Key and Data Field Reference, Volume 2

Agilent Technologies
ESG Vector Signal Generator

This guide applies to signal generator models and associated serial number prefixes listed below. Depending on your firmware revision, signal generator operation may vary from descriptions in this guide.

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I

I/O Setup

Supported All with Option UN7 or 300

Use this softkey to access a menu that enables you to configure the I/O parameters for the baseband bit error rate measurement.

Preset N/A

Range N/A

Location Page M-6

Remarks None

I Offset

Supported All

Use this softkey to enter an origin offset voltage for internally generated in-phase signals. This offset is used to remove imperfections in the in-phase signal or to introduce calibrated impairments.

Preset 0.0%

Range –100% to 100%

Location Page M-88

Remarks The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

When using this key to minimize the LO feedthrough signal, optimum performance is achieved when the adjustment is made after all other I/Q path adjustments, such as those made with the [Int Phase Polarity Normal Invert] or [Modulator Atten xx db Manual Auto] softkeys. If other adjustments are made after minimization is performed, the LO feedthrough signal may increase.

Immediate

Supported All with Option 001 or 002

Use this softkey to enable immediate retriggering for single trigger operation. In this state, the waveform will reset and replay from the start immediately upon receiving a trigger.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-78, M-231

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey starts the measurement as soon as the ESG achieves synchronization.

With **Immediate** selected, BER measurements are initiated and repeated until you set the **BERT Off On** softkey to Off, or until you set the BERT trigger source to Trigger Key, Bus, or Ext.

Preset N/A

Range N/A

Location Page M-6, M-7, M-8

Remarks None

Impairments

Supported All with Option 406

Use this softkey to access a menu from which you can configure various impairment functions.

Preset Off

Range N/A

Location Page M-226

Remarks None

Impairments Off On

Supported All with Option 406

This softkey sets the operating state of the impairment function.

Off When you select Off, no impairment settings are applied.

On When you select On, the impairment settings are applied.

Preset Off

Range N/A

Location Page M-226

Remarks None

Impedance 75 Ohm High

Supported All with Option UN7

Use this softkey to set the input termination mode of the rear panel BER DATA IN, BER CLK IN, and BER GATE IN connectors.

75 Ohm This choice sets the input termination mode to 75 ohms.

High This choice sets the input termination mode high.

Preset: High

Range N/A

Location Page M-6

Remarks None

Increment Scramble Code Off On

Supported All with Option 400

This softkey toggles the operating state of the automatic scramble code incrementing function.

Off When you select Off, auto increment is disabled. Scramble codes will not change between carriers.

On When you select On, auto increment is enabled. Scramble codes will automatically increment between carriers.

Preset Off

Range N/A

Location Page M-230

Remarks None

Increment Timing Offset Off On

Supported All with Option 400

This softkey toggles the operating state of the automatic timing offset incrementing function.

Off — When you select Off, auto increment is disabled. The timing offset will not change between carriers.

On — When you select On, auto increment is enabled. The timing offset will automatically increment between carriers.

Preset Off

Range N/A

Location Page M-230

Remarks None

`Init Power`

Supported All with Option 400

This field displays the initial power (Init Power) level of the preamble. The field is displayed in the PRACH Setup Code Pwr Time menu.

The `Init Power` field is coupled to and changes with the number of preambles, ramp step, and maximum power (`Max Power` field). If a ramp step is set to a value other than 0.00 dB, the initial power will be the power level at the start of the ramp; the first preamble.

For example, if the number of preambles is set to 4, the ramp step set to 1 dB, and the maximum power set to –20 dBm, then the initial power will be –23 dBm. The first preamble will be at –20 dBm, second at –21 dBm, third at –22 dBm and fourth at –23 dBm.

Preset –136.00 dBm

Range N/A

Location Page M-253

Remarks None

Initial Bit Count

Supported All with Option 300

This softkey enables you to set the initial bit count for the sensitivity search measurement function in the EDGE uncoded configuration.

Preset 13920

Range 1392–2147483647

Location Page M-11

Remarks None

Initial Block Count

Supported All with Option 300

This softkey enables you to set the initial block count value for the sensitivity search measurement function in the EDGE downlink MCS5 or MCS9 configuration.

Preset 600

Range *MCS5*: 1–1500000

MCS9: 2–1500000

Location Page M-8

Remarks For MCS9, only even values can be entered with a minimum value of 2. If odd numbers are entered, a +1 will be added to the value to make it an even value.

Initial Frame Count

Supported All with Option 300

This softkey enables you to set the initial speech frame count value for the sensitivity search measurement function in the GSM configuration.

Preset 25

Range 1–6000000

Location Page M-7

Remarks None

Initialize Phase Fixed Random

Supported All with Option 001 or 002

This softkey sets the initial state for the tones, as part of initializing the multitone table editor.

Fixed — When you select Fixed, the initial phase of all tones are set to 0 degrees.

Random — When you select Random, the initial phase of the tones is set to randomly generated phases based on the **Random Seed Fixed Random** softkey selection.

Preset Fixed

Range N/A

Location Page M-92

Remarks None

Initialize Table

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to set the initial values for the multitone configuration.

Preset N/A

Range N/A

Location Pages M-57, M-92

Remarks None

Input Signal Setup

Supported All with Option 400

This softkey is one of the menu selections from the Rear Panel Config Setup menu. When selected, the rear panel signal routing for the uplink DPCH or PRACH is displayed.

Preset N/A

Range N/A

Location Page M-247

Remarks None

Insert

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can select different methods of inserting bits, or to execute the insertion of a specified number of bits.

Preset N/A

Range N/A

Location Insert is located in the bit file editor menus.

Remarks None

Insert 0's

Supported All with Option 001 or 002

Use this softkey to insert a specified number of zeros into the current position of the bit file editor.

Preset N/A

Range N/A

Location Insert 0's is located in the bit file editor menus.

Remarks None

Insert 1's

Supported All with Option 001 or 002

Use this softkey to insert a specified number of ones into the current position of the bit file editor.

Preset N/A

Range N/A

Location Insert 1's is located in the bit file editor menus.

Remarks None

Insert DPDCH

Supported All with Option 400

This softkey enables you to insert a Dedicated Physical Data Channel (DPDCH) into the

uplink Edit Channel Setup table editor. After pressing this softkey, press the **Done** softkey to insert the channel into the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Page M-232

Remarks This softkey is available in uplink only.

Insert PN9

Supported All with Option 001 or 002

Use this softkey to adjust the seed value of a 9-bit pseudorandom bit sequence. You can then insert it into the current bit file.

Preset N/A

Range N/A

Location Pages M-75, M-69, M-100, M-115, M-131, M-147, M-163, M-179, M-195, M-211

Remarks None

Insert PN15

Supported All with Option 001 or 002

Use this softkey to adjust the seed value of a 15-bit pseudorandom bit sequence. You can then insert it into the current bit file.

Preset N/A

Range N/A

Location Pages M-75, M-100, M-115, M-131, M-147, M-163, M-179, M-195, M-211

Remarks None

Insert Row

Supported All

Use this softkey to insert a copy of the highlighted row directly above that row in a table or list.

Preset N/A

Range N/A

Location Insert Row is located in the table editor menus.

Remarks None

Insert Selected Waveform

Supported All

Use this softkey to insert the highlighted waveform into the sequence you are building.

Preset N/A

Range N/A

Location Page M-82

Remarks None

Insert Waveform

Supported All

This softkey accesses a menu and table editor which enable you to insert a waveform into the current row of the table editor.

Preset N/A

Range N/A

Location Page M-80

Remarks None

Insert Waveform Sequence Contents

Supported All

Use this softkey to insert the contents of the highlighted sequence into the sequence you are building.

Preset N/A

Range N/A

Location Page M-82

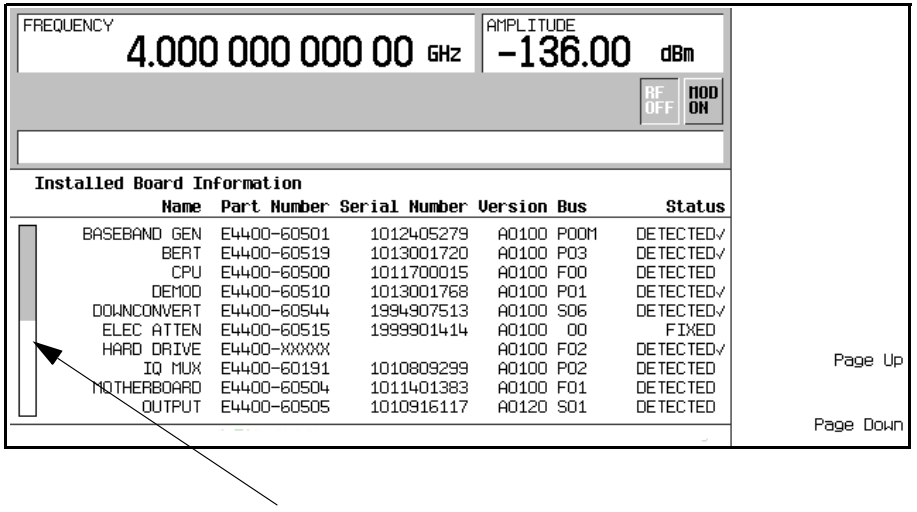
Remarks None

Installed Board Info

Supported All

Use this softkey to display information about the installed boards in the signal generator. Refer to Figure 1.

Figure 1 Installed Board Information



The gray and white vertical bar on the left side of the display indicates that there is an additional page of information. Use the **Page Down** softkey to display the next page. Use the **Page Up** softkey to return to the previous page.

Preset N/A

Range N/A

Location Page M-222

Remarks A status of DETECTED means that the installed board was automatically detected by the internal computer.

A status of INSTALLED or FIXED means that the installed board is available for use.

Instrument Adjustments

Supported All

Use this softkey to access a menu of front panel adjustments for the signal generator. This menu enables you to adjust the reference oscillator, set the value of the step keys and the front panel knob and so forth.

Preset N/A

Range N/A

Location Page M-219

Remarks None

Instrument Info/Help Mode

Supported All

Use this softkey to display a menu of softkeys detailing some of the signal generator functions and operations.

Preset N/A

Range N/A

Location Page M-219

Remarks None

Instrument Options

Supported All

Use this softkey to access a menu from which you can install license keys and manage hardware options.

Preset N/A

Range N/A

Location Page M-220

Remarks None

Int

Supported All with Option 001 or 002

This softkey enables you to automatically toggle the RF output power for each timeslot between main and alternate amplitudes using the internal baseband generator's timeslot settings. You can assign either main or alternate amplitude to each timeslot using the **Timeslot Ampl Main Delta** softkey.

Preset N/A

Range N/A

Location Page M-5

Remarks None

Int Phase Polarity Normal Invert

Supported All

Use this softkey to invert the internal Q signal, reversing the rotation direction of the phase modulation vector.

Normal — When you choose Normal, the phase relationship between the I and Q signals is not altered by the phase polarity function.

Invert — When you choose Invert, the in-phase component lags the quadrature-phase component by 90° in the resulting modulation.

Preset Normal

Range N/A

Location Page M-88

Remarks None

Interleaver

Supported All with Option 400

The field displays the On/Off operating state for the interleaver.

Preset On

Range N/A

Location Page M-249

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

Intermod

Supported All with Option 400

This softkey, in the downlink Test Setup menu, selects an intermodulation (Intermod) test. Third and higher order mixing of the two interfering RF signals can produce an interfering signal in the band of the desired channel. Intermodulation response rejection is a measure of the capability of the receiver to receiver a wanted signal on its assigned channel frequency in the presence of two or more interfering signals.

Preset N/A

Range N/A

Location Page M-241

Remarks The test parameters for this test are defined in 3GPP TS25.101 v3.7.0 (2001-06).

Internal

Supported All with Option 001 or 002

This softkey selects an internally generated signal as the modulation output.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85

Remarks None

In the CDMA Menu

Supported All with Option 401

Use this softkey to configure the ESG to use the internal baseband generator data clock.

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 85 for more information.

Remarks None

Internal Monitor

Supported All

This softkey selects the internal source as the low frequency output. The signal is available at the LF OUTPUT connector. The frequency and shape of the signal is internally configured.

Preset N/A

Range N/A

Location Page M-90

Remarks The internal monitor is selected after an instrument preset or when the on/off power-line switch is cycled.

Internal Pulse

Supported All

This softkey enables you to internally generate a variable width pulse as the modulation waveform.

Preset N/A

Range N/A

Location Page M-95

Remarks N/A

Internal Ref Bandwidth

Supported All with Option UNJ

This softkey enables you to adjust the bandwidth of the internal reference oscillator.

Preset N/A

Range N/A

Location Page M-220

Remarks None

Internal Square

Supported All

This softkey enables you to internally generate a square wave as the modulation waveform.

Preset N/A

Range N/A

Location Page M-95

Remarks N/A

Inverse Video Off On

Supported All

This softkey selects the display mode, text and background, for the signal generator.

Off	Inverse mode is off, the signal generator has dark text on a light background; the normal display mode for the signal generator.
On	Inverse mode is on, the signal generator display has light text on a dark background.

Preset N/A

Range N/A

Location Page M-219

Remarks The inverse video state is not affected by a preset or by a power cycle.

Inverted

Supported All with Option 401

Use this softkey to reverse the direction of phase rotation of the internal Q signal. In this mode, the in-phase component lags the quadrature-phase component by 90°.

Preset N/A

Range N/A

Location This key is accessed by editing the `Phase Polarity` field. Refer to "Phase Polarity" on page 409 for more information.

Remarks None

IP Address

Supported All

This softkey enables you to enter the internet protocol (IP) address for your IP network connection. No IP address is entered at the factory.

Preset N/A

Range N/A

Location Page M-219

Remarks The IP address setting is not affected by a preset or by a power cycle.

I/Q

Supported All with Option 001 or 002

This softkey accesses a menu for I/Q modulation.

Preset N/A

Range N/A

Location Page M-223

Remarks None

I/Q

Supported All

Use this hardkey to access a menu from which you can configure the internal I/Q modulator. You can also toggle the operational state of the I/Q modulator, external burst envelope, high crest mode, and ALC.

Preset N/A

Range N/A

Location Page M-88

Remarks None

I/Q Adjustments

Supported All

Use this softkey to access a menu of I/Q adjustment choices for internally generated or

externally applied I and Q signals. In this menu you can change the I/Q gain balance, I and Q offset voltages, and quadrature skew. You can also toggle the operational state of these I/Q adjustments.

The current operating state of the I/Q adjustments function is displayed under the **I/Q Adjustments** softkey.

Preset N/A

Range N/A

Location Page M-88

Remarks None

I/Q Adjustments Off On

Supported All

This softkey toggles the operating state of the I/Q adjustments.

