.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Base 915/921**

**Supported** All

This softkey selects Base 915-921 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 600</i>
	<i>Frequency: 915.000 MHz</i>
<b>Range</b>	<i>Channels: 600–840</i>
	<i>Frequency: 915.000–921.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Mobile 380/390**

**Supported** All

This softkey selects Mobile 380–390 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 3600</i>
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	<i>Frequency: 380.000 MHz</i>
<b>Range</b>	<i>Channels: 3600–4000</i>
	<i>Frequency: 380.000–390.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Mobile 410/420**

**Supported** All

This softkey selects Mobile 410-420 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 800</i>
	<i>Frequency: 410.000 MHz</i>
<b>Range</b>	<i>Channels: 800–1200</i>
	<i>Frequency: 410.000–420.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Mobile 450/460**

**Supported** All

This softkey selects Mobile 450-460 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 2400</i>
	<i>Frequency: 450.000 MHz</i>
<b>Range</b>	<i>Channels: 2400–2800</i>
	<i>Frequency: 450.000–460.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

### **TETRA Mobile 870/876**

**Supported** All

This softkey selects Mobile 870–876 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

<b>Preset</b>	<i>Channel: 600</i>
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	<i>Frequency: 870.000 MHz</i>
<b>Range</b>	<i>Channels: 600–840</i>
	<i>Frequency: 870.000–876.000 MHz</i>
<b>Location</b>	Pages <a href="#">M-26</a> , <a href="#">M-28</a>

## Through

**Supported** E8267C

Use this softkey to enable a path selection that bypasses all filters. This is useful for using external filters at frequencies different to those supplied internally.

**Location** Pages [M-23](#), [M-29](#)

## Time/Date

**Supported** All

Use this softkey to access a menu from which you can set the time and date functions of the clock display.

**Location** Page [M-43](#)

## Time/Date Off On

**Supported** All

Use this softkey to set the state of the display clock.

Off When you select Off, the display clock is off.

On When you select On, the display clock is turned on.

**Preset** Off

**Location** Page [M-43](#)

## Toggle Marker 1

**Supported** E8267C with Option 002

This softkey enables or disables marker1 for the selected segment of a waveform sequence.

**Preset** Off

**Location** Page [M-23](#)

## Toggle Marker 2

**Supported** E8267C with Option 002

This softkey enables or disables marker 2 for the selected segment of a waveform sequence.

**Preset** Off

**Location** Page [M-23](#)

## Toggle Markers

**Supported** E8267C with Option 002

This softkey accesses a menu from which you can toggle markers 1 and 2 to enable or disable markers for selected segments of a sequence.

**Location** Page [M-23](#)

## Toggle State

**Supported** E8267C with Option 002

In the multitone editor, this key enables you to turn the individually selected tone on and off. This determines whether or not a particular tone is generated.

**Location** Page [M-32](#)

## Triangle

**Supported** E8257C and E8267C

This softkey selects a triangle wave as the modulation.

In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator. The modulation applies only to the path configuration you have currently selected.

**Location** Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#)

## Trigger

**Supported** E8267C with Option 002

Use this softkey to access a menu from which you can choose between the continuous, single or gated triggering modes. The menu also contains a **Trigger Setup** softkey that enables you to adjust the trigger source, the continuous mode, the retrigger mode and the gate active polarity.

<b>Preset</b>	Continuous
<b>Location</b>	Pages <a href="#">M-6</a> , <a href="#">M-21</a>

## Trigger & Run

**Supported** E8267C with Option 002

Use this softkey to select the Trigger & Run mode for continuous triggering. When this mode is selected, the waveform generator plays a sequence or segment continuously upon triggering. The waveform generator does not respond to further triggers.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

## Trigger In Polarity Neg Pos

**Supported** All

This softkey toggles the polarity of the TTL trigger signal at the TRIGGER IN connector.

Pos	The swept-sine sweep will start on the rising edge of a positive (+5.0 V) input trigger signal and stop with the falling edge of the trigger signal.
Neg	The swept-sine sweep will start on the falling edge of the negative (+5.0 V) input trigger signal and stop with the rising edge of the trigger signal.

This key is used in the swept-sine FM,  $\Phi$ M, and LF Out, and the Sweep/List menus. When the polarity is changed in any one of these menus, it is changed in all the menus. In the LF Out menu, this key appears after first selecting the internal source to operate as a function generator and then selecting Ext as the LF Out sweep trigger.

<b>Preset</b>	Pos
<b>Location</b>	Pages <a href="#">M-2</a> , <a href="#">M-24</a> , <a href="#">M-25</a> , <a href="#">M-30</a> , <a href="#">M-37</a> , <a href="#">M-43</a>

## Trigger Key

**Supported** All

Use this softkey to enable the front panel **Trigger** hardkey to trigger an event.

Pressing the **Trigger Key** softkey in the appropriate menu will enable the front panel



**Trigger** hardkey to immediately do one of the following:

- Sweep trigger– Initiate a step or list sweep.
- Point trigger– Cause the sweep to step point-by-point in a step or list sweep.
- AM, FM, or  $\Phi$ M– Initiate a single sweep of swept-sine amplitude, frequency, or phase modulation.
- Swept-sine LF output– Initiate a swept-sine low frequency output.
- Digital modulation formats– Initiate a burst to output a frame or data sequence. For framed transmissions, you can toggle between the primary and/or secondary framed data. For patterned transmissions, you can trigger a single output of modulated data that is not framed.
- Bit error rate test (BERT)– Initiate a bit error rate test.

The **Trigger** hardkey has autorepeat capability. Hold it down and you will repeatedly trigger until you release the key.

Pattern Trigger functions are not available if you use either a PN data sequence or an external data source.

**Location**            Pages [M-2](#), [M-9](#), [M-14](#), [M-21](#), [M-25](#), [M-30](#), [M-37](#), [M-39](#), [M-43](#)

## Trigger Out Polarity Neg Pos

**Supported**        All

This softkey toggles the polarity of the TTL signal at the rear panel TRIGGER OUT connector.

Pos	The trigger out signal is asserted high (+5.0 V) at the start of the swept-sine modulation sweep and low (0.0 V) when the sweep is concluded.
Neg	The trigger out signal is low (0.0V) at the start of the swept-sine modulation sweep and high (5.0V) when the sweep ends.

This key is used in the swept-sine FM,  $\Phi$ M, and LF Out, and the Sweep/List menus. When the polarity is changed in any one of these menus, it is changed in all the menus.

In the LF Out menu this key is available after selecting the internal source to operate as Function Generator 1.

**Preset**            Pos

**Location**        Pages [M-2](#), [M-24](#), [M-25](#), [M-30](#), [M-37](#), [M-39](#)

## Trigger Setup

**Supported** E8267C with Option 002

This softkey accesses the trigger setup menu. This menu enables you to adjust the trigger source, the continuous mode, the retrigger mode (not available for real-time waveform generation), and the gate active polarity.

**Location** Pages [M-6](#), [M-15](#), [M-21](#)

## Trigger Source

**Supported** E8267C with Option 002

This softkey accesses the trigger source menu. This menu enables you to adjust the trigger source between the front panel **Trigger** hardkey, a trigger command sent over the GPIB bus or LAN, or an external trigger applied to the PATTERN TRIG IN or AUXILIARY I/O connectors.

**Location** Pages [M-9](#), [M-15](#), [M-21](#)

## Turn Off Markers

**Supported** All

This softkey turns off all active markers in the marker table editor.

**Location** Page [M-27](#)

## Two Tone

**Supported** E8267C with Option 002

This softkey accesses a menu of softkeys that enables you to create two-tone signals using the dual-arbitrary waveform generator.

**Location** Pages [M-31](#), [M-41](#)

## Two Tone Off On

**Supported** E8267C with Option 002

This softkey sets the operating state for the two-tone function of the dual-arbitrary waveform generator.

Off	When you select Off, the two-tone signal is turned off.
On	When you select On, the two-tone signal is turned on.
<b>Preset</b>	Off
<b>Location</b>	Page <a href="#">M-41</a>

## U

### Update Diagnostic Info

**Supported** All

This softkey refreshes the [Diagnostic Info](#) display (described on [page 72](#)).

**Location** Page [M-45](#)

### Update in Remote Off On

**Supported** All

This softkey turns display updating on and off. The signal generator's display updates and displays the results of remote commands when this softkey is set to on. However, command processing time is faster when the softkey is set to off.

On When on, remote commands update the signal generator's display.

Off When off, remote commands will not update the display.

This key is not affected by a preset. However, it resets to off when the power is cycled. This mode affects the signal generator when it is in remote mode.

**Location** Page [M-42](#)

### Uniform

**Supported** E8257C and E8267C

This softkey enables you specify noise with a uniform distribution as the modulation waveform.

**Location** Page [M-30](#)

### User File

**Supported** E8267C with Option 002

Use this softkey to display the catalog of binary/bit files stored in the signal generator's memory. You can select a custom file from this catalog for the data pattern or burst shape.

User files should exactly fill the data fields in a framed transmission (create the files to

fill an integer number of frames). If the end of a user file does not coincide with the end of a frame, data is truncated. For more information, see the *User's Guide*.

**Location**        Pages [M-12](#), [M-14](#)

## User FIR

**Supported**        E8267C with Option 002

Use this softkey to display the catalog of user-defined FIR filter files stored in the signal generator's memory, and to access a menu for selecting a file.

**Location**        Pages [M-10](#), [M-16](#)

## User Flatness

**Supported**        All

Use this softkey to configure user flatness or to select the user flatness catalog type.

### In the Amplitude Menu

This softkey accesses a menu of softkeys for setting up user flatness corrections.

**Location**        Page [M-3](#)

### In the Catalog Type Menu

This softkey enables you to specify that only user flatness correction files be listed in the catalog of files currently displayed.

**Location**        Page [M-44](#)

## User FSK

**Supported**        E8267C with Option 002

Use this softkey to display the catalog of frequency shift keying (FSK) files stored in the signal generator's memory. You can select a custom file from this catalog for an FSK modulation by scrolling through the listed files, highlighting the desired file, and pressing the **Select File** softkey.

The selected file name and type is displayed under the **Select** softkey.

**Location**        Page [M-13](#)

## User I/Q

**Supported**      E8267C with Option 002

Use this softkey to display the catalog of I/Q files stored in the signal generator's memory. You can select a custom file from this catalog for an I/Q modulation by scrolling through the listed files, highlighting the desired file, and pressing the **Select File** softkey.

The selected file name and type is displayed under the **Select** softkey.

**Location**      Page [M-13](#)

## Utility

**Supported**      All

Use this softkey to access a menu of choices that enables you to view and erase error messages, access the GPIB/RS-232 LAN menu, adjust the display, access a menu of adjustments for the signal generator, set the help mode and power on state, and access the memory catalog menu.

**Location**      Page [M-42](#)

---

## V

### View Details

**Supported** All

This softkey enables you to view detailed information about the highlighted test. Refer to the troubleshooting section in the service guide for more information.

This is intended for use by service personnel.

**Location** Page [M-45](#)

### View Next Error Message

**Supported** All

Use this softkey to display the next error message in the queue. (The first error message is the oldest error.) There may be more than one error message in the queue; the number of error messages is displayed along with the first message. Press any key to exit the Error Info menu.

**Location** Page [M-42](#)

### View Previous Error Message

**Supported** All

Use this softkey to display the newest error message first. Continue pressing this key to view additional error messages in order of newest to oldest. Press any key to exit the Error Info menu.

**Location** Page [M-42](#)

### View Test Info

**Supported** All

Use this softkey to display details of the self tests. Refer to the calibration guide for more information.

This is intended for use by service personnel.

**Location** Page [M-45](#)

## W

### Waveform Catalog Types

**Supported** All

This softkey accesses a menu from which you can select an ARB waveform file type.

**Location** Page [M-44](#)

### Waveform Runtime Scaling

**Supported** E8267C with Option 002

This softkey enables you to set the scaling value to be applied to the waveform while it is playing. Scaling can be used to get the best dynamic range without overflowing the I and Q digital to analog converters.

This scaling function does not change the data in the waveform file.

**Preset** 70.00%

**Range** 1.00–100.00%

**Location** Page [M-23](#)

### Waveform Segments

**Supported** E8267C with Option 002

This softkey accesses a menu and table editor from which you can store and load waveform segments to or from the non-volatile waveform memory (NVWFM) and perform various waveform utilities such as markers, scaling, and clipping.

**Location** Pages [M-21](#), [M-22](#), [M-23](#)

### Waveform Sequences

**Supported** E8267C with Option 002

This softkey accesses a menu and table editor from which you can build waveform sequences, edit existing sequences, and/or delete sequences.

The **Edit Selected Waveform Sequence** and **Show Waveform Sequence Contents** softkeys are active only when a sequence is highlighted.



**Location**      Page [M-21](#)

## Waveform Statistics

**Supported**      E8267C with Option 002

Use this softkey to access a menu for viewing the available statistics for the selected waveform.

To activate the softkey, make sure that the selected dual arbitrary waveform (Dual Arb) generator option (such as, AWGN, Multitone, Digital Modulation, and so on) is turned on.

**Location**      Pages [M-6](#), [M-22](#), [M-32](#)

## Waveform Utilities

**Supported**      E8267C with Option 002

This softkey accesses a menu of operations that can be applied to the selected waveform segment. Waveform utilities include: markers, scaling, and clipping.

To activate this softkey, the waveform segment must be selected from volatile arbitrary waveform (WFM) generator memory and the **Load Store** softkey must be set to Store.

**Location**      Page [M-22](#)

## WFM1

**Supported**      All with Option 002

Press this softkey to specify that only ARB waveform files be listed in the catalog of files.

Catalog type selection is not affected by a preset or by a power cycle.

**Location**      Page [M-44](#)

## White Pixels Screen Test

**Supported**      All

This softkey enables you to set all of the pixels on the display to white. Press the **Local** hardkey to return the display to normal operation.

This key is provided for factory use in testing the display.

**Location**      Page [M-42](#)

## Window

**Supported** E8267C with Option 002

Use this softkey to access a menu for applying a windowing function to the selected filter. The default is to use no windowing which optimizes the passband response (EVM). Several windowing selections are provided in this menu which can be applied to smooth the filter's transition to zero. Windowing improves out of band performance (ACP) but simultaneously degrades EVM.

The selected window type is displayed under the **Window** softkey.

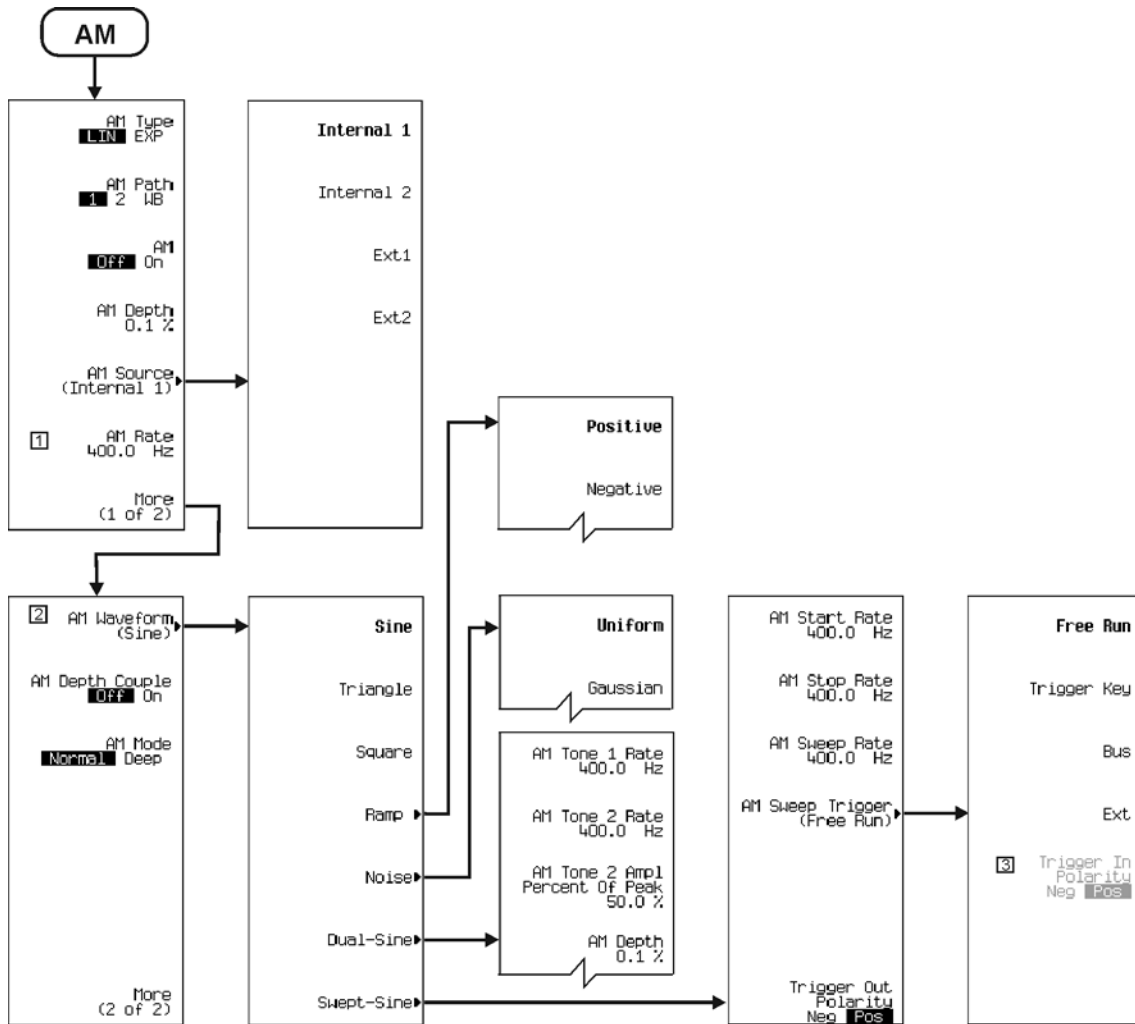
**Preset** None

**Location** Pages [M-11](#), [M-17](#)



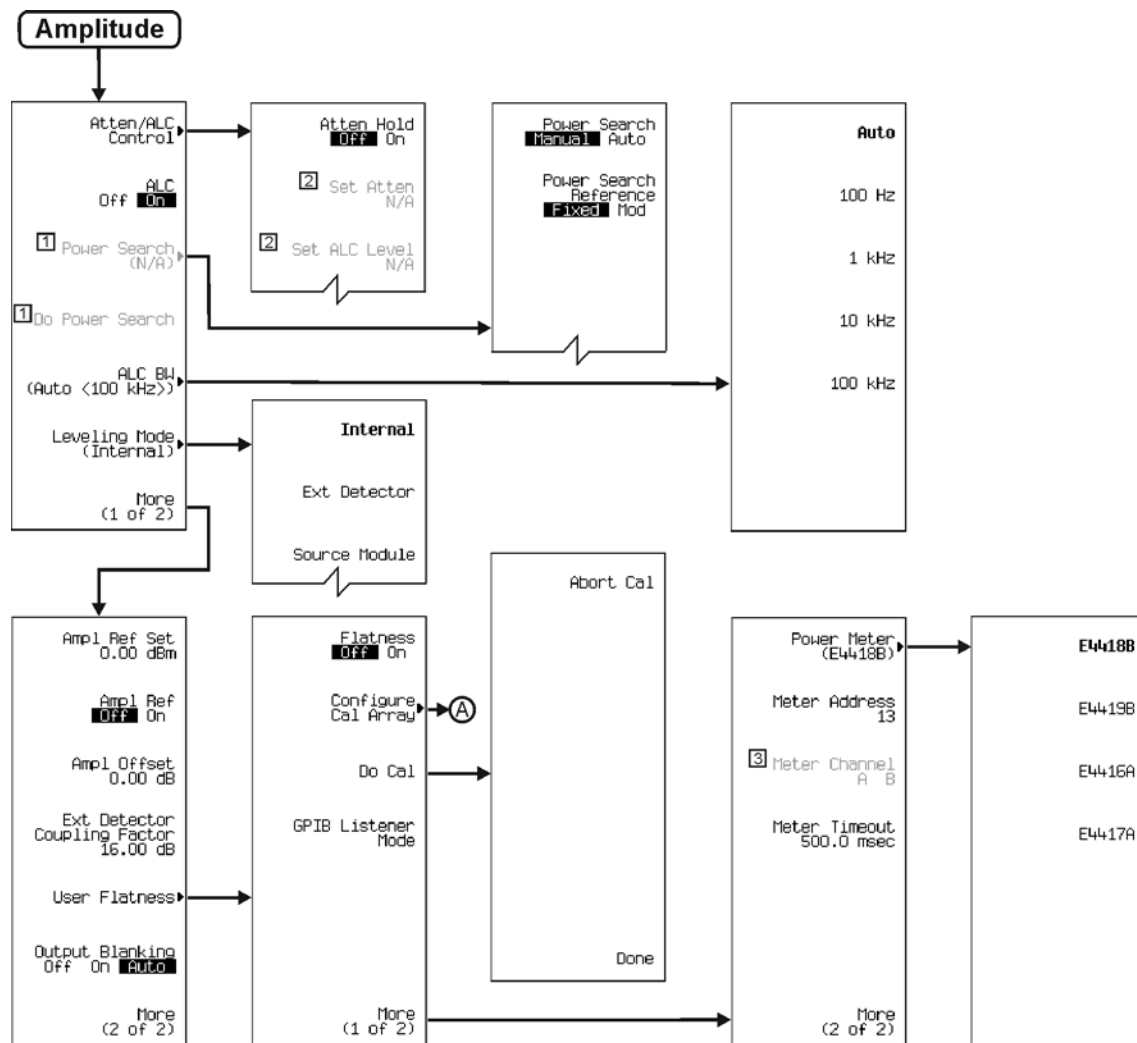
# Menu Maps

# AM



**Note:** Some numerical values may differ from those displayed on your unit.  
 1 Changes to **Ext Coupling DC AC** when **Ext1** or **Ext2** is selected.  
 2 Changes to **Ext Impedance 50 Ohm 600 Ohm** when **Ext1** or **Ext2** is selected.  
 3 Active when **Ext** is selected.

