Key and Data Field Reference, Volume 1: Symbols, Numerics, A-H

Agilent Technologies
ESG Vector Signal Generator

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.

E4438C Vector Signal Generator

www.agilent.com/find/signalgenerators

Agilent Technologies

Part Number: E4400-90504

Printed in USA

January 2003

Notice

The material contained in this document is provided "as is", and is subject to being changed, without notice, in future editions.

Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied with regard to this manual and to any of the Agilent products to which it pertains, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or any of the Agilent products to which it pertains. Should Agilent have a written contract with the User and should any of the contract terms conflict with these terms, the contract terms shall control.

Questions or Comments about our Documentation?

We welcome any questions or comments you may have about our documentation. Please send us an E-mail at **sources_manuals@am.exch.agilent.com**.

Key and Data Field Reference
Symbols, Numeric, A–H

Symbols

of Blocks

Supported   All with Option 400

This field displays the number of blocks used for each of the downlink transport DCHs.

Changing the value of this field will change the Blk Size field value.

Preset   N/A

Range   1–8

Location   See *Key and Data Field Menu Maps* guide: Page 259

Remarks   This field is displayed for the downlink dedicated physical channels (DPCH) when configuring the transport layer

of Carriers

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 69

Remarks   None

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.

Preset   2

Range   2–1601

Location   See *Key and Data Field Menu Maps* guide: Pages 4, 230

Remarks   A step sweep must have a minimum of 2 points.

Skipped Points

Supported   All with Option 001 or 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   0–65535

Location   See *Key and Data Field Menu Maps* guide: Pages 20, 34, 49, 72, 92, 105, 255

Remarks   None

ΦM Dev

Supported   All

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

Preset   0.000 rad

Ranges	*Frequency*	*Normal Bandwidth*	*High Bandwidth*
	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
	> 3.2–4.0 GHz	0–80 RAD	0–8 RAD

Location   See *Key and Data Field Menu Maps* guide: Page 95

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

ΦM Dev Couple Off On

Supported   All

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

Off   The ΦM Path 1 and ΦM Path deviation values are independent of each other.

On   The ΦM Path 1 and ΦM Path deviation values are linked. Any change you make to one ΦM deviation value is applied to both.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   None

ΦM Off On

Supported   All

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 Φ annunciator is displayed.

Preset   Off

Range   N/A

Location   See K*ey and Data Field Menu Maps* guide: Page 95

Remarks   None

ΦM Path 1 2

Supported   All

This softkey toggles the selection between ΦM Path 1 and ΦM Path 2.

ΦM Path 1   This selection enables you to configure the modulation characteristics for ΦM Path 1, using the remaining softkeys in the ΦM menu.

ΦM Path 2   This selection enables you to configure the modulation characteristics

for ΦM Path 2, using the remaining softkeys in the ΦM menu.

ΦM Path 1 and ΦM Path 2 define two standard phase modulation configurations which can be used together.

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

Preset	ΦM Path 1
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 95
Remarks	ΦM Path 2 must be set to a deviation less than ΦM Path 1.

ΦM Rate

Supported   All

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

Preset	400.0 Hz
Range	100.0 mHz–100.0 kHz
Location	See *Key and Data Field Menu Maps* guide: Page 95
Remarks	None

ΦM Source

Supported   All

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 95
Remarks	A 1.0 volt peak voltage input is required for calibrated ΦM 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.)

ΦM Start Rate

Supported   All

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

Preset   400.0 Hz

Range   0.5 Hz–1 MHz (minimum increment allowed is 0.5 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 95

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

ΦM Stop Rate

Supported   All

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

Preset   400.0 Hz

Range   1 Hz–1 MHz (minimum increment allowed is 1 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   This softkey is coupled to the **ΦM Tone 2 Rate** softkey in the ΦM Dual-Sine menu. Any value set for ΦM Stop Rate is reflected in the **ΦM Tone 2 Rate** softkey.

ΦM Sweep Time

Supported   All

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

Preset   400.0 Hz

Range   1 Hz–100.0 kHz

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   N/A

ΦM 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 phase modulation.

Preset   Free Run

Range   1 Hz–100.0 kHz

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   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.

ΦM Tone 1 Rate

Supported   All

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

Preset   400.0 Hz

Range   0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   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.

ΦM Tone 2 Ampl Percent Of Peak

Supported   All

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.

Preset   50.0%

Range   0.1%–99.9%

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   This is applicable for the dual-sine function only.

ΦM Tone 2 Rate

Supported   All

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

Preset   400.0 Hz

Range   0.5 Hz–1.0 MHz (minimum increment is 0.5 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   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.

ΦM Waveform

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 95

Remarks   This softkey is only enabled when Internal is selected in the FM Source menu.

π/4 DQPSK

Supported   All with Option 001 or 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 π/4 DQPSK Modulation

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226

Remarks   None

Loading a π/4 DQPSK I/Q Map into the Table Editor

Use this softkey to load a π/4 differential quadrature phase shift keying (π/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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 86, 146, 162

Remarks   None

Numerics

0

Supported   All with Option 401

This softkey selects 0 chips as the frame timing for the uplink physical random access channel (PRACH). The Tp-a is the difference between the uplink PRACH's frame timing relative to the AICH and the downlink's AICH framing timing. This timing difference is part of the propagation delay. See 3GPP Standard TS25.211 and TS25.214 specifications for more information.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46, 271

Remarks   The actual timing offset is defined as:
(Timeslot Offset + Timing Offset $\times$ 2560) – (Tp–a) [chips]

0.7V

Supported   All with Option UN7

This softkey selects 0.7 volts (normal TTL) as the input threshold level of the BER CLK IN, BER DATA IN, and BER GATE IN rear panel connectors.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

1/2 Conv

Supported   All with Option 400

Use this softkey to select a one-half rate Viterbi convolutional encoder to be used for transport channel error protection coding.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Coding` field. Refer to "Coding" on
                 page 138 for more information.

Remarks   None

1/3 Conv

Supported   All with Option 400

Use this softkey to select a one-third rate Viterbi convolutional encoder to be used for
transport channel error protection coding.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Coding` field. Refer to "Coding" on
                 page 138 for more information.

Remarks   None

1 DPCH

Supported   All with Option 400

This softkey selects a single dedicated physical channel (DPCH) for the downlink
W-CDMA setup. The one DPCH selection can also be inserted as a row in the
Multicarrier WCDMA 3GPP Setup menu after the **Multicarrier Off On** softkey has been set
to On.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 244

Remarks   When multicarrier is active, you can press the Multicarrier Define
                 softkey to adjust parameters in the Multicarrier WCDMA 3GPP Setup
                 editor. The Edit Channel Setup table editor allows editing of the
                 1 DCPH parameters when multicarrier off is selected.

1.23 MHz

Supported   All with Option 401

This softkey sets the carrier frequency spacing to 1.23 MHz when a spread rate 3 signal is generated with a multicarrier spreading type (as opposed to direct spreading). The Cellular band uses a CDMA-standard spacing of 1.23 MHz.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 28, 40

Remarks   None

1.25 MHz

Supported   All with Option 401

This softkey sets the carrier frequency spacing to 1.25 MHz when a spread rate 3 signal is generated with a multicarrier spreading type (as opposed to direct spreading). The PCS band uses a CDMA-standard spacing of 1.25 Mhz.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 28, 40

Remarks   None

1.4V

Supported   All with Option UN7

This softkey selects 1.4 volts (Schmit TTL) as the input threshold level of the BER CLK IN, BER DATA IN, and BER GATE IN rear panel connectors.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

1.65V

Supported   All with Option UN7

This softkey selects 1.65 volts (CMOS 3.3 V) as the input threshold level of the BER CLK IN, BER DATA IN, and BER GATE IN rear panel connectors.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

2–Lvl FSK

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 121, 126, 136, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222

Remarks   None

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*.

Preset   N/A

Range   N/A

Location	See Key and Data Field Menu Map guide: Pages 81, 126, 142, 158
Remarks	None

2nd Scr Offset

Supported	All with Option 400

This field displays the secondary scrambling code offset.

Preset	N/A
Range	0–15
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This field is displayed for the downlink orthogonal channel noise simulator (OCNS) channel and dedicated physical channel (DPCH).

2 Carriers

Supported	All with Option 400

Use this softkey to select a 2-carrier wideband CDMA setup with the settings listed below.

> *Carrier 1:* PCCPCH + SCH; –7.5 MHz frequency offset; 0 dB power
>
> *Carrier 2:* PCCPCH + SCH; –7.5 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 244
Remarks	None

2 SR3 Carriers

Supported	All with Option 401

Use this softkey to select a 2-carrier CDMA2000 setup with the settings listed below.

Carrier 1: spread rate 3, direct spread, 9 channel; –2.5 MHz frequency offset; 0 dB power

Carrier 2: spread rate 3, direct spread, 9 channel; 2.5 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 26
Remarks	None

2.100 MHz

| **Supported** | All with Option 001 or 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 (and reduces distortion) above 2.100 MHz. Primarily used tor W-CDMA ACLR measurements.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 21, 29, 41, 91, 100, 249
Remarks	None

2.5V

| **Supported** | All with Option UN7 |

This softkey selects 2.5 volts (CMOS 5 V) as the input threshold level of the BER CLK IN, BER DATA IN, and BER GATE IN rear panel connectors.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

3 Carriers

| **Supported** | All with Option 400/401 |

This softkey selects a 3-carrier IS-95A, CDMA2000, or W-CDMA setup with the settings listed below.

IS-95A or CDMA2000

Carrier 1: spread rate 1, 9 channel; –1.25 MHz frequency offset; 0 dB power

Carrier 2: spread rate 1, 9 channel; 0 kHz frequency offset; 0 dB power

Carrier 3: spread rate 1, 9 channel; 1.25 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 16, 26
Remarks	None

W-CDMA

Carrier 1: perch channel; –5 MHz frequency offset; 0 dB power

Carrier 2: perch channel; 0 kHz frequency offset; 0 dB power

Carrier 3: perch channel; 5 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 244
Remarks	None

3 DPCH

Supported	All with Option 400

This softkey selects three Dedicated Physical Channels (DPCH) for the downlink
Arb W-CDMA setup. The 3 DPCH selection can also be inserted as rows in the
Multicarrier WCDMA 3GPP Setup menu after the **Multicarrier Off On** softkey has been set
to On.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 244
Remarks	Parameters can be adjusted from the Multicarrier WCDMA 3GPP Setup menu editor when multicarrier is active. The Edit Channel Setup table editor allows editing of the 3 DPCH parameters when multicarrier off is selected.

3GPP STD

Supported   All with Option 400

This softkey sets the dedicated physical control channel (DPCCH) framing structure as defined in the 3GPP TS25.211 specification. This data selection is displayed in the PhyCH Setup menu.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the Data field. Refer to "Data" on page 172 for more information.

Remarks   This softkey is available for uplink DPCCH and PRACH.

4 1's & 4 0's

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 74, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214

Remarks   None

40.000 MHz

Supported   All with Option 001 or 002

Use this softkey to apply a 40.000 MHz filter to signals that are routed to the I/Q modulator. This filter eliminates spurs above 40 MHz.

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 29, 91, 100, 106, 247
Remarks	None

4 Carriers

Supported   All with Option 400/401

This softkey selects a 4-carrier IS-95A, CDMA2000, or W-CDMA setup with the settings listed below.

IS-95A or CDMA2000

Carrier 1: spread rate 1, 9 channel; –1.875 MHz frequency offset; 0 dB power

Carrier 2: spread rate 1, 9 channel; –625 kHz frequency offset; 0 dB power

Carrier 3: spread rate 1, 9 channel; 625 kHz frequency offset; 0 dB power

Carrier 4: spread rate 1, 9 channel; 1.875 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 16, 26
Remarks	None

W-CDMA

Carrier 1: perch channel; –7.5 MHz frequency offset; 0 dB power

Carrier 2: perch channel; –2.5 kHz frequency offset; 0 dB power

Carrier 3: perch channel; 2.5 kHz frequency offset; 0 dB power

Carrier 4: perch channel; 7.5 MHz frequency offset; 0 dB power

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 244
Remarks	None

4 Carriers TM1 64 DPCH

Supported   All with Option 001 or 002

Use this softkey to select a 4-carrier W-CDMA setup. Each carrier will be a TM1 (Test Model 1) with 64 DPCH. Scramble codes and timing offsets are automatically incremented.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

4-Lvl FSK

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 136, 152

Remarks   None

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*.

Preset   N/A

Range   N/A

| **Location** | See *Key and Data Field Menu Maps* guide: Pages 81, 126, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222 |
| **Remarks** | None |

4QAM

| **Supported** | All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162
Remarks	None

5 Channel

| **Supported** | All with Option 401 |

This softkey selects a reverse link setup to transmit a 5-channel CDMA2000 signal.

Channel 1 is a pilot channel, channel 2 is a dedicated control channel, channel 3 is a fundamental traffic channel, channel 4 is a supplemental 1 traffic channel, and channel 5 is a supplemental 2 traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 39
Remarks	None

7.5 ksps

Supported All with Option 400

Use this softkey to select 7.5 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 253
Remarks	None

8 1's & 8 0's

Supported All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 74, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214
Remarks	None

8 Bit Pattern

Supported   All with Option 406

This softkey enables you to enter an eight-bit pattern for a Bluetooth setup. The 8-bit pattern is repeated 27 times within the payload of each packet. A change in the payload data type resets the eight-bit pattern to the default value.

Preset   0000 0000

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

8 Channel

Supported   All with Option 401

This softkey selects a reverse link setup to transmit an 8-channel CDMA2000 signal. Channel 1 is a traffic channel, and channels 2 through 8 are supplemental 1 traffic channels. This setup is used for radio configurations 1 and 2.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 39

Remarks   None

8-Lvl FSK

Supported   All with Option 001 or 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.

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 126, 136, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 81, 126, 142, 158
Remarks	None

8PSK

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162
Remarks	None

9 Ch Fwd

Supported   All with Option 401

This softkey selects a standard, forward 9-channel IS-95A setup.

Using this setup, the signal generator will transmit a 9-channel IS-95A signal for forward link (base-to-mobile) at IS-97-defined power levels. Channel 1 is a pilot channel, channel 2 is a paging channel, channels 3 through 8 are traffic channels, and channel 9 is a synchronization channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 16, 18
Remarks	None

9 Channel

Supported   All with Option 401

This softkey selects a forward link setup to transmit a 9-channel CDMA2000 signal. Channel 1 is a pilot channel, channel 2 is a paging channel, channels 3 and 6 are traffic channels, channels 4, 5, 7, and 8 are supplemental 1 traffic channels, and channel 9 is a synchronization channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 26
Remarks	None

10ms Frame Pulse (RPS6)

Supported   All with Option 400

This softkey assigns the 10 millisecond frame pulse to the selected rear panel AUX I/O output connector/pin.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266, 272
Remarks	The 10 millisecond frame pulse can be assigned to several different output connectors. The **(RPS6)** designator refers to the remote SCPI command that corresponds to this softkey.

10 msec

Supported   All with Option 400

This softkey selects a 10 millisecond time period for the uplink frame clock.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 261, 262, 271
Remarks	When using the frame clock, use a frame clock period equal to or longer than the longest transport channel transmission time interval (TTI). The TTI period can be set in the transport channel setup menu. Refer to "TTI" on page 625 for more information.

12.2 kbps (34.121 v3.8)

Supported   All with Option 400

This softkey configures the downlink DPCH to a 12.2 kbps reference measurement channel as per 3G TS34.121 v3.8 specifications.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This selection will affect the channel slot format.
	When this softkey is pressed, the value for the Data Type field in the

highlighted row will change to `Ref 12`.

15 ksps

Supported   All with Option 400

Use this softkey to select 15 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 250, 253

Remarks   None

16 1's & 16 0's

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 74, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214

Remarks   None

16-Lvl FSK

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 126, 136, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 81, 126, 142, 158
Remarks	None

16PSK

Supported	All with Option 001 or 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.

Preset	N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162
Remarks	None

16QAM

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162
Remarks	None

20 msec

Supported	All with Option 400

This softkey selects a 20 millisecond time period for the uplink frame clock.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 261, 262, 271
Remarks	When using the frame clock, use a frame clock period equal to or longer than the longest transport channel transmission time interval (TTI). The TTI period can be set in the transport channel setup menu. Refer to "TTI" on page 625 for more information.

25 Hz

Supported	All with Option UNJ

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	None.

30 ksps

Supported	All with Option 400

Use this softkey to select 30 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 250, 253
Remarks	None

32 1's & 32 0's

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 74, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214
Remarks	None

32 Ch Fwd

Supported	All with Option 401

This softkey selects a standard, forward 32-channel IS-95A setup. Using this setup, the signal generator will transmit a 32-channel IS-95A signal for forward link (base-to-mobile) at IS-97-defined power levels. Channel 1 is a pilot channel, channel 2 is a paging channel, channels 3 through 26 and channels 28 through 32 are traffic channels, and channel 27 is a synchronization channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 16, 18
Remarks	None

32QAM

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226

Remarks   None

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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162

Remarks   None

40.000 MHz

Supported   All with Option 001 or 002

Use this softkey to apply a 40.000 MHz filter to signals that are routed to the I/Q modulator or the I/Q signal out the rear panel of the instrument. This filter eliminates spurs above 40.000 MHz.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 21, 41, 91, 100, 249

Remarks   None

40 msec

Supported   All with Option 400

This softkey selects a 40 millisecond time period for the uplink frame clock.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 261, 262, 271

Remarks   When using the frame clock, use a frame clock period equal to or longer
than the longest transport channel transmission time interval (TTI).
The TTI period can be set in the transport channel setup menu. Refer
to "TTI" on page 625 for more information.

53 Hz

Supported   All with Option UNJ

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

Remarks   None

60 ksps

Supported   All with Option 400

Use this softkey to select 60 kilosymbols per second as the data rate for the selected
channel type to be inserted into the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 250, 253

Remarks   None

64 1's & 64 0's

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 74, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214

Remarks   None

64 Ch Fwd

Supported   All with Option 401

This softkey selects a standard, forward 64-channel IS-95A setup.

Using this setup, the signal generator will transmit a 64-channel IS-95A signal set independently for forward link (base-to-mobile) at IS-97-defined power levels. Channel 1 is a pilot channel, channels 2 through 8 are paging channels, channels 9 through 32 and channels 34 through 64 are traffic channels, and channel 33 is a synchronization channel.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 16, 18

Remarks   None

64 kbps (34.121 v3.8)

Supported   All with Option 400

This softkey configures the downlink DPCH to a 64 kbps reference measurement

channel as per 3G TS34.121 v3.8 specifications.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This selection will affect the channel slot format.
	When this softkey is pressed, the value for the `Data Type` field in the highlighted row will change to `Ref 64`.

64QAM

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162

Remarks   None

80ms Frame Pulse (RPS20)

Supported   All with Option 400

This softkey assigns the 80 millisecond frame pulse to the selected rear panel AUX I/O output connector/pin.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 272

Remarks   The 80 millisecond frame pulse can be assigned to several different output connectors. The **(RPS20)** designator refers to the remote SCPI command that corresponds to this softkey.

80 msec

Supported   All with Option 400

This softkey selects a 80 millisecond time period for the uplink frame clock.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 261, 262, 271

Remarks   When using the frame clock, use a frame clock period equal to or longer than the longest transport channel transmission time interval (TTI). The TTI period can be set in the transport channel setup menu. Refer to "TTI" on page 625 for more information.

120 ksps

Supported   All with Option 400

Use this softkey to select 120 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 250, 253

Remarks   None

126 Hz

Supported   All with Option UNJ

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

Remarks   None

144 kbps (34.121 v3.8)

Supported   All with Option 400

This softkey configures the downlink DPCH to a 144 kbps reference measurement channel as per 3G TS34.121 v3.8 specifications.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 257

Remarks   This selection will affect the channel slot format.

When this softkey is pressed, the value for the Data Type field in the highlighted row will change to Ref144.

240 ksps

Supported   All with Option 400

Use this softkey to select 240 kilosymbols per second as the symbol rate for the selected channel type to be inserted into the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 250, 253

Remarks   None

256QAM

Supported   All with option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226

Remarks   None

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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162

Remarks   None

300

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

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

300 Hz

Supported   All with Option UNJ

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	None

384 kbps (34.121 v3.8)

Supported   All with Option 400

This softkey configures the downlink DPCH to a 384 kbps reference measurement channel as per 3G TS34.121 v3.8 specifications.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This selection will affect the channel slot format.
	When this softkey is pressed, the value for the Data Type field in the highlighted row will change to Ref384.

480 ksps

Supported   All with Option 400

Use this softkey to select 480 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 250, 253
Remarks	None

650 Hz

Supported   All with Option UNJ

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

Remarks   None

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   See *Key and Data Field Menu Maps* guide: Page 97

Remarks   None

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	See *Key and Data Field Menu Maps* guide: Page 98
Remarks	None

960 ksps

Supported	All with Option 400

Use this softkey to select 960 kilosymbols per second as the data rate for the selected channel type to be inserted into the table editor.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 250, 253
Remarks	None

1200

Supported	All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	The baud rate is not affected by a preset or by a power cycle.

1500 Bps

Supported	All with Option 401

This softkey selects 1500 bits per second and the data rate for the selected CDMA traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 35, 46
Remarks	None

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	See *Key and Data Field Menu Maps* guide: Page 97
Remarks	None

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	See *Key and Data Field Menu Maps* guide: Page 98
Remarks	None

2400

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233

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

2560 msec

Supported   All with Option 400

This softkey selects a 2560 millisecond time period for the uplink frame clock.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 261, 262, 271

Remarks   When using the frame clock, use a frame clock period equal to or longer than the longest transport channel transmission time interval (TTI). The TTI period can be set in the transport channel setup menu. Refer to "TTI" on page 625 for more information.

2700 Bps

Supported   All with Option 401

This softkey selects 2700 bits per second and the data rate for the CDMA traffic channel.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46

Remarks   None

4800

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

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

4800 Bps

Supported   All with Option 401

This softkey selects 4800 bits per second and the data rate for the selected CDMA traffic channel.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46

Remarks   None

7680

Supported   All with Option 401

This softkey selects 7680 chips as the frame timing for the uplink physical random access channel (PRACH). The Tp-a is the difference between the uplink PRACH's frame timing relative to the AICH and the downlink's AICH framing timing. This timing difference is part of the propagation delay. See 3GPP Standard TS25.211 and TS25.214 specifications for more information.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46, 271

Remarks   The actual timing offset is defined as:
(Timeslot Offset + Timing Offset $\times$ 2560) − (Tp−a) [chips]

9600

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

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

9600 Bps

Supported   All with Option 401

This softkey selects 9600 bits per second and the data rate for the selected CDMA traffic channel.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46

Remarks   None

12800

Supported   All with Option 401

This softkey selects 12800 chips as the frame timing for the uplink physical random access channel (PRACH). The Tp-a is the difference between the uplink PRACH's frame timing relative to the AICH and the downlink's AICH framing timing. This timing difference is part of the propagation delay. See 3GPP Standard TS25.211 and TS25.214 specifications for more information.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46, 271

Remarks   The actual timing offset is defined as:
(Timeslot Offset + Timing Offset $\times$ 2560) – (Tp–a) [chips]

16384

Supported   All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 16384 points.

Preset   N/A

Range   N/A

Location   See Key and Data Field Menu Map guide: Page 12

Remarks   None

19200

Supported	All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	The baud rate is not affected by a preset or by a power cycle.

19200 Bps

Supported	All with Option 401

This softkey selects 19200 bits per second and the data rate for the selected CDMA traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 35, 46
Remarks	None

32768

Supported	All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 32768 points.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

38400

Supported	All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	The baud rate is not affected by a preset or by a power cycle.

38400 Bps

Supported   All with Option 401

This softkey selects 38400 bits per second and the data rate for the selected CDMA traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 35, 46
Remarks	None

57600

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	The baud rate is not affected by a preset or by a power cycle.

65536

Supported   All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 65536 points.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

76800 Bps

Supported   All with Option 401

This softkey selects 76800 bits per second and the data rate for the selected CDMA traffic channel.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46

Remarks   None

8648A/B/C/D

Supported   All

This softkey selects 8648A/B/C/D compatible commands for remote operation of the signal generator. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8648A/B/C/D** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8648A/B/C/D. Choosing **8648A/B/C/D** in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing **8648A/B/C/D** in the Remote Language menu allows you to immediately use 8648A/B/C/D commands for remote operation of the signal generator.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 233, 234

Remarks   The 8648A/B/C/D compatible commands are only supported over the GPIB interface.

8656B,8657A/B

Supported   All

This softkey selects 8656B or 8657A/B compatible commands for remote operation of the signal generator. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8656B,8657A/B** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8656B and the 8657A/B. See the

Functional E4438C SC PI Commands While in a Compatible Language Mode chapter of the Programming Compatibility Guide. Choosing **8656B,8657A/B** in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator. Choosing **8656B,8657A/B** in the Remote Language menu allows you to immediately use 8656B,8657A/B commands for remote operation of the signal generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 233, 234
Remarks	The 8656B, 8657A/B compatible commands are only supported over the GPIB interface.

8657D NADC

Supported   All

This softkey selects 8657D NADC compatible commands for remote operation of the signal generator. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8657D NADC** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8657D with NADC digital modulation capabilities. Choosing **8656D NADC** in the Preset Language menu allows you to select this remote language as the default after you preset the signal generator.
Choosing **8657D NADC** in the Remote Language menu allows you to immediately use 8648A/B/C/D commands for remote operation of the signal generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 233, 234
Remarks	The 8657D NADC compatible commands are only supported over the GPIB interface.

8657D PDC

Supported   All

This softkey selects 8657D PDC compatible commands for remote operation of the signal generator. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8657D PDC** softkey is a language choice for the signal generator and is compatible

with the remote language commands used by the 8656D with PDC digital modulation capabilities. Choosing **8657D PDC** in the Preset Language menu allows you to select this remote language as the default language after you preset the signal generator. Choosing **8657D PDC** in the Remote Language menu allows you to immediately use 8648A/B/C/D commands for remote operation of the signal generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 233, 234
Remarks	The 8657D PDC compatible commands are only supported over the GPIB interface.

8657J PHS

Supported	All

This softkey selects 8657J PHS compatible commands for remote operation of the signal generator. The selection appears in the Preset Language softkey menu and the Remote Language softkey menu.

The **8657J PHS** softkey is a language choice for the signal generator and is compatible with the remote language commands used by the 8657J with PHS digital modulation capabilities. Choosing **8657J PHS** in the Preset Language menu allows you to select this remote language as the default language after you preset the signal generator. Choosing **8657J PHS** softkey in the Remote Language menu allows you to immediately use 8648A/B/C/D commands for remote operation of the signal generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 233, 234
Remarks	The 8657D NADC compatible commands are only supported over the GPIB interface.

131072

Supported	All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 131072 points.

Preset	N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

153600 Bps

Supported	All with Option 401

This softkey selects 153600 bits per second and the data rate for the selected CDMA traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 35, 46
Remarks	This softkey is available only for a supplemental traffic channel.

262144

Supported	All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 262144 points.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

307200 Bps

Supported	All with Option 401

This softkey selects 307200 bits per second and the data rate for the selected CDMA traffic channel.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 35
Remarks	This softkey is available only for a supplemental traffic channel.

524288

Supported   All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 524288 points.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

1048576

Supported   All with Option 403

This softkey sets the length of the additive white Gaussian noise (AWGN) waveform to 1048576 points.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

A

A

Supported All with Option 400

This softkey selects the frame structure used for the downlink compressed mode. The **A** softkey maximizes the transmission gap length in a compressed frame.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the Frame Struct field. Refer to "Frame Struct" on page 289 for more information.

Remarks   None

A field

Supported All with Option 402

Use this softkey to make the hexadecimal value of the 64-bit A field the active function. The current value appears in the A field near the bottom of the text area of the display. The preset value (when normal preset is selected) reflects the Digital European Cordless Telecommunications (DECT) format, but you can enter a new hexadecimal value.

The A field comprises 48 bits of signalling data and 16 bits of error correction.

Preset: 0000FFFF0000FFFF

Range   0–FFFFFFFFFFFFFFFF

Location   See *Key and Data Field Menu Maps* guide: Page 196

Remarks   None

Abort Cal

Supported All with Option 001 or 002

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

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 3
Remarks	None

Access

Supported	All with Option 402

Use this softkey to select access as the timeslot type for the active timeslot. Access is a short uplink burst for the mobile to access service from a base station.

When you select **Access** for a timeslot, the visual representation of the timeslot pattern updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 132
Remarks	None

ACS

Supported	All with Option 400

Adjacent channel selectivity (ACS) is a measure of a receiver's ability to receive a W-CDMA signal at its assigned channel frequency in the presence of an adjacent channel signal at a given frequency offset from the center frequency of the assigned channel. ACS is the ratio of the receiver filter attenuation on the assigned channel frequency to the receiver filter attenuation on the adjacent channel(s).

This is a single button setup that configures the instrument to generate an in-channel signal for ACS testing. It automatically sets the transport channel group A to the 12.2 reference measurement channel and sets the RF amplitude in accordance with the specification.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This softkey is available for downlink DPCH.

Actual BER

Supported   All with Option 400

This field displays the actual bit error rate (BER) value being generated. This value may be different from the desired BER value as set in the BER field. It is calculated after the **Apply Channel Setup** softkey is pressed and the error bits are inserted into the data of the transport channel. To insert the error bits, the Err Insert field must be set to BER. This data field is on the second page of the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 266

Remarks   This field is displayed for the uplink DPDCH Transport setup.