Off — When this softkey is in the off position, I/Q adjustment values are not applied to the I and Q signals.

On — When this softkey is in the on position, the values entered for I/Q gain balance, quadrature skew, I offset, and Q offset are applied to the I and Q signals.

Preset Off

Range N/A

Location Page M-88

Remarks None

I/Q Calibration

Supported All

Use this softkey to access a menu from which you can configure and execute an I/Q calibration. You can set the start and stop frequency for a user-defined I/Q calibration, or choose an I/Q calibration over the entire frequency range of the signal generator. In this menu, you can also restore the original factory calibration data for the I/Q modulator.

Preset N/A

Range N/A

Location Page M-88

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

An I/Q calibration should be performed approximately every 30 days, but it can be performed at any time to peak the performance of the I/Q modulator.

I/Q Gain Balance Source 1

Supported All

Use this softkey to change the I to Q gain balance for the **Source 1** selection. For example, if you enter a value of 1 dB, the I signal will have 1 dB more amplitude than the Q signal. The gain balance adjustment can be used with externally applied I and Q signals or with internally generated I and Q signals. Use the gain balance to remove imperfections in I and Q or to introduce calibrated impairments.

Preset 0.00 dB

Range –4 dB to 4 dB

Location Page M-88

Remarks The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

I/Q Mapping Normal Invert

Supported All with Option 401

Use this softkey to toggle the I/Q outputs between normal and inverted.

Normal In this state, the I/Q outputs are not inverted.

Invert In this state, data on the I channel is switched to the Q channel, and data on the Q channel is switched to the I channel.

Preset Normal

Range N/A

Location Pages M-15, M-24, M-34, M-229

Remarks None

I/Q Mod Filter Manual Auto

Supported All

Use this softkey to access a menu from which you can either manually apply an I/Q

modulation filter or select **Auto** to enable the ESG to automatically choose a filter based on the active digital modulation settings. You can override the automatic mode at any time by manually selecting a filter from this menu.

The selected filter type is displayed in parentheses.

Preset Through

Range N/A

Location Pages M-81, M-88, M-229

Remarks None

I/Q Off On

Supported All

This softkey toggles the operating state of the internal I/Q modulator.

Off — This setting disables the internal I/Q modulator. You can turn off the I/Q modulation with this softkey even though the digital modulation mode is enabled. With this configuration, the RF output signal would not be modulated but the I/Q signals will be present at the rear panel I/Q outputs.

On — This setting enables the internal I/Q modulator. **I/Q Off On** is also toggled automatically to On when any of the digital modulation formats are enabled.

When this softkey is set to On, the `I/Q` annunciator will be displayed.

Preset Off

Range N/A

Location Page M-88

Remarks RF output power will be attenuated if the I/Q modulator is turned on and an I/Q signal is not applied.

Although you can enable I/Q modulation with this softkey, the RF carrier is modulated only when you have also set **Mod On/Off** to On.

I/Q Out

Supported All

Use this softkey to access a menu from which you can select a signal source to be routed to the rear panel I and Q output connectors.

Preset Ext 50 Ohm

Range N/A

Location Page M-94

Remarks When a digital modulation format is turned on, the **Source 1** and **I/Q Out** selections automatically switch to BBG1. When the digital modulation is turned off, the **Source 1** and **I/Q Out** selections automatically switch to Ext 50 Ohm. You can override the automatic settings by manually selecting a different source.

I/Q Out Gain Balance

Supported All

Use this softkey to change the I to Q gain balance at the rear panel I and Q external outputs. For example, if you enter a value of 1 dB, the I signal will have 1 dB more amplitude than the Q signal. Use the gain balance to remove imperfections in I and Q or to introduce calibrated impairments.

Preset 0.00 dB

Range –4 dB to 4 dB

Location Page M-88

Remarks None

I/Q Output Atten

Supported All

Use this softkey to set the attenuation level of the I/Q signal at the rear panel I and Q output connectors. A setting of 0.00 dB will result in 100 percent output signal power, while a setting of 40.00 dB will result in 0.01 percent output signal power.

Preset 6.00 dB

Range 0.00–40.00 dB

Location Pages M-88, M-94

Remarks None

I/Q Output Control

Supported All

Use this softkey to access a menu from which you can change the parameters that control the I and Q output signals. In this menu you can control the I/Q output attenuation levels, I/Q output gain balance, and I and Q offset voltages. You can also select an I/Q output filter.

Preset N/A

Range N/A

Location Page M-88

Remarks None

I/Q Output Filter

Supported All

Use this softkey to access a menu of filters that can be applied to the I and Q output signals.

The selected filter type is displayed under the **I/Q Output Filter** softkey.

Preset Through

Range N/A

Location Page M-88

Remarks None

IQ Phase Normal Invert

Supported All with Option 409

This softkey toggles the phase relationship of the GPS I and Q signals.

Normal — In this state, the C/A code phase is aligned with the in-phase component (I), and the P code phase is aligned with the quadrature-phase component (Q).

Invert — In this state, the Q signal is inverted, and the I component lags the Q component by 90 degrees in the resulting modulation.

Preset Normal

Range N/A

Location Page M-96

Remarks N/A

I/Q Scaling

Supported All with Option 001 or 002

Use this softkey to adjust the amplitude of the I/Q outputs (for better ACP).

Preset 100%

Range 1–200%

Location Pages M-67, M-106, M-121, M-137, M-153, M-169, M-185, M-201

Remarks None

I/O Setup

Supported All with Option UN7

This softkey access a menu that enables you to configure the I/O parameters for BER measurements.

Preset N/A

Range N/A

Location Page M-6

Remarks None

IS95

Supported All with Option 401

Use this softkey to select the forward synchronization type as defined by the IS-95 CDMA standard.

Preset N/A

Range N/A

Location This key is accessed by editing the `F-SYNCH Type` field. Refer to "F-SYNCH Type" on page 282 for more information.

Remarks None

IS-95

In the Standard Menu

Supported All

Use this key to select a standard cdmaOne IS-95 filter.

Preset N/A

Range N/A

Location Pages M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

In the Baseband Generator Menu

Supported All with Option 001 or 002

Use this softkey to select a standard IS-95 baseband filter.

Preset N/A

Range N/A

Location Pages M-59, M-66, M-98

Remarks None

IS-95 and IS-2000

Supported All with Option 001 or 002

Use this softkey to access a menu of IS-95 and IS-2000 filters in the Select Filter menu. This menu displays the following filter choices: IS-95, IS-95 w/EQ, IS-95 Mod, IS-95 Mod w/EQ and IS-2000 SR3 DS.

Preset N/A

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-68, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

IS-95 Mod

In the Standard Menu

Supported All

Use this key to select a modified version of the standard IS-95 filter. This filter is modified for improved adjacent channel power performance. The modification is done in a manner that meets the IS-95 error function criterion.

Preset N/A

Range N/A

Location Pages M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

In the Baseband Generator Menu

Supported All with Option 001 or 002

Use this softkey to select a modified version of the standard IS-95 baseband filter. This filter is modified for improved adjacent channel performance. The modification, however, is done in a manner that still meets the IS-95 error function criterion.

Preset N/A

Range N/A

Location Pages M-59, M-66, M-98

Remarks None

IS-95 Mod w/EQ

In the Standard Menu

Supported All

Use this softkey to select a modified version of the standard IS-95 filter. This filter is modified for improved adjacent channel power performance, and includes the equalizer for phase compensation required by a base station. The filter modification is done in a manner that meets the IS-95 error function criterion.

Preset N/A

Range N/A

Location Pages M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

In the Baseband Generator Menu

Supported All with Option 001 or 002

Use this softkey to select a modified version of the standard IS-95 baseband filter. This filter is modified for improved adjacent channel performance, and includes the equalizer specified by IS-95. The filter modification is done in a manner that still meets the IS-95 error function criterion.

Preset N/A

Range N/A

Location Pages M-59, M-66, M-98

Remarks None

IS-95 w/EQ

In the Standard Menu

Supported All

Use this softkey to select the standard IS-95 filter with the equalizer for phase compensation required by a base station.

Preset N/A

Range N/A

Location Pages M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

In the Baseband Generator Menu

Supported All with Option 001 or 002

Use this softkey to select a standard IS-95 baseband filter with an equalizer provided for phase compensation required by the base station.

Preset N/A

Range N/A

Location Pages M-59, M-66, M-98

Remarks None

IS95 OQPSK

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 IS95 OQPSK Modulation

Use this softkey to select IS95 offset quadrature phase shift keying (OQPSK) for modulating a continuous stream of the selected data pattern. IS95 OQPSK modulation transmits data at the rate of 2 bits per symbol.

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

Preset N/A

Range N/A

Location Pages M-56, M-72, M-114, M-130, M-146, M-162, M-178, M-194, M-210, M-213

Remarks None

Loading an IS95 OQPSK I/Q Map into the Table Editor

Use this softkey to load an IS95 offset quadrature phase shift keying (OQPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

IS95 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 an IS95 QPSK Modulation

Use this softkey to select IS95 quadrature phase shift keying (QPSK) for modulating a continuous stream of the selected data pattern. IS95 QPSK modulation transmits data at the rate of 2 bits per symbol.

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

Preset N/A

Range N/A

Location Pages M-56, M-72, M-114, M-130, M-146, M-162, M-178, M-194, M-210, M-213

Remarks None

Loading an IS95 QPSK I/Q Map into the Table Editor

Use this softkey to load an IS95 quadrature phase shift keying (QPSK) I/Q map into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

IS-97 Levels

Supported All with Option 401

Use this softkey to set the IS-95A channel power levels to IS-97 standard specification levels.

Preset N/A

Range N/A

Location Pages M-19, M-20

Remarks None

IS2000

Supported All with Option 401

Use this softkey to select the forward synchronization type as defined by the IS-2000 CDMA standard.

Preset N/A

Range N/A

Location This key is accessed by editing the `F-SYNCH Type` field. Refer to "F-SYNCH Type" on page 282 for more information.

Remarks None

IS-2000 SR3 DS

Supported All with Option 401

Use this softkey to select the standard IS-2000 spreading rate 3 direct spread filter.

Preset N/A

Range N/A

Location Pages M-19, M-28, M-37, M-59, M-233

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

ISDN

Supported All with Option 400

This field displays the reference measurement setup data type selected for the DPCH as integrated services digital network (ISDN).

Preset N/A

Range N/A

Location

Remarks Refer to "AMR 12.2 (25.944 v3.5)" on page 69 for more information.

J

JSTD8

Supported All with Option 401

Use this softkey to select the forward synchronization type as defined by the JSTD8 CDMA standard.

Preset N/A

Range N/A

Location This key is accessed by editing the `F-SYNCH Type` field. Refer to "F-SYNCH Type" on page 282 for more information.

Remarks None

K

Kaiser

Supported All with Option 001 or 002

Use this softkey to apply the Kaiser windowing function to the selected filter. Selecting **Kaiser** also activates the Beta factor which you can adjust to change the trade-off between optimized ACP or EVM.

Windowing can be applied to any default FIR filter that you load into the Define User FIR table. Windowing improves out of band performance (ACP), but simultaneously degrades passband performance (EVM), by smoothing the filter's transition to zero.

Preset N/A

Range N/A

Location Pages M-22, M-32, M-41, M-47, M-53, M-63, M-77, M-101, M-116, M-132, M-148, M-164, M-180, M-196, M-212, M-239, M-244, M-254

Remarks None

L

LAN Setup

Supported All

Use this softkey to access a menu enabling you to enter a local area network (LAN) host name and IP address for communication over the LAN.

Preset N/A

Range N/A

Location Page M-219

Remarks None

Last Mkr Point

Supported All with Option 001 or 002

This softkey enables you to set the last marker point when you define a range of points. You can use either the knob or the numeric keys to set this value, which must be greater than or equal to 1, and less than or equal to the total number of waveform points in the selected waveform.

If you enter a value for either the first marker point or the last marker point that would make the first marker point occur after the last, the last marker point is automatically adjusted to match the first marker point.

Preset last waveform point

Range 1–total number of waveform points

Location Pages M-81, M-82

Remarks None

LCMask

Supported All with Option 401

This field displays the current long code mask value (in hexadecimal) for the forward link paging, fundamental and supplemental channels. This 42-bit binary number creates the unique identity of the long code.

To change the long code mask for the paging channel, highlight the LCMask field, press the **Edit Item** softkey and set a new value using the **Field1**, **Field2** and **Field3** softkeys. To change the long code mask for the fundamental or supplemental channels, highlight the LCMask field, press the **Edit Item** softkey and set a new value using the **Header** and **Permuted ESN** softkeys.

Preset *F-PCH:* 319A0200000
F-FCH, F-SCH1, F-SCH2: 31800000000

Range: 0–3FFFFFFFFFF

Location Page M-44

Remarks None

Leap Seconds

Supported All with Option 401

This field displays the current leap seconds value. The Leap Seconds field is used to correct the Universal Coordinated Time (UTC). To change the leap seconds value, use the down arrow key to move the cursor to the second page of data fields and highlight the Leap Seconds field. Press the **Edit Item** softkey and enter a new hexadecimal value.

Preset 00

Range 00–FF

Location Page M-44

Remarks None

Left

Supported All with Option 400

This softkey selects a scramble code between 8191 and 16384 for the downlink ChipARB physical channel.

Preset N/A

Range N/A

Location This key is accessed by editing the ScrCode Type field. Refer to "ScrCode Type" on page 494 for more information.

Remarks None

Left Alternate

Supported All with Option 400

This softkey sets the downlink channel scramble type to left alternate. Selecting **Left Alternate** adds 8192 to the scramble code.

Preset N/A

Range N/A

Location Pages M-232, M-237

Remarks None

LF Out

Supported All

Use this hardkey to access a menu of softkeys that enable you to configure the internal, low frequency source.

Preset N/A

Range N/A

Location Page M-90

Remarks None

LF Out Amplitude

Supported All

This softkey enables you to scale the output of the signal at the LF OUTPUT connector.

Preset 0.0 V

Range 0.0–5.0 V_p

Location Page M-90

Remarks None

LF Out Freq

Supported All

Pressing this key allows you to enter a frequency for the internal function generator.

Preset 400.0 Hz

Range 0.5 Hz–100.0 kHz
0.5 Hz to 20.0 kHz if triangle, ramp or square wave is selected.

Location Page M-90

Remarks This softkey is available after selecting function generator as the LF Out Source.

LF Out Off On

Supported All

This softkey toggles the operating state of the source at the LF OUTPUT connector on and off.

Off — The low frequency output is disabled and no signal is available at the LF OUTPUT connector.