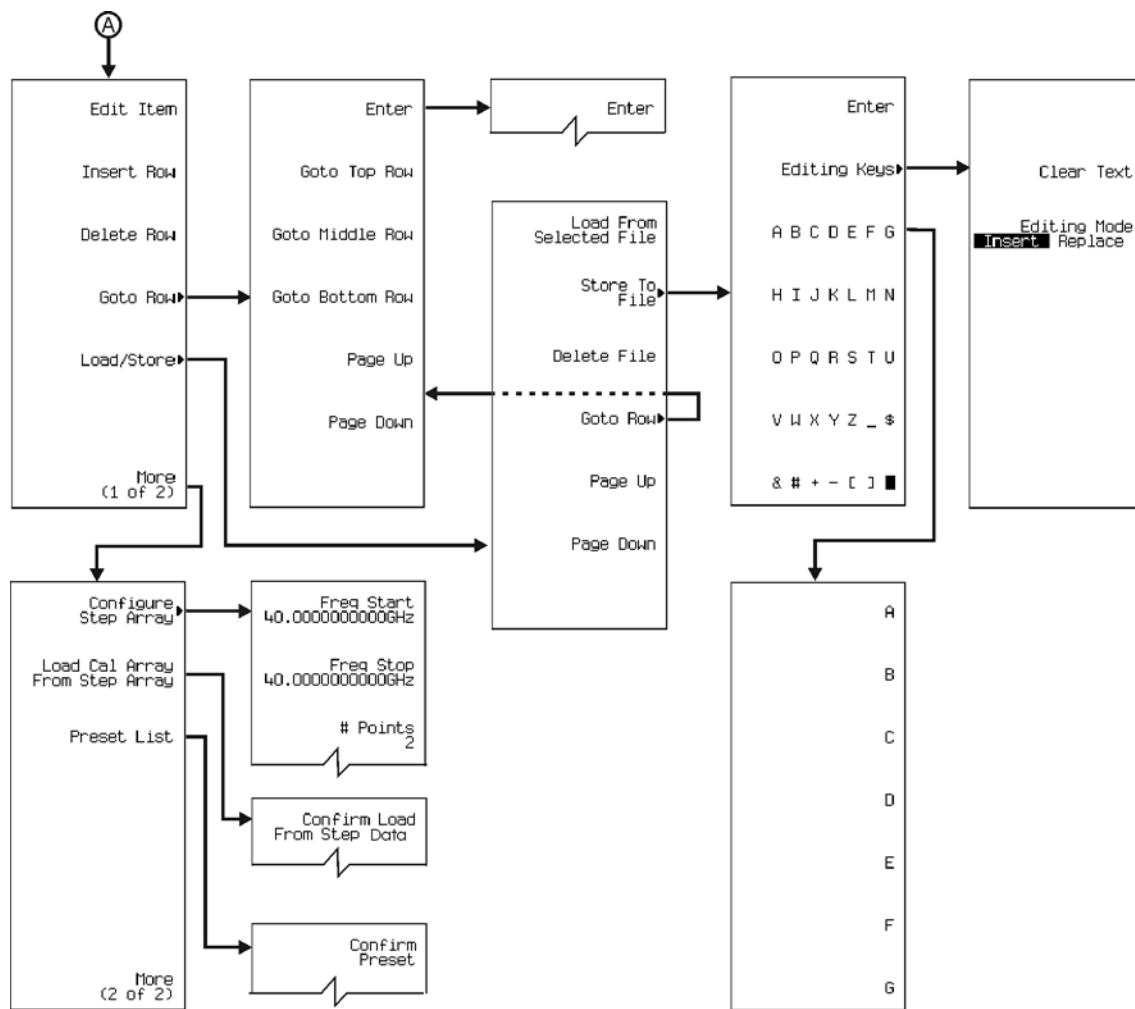
# Amplitude



**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when ALC Off On is set.
- 2 Active when Atten Hold Off On is set.
- 3 Active when Power Meter > E4419B or E4417A are selected.

Menu Maps  
Amplitude

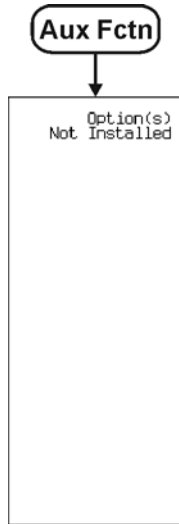


Note: Some numerical values may differ from those displayed on your unit.

p-amp\_02

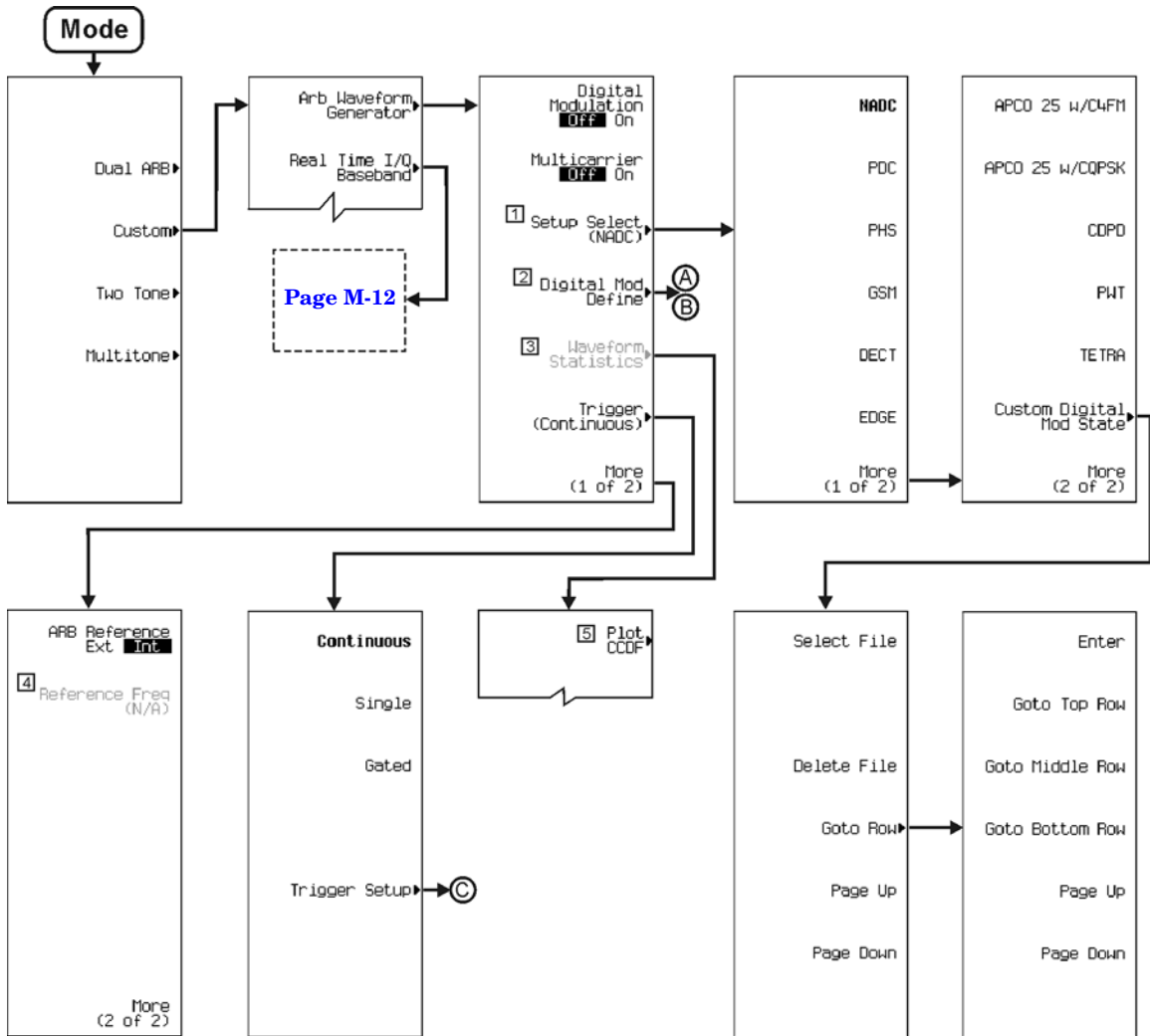
---

## Auxiliary Function



p-aux-fn\_0\*

## Custom (Arb Waveform Generator)

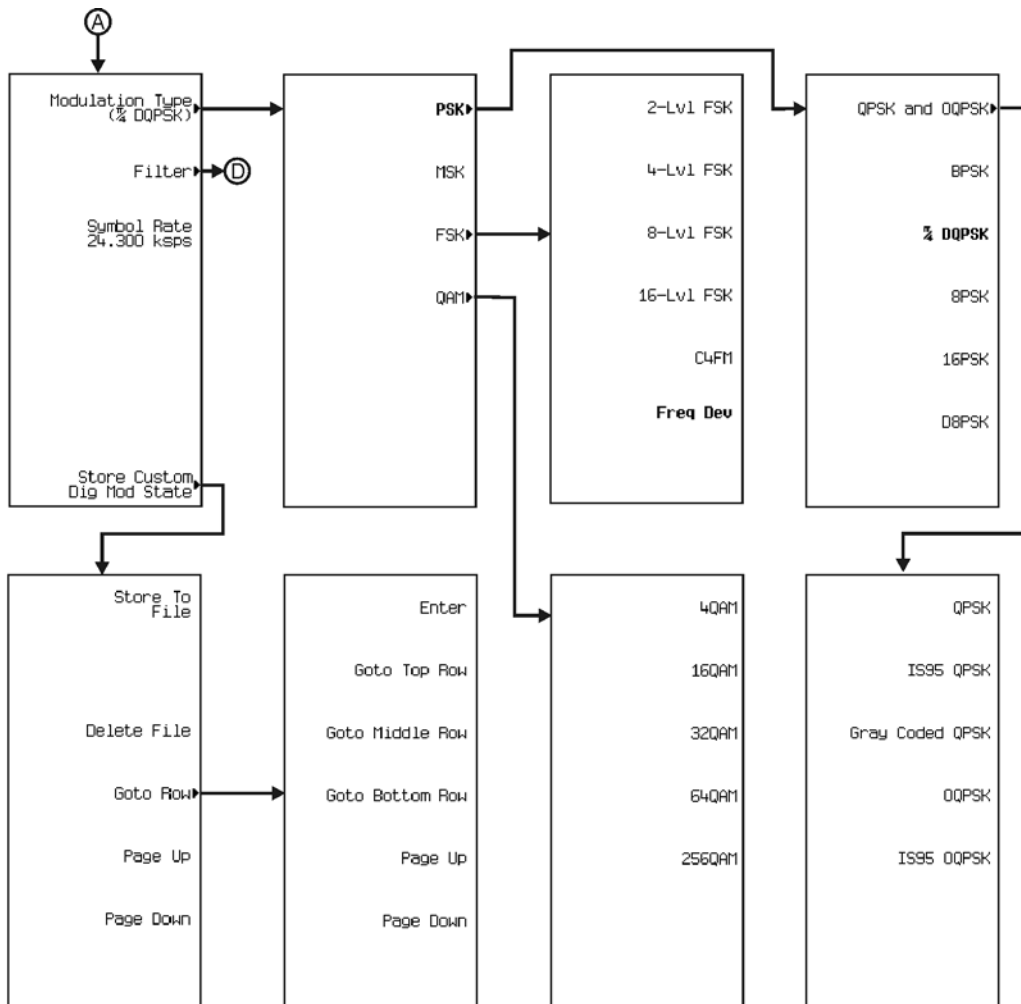


Note: Some numerical values may differ from those displayed on your unit.

- 1 This key is not present when Multicarrier is on.
- 2 This key changes to Multicarrier Define when Multicarrier is On. Go to path "A" when Multicarrier is Off. Go to path "B" when Multicarrier is On.
- 3 Active when Digital Modulation is On.
- 4 Active when ARB Reference Ext is selected.
- 5 A graph will displays when selecting this key.

p-cust\_arbwf\_01

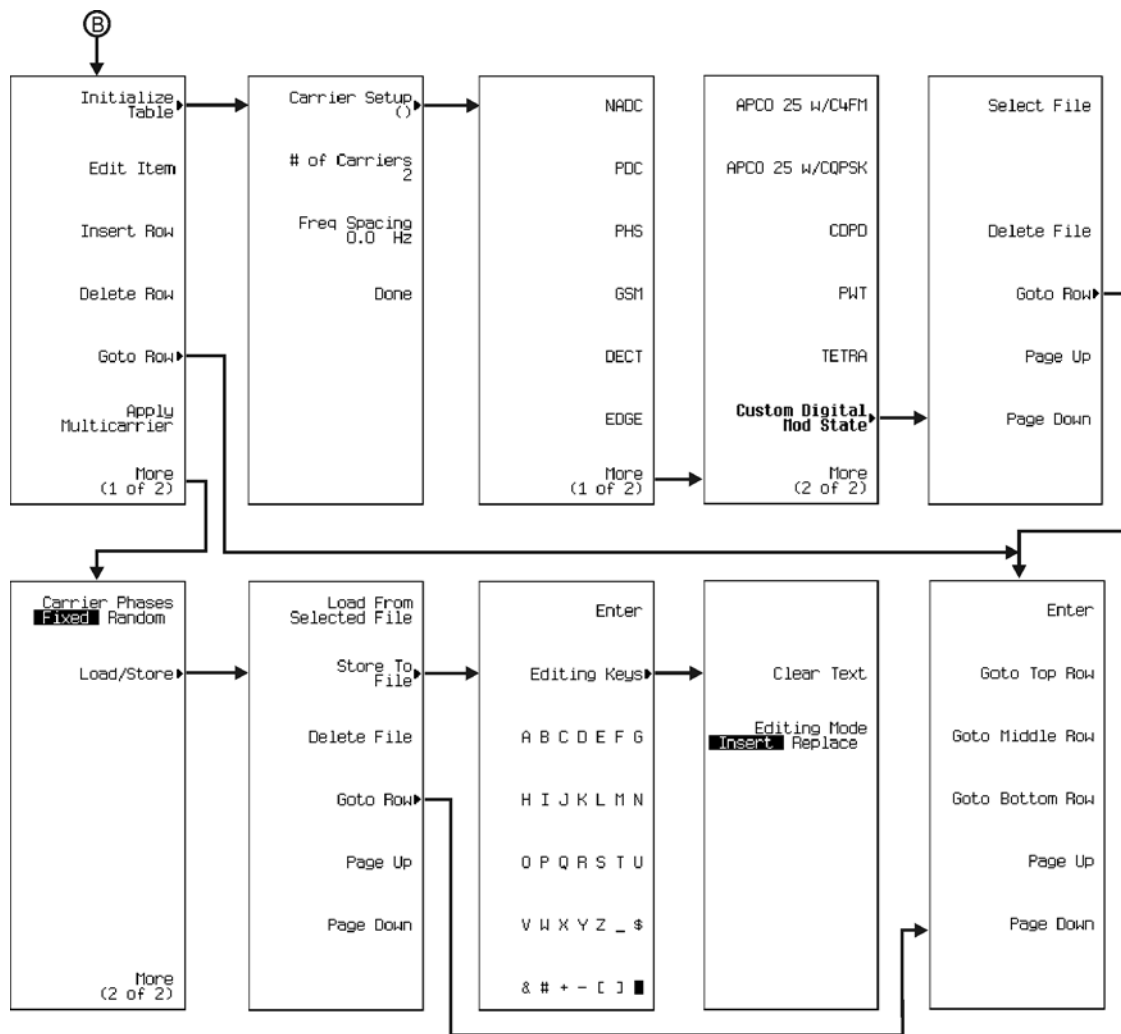




**Note:** Some numerical values may differ from those displayed on your unit.

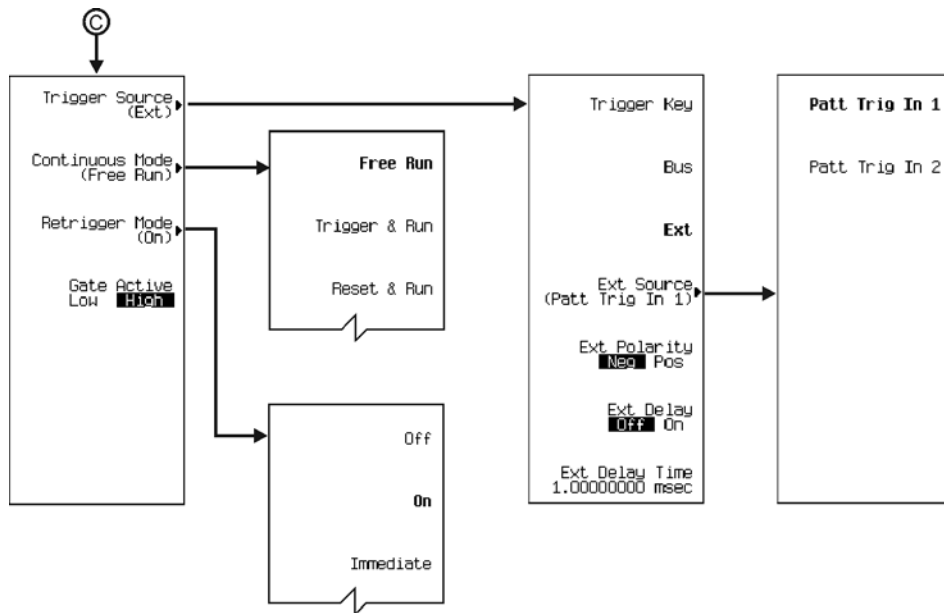
p-cust\_arbwf\_02

Menu Maps  
**Custom (Arb Waveform Generator)**



Note: Some numerical values may differ from those displayed on your unit.