Actual BLER

Supported   All with Option 400

This field displays the actual block error rate (BLER) value being generated. This value may be different from the desired BLER value as set in the BLER field. It is calculated after the **Apply Channel Setup** softkey is pressed and the error blocks are inserted into the data of the transport channel. To insert the error blocks, the Err Insert field must be set to BLER.

Preset   N/A

Range   0–5000

Location   See *Key and Data Field Menu Maps* guide: Pages 266

Remarks   None

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.

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Page 229
Remarks	The comment line is limited to 55 alpha-numeric and special characters.

Adjust Code Domain Power

Supported	All with Option 400/401

Use this softkey to access a menu that enables you to adjust the code domain power (the relative power in each of the channels) to either IS-97 levels, equal energy per symbol, equal powers or scale to 0 dB.

IS-97 Levels	This menu selection sets the channel power to IS-97 levels. This selection is available only for IS-95A.
Equal Powers	This menu selection sets all channels to equal power, and the total power to 0 dB. This selection is available only for IS-95A and CDMA2000.
Equal Energy per Symbol	This menu selection sets the channel powers so that all channels have equal energy per symbol referenced to 7.5ksps, and increasing by 3 dB for each doubling of the symbol rate. This selection is available only for W-CDMA.
Scale to 0dB	This menu selection scales all of the current channel powers so that the total power equals 0 dB while maintaining the power ratios between the individual channels. This selection is available for all CDMA formats.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 22, 31, 43, 53, 59, 248, 257, 267
Remarks	After making adjustments, you can view a graphical representation of the code domain power by pressing **Display Code Domain Power**.

Adjust Gain

Supported	All with Option 300

This softkey enables you to make the adjustment necessary to start the synchronization with the PDCH channel for the EDGE format. This key must be used when switching

the synchronization source from the broadcast channel (BCH), GMSK modulation, to a packet data channel (PDCH), EDGE modulation.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 8
Remarks	This key is only enabled when **EDGE BERT Off On** is set to On.

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.

Preset	0.000 radians
Range	±3.142 radians or ±180.0 degrees
Location	See *Key and Data Field Menu Maps* guide: Page 97
Remarks	Phase adjustment cannot be used with frequency or phase modulation. Adjustments to phase can be made in 0.1 degree increments.

AICH

Supported   All with Option 400

This softkey, acquisition indicator channel (AICH), is one of the selections available for the Uplink Physical Type: PRACH Timing menu. The softkey appears when the `Message Part` field in this menu is selected and the **Edit Item** softkey pressed. This selection causes the message part of the PRACH signal to be generated when an AICH trigger is received and after the specified number of preambles have played. When selected, `AICH` will be displayed in the Uplink Input Signal Setup menu. The AICH trigger works only when AICH is selected for the message part generation parameter.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 269

Remarks   The AICH trigger is accepted during the preamble to message (Tp-m) or preamble to preamble (Tp-p) time period, whichever is shorter. The AICH trigger is ignored at other time periods.

AICH Trigger Polarity Neg Pos

Supported   All with Option 400

This softkey selects the acquisition indicator channel (AICH) trigger polarity to be either positive or negative. The AICH trigger indicates that the base station (BTS) has received the preamble and is ready for the message part of the physical random access channel (PRACH) signal.

Neg   The signal generator responds to a high to low trigger transition

Pos   The signal generator responds to a low to high trigger transition.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 271

Remarks   The AICH trigger is accepted during the preamble to message (Tp-m) or preamble to preamble (Tp-p time period, whichever is the shorter. The AICH trigger is ignored at other time periods.

ALC BW Normal Narrow

Supported   All

This softkey toggles between ALC normal and narrow bandwidth modes. The bandwidth is automatically set to narrow when external I/Q modulation is turned on, and automatically set to normal when I/Q modulation is turned off.

Normal   In normal mode, the hardware selects an appropriate bandwidth to optimize performance with the current settings.

Narrow   In narrow mode, ALC bandwidth is limited to 100 Hz, which can improve error vector magnitude (EVM). Narrow bandwidth mode may, however, also slow the settling time for frequency changes to as much as 40 ms.

Preset   Normal

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 3

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

ALC Hold (None)

Supported All with option 001 and 002

This softkey enables you to select a marker that enables and disables the ALC Hold feature. A high marker signal enables the ALC hold when the marker polarity is positive; a low marker signal disables the ALC Hold. The ALC Hold marker function holds the I/Q modulator at the amplitude of the sample point(s) where the marker signal occurs. Primarily used for bursted signals to maintain power accuracy.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 20, 34, 49, 72, 92, 105, 255

Remarks If the Pulse Routing function has been selected, it will automatically incorporate ALC Hold.

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 µs 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 µs. 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.

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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 3, 99

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

All

In the Standard Menu

Supported   All

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

Preset.   N/A

Range.   N/A

Location.   See *Key and Data Field Menu Maps* guide: Page 234

Remarks.   None

In the CDMA Menu

Supported   All with Option 401

Use this softkey to turn on all channels in the current reverse link configuration.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 53, 59

Remarks   None

All (Except FQPCH)

Supported   All with Option 401

Use this softkey to turn on all channels in the current forward link configuration, except for the forward link quick paging channel (FQPCH).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 53, 59

Remarks   None

All Down

Supported   All with Option 400

This softkey sets the transmit power control (TPC) pattern to send consecutive down commands on a slot-by-slot basis.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the TPC Pat field. Refer to "TPC Pattern" on page 610 for more information.

Remarks   This softkey is available for downlink DPCH and the uplink DPCCH.

All Timeslots

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 77, 116, 131, 147, 163, 179, 195, 211

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

All Up

Supported   All with Option 400

This softkey sets the transmit power control (TPC) pattern to send consecutive up commands on a slot-by-slot basis.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the TPC Pat field. Refer to "TPC Pattern" on page 610 for more information.

Remarks   This softkey is available for downlink DPCH and the uplink DPCCH.

Alt Ampl Delta

Supported   All with Option 001 or 002

Press this softkey to set the delta value for the alternate amplitude function.

Preset   0.00 dB

Range   0.00–161.00 dB

Location   See *Key and Data Field Menu Maps* guide: Page 5

Remarks   None

Alt Ampl Off On

Supported   All with Option 001 or 002

This softkey toggles the operating state of the alternate amplitude function.

Off   Main RF output power amplitude is used when this mode is turned off.

On   RF output power is switched from main to alternate amplitude in this mode.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 5

Remarks   None

Alt Ampl Trigger

Supported   All with Option 001 or 002

Use this softkey to access a menu of choices for the alternate amplitude trigger source. These choices include Int (internal from the baseband generator), Ext (external source provided at the rear panel TRIG IN connector), and Manual (softkey-driven) triggering.

Internal triggering is used during framed-data generation. Each timeslot is allowed to output power with a user-selected main or alternate amplitude. For instruments without baseband generators, the Int softkey will be nonfunctional.

For instruments containing baseband generators, internal triggering is automatically selected during framed data transmission with at least one activated timeslot with alternate amplitude.

Preset   Manual

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 5

Remarks   None

Alternate Amplitude

Supported   All with Option 001 or 002

Use this softkey to reveal a menu for configuring the alternate amplitude function. The menu includes softkeys for configuring the alternate amplitude state, delta, triggering, and subsequently, manual triggering between the main and alternate amplitudes.

Preset   N/A

Range   −156 to 156

Location   See *Key and Data Field Menu Maps*: Page 3, 20, 72, 92, 105, 255

Remarks   The actual RF output amplitude is equal to the Alternate Amplitude Delta value plus the RF output amplitude; this sum cannot exceed the minimum and maximum amplitude limits of the signal generator. For example, if the Alternate Amplitude Delta is set to −156 dB and the RF output amplitude is set to 20 dB, the sum is equal to −136 dB.

Alternate Amplitude (None)

Supported   All with option 001 and 002

This softkey enables you to select a marker that enables and disables the Alternate Amplitude function. A low marker signal enables Alternate Amplitude; a high marker signal disables Alternate Amplitude. The Alternate Amplitude parameters located in the **Amplitude** hardkey menu still need to be configured. Primarily used for TDMA formats requiring more than one timeslot power level.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 20, 34, 49, 72, 92

Remarks   This softkey is only available with signal generators equipped with an electronic attenuator.

AM

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   None

AM_ADDR

Supported   All with Option 406

This softkey enables you to assign a 3-bit slave address for Bluetooth. The active member address is used to distinguish between the active members participating on the piconet.

Preset   1

Range   0–7

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

AM Depth

Supported   All

This softkey enables you to set the amplitude modulation depth, as a percent, 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.

Preset   0.1%

Range   0.0–100.0% (minimum increment allowed is 0.1%)

Location   See *Key and Data Field Menu Maps* guide: Page 2

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

AM Depth Couple Off On

Supported   All

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.

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

Off   AM depth coupling is disabled.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

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

AM Off On

Supported   All

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.

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.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   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.

AM Path 1 2 WB

Supported   All

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

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.

Preset   AM Path 1

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   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 Rate

Supported   All

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

Preset	400.0 Hz
Range	0.1 Hz–20.0 kHz (minimum increment allowed is 0.5 Hz) 0.1 Hz–100.0 kHz if a sine wave is selected as the internal waveform
Location	See *Key and Data Field Menu Maps* guide: Page 2
Remarks	The new value for the AM rate applies only to the AM path selected.

AM Source

Supported   All

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

Preset	Internal
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 2
Remarks	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.)

AM Start Rate

Supported   All

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

Preset	400.0 Hz
Range	0.1 Hz–100.0 kHz (minimum increment allowed is 1.0 Hz)
Location	See *Key and Data Field Menu Map* guide: Page 2
Remarks	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.

AM Stop Rate

Supported   All

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

Preset   400.0 Hz

Range   0.1 Hz–100.0 kHz (minimum increment allowed is 0.1 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   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.

AM Sweep Time

Supported   All

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

Preset   100 ms

Range   1 ms–65.535 s

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   None

AM Sweep Trigger

Supported   All

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

Preset   Free Run

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   N/A

AM Tone 1 Rate

Supported   All

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

Preset   400.0 Hz

Range   0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 2

Remarks   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.

AM Tone 2 Ampl Percent of Peak

Supported   All

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.

Preset   50.0%

Range   0.1%–99.9%

Location   See *Key and Data Field Menu Maps* guide: Page 2

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

AM Tone 2 Rate

Supported   All

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

Preset   400.0 Hz

Range   0.5 Hz–1.0 MHz (minimum increment allowed is 0.5 Hz)

Location   See *Key and Data Field Menu Maps* guide: Page 2

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

AM Waveform

Supported   All

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 as the AM Source or after pre-setting the signal generator.

Preset   Sine

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 2

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

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 230

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

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.

Preset	0.00 dB
Range	−200 dB to 200 dB
Location	See *Key and Data Field Menu Maps* guide: Page 3
Remarks	Changes to this value affect the displayed amplitude value only, the actual RF output power amplitude is not changed.

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.

Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 3
Remarks	Amplitude reference mode changes the display only, it does not change the RF output power.

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.

Preset	0.00 dB
Range	−136 to 20 dBm

Location	See *Key and Data Field Menu Maps* guide: Page 3
Remarks	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.

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	See *Key and Data Field Menu Maps* guide: Page 230
Remarks	None

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	See *Key and Data Field Menu Maps* guide: Page 230
Remarks	None

Amplitude

For the Front Panel Hardkey

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.

Preset	*Standard instruments:* –20.00 dBm
	Instruments with Option UNB: –136.00 dBm
Range	The output power range depends on your signal generator options. For more information, refer to the data sheet.
Location	See *Key and Data Field Menu Maps* guide: Page 3
Remarks	None

For the Baseband BERT Modulation Menu

Supported   All with Option UN7

This softkey enables you to change the RF output power. 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

Preset	*Standard instruments:* –20.00 dBm
	Instruments with Option UNB: –136.00 dBm
Range	The output power range depends on your signal generator options. For more information, refer to the data sheet.
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

AMR 12.2 (25.944 v3.5)

Supported   All with Option 400

This softkey configures the downlink dedicated physical channel (DPCH) to the adaptive multiple rate (AMR) 12.2 kbps reference as described in the 3GPP Technical Specification (TS25.944 V3.5).

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257, 262
Remarks	This selection affects the symbol rate and channel slot format on the DPCH channel being edited. It also sets up the DCH channels in accordance with the specification as follows:

DPCH1 sets up TrCh group A
DPCH2 sets up TrCh group B

When this softkey is pressed, the value for the Data Type field in the highlighted row will change to AMR 12.

AMR 12.2 kbps

Supported	All with Option 400

This softkey configures the uplink dedicated physical data channel (DPDCH) to the adaptive multiple rate (AMR) 12.2 kbps reference measurement as described in the 3GPP Technical Specification (TS25.944 V3.5).

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 262
Remarks	This selection affects the symbol rate and channel slot format.

APCO 25 C4FM

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 17, 28, 44, 52, 58, 68, 78, 109, 120, 135, 151, 167, 183, 199, 215, 249, 256, 263
Remarks	None

APCO 25 w/C4FM

Supported   All with Option 001 or 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).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 69, 77

Remarks   None

APCO 25 w/CQPSK

Supported   All with Option 001 or 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 π/4 differential quadrature phase shift keying (π/4 DQPSK) modulation, which transmits data at the rate of 2 bits per symbol (4.8 ksps).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 69, 77

Remarks   None

Apply Bit Errors

Supported   All with Option 001 or 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.

Preset   N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 79, 110, 123, 138, 139, 154, 155, 170, 171, 186, 187, 202, 203, 218, 219

Remarks None

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.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 79, 110, 123, 138, 139, 154, 155, 170, 171, 186, 187, 202, 203, 218, 219

Remarks None

Apply Channel Setup

Supported All with Option 401

Use this softkey to apply the changes made in the Edit Channel Setup Table Editor.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 245, 257, 259, 265, 266

Remarks If the waveform is set to on, then the new channel data is used to generate a new modulation waveform in IS-95 or CDMA2000 waveform memory.

Apply Multicarrier

Supported All with Option 001 or 002

Use this softkey to apply the current settings in the IS-95A, CDMA2000, W-CDMA or Custom multicarrier table editor.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 18, 28, 66, 246

Remarks   None

Apply Multitone

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 103

Remarks   None

Apply To Waveform

Supported   All with Option 401

Use this softkey to apply the current clipping, scaling, and marker settings you have selected to the waveform. The waveform automatically regenerates every time you change a setting and press the **Apply to Waveform** softkey.

Repeated presses of the softkey is cumulative. For example, if scaling is 75 percent, a second press of the softkey will make scaling 75 percent of the original 75 percent.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 89, 91, 92, 93

Remarks   Press **Return** if you do not want to apply the new settings at this time.

Arb AWGN Off On

Supported   All with Option 403

This softkey sets the operating state of the additive white Gaussian noise (AWGN) function for the arbitrary waveform generator.

Off   When you choose Off, AWGN is disabled.

On   When you choose On, AWGN is enabled.

Preset   Off

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

ARB Catalog Types

Supported	All with Option 001 or 002

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 236
Remarks	None

Arb CDMA2000

Supported	All with Option 401

Use this softkey to access a menu from which you can operate the CDMA2000 waveform generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 15, 26, 39
Remarks	None

Arb IS-95A

Supported	All with Option 401

Use this softkey to access a menu from which you can operate the CDMA IS-95A waveform generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 15, 16
Remarks	None

ARB Off On

Supported	All with Option 001 or 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
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 88
Remarks	None

ARB Reference Ext Int

Supported	All with Option 400/401

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
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 16, 29, 41, 91, 246
Remarks	None

ARB Sample Clock

Supported	All with Option 001 or 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 MHz
Range	1.0 Hz–100.0 MHz

| Location | See *Key and Data Field Menu Maps* guide: Page 16, 29, 41, 91, 65, 246 |
| Remarks | None |

ARB Setup

| Supported | All with Option 001 or 002 |

This softkey displays the Arb setup menu. From this menu you can adjust the arbitrary waveform generator (ARB) reference between internal and external, set the frequency of the ARB sample clock, and access the waveform, marker, and header utilities.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 16, 26, 39 88, 103, 244
Remarks	None

Arb Waveform Generator

| Supported | All with Option 001 or 002 |

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 63, 65
Remarks	None

Arb Waveform Generator AWGN

| Supported | All with Option 403 |

This softkey accesses a menu that enables you to set the parameters of the additive white Gaussian noise (AWGN) modulation which uses the internal arbitrary waveform generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

Arb W-CDMA

Supported   All with Option 400

Use this softkey to access a menu from which you can operate the wideband CDMA
waveform generator.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 243, 244

Remarks   None

Arm Sensitivity Search

Supported   All with Option 300

Use this softkey to arm the sensitivity search function. Once sensitivity search is armed,
the sensitivity search operation will run upon receiving the selected trigger. (If **Trigger
Key** is selected, press the **Trigger** hardkey to start the search.)

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8, 8

Remarks   During search, no other softkey operation is available.

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.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 3

Remarks   There will be no attenuator switching during power adjustments. The

maximum power adjustment range will vary. However, you will have a minimum range of +4 dB to –13 dB.

During an amplitude sweep operation, signal generators with Option UNB protect the step attenuator by automatically switching to attenuator hold (Off) mode. The attenuator is locked at its current setting and the amplitude sweep range is limited to 40 dB.

Auto

Supported	All

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

Preset	N/A
Range	N/A
Location	See Key and Data Field Menu Maps guide: Pages 91, 100
Remarks	None

AUTO

Supported	All with Option 400

This softkey, when selected, automatically adjusts the power of the compressed frame to compensate for the code gain loss.

When AUTO is selected, the signal generator calculates the power offset values following the power calculation method described in 3GPP Standard TS25.101 and TS25.214. The calculated value is expressed in decibels (dB).

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 21, 249
Remarks	None

Aux Fctn

Supported	All

This hardkey accesses a menu of auxiliary functions. If no auxiliary functions are installed, the softkey will display **Option(s) Not Installed**.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

Aux I/O

Supported   All with Option UN7

This softkey enables you to trigger an event with the AUX I/O pin #22 connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

Aux I/O Out

Supported   All with Option UN7

Use this softkey to access a menu of choices for the bit error rate output configuration using the AUX I/O rear panel connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

Aux I/O Trigger Polarity Neg Pos

Supported   All with Option UN7

Use this softkey to select the auxiliary I/O triggering mode.

Neg	This choice initiates triggering on the falling edge of the trigger signal.
Pos	This choice initiates triggering on the rising edge of the trigger signal.
Preset	N/A
Range	N/A

Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	This softkey is enabled when the AUX I/O triggering mode is selected.

AWGN

For an AWGN Waveform

Supported	All with Option 403

This softkey accesses a menu of softkeys for configuring and generating an additive white Gaussian noise waveform.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12, 102
Remarks	None

For Bluetooth Impairments

Supported	All with Option 406

This softkey accesses a menu for configuring additive white gaussian noise as an impairment in a Bluetooth waveform.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	The parameters set in the AWGN setup menu will not be implemented until both **AWGN Off On** and **Impairments Off On** are in the On state.

In the W-CDMA Menu

Supported	All with Options 400, 403

This softkey selects the additive white gaussian noise (AWGN) signal for the physical random access channel (PRACH) transmission, the uplink (AWGN) is selected by pressing the **PRACH AWGN Setup** softkey, or the downlink physical channel number eight (AWGN).

Preset	N/A
Range	N/A

Location	See *Key and Data Field Menu Maps* guide: Page 257, 269
Remarks	N/A

AWGN Off On

This softkey appears in two places.

For an AWGN Waveform

Supported	All with Option 403

This softkey sets the operating state of the additive white Gaussian noise (AWGN) waveform generator.

Off	When you choose Off, the AWGN waveform generator is disabled.
On	When you choose On, the AWGN waveform generator is enabled.
Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

For Bluetooth Impairments

Supported	All with Option 406

This softkey sets the operating state of the additive white Gaussian noise (AWGN) as a Bluetooth impairment.

Off	When you choose Off, the AWGN impairment is disabled.
On	When you choose On, the AWGN is added as a Bluetooth impairment.
Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	The parameters set in the AWGN setup menu will not be implemented until both **AWGN Off On** and **Impairments Off On** are in the On state.

AWGN State Off On

Supported All with Options 400, 403

This softkey enables or disables the additive white gaussian noise (AWGN) for the PRACH channel.

  Off   The AWGN is not used.

  On   The AWGN is on and used for PRACH transmission.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 270

Remarks   None

B

B

Supported	All with Option 400

This softkey selects the frame structure used for the downlink compressed mode. The **B** softkey optimizes power control during a compressed frame.

Preset	N/A
Range	N/A
Location	This key is accessed by editing the Frame Struct field. Refer to "Frame Struct" on page 289 for more information.
Remarks	None

B field

Supported	All with Option 402

This softkey accesses a menu of softkeys from which you can choose either internal data generation (PN9, PN11, PN15, PN20, PN23, fixed 4-bit repeating sequences, set patterns of ones and zeroes), your own data (download a binary file or input data using the DATA INPUT connector), or Digital European Cordless Telecommunications (DECT) data for configuring the timeslot data bit fields (B field).

Preset	PN9
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 196
Remarks	None

Bandwidth

Supported	All with Option 403

This softkey enables you to adjust the bandwidth of the additive white Gaussian noise (AWGN) waveform.

Preset	1.000000 MHz
Range	50.000kHz–15.000 MHz

Location	See *Key and Data Field Menu Maps* guide: Page 12
Remarks	None

Baseband BERT

Supported	All with Option 300

This softkey accesses a menu of softkeys that enable you to set or specify all of the parameters required to configure a bit error rate test (BERT) for baseband bit error rate measurements.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

Base Delay Tp–a

Supported	All with Option 400

This softkey accesses a menu for setting the uplink physical random access channel (PRACH) frame timing. The Tp-a is the difference between the uplink PRACH's frame timing relative to the AICH and the downlink's AICH framing timing. This timing difference is part of the propagation delay. See 3GPP Standard TS25.211 and TS25.214 specifications for more information.

Preset	7680 chip
Range	N/A
Location	See Key and Data Field Menu Map guide: Page 271
Remarks	The actual timing offset is defined as: (Timeslot Offset + Timing Offset $\times$ 2560) – (Tp–a) [chips]

BaseStation Setup

Supported	All with Option 401

Use this softkey to activate the table editor for selecting and modifying the base station transceiver parameters. Highlight the field you want to change and press the **Edit Item** softkey.

Preset	N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 51
Remarks	This softkey is available for the forward link only.

BBG 1

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 107
Remarks	The **Source 1** selection is independent of the **I/Q Out** selection.

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 107
Remarks	The **I/Q Out** selection is independent of the **Source 1** selection.

BBG Chip Clock Ext Int

Supported   All with Option 400

This softkey selects an external clock reference or an internal clock reference for the baseband generator (BBG) chip clock source.

> Ext   The signal generator's BBG uses an externally provided clock reference. For the downlink configuration, a chip clock must be supplied through the DATA CLOCK input connector. For the uplink configuration, a chip clock must be supplied through the BASEBAND

GEN REF IN rear panel connector.

Int	The signal generator uses an internally generated clock reference for the BBG.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 256, 261

Remarks   N/A

BBG Chip Clock Setup

Supported   All with Option 400

This softkey displays a menu from which you can select the baseband generator (BBG) chip clock source, or a multiplier for the external clock.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 261

Remarks   None

BBG Data Clock

Supported   All with Option 401

This field displays the active source for the baseband generator data clock. To change the field selection, highlight the BBG Data Clock field, press the **Edit Item** softkey and make a choice from the menu that appears.

Ext	This choice sets the instrument to use an external data clock as its data clock input. A data clock must be supplied through the DATA CLOCK input connector when external mode is selected.
Int	This choice sets the instrument to use the internal data clock as its data clock input.

Preset   Internal

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 51, 57

Remarks   If external is selected, the BBG Reference field selection will

automatically be set to internal.

BBG Data Clock Ext Int

Supported   All with Option 001 or 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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 77, 119, 134, 150, 166, 182, 198, 214

Remarks   N/A

`BBG Reference`

Supported   All with Option 401

This field selects the reference clock source for the cdma2000 reverse link setup. To change the field selection, highlight the `BBG Reference` field, press the **Edit Item** softkey and make a choice from the menu that appears.

Ext   This choice sets the instrument to use an external reference signal. The expected external reference frequency must be entered using the `EXT BBG Ref Freq` field and the signal must be applied to the BASEBAND GEN REF IN rear panel connector.

Int   This choice sets the instrument to use the internal reference.

Preset   Int

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 57

Remarks	If external is selected, the `BBG Data Clock` field selection will automatically be set to internal.

BBG Ref Ext Int

Supported	All with Option 001 or 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
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 77, 119, 134, 150, 166, 182, 198, 214
Remarks	None

BCH Data

Supported	All with Option 400

This field displays the data type used for the broadcast transport channel (BCH). The data type can be PN9, PN15, FIX4 or a user file. The BCH is transmitted on the primary common control physical channel (P-CCPCH).

Preset	0000
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	Each slot of P-CCPCH data contains 18 bits of BCH information at a rate of 15 kbps. The BCH information spans two frames.

BD_ADDR

Supported   All with Option 406

This softkey enables you to allocate a unique 48-bit Bluetooth device address (BD_ADDR) for the device under test. This address is derived from the IEEE802 standard.

Preset   000000 00 0008

Range   000000000000–FFFFFFFFFFFF

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

Begin Frame

Supported   All with Option 402

Use this softkey to output a 1-bit pulse to the EVENT 1 rear panel connector that is synchronized to the first bit of the first frame. If you have entered a value for Sync Out Offset, the synchronizing pulse is offset by the number of bits specified. The number of trigger pulses generated depends on the framed data pattern selected.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 116, 131, 147, 163, 179, 195, 211

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

Begin Pattern

Supported   All with Option 001 or 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.

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 77, 116, 131, 147, 163, 179, 195, 211
Remarks	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.

Begin Timeslot

Supported	All with Option 001 or 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).

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

Preset	N/A
Range	*EDGE, GSM:* 0–7 *NADC:* 1–6 Half-Rate, 1–3 Full-Rate *PDC:* 0–5 Half-Rate, 0–2 Full-Rate *PHS:* 1–4 Downlink, 1–4 Uplink *DECT:* 0–12 RFP, 1–11 PP *TETRA:* 1–4
Location	See *Key and Data Field Menu Maps* guide: Pages 77, 116, 131, 147, 163, 179, 195, 211
Remarks	The **Data Format Pattern Framed** softkey must be set to Pattern to enable this softkey. This softkey is grayed out (not accessible) in Custom.

BER

Supported	All with Option 400

This field displays the bit error rate (BER) to be inserted into the selected transport channel data. The errors are applied to transport channel data when the **Apply Channel Setup** softkey is pressed. The actual numbers of the `Error Bits`, the `Total Bits`, and the `Actual BER` are displayed below this field and after the errors are applied to the transport channel data. This data field is on the second page of the table editor.

Preset	0.0000

Range:	0.0000–1.0000
Location	See *Key and Data Field Menu Maps* guide: Page 266, 270
Remarks	None

BER/BLER% Configure

Supported   All with Option 300

This softkey accesses a menu that enables you to select the configuration for block or bit error measurements.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 8
Remarks	N/A

BER% TCH/FS Configure

Supported   All with Option 300

Use this softkey to access a menu that enables you to set the full-rate-speech traffic channel (TCH/FS) bit error rate configuration functions such as the frame count, pass/fail limits, and the stop-on-event thresholds.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page
Remarks	None

BER% Uncoded Configure

Supported   All with Option 300

Use this softkey to access a menu that enables you to set uncoded bit error rate configuration functions such as the bit count, pass/fail limits, and the stop-on-event thresholds.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 11

Remarks None

BER Display % Exp

Supported All with Option UN7

Use this softkey to select the display mode for bit error rate measurement results.

%	With this choice the BER measurement results are displayed in percent values.
Exp	With this choice the BER measurement results are displayed in exponential units.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Page 6

Remarks None

BER Mode Off On

Supported All with Option 300

Use this softkey to set the operating state of the bit error rate (BER) mode.

Off	This choice disables the BER mode and only BLER is measured.
On	This choice enables a new BER mode and both BER and BLER are measured.

Preset On

Range N/A

Location See *Key and Data Field Menu Maps* guide: Page 10, 11

Remarks None

BERT

Supported All with Option UN7

This softkey accesses a menu of softkeys that enable you to select the type of bit error rate test (BERT).

Preset N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

BERT Off On

Supported	All with Option UN7

This softkey toggles the operating state of the bit error rate (BER) measurement function.

Off	This choice disables the bit error rate measurement function.
On	This choice enables the bit error rate measurement function.
Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6
Remarks	None

BERT Resync Off On

Supported	All with Option UN7

Use this softkey to set the operating state of the resynchronizing function.

Off	This choice disables the resynchronizing function.
On	With this choice, a new BER measurement will immediately be restarted whenever the previous BER measurement result exceeds the value specified for the resynchronizing limits.
Preset	On
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 9
Remarks	None

BERT Trigger

Supported   All with Option UN7

This softkey accesses a menu of choices for triggering BER measurements.