On — The selected source, for example function generator, is enabled and the signal is available at the LF OUTPUT connector.

Refer to the "LF Out Source" for more information on choosing the source.

Preset Off

Range N/A

Location Page M-90

Remarks Once you have toggled this state on, the signal is immediately available at the LF OUTPUT connector. Neither the **RF On/Off** hardkey nor the **Mod On/Off** hardkey affect this state.

LF Out Period

Supported All

This softkey enables you to set the period of the low frequency pulse signal.

Preset N/A

Range 16 ms–30.0 s

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting pulse as the waveform type.

LF Out Source

Supported All

Use this softkey to access a menu of available sources for the low frequency output. You can choose to output the signal from one of the internal sources as it is being used by a modulation or you can use the internal source as a function generator and select that signal to output at the LF OUTPUT connector.

If you choose an internal source, the frequency and shape of the signal at the LF OUTPUT connector is set by the internal source. For example, if the internal source is currently assigned to an AM path configuration and AM is turned on, the signal output at the LF OUTPUT connector will have the frequency and shape of the amplitude modulating signal. You can scale the amplitude of the output signal using the **LF Out Amplitude** softkey.

If you choose to set the internal source as a function generator, you can select a frequency and shape in addition to selecting the amplitude for the LF output signal.

Preset Internal Monitor

Range N/A

Location Page M-90

Remarks When you use an internal source as a function generator, any modulation with the internal source selected is turned off.

LF Out Start Freq

Supported All

This softkey enables you to change the starting frequency for swept-sine low frequency output. This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Tone 1 Freq** softkey in the LF Out dual-sine menu. An LF Out start frequency setting is reflected in the **LF Out Freq** and **LF Out Tone 1 Freq** softkeys. Conversely, if you change the value for either the **LF Out Freq** softkey or the **LF Out Tone 1 Freq** softkey, the value for the LF Out start frequency is changed.

Preset 400.0 Hz

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

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting swept-sine as the waveform type.

LF Out Stop Freq

Supported All

This softkey enables you to change the stop frequency for swept-sine low frequency output.

This key is coupled to the **LF Out Tone 2 Freq** softkey in the LF Out Dual-Sine menu. Any value set for the LF Out stop frequency is reflected in the **LF Out Tone 2 Freq** softkey.

Preset 400.0 Hz

Range 0 .1 Hz–100.0 kHz (minimum increment is .1 Hz)

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting swept-sine as the waveform type.

LF Out Sweep Time

Supported All

This softkey enables you to set the sweep rate for the low frequency swept-sine output. The signal generator will sweep from the specified start frequency to the stop frequency at the rate set with this key.

Preset 100.0 ms

Range 1 ms–65.535 s (minimum increment is 1.0 ms)

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting swept-sine as the waveform type.

LF Out Sweep Trigger

Supported All

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

Free Run	The source will continue sweeping without a trigger signal.
Trigger Key	The source will sweep after the front panel **Trigger** hardkey is pressed.
Bus	The GPIB is used to trigger the source for a sweep.
Ext	An external trigger, either a positive or negative signal, is used to generate a sweep.

Preset Free Run

Range N/A

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting swept-sine as the waveform type.

LF Out Tone 1 Freq

Supported All

This softkey enables you to set the frequency for the low frequency output tone 1.

This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Start Freq** softkey in the LF Out Swept-Sine menu. An LF Out tone 1 frequency setting is reflected in the **LF Out Freq** and **LF Out Start Freq** softkeys.

Preset 400.0 Hz

Range 0.1 Hz–100.0 kHz (minimum increment allowed is 0.5 Hz)

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting dual-sine as the waveform type.

LF Out Tone 2 Ampl % Of Peak

Supported All

This softkey enables you to set the amplitude of the alternate frequency as a percent of the peak modulated amplitude. The sum of the two LF Out amplitudes results in the total LF Out amplitude set by the **LF Out Amplitude** softkey in the LF Out menu.

For example, if the total LF Out amplitude is 300 mV_p and you set the LF Out tone 2 amplitude percent of peak to 33%, then the amplitude of LF Out tone 1 will be 200.0 mV_p and the amplitude of LF Out tone 2 will be 100.0 mV_p (33% of 300.0 mV_p). The amplitude of the two tones will equal 300.0 mV_p.

Preset 50.0%

Range 0.0–100% (minimum increment is 0.1%)

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting dual-sine as the waveform type.

LF Out Tone 2 Freq

Supported All

This softkey enables you to change the alternate frequency of the modulation source. The alternate frequency is the second frequency in the dual-sine mode or the stop frequency in swept-sine mode. This key is coupled to the **LF Out Freq** softkey in the LF Out menu and the **LF Out Stop Freq** softkey in the LF Out Swept-Sine menu.

Preset 400.0 Hz

Range 0.1 Hz–100.0 kHz (minimum increment allowed is 0.5 Hz)

Location Page M-90

Remarks This softkey is available after selecting the internal source to operate as a function generator and selecting dual-sine as the waveform type.

LF Out Waveform

Supported All

This softkey accesses a menu from which you can choose a waveform to be generated by the internal modulation source.

Preset N/A

Range N/A

Location Page M-90

Remarks None

LF Out Width

Supported All

This softkey enables you to set the pulse width for the low frequency output pulse signal.

Preset N/A

Range 8.0 µS – 30 Sec

Location Page M-90

Remarks In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator and selecting pulse as the modulating waveform type.

Link Control

Supported All with Option 400/401

Use this softkey to access a menu from which you can select a real-time CDMA2000 or W-CDMA channel and modify its parameters.

Preset N/A

Range N/A

Location Pages M-42, M-48, M-240, M-245

Remarks None

Link Down Up

Supported All with Option 400

Use this softkey to select a W-CDMA downlink or uplink channel.

Down Selects the downlink, base to UE, W-CDMA configuration.

Up Selects the uplink, UE to base, W-CDMA configuration.

Preset: Down

Range N/A

Location Pages M-228, M-240, M-245

Remarks N/A

Link Forward Reverse

Supported All with Option 401

Use this softkey to toggle the CDMA2000 channel setup link selection between forward and reverse.

Forward This mode enables the settings for a forward link (base to mobile) channel setup.

Reverse This mode enables the settings for a reverse link (mobile to base) channel setup.

Preset Forward

Range N/A

Location Pages M-23, M-33, M-42, M-48

Remarks None

List

Supported All

This softkey enables you to specify that only signal generator list sweep files be included in the catalog of files.

Preset N/A

Range N/A

Location Page M-221

Remarks None

Load All from NVWFM Memory

Supported All with Option 001 or 002

This softkey enables you to load all of the files from non-volatile arbitrary waveform (NVWFM) memory to waveform (WFM1) memory where you can play the waveforms.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Load Cal Array From Step Array

Supported All

This softkey enables you to set up a table that includes the start frequency, stop frequency, and number of points that are defined in the Configure User Flatness Step Array menu.

Preset N/A

Range N/A

Location Page M-4

Remarks None

Load Default FIR

Supported All with Option 001 or 002

Use this softkey to access a menu for automatically filling the FIR table editor with coefficient values from pre-defined filters such as root Nyquist, Nyquist, Gaussian and rectangle. The default filter parameters can also be selected in this menu allowing you to choose the filter alpha or BbT and the number of filter symbols.

Preset N/A

Range N/A

Location Pages M-18, M-29, M-38, M-45, M-51, M-61, M-74, M-99, M-111, M-127, M-143, M-159, M-175, M-191, M-207, M-235, M-242

Remarks None

Load Default FSK

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can select a default symmetric FSK modulation and configure the frequency deviation for the FSK modulation selected.

Preset N/A

Range N/A

Location Pages M-71, M-113, M-129, M-145, M-161, M-177, M-193, M-209

Remarks None

Load Default I/Q Map

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can select a standard I/Q mapping from a set of either PSK or QAM modulations.

Preset N/A

Range N/A

Location Pages M-70, M-112, M-128, M-144, M-160, M-176, M-192, M-208

Remarks None

Load From Selected File

Supported All

Use this softkey to replace the current information in a table editor with the information in the highlighted file. You will be prompted for confirmation.

Preset N/A

Range N/A

Location Load From Selected File is located in each of the catalog of files.

Remarks This key is inactive unless at least one file has been stored to memory.

Load List From Step Sweep

Supported All

This softkey enables you to copy the step sweep data points into the list sweep data points.

Preset N/A

Range N/A

Location Page M-218

Remarks You can have only one sweep list at a time so be certain that you wish to overwrite the existing list.

Load Mirror Image of Fall Shape

Supported All with Option 001 or 002

Use this softkey to load the Rise Shape Editor with a mirror image of the Fall Shape Editor when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks This softkey is available when the Rise Shape Editor is the active function; when the Fall Shape Editor is the active function, this softkey toggles to **Load Mirror Image of Rise Shape.**

Load Mirror Image of Rise Shape

Supported All with Option 001 or 002

Use this softkey to load the Fall Shape Editor with a mirror image of the Rise Shape Editor when editing a burst shape. For more information on editing burst shapes, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks This softkey is available when the Fall Shape Editor is the active function; when the Rise Shape Editor is the active function, this softkey toggles to **Load Mirror Image of Fall Shape.**

Load Segment from NVWFM Memory

Supported All with Option 001 or 002

This softkey enables you to load the selected file from non-volatile arbitrary waveform (NVWFM) memory to waveform (WFM1) memory where you can play the waveform.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Load/Store

Supported All

Use this softkey to access a menu for loading tables from, and storing tables to, non-volatile memory. Non-volatile memory enables you to retain files for future use after an instrument power cycle.

Preset N/A

Range N/A

Location Load/Store is located in the table editor menus.

Remarks None

Load Store

Supported All

This softkey accesses a menu that enables you to load table values from, and store table values to, non-volatile memory. Non-volatile memory retains files for future use after an instrument power cycle.

Load — This enables you to load arbitrary waveform (NVARB) segments to the displayed catalog of files.

Store — This enables you to store waveform segments (WFM1) from volatile memory to non-volatile arbitrary waveform (NVWFM) memory.

Preset N/A

Range N/A

Location Load Store is located in the table editor menus.

Remarks None

Long Code Mask

Supported All with Option 401

This field displays the current long code mask value (in hexadecimal) for the reverse link. This 42-bit binary number creates the unique identity of the long code. To change the long code mask, highlight the `Long Code Mask` field, press the **Edit Item** softkey and enter a new value.

Preset 00000000000

Range: 00000000000–3FFFFFFFFFF

Location Page M-48

Remarks None

Long Code State

Supported All with Option 401

This field displays the current long code seed value (in hexadecimal) used to generate the actual long code. The long code is a PN sequence that is used for scrambling in the forward channels and spreading in the reverse channels. To change the long code seed, highlight the `Long Code State` field, press the **Edit Item** softkey and enter a new value.

Preset 0000000000

Range 0000000000–3FFFFFFFFF

Location Page M-48

Remarks None

Loop Selected Tests

Supported All

This softkey is provided for self test diagnostics. Refer to the troubleshooting chapter of the service guide for more information.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is included for use by service personnel.

Low Amplitude

Supported All with Option 300

This softkey enables you to set the minimum amplitude of the range to be searched.

Preset *GSM*: TCH/FS –115.0 dBm

EDGE: DL MCS5 –110.0 dBm
DL MCS9 –100.0 dBm
Uncoded –105.0 dBm

Range –136 to 13 dBm

Location Page M-7, M-8, M-11

Remarks Optimum speed will be obtained if the search range is minimized to around 5–10 dB.

Low Capacity

Supported All with Option 402

Use this softkey to select low capacity as the timeslot type for the active timeslot. When you have selected **Low Capacity** for a timeslot, the visual representation of the timeslot type on the display updates to show the configuration.

Preset N/A

Range N/A

Location Page M-183

Remarks None

Low Capacity with Z Field

Supported All with Option 402

Use this softkey to select low capacity with Z field as the timeslot type for the active timeslot. When you have selected **Low Capacity with Z Field** for a timeslot, the visual representation of the timeslot type on the display updates to show the configuration.

Preset N/A

Range N/A

Location Page M-183

Remarks None

LTM OFF

Supported All with Option 401

This field displays the current offset of local time (where 01 = 30 minutes, 02 = 60 minutes, 03 = 90 minutes, and so on) from the system time. The local time offset is displayed in hexadecimal notation. To change the local time offset, highlight the LTM OFF field, press the **Edit Item** softkey and enter a new value.

Preset 00

Range 00–3F

Location

Remarks None

M

Manual

Supported All

This softkey enables you to manually toggle the RF output power between main and alternate amplitudes using the **Manual Trigger Main Delta** softkey.

Preset N/A

Range N/A

Location Page M-5

Remarks None

Manual Mode Off On

Supported All

This softkey toggles the operating state of the manual mode selection for the current sweep point.

Off — When Manual Mode is off, sweeping occurs over the entire list or range of points.

On — When Manual Mode is on, the selected sweep point controls the frequency and amplitude according to the sweep type.

Preset Off

Range N/A

Location Page M-217

Remarks This key is disabled when the **Sweep** softkey is set to Off.

Manual Point

Supported All

This softkey enables you to choose a point in the sweep list. When Manual Mode is on, the selected point controls the output parameters (frequency and/or amplitude) according to the sweep type.

Preset 1

Range 1–maximum number in current sweep configuration

Location Page M-217

Remarks This key is disabled when **Manual Mode Off On** is set to Off.

If list or step mode is controlling frequency and/or power, then the indexed point in the respective list(s) will be used.

If the point selected is beyond the maximum number in current sweep configuration, then the point will be set to the maximum possible point, and an error will be generated.

Manual Trigger Main Delta

Supported All with Option 001 or 002

Use this softkey to manually toggle the RF output power between main and alternate amplitudes.

For more information on alternate amplitude, see the *User's Guide*.

Preset N/A

Range N/A

Location Page M-5

Remarks You must select Manual in the **Alt Ampl Trigger** menu for this softkey to be enabled.

Marker 1 2

Supported All

This softkey selects the active marker for setting or clearing.

1 This selects marker 1 as the active marker.

2 This selects marker 2 as the active marker.

Preset 1

Range N/A

Location Pages M-81, M-82

Remarks None

Marker Polarity Neg Pos

Supported All

This softkey enables you to set the polarity of both markers.

Neg When you select Neg, the markers are set to a negative polarity.

Pos When you select Pos, the markers are set to a positive polarity.

Preset Positive

Range N/A

Location Page M-81

Remarks None

Max input

Supported All with Option 400

This softkey, in the downlink Test Setup menu, defines the maximum receiver input power at the user equipment (UE) antenna connector that does not degrade the specified BER performance. The receiver is stressed with high levels of interference from unwanted signals.