p-cust\_arbwf\_03

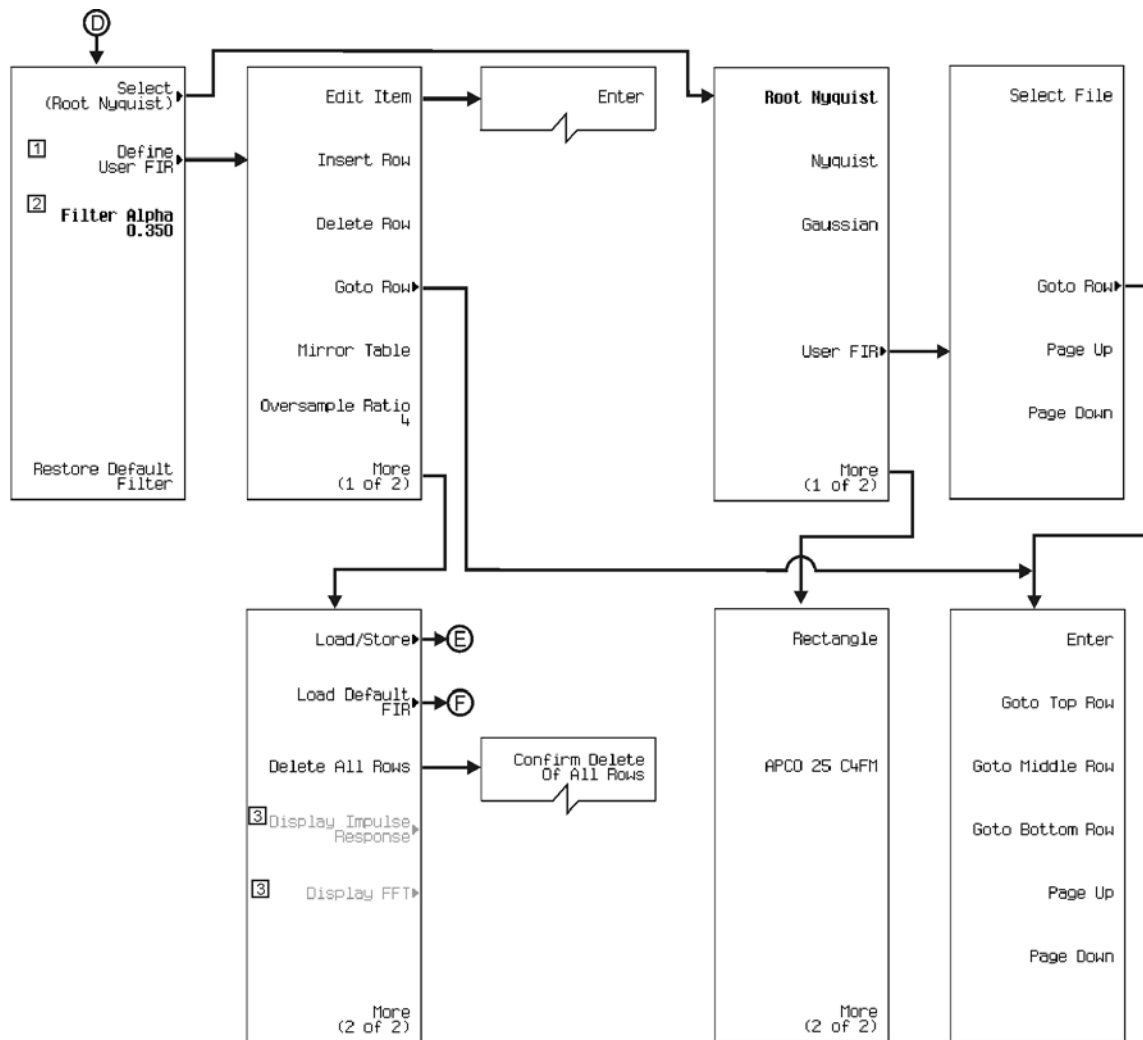


**Note:** Some numerical values may differ from those displayed on your unit.

p-cust\_arbwf\_04

## Menu Maps

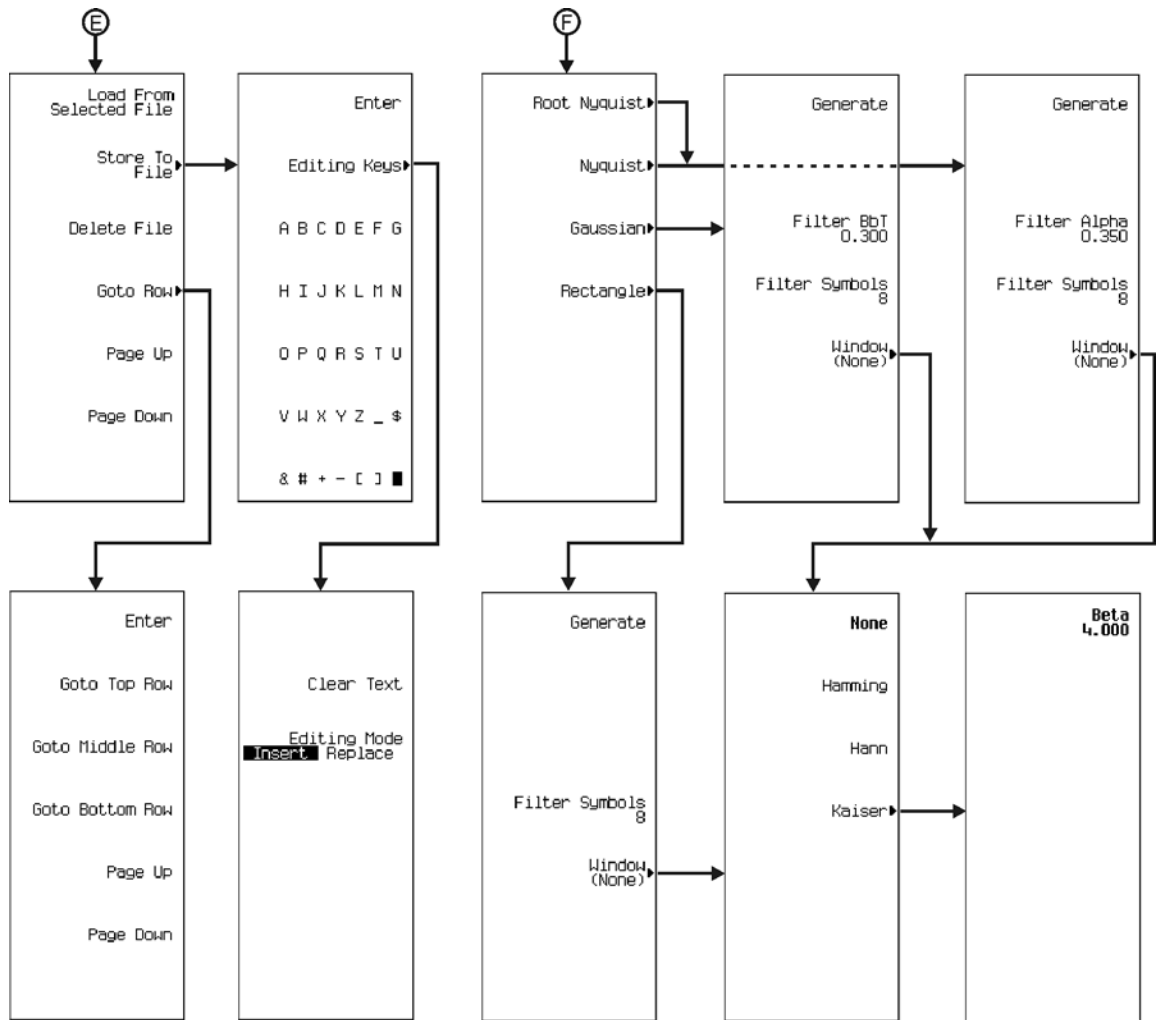
### Custom (Arb Waveform Generator)



**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Notice an editable table appears on the display.
- 2 Active when **Root Nyquist** or **Nyquist** is selected. Changes to **Filter BbT** when **Gaussian** is selected.
- 3 Active when FIR coefficients have been loaded into memory.  
When active and selected, a graph will display and the menu will be blank.

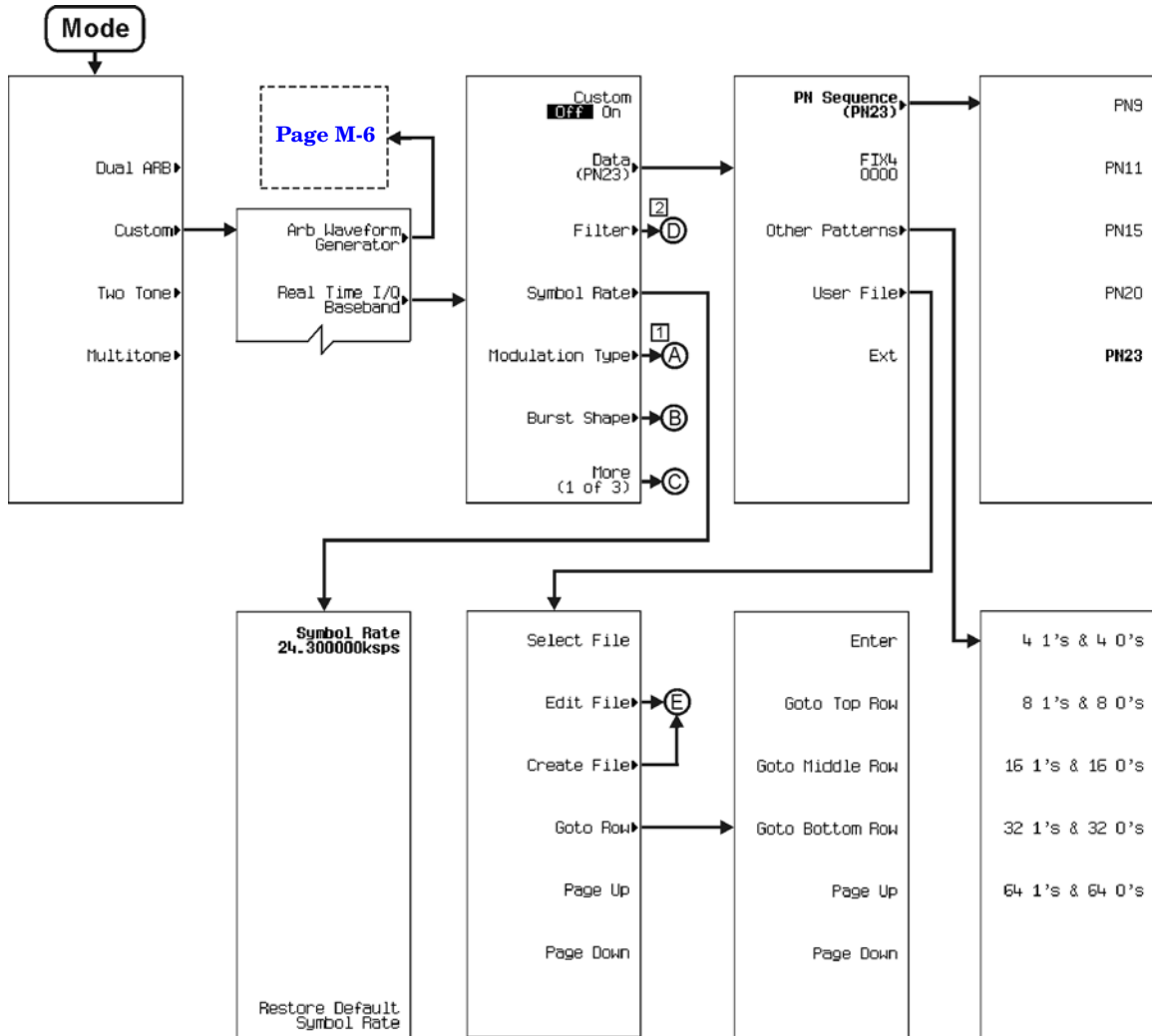
p-cust\_arbwf\_05



**Note:** Some numerical values may differ from those displayed on your unit.

p-cust\_arbwf\_06

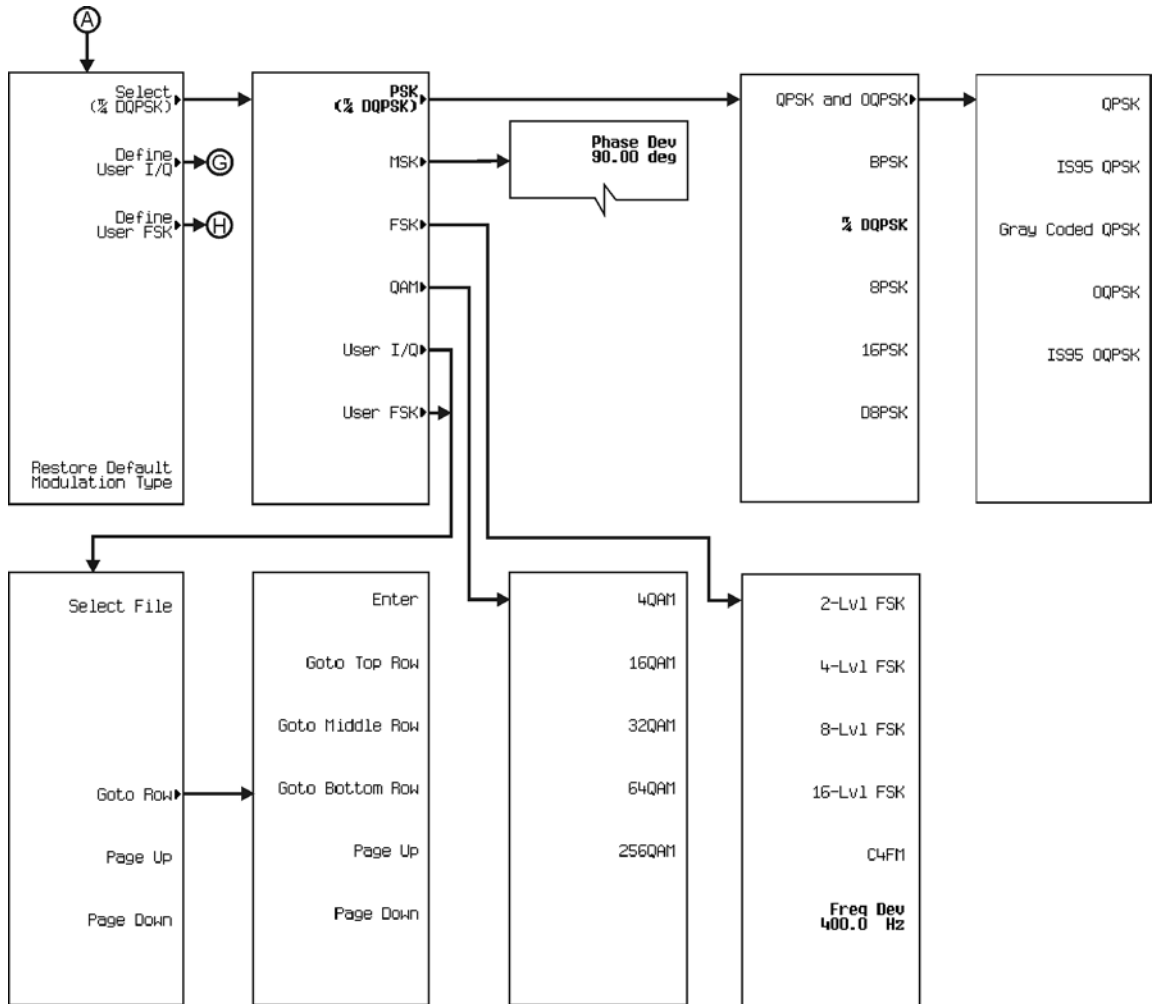
## Custom (Real Time I/Q Baseband)



**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Path "A" includes G and H menu paths.
- 2 Path "D" includes F menu path.