Preset   Trigger Key

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

BERT Trigger Source

Supported   All with Option 300

This softkey accesses a menu of choices for selecting the BERT trigger source. You can choose triggering that occurs immediately (**Immediate**), triggering by the **Trigger** hardkey (**Trigger Key**), triggering that is supplied remotely via GPIB, RS-232, or LAN (**Bus**), or triggering on an external signal supplied to the TRIGGER IN connector (**Ext**).

Preset   Trigger Key

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   None

Beta

Supported   All with Option 001 or 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   See *Key and Data Field Menu Maps* guide: Pages 25, 38, 48, 56, 62, 72,

80, 87, 114, 129, 145, 161, 177, 193, 209, 225, 255, 260, 269

Remarks   None

Beta

Supported   All with Option 400

This field displays the signal value for the amplitude ratio. The value of the Power field is re-calculated when a Beta value is set in this field. If the value of the Power field is directly set, the value of this field becomes invalid and a "–" is displayed.

Preset: *DPCCH*: 11
                 DPDCH: 15

Range   0–15

Location   See *Key and Data Field Menu Maps* guide: Pages 262

Remarks   Access this field by pressing the **DPCH Power Setup** softkey.

Binary

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 234

Remarks   None

Bit

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 236

Remarks   None

Bit Count

Supported   All with Option 300

This softkey enables you to specify the total number of bits to be measured for the uncoded EDGE channel.

Preset   139200

Range   1392–600000000

Location   See *Key and Data Field Menu Maps* guide: Page 11

Remarks   None

Bit Delay Off On

Supported   All with Option UN7

Use this softkey to set the operating state of the trigger delay for BER measurements.

Off   This choice disables the trigger delay for BER measurements.

On   This choice enables the trigger delay for BER measurements.

Preset: Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

Bit Errors
(numeric value)

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 79, 110, 123, 138,

139, 154, 155, 170, 171, 186, 187, 202, 203, 218, 219

Remarks   None

Bit Errors
(percent value)

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 79, 110, 123, 138, 139, 154, 155, 170, 171, 186, 187, 202, 203, 218, 219

Remarks   None

Bit Rate

In the W-CDMA Menu

Supported   All with Option 400

The bit rate value is automatically updated from calculated transport channel parameters and the reference measurement setup test rate selection.

Preset: *Downlink*: 2 kbps

                  Uplink: 12.2 kbps

Range   None

Location   See *Key and Data Field Menu Maps* guide: Pages 259, 266

Remarks   This field is not user-defined. The value cannot be changed and the field is grayed-out.

In the CDMA Menu

Supported   All with Option 401

This field displays the current bit rate for the selected CDMA2000 channel. To change the bit rate, highlight the `Bit Rate` field, press the **Edit Item** softkey and enter a new

value. If the field is grayed out, you cannot change the value.

Preset	Depends on channel type, radio configuration, and frame length.
Range	Depends on channel type, radio configuration, and frame length.
Location	See *Key and Data Field Menu Maps* guide: Pages 53, 59
Remarks	None

Bits/Frame

Supported	All with Option 400

The field displays the bits per frame for the fully coded transport channel and is automatically updated from calculated transport channel parameters and the selected slot format for the channel.

Preset:	*Uplink*: 490
	Downlink: 60
Range	Varies depending on the channel setup.
Location	See *Key and Data Field Menu Maps* guide: Pages 259, 266
Remarks	This field is not user-defined. The value cannot be changed and the field is grayed-out.

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 232
Remarks	This key is provided for factory use in testing the display.

BLER

Supported	All with Option 400

This field displays the block error rate (BLER) in bits, selected for the transport channel data. The value entered into this field is valid only when the Err Insert field is set to

BLER. The errors are applied to the transport channel data when the **Apply Channel Setup** softkey is pressed. The numbers of the Error Blocks, the Total Blocks, and the Actual BLER data fields are displayed below this field and after the errors are applied to the transport channel data.

Preset   0.000

Range   0.000–1.000

Location   See *Key and Data Field Menu Maps* guide: Page 266, 270

Remarks   This field appears in uplink only.

BLER% CS1 Configure

Supported   All with Option 300

This softkey accesses a menu that enables you to set the CS1 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   N/A

BLER% CS4 Configure

Supported   All with Option 300

This softkey accesses a menu from which you can set CS4 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   N/A

BLER% E-TCH/F43.2 Configure

Supported   All with Option 300

This softkey accesses a menu from which you can select E-TCH/F43.2 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 11

Remarks   N/A

BLER% MCS1 Configure

Supported   All with Option 300

This softkey accesses a menu from which you can select MCS1 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   N/A

BLER% MCS5 Configure

Supported   All with Option 300

This softkey accesses a menu from which you can select MCS5 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 11

Remarks   N/A

BLER% MCS9 Configure

Supported   All with Option 300

This softkey accesses a menu from which you can select MCS9 block error rate configuration functions such as block count, pass or fail limits, threshold number of events to stop, and the state of the BER mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 11

Remarks   N/A

Blk Set Size

Supported   All with Option 400

This field displays the block size set for the selected downlink transport channel.

Changing the value of this field will change the Blk Size field value.

Preset: 20

Range: 0–5000

Location   See *Key and Data Field Menu Maps* guide: Page 259

Remarks   This field is only active when the transport channel positioning is set to fixed.

Blk Size

Supported   All with Option 400

This field displays the coding block size for the selected transport channel. The total input data in one transport channel is the block size multiplied by the number of blocks.

Changing the value of this field will change the Blk Set Size field value.

Preset: *Downlink*: 20 for all transport channels.
Uplink DPDCH: 244 for transport channel #1, 100 for transport channel #2, 20 for transport channels #3, #4, #5, and #6.
Uplink PRACH: 168

Range: 0–5000

Location   See *Key and Data Field Menu Maps* guide: Pages 259, 266

Remarks None

Block Count

Supported All with Option 300

This softkey enables you to specify the number of data blocks to be measured at each measurement on the MCS5 or MCS9 channels.

Preset 600

Range *MCS5*: 1–1500000

MCS9: 2–1500000

Location See *Key and Data Field Menu Maps* guide: Page 8, 10, 11

Remarks For MCS-9, only even values are valid. If odd numbers are entered, the value increments by one to make it an even value.

Block Erasure

Supported All with Option 300

This softkey enables you to set the block erasure threshold. If the number of erased blocks exceeds this value, the measurement will end.

Range: 0 to 1,000,000 frames

Preset 60

Range 0–1500000

Location See *Key and Data Field Menu Maps* guide: Page 10, 11

Remarks N/A

Blocking

Supported All with Option 400

The blocking characteristic is a measure of the receiver's ability to receive a signal at its assigned channel frequency in the presence of an unwanted interferer. For more information refer to 3G TS 25.101

This is a single button setup that configures the signal generator to measure blocking characteristics.

Preset N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	None

Bluetooth

Supported	All with Option 001 or 002

This softkey appears in two different situations, enabling you to either access the Bluetooth menu, or select a predefined Bluetooth setup for Custom.

In the Wireless Networking Menu

Supported	All with Option 406

This softkey accesses a menu of softkeys for generating data patterns using the Bluetooth waveform generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	None

Selecting a Bluetooth Setup for Custom

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).

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 77
Remarks	None

Bluetooth Off On

Supported	All with Option 406

This softkey sets the operating state of Bluetooth waveform generator.

Off	When you choose Off, the Bluetooth waveform generator is disabled.

On	When you choose On, the Bluetooth waveform generator is enabled.
Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	None

BPSK

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162
Remarks	None

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.

Preset   N/A

Range   1–50

Location   See *Key and Data Field Menu Maps* guide: Page 232

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

BS Setup

Supported   All with Option 402

This softkey accesses a table editor from which you can select and modify the parameters for the base station (BS). Highlight the data field you want to change and press the **Edit Item** softkey. Press a softkey, use the numeric keypad or front panel knob to change values contained in the table and press the appropriate softkey to terminate the entry.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 256

Remarks   None

BTS BERT EDGE Loopback

Supported   All with Option 300

This softkey accesses a menu of softkeys that enable you to select or specify all of the parameters required to configure the EDGE base transceiver station bit error rate test (BTS BERT).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   N/A

BTS BERT GSM Loopback

Supported   All with Option 300

This softkey accesses the menu of softkeys that enable you to select or specify all of the parameters required to configure the GSM base transceiver station bit error rate tests (BTS BERT).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   N/A

Build New Waveform Sequence

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 90

Remarks   N/A

Burst Envelope Int Ext Off

Supported   All

Use this softkey to select the operating state of the burst envelope modulator and the source for burst modulation.

  Off   When you toggle this softkey to Off, RF bursting is disabled.

  Ext   When you toggle this softkey to Ext, the bursted output signal will have the same shape as the analog input signal that is supplied to the EXT 1 input connector.

  Int   When you toggle this softkey to Int, the internal baseband generator bursts the RF carrier.

When the burst envelope modulator is set to external or internal, the ENVLP annunciator will be displayed.

Preset   Off

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 107
Remarks	The Internal bursting toggle selection is available only when Option 001 or 002 is installed and a digital modulation format is turned on.

Burst Gate In Polarity Neg Pos

Supported	All with Option 001 or 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.
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	None

Burst Off On

Supported	All with Option 406

This softkey sets the operating state of the burst function. Refer to Figure 1.

|	
Off	When burst is off, transmitted packets are linked in a series with no power ramping. This causes the **Burst Power Ramp** softkey to be grayed out.
On	When burst is on, the signal power will ramp up prior to transmitting the packet and then ramp down at the end of the packet transmission.

Figure 1
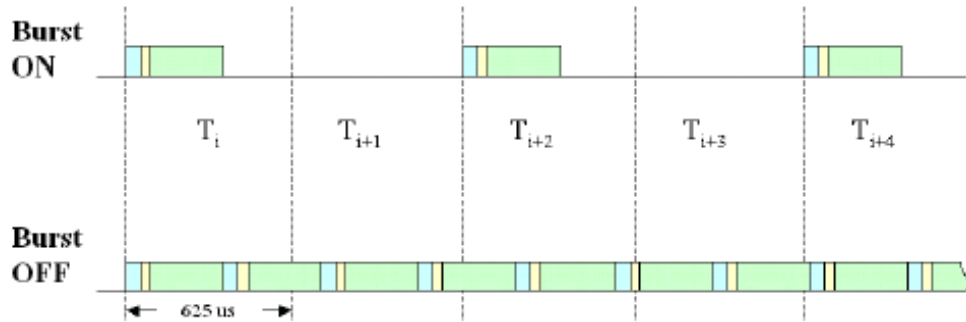
Preset	On
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	None

Burst Power Ramp

Supported   All with Option 406

This key enables you to set the duration of the power ramp. The signal power ramps up prior to transmitting the packet and then ramps down at the end of the packet transmission.

Figure 2
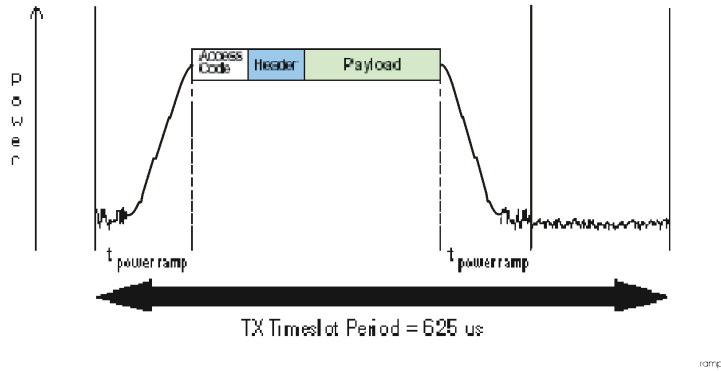
Preset	6.0 symbols
Range	1–10 symbols
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	None

Burst Shape

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 74, 118, 133, 149, 165, 181, 197, 213
Remarks	None

Burst Shape Type

Supported   All with Option 001 or 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
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217
Remarks	None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 8, 95, 230
Remarks	None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 230
Remarks	None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 67, 83, 88, 247
Remarks	Pattern Trigger functions are not available if you use either a PN data sequence or an external data source.

In the AM, FM, and ΦM Sweep Trigger Menus

In the AM, FM, and ΦM 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 2
Remarks	None

In the BERT Menu

Supported	All with Option UN7

This softkey enables a measurement to run when the appropriate GPIB command is received, provided synchronization has already been achieved. If not already synchronized, the trigger is ignored.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6, 8
Remarks	None

C

C4FM

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 126, 136, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222

Remarks   None

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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 81, 126, 142, 158

Remarks   None

Calibration Type DC User Full

Supported   All

This softkey selects an I/Q calibration type.

DC   In this mode the signal generator will calibrate I/Q offset errors for a single frequency at the current signal generator settings. The DC calibration is volatile and must be repeated with each signal generator setting change. This calibration will take less than two seconds.

User   In this mode the signal generator will calibrate I/Q offset, gain, and quadrature error for all signal generator settings over a user defined set of frequencies. This calibration is valid only for the frequencies defined by the user.

Full   In this mode the signal generator will calibrate I/Q offset, gain, and quadrature error for all settings over the full frequency range of the signal generator.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 99

Remarks   The User and Full I/Q calibration settings are not affected by an instrument preset or power cycle.

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 236

Remarks   This process will overwrite the previous configuration.

Carrier

Supported   All with Option 401

This field is used to display and access the IS-95A CDMA carrier type for each single-carrier setup within the selected multicarrier setup.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 18, 66

Remarks   None

Carrier Phases Fixed Random

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 66

Remarks   None

Carrier Setup

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 69

Remarks   None

Catalog Type

This softkey appears in two different situations.

Selecting Catalog Type from the Memory Catalog.

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 234

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

Selecting Catalog Type from the Dual ARB waveform generator menu.

Supported   All with Option 001 or 002

Use this softkey to select a file type to be displayed in the header Table Editor window. Only file types that contain headers are selectable under this menu. The file types include: NVWFM, Seq, and WFM1).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 93

Remarks   N/A

CC

Supported   All with Option 402

Use this softkey to select the 8-bit color code (CC) as the active function. These 8-bit color codes are codes assigned to each burst in individual clusters to distinguish the signals from the interfering station. The preset hexadecimal value (when normal preset is selected) for CC reflects the Personal Digital Cellular (PDC) format; the current value for CC is displayed in the CC field near the bottom line of the text area of the display.

Preset: 00

Range   00–FF

Location   See *Key and Data Field Menu Maps* guide: Page 164

Remarks   None

CDMA

This softkey appears in two different situations, enabling you to either select a CDMA personality, or set the current catalog type to CDMA.

Selecting the CDMA Mode

Supported   All with Option 403

Use this softkey to select a menu of CDMA personalities.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 15, 102

Remarks   None

Setting the Catalog Type to CDMA

Supported   All

Use this softkey to set the current catalog type to CDMA and display the catalog of CDMA files.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 238

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

CDMA2000 Define

Supported   All with Option 401

Use this softkey to access a menu for defining CDMA2000 signal parameters, such as channel setup, filter adjustments, multicarrier spacing, I/Q mapping, and clipping.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 26, 39

Remarks   When the **Multicarrier Off On** softkey is set to On, the **CDMA2000 Define** softkey is replaced with the **Multicarrier Define** softkey.

CDMA2000 Off On

Supported   All with Option 401

This softkey toggles the operating state of the CDMA2000 waveform playback personality.

Off   Turning this softkey off disables the CDMA2000 waveform playback personality.

On   Turning this softkey on sets up the internal hardware to generate the currently selected CDMA2000 signal.

When CDMA2000 is On, the CDMA2K and I/Q annunciators appear on the display.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 26, 39, 51, 53, 57, 59

Remarks   At least one channel must be on before switching on CDMA2000.

The CDMA2000 signal modulates the RF carrier only after you have set the front panel **Mod On/Off** hardkey to On.

CDMA2000 Select

Supported   All with Option 401

The function of this softkey changes, depending on whether the multicarrier mode is off (default) or on.

With Multicarrier Off

Use this softkey to access the CDMA2000 Select menu for the current link, where you can select a predefined channel setup or a stored custom state.

Preset   9 Channel

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 26, 39

Remarks   The **Multicarrier Off On** softkey and related functions are accessed only when the **Link Forward Reverse** softkey is set to Forward.

With Multicarrier On

Use this softkey to access the multicarrier CDMA2000 Select menu, where you can select a predefined multicarrier setup or a stored custom multicarrier setup.

Preset	2 SR3 Carriers
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 26, 39
Remarks	The **Multicarrier Off On** softkey and related functions are accessed only when the **Link Forward Reverse** softkey is set to Forward.

CDMA Define

Supported	All with Option 401

Use this softkey to access a menu for defining IS-95A CDMA signal parameters such as channel setup, filter adjustments, chip rate, waveform length, oversample ratio, I/Q mapping, and clipping.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 16
Remarks	None

CDMA Freq

Supported	All with Option 401

This field is used to direct the mobile station to a CDMA channel having a primary paging channel. To change the CDMA channel, use the down arrow key to move the cursor to the second page of data fields and highlight the CDMA Freq field. Press the **Edit Item** softkey and enter a new value.

Preset	50
Range	0–2047
Location	See *Key and Data Field Menu Maps* guide: Page 53
Remarks	This field is grayed out (not editable) until the F-SYNCH Type field is set to JSTD8 or IS2000.

CDMA Off On

Supported   All with Option 401

This softkey toggles the operating state of the IS-95A CDMA waveform generator.

Off   Turning CDMA off disables the IS-95A CDMA waveform generator.

On   Turning CDMA on sets up the internal hardware to generate the
               currently selected IS-95A CDMA signal.

When CDMA is on, the CDMA and I/Q annunciators appear on the display.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 16

Remarks   The CDMA signal modulates the RF carrier only after you have set the
                  front panel **Mod On/Off** hardkey to On.

CDPD

Supported   All with Option 001 or 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).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 69, 77

Remarks   None

CDVCC

Supported   All with Option 402

Use this softkey to select the hexadecimal 12-bit coded digital verification color code
(CDVCC) as the active function. In the 12-bit code, 8 bits are used for the code and 4 bits
are used for the code of the cyclic redundancy check (CRC). The same CDVCC code is
used for all base and mobile transmission in the same cell.

The current value for CDVCC appears in the CDVCC field near the bottom of the text area
of the display.

Preset:	000
Range	000–FFF
Location	See *Key and Data Field Menu Maps* guide: Page 148
Remarks	None

CFN #0 Frame Pulse (RPS10)

Supported   All with Option 400

This softkey, in the DPCH Rear Panel Output Setup menu, selects a connection frame number (CFN) zero frame pulse as the signal for the selected rear panel connector. The CFN #0 aligns with the signal generator's connection frame number (CFN) count.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266
Remarks	The **(RPS10)** designator refers to the remote SCPI command that corresponds to this softkey.

Chan Code

Supported   All with Option 400

This field displays the channel code number for the downlink orthogonal channel noise stimulator (OCNS) and the dedicated physical channel (DPCH).

Preset	N/A
Range	0–255
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	The OCNS and DPCH channel codes are coupled with the slot format and symbol rate.

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
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 97
Remarks	None

Channel Code

Supported   All with Option 400

This field displays the value of the channel code. This code is an orthogonal variable spreading factor code (OVSF). The range of code numbers is dependent on and coupled to the slot format and symbol rate.

Preset   *Downlink*: *ChipARB*: 6, *DPCCH*: 0, *DPDCH:* 16, *P-CCPCH*: 1, *PICH*: 3
    Uplink: *DPCCH*: 0, *DPDCH*: 16

Range   *Downlink*: 0 to 511 depending on the physical channel. Refer to Table 1.
    Uplink: 0 to 255 depending on the physical channel. Refer to Table 2.

Table 1   **Downlink**

Slot Format	0-1	2-7	8-11	12	13	14	15	16
Symbol Rate (ksps)	7.5	15	30	60	120	240	480	960
Max Ch Code	511	255	127	63	31	15	7	3

Table 2   **Uplink**

Slot Format	0	1	2	3	4	5	6
Symbol Rate (ksps)	15	30	60	120	240	480	960
Max Ch Code	255	127	63	31	15	7	3

Location   *Downlink*: See *Key and Data Field Menu Maps* guide: Page 257
    Uplink: See *Key and Data Field Menu Maps* guide: Page 265

Remarks   The signal generator indicates slot format and channel code conflicts using the error messages area of the display. If the slot format is not compatible with the channel code, the "error -221 Settings Conflict" message is displayed. If the channel code number is incompatible with the slot format, the "value clipped to upper limit" is displayed.

Channel Number

Supported   All

In the Frequency Menu

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   See *Key and Data Field Menu Maps* guide: Page 97

Remarks   None

In the CDMA Menu

Supported   All with Option 401

Use this softkey to select the channel to be configured. There are eight forward channels and up to five reverse channels available for selection. The channel number advances each time this key is pressed. It can also be changed using the arrow keys or the RPG knob.

Preset   1

Range   *Forward link:* 1–8
Reverse link: depends on the selection made in the **Operating Mode** softkey menu

Location   See *Key and Data Field Menu Maps* guide: Pages 51, 53, 57, 59

Remarks   None

Channel Setup

Supported   All with Option 401

Use this softkey to activate the table editor for viewing and modifying the selected channel parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 53, 59

Remarks   Available data fields within the table editor depend on the currently selected channel.

Channel State Off On

Supported   All with Option 400/401

This softkey selects the operating state of the selected channel.

Off   When you select Off, the display will show the channel selected with white lettering.

On   When you select On, the display will show the channel selected with black lettering

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 51, 53, 57, 59, 257, 267

Remarks   The **Apply Channel Setup** softkey must be pressed if the channel to turn on is either the uplink DPCCH or the DPDCH, or the downlink DPCH.

`Channel State Off On`

Supported   All with Option 400/401

This field displays the operating state for the uplink dedicated physical control channel (DPCCH).

Preset   On

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 257

Remarks   N/A

Channel State Quick Presets

Supported   All with Option 401

Use this softkey to access a menu from which you can activate a group of channels within the selected channel configuration with a single key press.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 53, 59

Remarks   This menu is available only for the forward link and the RadioConfig 3/4 Traffic reverse link channel configuration (operating mode).

Channels

Supported   All with Option 400

Use this softkey to enter the number of duplicate channels that you want to set up and insert into the Edit Channel Setup table editor. Press the softkey **Enter** to terminate the entry.

After you have set the channel parameters, and the number of times you want the channel duplicated, press **Done** to insert the information into the table editor.

Preset   1

Range   1 – 511

Location   See *Key and Data Field Menu Maps* guide: Pages 35, 46, 253

Remarks   N/A

Chip Clock (RPS1)

Supported   All with Option 400

This softkey, in the DPCH and PRACH Rear Panel Setup menus, assigns the chip clock to the selected rear panel AUX I/O output connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 266, 272

Remarks   The chip clock can be assigned to several different output connectors. The **(RPS1)** designator refers to the remote SCPI command that corresponds to this softkey.

ChCode Clt

Supported   All with Option 400

This field displays the channel code of the message control part of the physical random access channel (PRACH) on the multiple PRACH mode. The value of this field is calculated by the formula: $16 * $ `Pre Sig` $+ 15$.

Preset

UE	ChCode Ctl
1	15
2	31
3	47
4	63
5	79
6	95
7	111
8	127

Range   0–255

Location   See *Key and Data Field Menu Maps* guide: Page 257

Remarks   This command affects the PRACH setting on the multiple PRACH mode only.

ChCode Dat

Supported   All with Option 400

This field displays the channel code of the message data part of the physical random access channel (PRACH) on the multiple PRACH mode.

The value of this field is calculated by the formula: $SF * $ `signature` $/ 16$. SF=spreading factor (32–256) and depends on the slot format. Possible spreading factor and slot format combinations are (slot format:spreading factor, 0:256, 1:128, 2:64, 3:32).

Preset

UE	ChCode Dat
1	0
2	16
3	32
4	48
5	64
6	80
7	96
8	112

Range	0–255
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This command affects the PRACH setting on the multiple PRACH mode only.

Chip Rate

Supported   All with Option 401

In the W-CDMA Menu

This softkey enables you to set a new chip rate value. Enter the desired value, then press **Mcps**, **kcps**, or **cps** to terminate the entry.

Preset	1.228800 Mcps
Range	10 cps to 20 Mcps (using a 2 times oversample ratio)
Location	See *Key and Data Field Menu Maps* guide: Page 248
Remarks	None

In the CDMA Menu

Supported   All with Option 400

Use this softkey to adjust the current chip rate. Use the front panel knob, up/down arrows, or numeric keypad to enter in a chip rate.

Preset	1.228800 Mcps
Range	1.000 kcps to 1.300 Mcps.
Location	See *Key and Data Field Menu Maps* guide: Page 17
Remarks	None

Chip Rate

Supported   All with Option 401

In the W-CDMA Menu

This field displays the current chip rate. The chip rate is equivalent to the spreading rate of the channel. Spreading rate 1 (SR1) is 1.2288 Mcps. The default value is in accordance with the IS-2000 specification. To change the chip rate, highlight the Chip Rate field, press the **Edit Item** softkey and enter a new value.

Preset	1.2288 Mcps
Range	1.000 kcps–1.3000000 Mcps
Location	See *Key and Data Field Menu Maps* guide: Pages 256, 261
Remarks	None

In the CDMA Menu

Supported	All with Option 400

This field displays the chip rate used in the downlink or uplink setup table editor. The default chip rate value is 3.84 Mcps and is in accordance with 3GPP W-CDMA specifications.

Preset	1.2288 Mcps
Range	1.000 kcps to 1.300 Mcps.
Location	See *Key and Data Field Menu Maps* guide: Pages 51, 57
Remarks	The chip rate is equivalent to the spreading rate.

Class Ib Bit Error

Supported	All with Option 300

This softkey enables you to set the number of Class Ib bit errors as the threshold for the number of events to stop function. The measurement ends when the detected number of Class Ib errors exceeds the set threshold.

Preset	300
Range	0–1000000
Location	See *Key and Data Field Menu Maps* guide: Page 11
Remarks	None

Class Ib RBER

Supported	All with Option 300

This softkey enables you to set the pass/fail Class Ib residual bit error rate (RBER) limit. Class Ib RBER is the ratio of the number of Class Ib bits that contain errors (after de-convolution in the non-erased speech frames) to the total number of Class Ib bits in the non-erased frames. The measurement fails if the Class Ib RBER exceeds the limit.

Preset   0.4000% RBER

Range   0–100%

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   None

Class II Bit Error

Supported   All with Option 300

This softkey enables you to set the number of Class II bit error events as the threshold for the number of events to stop function. The measurement ends when the detected number of Class II errors exceeds the set threshold.

Preset   300

Range   0–1000000

Location   See *Key and Data Field Menu Maps* guide: Page 11

Remarks   None

Class II RBER

Supported   All with Option 300

This softkey enables you to set the pass/fail Class II residual bit error rate (RBER) limit. Class II RBER is the ratio of the number of Class II bits that contain errors (after de-convolution in the non-erased speech frames) to the total number of Class II bits in the non-erased frames. The measurement fails if the Class II RBER exceeds the limit.

Preset   2.0000% RBER

Range   0–100%

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   None

Clear All Pos of Selected UE

Supported   All with Option 400

This softkey, when pressed, will clear the start access slots of the selected UE for the active physical random access channel (PRACH).

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 91, 92
Remarks	N/A

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 232
Remarks	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.

Clear Header

Supported   All with Option 001 or 002

This softkey enables you to clear the information stored in the currently displayed header. When this softkey is pressed the settings in the Saved Header Settings fields are set to Unspecified. The actual settings used when the header field is Unspecified are the settings listed in the Current Inst. Settings column.

To activate this softkey, the modulation format must be enabled and the waveform file being displayed must be the active file.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 21, 50, 73, 93, 106, 246
Remarks	N/A

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 4, 21, 24, 37, 47, 55, 61, 66, 71, 79, 84, 110, 113, 123, 128, 130, 138, 139, 144, 146, 154, 155, 160, 162, 237, 267
Remarks	None

Clipping

Supported	All with Option 001 or 002

This softkey accesses a menu of clipping options for the waveform modulation level. Once clipping has been applied to a waveform, it can not be undone. Repeated clipping applications are cumulative.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 19, 29, 41, 91, 246
Remarks	This softkey in not available for all modulation formats.

Clip |I| To

Supported	All with Option 001/002

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.

Preset	100.0%
Range	10.0 through 100.0%, in 0.1% increments
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 29, 41, 89, 93, 246
Remarks	Clipping type must be set to |I|,|Q| for this softkey to be active.

Clip |I+jQ| To

Supported	All with Option 001/002

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.

Preset	100.0%
Range	10.0 through 100.0%, in 0.1% increments
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 29, 41, 89, 93, 246
Remarks	Clipping type must be set to |I+jQ| for this key to be active.

Clip |Q| To

Supported   All with Option 001/002

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.

Preset	100.0%
Range	10.0 through 100.0% in 0.1% increments
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 29, 41, 89, 93, 246
Remarks	Clipping type must be set to |I|,|Q| for this softkey to be active.

Clip At PRE POST FIR Filter

Supported   All with Option 400/401

This softkey selects whether you want the IS-95A, CDMA2000, or W-CDMA waveform clipped before or after FIR filtering.

PRE	When you choose PRE, the waveform is clipped before FIR filtering.
POST	When you choose POST, the waveform is clipped after FIR filtering.
Preset	PRE
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 29, 41, 246
Remarks	This softkey is inactive (grayed out) and automatically sets to POST FIR filter clipping when using forward link CDMA2000 with the spreading type set to multicarrier.