Preset N/A

Range N/A

Location Page M-241

Remarks None

Max Pwr

Supported All with Option 400

This field displays the maximum power level for the physical random access channel (PRACH) preamble. The maximum power setting is coupled to the ramp step and Init Power fields. Refer to "Init Power" on page 311 for more information.

Preset –136.00 dBm

Range –136.00 to 0.00 dBm

Location M-253

Remarks The preamble power will ramp up to the maximum power set in the `Max Pwr` field or until the AICH signal is received.

The actual RF output is limited to the specifications of the signal generator although the value can be entered up to 20 dBm.

Mcarrier Spacing

Supported All with Option 401

Use this softkey to access a menu from which you can select the carrier spacing for multicarrier spreading.

Preset 1.25 MHz

Range N/A

Location Pages M-24, M-34

Remarks Cellular band uses 1.23 MHz and PCS band uses 1.25 MHz CDMA-standard carrier spacing.

Spreading type must be set to multicarrier and the spread rate must be 3 (SR3) for this setting to become active.

MCDMA

Supported All

Press this softkey to set the current catalog type to multicarrier CDMA (MCDMA) and display the catalog of MCDMA files.

Preset N/A

Range N/A

Location Page M-224

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

MCS1 Configure

Supported All with Option 300

Use this softkey to select a downlink packet data traffic channel with block type 5 in accordance with GSM 05.03.

Preset N/A

Range N/A

Location Page M-10

Remarks None

MDMOD

Supported All

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

Preset N/A

Range N/A

Location Page M-224

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

MDWCDMA

Supported All

Press this softkey to set the current catalog type to multicarrier downlink W-CDMA (MDWCDMA) and display the catalog of MDWCDMA files.

Preset N/A

Range N/A

Location Page M-224

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

Measurement Mode BER/BLER% Search

Supported All with Option 300

This softkey selects the measurement mode for the GSM bit error rate test.

BER/BLER% This choice selects bit error rate or block error rate as the measurement mode.

Search This choice selects sensitivity search as the measurement mode.

Preset BER/BLER%

Range N/A

Location Page M-7

Remarks None

Memory Catalog

Supported All

Use this softkey to access a menu of choices enabling you to display a catalog of user files. In addition, the menu displays file management functions and a menu for choosing file types.

Preset N/A

Range N/A

Location Page M-219

Remarks None

Message–Control Raw Data (RPS13)

Supported All with Option 400

This softkey assigns message control raw data to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Page M-251

Remarks The message control raw data signal can be assigned to numerous different output connectors/pins. The **(RPS13)** designator refers to the remote SCPI command that corresponds to this softkey.

Message–Control Raw Data Clock (RPS14)

Supported All with Option 400

This softkey assigns message control raw data clock to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Page M-251

Remarks The message control raw data clock can be assigned to numerous different output connectors/pins. The **(RPS14)** designator refers to the remote SCPI command that corresponds to this softkey.

Message–Data Raw Data (RPS11)

Supported All with Option 400

This softkey assigns message data raw data to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Page M-251

Remarks The message data raw data signal can be assigned to numerous different output connectors/pins. The **(RPS11)** designator refers to the remote SCPI command that corresponds to this softkey.

Message–Data Raw Data Clock (RPS12)

Supported All with Option 400

This softkey assigns the message data raw data clock to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Page M-251

Remarks The message data raw data clock can be assigned to numerous different output connectors/pins. The **(RPS12)** designator refers to the remote SCPI command that corresponds to this softkey.

Message Pulse (RPS22)

Supported All with Option 400

This softkey assigns message pulse to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Page M-251

Remarks The message pulse can be assigned to different output connectors/pins.

Message Type

Supported All with Option 401

This field displays the current message type value for the forward synchronization channel. The message types are displayed in hexadecimal notation. The message synchronizes the pilot PN sequence offset with the even second clock. To change the message type, highlight the Message Type field, press the **Edit Item** softkey and enter a new value.

Preset 01

Range 00–FF

Location Page M-50

Remarks None

Meter Address

Supported All

This softkey enables you to select the external power meter GPIB address for use during the user flatness calibration.

Preset N/A

Range 0–30

Location Page M-5

Remarks The meter address is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

Meter Channel A B

Supported All

Use this softkey to toggle external power meter monitoring between channel A and channel B.

A The external power meter is instructed to monitor channel A for input.

B The external power meter is instructed to monitor channel B for input.

Preset N/A

Range N/A

Location Page M-5

Remarks This softkey is only available when using external power meters that have two channels.

The power meter channel selection is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

Meter Timeout

Supported All

This softkey enables you to select the remote timeout length of the external power meter during user flatness calibration.

Preset N/A

Range 1.0 ms–100.0 s

Location Page M-5

Remarks The meter timeout setting is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

MFCDMA

Supported All

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

Preset N/A

Range N/A

Location Page M-224

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

MFWCDMA

Supported All

Press this softkey to set the current catalog type to multicarrier forward link CDMA (MFWCDMA) and display the catalog of MFWCDMA files.

Preset N/A

Range N/A

Location Page M-224

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

Mirror Table

Supported All with Option 001 or 002

Use this softkey to mirror the FIR table entries such that the table doubles in size and the values in the top half of the table are duplicated in the bottom half of the table in reverse order.

Preset N/A

Range N/A

Location Pages M-18, M-29, M-38, M-45, M-51, M-61, M-68, M-99, M-111, M-127, M-143, M-159, M-175, M-191, M-207, M-236, M-242, M-252

Remarks None

Mkr 2 To RF Blank Off On

Supported All

This softkey enables you to select the operating state of the RF blanking function.

Off When you select Off, RF blanking is turned off when marker 2 is set low.

On When you select On, RF blanking is turned on when marker 2 is set low.

Preset Off

Range N/A

Location Page M-81

Remarks None

Mobile Setup

Supported All with Option 401

Use this softkey to access the table editor from which you can select and modify the parameters of the mobile station. Highlight the field you want to change and press the **Edit Item** key.

Preset N/A

Range N/A

Location Page M-48

Remarks This softkey is available for the reverse link only.

Mod Index

Supported All with Option 406

This softkey enables you to set the ratio of peak-to-peak frequency deviation to the bit rate for a Bluetooth signal.

Preset 0.315

Range 0.250–0.400

Location Page M-226

Remarks None

Mod Status Info Off On

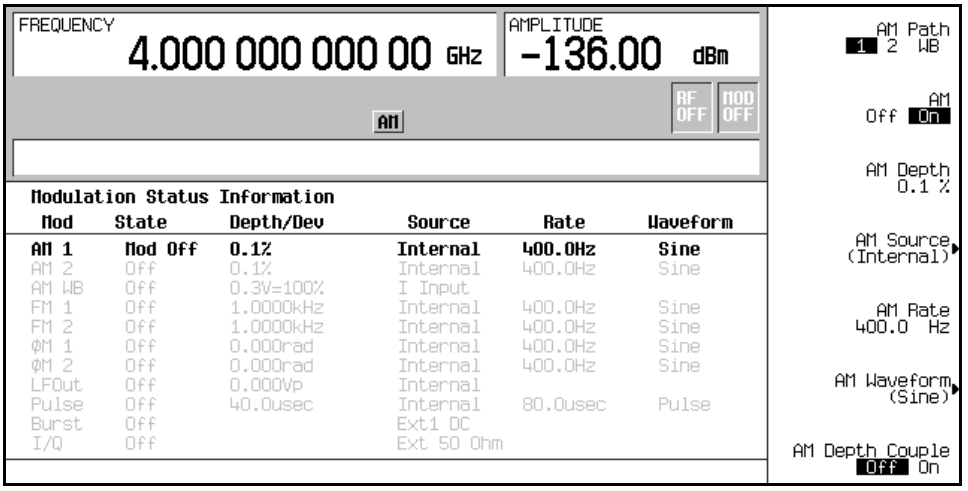
Supported All

This softkey turns the Modulation Status Information listing on or off.

On — When the modulation status is set to on, modulation information is displayed when you access one of the modulation menus, for example AM as shown in Figure 2 on page 365.

Off — When the modulation status is set to off, information about the status of the modulation, is not displayed.

Figure 2 Modulation Status Information



Preset On

Range N/A

Location Page M-222

Remarks None

Mode

Supported All

Use this hardkey to access a menu of modulation formats.

Preset N/A

Range N/A

Location Pages M-13, M-54, M-91, M-102, M-227

Remarks None

Mode 1 Optimize <10 kHz Offset

Supported All without UNJ

Use this softkey to set the phase-lock loop bandwidth to optimize phase noise for offsets below 10 kHz.

Preset N/A

Range N/A

Location Page M-86

Remarks None

Mode 2 Optimize >10 kHz Offset

Supported All without UNJ

Use this softkey to set the phase-lock loop bandwidth to optimize phase noise for offsets above 10 kHz.

Preset N/A

Range N/A

Location Page M-86

Remarks None

Modify All Scramble Codes

Supported All with Option 400

This softkey enables you to set the scramble code field for all channels to the same value.

Preset N/A

Range N/A

Location Page M-232

Remarks None

Modify License Key

Supported All

Press this softkey to enter the license key for the highlighted software option. Software options are linked to specific hardware options that must be installed before the software option is valid. Adding new software options requires the use of a license key provided by Agilent Technologies at the time of purchase. Once the license key is entered, the software option will be enabled when you press the **Proceed with Reconfiguration** softkey.

Preset N/A

Range N/A

Location Page M-223

Remarks If you enable an option that does not have the required hardware installed, the menus for that option will be activated but the option cannot operate, regardless of what the menus may indicate.

Modify Standard

Supported All with Option 402

This softkey accesses a menu of choices that enables you to modify the following aspects of the standard transmission:

- filter characteristics (including user-defined FIR filters)
- symbol rate
- modulation type (including user-defined modulations)
- burst shape characteristics (rising edge time and delay; falling edge time and delay)
- phase polarity

Preset N/A

Range N/A

Location Pages M-103, M-118, M-134, M-150, M-166, M-182, M-198

Remarks None

Modulation Catalog Types

Supported All

Press this softkey to reveal a menu of real time I/Q modulation file types that can be selected.

Preset N/A

Range N/A

Location Page M-223

Remarks None

Modulation Type

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can select predefined or custom modulation types, create user-defined I/Q and FSK modulations, or restore the default modulation type.

Preset N/A

Range N/A

Location Pages M-56, M-64, M-105, M-120, M-136, M-152, M-168, M-184, M-200

Remarks None

Modulator Atten (nnn dB) Manual Auto

Supported All

This softkey toggles the attenuation mode of the internal I/Q modulator between manual and automatic.

Manual — In the manual mode, you can manually set the attenuation level of the I/Q modulator. A setting of 0.00 dB will result in 100 percent signal power, while a setting of 40.00 dB will result in 0.01 percent signal power.

Auto — In the automatic mode, the attenuation level is automatically set to a factory-determined value for best performance, based on the digital modulation settings.

Preset Auto

Range *Manual:* 0.00–40.00 dB
Auto: N/A

Location Page M-94

Remarks None

Msg Ctrl

Supported All with Options 400, 403

This softkey is used to select the physical random access channel (PRACH) message control part as the reference for determining the power level for the Eb/No calculation. The selection is displayed in the `E Ref` field of the uplink physical random access channel PRACH AWGN table editor.

This selection is coupled to the `data rate, C/N value (dB)` field, the `C Power` field, and the `N Power` field and can change the values displayed by these fields.

Preset N/A

Range N/A

Location Page M-250

Remarks None

Msg Data

Supported All with Options 400, 403

This softkey is used to select the physical random access channel (PRACH) data part as the reference for determining the power level for the Eb/No calculation. The selection is displayed in the `E Ref` field of the uplink physical random access channel PRACH AWGN table editor.

This selection is coupled to the data rate, `C/N value (dB)` field, the `C Power` field, and the `N Power` field and can change the values displayed by these fields.

Preset N/A

Range N/A

Location Page M-250

Remarks None

Msg Pwr

Supported All with Option 400

This field displays the total message power for the physical random access channel (PRACH).

Preset –136.00 dBm

Range –136.00 to 20.00 dBm

Location Page M-48

Remarks The actual RF output is limited to the specifications of the signal generator although the value can be entered up to 20 dBm.

MSK

Supported All with Option 001 or 002

Use this softkey to select minimum shift keying (MSK) modulation for modulating a continuous stream of the selected data pattern. MSK modulation transmits data at the rate of 1 bit per symbol.

The current phase deviation value appears under the **MSK** softkey in the Modulation Type menu.

Preset N/A

Range N/A

Location Pages M-56, M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

MTONE

Supported All

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

Preset N/A

Range N/A

Location Page M-224

Remarks None

Multicarrier Define

Supported All with Option 400/401

Use this softkey to access the multicarrier setup table, which is a table editor for defining custom digital modulation, IS-95A, CDMA2000, or W-CDMA multicarrier signals.

Preset N/A

Range N/A

Location Page M-14, M-23, M-228

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

Multicarrier Off On

Supported All with Option 400/401

This softkey toggles the operating state of the multicarrier mode.

For information on multicarrier states, see the *User's Guide*.

Off — The selected modulation format has a single carrier in this state.

On — The multicarrier mode is enabled in this state. You can select a pre-defined IS-95A, CDMA2000, W-CDMA, or user-defined custom multicarrier signal.

Preset Off

Range N/A

Location Pages M-14, M-23, M-55, M-226

Remarks For CDMA2000, the **Multicarrier Off On** softkey and related functions are accessible only when using the forward link setup.

For W-CDMA, the **Multicarrier Off On** softkey and related functions are accessible only when using the downlink setup.

Multiframe Channel

Supported All with Option 402

Use this softkey to display a menu of softkeys used to configure the data field (E) with a multiframe pseudorandom bit pattern.

Preset N/A

Range N/A

Location Pages M-106, M-121

Remarks None

Multiple Channels

Supported All with Option 400

This softkey displays a menu enabling you to set up one or more of the same type channels for insertion into the Edit Channel Setup table editor. After you have set the channel parameters and entered how many times you want the channel duplicated, press the **Done** softkey to insert the information into the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Page M-237

Remarks Multiple channels are only available for downlink.

Multitone

Supported All with Option 001 or 002

This softkey accesses a menu of softkeys that enables you to create multitone signals using the dual arbitrary waveform generator. Within these menus, you will be able to create, select, and/or modify the waveform.

Preset N/A

Range N/A

Location Page M-92, M-91

Remarks None

Multitone Off On

Supported All with Option 001 or 002

This softkey sets the operating state for the multitone function of the dual arbitrary waveform generator.

Off When you select Off, the multitone signal is turned off.

On When you select On, the multitone signal is turned on.