p-cust\_rtime\_01

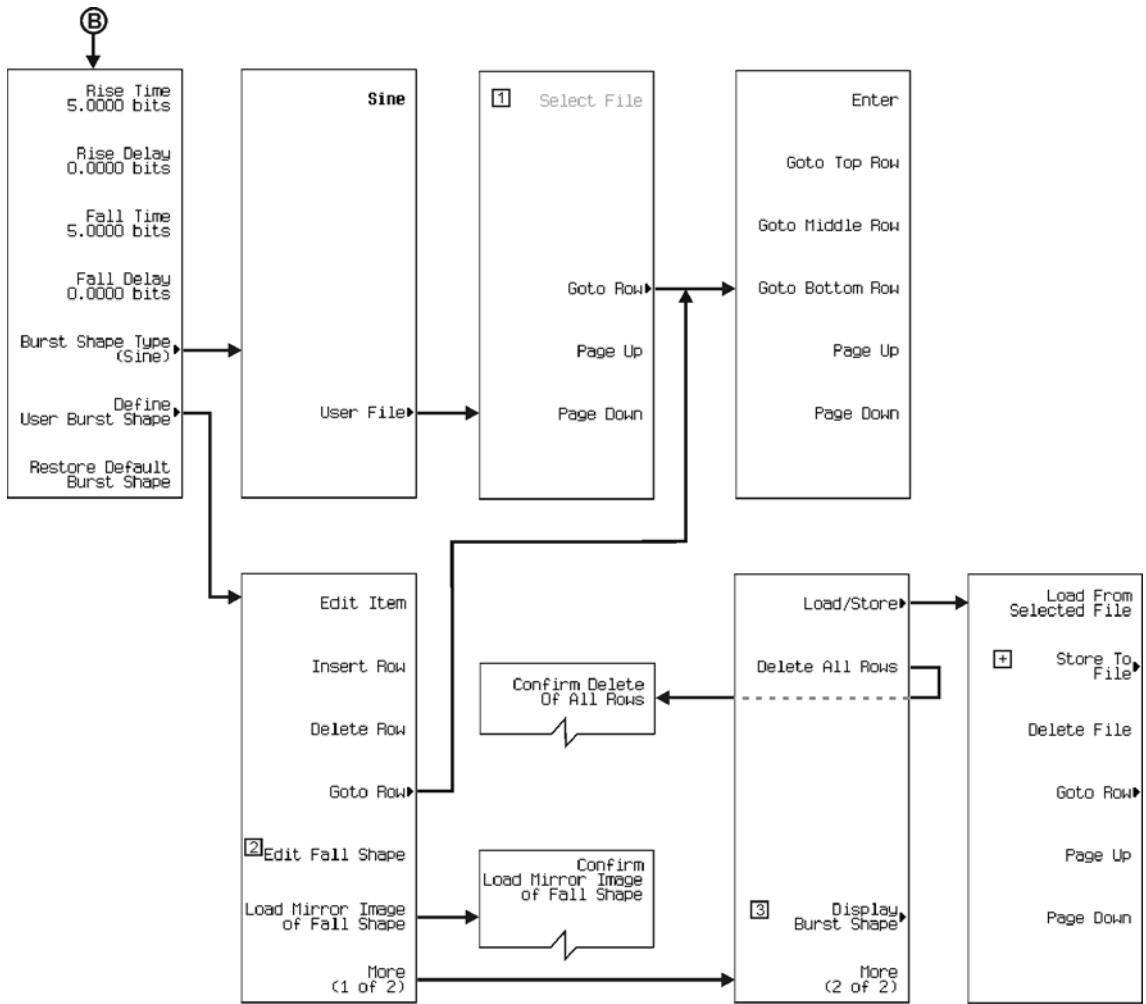


**Note:** Some numerical values may differ from those displayed on your unit.

p-cust\_rtime\_02

## Menu Maps

### Custom (Real Time I/Q Baseband)

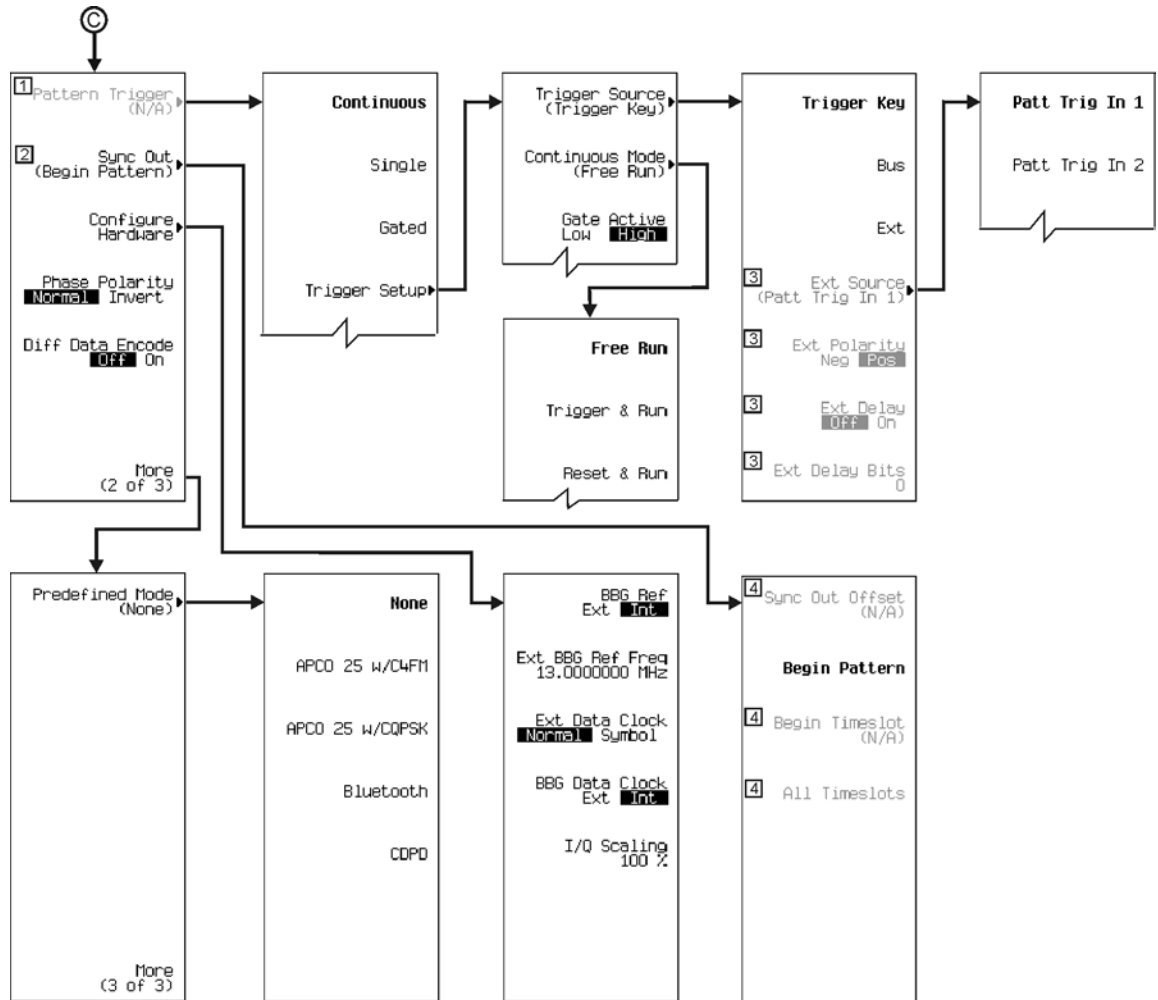


**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when a file is present.
- 2 This key toggles between **Rise Shape** and **Fall Shape Editor** selections.
- 3 A graph will display and the menu will be blank.
- + More editing menus appear when selecting this key.

p-cust\_time\_03





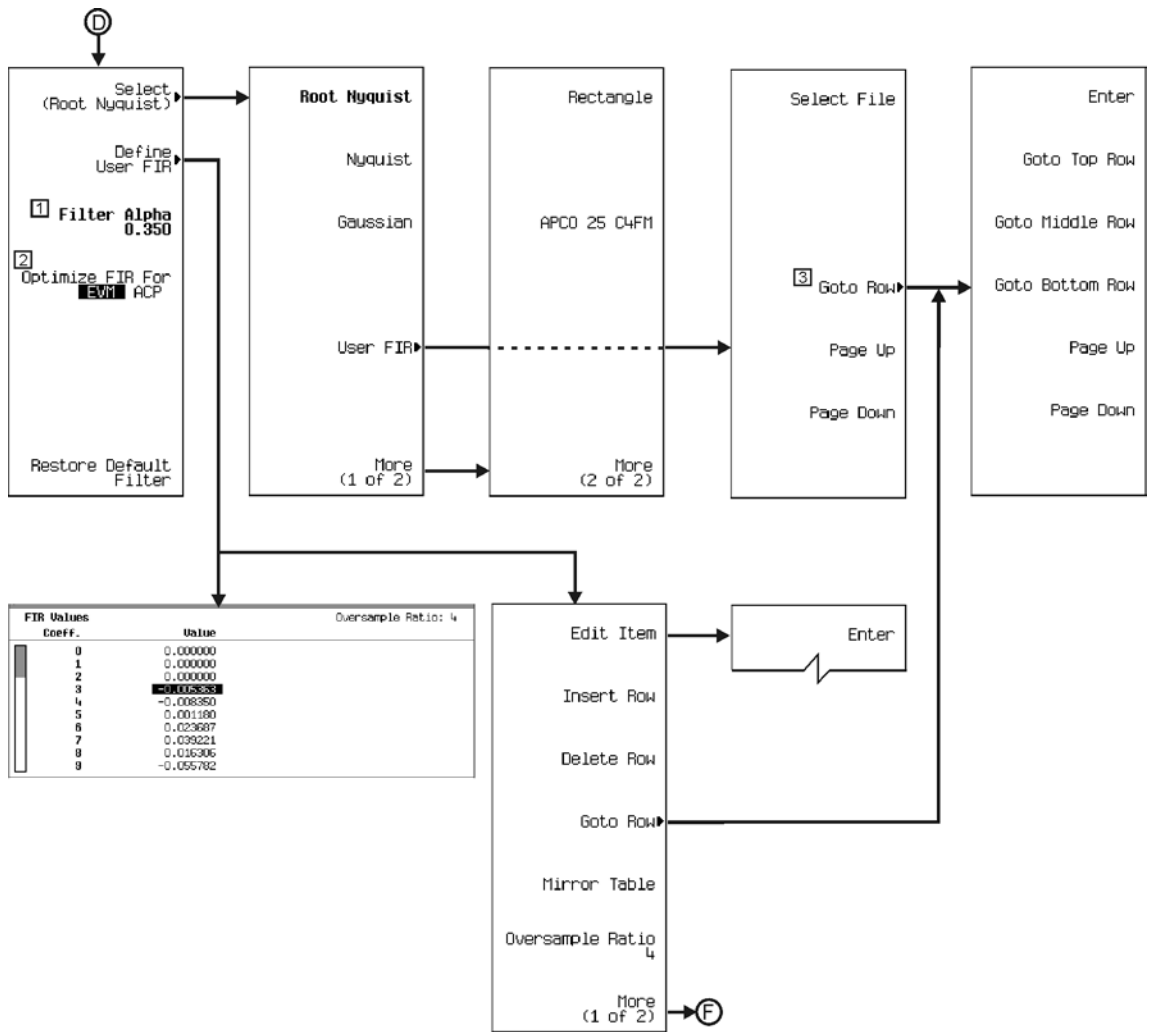
**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when selecting **FIX4**, **Other Patterns** or **User File**.
- 2 Inactive when selecting **Ext** as the data type.
- 3 Active when selecting **Ext** as the trigger source.
- 4 Not used.

p-cust\_time\_04

# Menu Maps

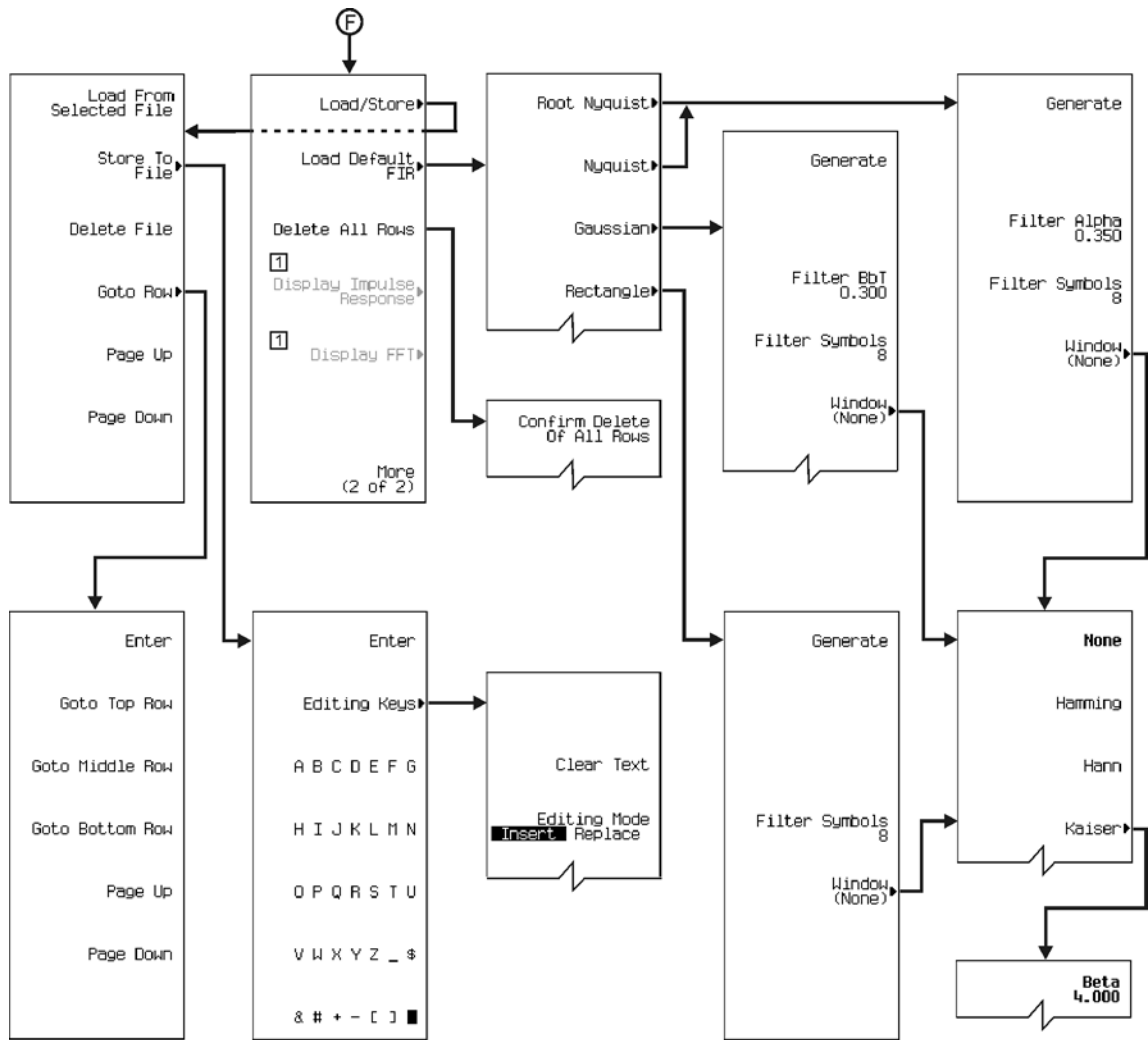
## Custom (Real Time I/Q Baseband)



Note: Some numerical values may differ from those displayed on your unit.

- 1 Active when Root Nyquist or Nyquist is selected. Changes to Filter BbT when Gaussian is selected.
- 2 Active when Root Nyquist or Nyquist is selected.
- 3 Active when a file is loaded.

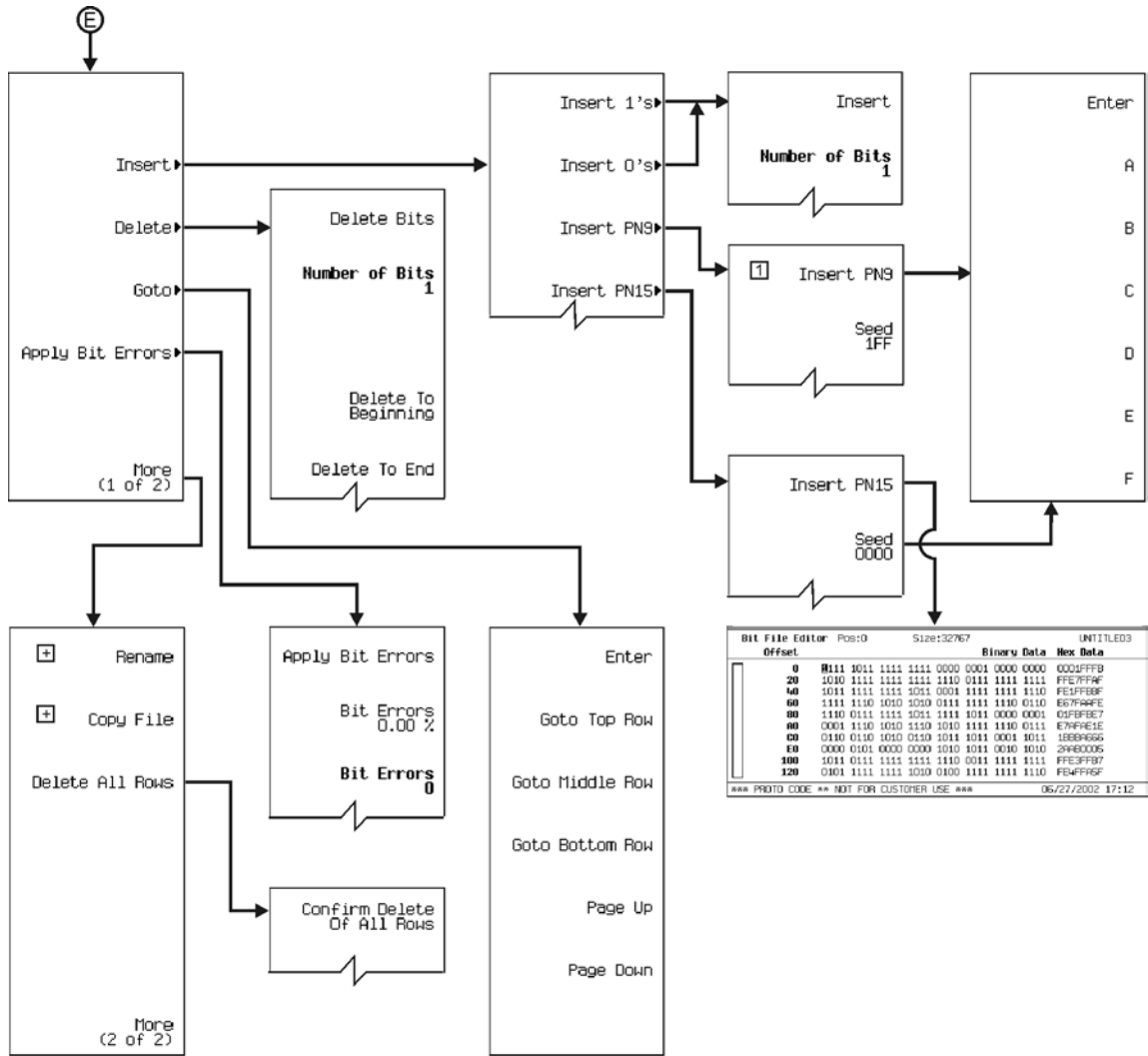
p-cust\_rtime\_05



**Note:** Some numerical values may differ from those displayed on your unit.  
 [1] Active when more than one FIR coefficient has been loaded into memory.  
 When active and selected, a graph will display and the menu will be blank.

p-cust\_time\_06

Menu Maps  
 Custom (Real Time I/Q Baseband)

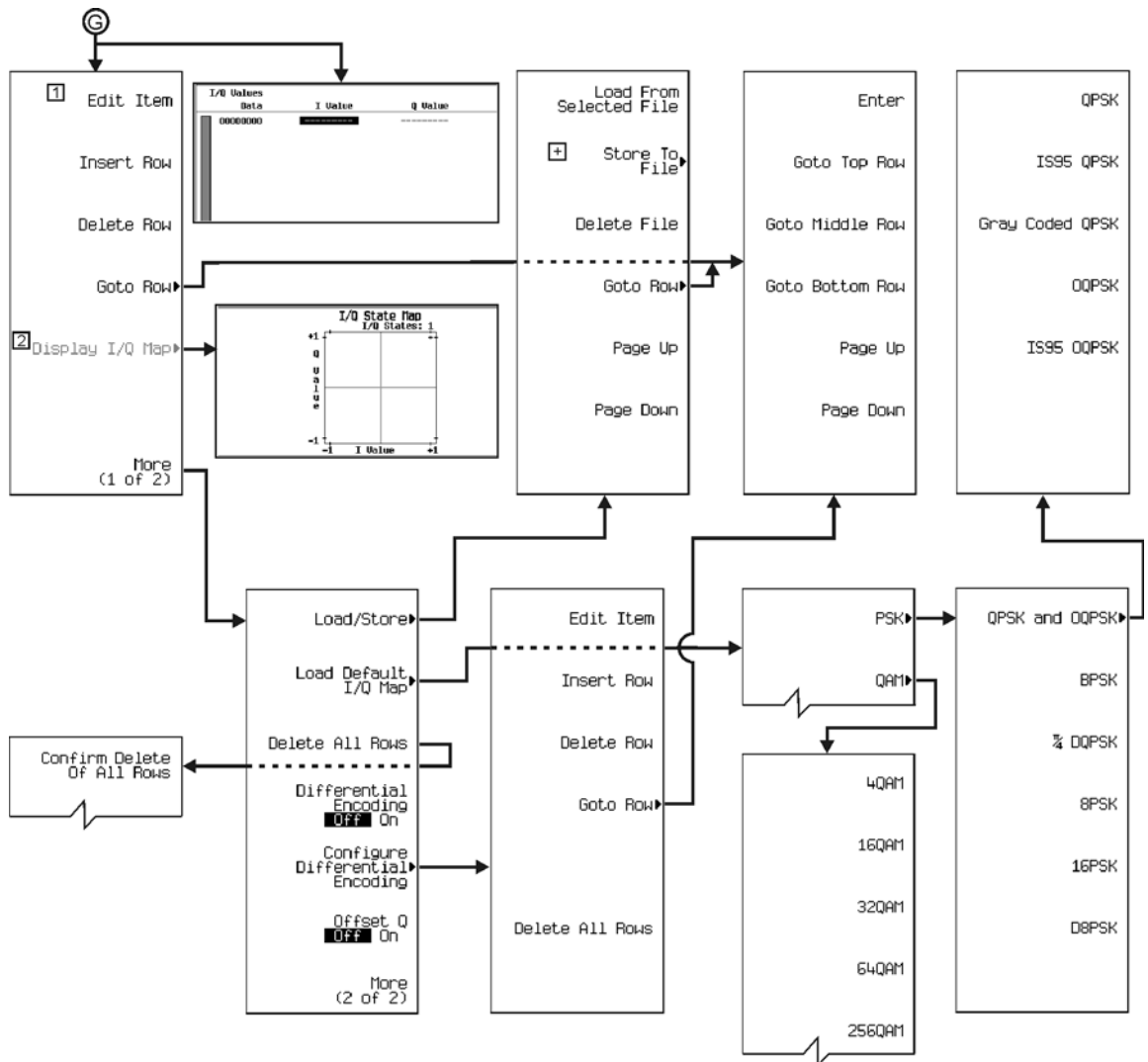


Note: Some numerical values may differ from those displayed on your unit.