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

Supported   All with Option 001/002

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|
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 29, 41, 89, 93, 246
Remarks	None

Clock Delay Off On

Supported   All with Option UN7

Use this softkey to toggle the state of the clock delay adjustment.

Off	When you select Off, the clock delay adjustment function is inactive.
On	When you select On, the clock delay adjustment function is active and the **Clock Time Delay** and **Resolution** softkeys are enabled.

Preset:	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 9
Remarks	None

Clock/Gate Delay

Supported   All with Options 406

This softkey enables you to specify the number of symbols to shift the symbol clock and gate output signals relative to the Bluetooth signal. The packet timing is delayed, relative to the clock/gate timing, as it passes through a device under test. Use this softkey to restore the timing relationship by delaying the clock/gate the same amount as the packet.

Output symbol clock signals are emitted from the EVENT 1 rear panel connector while the gate signals are emitted from the EVENT 2 rear panel connector. When Clock/Gate Delay is set to 0, the rising edge of the clock lines up with the middle of each symbol, and the gate is high during the payload bits portion of the packet.

Preset	0
Range	0–24999.9 symbols
Location	See *Key and Data Field Menu Maps* guide: Page 239
Remarks	This option is available only when the payload data is continuous PN9 and is intended to be used during bit error rate (BERT Option UN7) testing.
	This softkey also appears under the BERT (Option UN7) menu when the Bluetooth modulation is activated and the payload data is set to continuous PN9.

Clock Polarity Neg Pos

Supported   All with Option UN7

Use this softkey to select the polarity of the clock signal supplied to the rear panel BER GATE IN connector.

Neg	With this choice, the falling edge of the signal is used for the input.
Pos	With this choice, the rising edge of the signal is used for the input.
Preset	Pos
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 9
Remarks	None

Clock Time Delay

Supported   All with Option UN7

This softkey enables you to specify the delay time of the clock. The clock delay time must be a multiple of the minimum resolution value and if not, the clock delay time is automatically rounded to a value that is the multiple value closest to the entered value. Enter the value using the numeric keypad and terminate it by pressing the appropriate unit softkey.

Preset	26.7 nsec
Range	26.7 nsec–1 sec
Location	See *Key and Data Field Menu Maps* guide: Page 9

Remarks	This key is enabled when the clock delay is on.

CM Method

Supported	All with Option 400

This field, in the DPCCH and DPDCH Compressed Mode Setup menu, displays the compressed mode (CM) method used. There are two choices for the CM method:

SF/2	This choice selects the compressed mode method that reduces the spread factor (SF) by one half. This method doubles the data rate and halves the SF. When the dedicated physical data channel's (DPDCH) symbol rate is 960 kbps, the frame is not compressed because the lowest SF value is used and cannot be reduced further.
Higher Layer	This choice selects the higher layer scheduling method used to make room for the discontinuous transmission (DTX) slots in the compressed frames. The emulated higher layer scheduling method mode keeps the same physical layer data rate even when a transmission gap is created. The maximum number of bits for the physical layer, for the compressed frame, is known and a transmission gap can be generated.

Preset	SF/2
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	Refer to 3GPP Standard TS25.212 for more information on compressed mode operation.

C/N

Supported	All with Option 401

Use this softkey to set the carrier to noise power ratio for the current CDMA2000 channel setup.

Preset	0.00 dB
Range	–30.0 to 30.0 dB
Location	See *Key and Data Field Menu Maps* guide: Pages 51, 57
Remarks	The Flat Noise Bandwidth for noise equals 1.6 times the chip rate.

C/N [1 MHz]

Supported   All with Option 403/406

This softkey enables you to set the carrier-to-noise ratio for a 1 MHz bandwidth when the AWGN impairment is turned on.

Preset   21.0 dB

Range   10.0–40.0 dB

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

C/N Value

Supported   All with Options 400, 403

This field displays the carrier to noise (C/N) ratio for the RF signal. The sum of the carrier (C) power and the noise (N) power equals the total RF power. The ratio between C and N equals the C/N value. If a valid number ÿ is entered for the C/N value, the C power and N power will be adjusted so that the delta between them is the number ÿ. In multiple PRACH mode, the sum of the carrier (C) power and the noise (N) power is less than 18 dB from the RF power. Refer to see "C Power" on page 161 and "N Power" on page 401 for more information on the C/N value.

Preset   *Downlink*: 0 dB

Uplink (DPCH): –18.00 dB

Uplink (PRACH): –22.5005194 dB

Range   –30 to 30 dB

Location   See *Key and Data Field Menu Maps* guide: Pages 257, 267

Remarks   None

Coding

Supported   All with Option 400

This field displays the encoder type used for the transport/physical channel selected. For uplink, this field is displayed for the DPDCH. For downlink, this field is displayed for the DPCH. To change the field selection, highlight the Coding field, press the **Edit Item** softkey and make a choice from the menu that appears.

Changing the field selection, will change the Bits/Frame field values.

Preset	*Downlink*: 1/2 Conv
	Uplink: 1/3 Conv
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 259, 266
Remarks	None

Common Mode I/Q Offset

Supported   All

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	See *Key and Data Field Menu Maps* guide: Page 99
Remarks	None

Composite Waveform Clip

Supported   All with Option 001/002

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

The current clipping type is displayed under the **Composite Waveform Clip** softkey.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 89, 92, 246
Remarks	None

Compressed Frame (RPS8)

Supported   All with Option 400

This softkey in the DPCH Rear Panel Output Setup menu selects a compressed frame as the signal for the selected rear panel connector AUX I/O output connector/pin.

Preset	N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266
Remarks	The **(RPS8)** designator refers to the remote SCPI command that corresponds to this softkey.
	This softkey is available in uplink only.

Comp Parameter Setup

Supported	All with Option 400

This softkey accesses the dedicated physical channel (DPCH) compressed mode configuration screen.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	N/A

Compressed Mode Setup

Supported	All with Option 400

This softkey accesses a menu for configuring the selected channel for compressed mode operation. When in compressed mode, the information normally transmitted during a 10 ms frame is compressed in time. This can be accomplished using puncturing, by reducing the spreading factor by half, and by higher layer scheduling. Refer to "CM Method" on page 137 for more information on the compressed mode operation.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	The downlink compressed frames do not support transport layer coding, hence bit-error-rate-testing (BERT) can not be done on these frames. However, this is useful for early testing of compressed mode support in mobile stations. The uplink compressed frames are coded using the transport layer coding, therefore BERT can be performed.

Compressed Mode Start Trigger

Supported   All with Option 400

This softkey will begin the signal generator's compressed pattern transmission. Compressed pattern transmission begins with the specified transmission gap connection frame number (TGCFN). There are two different start timings based on frame synchronization signal choices.

SFN or Frame Clock 2560 msec:

Frame synchronization signal is the system frame number (SFN) or frame clock 2560 msec. A compressed pattern starts at the specified transmission gap connection frame number (TGCFN) and after the start trigger is received.

Frame Clock 80 msec or less:

The frame synchronization signal is the 80 msec (or less) frame clock signal. A compressed pattern transmission begins at the following transmission time interval (TTI) of the next TTI period after the start trigger is received.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 265

Remarks   This softkey is available for uplink only.

Compressed Mode Stop Trigger

Supported   All with Option 400

This softkey will stop signal generator compressed pattern transmission. Compressed pattern transmission begins with the specified transmission gap connection frame number (TGCFN). There are two different stop timings based on frame synchronization signal choices.

Transmission Gap Repetition Count (TGPRC):

Compressed pattern transmission stops after a specified TGPRC count of patterns.

Stop CFN#:

Compressed pattern transmission stops when the stop trigger is received and at the next stop connection frame number (CFN). The frame synch trigger must be either SFN or frame clock 2560 msec.

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	This softkey is available for uplink only.

Compressed Mode Start Trigger Polarity Neg Pos

Supported   All with Option 400

This softkey allows you to select the polarity of the compressed mode start trigger. The compressed pattern transmission begins when this trigger is received and the specified TGCFN number or TTI period occurs. Refer to "Compressed Mode Start Trigger" softkey description for more information. There are two choices for trigger polarity.

Neg	The signal generator responds to a high–to–low trigger transition
Pos	The signal generator responds to a low–to–high trigger transition.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 262
Remarks	This softkey is available for uplink only.

Compressed Mode Stop Trigger Polarity Neg Pos

Supported   All with Option 400

This softkey allows you to select the polarity of the compressed mode stop trigger. The compressed pattern transmission stops when this trigger is received and the stop CFN# or the TGPRC number is reached. Refer to the "Compressed Mode Stop Trigger" softkey description for more information. There are two choices for trigger polarity.

Neg	The signal generator responds to a high-to-low trigger transition
Pos	The signal generator responds to a low-to-high trigger transition.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 262
Remarks	This softkey is available for uplink only.

`Config Change`

Supported   All with Option 401

This field displays the status of the configuration change bits in the quick paging channel (QPCH). These bits are used by the base station to notify the mobile that a configuration change is required.

The 80 ms QPCH slot is divided into 4 equal portions. The last 2 bits of the second and fourth portions are the configuration change bits. These bits can be enabled or disabled by setting a value in the `Config Change` field. To change the value, highlight the `Config Change` field, press the **Edit Item** softkey and enter a new value.

The following table shows which bits are enabled for the values allowed:

Table 3

Config Change Value	Bits Enabled
0	All bits off
1	Last 2 bits of 2nd portion on
2	Last 2 bits of 4th portion on
3	Last 2 bits of 2nd and 4th portions on

Preset   3

Range   0–3

Location   See *Key and Data Field Menu Maps* guide: Page 53

Remarks   None

Configure BERT

Supported   All with Option UN7

Use this softkey to access a menu of softkeys that enable you to select and configure test parameters for BER measurements.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 3

Remarks   None

Configure Differential Encoding

Supported   All with Option 001 or 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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 81, 80, 125, 126, 141, 142, 157, 158, 173, 174, 189, 190, 205, 206, 221, 222

Remarks   None

Configure Frame

Supported   All with Option 402

This softkey accesses a menu of softkeys from which you can control the entire selected frame. These frame-wide functions include scramble operating state, scramble seed data, secondary frame operating state, recalling and saving secondary frame states, and secondary frame state triggering options.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 117, 132, 148, 164, 180, 196, 212

Remarks   None

Configure Hardware

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 77, 116, 131, 147, 163, 179, 195, 211

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 230

Remarks   None

Configure Measurement

Supported   All with Option 300

This softkey accesses a menu that enables you to configure the test parameters for bit error rate measurements.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   None

Configure Normal

Supported   All with Option 402

This softkey accesses a menu of softkeys from which you can configure a normal timeslot.

In the EDGE Format

The following figure shows an example of display graphics for a normal timeslot. The visual representation of the timeslot shows each field of the timeslot as it is defined by the Enhanced Data Rates for GSM Evolution (EDGE) format.

In this example:

- `T1:` shows the value (hexadecimal 1FF) for the 9-bit tail field. You can edit this value by pressing the **T1** softkey. However, if the guard time symbols of the previous timeslot do not match the `T1` symbols of the current timeslot, the burst shape may not be smooth (even if the previous timeslot is turned off).

- `E:` shows the current data selection (PN9). Press the **E** softkey to change the data selection. Other selections allowed include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, or external data.

- `TS:` shows the value (hexadecimal 3F3F9E49FFF3FF3F9E49) for the 78-bit training sequence. You can edit this value by pressing the **TS** softkey.

- `T2:` shows the value (hexadecimal 1FF) for the 9-bit tail field. You can edit this value

by pressing the **T2** softkey. However, if the guard time and T2 symbols of the current timeslot do not match, the burst shape may not be smooth.

- G: shows the value (hexadecimal 7FFFFFF) for the guard time field. Guard time appears in the visual representation of the timeslot as a 24.75-bit field. In the actual implementation, the guard time field in timeslots 0 and 4 are 27 bits long and the remaining timeslots contain 24-bit fields. You can edit the guard time value by pressing the **G** softkey. However, If the guard time and T2 symbols of the current timeslot and the T1 symbols of the next timeslot do not match, the burst shape may not be smooth (even if the current timeslot is turned off).

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 117, 132

Remarks   None

In the GSM Format

The following figure shows an example of a normal timeslot as it is defined by the Global System for Mobile Communications (GSM) format.

- T: shows the contents (hexadecimal zero) of the 3-bit tail field. The text in this field is grey, indicating that you cannot change the value for the tail bit field.

- E: shows the contents (PN9) of the data selection (encryption bits) for this timeslot. The **E** softkey makes this the active function. Other selections include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, and external data.

- `S:` shows the value (0) of both stealing bits for this timeslot. The **S** softkey makes both stealing bits the active function.

- `TS:` shows the contents (hexadecimal 0970897) of the 26-bit training sequence for this timeslot. The **TS** softkey makes this the active function.

- `G:` guard time appears in the visual representation of the timeslot as an 8.25-bit field. In the actual implementation, the guard time field in timeslots 0 and 4 are 9 bits long and the remaining timeslots contain 8 bit fields. The text in this field is grey, indicating that you cannot change the contents of the guard time field.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 132

Remarks   None

Configure Sensitivity Search

Supported   All with Option 300

This softkey accesses a menu that enables you to configure the parameters for the bit error rate sensitivity search function.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 4

Remarks   None

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 for a sweep, set the start and stop power levels, and you can set the number of points in the sweep with the dwell time at each point.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 230

Remarks   None

Configure TCH

Supported   All with Option 402

Use this softkey to access a menu of softkeys from which you can configure a timeslot as a traffic channel.

The following figure shows a downlink traffic channel timeslot as it is defined by the PHS format.

- R: ramp time is a 4-bit field. The grey text indicates that you can not change the contents of this field.

- SS: the start symbol is a 2-bit field. The grey text indicates that you cannot change the contents of this field.

- PR: the preamble is a 6-bit field. The grey text indicates that you cannot change the contents of the this field.

- UW: shows the contents (hexadecimal 3D4C) of the unique word. The **UW** softkey makes this the active function.

- CI: the channel identifier is a 4-bit field. The grey text indicates that you cannot change the contents of this field.

- SA: shows the contents (hexadecimal 8000) of the slow associated control channel. The **SA** softkey makes this the active function.

- TCH: shows the data selection (PN9) for this traffic channel. Other selections include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, and external data.

- CRC: shows that a cyclic redundancy check is performed on the channel identifier (CI), the slow associated control channel (SA), and the data fields (TCH). The grey text indicates that you cannot change the contents of this field.

- G: guard time is a 16-bit field. The grey text indicates that you cannot change the contents of this field.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 180

Remarks   The uplink traffic channel timeslot is *not* identical (see Configure Up TCH).

Configure Timeslots

Supported   All with Option 402

This softkey accesses a menu of softkey from which you can configure the timeslots.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 116, 131, 147, 163, 179, 195, 211

Remarks   This softkey is inactive with unframed data.

Configure Traffic Bearer

Supported   All with Option 402

This softkey accesses a menu of softkeys from which you can configure a timeslot as a traffic bearer. The following figure shows an example of a radio fixed part traffic bearer timeslot. The portable part traffic bearer timeslot is identical except for the preset values.

- G: there are two guard time fields. The grey text indicates that you cannot change the contents of these fields.

- P: the preamble is a 16-bit field.

- S: shows the contents (hexadecimal E98A) of the 16-bit synchronization word. The **S** softkey makes this the active function.

- A: shows the contents (hexadecimal 0000FFFF0000FFFF) of the A field. The **A field** softkey makes this the active function.

- B: shows the B field data selection (PN9). The **B field** softkey makes this the active function. Other selections include, PN11, PN15, PN20, PN23, fixed 4-bit patterns, fixed patterns of ones and zeroes, DECT-specific patterns, user files and external data.

- Z: the Z field is a 4-bit error detection field. The Z field repeats the last 4 bits of the B field. The grey text indicates that you cannot change the contents of this field.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 196

Remarks   None

Configure Triggers

Supported   All with Option UN7

This softkey accesses the menu of softkeys that enable you to select the BERT trigger source and triggering parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   None

Configure Up Normal

Supported   All with Option 402

Use this softkey to display a menu of softkeys where you can configure a timeslot as an uplink normal timeslot. The following figure shows an uplink normal timeslot as it is defined by the TETRA format.

- `R:` ramp time is a 34-bit field. The grey text indicates that you cannot change the content of this field.

- `T:` shows the content (hexadecimal B) of both of the 4-bit tail fields. The grey text indicates that you cannot change the content of these fields.

- `Data:` shows the data selection (PN9) for both 216-bit data fields. Other selections include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, or external data.

- `TS:` shows the contents (hexadecimal 343A74) of the training sequence field. The **TS** softkey makes this the active function.

- `G:` guard time is a 14-bit field. The grey text indicates that you cannot change the content of this field.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Configure Up TCH

Supported   All with Option 402

In either the North American Digital Cellular (NADC) or the Personal Digital Cellular (PDC) format, use this softkey to access a menu of softkeys from which you can configure a timeslot as an uplink traffic channel.

The following figure shows an uplink traffic channel timeslot as defined by the NADC

format.

- `G:` guard time is a 6-bit field. The grey text indicates that you cannot change the content of this field.

- `R:` ramp time is a 6-bit field. The grey text indicates that you cannot change the content of this field.

- `Data:` shows the data selection (PN9) for this up traffic channel. The **Data** softkey makes this the active function. Other selections include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, or external data.

- `SYNC:` shows the value (hexadecimal A91DE4A) of the synchronization word. The **SYNC** softkey makes this the active function.

- `SACCH:` shows the value (hexadecimal 000) of the slow associated control channel. The **SACCH** softkey makes this the active function.

- `CDVCC:` shows the value (hexadecimal 000) of the coded digital verification color code. The **CDVCC** softkey makes this the active function.

The following figure shows an uplink traffic channel timeslot as defined by the PDC

format.

- `R:` ramp time is a 4-bit field. The grey text indicates that you cannot change the content of this field.

- `P:` the preamble is a 2-bit field. The grey text indicates that you cannot change the content of this field.

- `TCH:` shows the data selection (PN9) for this uplink traffic channel. The **Data** softkey makes this the active function. Other selections include PN15, fixed 4-bit patterns, fixed patterns of ones and zeroes, user files, and external data.

- `SW:` shows the value (hexadecimal 785B4) of the frame synchronization word. The **SW** softkey makes this the active function.

- `CC:` shows the value (00) of the color code. The **CC** softkey makes this the active function.

- `SF:` shows the value (0) of the stealing flag. The grey text indicates that you cannot change the content of this field.

- `SACCH:` shows that the slow associated control channel is set to 0000. The **SACCH** softkey makes this the active function.

- `G:` guard time is a 6-bit field. The grey text indicates that you cannot change the content of this field.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 148, 164

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 232, 237

Remarks   Pressing this key re-boots the signal generator.

Confirm Delete

Supported   All

Use this softkey to continue to delete the selected file.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 90, 104, 234

Remarks   None

Confirm Delete Of All Rows

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 22, 23, 82, 84, 110, 112

Remarks   None

Confirm Load From File

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 104

Remarks   None

Confirm Load Mirror Image of Fall Shape

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 76

Remarks   None

Confirm Load Mirror Image of Rise Shape

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 76

Remarks   None

Confirm Restore Sys Defaults

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 234

Remarks   Pressing this key re-boots the signal generator.

Continuous

Supported   All with Option 001 or 002

This softkey is one of the choices in both the Trigger and Segment Advance (trigger)
menus of the arb and real time waveform generator personalities.

In the Trigger Menu

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 65, 88,
                     118, 133, 149, 165, 181, 197, 213, 247

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 88, 118, 133, 149

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

Continuous Mode

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 42, 65, 88, 165, 181, 197, 213

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

Continuous PN9

Supported   All with Option 406

This softkey selects a continuous PN9 pattern to be used in a Bluetooth setup. The PN9 payload data will place 8 continuous PN9 sequences into payloads of 19 packets. These packets are followed by one packet with no payload. The packet with no payload is included to ensure the SEQN bit is inverted with each packet transmission when the waveform is repeatedly played back.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

Control Channel Dnlink Uplink

Supported   All with Option 402

Use this softkey to select either the downlink or the uplink channel.

    Dnlink   When you select Dnlink, the timeslot number, type and configuration settings apply to the downlink channel.

    Uplink   When you select Uplink, the timeslot number, type and configuration settings apply to the uplink channel.

Preset   Dnlink

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 180

Remarks   The downlink and uplink timeslots can be active concurrently.

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.

Preset   N/A

Range   N/A

Location   See v Pages 79, 110, 123, 138, 139, 154, 155, 170, 171, 186, 187, 202, 203, 218, 219, 234

Remarks   None

`Correction`

Supported   All

This field enables you to set a power correction value in the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 3

Remarks   None

CPICH

Supported   All with Option 400

In ARB W-CDMA

Use this softkey to insert a Common Pilot Channel (CPICH) into the downlink Edit Channel Setup table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 250, 253

Remarks   None

In the Real Time W-CDMA Menu

This softkey selects the common pilot channel (CPICH) to be the Ec reference in the downlink additive white gaussian noise (AWGN) configuration menu.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Ec Ref` field. Refer to "Ec Ref" on page 235 for more information.

Remarks   None

C Power

Supported   All with Options 400, 403

This field displays the carrier power of the RF signal. This value is calculated from the the RF power level. For example, if the signal generator RF power = –20 dBm and C/N is set to 3.0 dB then the displayed C power will be –22.97 dBm. The C power is calculated as $10^{(-22.97/10)}$ = .00505 milliwatts. In this example the N power displayed on the signal generator is –25.97 dBm. The power calculation, shown previously, results in a .00253 milliwatt power level. Note that N means in-channel noise power and total noise power is 1.96 times larger than N. The sum of the C power and N powers, $2.53 \times 1.96 + 5.05$ is .010 milliwatts (approximately) and $10 \log_{10}.0100$ = –20 dBm; the signal generator's RF power.

Preset	*Downlink*: –140.712917 dBm
	Uplink: –159.957537 dBm
	Uplink (PRACH): –161.435521 dBm
Range	0.00 to –INF dBm
Location	See *Key and Data Field Menu Maps* guide: Pages 257, 267
Remarks	None

CRC Size

Supported   All with Option 400

This field displays the number of cyclic redundancy code (CRC) bits to be added to the transport channel data. The CRC choices are 0, 8, 12, 16, and 24.

Preset:	*Downlink*: 8
	Uplink: 16
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 259, 266
Remarks	None

Create File

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 74, 109, 119, 134, 139, 150, 155, 166, 171, 182, 187, 198, 203, 214, 219
Remarks	None

CS-1

Supported   All with Option 402

Use this softkey to select a packet data traffic channel with block type 1 that is in compliance with GSM 05.03.

Preset: N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 134

Remarks   None

Ctrl Beta

Supported   All with Option 400

This field displays the beta ratio (amplitude ratio) for the message control part of the physical random access channel (PRACH). The beta value can be used to set the power level for the PRACH message control part.

Control beta is an integer value. Changing the Ctrl Pwr field changes the beta ratio, and the signal generator may not be able to compute a proper beta value. If this occurs, the beta value changes to "–".

Preset: 11

Range   0–15

Location   See *Key and Data Field Menu Maps* guide: Page 270

Remarks   An entry of 0 in the Ctrl Beta field sets the message control power to –40.00 dB.

Ctrl Pwr

Supported   All with Option 400

This field displays the power level for the physical random access channel (PRACH) message control part relative to the data power level. The power can be adjusted using the **Edit Item** softkey or by entering a control beta value.

Preset: –2.69 dB

Range   –40.00 to 0.00 dB

Location   See *Key and Data Field Menu Maps* guide: Page 270

> **Remarks**   Changing this field changes the `Ctrl Beta` value. Refer to ”Ctrl Beta” for more information.

Custom

Supported   All with Option 001 or 002

This softkey appears in two different locations, enabling you to either create a custom digital modulation, or create a custom timeslot type.

Creating a Custom Digital Modulation

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 63, 102

Remarks   None

Creating a Custom Timeslot Type

Use this softkey to select a custom timeslot type for the active timeslot. A custom timeslot is configured using an internally generated data pattern, a downloaded sequence of bits stored in a user file, or by supplying external data. The custom timeslot is provided for flexibility; it is not a standard timeslot type.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 117, 132, 180, 196

Remarks   None

Custom CDMA2000 Carrier

Supported   All with Option 401

Use this softkey to display the forward link CDMA2000 (FCDMA) memory catalog. From this catalog listing, you can select a custom FCDMA single-carrier setup to insert into a custom multicarrier forward link CDMA2000 (MFCDMA) setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 28
Remarks	None

Custom CDMA2000 Multicarrier

Supported   All with Option 401

Use this softkey to display the multicarrier forward link CDMA2000 (MFCDMA) memory catalog. From this catalog listing, you can select a previously stored custom multicarrier setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 26
Remarks	None

Custom CDMA2000 State

Supported   All with Option 401

Use this softkey to display either the forward link CDMA2000 (FCDMA) memory catalog or the reverse link CDMA2000 (RCDMA) memory catalog, depending on the selected link direction. From this catalog listing, you can choose a previously stored custom CDMA2000 setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 26, 39
Remarks	None

Custom CDMA Carrier

Supported   All with Option 401

Use this softkey to display the CDMA memory catalog. From this catalog listing, you can select a custom single-carrier setup to insert into a custom CDMA multicarrier setup.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 18

Remarks   None

Custom CDMA Multicarrier

Supported   All with Option 401

This key displays the multicarrier CDMA memory catalog. From this catalog listing, you can choose a previously stored custom multicarrier setup.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 16

Remarks   None

Custom CDMA State

Supported   All with Option 401

Use this softkey to access a menu from which you can choose a custom CDMA setup that has previously been defined and stored in the signal generator's memory. Use the front-panel knob, or the arrow keys to highlight the desired CDMA state file, then press **Select File** to activate the custom CDMA state.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 16

Remarks   None

Custom Digital Mod State

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 69

Remarks   None

Custom Off On

Supported   All with Option 001 or 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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 74

Remarks   None

Custom TS

Supported   All with Option 402

Use this softkey to edit the selected training sequence code. The hexadecimal value for the training sequence will be displayed in the active entry area. Once modified, the new value will survive a power cycle, but at preset the default value will be restored. Pressing the TS0 through TS7 keys will set the Custom TS value to the value of the selected training sequence code.

Preset	TSC0
Range	0–3FFFFFFFFFFFFFFFFFF
Location	See *Key and Data Field Menu Maps* guide: Pages 120, 135
Remarks	None

Custom W-CDMA Carrier

Supported   All with Option 400

Use this softkey to display the downlink W-CDMA (DWCDMA) memory catalog. From this catalog listing, you can select a custom DWCDMA single-carrier setup to insert into a custom multicarrier downlink W-CDMA (MDWCDMA) setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 245
Remarks	None

Custom W-CDMA Multicarrier

Supported   All with Option 400

Use this softkey to display the multicarrier downlink W-CDMA (MDWCDMA) memory catalog. From this catalog listing, you can select a previously stored custom multicarrier setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 244
Remarks	None

Custom W-CDMA State

Supported   All with Option 400

In downlink, this softkey displays the catalog of downlink W-CDMA (DWCDMA) files. In uplink, this softkey displays the catalog of UWCDMA (Uplink WCDMA) files. You can choose a previously stored custom W-CDMA setup from the displayed catalog.

Preset	N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

Cycle Count

Supported   All with Option UN7

This softkey enables you to specify the number of repetitions of BER measurements. Enter the value using the numeric keypad and terminate it by pressing the **Enter** key.

Preset   1

Range   0–65,535

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   With 0 set, the BER measurements are repeated till you set the **BERT Off On** softkey to Off.

Cycle End

Supported   All with Option UN7

Use this softkey to select a pass or fail judgement at the end of the next BER measurement result.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 9

Remarks   This key is one of the choices in the Pass/Fail Update menu and is enabled when the **Pass/Fail Off On** softkey is set to On.

D

D8PSK

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 65, 75, 121, 130, 136, 146, 152, 162, 168, 178, 184, 194, 200, 210, 216, 226

Remarks   None

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*.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 86, 130, 146, 162

Remarks   None

Data

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 74

Remarks   None

In the BERT Menu

Supported   All with Option UN7

Use this softkey to access a menu that enables you to select a specific pseudo-random noise sequence.

Preset   PN9

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

In the Real Time GPS Menu

Supported   All with Option 409

Use this softkey to access a menu of choices from which you can select pseudorandom bit patterns, fixed 4-bit repeating sequences or user files as the data source for the GPS navigation message.

Preset   PN9

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 109

Remarks   This softkey is grayed out when Ranging Code is set to P or when Data Mode is set to TLM.

In the Real Time TDMA Menu

Supported   All with Option 402

For Unframed Data Transmission This softkey accesses a menu of choices for internal data generation (pseudorandom bit patterns, fixed 4-bit repeating sequences, set patterns of ones and zeroes, standard-specific patterns) for unframed transmission. You can choose to supply your own data (download a binary file or input data using the DATA INPUT connector).

Preset	*Custom*: PN23
	EDGE: PN9
	Other Formats: PN23
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 116, 131, 147, 163, 179, 195, 211
Remarks	Pattern Repeat and Pattern Trigger functions are *not* available if you use either a PN data sequence, or an external data source.

For NADC and TETRA Framed Data Transmission

Supported   All with Option 402

This softkey accesses a menu of choices for internal data generation (pseudorandom bit patterns, fixed 4-bit repeating sequences, set patterns of ones and zeroes, standard-specific patterns) for framed transmission. You can choose to supply your own data (download a binary file or input data using the DATA input connector).