Preset Off

Range N/A

Location Page M-92

Remarks None

Mux

Supported All

Use this hardkey to access a menu from which you can configure the I/Q multiplexer.

Preset N/A

Range N/A

Location Page M-94

Remarks None

N

N Power

Supported All with Option 400

This field displays the noise carrier power of the RF signal. This value is calculated from the RF power level. 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 dB. The C power is calculated as $10^{(-22.97/10)}$ = 5.05 milliwatts. In this example the N power displayed on the signal generator is –25.97 dB. The power calculation, shown previously, results in 2.53 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 × 1.96 + 6.67 is 10 milliwatts (approximately) and 10 $\log_{10}$.0100 = –20 dBm; the signal generators RF power.

Preset *Downlink*: –140.712917 dBm

Uplink: –138.957537 dBm

Uplink (PRACH): –138.935002 dBm

Range N/A

Location Pages M-241, M-246

Remarks None

NADC

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 NADC for Custom Digital Modulations

Use this softkey to select a predefined North American Digital Cellular (NADC) personality for the digital modulation format.

Preset N/A

Range N/A

Location Page M-55

Remarks None

Accessing the NADC 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 (where the data bits are located in fields defined by the NADC protocol), or a sequence that can be output one or more times.

Preset N/A

Range N/A

Location Page M-102, M-134

Remarks None

NADC Base

Supported All

This softkey selects Standard Base as the frequency band for NADC. The output frequency depends on both the channel band and channel number selections.

Preset *Channel*: 1

Frequency: 870.030 MHz

Range *Channels*: 1–799, 990–1023

Frequency: 870.030–893.970 MHz, 869.010–870.000 MHz

Location Page M-86

Remarks None

NADC Mobile

Supported All

This softkey selects Standard Mobile as the frequency band for NADC. The output frequency depends on both the channel band and channel number selections.

Preset *Channel*: 1

Frequency: 825.030 MHz

Range *Channels*: 1–799, 990–1023

Frequency: 825.030–848.970 MHz, 824.010–825.000 MHz

Location Page M-87

Remarks None

NADC Off On

Supported All with Option 402

Use this softkey to set the operating state of the North American Digital Cellular (NADC) communications format.

Off When you select Off, the NADC format is turned off.

On When you select On, this sets up the internal hardware to generate a signal that follows the NADC format. The internal I/Q modulator generates π/4DQPSK digital modulation and the NADC 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 Page M-134

Remarks Setting the **NADC 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.

Name And Store

Supported All

This softkey enables you to store and rename (if necessary) the highlighted sequence.

Preset N/A

Range N/A

Location Page M-80

Remarks None

Network ID

Supported All with Option 401

This field displays the current network identification number for the base station. The network identification number is displayed in hexadecimal notation. To change the network identification number, highlight the `Network ID` field, press the **Edit Item** softkey and enter a new value.

Preset 0001

Range 0000–FFFF

Location Page M-50

Remarks None

No Limits

Supported All with Option 300

This softkey enables you to set the pass/fail reporting function to use no limits. Therefore, no pass/fail result is displayed.

Preset N/A

Range N/A

Location Page M-10, M-11

Remarks None

No Thresholds

Supported All with Option UN7

This softkey applies none of the stop-on-event criteria and enables the measurement to run for the selected total number of bits.

Preset N/A

Range N/A

Location Page M-9, M-10, M-11

Remarks None

Noise

Supported All

Use this softkey to select noise as the modulation waveform.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85, M-90

Remarks The selected waveform applies to the path configuration you have selected. In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator.

Noise is generated as a peak to peak value; the RMS value is about 80.0% of the displayed value.

Noise Off On

Supported All with Options 401, 403

Use this softkey to toggle the operating state of the calibrated noise generator.

Off — In this state, noise is not added to the active carrier.

On — In this state, the calibrated noise generator adds pseudorandom noise to the active carrier for sensitivity and selectivity measurements and bit error rate testing purposes.

Preset Off

Range N/A

Location Pages M-42, M-48

Remarks The bandwidth for noise equals two times the chip rate.

For the forward link, turning noise on will cause the even second delay value to be adjusted to include a delay for noise. For the reverse link, turning noise on will cause the even second delay and trigger advance values to be adjusted.

Noise Seed

Supported All with Option 406

This softkey enables you to set the value of the noise seed for the Bluetooth additive white Gaussian noise (AWGN) waveform generator. A change in the seed value changes

the noise pattern.

Preset 1

Range 1–65535

Location Page M-226

Remarks None

Noise Seed Fixed Random

Supported All with Option 403

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

Fixed — When you select a Fixed value, the same noise seed will be used in order to generate the same waveforms each time.

Random — When you select Random, the noise seed will change in order to generate a waveform with different random data each time.

Preset Fixed

Range N/A

Location Page M-12

Remarks None

Noise Setup

Supported All with Options 401, 403

Use this softkey to access a menu from which you can configure and enable the calibrated noise personality.

Preset N/A

Range N/A

Location Pages M-42, M-48

Remarks None

None

Supported All with Option 001 or 002

In the Predefined Mode Menu

In this menu, use the **None** softkey to set up **Custom** based on no particular format.

Preset N/A

Range N/A

Location Page M-67

Remarks None

In the Window Menu

In this menu, use the **None** softkey to select no windowing, which optimizes the filter for maximum passband performance (EVM).

Preset N/A

Range N/A

Location Pages M-22, M-32, M-41, M-47, M-53, M-63, M-77, M-101, M-116, M-132, M-148, M-164, M-180, M-196, M-212

Remarks None

In the W-CDMA Menu

Supported All with Option 400

In the TrCH Menu

No encoder is used for coding transport channels. No error protection coding is applied to the selected channel data bits.

Preset N/A

Range N/A

Location This key is accessed by editing the `Coding` field. Refer to "Coding" on page 130 for more information.

Remarks None

In the Window Menu

No windowing function is used for the selected filter. The filter is optimized for

maximum passband performance: error vector magnitude (EVM).

Preset N/A

Range N/A

Location Pages M-239, M-244, M-254

Remarks None

NONE (RPS0)

Supported All with Option 400

This softkey assigns no signal to the selected rear panel AUX I/O output connector.

Preset N/A

Range N/A

Location Pages M-247, M-251

Remarks The **NONE** softkey, designating no signal, can be assigned to numerous different output connectors/pins. The **(RPS0)** designator refers to the remote SCPI command that corresponds to this softkey.

Normal

In the CDMA Menu

Supported All with Option 401

Use this softkey to select the standard phase polarity for a signal. In this mode, the I and Q signals are not altered by the phase polarity function.

Preset N/A

Range N/A

Location This key is accessed by editing the `ScrCode Type` field. Refer to "Phase Polarity" on page 409 for more information.

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Use this softkey to select normal as the timeslot type for the active timeslot. This

timeslot type applies to both Enhanced Data Rates for GSM Evolution (EDGE) and Global System for Mobile Communications (GSM).

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

Preset N/A

Range N/A

Location Pages M-104, M-119

Remarks None

In the W-CDMA Menu

Supported All with Option 400

This softkey selects a scramble code between 0 and 8191 for the downlink ChipARB physical channel.

Preset N/A

Range N/A

Location This key is accessed by editing the `ScrCode Type` field. Refer to "ScrCode Type" on page 494 for more information.

Remarks None

Normal All

Supported All with Option 402

Use this softkey to select normal as the timeslot type for all timeslots. This timeslot type applies to both Enhanced Data Rates for GSM Evolution (EDGE) and Global System for Mobile Communications (GSM).

When you select **Normal All**, the visual representation of the timeslot pattern updates.

Preset N/A

Range N/A

Location Pages M-104, M-119

Remarks None

Num of Blk

Supported All with Option 400

This field displays the number of coded blocks set for each transport channel selected for the downlink or uplink physical channel. The total input data in one transport channel is the number of blocks multiplied by the block size.

Preset 1 (for all transport channels)

Range 0 to 4095
Downlink, in Fixed positioning: 0 or equal to block set size

Location Page M-249

Remarks The total input data for one RACH is block size (BLKsize) multiplied by the number of blocks (NBLock).

Number of Bits

Supported All with Option 001 or 002

Use this softkey to specify the number of bits that will be affected by the current operation. Press the **Enter** softkey to apply the specified value.

Preset 1

Range N/A

Location Pages M-69, M-75, M-97, M-100, M-110, M-115, M-125, M-126, M-131, M-141, M-142, M-147, M-157, M-158, M-163, M-173, M-174, M-179, M-189, M-190, M-195, M-205, M-206, M-211

Remarks None

Number of PRACH

Supported All with Option 400

This field, in the Uplink Physical Type:PRACH Timing menu, displays the number of physical random access channel (PRACH) pattern repetitions to generate. The pattern will be repeated after the PRACH start trigger has been received.

Preset: 1 (for all transport channels)

Range: 0–2147447836 or Infinity

Location Page M-253

Remarks If infinity is selected, the pattern will repeat continuously.

Number of Pre

Supported All with Option 400

This field is one of the selections available for the Uplink Physical Type:PRACH Power menu and indicates the number of preambles in the physical random access channel (PRACH). The field displays the same number as that displayed in the Uplink Physical Type:PRACH Timing menu.

Preset: 1 (for all transport channels)

Range: 1–8388607

Location Page M-253

Remarks If infinity is selected, the preamble will repeat continuously.

Number of Preamble

Supported All with Option 400

This field is one of the selections available for the Uplink Physical Type:PRACH Timing menu and displays the number of preambles to repeat in the physical random access channel (PRACH) pattern.

Preset: 1 (for all transport channels)

Range: 1–8388607

Location Page M-253

Remarks If infinity is selected, the preamble will repeat continuously.

Number of Tones

Supported All with Option 001 or 002

This softkey enables you to set the number of tones in the multitone table editor. This is done as part of initializing the table editor.

Preset 10

Range 2–64

Location Page M-92

Remarks None

NVARB Catalog Types

Supported All

This softkey accesses a menu from which you can select a non-volatile ARB waveform file type.

Preset N/A

Range N/A

Location Page M-224

Remarks None

NVMKR

Supported All

This softkey specifies that only non-volatile ARB marker file types be listed in the catalog of files.

Preset N/A

Range N/A

Location Page M-224

Remarks None

NVWFM

Supported All

This softkey specifies that only non-volatile ARB waveform file types be listed in the catalog of files.

Preset N/A

Range N/A

Location Page M-224

Remarks None

Nyquist

Supported All with Option 001 or 002

This softkey selects a Nyquist (raised cosine) pre-modulation filter from either the Select (filter) menu or the Load Default FIR menu.

In the Select (filter) Menu

In this menu, use the **Nyquist** softkey to select this FIR filter for use in a modulation setup.

Preset N/A

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-68, M-96, M-101, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-248

Remarks None

In the Load Default FIR Menu

In this menu, use the **Nyquist** softkey to access a menu from which you can change the filter alpha value, specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a Nyquist filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

Preset N/A

Range N/A

Location Page M-21, M-32, M-41, M-46, M-52, M-60, M-62, M-70, M-77 M-116, M-132, M-148, M-164, M-180, M-196, M-212, M-238, M-244, M-254

Remarks None

O

OCNS

Supported All with Option 400

This softkey selects an Orthogonal Channel Noise Source (OCNS) for insertion into the Edit Channel Setup table editor. All symbols inserted into the channel are random values, rather than specific bit fields. After you have selected the channel, a menu of symbol rates will be displayed. Pressing the **Symbol Rate** softkey inserts the OCNS into the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Page M-237

Remarks This softkey is only available for downlink.

Off

In the Standard Menu

Supported All

In the Retrigger Mode Menu Use this softkey to disable retriggering for single trigger operation. In this state, triggers are ignored if they occur while a waveform is playing.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-78

Remarks None

In the Sweep Menu

Use this softkey to turn off all sweep functions. The output signal is then set according to the current frequency and amplitude settings defined by the **Frequency** and **Amplitude** hardkeys.

Preset N/A

Range N/A

Location Page M-217

Remarks None

In the Baseband Generator Menu

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 turn off the Source 1 signal routing function. When this softkey is selected, no signals are routed to the internal I/Q modulator.

Preset N/A

Range N/A

Location Page M-94

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

In the I/Q Out menu Use this softkey to turn off the I/Q Out signal routing function. When this softkey is selected, no signals are routed to the rear panel I and Q output connectors.

Preset N/A

Range N/A

Location Page M-94

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

In the W-CDMA Menu

Supported All with Option 400

This softkey 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. The **Off** softkey prevents the message part of the physical random access channel (PRACH) being played. Only preambles are transmitted.

Preset N/A

Range N/A

Location Page M-231

Remarks None

Offset Q Off On

Supported All with Option 001 or 002

Press this softkey to change the operational state of the user I/Q offset Q.

Off — When this softkey is set to Off, the Q output is not delayed from the I output.

On — When this softkey is set to On, the Q output is delayed by 1/2 symbol from the I output.

Preset N/A

Range N/A

Location Pages M-70, M-112, M-128, M-144, M-160, M-176, M-192, M-208

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

On

In the Baseband Generator Menu

Supported All with Option 001 or 002

Use this softkey to enable retriggering for single trigger operation. In this state, the waveform will retrigger at the end and play one more time if a trigger occurs while the waveform is playing.

Preset N/A

Range N/A

Location Pages M-58, M-78

Remarks Retriggers do not accumulate. If several triggers are received during a waveform, it will only be replayed only once.

In the W-CDMA Menu

Supported All with Option 400

This softkey 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. The **On** softkey enables the message part of the physical random access channel (PRACH). The message part is generated after the preambles, specified in by the `Num of Preamble` field, have played.

Preset N/A

Range N/A

Location Page M-231

Remarks Action is initiated after pressing the **Apply Channel Setup** softkey.

On/Off

Supported All with Option 400

This field, in the downlink orthogonal channel noise simulator (OCNS) and dedicated physical channel (DPCH), indicates the operating state of the channel.

Preset Off

Range N/A

Location PAge M-241

Remarks None

Operating Mode

Supported All with Option 401

Use this softkey to access a menu from which you can select a predefined CDMA-standard reverse link channel configuration for real-time signal generation.