1 Notice table displays to the left.

+ More editing menus appear when selecting this key.

p-cust\_time\_07



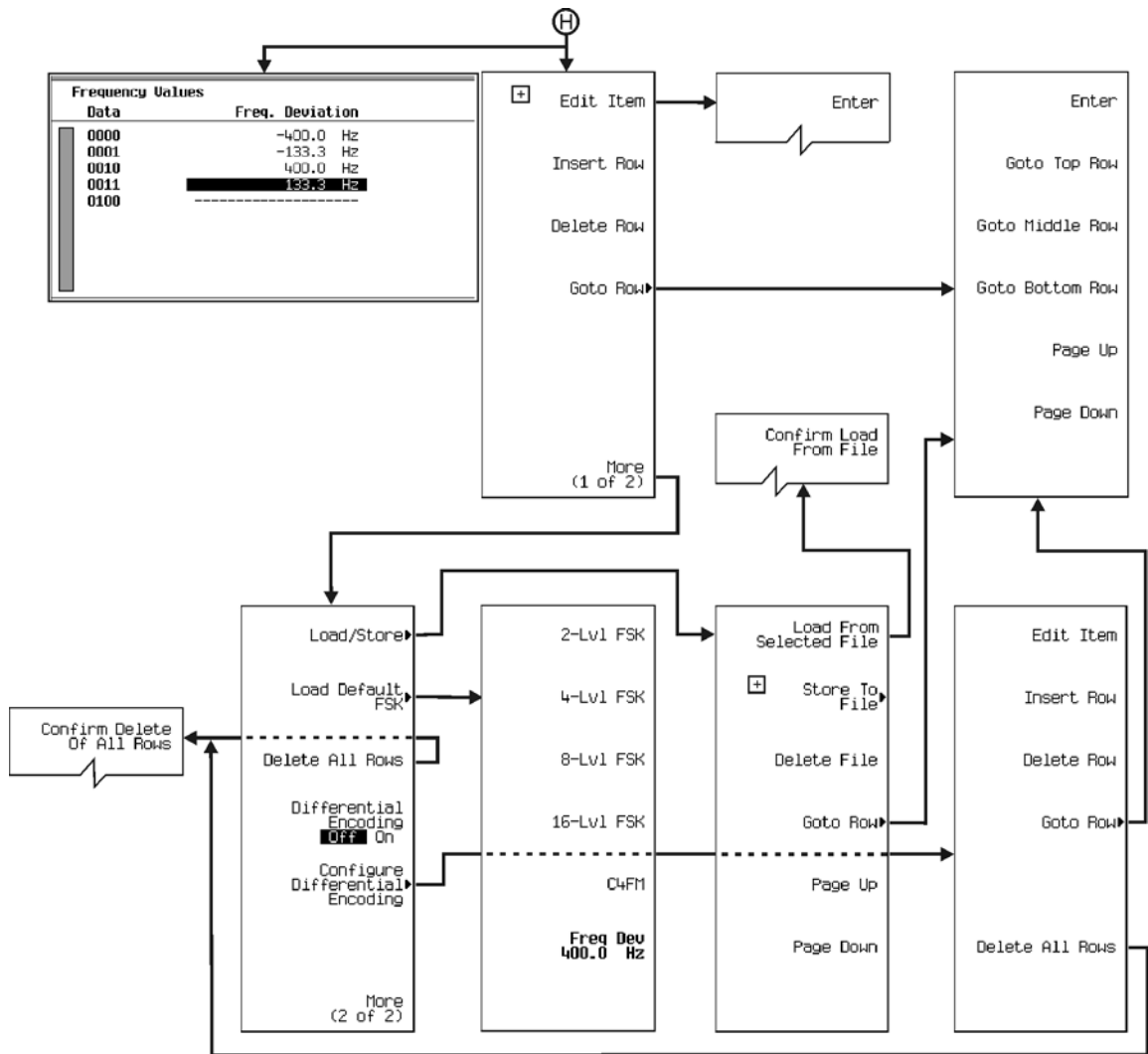
**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when values are entered.
- 2 Active when I/Q values are present. Select to display I/Q State Map.
- + More editing menus appear when selecting this key.

p-cust\_rtime\_08

Menu Maps

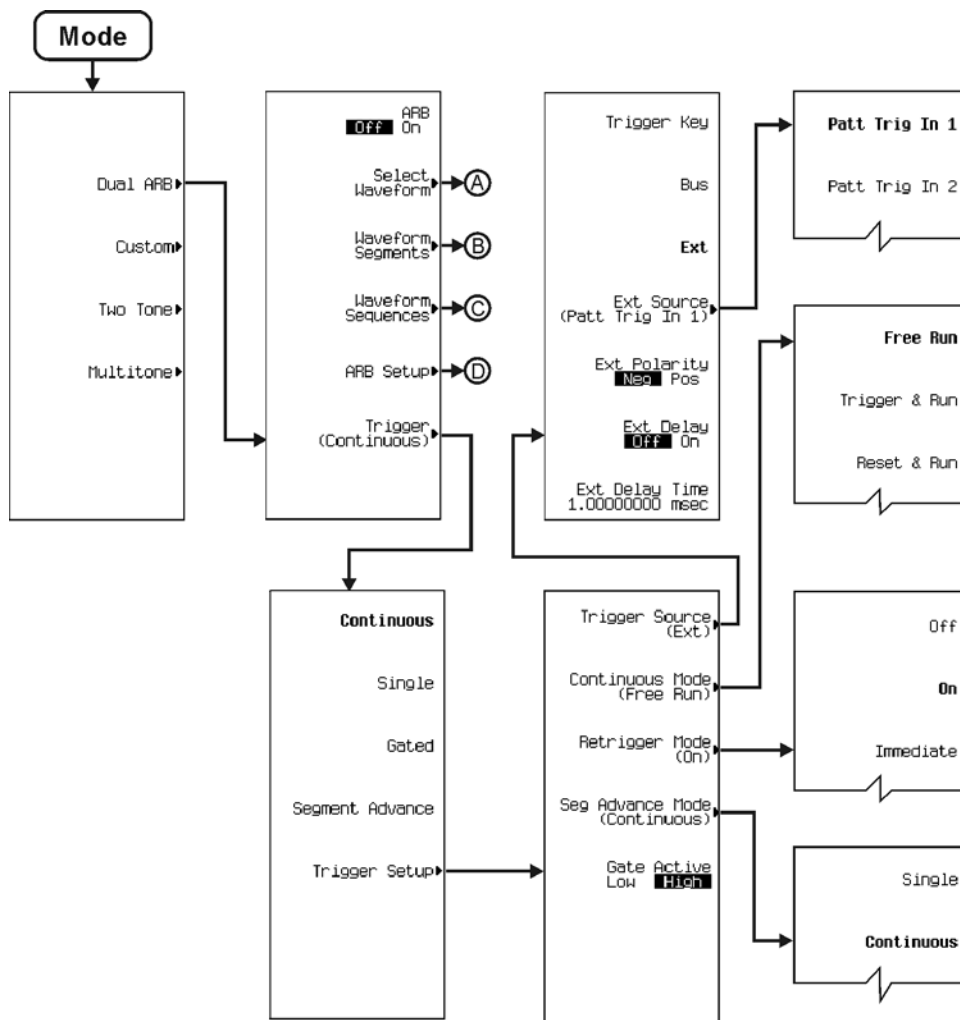
Custom (Real Time I/Q Baseband)



Note: Some numerical values may differ from those displayed on your unit.  
 [H] More editing menus appear when selecting this key..

p-cust\_rtime\_09

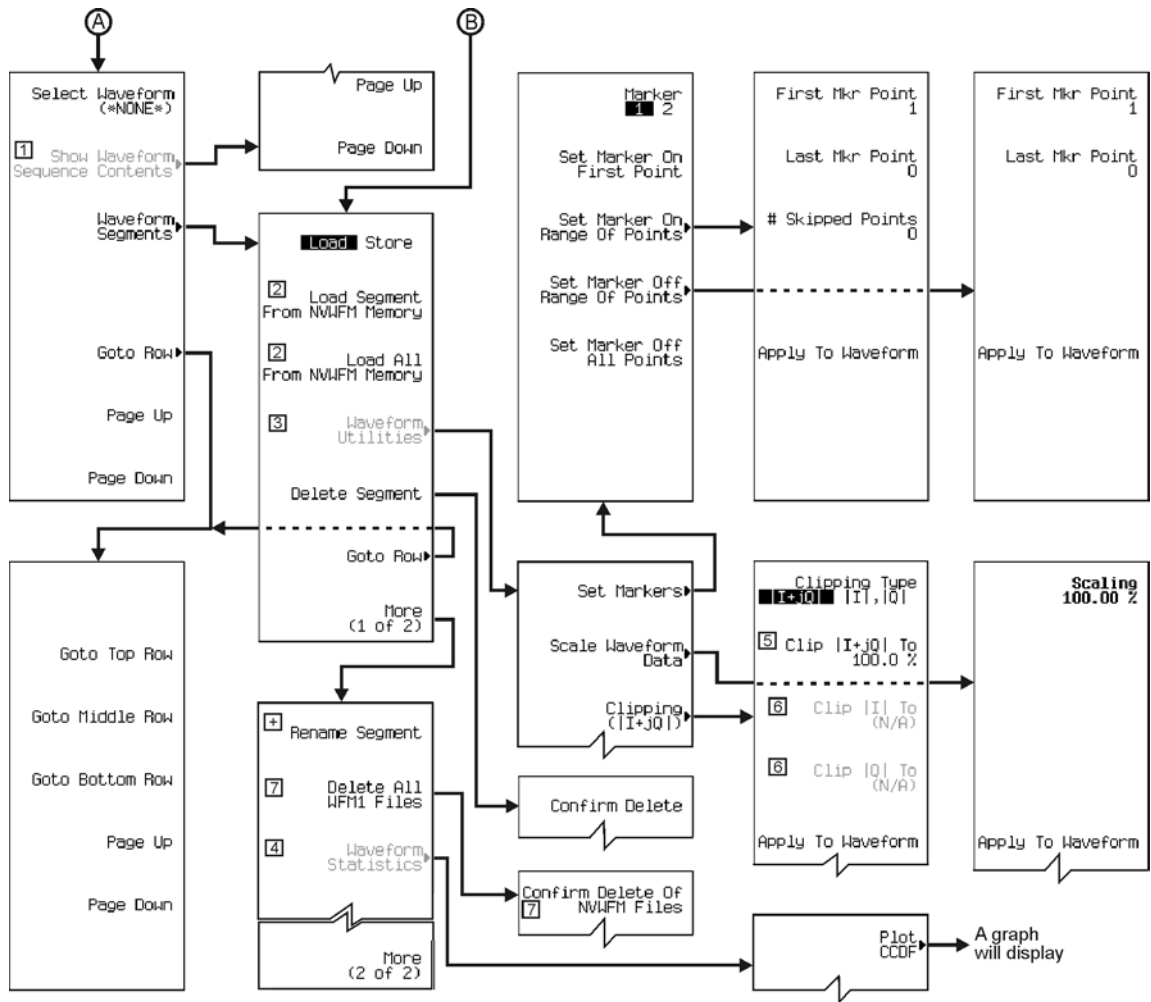
## Dual ARB



Note: Some numerical values may differ from those displayed on your unit.

p-dualarb\_0\*

Menu Maps  
Dual ARB

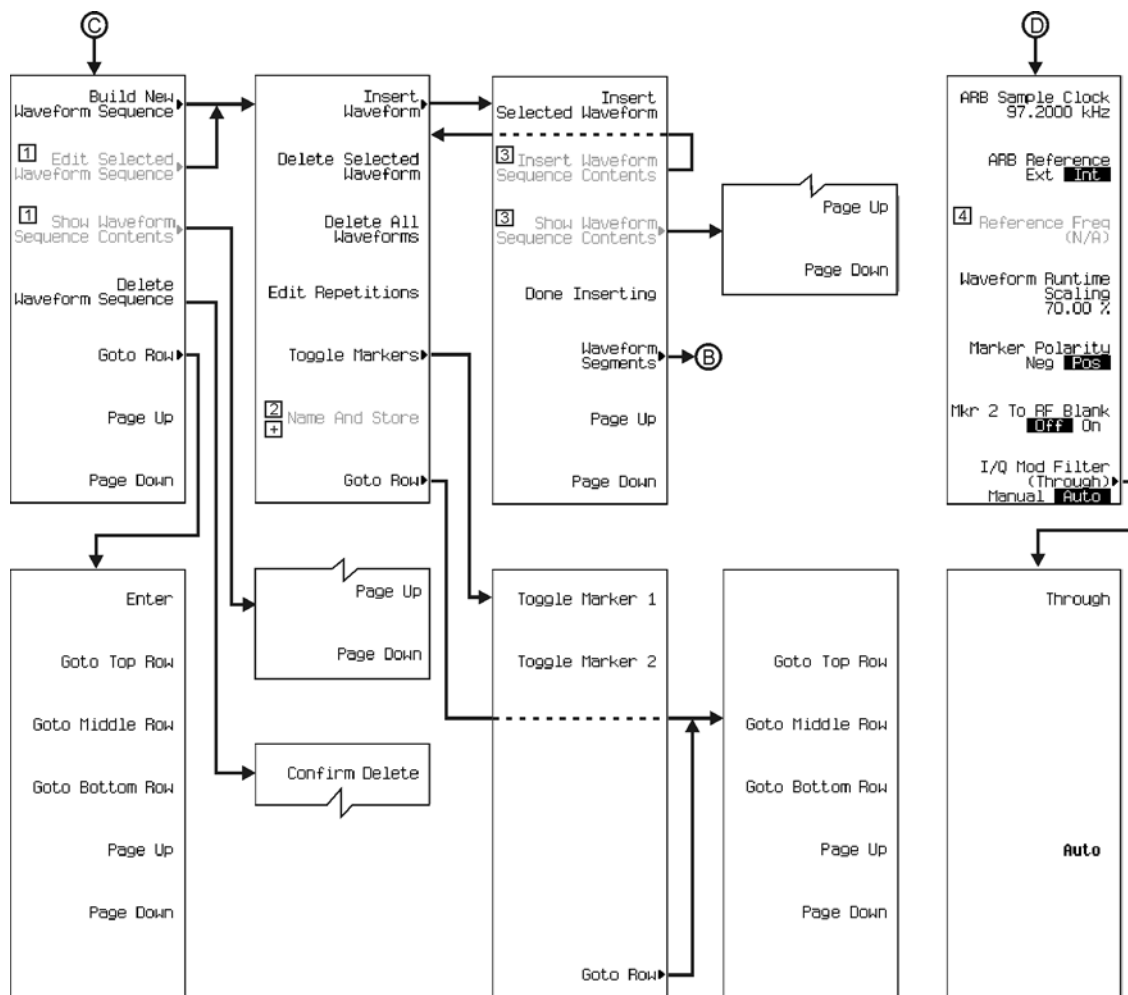


Note: Some numerical values may differ from those displayed on your unit.

- 1 Active when a waveform sequence is present and highlighted in the select waveform table sequence column.
- 2 Changes from Load...From to Store...To when Store is selected.
- 3 Active when Load Store is selected.
- 4 Active when a Waveform Sequence is present and ARB is on.
- 5 Inactive when Clipping Type |I+jQ| |I|,|Q| is selected.
- 6 Active when Clipping Type |I+jQ| |I|,|Q| is selected.
- 7 Changes between WFM1 and NVWFM, depending on the Load Store softkey selection.
- + More editing menus appear when selecting this key.

p-dual/arb\_02



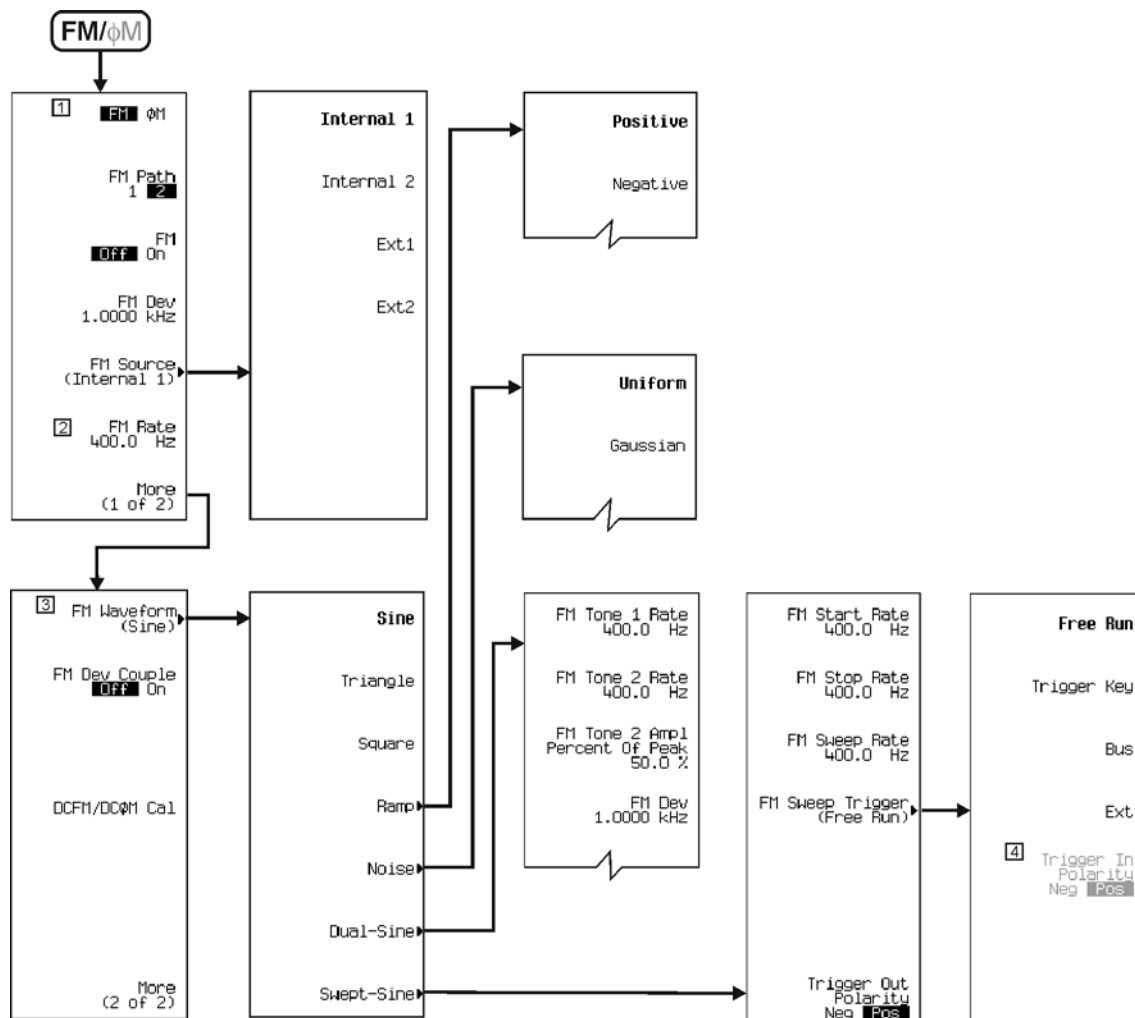


**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when a Waveform Sequence is present.
- 2 Active when a waveform is selected.
- 3 Active when items are selected in the **Sequence Column** in the main display. Use arrow key to select.
- 4 Active when **ARB Reference Ext Int** is selected.
- + More editing menus appear when this key is active and selected.