Preset	PN9
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 148, 212
Remarks	None

Data

In the CDMA2000 Menu

Supported   All with Option 401

This field displays the data selection for the current channel. To change the field selection, highlight the Data field, press the **Edit Item** softkey and make a choice from the

menu that appears.

Preset   PN9

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 53, 59

Remarks   None

In the Real Time W-CDMA Menu

Supported   All with Option 400

This field displays the data type used for the downlink setup. To change the field selection, highlight the Data field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset   *OCNS*: PN9

                    DPCH: PN9

                    DPCCH: 3 GPP STD

                    DPDCH: TrCH

                    PICH: PN9

                    ChipARB: PN9

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 126, 142, 158, 174, 190, 206, 222

Remarks   The 3 GPP STD data is defined in 3 GPP Standard TS25.211. This standard defines fields and slot formats.

Data Beta

Supported   All with Option 400

This field displays the beta ratio (amplitude ratio) for the message data part of the physical random access channel (PRACH). The beta value can be used to set the power level for the PRACH message data part.

Data beta is an integer value. Changing the Data Pwr field changes the beta ratio, and the signal generator may not be able to compute a proper beta value. If this occurs, the beta value changes to "–".

Preset: 15

Range	0–15
Location	See *Key and Data Field Menu Maps* guide: Page 270
Remarks	An entry of 0 in the `Data Beta` field sets the message `Data Pwr` field to –40.00 dB.

Data clock out

Supported	All with Option 400

This field, displayed in the PRACH and DPCH Rear Panel Output Setup menu, indicates data clock out, rear panel connector settings. For example, signal type and connection locations are shown.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266, 272
Remarks	For information on the rear panel AUX I/O connector configuration, refer to chapter 1 of the User's Guide.

Data Clock Out Polarity Neg Pos

Supported	All with Option 001 or 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 AUX 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.
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 236
Remarks	None

Data Clock Polarity Neg Pos

Supported	All with Option 001 or 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.

Preset   Pos

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 233

Remarks   This softkey is disabled during external data pattern input and external clock input.
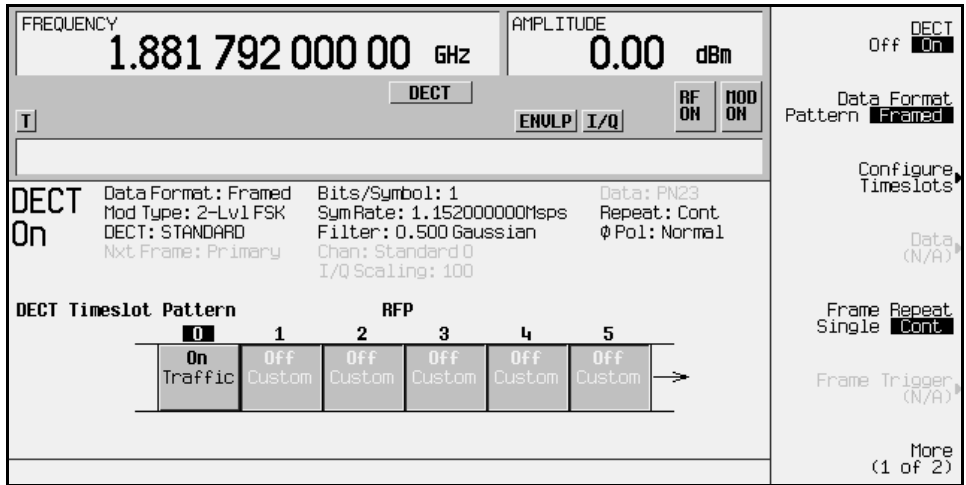
Data Format Pattern Framed

Supported   All with Option 402

Use this softkey to select the data format.

Pattern	When you select Pattern, a continuous stream of the selected data pattern is transmitted.
Framed	When you select Framed, a framed data pattern in the current format is transmitted. The **Data Format Pattern Framed** softkey is coupled to the **Burst Envelope Int Ext Off** softkey in the I/Q menu. When the data format is on, and Framed is selected, Int becomes active and the ENVLP annunciator appears in the display.

The following figure shows the display graphics for one of the formats. The timeslot

pattern is displayed only when **Data Format Pattern Framed** is set to **Framed**.

- DECT On (or other active format) this field shows whether the selected format is enabled (on) or not (off). In this example, the format is DECT.

- Data Format: displays the selected type of transmission (framed or pattern).

- Mod Type: displays the currently selected (2-Lvl FSK) type of internally generated modulation.

- DECT: indicates whether the current structure of the DECT transmission follows DECT protocol (STANDARD) or not (MODIFIED).

- Nxt Frame: indicates the next triggered frame.

  When secondary frame is on, after the primary frame triggers, this field changes to Nxt Frame: Secondary. In this example this field is grey, indicating that the secondary frame state is off.

- Bits/Symbol: indicates the number of bits per symbol required according to the selected format.

- SymRate: displays the current symbol rate. In this example, the symbol rate is set according to the DECT format (1.152000000 Msps). This value can be changed in the Symbol Rate menu. An asterisk (*) next to the value indicates that it differs from the standard (default) for the current format.

- Filter: shows the filter used. This example shows a standard Gaussian filter with a BbT of 0.500. This value can be changed in the Filter menu. An asterisk (*) next to the BbT value indicates that it differs from the current format.

- `Chan:` shows the selected channel (channel 0 of the standard frequency channel band). Grey text indicates an inactive function.

- `I/Q Scaling:` shows the value (100%) of the I/Q scaling. Grey text indicates an inactive function.

- `Data:` shows the unframed data selection. In this example, the text in this field is grey, indicating an inactive function (framed mode is on). Other selections include other PN sequences, fixed 4-bit patterns, fixed patterns of ones and zeroes, standard-specific patterns, user files, and external data.

- `Repeat:` shows the current pattern repeat mode (continuous or single).

- `Phase Pol:` shows the direction of rotation of the phase modulation vector (normal or inverted mode).

- `Full-Rate:` in PDC format, this field indicates whether PDC is set to full-rate or half-rate.

The visual representation of the timeslot pattern shows which timeslots are on (active). Any configuration changes apply to the active timeslots.

Preset	Pattern
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 116, 131, 147, 163, 179, 195, 211
Remarks	None

Data Mode Raw Enc TLM

Supported	All with Option 409

This softkey sets the data generation mode for the GPS navigation message.

Raw	This selection sets the navigation message mode to raw. Raw data is modulated onto the code at 50 bits per second, and no parity bits are computed by the ESG. The data source must be selected using the **Data** menu.
Enc	This selection sets the navigation message mode to encoded. Data is modulated onto the code at 50 bits per second, and the ESG computes 6 parity bits for every 24 data bits from the selected data source. The data source must be selected using the **Data** menu.
TLM	This selection sets the navigation message mode to TLM (telemetry). The ESG computes a standard default navigation transmission (see

Remarks) for 50 bps modulation onto the C/A carrier. The default navigation transmission includes a telemetry word (TLM), a handover word (HOW), and default navigation data.

Preset Raw

Range N/A

Location See *Key and Data Field Menu Maps* guide: Page 109

Remarks For more information about data modes and the default navigation data transmission, see the *User's Guide* or the *GLOBAL POSITIONING SYSTEM STANDARD POSITIONING SERVICE SIGNAL SPECIFICATION*, 2nd Edition, June 2, 1995.

Data out

Supported All with Option 400

This field, displayed in the PRACH and DPCH Rear Panel Setup menu, indicates data out rear panel connector settings. For example, signal type and connection locations are shown.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Maps* guide: Pages 266, 272

Remarks For information on the rear panel AUX I/O connector configuration, refer to chapter 1 of the User's Guide.

Data Out Polarity Neg Pos

Supported All with Option 001 or 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 AUX 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

Range N/A

Location See *Key and Data Field Menu Maps* guide: Page 236

Remarks   None

Data Polarity Neg Pos

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 233

Remarks   None

In the BERT Menu

Supported   All with Option UN7

Use this softkey to set the input polarity of the data signal supplied to the rear panel BER DATA IN connector.

Neg	With this choice, the polarity of the data signal is inverted.
Pos	With this choice, the data signal is not inverted.

Preset   Pos

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 9

Remarks   None

Data Pwr

Supported   All with Option 400

This field displays the power level for the physical random access channel (PRACH) message data part relative to the message control power level. The power can be adjusted using the **Edit Item** softkey or by adjusting the data beta value.

Preset   0.00 dB

Range   –40.00 to 0.00 dB

Location	See *Key and Data Field Menu Maps* guide: Page 270
Remarks	Changing this field changes the Data Beta value. Refer to "Data Beta" for more information.

Data/Clk/Sync Rear Outputs Off On

Supported   All with Option 001 or 002

This softkey is used to disconnect the output signals from the rear panel AUX 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.
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 233
Remarks	None

Data Rate

Supported   All with Option 400

This field displays the symbol rate for the selected OCNS channel.

Preset	N/A
Range	7.5–960 ksps
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	None

Data Type

Supported   All with Option 400

This field displays the data type for the selected channel. To change the field selection, highlight the Data Type field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset	*OCNS*: PN9
	DPCH: PN9
	DPCCH: 3 GPP STD
	DPDCH: TrCH
	PICH: PN9
	ChipARB: PN9
	PRACH: Mess Ctrl: 3 GPP STD, Mess Data: TrCH
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	None

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.
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 236
Remarks	None

DAYLT

Supported   All with Option 401

This field displays the current daylight saving time offset status for the CDMA2000 forward synchronization channel. To change the status, highlight the DAYLT field, press the **Edit Item** softkey and enter a new value.

Preset	00
Range	00 (off) or 01 (on)
Location	See *Key and Data Field Menu Maps* guide: Page 53

Remarks   None

DC

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 101

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

DCFM/DCΦM Cal

Supported   All

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.

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 95, 96

Remarks   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.

DCH 1–DCH6

Supported   All with Option 400

These softkeys select the the first transport channel to be the E_b (energy per bit) reference in the AWGN menu. When selected, the reference data rate is that of the physical transport channel DCH1–DCH6 respectively. The data rate for the channel appears in the *Ref Data Rate* field.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the Eb Ref field. Refer to "Eb Ref" on page 233 for more information.

Remarks   None

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   See *Key and Data Field Menu Maps* guide: Page 97

Remarks   None

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

                Frequency: 1.710 GHz

Range   *Channels*: 512–885

Frequency: 1.710–1.784 GHz

Location	See *Key and Data Field Menu Maps* guide: Page 98
Remarks	None

DECT

Supported   All with Option 001 or 002

This softkey appears in two different situations, to either select a predefined personality for a custom digital modulation format, or to access a menu from which you can configure a digital modulation.

Selecting DECT for Custom Digital Modulations

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 65
Remarks	None

Accessing the DECT Menu

Supported   All with Option 402

Use this softkey to display a menu of softkeys where you can generate a data pattern formatted into either a framed structure (with the data bits in fields defined by the DECT protocol), or a sequence that can be output one or more times.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 115, 195
Remarks	None

DECT Off On

Supported   All with Option 402

Use this softkey to set the operating state of the Digital European Cordless Telecommunications (DECT) communications format.

Off	When you select Off, the DECT format is turned off.
On	When you select On, this sets up the internal hardware to generate the structure that follows the DECT format. The internal I/Q modulator generates GFSK digital modulation and the DECT and I/Q annunciators appear in the display. The RF carrier is modulated when you set **Mod On/Off** to On.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 195

Remarks   Setting the **DECT Off On** softkey to On presets the following softkeys in the I/Q and MUX menus: **I/Q Off On** softkey is set to On and the **Source 1** and **I/Q Out** softkeys are set to BBG 1. You can override these selections in the I/Q and MUX menus.

Dect Patterns

Supported   All with Option 402

This softkey accesses a menu of Digital European Cordless Telecommunications (DECT)-specific data pattern selections. The following internally generated patterns are available:

- FDEV1_HS - (frequency deviation, half slot) 8 bits: repetitive pattern of 1, 0, 1, 0... followed by 32 ones, 32 zeroes, and 8 bits: repetitive pattern of 1, 0, 1, 0...

- FDEV1_FS - (frequency deviation, full slot) 128 bits: repetitive pattern of 1, 0, 1, 0... followed by 64 ones, 64 zeroes, and 64 bits: repetitive pattern of 1, 0, 1, 0...

  FDEV2_FS - (frequency deviation, full slot) 128 bits: repetitive pattern of 1, 0, 1, 0... followed by 64 ones, 64 zeroes, and 64 bits: repetitive pattern of 1, 0, 1, 0...

- FACCuracy - (frequency accuracy) repetitive pattern of 4 ones followed by 4 zeroes

- DM1 - All ones

- DM0 - All zeroes

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Page 198
Remarks	None

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	See *Key and Data Field Menu Maps* guide: Pages 97, 98
Remarks	None

Dedicated Control

Supported All with Option 401

Use this softkey to insert a reverse link dedicated control channel into the current channel setup table.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 46
Remarks	None

Default Message

Supported All with Option 401

This key selects the default message for the cdma2000 forward paging channel (F-PCH). When this key is selected, the word DEFAULT will appear in the Data field indicating that the default message is now ready to use.

Preset	N/A
Range	N/A

Location	This key is accessed by editing the Data field. Refer to "Data" on page 172 for more information.
Remarks	None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 232
Remarks	Your IT service can set up the default gateway.

Define User Burst Shape

Supported	All with Option 001 or 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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217
Remarks	None

Define User FIR

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 52, 58, 68, 74, 109, 120, 135, 151, 167, 183, 199, 215, 249, 256, 261
Remarks	If you enter more than 64 symbols for real-time and 512 symbols for arbitrary waveform generation, the ESG cannot use the filter.

Define User FSK

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 75, 121, 136, 152, 168, 184, 200, 216
Remarks	None

Define User I/Q

Supported   All with Option 001 or 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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 75, 121, 136, 152, 168, 184, 200, 216
Remarks	None

Delay Setup

Supported   All with Option UN7

This softkey accesses a menu that enables you to select the configuration of the clock and gate delay parameters for BER measurements.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 6

Remarks   None

Delayed Bits

Supported   All with Option UN7

This softkey enables you to specify the number of bits to delay from the trigger event signal before starting the BER measurement.

Preset   0

Range: 0–65,535

Location   See *Key and Data Field Menu Maps* guide: Pages 6, 170, 171

Remarks   This softkey is enabled when the **Bit Delay Off On** softkey is set to On.

Delete

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   Delete is located in the bit file editor menus.

Remarks   None

Delete All NVWFM Files

Supported   All with Option 001 or 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**, before the segment will be deleted. This will delete all non-volatile marker (NVMKR) as well files

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 89, 93
Remarks	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.

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 228, 229
Remarks	You cannot recover data after this step. If you change your mind and do not wish to delete the data, press the **Return** hardkey

Delete All Rows

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	Delete All Rows is located in the table editor menus.
Remarks	None

Delete All Sequences

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 228, 229

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

Delete All Waveforms

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 90

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

Delete Bits

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

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

Remarks   None

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**.

Preset   N/A

Range   N/A

Location   Delete File is located in the table editor menus.

Remarks   None

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.

Preset   N/A

Range   N/A

Location   Delete Row is located in the table editor menus.

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

Delete Segment

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 89, 92

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

Delete Selected Waveform

Supported   All with Option 001 or 002

Use this softkey to delete the highlighted waveform.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 90

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

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 228, 229

Remarks   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.

Delete To Beginning

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

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

Remarks   None

Delete To End

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

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

Remarks   None

Delete Waveform Sequence

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 90

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

Deselect All Items

Supported   All

Use this softkey to deselect all options in the list of hardware options. Selected options show an X in the column to the left of the option number. Deselected options have no X. Only those options that are selected can be enabled or calibrated.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 237

Remarks   None

Deselect Item

Supported   All

Use this softkey to deselect the highlighted option from the list of hardware options. Selected options show an X in the column to the left of the option number. Deselected options have no X. Only those options that are selected can be enabled or calibrated.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 237

Remarks   None

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

Range   N/A

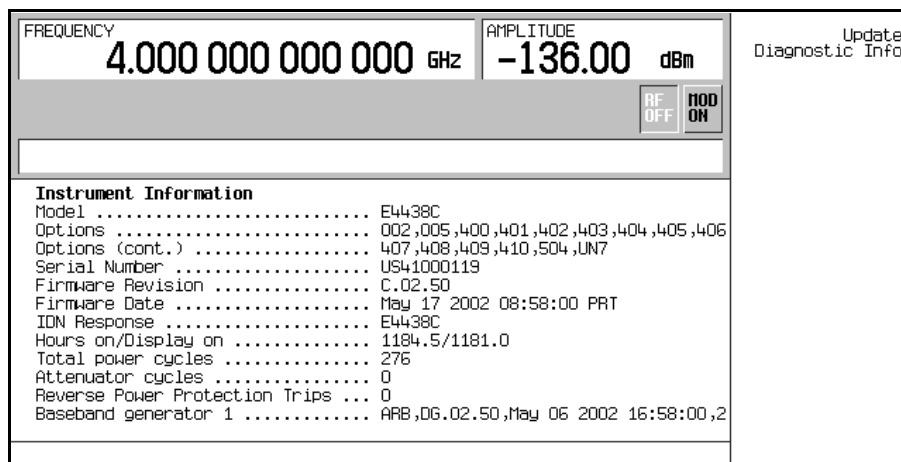**Location**   See *Key and Data Field Menu Maps* guide: Page 97

Remarks   None

Diagnostic Info

Supported   All

Use this softkey to access diagnostic information about the signal generator. Refer to Figure 3 for information on what is included in the display.

Figure 3   **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. |

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 235

Remarks   None

Diff Data Encode Off On

Supported   All with Option 001 or 002

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

| Off | When the **Diff Data Encode Off On** softkey is set to Off, data bits are not encoded prior to modulation. |
| On | When the **Diff Data Encode Off On** 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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 77, 133

Remarks   None

Diff. Mode I Offset

Supported   All

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	See *Key and Data Field Menu Maps* guide: Page 99
Remarks	None

Diff. Mode Q Offset

Supported   All

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	See *Key and Data Field Menu Maps* guide: Page 99
Remarks	None

Differential Encoding Off On

Supported   All with Option 001 or 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*.

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 80, 81, 125, 126, 141, 142, 157, 158, 173, 174, 189, 190, 205, 206, 221, 222
Remarks	This setting is not affected by a preset or by a power cycle.

Digital Mod Define

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 65

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

Digital Modulation Off On

Supported   All with Option 001 or 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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 65

Remarks   None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 232
Remarks	None

Display Burst Shape

Supported   All with Option 001 or 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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 82, 127, 143, 159, 175, 191, 207, 223
Remarks	None

Display Code Domain Power

Supported   All with Option 400/401

This softkey displays a graphical representation of the code domain power. Power (in decibels) is represented on the y-axis and Walsh Code is represented on the x-axis.

The table represents the code domain power as a graph of the relationship between power in each channel (–40 to 0 dB) versus Walsh code (0 to highest code used in setup).

Total code domain power is displayed above the graph.

The following is an example of a Code Domain Power graph.
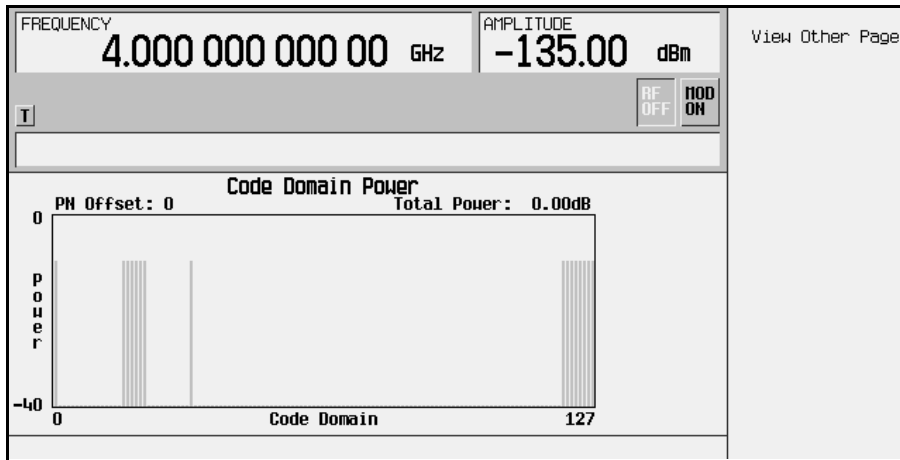
If more than one page exists, the **View Other See Key and Data Field Menu Map guide: Page** softkey will appear. You can use it to view subsequent pages. To return to the channel setup table editor, press **Return**.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 22, 31, 248
Remarks	If there is channel data assigned to more than one PN offset, pressing the **Display Code Domain Power** softkey will open a menu where you can select **Previous PN Offset** or **Next PN Offset**.

Display FFT

Supported	All with Option 001 or 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.
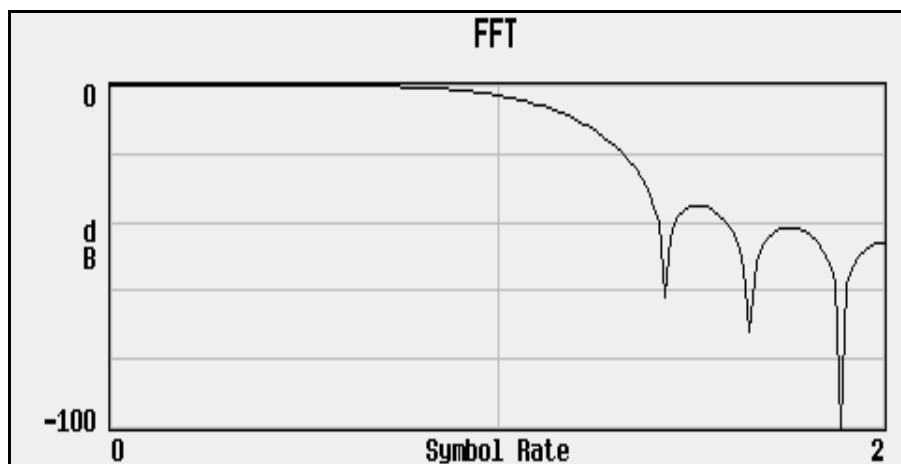
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 23, 33, 45, 54, 60, 70, 84, 112, 124, 140, 156, 172, 188, 204, 220, 252, 258, 264
Remarks	None

Display Impulse Response

Supported   All with Option 001 or 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.
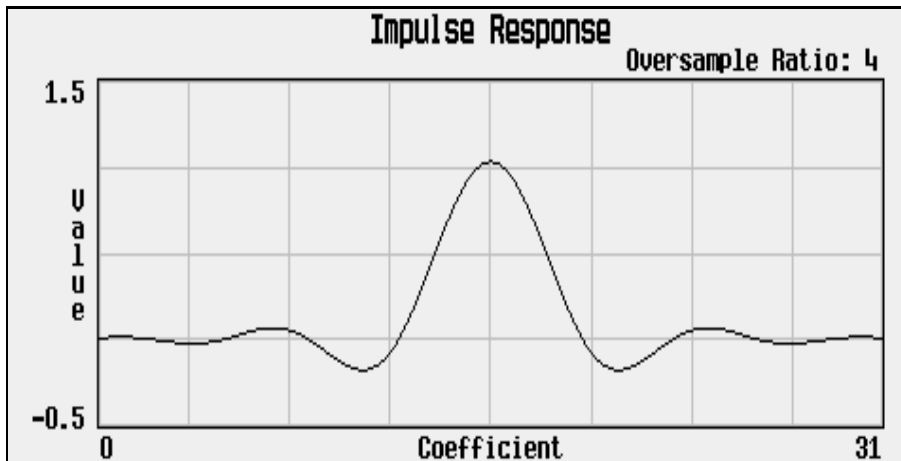
Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 23, 33, 45, 54, 60, 70, 84, 112, 124, 140, 156, 172, 188, 204, 220, 252, 258, 264
Remarks	None

Display I/Q Map

Supported	All with Option 001 or 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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 80, 125, 141, 157, 173, 189, 205, 221
Remarks	None

DL Reference 1.1, 1.2, 2.1, 2.2

Supported   All with Option 400

This softkey selects the downlink reference compressed mode parameters as defined in 3GPP Standard TS25.101

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 265

Remarks   None

DM0

Supported   All with Option 402

Use this softkey to select a binary data pattern that consists of all zeros. This internally generated data pattern is available for framed transmissions only. When **DM0** is selected, both the **B field** and the **Dect Patterns** softkeys show this selection, and DM0 appears in the B field, near the bottom of the text area of the display.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 198

Remarks   None

DM1

Supported   All with Option 402

Use this softkey to select a binary data pattern that consists of all ones. This internally generated data pattern is available for framed transmissions only. When **DM1** is selected, both the **B field** and the **Dect Patterns** softkeys show this selection, and DM1 appears in the B field, near the bottom of the text area of the display.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 198

Remarks   None

DMOD

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 237

Remarks   None

Dn Custom Cont

Supported   All with Option 402

Use this softkey to select a downlink continuous custom timeslot type for the active timeslot, which is configured using an internally generated data pattern, a downloaded sequence of bits stored in a user file, or by supplying external data. This timeslot is provided for flexibility; it is not a standard Trans European Trunked Radio (TETRA) timeslot. You cannot mix downlink and uplink timeslots.

If a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink. The following table shows the change to a frame designated as uplink when you select either continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc

When you select **Dn Custom Cont** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Dn Custom Disc

Supported   All with Option 402

Use this softkey to select a downlink discontinuous custom timeslot type for the active timeslot, which is configured using an internally generated data pattern, a downloaded sequence of bits stored in a user file, or by supplying external data. This timeslot is provided for flexibility; it is not a standard Trans European Trunked Radio (TETRA) timeslot. You cannot mix downlink and uplink timeslots. If a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink.

The following table shows the change to a frame designated as uplink when you select either continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc
Up Normal	Dn Normal Cont	Dn Normal Disc

When you select **Dn Custom Disc** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Dn Normal Cont

Supported   All with Option 402

Use this softkey to select downlink continuous normal as the timeslot type for the active timeslot.

You cannot mix downlink and uplink timeslots. When a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink. The following table shows the change to a frame designated as uplink when you select either

continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc
Up Normal	Dn Normal Cont	Dn Normal Disc

When you select **Dn Normal Cont** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Dn Normal Disc

Supported   All with Option 402

Use this softkey to select downlink discontinuous normal as the timeslot type for the active timeslot.

You cannot mix downlink and uplink timeslots. If a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink. The following table shows the change to a frame designated as uplink when you select either continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc
Up Normal	Dn Normal Cont	Dn Normal Disc

When you select **Dn Normal Disc** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Dn Sync Cont

Supported   All with Option 402

Use this softkey to select downlink continuous synchronization as the timeslot type for the active timeslot.

You cannot mix downlink and uplink timeslots. When a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink. The following table shows the change to a frame designated as uplink when you select either continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc
Up Normal	Dn Normal Cont	Dn Normal Disc

When you select **Dn Sync Cont** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Dn Sync Disc

Supported   All with Option 402

Use this softkey to select downlink discontinuous synchronization as the timeslot type for the active timeslot.

You cannot mix downlink and uplink timeslots. When a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink. The following table shows the change to a frame designated as uplink when you select either continuous downlink or discontinuous downlink.

From Uplink Timeslot	To Continuous Downlink Timeslot	To Discontinuous Downlink Timeslot
Up Custom	Dn Custom Cont	Dn Custom Disc
Up Control 1	Dn Custom Cont	Dn Custom Disc
Up Control 2	Dn Custom Cont	Dn Custom Disc
Up Normal	Dn Normal Cont	Dn Normal Disc

When you select **Dn Sync Disc** for a timeslot, the visual representation of the timeslot pattern updates.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 212

Remarks   None

Do Cal

Supported   All

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 3

Remarks   None

Do External Input Level Measurement

Supported   All

This softkey to measure the voltage level at the external I/Q inputs. The measurement will be used as the input level setting for optimizing the IQ attenuator setting.

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 107

Remarks   None

Done

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 3, 35, 46, 69, 103, 253

Remarks   None

Done Inserting

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 92

Remarks   None

Do Power Search

Supported   All

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.

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Pages 3, 99
Remarks	The routine will execute only if RF is on and ALC is off.

Doppler Shift

Supported	All with Option 409

Use this softkey to compensate for the apparent change in the frequency of the GPS signal caused by the relative motion of the transmitter and receiver.

Preset	0.0 Hz
Range	−125 to 125 kHz
Location	See *Key and Data Field Menu Maps* guide: Page 109
Remarks	The lower bound of the doppler shift is limited by the frequency set on the signal generator. For example, if the signal generator frequency is set to 100 kHz, then the lower limit of the doppler shift would be 0.00 Hz. The doppler shift can not extend lower than the limitations of the signal generator.

Down Custom

Supported	All with Option 402

Use this softkey to select a downlink custom timeslot type for the active timeslot. A downlink custom timeslot is configured using an internally generated data pattern, a downloaded sequence of bits stored in a user file, or by supplying external data.

You cannot mix downlink and uplink timeslots. When a timeslot is designated as uplink, it changes to downlink if any other timeslot is designated as downlink.

When you have selected **Down Custom** for a timeslot, the visual representation of the timeslot pattern updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 148, 164
Remarks	The downlink custom timeslot is provided for flexibility; it is not a standard timeslot type.