Preset RadioConfig 3/4 Traffic

Range N/A

Location Page M-50

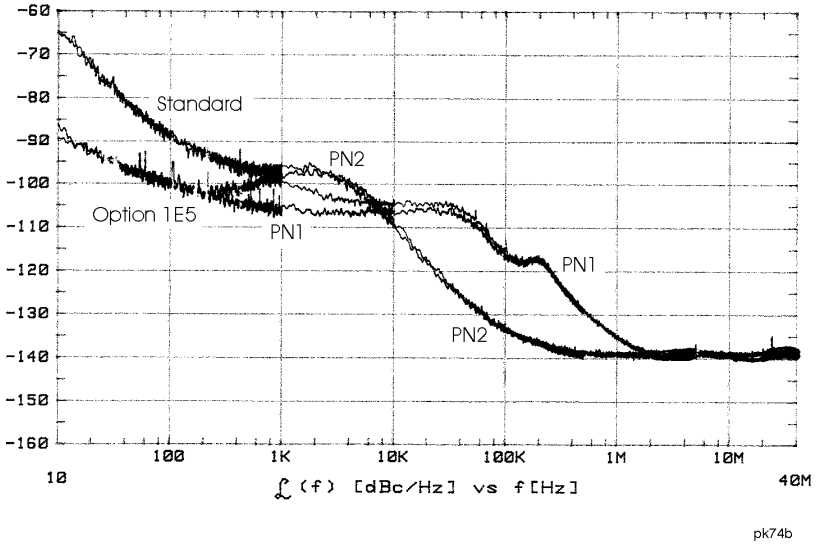
Remarks None

Optimize Φ Noise

Supported All without UNJ

Use this softkey to access a menu for optimizing phase noise. In this menu, you can set the phase-lock loop bandwidth to optimize phase noise for offsets above or below 10 kHz, as shown in Figure 3 on page 391.

Figure 3 Phase Noise Performance Mode 1 Versus Mode 2



The selected phase noise optimization mode is displayed under the **Optimize Φ Noise** softkey.

Preset Mode 2

Range N/A

Location Page M-86

Remarks None

Optimize ACP ADJ ALT

Supported All with Option 400

Use this softkey to optimize the power of the selected channel.

ADJ The ADJ selection optimizes the adjacent channel power.

ALT The ALT selection optimizes the alternate channel power.

Preset ADJ

Range N/A

Location Page M-228

Remarks This softkey is only available for a single DPCH downlink Arb W-CDMA channel.

Optimize FIR For EVM ACP

Supported All with Option 001 or 002

Use this softkey to optimize the filter for minimized error vector magnitude (EVM) or for minimized adjacent channel power (ACP).

EVM The EVM selection provides the most ideal passband.

ACP The ACP selection improves stopband rejection.

Preset *Custom:* ACP
Other formats: EVM

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-64, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240, M-248

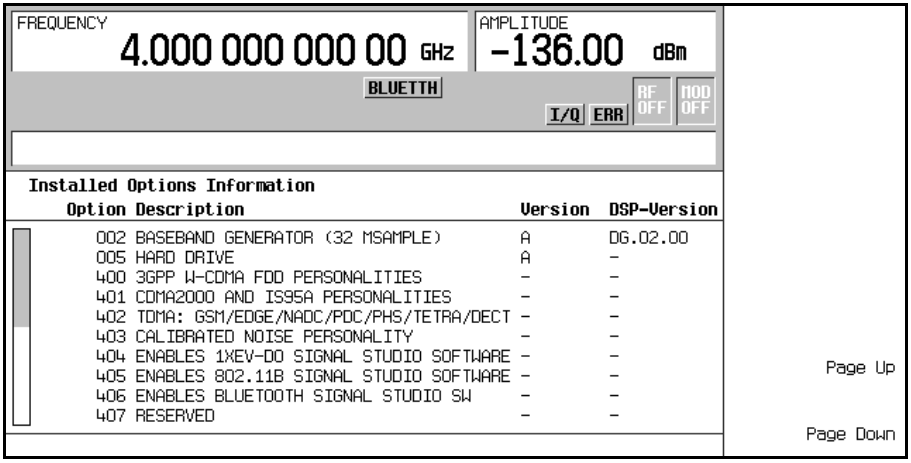
Remarks This feature applies only to root Nyquist, and Nyquist filters; the softkey is grayed out when any other filter is selected.

Options Info

Supported All

Use this softkey to display all available options and the associated hardware. Refer to Figure 4 on page 393.

Figure 4 Installed Option Information



Option — The option number

Option Version — An alphabetic representation of the option revision

DSP Version — Version number of additional DSP code used with some hardware options

Preset N/A

Range N/A

Location Page M-222

Remarks None

OQPSK

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 OQPSK Modulation

Use this softkey to select offset quadrature phase shift keying (OQPSK) for modulating a continuous stream of the selected data pattern. OQPSK modulation transmits data at the rate of 2 bits per symbol.

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

Preset N/A

Range N/A

Location Pages M-56, M-72, M-114, M-130, M-146, M-162, M-178, M-194, M-210

Remarks None

Loading a OQPSK I/Q Map into the Table Editor

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

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

Other Patterns

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can select a data pattern. Each pattern contains an equal number of ones and zeroes. The selected pattern will be repeated as necessary to fill the data area.

Preset N/A

Range N/A

Location Pages M-64, M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

Output Signal Setup

Supported All with Option 400

This softkey is one of the menu selections from the Rear Panel Config Setup menu and is used to configure the rear panel signal routing for the uplink DPCH or PRACH.

Preset N/A

Range N/A

Location Page M-247

Remarks None

Oversample Ratio

This softkey occurs in two different situations, enabling you to set the oversample ratio for either a custom modulation or a custom FIR filter.

In the CDMA Define Menu

Supported All with Option 401

This softkey enables you to set the oversample ratio (number of filter coefficients per symbol) for CDMA modulation. Acceptable values range from 2 through 8. Using larger oversample ratios results in more completely filtered images but also uses up more waveform memory.

The upper limit of the oversample ratio is adjusted based on the waveform length and chip rate. The maximum oversample ratio is the smaller of the following three values:

- 40 Mcps divided by the Chip Rate
- 8
- 32 divided by the Waveform Length (Waveform Length is the number of CDMA short codes)

Preset 5

Range 2–8 (upper limit may vary–see remarks)

Location Page M-15

Remarks None

In the Define User FIR Menu

Supported All with Option 001 or 002

This softkey enables you to set the oversample ratio (number of filter coefficients per symbol) to be applied to a custom FIR filter design. Acceptable values range from 1 through 32, where the maximum combination of symbols and oversample ratio is 1024 coefficients. An FIR filter selected for use in CDMA, however, cannot have more than 512 coefficients so the number of symbols and the oversample ratio should be selected accordingly.

Generally, the higher the symbol rate, the lower the oversample ratio of the resampled

filter. Table 1 describes the signal generator's maximum oversample ratio capabilities for each real-time modulation type:

Table 1 Maximum Oversample Ratio Capabilities

Modulation Type	BPS	Maximum Oversample Ratio
BPSK MSK 2-LVL FSK	1	16
QPSK IS95 QPSK ISAT QPSK OQPSK IS95 OQPSK	2	16
8PSK D8PSK 8-LVL FSK	3	15
16PSK 16QAM	4	16
32QAM	5	15
64QAM	6	15
256QAM	8	16

Preset N/A

Range 1–32

Location Pages M-18, M-29, M-38, M-45, M-51 M-61, M-68, M-99, M-111, M-127, M-143, M-159, M-175, M-191, M-207, M-236, M-242, M-252

Remarks When the filter is selected for use, the signal generator may resample the filter with an oversample ratio between 2 and 16, based on the number of symbols, the symbol rate, and the number of bits per symbol of the modulation type.

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

OVSF Channelization Code

Supported All with Option 400

This field displays the orthogonal variable spreading factor (OVSF) code used by the CPICH.

Preset N/A

Range N/A

Location Page M-241

Remarks The length of the OVSF code, also known as the spreading factor (SF), is fixed to 0 and is not user defined. The other channels use channel code to refer to the OVSF code. for example the AICH.

P

P

Supported All with Option 402

Use this softkey to make the preamble P field the active function. The current value appears in the P 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; a PP value of 5555 and an RFP value of AAAA.

Preset: AAAA

Range N/A

Location Page M-183

Remarks None

Packet (DH1)

Supported All with Option 406

This softkey accesses the packet setup menu. A packet is a single bundle of information transmitted within a piconet. A DH1 packet covers a single timeslot.

Preset N/A

Range N/A

Location Page M-226

Remarks None

Page Down

Supported All

This softkey enables you to move down in the display one page at a time.

Preset N/A

Range N/A

Location Page Down is located in the table editor menus and in the catalogs of files.

Remarks None

Page Up

Supported All

This softkey enables you to move up in the display one page at a time.

Preset N/A

Range N/A

Location Page Up is located in the table editor menus and in the catalogs of files.

Remarks None

Paging

Supported All with Option 401

Use this softkey to insert a paging channel into the current table editor.

Preset N/A

Range N/A

Location Page M-19, M-30

Remarks None

`Paging Indicator`

In the CDMA Menu

Supported All with Option 401

This field selects which paging slots to enable for the quick paging channel. The slots are 80 ms in duration and start 20 ms before the zero-offset pilot PN sequence. To change the number of enabled paging slots, highlight the `Paging Indicator` field, press the **Edit Item** softkey and enter a new value.

Preset 0

Range *2.4 kbps data rate:* 0–190; 191 enables all slots; –1 disables all slots
4.8 kbps data rate: 0–382; 383 enables all slots; –1 disables all slots

Location Page M-44

Remarks None

In the W-CDMA Menu

Supported All with Option 400

This field displays the number of paging indicators per frame. This field is displayed for the paging indicator channel (PICH) and is used to alert the user equipment (UE) of a page message.

Preset 144

Range N/A

Location Page M-241

Remarks This field is not user-definable. The value cannot be changed and the field is grayed-out. The user may transmit user defined paging indicators by selecting data type User File and loading the desired data file into the signal generator.

Pass Amplitude

Supported All with Option 300

This softkey enables you to set the sensitivity search threshold amplitude value for the pass/fail evaluation.

Preset *GSM*: –104.00 dBm

EDGE: DL MCS5 –101.0 dBm
DL MCS9 –91.5 dBm
Uncoded –95.0 dBm

Range 20.0 dBm to –136.0 dBm

Location Page M-7, M-8, M-11

Remarks None

Pass/Fail Limits

Supported All with Option UN7

This softkey enables you to set the limit value of the pass/fail judgement function.

Preset 0.01

Range 0.0000001–1.00

Location Page M-9, M-10, M-11

Remarks None

Pass/Fail Off On

Supported All with Option UN7

Use this softkey to set the operating state of the pass/fail judgement function.

Off This choice disables the pass/fail function.

On This choice causes the pass/fail judgement function to compare a BER measurement result with the threshold level defined by the Pass/Fail Limits function, and judges whether that BER measurement has passed or failed.

Preset: Off

Range N/A

Location Page M-9

Remarks None

Pass/Fail Update

Supported All with Option UN7

This softkey accesses the pass/fail judgement update mode menu. You can choose the cycle end mode where either a pass or fail judgement is made for each BER measurement result or the fail hold mode where the fail judgement is made once a failure has been found during one loop of BER repeat measurements.

Preset: Cycle End

Range N/A

Location Page M-9

Remarks None

Patt Trig In 1

Supported All with Option 001 or 002

This softkey enables you to trigger the internal digital modulation pattern generator with a TTL/CMOS signal applied to the PATT TRIG IN rear panel BNC connector.

Preset N/A

Range N/A

Location Pages M-17, M-26 M-35 M-58, M-73, M-78, M-105, M-120, M-136,

M-152, M-168, M-184, M-200, M-234

Remarks None

Patt Trig In 2

Supported All with Option 001 or 002

This softkey enables you to trigger the internal digital modulation pattern generator with a signal applied to the AUX I/O rear panel D-connector. For a description of the AUX I/O rear panel D-connector, refer to the rear panel section of chapter 1 of the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-17, M-26 M-35 M-58, M-73, M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200, M-234

Remarks None

Pattern Trig In Polarity Neg Pos

Supported All with Option 001 or 002

This softkey selects the polarity of the TTL trigger signal at the signal generator's rear panel PATT TRIG IN connector.

Neg Selects the falling edge of the TTL signal.

Pos Selects the rising edge of the TTL signal.

Preset N/A

Range N/A

Location Page M-220

Remarks N/A

Pattern Trigger

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can choose between the continuous, single or gated triggering modes. The menu also contains a **Trigger Setup** softkey that enables you to adjust the trigger source, the continuous mode, and the gate active polarity.

Preset N/A

Range N/A

Location Pages M-67, M-103, M-118, M-134, M-150, M-166, M-182. M-198

Remarks The pattern trigger function is not available if you use either a PN data sequence, or an external data source.

Payload Data

Supported All with Option 406

This softkey accesses a menu from which you can select the payload data type. Payload data is the information that is carried in a packet. You can select from continuous PN9 (CPN9), truncated PN9 (TPN9), or create an 8-bit user defined pattern.

Preset TPN9

Range N/A

Location Page M-226

Remarks None

PCCPCH

Supported All with Option 400

This softkey selects a Primary Common Control Physical Channel (PCCPCH) for insertion into the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Pages M-234, M-237

Remarks This softkey is only available for downlink.

P–CCPCH

Supported All with Option 400

This softkey, in the downlink additive white gaussian noise (AWGN) channel, selects the primary common control physical channel (P–CCPCH) as the reference used to determine the Ec/No value.

Preset N/A

Range N/A

Location This key is accessed by editing the `Ec Ref` field. Refer to "Ec Ref" on page 218 for more information.

Remarks This softkey is also listed as a physical channel or as a channel block.

PCCPCH + SCH

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 downlink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks This softkey is only available for downlink.

PCCPCH + SCH + 1 DPCH

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 downlink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks This softkey is only available for downlink.

PCCPCH + SCH + 3 DPCH

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 downlink signals. After you have made this selection the Edit Channel Setup menu will display the signal parameters.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks This softkey is only available for downlink.

P Code Pwr

Supported All with Option 409

Use this softkey to set the P code power level, relative to the C/A code power level.

Preset –3.00 dB

Range –40.00 to 0.00 dB

Location Page M-96

Remarks This setting is normally used when the **Signal Format C/A P C/A+P** softkey is set to C/A+P.

PCS Base

Supported All

This softkey selects PCS 1900 Base as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

Preset *Channel*: 512

Frequency: 1.930 GHz

Range *Channels*: 512–810

Frequency: 1.930–1.989 GHz

Location Page M-86

Remarks None

PCS Mobile

Supported All

This softkey selects PCS 1900 Mobile as the channel band for GSM. The output frequency depends on both the channel band and channel number selections.

Preset *Channel*: 512

Frequency: 1.930 GHz

Range *Channels*: 512–810

Frequency: 1.850–1.909 GHz

Location Page M-87

Remarks None

PDC

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 PDC for Custom Digital Modulations

Use this softkey to select a predefined Personal Digital Cellular (PDC) personality for the digital modulation format.