p-dualarb\_03

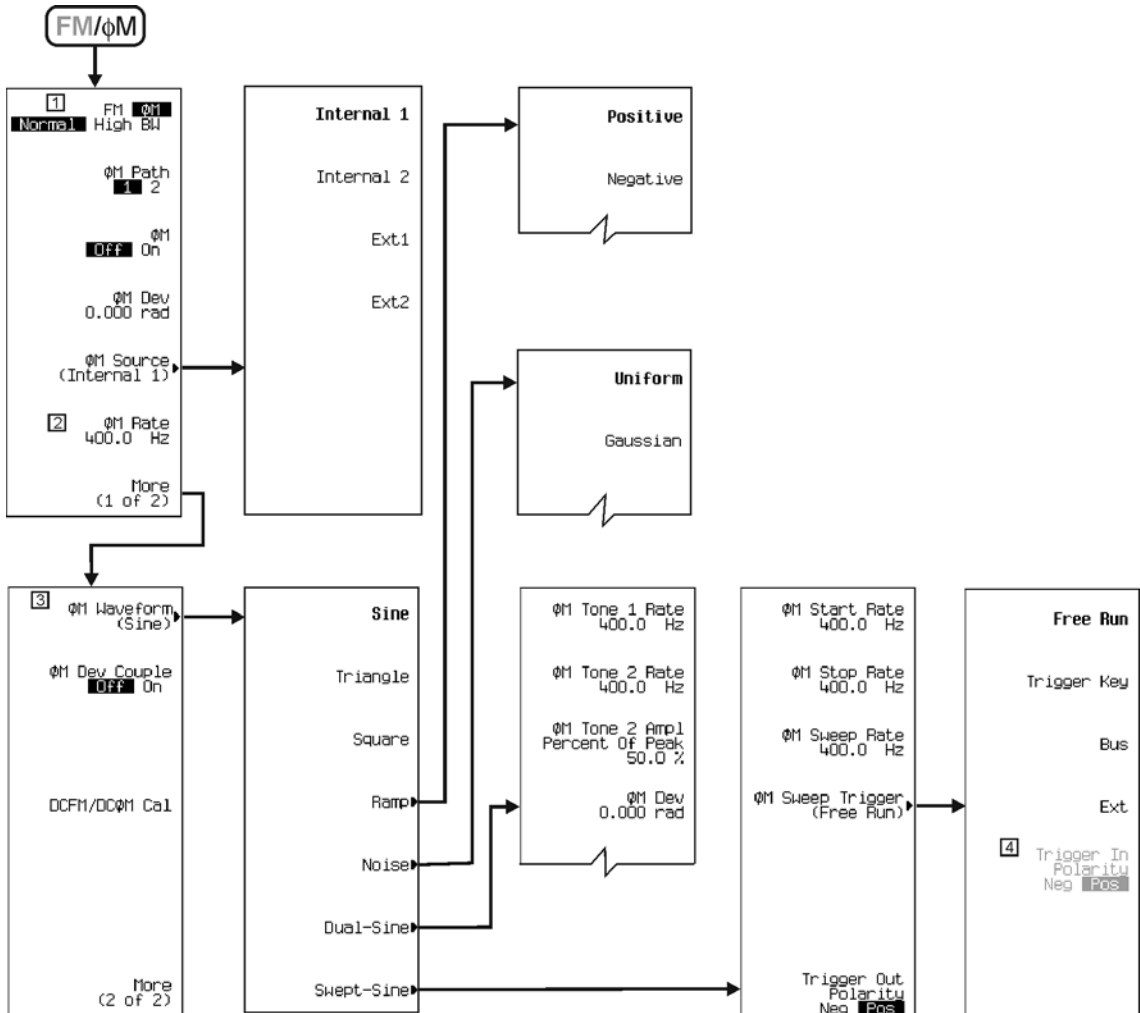
## FM/ΦM (Set to FM)



- Note:** Some numerical values may differ from those displayed on your unit.
- 1 Select **FM** to proceed.
  - 2 Changes to **Ext Coupling DC AC** when **Ext1** or **Ext2** is selected.
  - 3 Changes to **Ext Impedance 50 Ohm 600 Ohm** when **Ext1** or **Ext2** is selected.
  - 4 Active when **Ext** is selected.

p-fm\_0\*

## FM/ΦM (Set to ΦM)

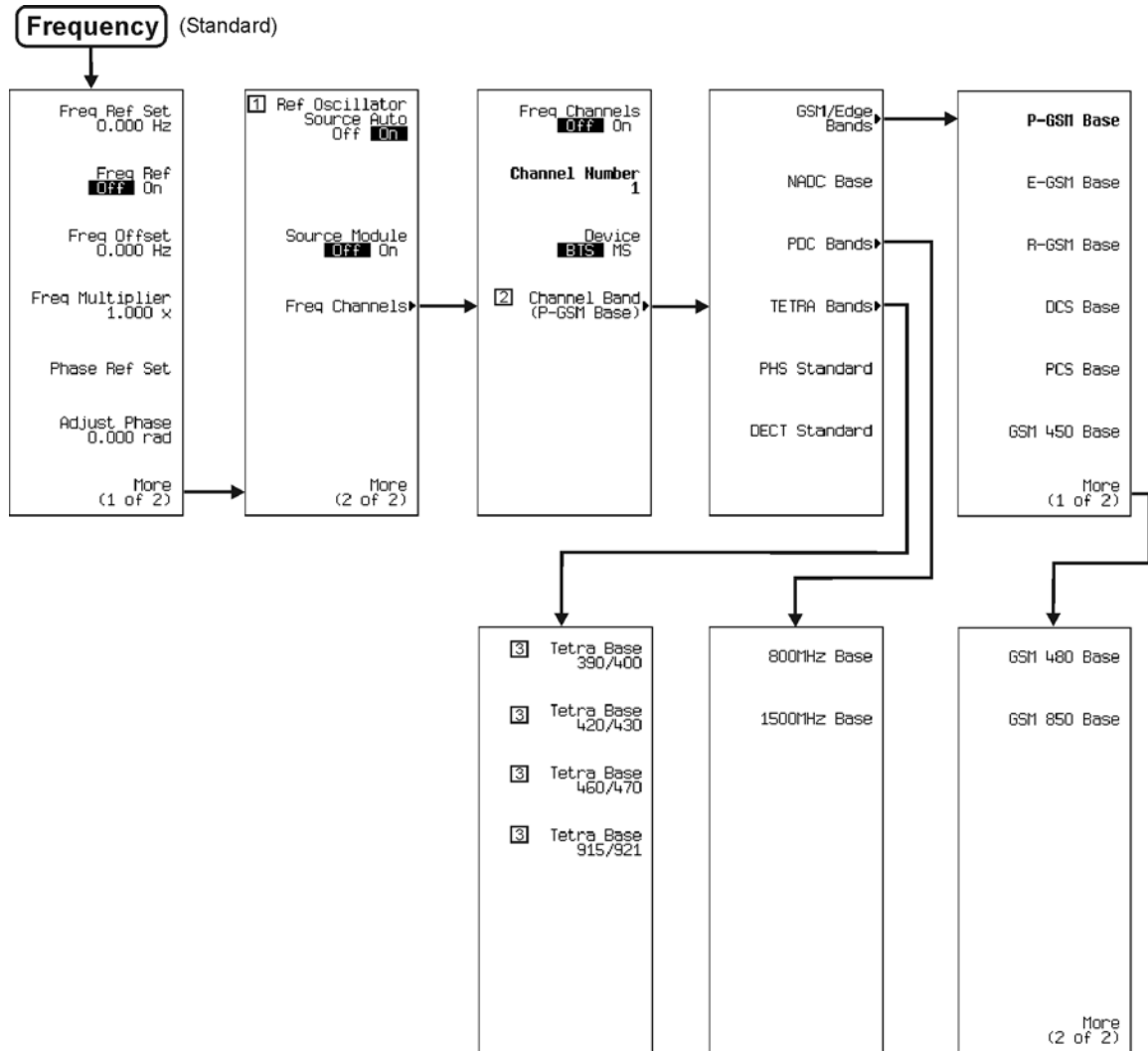


**Note:** Some numerical values may differ from those displayed on your unit.

- 1** Select  $\Phi$ M to proceed.
- 2** Changes to Ext Coupling DC AC when Ext1 or Ext2 is selected.
- 3** Changes to Ext Impedance 50 Ohm 600 Ohm when Ext1 or Ext2 is selected.
- 4** Active when Ext is selected.

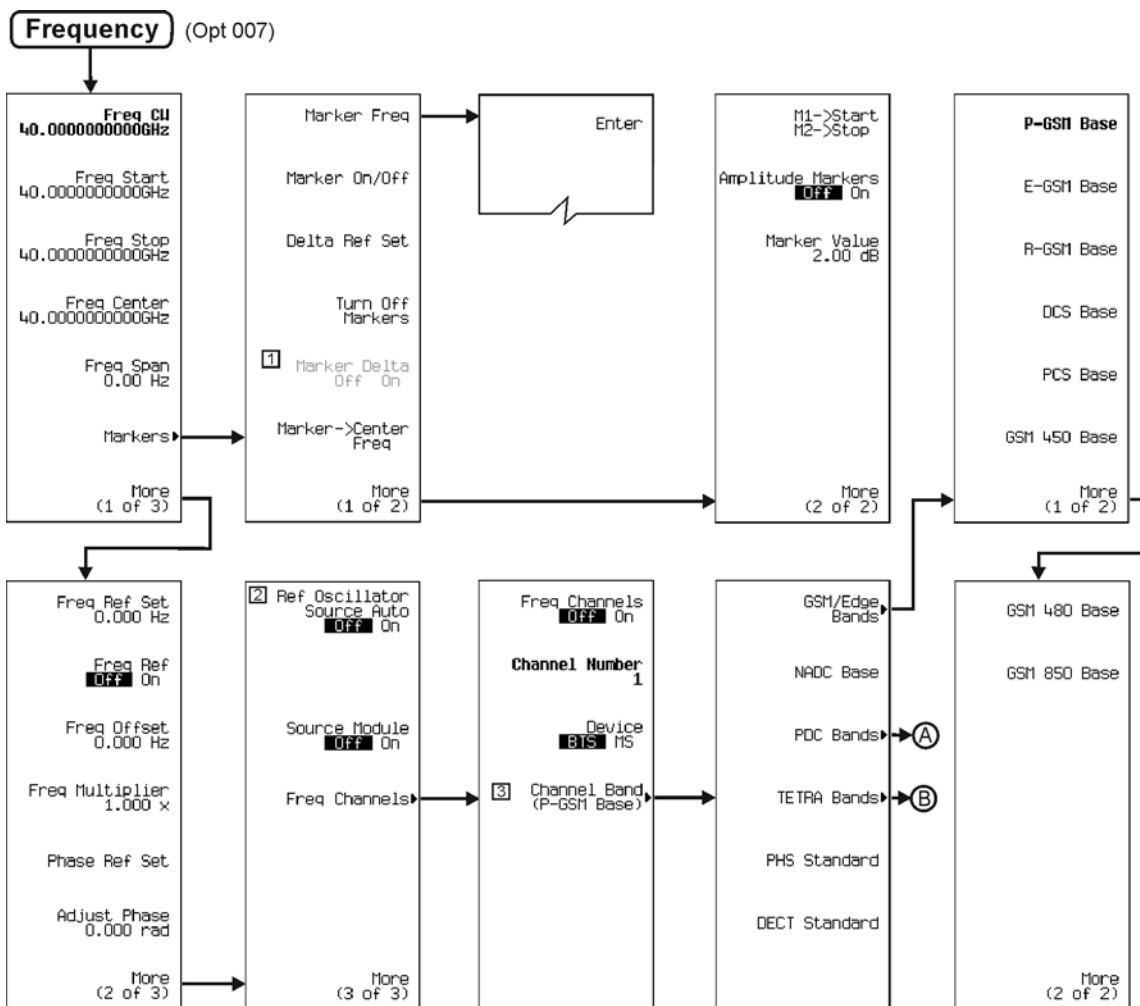
p-fmphi\_01

# Frequency



- Note:** Some numerical values may differ from those displayed on your unit.
- ① Not available with Option UNR.
  - ② All **Channel Band (P-GSM Base)** selections will change to **(P-GSM Mobile)** when setting **Device BTS MS** to **MS**.
  - ③ Frequencies change for this band selection when setting **Device BTS MS** to **MS**.

p-freq-std\_01

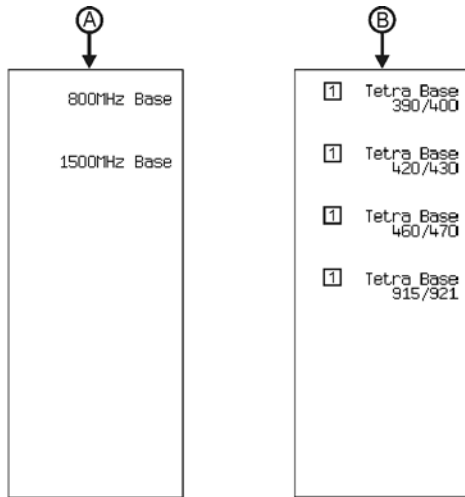


**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when "Delta Res Set" is selected.
- 2 Not available with Option UNR.
- 3 All Channel Band (P-GSM Base) selections will change to (P-GSM Mobile) when setting Device BTS to MS.

p-freq007\_01

Menu Maps  
Frequency

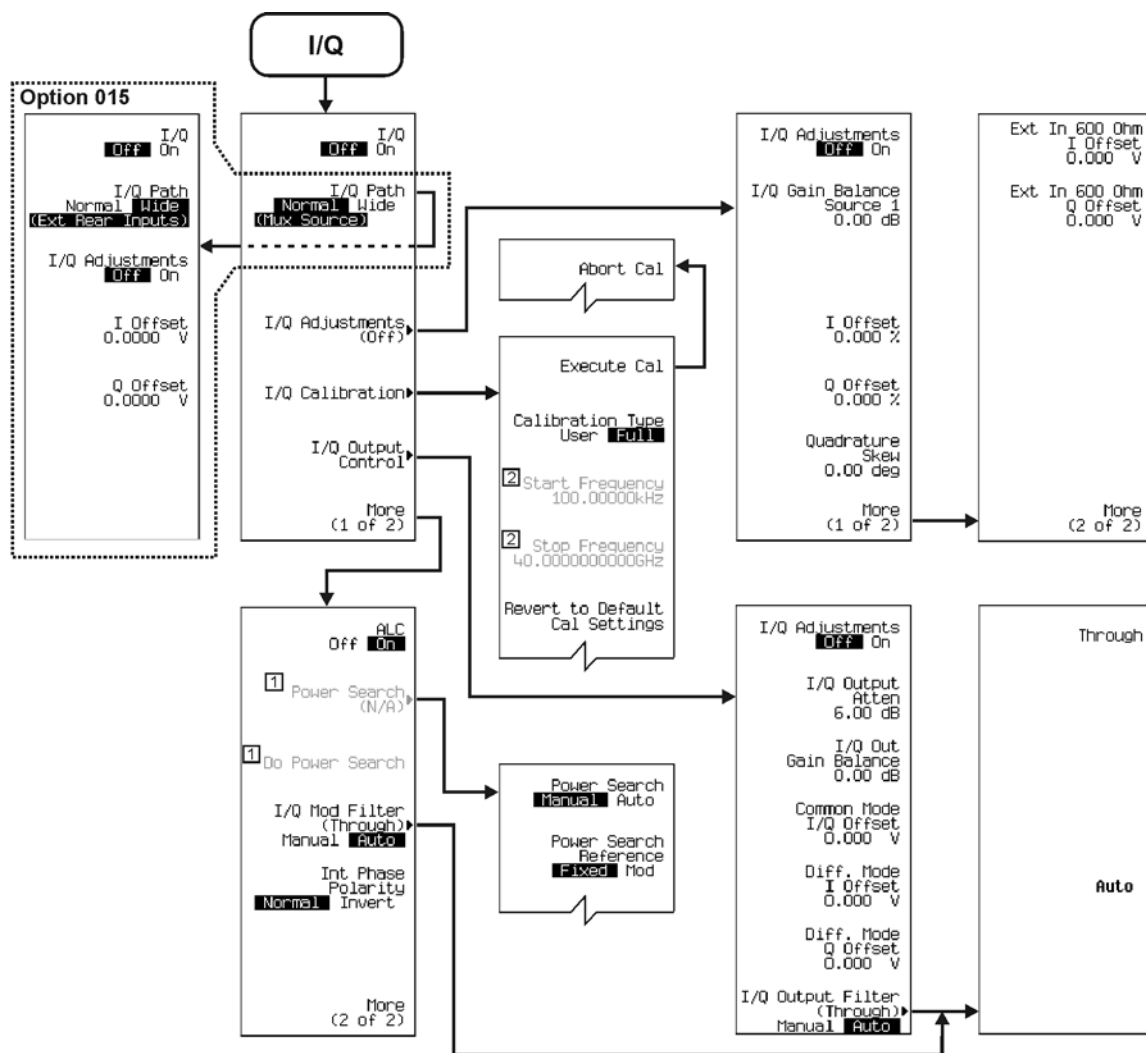


**Note:** Some numerical values may differ from those displayed on your unit.

1 Frequencies change for this band selection when setting **Device BTS MS** to **MS**.

p-freq007\_02

# I/Q

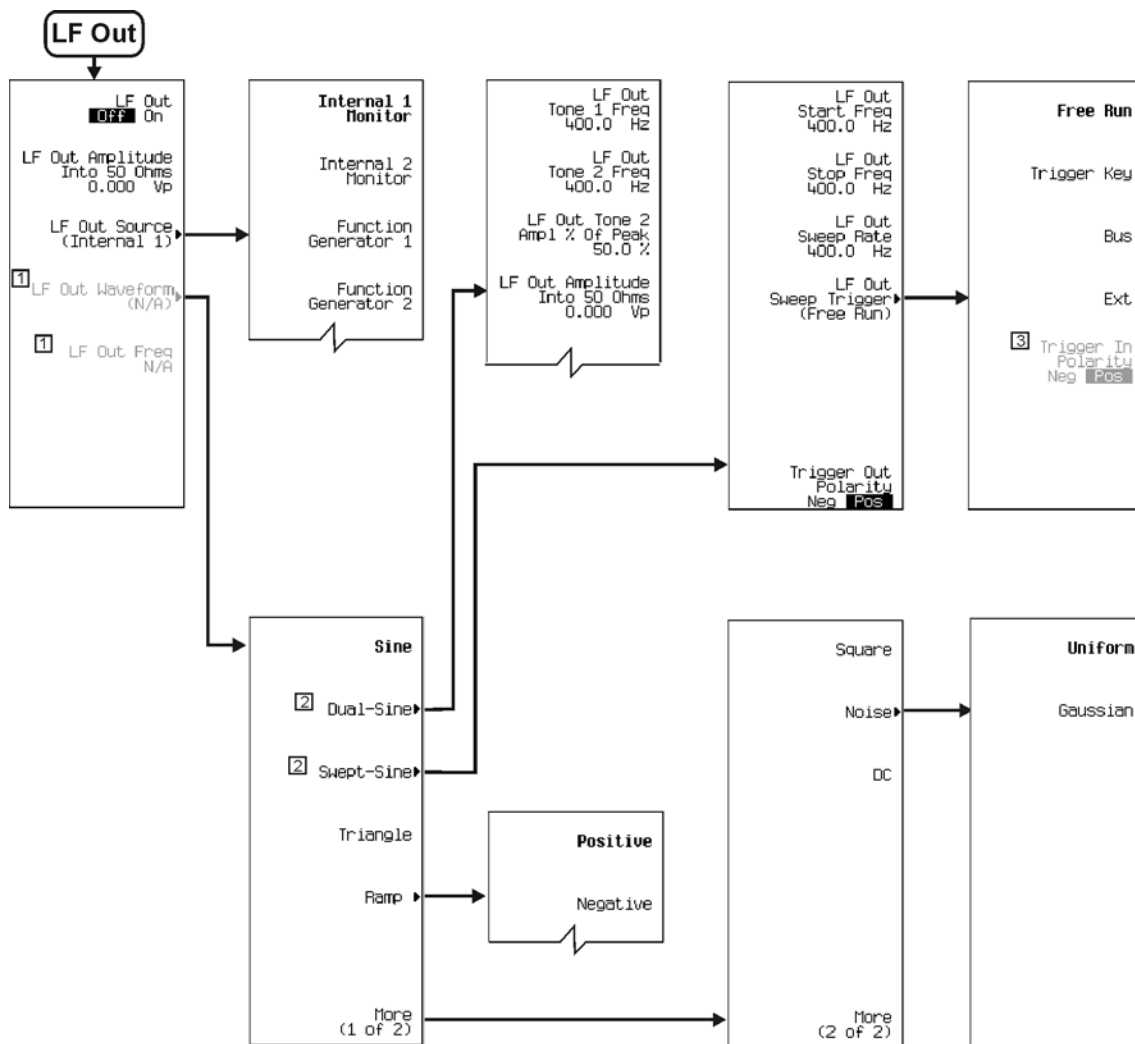


Note: Some numerical values may differ from those displayed on your unit.