Down TCH

Supported	All with Option 402

Use this softkey to select downlink traffic channel as the timeslot type for the active timeslot.

You cannot mix downlink and uplink timeslots. All traffic channels must be coupled to the same link at any one time.

When you select **Down TCH**, the frame pattern is output with continuous RF power. Power is on during off timeslots (according to the standard) and a continuous pattern of binary ones is sent during off timeslots.

When you select **Down TCH** for a timeslot, the visual representation of the timeslot pattern updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 148, 164
Remarks	None

Down TCH All

Supported	All with Option 402

Use this softkey to select downlink traffic channel (base station to mobile) as the timeslot type for all timeslots. When you select **Down TCH All**, the frame pattern is output with continuous RF power. Power is on during off timeslots (according to the standard) and a continuous pattern of binary ones is sent during off timeslots. When all of the timeslots are off, RF power is off.

When you select **Down TCH All**, the visual representation of the timeslot pattern updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 148, 164
Remarks	None

Down/Up

Supported	All with Option 400

This softkey is one of the selections available for setting the transport power control

(TPC) pattern. The **Down/Up** softkey is used to repeatedly send *n* down commands followed by *n* up commands. The number of *n* down and up commands is defined in the `TPC Pat Steps` field of the DPCCH PhyCH Setup menu for uplink and DPCH PhyCH Setup menu for downlink.

Preset	N/A
Range	N/A
Location	This key is accessed by editing the `TPC Pat` field. Refer to "TPC Pattern" on page 610 for more information.
Remarks	None

Downlink MCS-1

Supported	All with Option 402

Use this softkey to select a downlink packet data traffic channel with block type 5 that is in compliance with GSM 05.03.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 134
Remarks	None

Downlink MCS-5

Supported	All with Option 402

Use this softkey to select a downlink packet data traffic channel with block type 9 that is in compliance with GSM 05.03. The MCS5 radio block contains a single RLC data block of 448 bits with a code rate of 0.37. This ensures that the maximum amount of Forward Error Correction (FEC) has been applied to the data.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 119
Remarks	None

Downlink MCS-9

Supported   All with Option 402

Use this softkey to select a downlink packet data traffic channel with block type 13 that is in compliance with GSM 05.03. The MCS9 radio block contains two RLC data blocks of 592 bits with a code rate of 1.0. No Forward Error Correction (FEC) has been applied to the data, thus reducing the overhead and enabling the fastest data rate transmission.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 119

Remarks   None

DPCCH

In the Arb W-CDMA Menu

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

In the Real Time W-CDMA Menu

Supported   All with Option 400

The DPCCH softkey, available in the uplink **DPCH AWGN Setup** mode, selects the dedicated physical control channel (DPCCH) as the Eb reference. Refer to "Eb/No Value" on page 233 for more information.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 244, 269

Remarks   None

DPCCH + 1 DPDCH

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPCCH + 2 DPDCH

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPCCH + 3 DPDCH

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   N/A

DPCCH + 4 DPDCH

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPCCH + 5 DPDCH

Supported   All with Option 400

This softkey selects a pre-defined setup to be built into a waveform. This selection is meant to be a one-button solution for quickly generating uplink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPCCH Channel Code

Supported   All with Option 400

This field displays the value of the channel code. This code is an orthogonal variable spreading factor code (OVSF). The range of code numbers is dependent on and coupled to the slot format and symbol rate. To edit this field press the, **DPCH Code Setup** softkey, press the **DPCH DPCCH DPDCH** softkey until **DPCCH** is highlighted. Highlight the Channel Code field, press the **Edit Item** softkey and change the value using the table below.

Preset   0

Range   0 to 255 depending on the physical channel. Refer to Table 4.

Table 4

Slot Format	0	1	2	3	4	5	6
Symbol Rate (ksps)	15	30	60	120	240	480	960
Max Ch Code	255	127	63	31	15	7	3

Location   See *Key and Data Field Menu Maps* guide: Page 262

Remarks   The signal generator indicates slot format and channel code conflicts using the error messages area of the display. If the slot format is not compatible with the channel code, the "error -221 Settings Conflict" message is displayed. If the channel code number is incompatible with the slot format, the "value clipped to upper limit" is displayed.

DPCCH Power

Supported   All with Option 400

This field is display in two locations: the first location is the default summary screen for the dedicated physical channel (DPCH). No edits can be made from this screen location. The second location is under the **DPCH Power Setup** softkey where the (DPCCH) power is set. To edit, highlight the DPCCH Power field, press the **Edit Item** softkey and enter a new value.

Preset   -2.69000000E+000

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPCCH Raw Data (RPS4)

Supported   All with Option 400

This softkey assigns dedicated physical control channel raw data to the selected rear panel AUX I/O output connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 266

Remarks   The DPCCH raw data can be assigned to several different output connectors. The **(RPS4)** designator refers to the remote SCPI command that corresponds to this softkey.

DPCCH Raw Data Clock (RPS5)

Supported   All with Option 400

This softkey assigns a dedicated physical control channel raw data clock to the selected rear panel AUX I/O output connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 266

Remarks   The DPCCH raw data clock can be assigned to several different output connectors. The **(RPS5)** designator refers to the remote SCPI command that corresponds to this softkey.

DPCCH Slot Format

Supported   All with Option 400

This field displays the slot format used for the dedicated physical channel. Slot formats are coupled with the channel code and symbol rate. The 6 slot formats for DPCCH are described in the 3GPP Technical Specification (TS 25.211 v3.10).

Preset   *Uplink*: 0

Range   *Uplink*: 0–5 Refer to Table 5.

Table 5

Slot Format	0	1	2	3	4	5
Symbol Rate (ksps)	15	15	15	15	15	15

Table 5

Slot Format	0	1	2	3	4	5
Max Ch Code	255	255	255	255	255	255
Pilot Bits/Slot	6	8	5	7	6	5
TFCI Bits/Slot	2	0	2	0	0	2
FBI Bits/Slot	0	0	1	1	2	2
TPC Bits/Slot	2	2	2	2	2	1

Location   See *Key and Data Field Menu Maps* guide: Page 257, 262

Remarks   None

DPCH

Supported   All with Option 400

In Real Time W-CDMA Downlink

This softkey inserts a dedicated physical channel (DPCH) into the downlink Edit Channel Setup table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 250, 253

Remarks   A DPCH is the default channel setup and is selected when the signal generator is powered on or after a preset.

In Real Time W-CDMA Uplink

This softkey selects a dedicated physical channel (DPCH) as the uplink channel type.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 262, 269

Remarks   None

DPCH DPCCH DPDCH

Supported   All with Option 400

This softkey (found under the **DPCH Code Setup** softkey) selects the dedicated physical control channel (DPCCH) or the dedicated physical data channel (DPDCH) to be configured.

Preset   DPCCH

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 265

Remarks   N/A

DPCH 1

Supported   All with Options 400, 403

This softkey, in the downlink additive white gaussian noise (AWGN) channel, selects the first DPCH channel as the Ec reference.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Ec Ref` field. Refer to "Ec Ref" on page 235 for more information.

Remarks   None

DPCH 2

Supported   All with Options 400, 403

This softkey, in the downlink additive white gaussian noise (AWGN) channel, selects the second DPCH channel as the Ec reference.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Ec Ref` field. Refer to "Ec Ref" on

page 235 for more information.

Remarks   None

DPCH AGWN Setup

Supported   All with Option 400

This softkey selects a dedicated physical channel (DPCH) additive white gaussian noise (AGWN) setup configuration screen.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 265

Remarks   N/A

DPCH Channel Balance

Supported   All with Option 400

This softkey allows real-time power control of the DPCH and orthogonal channel noise stimulator (OCNS) power levels. The power of all the active OCNS channels are raised or lowered to maintain the 0 dB output power, relative to the set carrier amplitude, as the DPCH1 power is varied in real-time.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 257

Remarks   When selected, the table editor will display the DPCH1and OCNS powers. This softkey is active only when the OCNS and DPCH are both active.

DPCH Code Setup

Supported   All with Option 400

This softkey accesses a dedicated physical control channel (DPCCH) and dedicated physical data channel (DPDCH) code setup configuration screen.

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	N/A

DPCH Input Signal Setup

Supported   All with Option 400

This softkey is one of the menu selections from the **DPCH Rear Panel Setup** menu. When selected, the input rear panel signal routing for the uplink DPCH is displayed.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266
Remarks	None

DPCH Output Signal Setup

Supported   All with Option 400

This softkey is one of the menu selections from the **DPCH Rear Panel Setup** menu. When selected, the output rear panel signal routing for the uplink DPCH is displayed.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266
Remarks	None

DPCH Rear Panel Setup

Supported   All with Option 400

This softkey accesses a menu of two softkeys from which you can view or configure the rear panel signal connections, routing and signal types.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 262
Remarks	Available for uplink only.

DPCH Power Setup

Supported	All with Option 400

This softkey accesses a configuration screen for the dedicated physical control channel (DPCCH) and dedicated physical data channel (DPDCH) power setup.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	N/A

DPCH Trigger Setup

Supported	All with Option 400

This softkey accesses a menu of uplink synchronization formats that can be applied to the active channel. The synchronization selections are chip and timeslot offsets, system frame number (SFN), and connection frame number (CFN).

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 262
Remarks	None

DPDCH

Supported	All with Option 400

The DPDCH softkey, available in the uplink **DPCH AWGN Setup** mode (highlight the Eb Ref field and press Edit Item), selects the dedicated physical data channel (DPDCH) as the Eb reference. Refer to "Eb/No Value" on page 233 for more information.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	This channel selection is not available if PRACH is selected for physical channel type.

DPDCH Channel Code

Supported   All with Option 400

This field displays the value of the channel code. This code is an orthogonal variable spreading factor code (OVSF). The range of code numbers is dependent on and coupled to the slot format and symbol rate. To edit this field press the **DPCH Code Setup** softkey, press the **DPCH DPCCH DPDCH** softkey until **DPDCH** is highlighted. Highlight the Channel Code field, press the **Edit Item** softkey and change the value using the table below.

Preset   16

Range   0 to 255 depending on the physical channel. Refer to Table 6.

Table 6

Slot Format	0	1	2	3	4	5	6
Symbol Rate (ksps)	15	30	60	120	240	480	960
Max Ch Code	255	127	63	31	15	7	3

Location   See *Key and Data Field Menu Maps* guide: Page 262

Remarks   The signal generator indicates slot format and channel code conflicts using the error messages area of the display. If the slot format is not compatible with the channel code, the "error -221 Settings Conflict" message is displayed. If the channel code number is incompatible with the slot format, the "value clipped to upper limit" is displayed.

DPDCH Power

Supported   All with Option 400

This field is display in two locations: the first location is the default summary screen for the dedicated physical channel (DPCH). No edits can be made from this screen location. The second location is under the **DPCH Power Setup** softkey where the DPDCH power is set. To edit, highlight the DPDCH Power field, press the **Edit Item** softkey and enter a new value.

Preset   -2.69000000E+000

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 244

Remarks   None

DPDCH Raw Data (RPS2)

Supported   All with Option 400

This softkey assigns dedicated physical data channel (DPDCH) raw data to the selected rear panel AUX I/O output connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 266

Remarks   The DPDCH raw data can be assigned to several different output connectors. The **(RPS2)** designator refers to the remote SCPI command that corresponds to this softkey.

DPDCH Raw Data Clock (RPS3)

Supported   All with Option 400

This softkey assigns a dedicated physical data channel (DPDCH) raw data clock to the selected rear panel AUX I/O output connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 266

Remarks   The DPDCH raw data clock can be assigned to several different output connectors. The **(RPS3)** designator refers to the remote SCPI command that corresponds to this softkey.

DPDCH Slot Format

Supported   All with Option 400

This field displays the slot format used for the dedicated physical channel. Slot formats are coupled with the channel code and symbol rate. The 7 slot formats for DPDCH are described in the 3GPP Technical Specification (TS 25.211 v3.10).

Preset   *Uplink*: 2

Range   *Uplink*: 0–6 Refer to Table 7.

Table 7

Slot Format	0	1	2	3	4	5	6
Symbol Rate (ksps)	15	30	60	120	240	480	960
Max Ch Code	255	127	63	31	15	7	3

Location   See *Key and Data Field Menu Maps* guide: Page 257, 262

Remarks   None

Drift Deviation

Supported   All with Option 406

This softkey enables you to set the maximum deviation of the frequency drift for linear carrier frequency ramping or sinusoidal drift of the carrier frequency.

Preset   0.0 Hz

Range   −100.0 kHz to 100.0 kHz

Location   See *Key and Data Field Menu Maps* guide: Page 239

Remarks   None

Dual ARB

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 88, 102

Remarks	None

Dual-Sine

Supported	All

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 2, 95, 96, 101
Remarks	In the LF Out menu, this softkey is available after selecting the internal source to operate as a function generator.

Dummy

Supported	All with Option 402

Use this softkey to select dummy as the timeslot type for the active timeslot. The dummy burst is used as filler information for unused timeslots on the forward link.

When you select **Dummy** for a timeslot, the visual representation of the timeslot pattern updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 132
Remarks	None

Dummy Bearer 1

Supported	All with Option 402

Use this softkey to select dummy bearer 1 as the timeslot type for the active timeslot. When you have selected **Dummy Bearer 1** for a timeslot, the visual representation of the timeslot type on the display updates.

Preset	N/A
Range	N/A

Location	See *Key and Data Field Menu Maps* guide: Page 196
Remarks	None

Dummy Bearer 2

Supported	All with Option 402

Use this softkey to select dummy bearer 2 as the timeslot type for the active timeslot. When you have selected **Dummy Bearer 2** for a timeslot, the visual representation of the timeslot type on the display updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 196
Remarks	None

DWCDMA

Supported	All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 237
Remarks	None

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.

Preset	List
Range	N/A

Location	See Key and Data Field Menu Map guide: Page 231
Remarks	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.

Dwell

Supported   All

This field enables you to set the dwell time for a list sweep in the List Modes Values table editor.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 230
Remarks	None

E

E

Supported   All with Option 402

Use this softkey to access a menu of data generation choices for configuring the EDGE or GSM timeslot encryption bit fields:

- Internal data (PN9, PN15, fixed, 4-bit repeating sequences, set patterns of ones and zeroes).

- Your own data (download a binary file, or input data using the DATA input connector).

Preset   PN9

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 117, 132

Remarks   None

E Ref

Supported   All with Options 400, 403

This field displays the reference used for determining the Eb or Ec reference. This reference is used for specifying the bit rate of the physical transport channel. The reference can be the Preamble, Msg Ctrl, Msg Data, or RACH TrCH. These channels are choices from the Edit Item menu.

Preset   RACH TrCH

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 270

Remarks   None

E4416A

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 5
Remarks	None

E4417A

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 5
Remarks	None

E4418B

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 5
Remarks	None

E4419B

Supported   All

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

Preset	N/A
Range	N/A

Location   See *Key and Data Field Menu Maps* guide: Page 5

Remarks   None

EbNo

Supported   All with Options 401, 403

This field displays the energy per bit to noise power (EbNo) density ratio for the current forward or reverse link CDMA2000 channel. To change the EbNo ratio, highlight the EbNo field, press the **Edit Item** softkey and enter a new value.

Preset   0.00

Range $min\ EbNo$: $10\log_{10}(\frac{\text{Chip Rate}}{1000(\text{Bit Rate})})$ + Normalized Power

$max\ EbNo$: $10\log_{10}(\frac{1000(\text{Chip Rate})}{\text{Bit Rate}})$ + Normalized Power

Where Normalized Power is the channel amplitude after adjusting the code domain power to 0 dB. Refer "Adjust Code Domain Power" on page 55.

For the forward fundamental channel:

$min\ EbNo$: $10\log_{10}\left[\frac{\text{Chip Rate}}{1000(\text{Bit Rate})}\right]$ + Normalized Power + RCFactor

$max\ EbNo$: $10\log_{10}\left[\frac{1000(\text{Chip Rate})}{\text{Bit Rate}}\right]$ + Normalized Power + RCFactor

RCFactor is dependent on the selected radio configuration.
The following table shows the RCFactor by radio configuration.

RC	RCFactor
1	$10\log_{10}\left[\frac{1}{2}\left(\frac{11}{11 + \frac{9600}{\text{Bit Rate}}}\right)\right]$
2	$10\log_{10}\left[\frac{1}{2}\left(\frac{23}{23 + \frac{14400}{\text{Bit Rate}}}\right)\right]$

RC	RCFactor
3, 4	$10\log_{10}\left[\dfrac{11}{11 + \dfrac{9600}{\text{Bit Rate}}}\right]$
5	$10\log_{10}\left[\dfrac{11}{11 + \dfrac{14400}{\text{Bit Rate}}}\right]$

Location   See *Key and Data Field Menu Maps* guide: Pages 51, 53, 57, 59

Remarks   This setting is available for all channels except the pilot channel.

Noise must be turned on for this setting to be active.

Eb/No Value

Supported   All with Options 400, 403

This field displays the ratio of energy per bit to noise power density for the channel selected as the reference for the additive white gaussian noise (AWGN) channel. The Eb value is defined as the carrier power divided by bit rate. The No value is noise power divided by the bandwidth (3.84 MHz).

Preset   *Uplink*: 6.97971394 dB

Uplink (PRACH): 4.10 dB

Range   –5.02 to 54.98 dB (when Eb Ref is DCH1 and the data rate is 12.2 ksps)

Location   See *Key and Data Field Menu Maps* guide: Page 267

Remarks   This field appears in uplink only.

Eb Ref

Supported   All with Option 400

This field displays the reference used for determining the energy per bit reference. This reference is used for specifying the bit rate of the physical transport channel. To change the field selection, highlight the Eb Ref field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset   DCH1

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Page 267
Remarks	This field appears in uplink only.

EcNo

Supported	All with Options 401, 403

This field displays the energy per chip to noise power (EcNo) density ratio for the forward or reverse link CDMA2000 pilot channel. To change the EcNo ratio, highlight the EcNo field, press the **Edit Item** softkey and enter a new value.

Preset	0.00
Range	*min EcNo*: –30 + Normalized Power
	max EcNo: 30 + Normalized Power
	Where Normalized Power is the channel amplitude after adjusting the code domain power to 0 dB. Refer "Adjust Code Domain Power" on page 55.
Location	See *Key and Data Field Menu Maps* guide: Pages 51, 53, 57, 59
Remarks	This setting is available only for the pilot channel.
	Noise must be turned on for this setting to be active.

Ec/No value

Supported	All with Options 400, 403

This field displays the ratio of the energy per chip to noise power for the channel selected as the reference for the additive white gaussian noise (AWGN) channel. Any one of several channels can be selected for the Ec reference.

Preset	–7.28 dB
Range	–5.00 to 20 dB
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	None

Ec/No Value

Supported	All with Options 400, 403

This field displays the ratio of energy per chip to noise power density for the channel

selected as the reference for the additive white gaussian noise (AWGN) channel.

Preset	–20.50 dB
Range	–30.00 to 30.00 dB
Location	See *Key and Data Field Menu Maps* guide: Page 270
Remarks	This field appears in uplink only and can only be edited if Preamble is selected in E Ref.

Ec Ref

Supported   All with Option 400

This field displays the reference used for determining the energy per chip reference power value displayed in the `Ec Ref Pow` field. To change the field selection, highlight the `Ec Ref` field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset	DPCH1
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This field appears in downlink only.

Ec Ref Power

Supported   All with Option 400

This field displays the channel power of the channel selected as the Ec reference. Any one of several channels can be selected for the Ec reference.

Preset	–10.20 dB
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 257
Remarks	This field appears in downlink only.
	The power of the channel selected as the Ec reference is the only parameter that affects the overall C/N ratio since the chip rate is constant and equals the system bandwidth (3.84 MHz).

EDGE

Supported   All with Option 001 or 002

This softkey appears in three different situations, enabling you to select a predefined personality for a custom digital modulation format, access a menu from which you can configure a digital modulation, or select a pre-modulation filter.

Selecting EDGE for Custom Digital Modulations

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 65

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

Accessing the EDGE Menu

Supported   All with Option 402

Use this softkey to display a menu of softkeys where you can generate a data pattern formatted into either a framed structure (with the data bits in fields defined by the EDGE protocol), or a sequence that can be output one or more times.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 115, 116

Remarks   None

Selecting the EDGE Filter

Use this softkey in the Select (modulation type) menu to enable $3\pi/8$ rotating 8PSK modulation. EDGE modulation transmits data at the rate of 3 bits per symbol. EDGE modulation is the default selection as specified by the Enhanced Data Rates for GSM Evolution (EDGE) format.

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Maps* guide: Pages 120, 121
Remarks	The EDGE filter is the default selection as specified by the EDGE format.

EDGE (Rev 8.9.0 Release 1999)

Supported	All with Option 402

This softkey accesses menus for utilizing the Enhanced Data Rates for GSM Evolution (EDGE) format that provide capabilities for customizing the modulation, filter, burst shape, and other attributes of the protocol.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 116
Remarks	None

EDGE BERT Off On

Supported	All with Option 300

This softkey toggles the operating state of the EDGE bit error rate test function.

Off	This choice will turn off any current EDGE BER measurements.
On	This choice will initiate synchronization to the base transceiver station (BTS) under test.

Preset:	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 8
Remarks	The following message appears if the amplitude level is incorrect when you toggle EDGE BERT on:

```
522 "Demodulator Unleveled; Input amplitude underrange."
```

EDGE Off On

Supported	All with Option 402

Use this softkey to set the operating state of the Enhanced Data Rates for GSM Evolution (EDGE) format.

Off   When you select Off, the EDGE format is turned off.

On   When you select On, this sets up the internal hardware to generate a
                       signal that follows the EDGE format. The internal I/Q modulator
                       generates 3π/8 rotating 8PSK digital modulation and the EDGE and I/Q
                       annunciators are turned on in the display. Although the digital
                       modulation is enabled with this softkey, the RF carrier is modulated by
                       the enabled modulation only when you have also set **Mod On/Off** to On.

Preset: Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 116

Remarks   Setting the **EDGE Off On** softkey to On presets the following softkeys in
                       the I/Q and MUX menus: **I/Q Off On** softkey is set to On. and **Source 1**
                       and **I/Q Out** softkeys are set to BBG 1. You can override these selections
                       in the I/Q and MUX menus.

Edit Channel Setup

Supported   All with Option 400/401

This key accesses a table editor that enables you to define the channel parameters of the
current IS-95A, CDMA2000, or W-CDMA signal.

Use the front-panel knob or the arrow keys to move the cursor within the table
structure, and the numeric keypad to change values contained in the table.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40

Remarks   You can move quickly through a large table using the keys found
                       beneath the **Goto Row** softkey.

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.

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 229
Remarks	This softkey appears only after a comment has been added to a register.
	The comment line is limited to 55 alpha-numeric and special characters.

Edit Description

Supported	All

Use this softkey to access a menu from which you can create and edit text in the header description field for the currently displayed header. The maximum length of the header description field is 32 characters.

For this softkey to be active, the modulation format must be enabled and the file being displayed must be the active file.

Preset:	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 14, 21, 50, 241
Remarks	N/A

Edit Fall Shape

Supported	All with Option 001 or 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**.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217
Remarks	None

Edit File

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 74, 109, 119, 134, 139, 150, 155
Remarks	There is no undo capability. Bit files are saved after every modification.

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.

Preset:	N/A
Range	N/A
Location	Edit Item is located in the table editor menus.
Remarks	None

Edit Repetitions

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 90
Remarks	None

Edit Rise Shape

Supported   All with Option 001 or 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**.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217

Remarks   None

Edit Selected Waveform Sequence

Supported   All with Option 001 or 002

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 90

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 21, 69, 79, 82, 84, 110, 123, 127, 128, 130, 138, 139, 143, 144, 146, 154, 155, 159, 160, 162, 267

Remarks   None

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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 21, 24, 50, 66, 70, 73, 84, 85, 106, 104 110, 113, 123, 128, 130, 138, 139, 144, 146, 154, 155, 160, 162, 246, 267

Remarks   None

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   See *Key and Data Field Menu Maps* guide: Page 97

Remarks   None

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	See *Key and Data Field Menu Maps* guide: Page 98
Remarks	None

Equal Energy per Symbol

Supported	All with Option 400

This softkey sets the the channel powers so that all channels have equal energy per symbol, referenced to 7.5 ksps, and increasing by 3 dB for each doubling of the symbol rate.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 251
Remarks	None

Equal Powers

Supported	All with Option 400/401

Use this softkey to equalize power levels for all channels to the same value while scaling the total power to 0 dB.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 22, 22, 35, 47, 53, 59, 257, 267
Remarks	None

Err Insert

Supported	All with Option 400

This field displays the type of error insertion mode applied to the data for the transport channel. The selections include BLER (block error rate), BER (bit error rate), and NONE. If the insertion mode is changed, press the **Apply Channel Setup** softkey to apply the mode and error rate selections.

Preset	NONE
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 266
Remarks	Scroll down the table editor in the TrCH Channel Setup menu to view this field.
	This field appears in uplink only.

Error Bits

Supported	All with Option 400

This field displays the number of actual bit errors being generated. It is calculated from the desired BER value as set in the BER field after the **Apply Channel Setup** softkey is pressed and the error bits are inserted into the data for the transport channel.

Preset	0
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 266
Remarks	Scroll down the table editor TrCH Channel Setup menu to view this field. To insert the error bits, the Err Insert field must be set to BER.

Error Blocks

Supported	All with Option 400

This field displays the number of the actual error blocks being generated. It is calculated from the desired BLER value as set in the BLER field after the **Apply Channel Setup** softkey is pressed and the error blocks are inserted into the data of the transport channel.

Preset	0
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 266
Remarks	Scroll down the table editor TrCH Channel Setup menu to view this field. To insert the error bits, the Err Insert field must be set to BLER.

Error Count

Supported   All with Option UN7

This softkey enables you to set the residual error threshold for the number of events to stop function. To edit the error count value, press **Error Count**, enter the desired value using the numeric keypad, then press the **Enter** key that appears when editing commences.

Preset   100

Range: 0–1,000,000,000

Location   See *Key and Data Field Menu Maps* guide: Page 9, 11

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 232

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

Error Out

Supported   All with Option UN7

This softkey selects the following configuration for the bit error rate output using the AUX I/O rear panel connector:

Pin #	*Data*
1	BER Meas End–outputs the signal that indicates the status of the bit error rate (BER) measurements. BER measurements are being executed when the signal is high.
4	BER Sync Loss–outputs the signal that indicates the synchronization loss state. This signal is only valid when the signal of the Meas End

connector is high. Synchronization loss state is detected when the signal is low.

20	BER Test Out–outputs the signal that indicates the test result of the pass/fail judgment of the bit error rate measurements. The result is guaranteed at the falling edge of the signal of the Meas End connector. The result is pass when the signal is low; the result is fail when the signal is high. The signal is also high when the pass/fail judgment is set to off.
21	BER Error Out–output is normally low. One pulse whose width is about 80 ns indicates one error bit. Pulses for the error bits of one measurement cycle are not synchronized with the clock signal to the BER CLK IN connector, and are output during the signal of the Meas End connector when the measurement cycle is high.
22	BER No Data–outputs the signal that indicates the no data status. The no data status is reported when there has been no clock inputs for more than 3 seconds or there have been no data change for more than 200 bits. This signal is valid only when the signal of the Meas End connector is high. No data status is detected when the signal is low.

Preset   N/A

Range: N/A

Location   See *Key and Data Field Menu Maps* guide: Page 9

Remarks   None

Error Rate

Supported   All with Option 300

This softkey enables you to set the frame erasure rate limit for the pass/fail judgement function.

Preset   10.0000%

Range   0%–100%

Location   See *Key and Data Field Menu Maps* guide: Page 10, 11

Remarks   None

ESG-Syn Sig (RPS24)

Supported   All with Option 400

This softkey assigns the ESG synchronization signal to the selected rear panel AUX I/O output connector or BNC.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 272

Remarks   The synchronization signal can be assigned to numerous different output connectors/pins. The **(RPS24)** designator refers to the remote SCPI command that corresponds to this softkey.

E-TCH/F43.2

Supported   All with Option 300 or 402

This softkey selects an enhanced full rate traffic channel for 43.2 kbits/s user data per GSM 05.03. The length of the RLC data block for this channel is 870 bits.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 119

Remarks   None

Even Second Delay

Supported   All with Option 401

This field displays the current value for the delay that aligns the RF with the even second clock pulse. To change the delay value, press the **Edit Item** softkey and enter a new value.

Preset   *Forward link:* 20.0 chips
                     Reverse link: 27.5 chips

Range: 0.5 cps–128 chips

Location   See *Key and Data Field Menu Maps* guide: Pages 51, 57

Remarks   The even second delay value automatically adjusts to compensate for additional delays introduced when noise is turned on (Option 403).

Event 1 Polarity Neg Pos

Supported   All

This softkey is used to configure the polarity of the CMOS signal at the EVENT 1 connector.

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

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 236

Remarks   None

Event 2 Polarity Neg Pos

Supported   All

This softkey is used to configure the polarity of the CMOS signal at the EVENT 2 connector.

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

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

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 236

Remarks   None

Exceeds Any Limits

Supported   All with Option 300

This softkey causes a FAIL status to be displayed whenever any of the designated pass/fail limits (FER, Class Ib RBER, or Class II RBER) is exceeded. The pass/fail indication is provided at the end of each measurement.