Preset N/A

Range N/A

Location Page M-55

Remarks None

Accessing the PDC 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 (where the data bits are located in fields defined by the PDC protocol) or a sequence that can be output one or more times.

Preset N/A

Range N/A

Location Page M-102, M-150

Remarks None

PDC Bands

Supported All

Use this softkey to access a menu from which you can select the frequency bands for

PDC. The output frequency depends on both frequency band and channel selections.

Preset N/A

Range N/A

Location Pages M-86, M-87

Remarks None

PDC Off On

Supported All with Option 402

Use this softkey to set the operating state of the Personal Digital Cellular (PDC) format. Setting **PDC Off On** to On sets up the internal hardware to generate a signal that follows the PDC format.

Off — When you select Off, the PDC format is turned off.

On — When you select On, this sets up the internal hardware to generate a signal that follows the PDC format. The internal I/Q modulator generates π/4DQPSK digital modulation and the PDC 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 Page M-150

Remarks Setting the **PDC 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.

Performance Req

Supported All with Option 400

This softkey, in the downlink Test Setup menu, selects a performance requirement for the selected physical channel. This is a static propagation condition that is determined by the maximum block error rate BLER allowed when the receiver input signal is at a specified E_b/N_o limit.

Preset N/A

Range N/A

Location Page M-241

Remarks None

Permuted ESN

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 permuted electronic serial number used to communicate with a particular mobile.

Preset 00000000

Range 00000000–FFFFFFFF

Location This key is accessed by editing the `LCMask` field. Refer to "LCMask" on page 338 for more information.

Remarks None

P-GSM Base

Supported All

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

Preset *Channel*: 1

Frequency: 935.2 MHz

Range *Channel*: 1–124

Frequency: 935.2–959.8 MHz

Location Page M-86

Remarks None

P-GSM Mobile

Supported All

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

Preset *Channel*: 1

Frequency: 890.2 MHz

Range *Channel*: 1–124

Frequency: 890.2–913.8 MHz

Location Page M-87

Remarks None

Phase Dev

Supported All with Option 001 or 002

Use this softkey to set the phase deviation for minimum shift keying (MSK) modulation.

The current phase deviation value appears under the **MSK** softkey in the Modulation Type menu.

Preset 90°

Range 0°–100°

Location Pages M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Phase Polarity

Supported All with Option 401

This field displays the current I/Q signal phase polarity. To change the field selection, highlight the Phase Polarity field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset Normal

Range N/A

Location Page M-42

Remarks None

Phase Polarity Normal Invert

Supported All with Option 001 or 002

Use this softkey to invert the internal Q signal, reversing the rotation direction of the phase modulation vector.

Normal	When you choose Normal, the phase relationship between the I and Q signals is not altered by the phase polarity function.
Invert	When you choose Invert, the in-phase component lags the quadrature-phase component by 90° in the resulting modulation. Inverted phase polarity is required by some radio standards, and it is useful for lower sideband mixing applications. The inverted selection also applies to the I, I-bar, Q, and Q-bar output signals.

Preset Normal

Range N/A

Location Pages M-67, M-105, M-120, M-136, M-152, M-168, M-184, M-200, M-240, M-245

Remarks None

Phase Ref Set

Supported All

This softkey enables you to define the current relative phase of the RF output signal as zero. Then all phase parameters are set relative to this zero reference.

Preset N/A

Range N/A

Location Page M-86

Remarks None

PHS

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 PHS for Custom Digital Modulations

Use this softkey to select a predefined Personal Handy Phone System (PHS) personality for the digital modulation format.

Preset N/A

Range N/A

Location Page M-55

Remarks None

Accessing the PHS 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 (where the data bits are located in fields defined by the PHS protocol) or a sequence that can be output one or more times.

Preset N/A

Range N/A

Location Page M-102, M-166

Remarks None

PHS Off On

Supported All with Option 402

Use this softkey to set the operating state of the Personal Handy Phone System (PHS) format.

Off — When you select Off, the PHS format is turned off.

On — When you select On, sets up the internal hardware to generate the structure that follows the PHS format.The internal I/Q modulator generates π/4DQPSK digital modulation and the PHS 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 Page M-166

Remarks Setting the **PHS 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.

PHS Standard

Supported All

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

Preset *Channel*: 1

Frequency: 1.895 GHz

Range *Channels*: 1–82, 251–255

Frequency: 1.895–1.919 GHz, 1.893–1.894 GHz

Location Pages M-86, M-87

Remarks None

PhyCH Setup

Supported All with Option 400

This softkey displays a menu from which you can edit parameter fields and apply those parameters to the physical channel selected. The fields shown depend on the **PhyCH Type** selected.

Preset N/A

Range N/A

Location Pages M-241, M-246, M-250

Remarks This softkey is available for uplink only.

PhyCH Type

Supported All with Option 400

This softkey displays a menu from which you can select available physical channel types.

Preset N/A

Range N/A

Location Pages M-246, M-250

Remarks None

Physical Channel

Supported All with Option 400

This softkey is always active unless the **Frequency** or **Amplitude** softkey is activated.Press the up/down arrow keys or rotate the front panel knob to select physical channel.

Preset N/A

Range N/A

Location Pages M-241, M-246

Remarks None

PI Bits

Supported All with Option 400

This field displays the number of bits in the paging indicator.

Preset: 288

Range N/A

Location Page M-241

Remarks The field is not user definable.

PICH

Supported All with Option 400

This softkey selects a Paging Indicator Channel (PICH) for insertion into the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Page M-237

Remarks This softkey is only available for downlink.

In the AWGN Channel

This softkey, in the downlink additive white gaussian noise (AWGN) channel, selects the paging indicator channel as reference used to determine the Ec/No value. Refer to "Ec/No value" on page 217 for more information.

Preset N/A

Range N/A

Location This key is accessed by editing the `Ec Ref` field. Refer to "Ec Ref" on page 218 for more information.

Remarks None

Pilot

Supported All with Option 401

This softkey appears in different situations, enabling you to either select the pilot channel as a setup, or insert a pilot channel into the channel setup table editor.

In the Setup Select and CDMA2000 Select Menus

Use this softkey to select the pilot channel for the current IS-95A or CDMA2000 setup.

Preset N/A

Range N/A

Location Pages M-14, M-16, M-23, M-33

Remarks None

In the Channel Setup Table Editor

Use this softkey to insert a pilot channel into the current channel setup table.

Preset N/A

Range N/A

Location Page M-19

Remarks None

Pilot Bits

Supported All with Option 400

This data field, in the Edit Channel Setup table editor, displays the pilot bits used for the selected channel. The number of bits available depends on the slot format of the channel.

Preset N/A

Range 2 – 16

Location Page M-232

Remarks Pilot bits are used as a timing reference in addition to the timing reference used by the CPICH.

This softkey is only available for downlink.

Pilot Power

Supported All with Option 400

This data field displays the power level of the pilot bits. Pilot bits are part of the DPCCH configuration.

Preset N/A

Range –20.00 to 20.00 dB

Location Page M-232

Remarks Pilot bits are typically transmitted at higher power levels to ensure they are received correctly.

This softkey is only available for downlink.

Playback Ratio

Supported All with Option 400

This field displays the ratio of compressed frames to uncompressed frames. For example, a playback ratio of 1:30 means that for every 30 normal frames there will be one compressed frame. The number entered for the playback ratio is the number of normal frames played before a compressed frame is played.

Preset 2

Range 1–4096

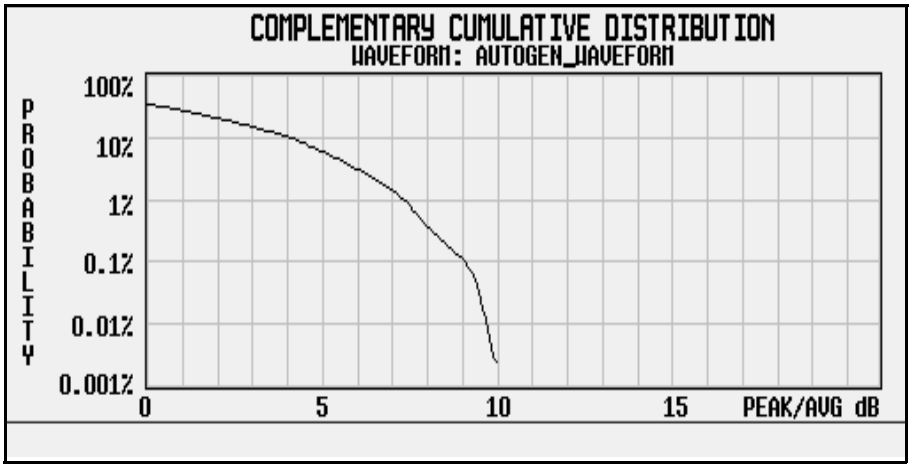
Location Page M-241

Remarks The sequence (number entered in the `Playback Ratio` field) of normal frames to compressed frames will continuously play.

Plot CCDF

Supported All with Option 001 or 002

This softkey displays a plot of the complementary cumulative distribution function for the selected waveform. The plot displays the probability that the instantaneous envelope power is *x* dB above the average power, where *x* is the number on the horizontal axis.



Preset N/A

Range N/A

Location Pages M-12, M-14, M-26, M-35, M-55, M-58, M-79, M-83, M-92, M-231

Remarks None

PN9

In the Baseband Generator Menu

Supported All with Option 001 or 002

This softkey selects an internally generated, ITU standard PN9 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Page M-64

Remarks None

In the Real Time GPS Menu

Supported All with Option 409

This softkey selects an internally generated, ITU standard PN9 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Page M-96

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Press this softkey to select an internally generated PN9 pseudorandom bit pattern.

For unframed transmissions, `PN9` appears in the `Data` field in the top line of the text area of the display.

For framed timeslot data fields, `PN9` appears in the `Data` field or the `B` field, both of which are located near the bottom of the text area of the display.

For configuring the timeslot data fields, `PN9` appears in either the `Data` field (all formats) or the following locations:

DECT: `B` field

EDGE and GSM: `E` field

PDC and PHS: `TCH` field

Preset N/A

Range N/A

Location Pages M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey is one of the choices in the Data select menu. With PN9 selected, the incoming data to the BER DATA IN connector is assumed to be PN9 data.

Preset N/A

Range N/A

Location Page M-9

Remarks None

PN9 Mode Normal Quick

Supported All with Option 402

This softkey sets the operating state of the pseudorandom 9-bit pattern generation.

Normal — When you select Normal mode, the maximum length PN9 sequence is generated. Use this mode for bit-error-rate testing (BERT).

Quick — When you select Quick mode, a truncated PN9 sequence is generated.

Preset Normal

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks This softkey is only available when the **Data Format Pattern Framed** softkey is set to Framed.

PN9 Mode Preset Normal Quick

Supported All

This softkey selects the preset value for PN9 mode.

Normal — The PN9 sequence is continuous from ONE timeslot to a matching timeslot.

Quick — The PN9 sequence is reset at the beginning of each timeslot.

Preset N/A

Range N/A

Location Page M-221

Remarks None

PN9 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	PN9 Data–the incoming data to the BER DATA IN connector is assumed to be PN9 data.
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	PN9 Clock–the clock signal for the PN9 Data. The falling edge of the PN9 Clock indicates the center of PN9 Data. The PN9 Clock rate is 37.5 Mbits per second.
21, 22	No Data–outputs the signal that indicates the no data status. The no data status is reported when there have been no clock inputs for more than 3 seconds or there has 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 Page M-9

Remarks None

PN11

Supported All with Option 001 or 002

This softkey selects an internally generated, ITU standard PN11 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Pages M-64

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Press this softkey to select an internally generated PN11 pseudorandom bit pattern.

For unframed transmissions, PN11 appears in the Data field in the top line of the text area of the display.

For framed timeslot data fields, PN11 appears in the Data field or the B field, both of which are located near the bottom of the text area of the display.

For configuring the timeslot data fields, PN11 appears in either the Data field (all formats) or the following locations:

DECT: B field

EDGE and GSM: E field

PDC and PHS: TCH field

Preset N/A

Range N/A

Location Pages M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey is one of the choices in the Data select menu. With PN11 selected, the incoming data to the BER DATA IN connector is assumed to be PN11 data.

Preset N/A

Range N/A

Location Page M-9

Remarks None

PN15

In the Baseband Generator Menu

Supported All with Option 001 or 002

This softkey selects an internally generated, ITU standard PN15 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Page M-64

Remarks None

In the Real Time GPS Menu

Supported All with Option 409

This softkey selects an internally generated, ITU standard PN15 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Page M-96

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Press this softkey to select an internally generated PN15 pseudorandom bit pattern.

For unframed transmissions, `PN15` appears in the `Data` field in the top line of the text area of the display.

For framed timeslot data fields, `PN15` appears in the `Data` field or the `B` field, both of which are located near the bottom of the text area of the display.

For configuring the timeslot data fields, `PN15` appears in either the `Data` field (all formats) or the following locations:

DECT: `B` field

EDGE and GSM: `E` field

PDC and PHS: `TCH` field

Preset N/A

Range N/A

Location Pages M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey is one of the choices in the Data select menu. With PN15 selected, the incoming data to the BER DATA IN connector is assumed to be PN15 data.

Preset N/A

Range N/A

Location Page M-9

Remarks None

PN20

Supported All with Option 001 or 002

This softkey selects an internally generated, ITU standard PN20 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Pages M-64

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Press this softkey to select an internally generated PN20 pseudorandom bit pattern.

For unframed transmissions, `PN20` appears in the `Data` field in the top line of the text area of the display.

For framed timeslot data fields, `PN20` appears in the `Data` field or the `B` field, both of which are located near the bottom of the text area of the display.

For configuring the timeslot data fields, `PN20` appears in either the `Data` field (all formats) or the following locations:

DECT: `B` field

EDGE and GSM: `E` field

PDC and PHS: `TCH` field

Preset N/A

Range N/A

Location Pages M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey is one of the choices in the Data select menu. With PN20 selected, the incoming data to the BER DATA IN connector is assumed to be PN20 data.

Preset N/A

Range N/A

Location Page M-9

Remarks None

PN23

Supported All with Option 001 or 002

This softkey selects an internally generated, ITU standard PN23 pseudorandom bit pattern.

Preset N/A

Range N/A

Location Pages M-64

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Press this softkey to select an internally generated PN23 pseudorandom bit pattern.

For unframed transmissions, `PN23` appears in the `Data` field in the top line of the text area of the display.

For framed timeslot data fields, `PN23` appears in the `Data` field or the `B` field, both of which are located near the bottom of the text area of the display.