- ① Active when ALC is Off.
- ② Active when Calibration Type User Full is set to User.

p-iq\_01

## LF Output



Note: Some numerical values may differ from those displayed on your unit.

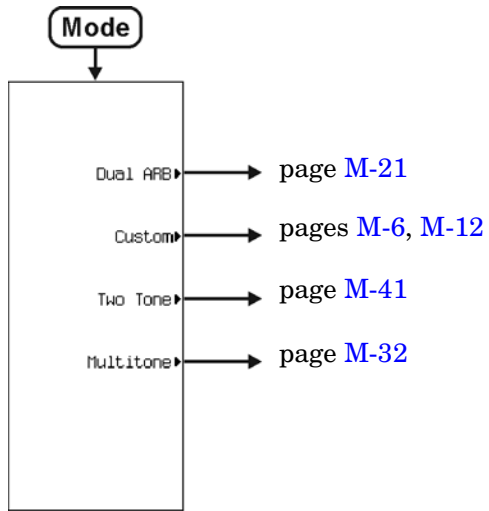
- 1 Active when **Function Generator 1** or **2** is selected.
- 2 Active when **Function Generator 1** is selected.
- 3 Active when **EXT** is selected.

p-LFout\_01



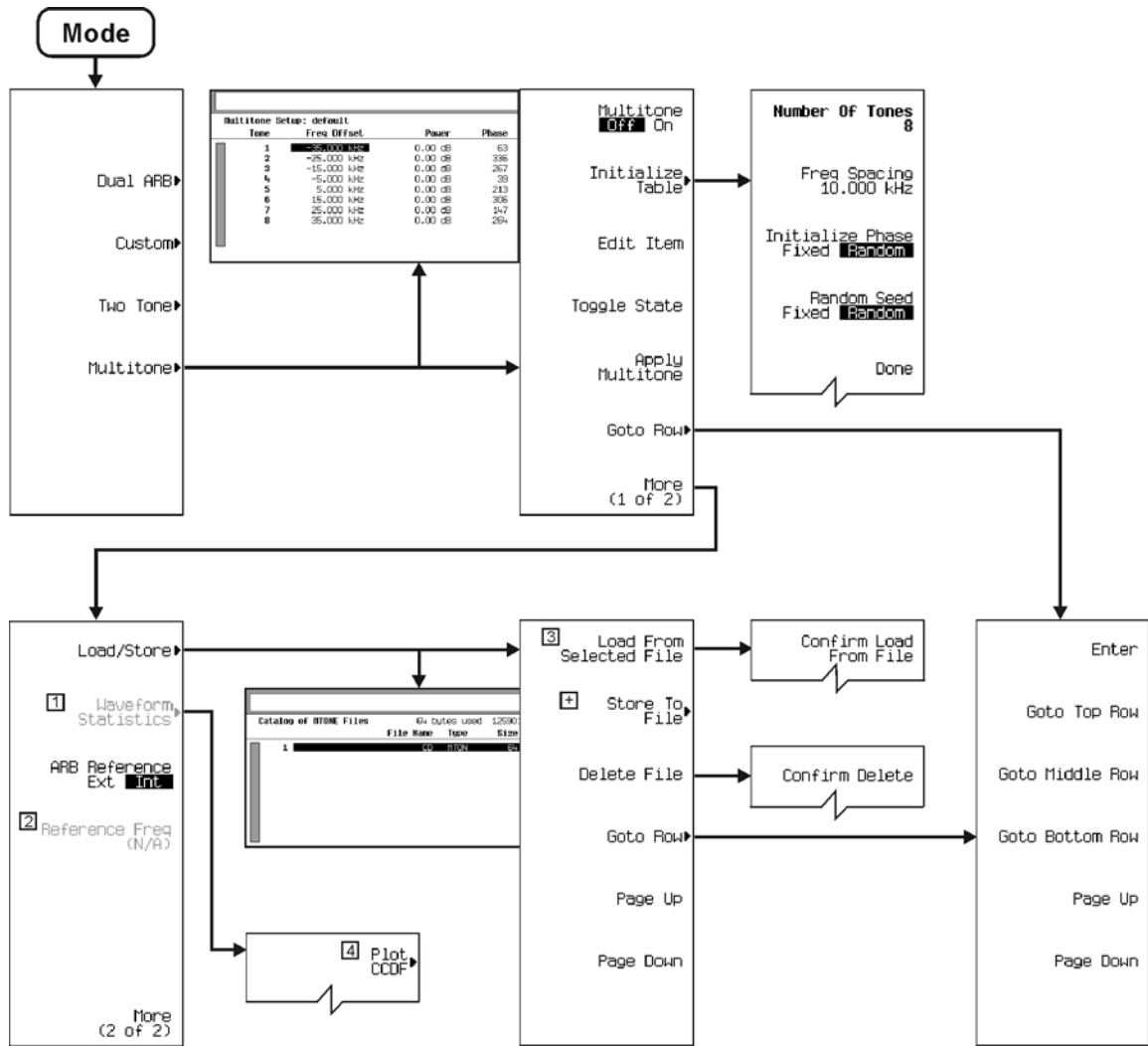
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## Mode



p-mode\_0\*

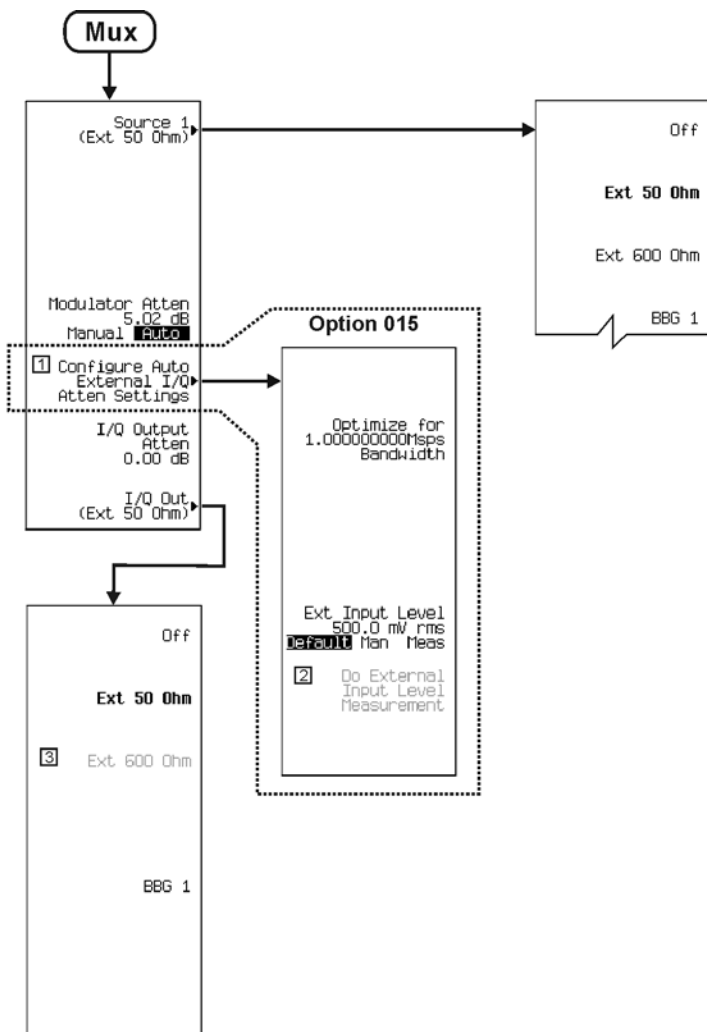
# Multitone



Note: Some numerical values may differ from those displayed on your unit.

- 1 Active when **Multitone** is On.
- 2 Active when **ARB Reference Ext Int** is set to **Ext**.
- 3 Active when a file is present.
- 4 Notice a graph will display.
- + More editing menus appear when selecting this key.

# Mux

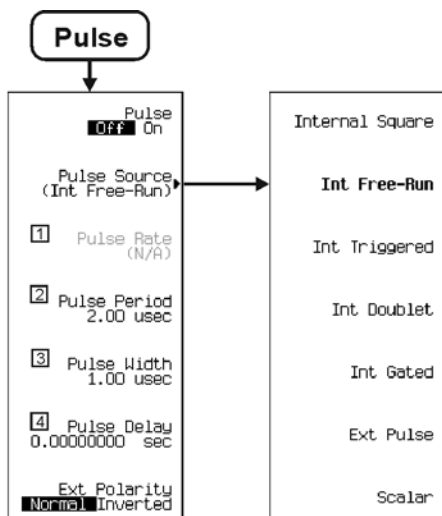


**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Inactive when Modulator Atten Manual Auto is set to Manual.
- 2 Active when Ext Input Level Default Man Meas is set to Meas.
- 3 Active when Ext 600 Ohm is selected.

p-mux\_01

## Pulse Modulation

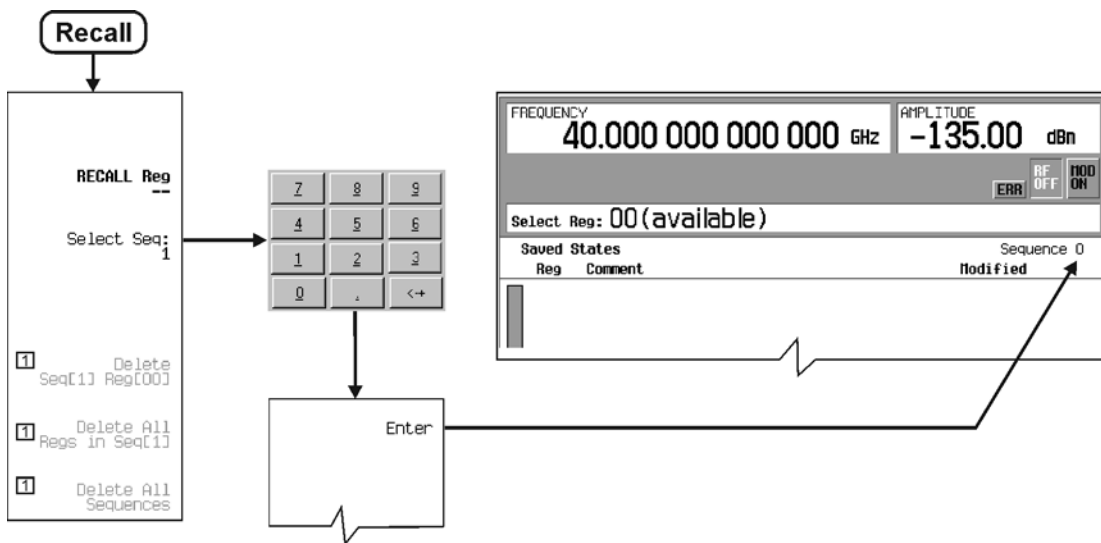


**Note:** Some numerical values may differ from those displayed on your unit.

- ① Active when **Internal Square** is selected.
- ② Inactive when **Internal Square**, **Int Triggered**, **Int Doublet** or **Ext Pulse** is selected.
- ③ Inactive when **Internal Square** or **Ext Pulse** is selected.
- ④ Inactive when **Internal Square** or **Int Gated** or **Ext Pulse** is selected.

p-pulse\_01

## Recall

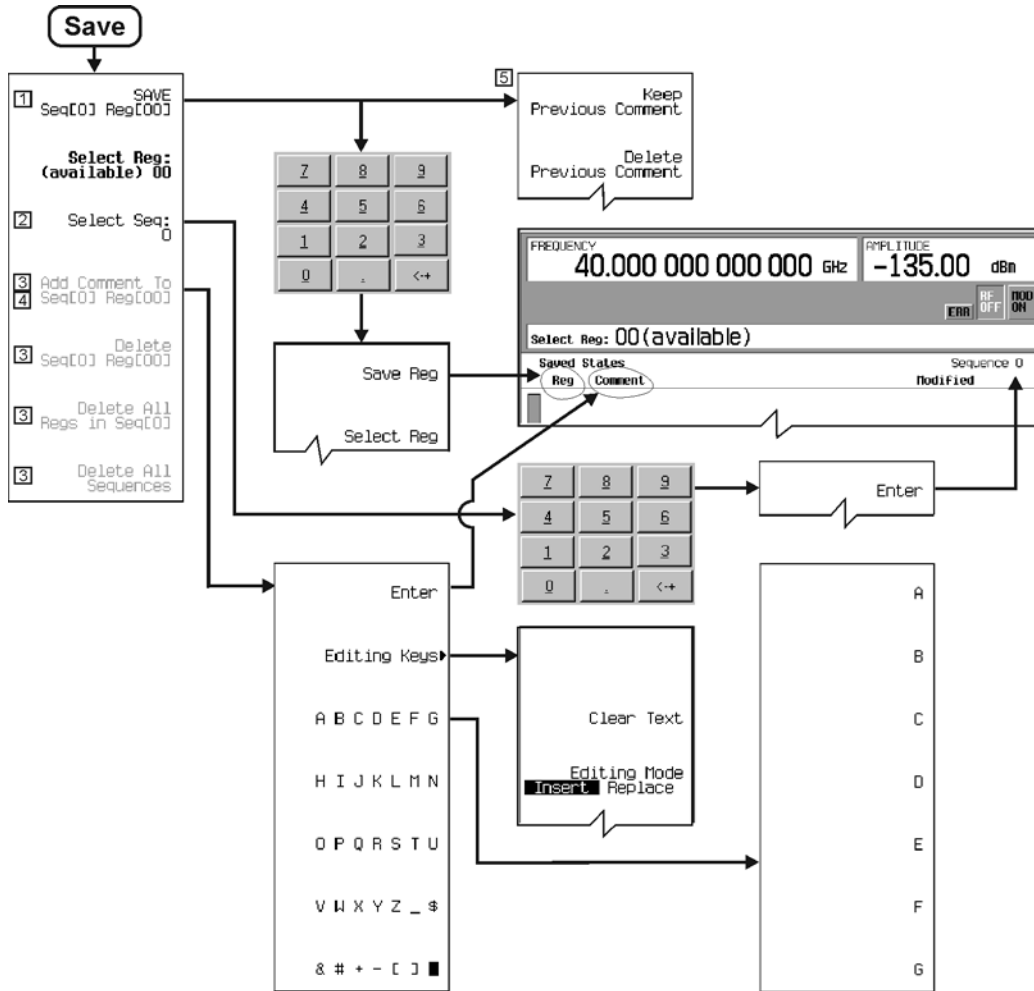


**Note:** Some numerical values may differ from those displayed on your unit.

[1] Active when an in-use register is selected.

p-recall\_01

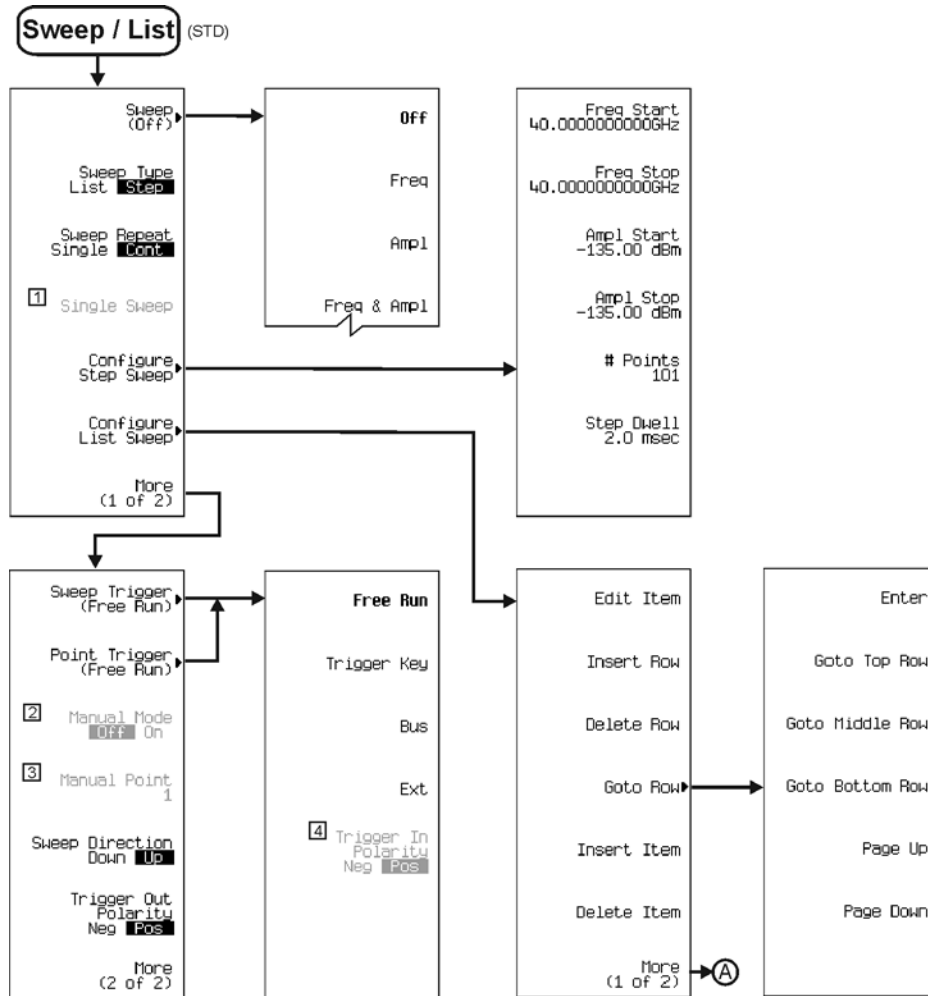
# Save



- Note:** Some numerical values may differ from those displayed on your unit.
- 1 Changes to **Re-Save Seq[n] Reg[nn]** when an in-use register is selected.
  - 2 To view other stored sequences, select **Select Seq:** > enter a sequence number > **Enter**.
  - 3 Active when an in-use register is selected.
  - 4 Changes to **Edit comment in Seq[n] Reg[nn]** when comments are displayed.
  - 5 This menu appears only when, data is present in the **Comment** column.

p-save\_0'