Preset: N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 10

Remarks   None

Exceeds Any Threshold

Supported   All with Option 300

This softkey causes the measurement to end whenever the number of error events exceeds the threshold designated in the Threshold # of Events to Stop menu. This may occur before the number of frames to measure is reached.

Preset:	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 11
Remarks	None

Execute Cal

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 99
Remarks	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.

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 ΦM Sweep Trigger menus. Your available settings depend on which menu you have selected.

In the Alt Ampl Trigger Menu

In the Alt Ampl Trigger menu, choosing **Ext** enables you to remotely toggle the RF output power between main and alternate amplitudes using a TTL/CMOS signal applied to the

TRIG IN connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 5
Remarks	None

In the AM, Amplitude, FM, ΦM, LF Output, and Sweep Trigger Menus

In the AM, Amplitude, FM, ΦM, 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 TRIG IN rear panel connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 2, 5, 42, 95, 96, 101, 230
Remarks	Set the polarity of the trigger signal using the **Trigger In Polarity Neg Pos** softkey.

In the BERT Menu

Supported   All with Option UN7 or 300

This softkey enables a measurement to run when the external trigger line goes high, provided synchronization has already been achieved. If not already synchronized, the trigger is ignored.

Preset:	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 6, 8
Remarks	None

In the CDMA Menu

Supported   All with Option 401

Use this softkey to select an external user signal as the modulating data stream. With **Ext** selected as the data source, you can apply the data signal to the DATA input connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 19, 30, 41
Remarks	None

In the GSM/EDGE Data Menu

Supported	All with Option 402

In this menu, pressing **Ext** selects an external user signal as the modulating data stream. With **Ext** selected, you can apply the data signal to the DATA input connector.

In framed mode, the external data is gated to the data fields of the timeslot.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 2, 95, 96, 101, 116, 131
Remarks	None

In the Pattern Trigger, Frame Trigger, and Trigger Source Menus

In these menus, choosing **Ext** enables you to trigger the internal digital modulation pattern generator with a TTL/CMOS signal applied to the PATT TRIG IN connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 118, 133, 149, 165, 181, 197, 213, 247
Remarks	None

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 TRIG IN rear panel connector.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 230

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

In the Sweep Trigger Menu

In the Sweep Trigger menu, choosing **Ext** enables you to trigger a full sweep on either the negative or positive edge of a signal applied to the TRIG IN rear panel connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 230

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

In the Real Time W-CDMA Menu

Supported   All with Option 400

This softkey allows the use of externally generated TPC patterns. The TPC clock (3.3 V CMOS) on EVENT 4 of the auxiliary I/O connector is used as an event trigger for user TPC bits, which are applied to the signal generator's BURST GATE IN connector. The signal generator transmits the user TPC bits on DPCH #1. This allows the user to control UE transmit power in a closed loop process.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 247

Remarks   This key appears in downlink only.

Ext1

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 2, 95, 96

Remarks   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 > ±3% of 1 V_p.

Ext1 DC-Coupled

Supported   All

Use this softkey to select an externally applied DC-coupled signal as the pulse source after a signal source has been connected to the EXT 1 INPUT connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 108

Remarks   None

Ext2

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 2, 95, 96

Remarks   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 ±3% of 1 V_p.

Ext2 DC-Coupled

Supported   All

Use this softkey to select an externally applied DC-coupled signal as the pulse source after a signal source has been connected to the EXT 2 INPUT connector.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 108

Remarks   None

Ext 50 Ohm

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 107

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

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 107

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

Ext 600 Ohm

Supported   All

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 107

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

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 107
Remarks	The **I/Q Out** selection is independent of the **Source 1** selection.

`Ext BBG Ref Freq`

Supported   All with Option 401

Use this softkey to enter the expected frequency of the external reference signal for the cdma2000 reverse link setup. To change the field selection, highlight the `Ext BBG Ref Freq` field, press the **Edit Item** softkey and enter a new value.

Preset	19.6608 MHz
Range	1–100 MHz
Location	See *Key and Data Field Menu Maps* guide: Page 57
Remarks	This setting must match the frequency of the signal that is supplied to the BASEBAND GEN REG IN rear panel BNC connector.

Ext BBG Ref Freq

Supported   All with Option 001 or 002

Use this softkey to enter the frequency of the baseband generator reference signal that is supplied to the the rear panel BASEBAND GEN REF IN connector.

Preset	13.0000000 MHz
Range	250.0000 kHz–100.0000000 MHz
Location	See *Key and Data Field Menu Maps* guide: Page 77, 119, 134, 150, 166, 182, 198, 214
Remarks	This softkey is used only when the **BBG Ref Ext Int** softkey is set to Ext.

Ext CDMA Freq

Supported   All with Option 401

This field is used to direct the mobile station to a CDMA channel having a primary paging channel. The mobile tunes to the Ext CDMA Freq field when it has a protocol revision level of 6 or greater, and it supports either the quick paging channel or radio configurations greater than 2. Otherwise, the mobile tunes to the CDMA Freq field for the CDMA channel.

To change the extended CDMA channel, use the down arrow key to move the cursor to the second page of data fields and highlight the Ext CDMA Freq field. Press the **Edit Item** softkey and enter a new value.

Preset   0

Range   0–2047

Location   See *Key and Data Field Menu Maps* guide: Page 53

Remarks   This field is grayed out (not editable) until the F-SYNCH Type field is set to IS2000.

Ext Clock Rate X1 X2 X4

Supported   All with Option 400

This softkey selects the external clock rate which is used to synchronize to the base station (BTS) chip clock. However, the BTS chip clock may be a multiple of 3.84 MHz. The signal generator divides the input rate by the selected multiple to obtain the 3.84 MHz chip clock

     X1   3.84 MHz external clock

     X2   7.68 MHz external clock. This is 2x the rate of the chip clock.

     X4   15.36 MHz external clock. This is 4x the rate of the chip clock.

Preset: X1

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 261

Remarks   The softkey is valid for uplink and only when the BBG data clock is set to external.

Ext Coupling DC AC

Supported   All

This softkey selects the coupling for the externally applied modulation input signal.

DC   This selects direct current for the input signal.

AC   This selects alternating current for the input signal.

Preset   DC

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 95, 96

Remarks   None

Ext Data Clock Normal Symbol

Supported   All with Option 001 or 002

Use this softkey to toggle the external data clock between Normal and Symbol.

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 π/4DQPSK), 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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 77, 119, 134, 150, 166, 182, 198, 214

Remarks   This softkey has no effect in internal data mode.

Ext Delay Bits

Supported   All with Option 001 or 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.

Preset   0

Range   0–1,048,575 bits

Location   See *Key and Data Field Menu Maps* guide: Pages 83, 118, 133, 149, 165, 181, 197, 213

Remarks   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.

Ext Delay Off On

Supported   All with Option 001 or 002

Use this softkey to enable or disable the insertion of a delay in the path of the selected external trigger.

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.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 67, 83, 88, 118, 133, 149, 165, 181, 197, 213, 247

Remarks   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.

Ext Delay Time

Supported   All with Option 001 or 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 PATT TRIG IN or AUX I/O rear panel connectors.

Preset   2.000 ms

Range   2.0 µs through 3600 s

Location   See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 67, 88, 247

Remarks   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.

Ext Frame Trigger Delay

Supported   All with Option 300

This softkey enables you to set an offset value to be used with the External Frame Trigger function. The delay value is the offset from the beginning of timeslot 0. For information on how to determine the offset value, refer to the *User's Guide*.

Preset   0.00

Range   −1250 to 1250 symbols (with a resolution of 0.25 symbol)

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   The External Frame Trigger functions are available only when the **Frame Trigger Source BCH PDCH** softkey is set to PDCH.
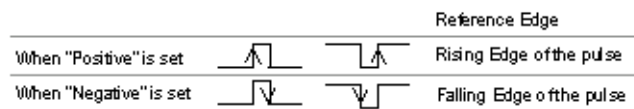
Ext Frame Trigger Polarity Neg Pos

Supported   All with Option 300

Use this softkey to select the external frame trigger polarity to match the pulse logic currently in use. Refer to Figure 4.

Neg   This selects the reference edge to be the falling edge of the pulse.

Pos   This selects the reference edge to be the rising edge of the pulse.

Figure 4

Preset   Pos

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 8

Remarks   The External Frame Trigger functions are available only when the
                Frame Trigger Source BCH PDCH softkey is set to PDCH.

Ext In 600 Ohm I Offset

Supported   All

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.

Preset   0.000 V

Range   0.000–5.000 V

Location   See *Key and Data Field Menu Maps* guide: Page 99

Remarks   The **I/Q Adjustments Off On** softkey must be set to On to enable this
                adjustment.

Ext In 600 Ohm Q Offset

Supported   All

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.

Preset   0.000 V

Range   0.000–5.000 V

Location   See *Key and Data Field Menu Maps* guide: Page 99

Remarks   The **I/Q Adjustments Off On** softkey must be set to On to enable this

adjustment.

Ext Polarity Neg Pos

Supported   All with Option 001 or 002

Use this softkey to set the external trigger source polarity.

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 PATT TRIG IN or AUX 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 PATT TRIG IN or AUX I/O rear panel connectors.

Preset   Neg

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 67, 83, 88, 118, 133, 149, 165, 181, 197, 213, 247

Remarks   This softkey is inactive until an external triggering source is selected.

Ext Polarity Normal Inverted

Supported   All

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

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 108

Remarks   None

Ext Input Level 500 mV rms

Supported   All

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 rms.
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.

Preset   Default (500.0 mV)

Range   50.0 mV rms–1.0 V rms

Location   See *Key and Data Field Menu Maps* guide: Page 107

Remarks   This voltage level is used to optimize the I/Q attenuator setting.

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 PATT TRIG IN rear panel BNC connector), or **Patt Trig In 2** (the AUX I/O D-shell rear panel connector).

The current external triggering source selection appears under the **Ext Source** softkey.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 19, 30, 42, 67, 83, 88, 118, 133, 149, 165, 181, 197, 213, 247

Remarks   None

External

Supported   All with Option 401

Use this softkey to select an external data clock that you apply to the DATA CLOCK connector.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `BBG Data Clock` field. Refer to "BBG Data Clock" on page 89 for more information.

Remarks   None

External Ref Bandwidth

Supported　　　All with Option UNJ

This softkey enables you to adjust the bandwidth of the external reference oscillator.

Preset　　　N/A

Range　　　N/A

Location　　　See *Key and Data Field Menu Maps* guide: Page 233

Remarks　　　None

F

FACC

Supported   All with Option 402

Use this softkey to select a binary data pattern (frequency accuracy) that consists of a repetitive pattern of 4 ones followed by 4 zeroes. This internally generated data pattern is available for framed transmissions only. When **FACC** is selected, both the **B field** and the **Dect Patterns** softkeys show this selection, and FACC appears in the B field located near the bottom of the text area of the display.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 198
Remarks	None

Fail Hold

Supported   All with Option UN7

This softkey selects the mode that retains the fail judgement information during one loop of BER repeat measurements. This lets you determine when a failure occurs at least once during an entire cycle of measurements. This softkey is one of the choices in the Pass/Fail Update menu.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 9
Remarks	None

Fall Delay

Supported   All with Option 001 or 002

Press this softkey to adjust the burst shape fall delay.

Preset	0.000 bits
Range	Minimum and maximum values depend on modulation type and

symbol rate.

Location	See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217
Remarks	None

Fall Time

Supported	All with Option 001 or 002

Press this softkey to adjust the burst shape fall time.

Preset	*TETRA:* 8.000 bits *Custom, NADC:* 5.000 bits *PDC, PHS:* 4.000 bits *EDGE:* 9.000 bits *GSM:* 3.000 bits *DECT:* 10.000 bits
Range	Minimum and maximum values depend on modulation type and symbol rate.
Location	See *Key and Data Field Menu Maps* guide: Pages 76, 122, 137, 153, 169, 185, 201, 217
Remarks	None

Falling

Supported	All with Option 401

Use this softkey to configure the ESG to trigger on the falling edge of the signal applied to the selected rear panel pattern trigger input.

Preset	N/A
Range	N/A
Location	This key is accessed by editing the Trigger Edge field. Refer to "Trigger Edge" on page 619 for more information.
Remarks	None

FBI Bits Count

Supported   All with Option 400

This data field, in the Edit Channel Setup table editor displays the quantity of Feedback Information (FBI) bits in the associated channel. You can enter the number of FBI bits you want for the uplink channel selected.

Preset   0

Range $0 - 2$

Location   See *Key and Data Field Menu Maps* guide: Page 248

Remarks   The FBI gives feedback to the base station used for closed loop transmit diversity and site selection diversity transmission (SSDT).

FBI Bits Value

Supported   All with Option 400

This data field, in the Edit Channel Setup table editor, displays the Feedback Information (FBI) bits value. You can highlight this field and then enter in the value of the FBI bits for the uplink channel selected.

Preset   N/A

Range

FBI Bits Count	FBI Bits Value
0	N/A
1	0 or 1
2	$00 - 11$

Location   See *Key and Data Field Menu Maps* guide: Page 248

Remarks   FBI bit values are binary representations.

FBI Pattern

Supported   All with Option 400

This field displays the 30-bit data pattern of the feedback information (FBI) bits set in the **PhyCH Setup** menu for the uplink DPCCH. The FBI bits are used to implement closed loop format diversity by controlling the phase or phase and amplitude of the second antenna of the base station. The FBI bits are also used for site selection diversity transmit power control during a soft handoff. The slot format determines the number of FBI bits per slot. Refer to the TS25.211 standard for more information.

Preset   00000000

Range:	0 to 3FFFFFFF
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	A PN9 or PN15 sequence, a fixed number (hexadecimal value) or a User File can be selected for the FBI bits.

FBI State

Supported	All with Option 400

This field indicates the On/Off state for the feedback information (FBI) bits. The off state means that no FBI bits are included in the uplink DPCCH. The FBI state is dependent on the slot format number.

Preset	Off
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 265
Remarks	None

FCDMA

Supported	All with Option UNJ

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 237
Remarks	None

FCOR

Supported	All with Option 402

Use this softkey to select the 80-bit frequency correction bits (FCOR) as the timeslot type for the active timeslot. The preset hexadecimal value reflects the Trans European Trunked Radio (TETRA) format, and appears in the FCOR field near the bottom of the text area of the display.

When you select **FCOR** for a timeslot, the visual representation of the timeslot pattern updates.

Preset	FF000000000000000FF
Range	0–FFFFFFFFFFFFFFFFFFFFF
Location	See Key and Data Field Menu Maps guide: Page 212
Remarks	None

FCorr

Supported   All with Option 402

Use this softkey to select frequency correction as the timeslot type for the active timeslot. Frequency correction is a burst where all of the bits are set to zero. This burst is used for synchronizing the mobile to the correct frequency.

When you select **FCorr** for a timeslot, the visual representation of the timeslot updates.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 132
Remarks	None

FDEV1_FS

Supported   All with Option 402

Use this softkey to select a binary data pattern (frequency deviation, full-slot) that consists of 128 bits: repetitive pattern of 1, 0, 1, 0... followed by 64 ones, 64 zeroes, and 64 bits: repetitive pattern of 1, 0, 1, 0... This internally generated data pattern is available for framed transmissions only. When you select **FDEV1_FS**, both the **B field** and the **Dect Patterns** softkeys show this selection, and FDEV1_FS appears in the B field located near the bottom of the text area of the display.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Page 198
Remarks	This softkey is available only for the DECT personality.

FDEV1_HS

Supported   All with Option 402

Use this softkey to select a binary data pattern (frequency deviation, half-slot) that consists of 8 bits: repetitive pattern of 1, 0, 1, 0... followed by 32 ones, 32 zeroes, and 8 bits: repetitive pattern of 1, 0, 1, 0... This internally generated data pattern is available for framed transmissions only. When you select **FDEV1_HS**, both the **B field** and the **Dect Patterns** softkeys show this selection, and FDEV1_HS appears in the B field located near the bottom of the text area of the display.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 198

Remarks   None

FDEV2_FS

Supported   All with Option 402

Use this softkey to select a binary data pattern (frequency deviation, full-slot) that consists of a repetitive pattern of 1, 0, 1, 0... This internally generated data pattern is available for framed transmissions only. When you select **FDEV2_FS**, both the **B field** and the **Dect Patterns** softkeys show this selection, and FDEV_FS appears in the B field located near the bottom of the text area of the display.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 198

Remarks   None

Field1

Supported   All with Option 401

Use this softkey to access a menu from which you can set the field 1 hexadecimal value for the forward paging long code mask. The default value is in accordance with the IS-2000 specification.

Preset   0–1FFF

Range   18CD

Location	This key is accessed by editing the LCMask field. Refer to "LCMask" on page 360 for more information.
Remarks	None

Field2

Supported   All with Option 401

Use this softkey to access a menu from which you can set the field 2 hexadecimal value for the forward paging long code mask. The default value is in accordance with the IS-2000 specification.

Preset	00
Range	0–1F
Location	This key is accessed by editing the LCMask field. Refer to "LCMask" on page 360 for more information.
Remarks	None

Field3

Supported   All with Option 401

Use this softkey to access a menu from which you can set the field 3 hexadecimal value for the forward paging long code mask. The default value is in accordance with the IS-2000 specification.

Preset	000
Range	0–FFF
Location	This key is accessed by editing the LCMask field. Refer to "LCMask" on page 360 for more information.
Remarks	None

Filter

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 65, 74, 109, 118, 133, 149, 165, 181, 197, 213, 245
Remarks	None

Filter

In the CDMA Menu

Supported   All with Option 401

This field displays the currently selected filter type. To change the filter type, highlight the Filter field, press the **Edit Item** softkey and select from the softkey menus presented.

Preset	*Forward Link:* IS-95 w/EQ *Reverse Link:* IS-95
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 51, 57
Remarks	None

In the Real Time W-CDMA Menu

Supported   All with Option 400

This field displays the currently selected filter type. Press the **Edit Item** softkey to access a menu from which you can select a filter type or user defined FIR filter , change the filter alpha, optimize the FIR filter for EVM or ACP, or restore the default filter.

Preset	Root Nyquist
Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 256, 261
Remarks	None

Filter Alpha

Supported   All with Option 001 or 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.

Preset	*WCDMA:* 0.220 *Custom, NADC, and TETRA:* 0.350 *Other formats:* 0.500
Range	0.000–1.000
Location	See *Key and Data Field Menu Maps* guide: Pages 68, 74, 109, 151, 167, 183, 215, 256, 261
Remarks	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**.

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.

Preset	*GSM and EDGE:* 0.500 *Other formats:* 0.350
Range	0.000–1.000
Location	See *Key and Data Field Menu Maps* guide: Pages 24, 38, 48, 55, 61, 71, 87, 114, 129, 145, 161, 177, 193, 209, 225, 254, 260, 269
Remarks	None

Filter BbT

Supported	All with Option 001 or 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.

Preset	0.350
Range	0.000–1.000

Location   See *Key and Data Field Menu Maps* guide: Pages 109, 135, 199

Remarks   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**.

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.

Preset   0.200

Range   0.000–1.000

Location   See *Key and Data Field Menu Maps* guide: Pages 24, 38, 48, 55, 61, 71, 87, 114, 129, 145, 161, 177, 193, 209, 225, 254, 260, 269

Remarks   None

Filter Factor

Supported   All with Option 001 or 002

This grayed-out softkey is displayed when the filter in use 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 **Filter Alpha** when Root Nyquist or Nyquist is selected, and **Filter BbT** when Gaussian is selected.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Pages 52, 58, 120, 249

Remarks   None

Filter Factor N/A

Supported   All with Option 001 or 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).

Preset   N/A

Range	N/A
Location	See *Key and Data Field Menu Maps* guide: Pages 17, 28, 40, 120
Remarks	This softkey changes to either **Filter Alpha** or **Filter BbT** when the appropriate root Nyquist, Nyquist or Gaussian filter is selected for use.

Filter Symbols

Supported   All with Option 001 or 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.

Preset	8
Range	1–64
Location	See *Key and Data Field Menu Maps* guide: Pages 24, 38, 48, 55, 61, 71, 87, 114, 129, 145, 161, 177, 193, 209, 225, 254, 260, 269
Remarks	None

FIR

Supported   All

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 234
Remarks	None

First Mkr Point

Supported   All with Option 001 or 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	See *Key and Data Field Menu Map* guide: Pages 20, 34, 49, 72, 92, 105, 255
Remarks	None

First Spread Code

Supported	All with Option 401

This softkey is available for an uplink channel definition and appears after selecting the **Insert DPDCH** softkey.

The spread code, for the channel highlighted in the Edit Channel Setup table editor, can be changed using the **Edit Item** softkey. This is useful when inserting several channels so that each new channel will have a spread code 1 higher than the previously inserted channel, and the group will start at the selected first spread code.

After you have set the first spread code, press the **Done** softkey to insert the information into the table editor.

If the warning Domain Conflict is displayed in the table, check the existing entries in the table editor for any duplication of an existing spread code and give them unique spread code values.

Preset:	1
Range:	0 – 63
Location	See *Key and Data Field Menu Map* guide: Page 253
Remarks	None

FIX4

Supported	All with Option 001 or 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 See *Key and Data Field Menu Map* guide: Pages 74, 109, 116, 119, 131, 134, 147, 150, 163, 166, 179, 182, 195, 198, 211, 214

Remarks None

Flat Noise BW

Supported All with Options 400, 403

This field displays the flat noise bandwidth for the additive white gaussian noise (AWGN) channel. The flat noise bandwidth (FNB) is calculated (FNB = 1.6 x Chip rate) and is the bandwidth corresponding to a 0 dB roll-off point.

Preset N/A

Range N/A

Location See *Key and Data Field Menu Map* guide: Page 267, 270

Remarks In PRACH mode, scroll to the second page of the display screen to view this field.

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

Range N/A

Location See *Key and Data Field Menu Map* guide: Page 3

Remarks None

FM/ΦM

Supported All

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 95, 96
Remarks	None

FM/ΦM

Supported   All

Use this softkey 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	None

FM ΦM Normal High BW

Supported   All

This softkey toggles between the menus for frequency modulation (FM), normal phase modulation (ΦM), and wideband phase modulation (ΦM High BW).

Normal	This choice enables you set the phase deviation as high as N x 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 x 8 radians. Refer to the **FM Dev** softkey description for N values.

Preset	FM
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	The deviation limits are dependent upon the carrier frequency. This limiting occurs only after the modulation is turned on.

FM Dev

Supported   All

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 8 lists the values for N and the resulting maximum peak deviations.)

Table 8

Carrier Frequency	N	Maximum Peak Deviation (Standard)	Maximum Peak Deviation (Standard)
100 kHz to 250 MHz	1	8 MHz	1 MHz
> 250 MHz to 500 MHz	1/2	4 MHz	500 kHz
> 500 MHz to 1 GHz	1	8 MHz	1 MHz
> 1 GHz to 2 GHz	2	16 MHz	2 MHz
> 2 GHz to 4 GHz	4	32 MHz	4 MHz
> 4GHz to 6 GHz	8	64 MHz	8 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.

Preset   1.0 kHz

Range   Depends on current carrier frequency setting.

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   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

FM Dev Couple Off On

Supported   All

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

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   None

FM Off On

Supported   All

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.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   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.

FM Path 1 2

Supported   All

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.

Preset   FM Path 1

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   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.

FM Rate

Supported   All

This softkey enables you to change the internal modulation frequency for the FM Path 1 and FM Path 2 configurations.

Preset   400.0 Hz

Range   0.1 Hz–20.0 kHz (minimum increment is 0.1 Hz)
                  0.1 Hz–100.0 kHz (if sinewave is selected as the internal waveform)

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   The new value of FM rate applies only to whichever FM path configuration you have currently selected.

FM Source

Supported   All

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.

Preset   Internal

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   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.)

FM Start Rate

Supported   All

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

Preset	400.0 Hz
Range	0.1 Hz–100.0 kHz (minimum increment is 0.1Hz)
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	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.

FM Stop Rate

Supported   All

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

Preset	400.0 Hz
Range	0.1 Hz–100.0 kHz (minimum increment is 0.1Hz)
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	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.

FM Sweep Time

Supported   All

Use this softkey to set the sweep time of the swept sine analog modulation.

Preset	100.0 msec
Range	1.0 msec–65.535 sec
Location	See *Key and Data Field Menu Map* guide: Page 95

Remarks   None

FM Sweep Trigger

Supported   All

Use this softkey to access a menu from which you can select the triggering mode for the swept-sine frequency modulation.

Preset   Free Run

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 95

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

FM Tone 1 Rate

Supported   All

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

Preset   400.0 Hz

Range   0.1 Hz–100.0 kHz (minimum increment is 0.1 Hz)

Location   See *Key and Data Field Menu Map* guide: Page 95

Remarks   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.

FM Tone 2 Ampl Percent Of Peak

Supported   All

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.

Default   50.0%

Range   0.0%–100.0%

Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	This is applicable only for the dual-sine function.

FM Tone 2 Rate

Supported	All

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

Default	400.0 Hz
Range	0.1 Hz–100.0 kHz (minimum increment is 0.1 Hz)
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	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.

FM Waveform

Supported	All

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.

Preset	Sine
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 95
Remarks	This softkey is only enabled when Internal is selected in the FM Source menu.

FPICH

Supported	All with Option 401

Use this softkey to turn on the forward link pilot channel within the current CDMA2000 channel configuration. All other forward link channels are turned off.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

FPICH FQPCH FPCH

Supported   All with Option 401

Use this softkey to turn on the forward link pilot, quick paging and paging channels within the current CMDA2000 channel configuration. All other forward link channels are turned off.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

FPICH FSYNCH

Supported   All with Option 401

Use this softkey to turn on the forward link pilot and synchronization channels within the current CMDA2000 channel configuration. All other forward link channels are turned off.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

FPICH FSYNCH FFCH

Supported   All with Option 401

Use this softkey to turn on the forward link pilot, synchronization and fundamental channels within the current CMDA2000 channel configuration. All other forward link channels are turned off.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

FPICH FSYNCH FFCH FSCH1

Supported   All with Option 401

Use this softkey to turn on the forward link pilot, synchronization, fundamental and supplemental 1 channels within the current CMDA2000 channel configuration. All other forward link channels are turned off.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

FPICH FSYNCH FFCH FSCH1 FSCH2

Supported   All with Option 401

Use this softkey to turn on the forward link pilot, synchronization, fundamental, supplemental 1 and supplemental 2 channels within the current CMDA2000 channel configuration. All other forward link channels are turned off.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 53, 59

Remarks   None

Frame Clock Interval

Supported   All with Option 400

This softkey displays a menu from which you can select a frame clock interval for the uplink synchronization signal.

Preset   80 msec

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 261, 262, 271

Remarks   When using the frame clock, use a frame clock period which has a period equal to or longer than that of the longest transport channel transmission time interval (TTI) period. For example, RMC 12.2k has a TTI period of 20 msec, therefore the 80 msec, 2560 msec or SFN_RST signal should be used.

Frame Clock Polarity Neg Pos

Supported   All with Option 400

This softkey sets the polarity of the frame clock signal.

> Neg   The signal generator frame clock timing uses the falling edge of the frame clock signal.
>
> Pos   The signal generator frame clock timing uses the rising edge of the frame clock signal.

Preset   Positive

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 261, 262, 271

Remarks   None

Frame Count

Supported   All with Option 300

This softkey appears in two different situations enabling you to designate the number of frames to measure in either a sensitivity search or in a BER% configuration.

BER% TCH/FS Configure Menu

This softkey enables you to set the number of frames to measure. Unless a stop-on-event threshold has been set, the measurement ends normally when the selected number of speech frames have elapsed.

Preset   100

Range   1–6000000

Location   See *Key and Data Field Menu Map* guide: Page 10

Remarks   None

Sensitivity Search Configure Menu

This softkey enables you to set the total number of frames to measure for the final measurements during a sensitivity search. This number implies the number of Class Ib and Class II bits to be measured.

Preset   100

Range   1–6000000

| **Location** | See *Key and Data Field Menu Map* guide: Page 8 |
| **Remarks** | None |

Frame Erasure

| **Supported** | All with Option 300 |

This softkey causes the measurement to end when the number of erased speech frames exceeds the specified threshold.

Preset	120
Range	0–1000000
Location	See *Key and Data Field Menu Map* guide: Page 11
Remarks	None

Frame Erasure Ratio

| **Supported** | All with Option 300 |

This softkey enables you to set the frame erasure ratio (FER) limit for the pass/fail judgement function. The measurement fails if the FER exceeds the set threshold.

Frame erasure ratio is defined as the number of speech frames erased by the BTS to the total number of speech frames in the measurement period.

Preset	0.1000% FER
Range	0–100%
Location	See *Key and Data Field Menu Map* guide: Page 10
Remarks	None

`Frame Length`

| **Supported** | All with Option 401 |

This field displays the current frame length value. The frame length depends on the radio configuration and channel type, and it affects the data rate and frame offset. To change the frame length value, highlight the `Frame Length` field, press the **Edit Item** softkey and enter a new value. If the field is grayed out, you cannot change the value.

The following table lists the frame lengths by channel type:

Table 9

	Forward Link	Reverse Link			
Channel Type	**F-PCH**	**R-ACH**	**R-DCCH R-FCH**	**R-SCH1 R-SCH2**	**R-EACH R-CCCH**
Allowed Values[1]	20 ms	20 ms	5 ms 20 ms	20 ms 40 ms 80 ms	5 ms 10 ms 20 ms

1. Applies only to radio configurations 3 and 4. All channels with radio configurations 1 and 2 use 20 ms only.

Preset	20 ms
Range	See Table 9
Location	See *Key and Data Field Menu Map* guide: Pages 53, 59
Remarks	None

Frame Offset

Supported   All with Option 401

This field displays the current frame offset value. The frame offset skews the traffic channel frames from system time in integer multiples of 1.25 ms. To change the frame offset, highlight the Frame Offset field, press the **Edit Item** softkey and enter a new value.

The following table lists the frame offsets by channel type, radio configuration (RC), and frame length (FL):

Table 10

	Forward Link	Reverse Link			
		RC 1/2	**RC 3/4**		
Channel Type	**F-FCH F-SCH1 F-SCH2**	**R-ACH R-FCH R-SCH1**	**R-DCCH R-FCH**	**R-SCH1 R-SCH2**	**R-CCCH R-EACH**
Allowed Values	0–15[1]	0–15	*FL 5:* 0–3 *FL 20:* 0–15	*FL 20:* 0–15 *FL 40:* 0–31 *FL 80:* 0–63	*FL 5:* 0–3 *FL 10:* 0–7 *FL 20:* 0-15

1. This parameter is shared between the F-FCH, F-SCH1 and F-SCH2 channels. When you change the frame offset for one channel, the other channels will also change.

Preset	0
Range	See Table 10
Location	See *Key and Data Field Menu Map* guide: Pages 53, 59
Remarks	None

Frame Struct

Supported   All with Option 400

This field displays the frame structure used for the compressed mode. This field is available for the downlink ChipARB channel. To change the field selection, highlight the Frame Struct field, press the **Edit Item** softkey and make a choice from the menu that appears.

In frame structure A, the pilot field of the last slot in the transmission gap is transmitted and transmission is turned off during the rest of the transmission gap.

In frame structure B, the TPC field of the first slot in the transition gap and the pilot field of the last slot in the transmission gap are transmitted and transmission is turned off during the rest of the transmission gap.

Preset   A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 257

Remarks   None

Frame Sync Trigger Mode Single Cont

Supported   All with Option 400

This softkey selects the uplink synchronization trigger mode.

Single	The signal generator generates frames based on the reference clock.
Cont	The signal generator continuously aligns the sync signal with frame timing.

Preset   Single

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 261, 262, 271

Remarks   None

Frame Trigger

Supported   All with Option 402

In the TDMA Menu

Use this softkey to display a menu of softkeys where you can trigger a framed pattern. You can choose to trigger using the front panel **Trigger** key, an external trigger supplied to the PATTERN TRIG IN connector, or by a *TRG command or GET (group execute trigger) signal sent over GPIB.

In the Edge Menu

This softkey enables the output signal of the EVENT 1 rear panel BNC/SMB connector. The frame trigger signal is one clock pulse at every first cycle of a frame to indicate the beginning of a frame.

Preset   Trigger

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 116, 130, 131, 163, 179, 195, 211,

Remarks   This softkey is inactive for unframed or continuously repeated data.

Frame Trigger Setup

Supported   All with Option 400

This softkey accesses a menu from which you can select configurations for uplink synchronization. The menu includes the following selections: Sync Source, Frame Clock Interval, Frame Clock Polarity, SRN RST Polarity, and Frame Sync Trigger Mode.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 261, 262, 271

Remarks   None

Frame Trigger Source BCH PDCH

Supported   All with Option 300

This softkey enables you to select the synchronization source for the EDGE bit error rate loopback test.

BCH   This choice selects the broadcast channel (BCH) as the synchronization source. The test equipment can use a BCH signal from the BTS to determine the required transmit timeslot, frame and multiframe timing. The BCH signal is always transmitted in timeslot 0 and contains multiframe information.

PDCH   This choice selects a packet data channel (PDCH) as the synchronization source. PDCH synchronization relies on the BTS to monitor the delay of the access bursts and update the timing advance values in the next downlink signaling message following the access burst.

Preset   BCH

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 8

Remarks   None

Frame Trigger Source Int Ext

Supported   All with Option 300

Use this softkey to select the frame trigger source.

Int	This selects an internal source as the frame trigger signal and is the automatic setting that can not be changed until the **Frame Trigger Source BCH PDCH** softkey is set to PDCH.
Ext	This selects an external source as the frame trigger signal for PDCH synchronization.

Preset   Int

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 8

Remarks   The External Frame Trigger functions are available only when the **Frame Trigger Source BCH PDCH** softkey is set to PDCH.

Free Run

Supported   All with Option 001 or 002

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 19, 30, 42, 67, 83, 88, 118, 133, 149, 165, 181, 197, 213, 247

Remarks   None

In the Sweep Trigger and Point Trigger Menus

Sweep Trigger	Selecting the **Free Run** softkey in the Sweep Trigger menu immediately triggers the sweep.
Point Trigger	The **Free Run** softkey in the Point Trigger menu causes the sweep to pause for the dwell time that has been configured for each point in the sweep.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 2, 95, 96, 101, 230
Remarks	None

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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 230
Remarks	You can define a sweep containing both amplitude and frequency information and still choose to sweep frequency only.

Freq Channels

Supported	All

Use this softkey to display a menu of softkeys from which you can assign frequency channels and frequency bands.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 97
Remarks	None

Freq Channels Off On

Supported   All

This softkey sets the operating state of the RF output.

Off	When you select off, the state of the RF output is set in terms of Hertz.
On	When you select on, the operating state of the RF output frequency is determined by the frequency band and frequency channel settings.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 97

Remarks   Freq offset and Freq Multiplier still affect the real RF output frequency when Freq Channels is On.

Freq Dev

Supported   All with Option 001 or 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.

Preset   *DECT:* 288.0 kHz
          Other formats: 400.0 Hz

Range   0 Hz–4 times the current symbol rate setting (20 MHz maximum)

Location   See *Key and Data Field Menu Map* guide: Pages 65, 75, 121, 126, 136, 142, 152, 158, 168, 174, 184, 190, 200, 206, 216, 222

Remarks   None

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*.

Preset   3.1250000 Hz

| Range	0 Hz–20 MHz
Location	See *Key and Data Field Menu Map* guide: Pages 81, 126, 142, 158, 174, 190, 206, 222
Remarks	This setting is not affected by a preset or by a power cycle.

Freq Drift Type Linear Sine

Supported	All with Option 406

This softkey sets the frequency drift type. This enables you to select a frequency drift impairment as part of a Bluetooth setup. Refer to Figure 5.

Linear	When you choose Linear, the carrier frequency deviates from the center carrier frequency in a positive or negative linear direction, depending on the drift deviation setting. For example, a drift deviation setting of 15 kHz would cause the carrier frequency to drift in a linear fashion from the carrier frequency to 15 kHz above the intended center carrier frequency.
Sine	When you choose Sine, the carrier frequency drifts above and below its designated center carrier frequency in a sinusoidal fashion. It has a period equal to the length of a timeslot. Since a packet is shorter than a timeslot, it is not fully impaired by the second half of the drift cycle. Therefore, it is recommended that you run separate positive and negative drift impairments using the **Drift Deviation** softkey (for example, 15 kHz and –15 kHz).

A frequency drift impairment repeats at the beginning of each timeslot, and occurs across a period of time equal to the duration of one fully loaded DH1 packet.

Figure 5
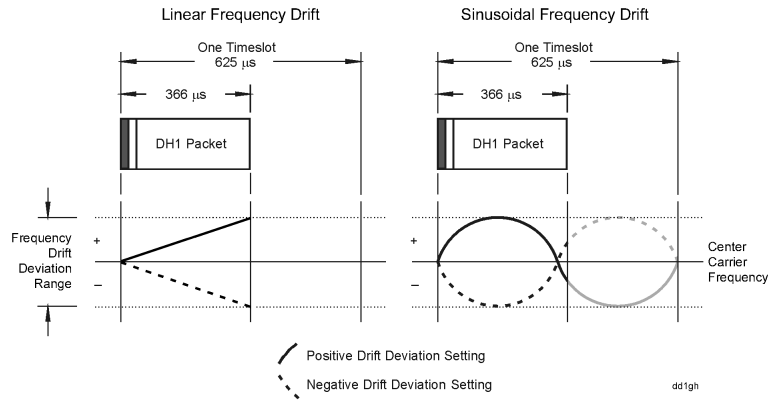
Preset   Sine

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 239

Remarks   None

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.

Preset   1

Range   −100 to +1000 (excluding 0)

Location   See *Key and Data Field Menu Map* guide: Page 97

Remarks   The displayed frequency value is equal to the actual frequency, minus the reference frequency, times the multiplier, plus the offset frequency.

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.

Preset   0.00 Hz

Range   −200.0 GHz to 200.0 GHz

Location   See *Key and Data Field Menu Map* guide: Page 97

Remarks   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.

In the Bluetooth Menu

Supported   All with Option 406

This softkey enables you to set a carrier frequency offset impairment for a Bluetooth setup.

Preset   0.0 Hz

Range   −100.0 kHz to 100.0 kHz

Location   See *Key and Data Field Menu Map* guide: Page 239

Remarks   None

Freq Offset

In the Arb W-CDMA Menu

Supported   All with Option 400

This data field, in the multicarrier define menu, displays the frequency offset for each of the carriers.

Preset   N/A

Range   – 35.0 to 37.5 MHz

Location   See *Key and Data Field Menu Map* guide: Page 245

Remarks   Multicarrier is only available for downlink.

In the Multitone Menu

Supported   All with Option 001 or 002

This data field displays the frequency offset for each tone. The offset is determined by the value set for the frequency spacing.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 103

Remarks   None

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.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 97

Remarks   Frequency reference mode only changes the display; it does not change the RF output frequency.

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   See *Key and Data Field Menu Map* guide: Page 97

Remarks None

Freq Spacing

Supported All with Option 001 or 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.

Preset   10.000 kHz

Range   100.0 Hz–80.0 MHz (depends on the number of tones)

Location   See *Key and Data Field Menu Map* guide: Pages 69, 103

Remarks None

Freq Start

Supported All

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

Preset   Highest frequency (depends on the signal generator option)

Range   0.00 Hz–highest frequency (depends on the signal generator option)

Location   See *Key and Data Field Menu Map* guide: Pages 4, 230

Remarks None

Freq Stop

Supported   All

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

Preset   Highest frequency (depends on the signal generator option)

Range   0.00 Hz–highest frequency (depends on the signal generator option)

Location   See *Key and Data Field Menu Map* guide: Pages 4, 230

Remarks   None

Freq & Ampl

Supported   All

Use this softkey to set the signal generator to sweep both frequency and amplitude data.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 230

Remarks   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.

Frequency

Supported   All

This field enables you to set or edit a frequency value in the table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 3, 230

Remarks   None

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.

Preset	Highest frequency (depends on the signal generator option)
Range	100 kHz–highest frequency (depends on the signal generator option)
Location	See *Key and Data Field Menu Map* guide: Page 97
Remarks	When Freq Channels is turned On this hardkey enables Frequency Channel selection.

FSK

Supported	All with Option 001 or 002

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

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 236
Remarks	None

FSK

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 65, 75, 121, 136, 152, 168, 184, 200, 216, 236
Remarks	None

F-SYNCH Type

Supported	All with Option 401

This field displays the forward synchronization channel type. To change the field selection, highlight the F-SYNCH Type field, press the **Edit Item** softkey and make a choice

from the menu that appears.

Preset	JSTD8
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 53
Remarks	None

Full

Supported　All with Option 401

Use this softkey to set the gating rate to full, causing all 16 power control groups to be transmitted. The gating rate field is only available on the reverse pilot channel.

Preset	N/A
Range	N/A
Location	This key is accessed by editing the Gating Rate field. Refer to "Gating Rate" on page 311 for more information.
Remarks	None

Function Generator

Supported　All

This key configures the internal source to operate as a function generator.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 101
Remarks	When you use the internal source in this capacity, any modulation with the internal source selected is turned off.

FWCDMA

Supported　All with Option 001 or 002

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

Preset	N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 237

Remarks   None

G

G

Supported   All with Option 402

This softkey enables you to change the hexadecimal value for the guard time field. Guard time appears in the visual representation of the timeslot as a 24.75-bit field. In the actual implementation, the guard time field in timeslots 0 and 4 are 27 bits long and the remaining timeslots contain 24-bit fields. Use hexadecimal to enter the value; the signal generator will convert it to binary.

The guard time field is always modulated (but not bursted), even when the timeslot is off. If the guard time and T2 symbols of the current timeslot and the T1 symbols of the next timeslot do not match, the burst shape may not be smooth (even if the current timeslot is turned off).

Preset   Refer to Table 7.

Table 11

Timeslot #	Guard Time Field (Normal & Custom)
0	7FFFFFF
1	0FFFFFF
2	0FFFFFF
3	0FFFFFF
4	7FFFFFF
5	0FFFFFF
6	0FFFFFF
7	0FFFFFF

Range   *Timeslots 0 and 4*: 0 through 7FFFFFF

Timeslots 1, 2, 3, 5, 6, and 7: 0 through 0FFFFFF

Location	See *Key and Data Field Menu Map* guide: Page 117
Remarks	The implementation is documented in the GSM format "GSM REC. 05.10 Section 5.7" as follows: "Optionally, the BS may use a timeslot length of 157 bit periods on timeslots with TN=0 and 4, and 156 bit periods on timeslots with TN=1, 2, 3, 5, 6, 7, rather than 156.25 bit periods on all timeslots."

Gain Unit dB Lin Index

Supported	All with Option 400

This softkey selects the units of power when in the Edit Channel Setup menu for uplink, for the uplink channel.

dB	This selects the uplink power in decibel units.
Lin	This selects the uplink power as ratios.
Index	This selects the uplink power according to the numbered rows table in the specification.

Preset	dB
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 248
Remarks	When either dB or linear ratio is selected, arbitrary power levels may be entered. If signaling index is selected, only integers from 0 to 15 can be entered.

Gap1 1st

Supported	All with Option 400

The Gap1 1st field displays the difference in the power level of the frame with the gap to a frame without the transmission gap. A frame with a gap is transmitted at a higher power level than a frame without a gap. This field is displayed for the uplink compressed mode configuration.

There are two methods for setting up a transmission gap, a single frame method and a double frame method. In the signal frame method, the transmission gap is located within the compressed frame depending on the transmission gap length (TGL) . In the double frame method, the transmission gap is located at the center, between two, adjacent frames. Refer to 3GPP Standard 25.215 and 3GPP Standard 25.212 for more information.

A transmission gap pattern can have one or two transmission gaps, depending on the f transmission gap start distance (TGD) value. If TGD is defined, both Gap1 and Gap2 are available in one transmission gap pattern. If the TGD is undefined, then it is implied and only Gap1 is available in one transmission gap pattern. See .

Preset   0.00 dB

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 265

Remarks   This field is displayed on the second page of the Compressed Mode Setup table editor. Scroll down the table to view the field.

Gap1 2nd

Supported   All with Option 400

The Gap1 2nd field displays the difference in the power level of the frame with the gap to a frame without the transmission gap. A frame with a gap is transmitted at a higher power level than a frame without a gap. This field is displayed for the uplink compressed mode operation and only when the transmission gap start distance (TGD) field is defined. If the double frame method is used (where the transmission gap spans two radio frames) then Gap1 2nd is the power offset of the second radio frame. See "Gap2 2nd" on page 307 for more information.

Preset   0.00 dB

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 265

Remarks   See "Gap1 1st" on page 305 for compressed mode transmission gap information.

This field is displayed on the second page of the Compressed Mode Setup table editor. Scroll down the table to view the field. It is not active when TGD is undefined.

Gap2 1st

Supported   All with Option 400

The Gap2 1st field displays the difference in the power level of the frame with the gap to a frame without the transmission gap. A frame with a gap is transmitted at a higher power level than a frame without a gap. This field is displayed for the uplink compressed mode function and only when the transmission gap start distance (TGD) field is defined.

The Gap2 1st field implies that a dual frame transmission gap method is used. The dual frame method is activated when the TGD is defined.

Preset	0.00 dB
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 265
Remarks	See "Gap1 1st" on page 305 for compressed mode transmission gap information.
	This field is displayed on the second page of the Compressed Mode Setup table editor. Scroll down the table to view the field. It is not active when TGD is undefined.

Gap2 2nd

Supported   All with Option 400

The Gap2 2nd field displays the difference in the power level of the frame with the gap to a frame without the transmission gap. A frame with a gap is transmitted at a higher power level than a frame without a gap. This field is displayed for the uplink compressed mode function and only when the transmission gap start distance (TGD) field is defined.

The Gap2 2nd field implies that a dual frame transmission gap method is used. The dual frame method is activated when the TGD is defined. A transmission gap pattern sequence consists of alternating transmission gap patterns 1 and 2; each pattern consists of 1 or 2 transmission gaps.

Preset	0.00 dB
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 265
Remarks	See "Gap1 1st" on page 305 for compressed mode transmission gap information.
	This field is displayed on the second page of the Compressed Mode Setup table editor. Scroll down the table to view the field. It is not active when TGD is undefined.

Gate Active Low High

Supported   All with Option 001 or 002

This softkey toggles the polarity of the "through" or active state of a gated trigger signal.

| Low | Set this softkey to Low to output the signal while the signal level at the PATT 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 PATT TRIG IN connector is in a TTL high state. |

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 19, 30, 42, 67, 77, 88, 118, 133, 149, 165, 181, 197, 213, 247

Remarks   This softkey is inactive until the trigger selection has been set to Gated.

Gate Clk Delay

Supported   All with Option UN7

This softkey enables you to specify the number of delay bits for the gate function. One bit of delay corresponds to a one bit delay of the input gate clock. Enter the desired value using the numeric keypad and terminate it by pressing the **Bits** softkey.

Preset   1 bit

Range   1–16384 bits

Location   See *Key and Data Field Menu Map* guide: Page 9

Remarks   This softkey is enabled when the gate delay is on and clock is the gate mode.

Gate Delay Off On

Supported   All with Option UN7

Use this softkey to set the operating state of the gate delay adjustment function.

| Off | With this choice, the gate delay adjustment function is inactive. |
| On | With this choice, the gate delay adjustment function is active and the **Gate Time Delay** and **Resolution** softkeys are enabled when and the gate mode is set to time. If the gate mode is set to clock, the **Gate Clock Delay** softkey is enabled. |

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 9

Remarks   None

Gate Mode Time Clk

Supported   All with Option UN7

Use this softkey to select the operating mode of the gate delay.

Time	When you select Time, the **Gate Time Delay** and **Resolution** softkeys become active.
Clk	When you select Clock, the **Gate Clock Delay** softkey becomes active.

Preset   Time

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 9

Remarks   This softkey is enabled when the gate delay is on.

Gate Off On

Supported   All with Option UN7

Use this softkey to toggle the operating state of the gate signal.

Off	This choice disables the gate function.
On	This choice activates the gate signal connected to the rear panel BER GATE IN connector.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 6

Remarks   None

Gate Polarity Neg Pos

Supported   All with Option UN7

Use this softkey to set the gate signal input polarity supplied to the rear panel BER GATE IN connector.

Neg	With this choice, the signal is valid when the gate signal is low.

Pos   With this choice, the signal is valid when the gate signal is high.

Preset	Pos
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 9
Remarks	None

Gate Time Delay

Supported   All with Option UN7

This softkey enables you to specify the delay time of the gate signal. The gate delay time must be a multiple of the minimum resolution value and if not, the gate delay time is automatically rounded to a value that is the multiple value closest to the entered value. Enter the value using the numeric keypad and terminate it by pressing the appropriate units softkey.

Preset	26.7 nsec
Range	26.7 nsec–1 sec
Location	See *Key and Data Field Menu Map* guide: Page 9
Remarks	This softkey is enabled when the gate delay is on and time is set to the gate mode.

Gated

Supported   All with Option 001 or 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 PATT TRIG IN connector. To set the gate to trigger on either high or low, press **Gated** and then press **Gate Active Low High**.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 19, 30, 42, 65, 88, 118, 133, 149, 165, 181, 197, 213, 245
Remarks	None

Gating Rate

Supported   All with Option 401

This field displays the current gated transmission of the mobile and is only available for the pilot channel in the RadioConfig 3/4 Enhanced Access and RadioConfig 1/4 Common Control reverse link channel configurations. To change the field selection, highlight the Gating Rate field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset   Full (16 bits)

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 59

Remarks   None

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 17, 28, 40, 52, 58, 68, 78, 80, 109, 120, 135, 151, 249, 263, 269

Remarks   None

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.

Preset   N/A

Range   N/A

Location	See *Key and Data Field Menu Map* guide: Pages 24, 38, 48, 55, 61, 71, 87, 114, 129, 145, 161, 177, 193, 209, 225, 269
Remarks	None

Generate

Supported	All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 24, 38, 48, 55, 61, 71, 87, 114, 129, 145, 161, 177, 193, 209, 225, 254, 260, 269
Remarks	None

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.

Preset	N/A
Range	N/A
Location	Goto is located in the table editor menus and in the catalogs of files.
Remarks	None

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.

Preset	N/A
Range	N/A

Location	Goto Bottom Row is located in the table editor menus and in the catalogs of files.
Remarks	None

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.

Preset	N/A
Range	N/A
Location	Goto Middle Row is located in the table editor menus and in the catalogs of files.
Remarks	None

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.

Preset	N/A
Range	N/A
Location	Goto Row is located in the table editor menus and in the catalogs of files.
Remarks	None

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.

Preset	N/A
Range	N/A

Location	Goto Top Row is located in the table editor menus and in the catalogs of files.
Remarks	None

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.

Preset	19
Range	0–30
Location	See *Key and Data Field Menu Map* guide: Page 232
Remarks	The GPIB address setting is not affected by a preset or by a power cycle.

GPIB Listener Mode

Supported	All

Use this softkey to return the GPIB back to the listener mode after a user flatness calibration.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 3
Remarks	None

GPIB/RS-232/LAN

Supported	All

Use this softkey to access a menu of configuration choices for GPIB, RS-232, and LAN.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 232
Remarks	None

GPS Ref (f0)

Supported   All with Option 409

Use this softkey to set the GPS reference clock signal frequency. If an external source is being used, its frequency must match the value set with this softkey.

Preset   10.230000 Mcps

Range   1.000 kcps–12.500000 Mcps

Location   See *Key and Data Field Menu Map* guide: Page 109

Remarks   A change to the **GPS Ref (f0)** value will cause the P code and C/A code chip rates to change.

GPS Ref Clk Ext Int

Supported   All with Option 409

This softkey toggles the GPS reference clock (chip clock) source selection between internal and external.

Ext   This selection sets the signal generator to use an external chip clock, which is supplied to the DATA CLOCK INPUT connector.

Int   This selection sets the instrument to use the internal chip clock.

Preset   Int

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 109

Remarks   If an external source is being used, its frequency must match the value set with this softkey.

Gray Coded QPSK

Supported   All with Option 001 or 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.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 65, 82, 127, 143, 159, 175, 191, 207, 223, 226
Remarks	None

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*.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Pages 86, 130, 146, 162, 178, 194, 210, 226
Remarks	None

GSM

Supported	All with Option 001 or 002

This softkey appears in two different situations, to either select a predefined personality for a custom digital modulation format, or to access a menu from which you can configure a digital modulation.

Selecting GSM for Custom Digital Modulations

Use this softkey to select a predefined Global System for Mobile Communication (GSM) personality for the digital modulation format.

Preset	N/A
Range	N/A
Location	See *Key and Data Field Menu Map* guide: Page 65
Remarks	None

Accessing the GSM Menu

Supported   All with Option 402

Use this softkey to display a menu of softkeys where you can generate a pattern formatted in either a framed structure (where the data bits are located in fields defined by the GSM protocol), or a sequence that can be output one or more times.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 115, 131

Remarks   None

GSM BERT Off On

Supported   All with Option 300

This softkey sets the operating state of the GSM bit error rate test (BERT) function.

   Off   This choice will turn off any current GSM BER measurements.

   On   This choice will cause the GSM BERT function to initiate synchronization to the base transceiver station (BTS) under test.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 8

Remarks   The following message appears if the amplitude level is incorrect when you toggle GSM BERT on:

                  522 "Demodulator Unleveled; Input amplitude underrange."

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 97, 98

Remarks   None

GSM Off On

Supported   All with Option 402

Use this softkey to set the operating state of the Global System for Mobile
Communications (GSM) format.

Off   When you select Off, the GSM format is turned off.

On   When you select On, this sets up the internal hardware to generate a
                    signal that follows the GSM format. The internal I/Q modulator
                    generates GMSK digital modulation and the GSM and I/Q annunciators
                    are turned on in the display. Although the digital modulation is
                    enabled with this softkey, the RF carrier is modulated by the enabled
                    modulation only when you have also set **Mod On/Off** to On.

Preset   Off

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 131

Remarks   Setting the **GSM Off On** softkey to On presets the following softkeys in
                  the I/Q and MUX menus: **I/Q Off On** softkey is set to On and the **Source
                  1** and **I/Q Out** softkeys are set to BBG 1. You can override these
                  selections in the I/Q and MUX menus.

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   See *Key and Data Field Menu Map* guide: Page 97

Remarks   None

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   See *Key and Data Field Menu Map* guide: Page 98

Remarks   None

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.

Preset   *Channel*: 306

                   Frequency: 489.000 MHz

Range   *Channels*: 306–340

                   Frequency: 489.000–495.800 MHz

Location   See *Key and Data Field Menu Map* guide: Page 97

Remarks   None

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.

Preset   *Channel*: 306

                   Frequency: 479.000 MHz

Range   *Channels*: 306–340

                   Frequency: 479.000–485.800 MHz

| **Location** | See *Key and Data Field Menu Map* guide: Page 98 |
| **Remarks** | None |

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.

Preset	*Channel*: 128
	Frequency: 869.200 MHz
Range	*Channels*: 128–251
	Frequency: 869.200–893.800 MHz
Location	See *Key and Data Field Menu Map* guide: Page 97
Remarks	None

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.

Preset	*Channel*: 128
	Frequency: 824.200 MHz
Range	*Channels*: 128–251
	Frequency: 869.200–848.800 MHz
Location	See *Key and Data Field Menu Map* guide: Page 98
Remarks	None

H

Half

Supported   All with Option 401

Use this softkey to set the gating rate to half, causing 8 power control groups (every other bit) to be transmitted. The gating rate field is available only in the reverse pilot channel.

Preset   N/A

Range   N/A

Location   This key is accessed by editing the `Gating Rate` field. Refer to "Gating Rate" on page 311 for more information.

Remarks   None

Hamming

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 25, 38, 48, 56, 62, 72, 87, 114, 129, 145, 161, 177, 193, 209, 225, 255, 260, 269

Remarks   Hamming is the windowing type applied when you toggle the **Optimize FIR For EVM ACP** softkey to the ACP selection.

Hann

Supported   All with Option 001 or 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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Pages 25, 38, 48, 56, 62, 72, 87, 114, 129, 145, 161, 177, 193, 209, 225, 255, 260, 269

Remarks   None

Header

Supported   All with Option 401

Use this softkey to access a menu from which you can set the forward fundamental or supplemental channel long code mask header used to communicate with a particular mobile.

Preset   0318

Range   0000–03FF

Location   This key is accessed by editing the `LCMask` field. Refer to "LCMask" on page 360 for more information.

Remarks   None

Header Utilities

Supported   All with Option 001 or 002

This softkey accesses the menu where you can view a waveform's header information. From this menu you can edit the header description, clear the header file information or save the current signal generator settings for the header file.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Maps* guide: Page 16, 29, 41, 65, 91, 103, 246

Remarks   N/A

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.

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.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 235

Remarks   The help mode is not affected by a preset or by a power cycle.

High Amplitude

Supported   All with Option 300

This softkey enables you to set the highest amplitude of the range to be searched.

Preset   *GSM*: TCH/FS –90.0 dBm

EDGE: DL MCS5 –80.0 dBm
            DL MCS9 –85.0 dBm

Range   –136 dBm to 13 dBm

Location   See *Key and Data Field Menu Map* guide: Pages 8, 11

Remarks   None

High Crest Mode Off On

Supported   All

This softkey toggles the operating state of the high crest mode.

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 (such as CDMA). 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

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 99

Remarks   This softkey becomes active when the **I/Q** hardkey is set to On and no other modulation format except Dual Arb is on.

Higher Layer

Supported   All with Option 400

This softkey choice selects higher layer scheduling method as the compressed mode (CM) method. The emulated higher layer scheduling method keeps the same physical layer data rate even when a transmission gap is created. Refer to "CM Method" on page 137 for more information on the CM method.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 265

Remarks   To access this softkey, highlight the CM Method field on the **Comp Parameter Setup** screen and press **Edit Item**.

Hostname

Supported   All

This softkey enables you to enter the hostname for the local area network connection. No hostname is entered at the factory.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 232

Remarks   The hostname setting is not affected by a preset or by a power cycle.

HSPDSCH

Supported   All with Option 001 or 002

This softkey selects a high speed physical downlink shared channel (HS-PDSCH) for insertion into the Edit Setup table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 253

Remarks   N/A

HSSCCH

Supported   All with Option 001 or 002

This softkey selects a high speed shared control channel (HS-SCCH) for insertion into the Edit Channel Setup table editor.

Preset   N/A

Range   N/A

Location   See *Key and Data Field Menu Map* guide: Page 253

Remarks   N/A