## Sweep/List



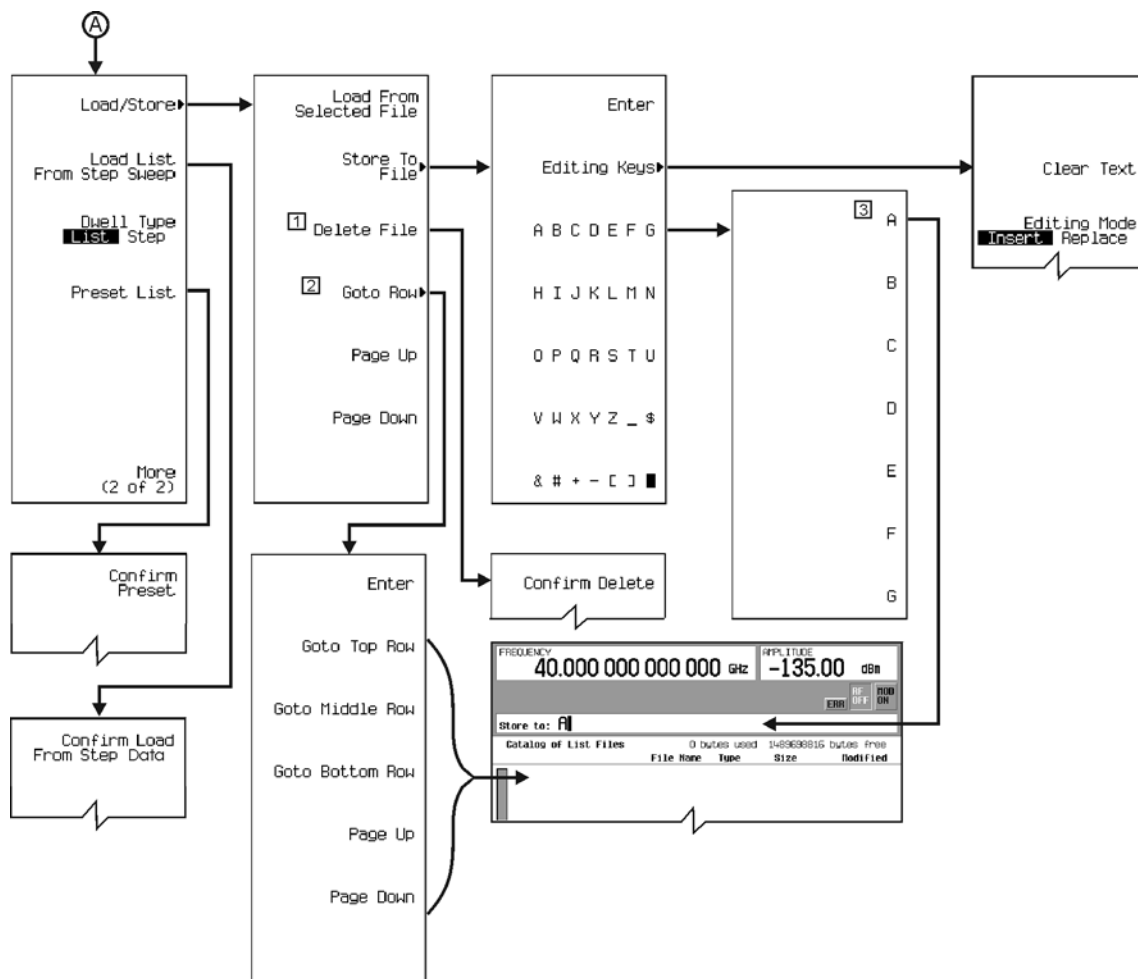
**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Active when **Freq**, **Ampl** or **Freq & Ampl** is selected.
- 2 Active when **Freq**, **Ampl** or **Freq & Ampl** is selected.
- 3 Active when 2 is active and **Manual Mode** is **On**.
- 4 Active when **Ext** is selected.

p-sweep-std\_0\*

# Menu Maps

## Sweep/List



- Note:** Some numerical values may differ from those displayed on your unit.
- 1 Delete when data is displayed. Select a row, Delete File > Confirm Delete.
  - 2 Activate when Data is available in display.
  - 3 Select Letters / Symbols then Enter.

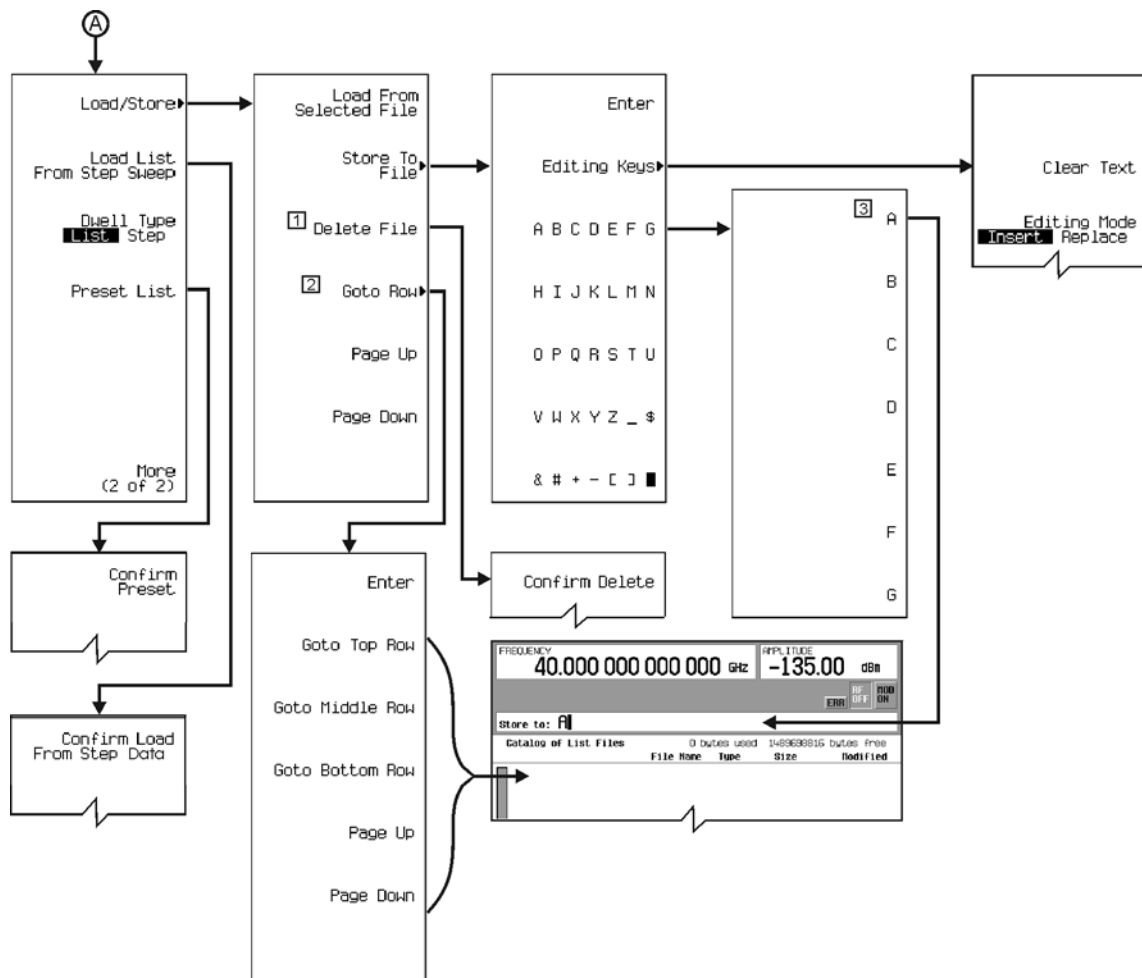
p-sweep-std\_02





# Menu Maps

## Sweep/List



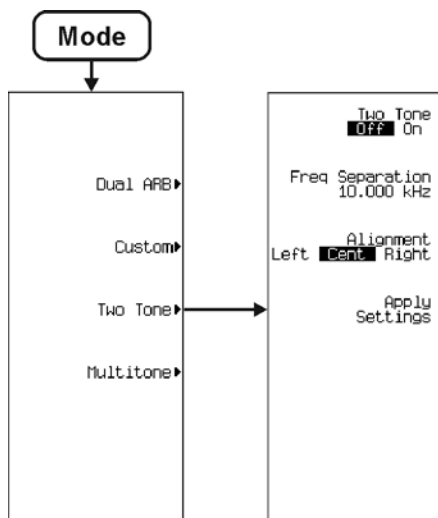
**Note:** Some numerical values may differ from those displayed on your unit.

- 1 Delete when data is displayed. Select row, **Delete File** > **Confirm Delete**.
- 2 Activate when Data is available in display.
- 3 Select **Letters / Symbols** > **Enter**.

p-sweep007\_02

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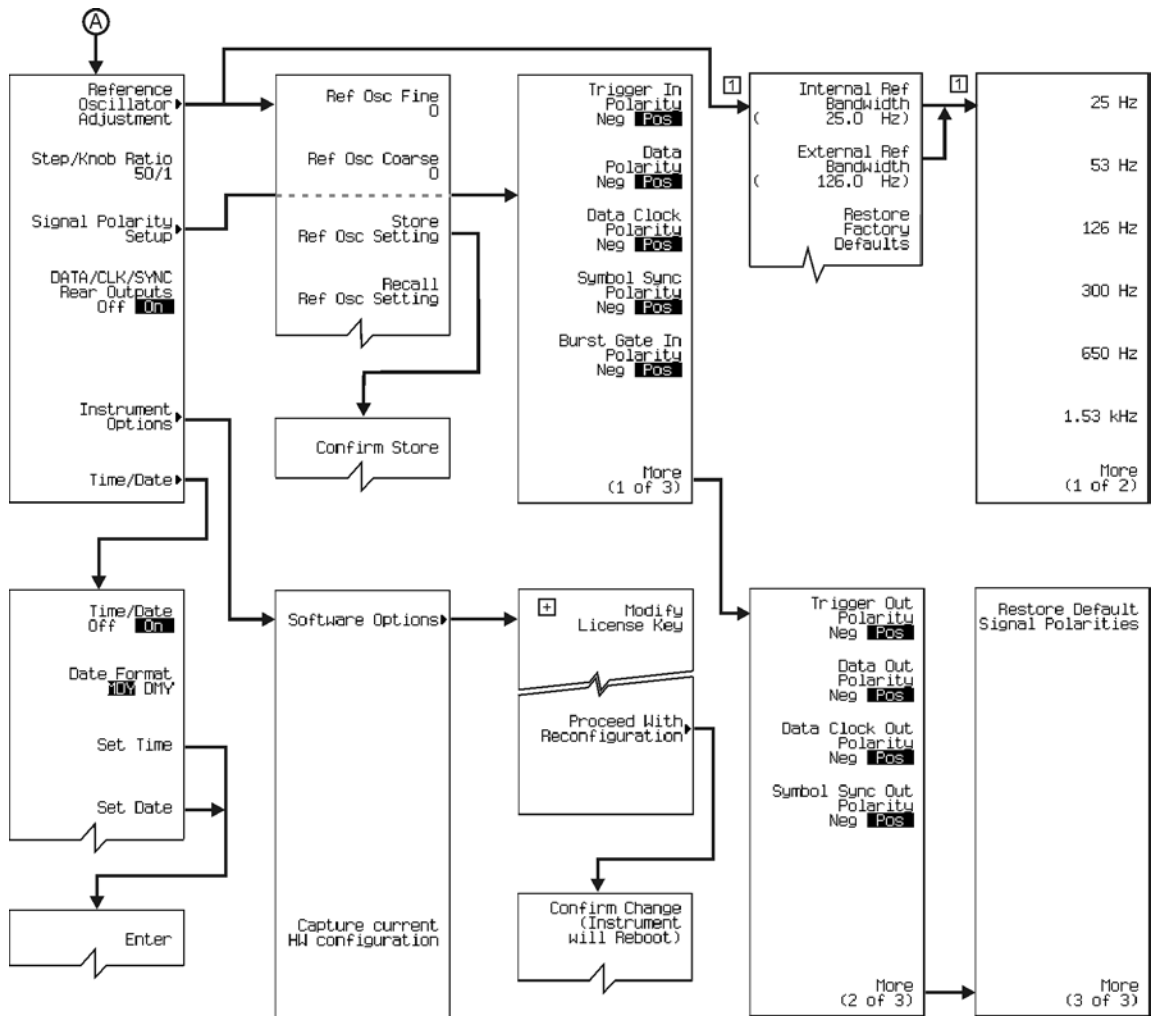
## Two Tone



**Note:** Some numerical values may differ from those displayed on your unit.

p-2tone\_01



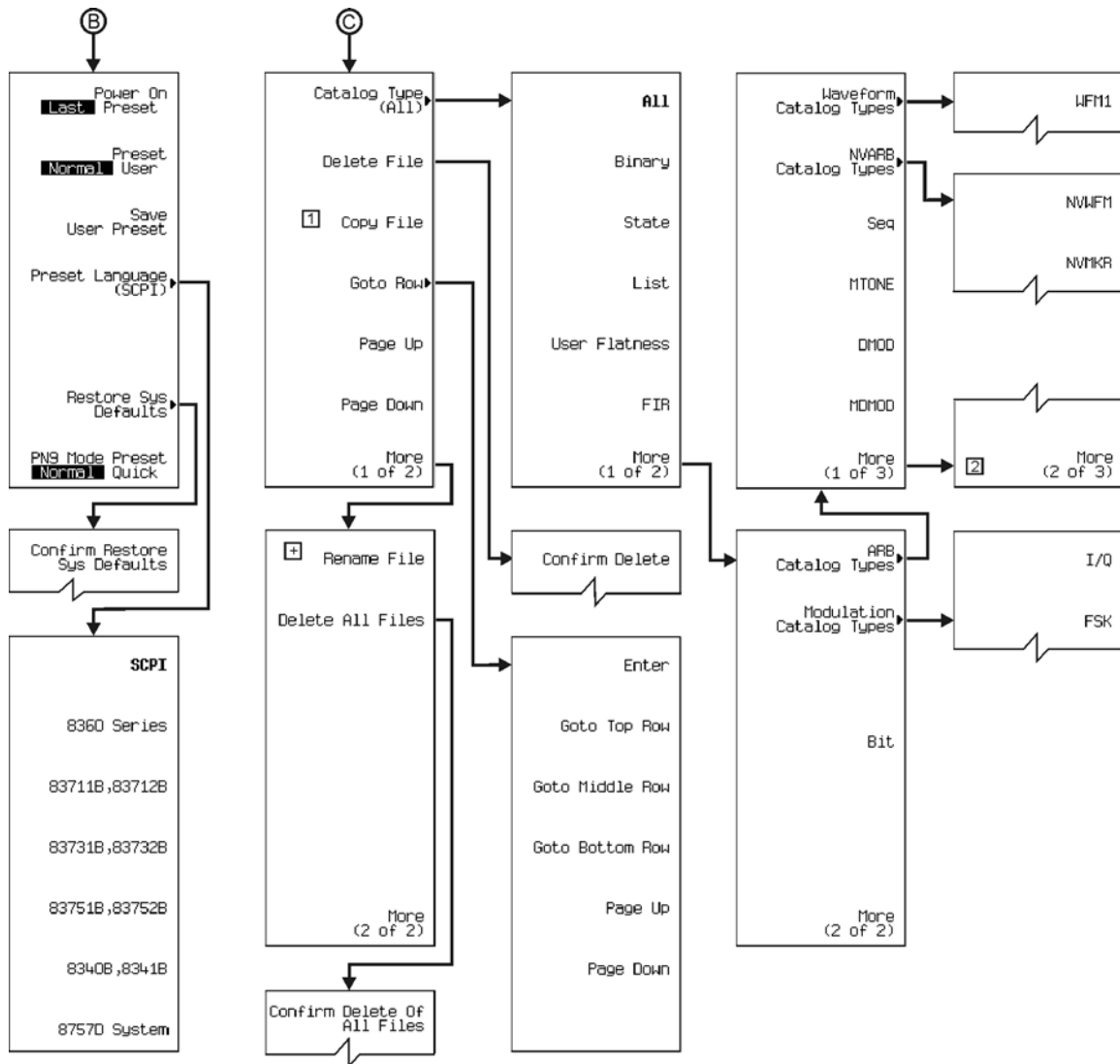


**Note:** Some numerical values may differ from those displayed on your unit.

- 1 This menu is available with option UNR only.
- 2 More editing menus appear when selecting this key.

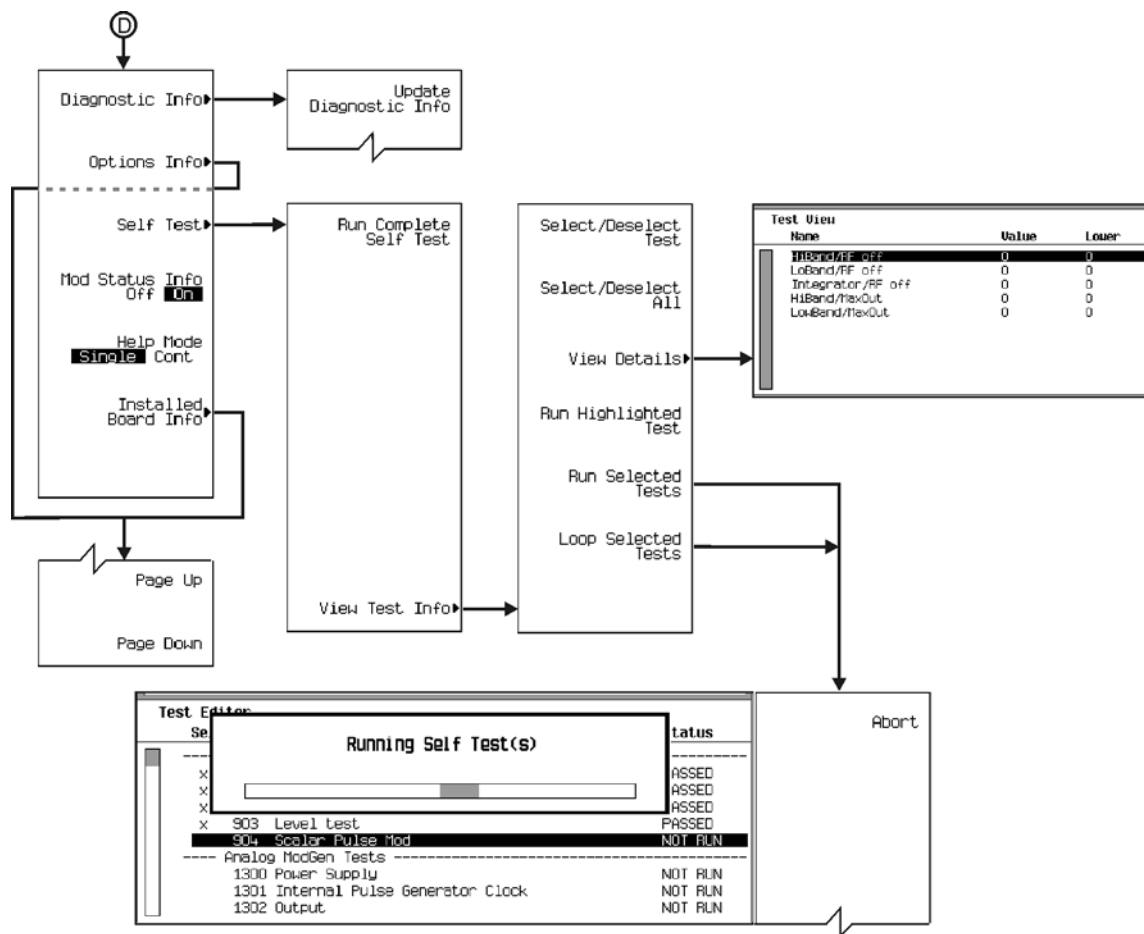
p-utility\_02

Menu Maps  
Utility



**Note:** Some numerical values may differ from those displayed on your unit.  
 [1] Not available when **Catalog Types** (WFM1, NVWFM or NVMKR) are selected.  
 [2] Not used. **More (2 of 3)** and **More (3 of 3)** are blank.  
 [+] More editing menus appear when selecting this key.

p-utility\_03



**Note:** Some numerical values may differ from those displayed on your unit.

p-utility\_04