For configuring the timeslot data fields, PN23 appears in either the Data field (all formats) or the following locations:

DECT: B field

EDGE and GSM: E field

PDC and PHS: TCH field

Preset N/A

Range N/A

Location Pages M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

In the BERT Menu

Supported All with Option UN7

This softkey is one of the choices in the Data select menu. With PN23 selected, the incoming data to the BER DATA IN connector is assumed to be PN23 data.

Preset N/A

Range N/A

Location Page M-9

Remarks None

PN Offset

Supported All with Option 401

Use this softkey to select the PN offset as a column by which the table will be sorted.

Preset N/A

Range N/A

Location Pages M-20, M-27, M-36

Remarks None

PN Offset

Supported All with Option 401

This field displays the current pseudorandom number offset value. This is the time offset in the short sequence code assigned to each base station to give it a unique identity. To change the offset value, highlight the `PN Offset` field, press the **Edit Item** softkey and enter a new value.

Preset 0

Range 0–511

Location Pages M-19, M-27, M-40, M-42

Remarks None

PN Sequence

Supported All with Option 001 or 002

Use this softkey to access a menu of choices for pseudorandom internal data generation.

Preset PN23

Range N/A

Location Pages M-64, M-96, M-103, M-106, M-118, M-121, M-134, M-137, M-150, M-153, M-166, M-169, M-182, M-185, M-198, M-201

Remarks None

Point Trigger

Supported All

Use this softkey to access a menu from which you can select a triggering mode for a point-by-point sweep. You can also configure the polarity of the TTL signal output at the TRIG IN connector using the **Trigger In Polarity Neg Pos** softkey in this menu.

Preset Free Run

Range N/A

Location Page M-217

Remarks None

Polarity Setup

Supported All with Option UN7

This softkey accesses a menu that enables you to select the polarity of the data, clock,

and gate functions for BER measurements.

Preset N/A

Range N/A

Location Page M-6

Remarks None

Power

In the Standard Menu

Supported All

This field enables you to set the power in the selected table editor.

Preset N/A

Range N/A

Location Pages M-92, M-217,

Remarks None

In the CDMA Menu

Supported All with Option 401

This field displays the current channel power value. To change the channel power, highlight the Power field, press the **Edit Item** softkey and enter a new value.

Preset 0.00dB

Range –40.0 dB to 0.00 dB

Location Pages M-16, M-19

Remarks Channel power settings may change when Equal Powers or Scale to 0dB is applied.

In the W-CDMA Menu

Supported All with Option 400

This field displays the power level for the selected channel relative to carrier power. In the downlink ChipARB channel this field displays the power of the compressed data frame. In uplink, this field shows the power relative to the other channel; for example, the power of the DPCCH and DPDCH.

Preset N/A

Range –40.0 to 0.00 dB

Location Pages M-229, M-241, M-246

Remarks None

Power

Supported All with Option 400

This softkey appears in the Multiple Channels menu where you can define a channel and then insert multiple entries of that channel into the downlink Edit Channel Setup table editor.

Press the **Power** softkey, then enter a power level for the channels that will be inserted.

After you 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 0.00 dB

Range –40.00 to 0.00 dB

Location Pages M-30, M-39, M-237

Remarks None

Power Control Bits

Supported All with Option 401

This field displays the current CDMA2000 power control bits value. The mobile uses this value to request a power level change from the the base station. To change the power control bits, highlight the `Power Control Bits` field, press the **Edit Item** softkey and enter a new value.

Preset 0000 hexidecimal

Range 0000–FFFF hexidecimal

Location Page M-50

Remarks This field is available only for with the RadioConfig 3/4 Traffic pilot channel.

Power dB

Supported All with Option 400

This data field displays the power of the selected channel and is displayed in the Edit Channel Setup table editor when the **Multicarrier Off On** softkey is set to Off.

Preset 0.00 dB

Range –40.00 to 0.00 dB

Location Pages M-27, M-36, M-40, M-232

Remarks This field is displayed in both the uplink and downlink Edit Channel Setup table editor.

Power Meter

Supported All

Use this softkey to access a menu from which you can select the external power meter model for use during the user flatness calibration.

Preset N/A

Range N/A

Location Page M-5

Remarks The power meter selection is not affected by a preset or by a power cycle.

The power meter is controlled only through a GPIB cable.

Power On Last Preset

Supported All

This softkey selects the power-on operating state for the signal generator. You can select either last or preset.

Last — Each time you cycle power to the signal generator, it will turn on using the same settings as when last turned off.

Preset — Each time you cycle power to the signal generator, it will turn on in either the factory-defined preset condition or in a user-defined preset condition. You make the choice between factory and user-defined preset with the **Preset Normal User** softkey.

Preset N/A

Range N/A

Location Page M-221

Remarks If Last is active, the signal generator must not receive commands for at least 3 seconds before the power is turned off to guarantee that the most recent state is saved. The power-on state is not affected by a preset or by a power cycle.

Power On/Preset

Supported All

Use this softkey to access a menu of choices for power on and preset conditions. Refer to "Power On Last Preset" on page 428, "Preset Normal User" on page 438, and "Save User Preset" on page 488.

Preset N/A

Range N/A

Location Page M-219

Remarks None

Power Search

Supported All

Use this softkey to access the **Power Search Manual Auto** softkey. Power search is an internal calibration routine that improves output power accuracy when the automatic leveling control circuit (ALC) is off.

If you are using external I/Q modulation, the power search routine assumes that the I/Q input level is $\sqrt{I^2 + Q^2}$ = 0.5 V_{rms}. Actual output amplitude will scale directly with $\sqrt{I^2 + Q^2}$.

Preset N/A

Range N/A

Location Page M-3, M-88

Remarks The **ALC Off On** softkey must be set to Off to enable the power search mode.

Power Search Manual Auto

Supported All

This softkey toggles the power search mode between auto and manual.

Manual The routine is not run until the **Do Power Search** softkey is pressed.

Auto The routine will run automatically with each change to the RF frequency or power, and with each change to the AM, burst, pulse, or I/Q modulation state.

Preset Manual

Range N/A

Location Page M-3, M-88

Remarks The **ALC Off On** softkey must be set to Off to enable the power search mode.

Power Search Reference Fixed Mod

Supported All with Option 001

Use this softkey to select the reference used by the power search mode.

Fixed A 0.5 V reference is used in this mode.

Mod In modulated mode, the reference is the RMS value of the current I/Q modulation.

Preset Fixed

Range N/A

Location Page M-3, M-88

Remarks The **ALC Off On** softkey must be set to Off to enable the power search modes.

Pp-m

Supported All with Option 400

This field, in the Uplink Physical Type:PRACH Power menu, displays the power difference between the preamble and message control part of the physical random access channel (PRACH).

Preset –4.56 dB

Range –20.00 to 10.00 dB

Location Page M-253

Remarks None

PRACH

Supported All with Option 400

This softkey sets the channel type of the uplink physical channel #1 to the physical random access channel (PRACH). The PRACH carries the random access channel (RACH) transport channel used by the user equipment (UE) to request registration on the network.

Preset N/A

Range N/A

Location Pages M-246, M-247, M-250

Remarks None

PRACH Part AWGN

Supported All with Option 400

This softkey indicates that the additive white gaussian noise (AWGN) signal is the selected part of the physical random access channel (PRACH). Press the **PhyCh Setup** softkey to configure the signature for the preamble.

Preset N/A

Range N/A

Location Page M-253

Remarks Use the arrow keys to move through the different PRACH sections.

PRACH Part Ctrl

Supported All with Option 400

This softkey indicates that the message control section is the selected part of the physical random access channel (PRACH). Press the **PhyCh Setup** softkey to configure parameters for this part of the PRACH.

Preset N/A

Range N/A

Location Page M-253

Remarks Use the arrow keys to move through the different PRACH sections.

PRACH Part Data

Supported All with Option 400

This softkey indicates that the message data section is the selected part of the physical random access channel (PRACH). Press the **PhyCh Setup** softkey to configure parameters for this part of the PRACH.

Preset N/A

Range N/A

Location Page M-253

Remarks Use the arrow keys to move through the different PRACH sections.

PRACH Part Preamble

Supported All with Option 400

This softkey indicates that the preamble section is the selected part of the physical random access channel (PRACH). Press the **PhyCh Setup** softkey to configure the signature for the preamble.

Preset N/A

Range N/A

Location Page M-250

Remarks Use the arrow keys to move through the different PRACH sections.

PRACH Power Setup Mode Pp-m Total

Supported All with Option 400

This softkey determines how power is set for the PRACH.

Pp-m	Selecting Pp-m, the difference between preamble power and message control power or total., sets the ratio of the preamble power and message control power.
Total	Selecting Total mode sets the total power of the following parameters: message total power (data and control) control and preamble power (Max power of preamble).

Preset Pp-m

Range N/A

Location Page M-253

Remarks None

PRACH Processing (RPS19)

Supported All with Option 400

This softkey assigns physical random access channel (PRACH) processing to the selected rear panel AUX I/O output connector or BNC.

Preset N/A

Range N/A

Location Page M-251

Remarks The preamble raw data can be assigned to numerous different output connectors/pins. The **(RPS19)** designator refers to the remote SCPI command that corresponds to this softkey.

PRACH Pulse (RPS23)

Supported All with Option 400

This softkey assigns the physical random access channel pulse to the selected rear panel AUX I/O output connector or BNC.

Preset N/A

Range N/A

Location Page M-251

Remarks The PRACH pulse can be assigned to numerous different output connectors/pins. The **(RPS23)** designator refers to the remote SCPI command that corresponds to this softkey.

PRACH Scrambling Code

Supported All with Option 400

This field displays the scrambling code used for the physical random access channel (PRACH).

Preset On

Range 0–8191

Location Page M-245

Remarks None

PRACH Setup Code Pwr Time

Supported All with Option 400

This softkey allows you to select parameters for the preamble, the preamble message part, the preamble data part and the additive white gaussian noise (AWGN) from three different menus.

Preset N/A

Range N/A

Location Page M-253

Remarks None

PRACH Trigger

Supported All with Option 400

This softkey is used to trigger a physical random access channel (PRACH) uplink transmission. This softkey is only available when **Trigger** is selected in the PRACH Trigger Source menu. The PRACH signal can be controlled in several ways.

Preset N/A

Range N/A

Location Page M-253

Remarks This softkey is grayed-out if **Immedi** is selected in the PRACH Trigger Source menu.

PRACH Trigger Delay Setup

Supported All with Option 400

This softkey accesses a menu for PRACH uplink synchronization/timing setups.

Preset N/A

Range N/A

Location Page M-245

Remarks None

PRACH Trigger Polarity Neg Pos

Supported All with Option 400

This softkey is used to configure the polarity of the PRACH Trigger signal.

Neg Triggering is on the falling high–to–low signal transition.

Pos Triggering is on the rising low–to–high signal transition.

Preset Pos

Range N/A

Location Page M-248

Remarks Available for uplink only.

PRACH Trigger Source Immedi Trigger

Supported All with Option 400

This softkey selects the trigger type for the PRACH transmission. Refer to the "PRACH Trigger" on page 434 for more information on the PRACH trigger.

Immedi This trigger source selection generates a PRACH sequence immediately.

Trigger This selection generates a PRACH sequence after receiving the trigger command.

Preset Immedi

Range N/A

Location Page M-253

Remarks None

PRAT

Supported All with Option 401

This field displays the current paging channel data rate value used by the base station. To change the data rate, highlight the PRAT field, press the **Edit Item** softkey and enter a new value.

Preset 00

Range 00–03

Location Page M-44

Remarks None

Preamble

Supported All with Options 400, 403

This softkey is used to select the physical random access channel (PRACH) preamble as the reference for determining the power level for the Ec/No calculation. The selection is displayed in the `E Ref` field of the uplink physical random access channel PRACH AWGN table editor.

This selection is coupled to the data rate, `C/N value (dB)` field, the `C Power` field, and the `N Power` field and can change the values displayed by these fields.

Preset N/A

Range N/A

Location Page M-44

Remarks None

Preamble Pulse (RPS21)

Supported All with Option 400

This softkey assigns preamble pulse to the selected rear panel AUX I/O output connector BNC. This signal is related to PRACH.

Preset N/A

Range N/A

Location Page M-251

Remarks The preamble pulse can be assigned to numerous different output connectors/pins. The **(RPS21)** designator refers to the remote SCPI command that corresponds to this softkey.

Preamble Raw Data (RPS15)

Supported All with Option 400

This softkey assigns preamble raw data to the selected rear panel AUX I/O output connector or BNC. This signal is related to the PRACH.

Preset N/A

Range N/A

Location Page M-251

Remarks The preamble raw data can be assigned to numerous different output connectors/pins. The **(RPS15)** designator refers to the remote SCPI command that corresponds to this softkey.

Preamble Raw Data Clock (RPS16)

Supported All with Option 400

This softkey assigns preamble raw data clock to the selected rear panel AUX I/O output connector or BNC. This signal is related to the PRACH.

Preset N/A

Range N/A

Location Page M-251

Remarks The preamble raw data clock can be assigned to numerous different output connectors/pins. The **(RPS16)** designator refers to the remote SCPI command that corresponds to this softkey.

Predefined Mode

Supported All with Option 001 or 002

This softkey accesses a menu of single-keypress setups for various formats. When you select a format, default values for components of the format (such as modulation type, filter, and bits per symbol) are automatically set up.

Preset N/A

Range N/A

Location Page M-67

Remarks None

Preset Language

Supported All

Use this softkey to access a menu of choices for selecting the programming language that is implemented after the **Preset** key is pressed. You can choose between SCPI, which is the language chosen for the signal generator for remote implementation of all features, 8648-compatible, and four versions of 8656/57-compatible languages. The 8648- and 8656/67-compatible languages are provided for remote implementation of some features so that this signal generator can be compatible with systems that use those instruments. Refer to the programming guide for specifics on which commands are implemented.

Preset N/A

Range N/A

Location Page M-221

Remarks The preset language is not affected by an instrument preset or by a power cycle.

Preset List

Supported All

This softkey enables you to delete the current sweep list and replace it with a new list consisting of one point at a default frequency, amplitude, and dwell time.

Preset N/A

Range N/A

Location Pages M-4, M-218

Remarks Be certain that you want to delete the current sweep list; you cannot recover the information once you press **Preset List**.

Preset Normal User

Supported All

This softkey enables you to select a factory-defined preset or user-defined preset state for the signal generator.

Normal A factory-defined preset is used if **Normal** is selected.

User A user-defined preset is used if **User** is selected.

Preset N/A

Range N/A

Location Page M-221

Remarks A user-defined preset state is saved with the **Save User Preset** softkey.

P REV

Supported All with Option 401

This field displays the current protocol revision level value for the real-time CDMA2000 forward synchronization channel. The protocol revision level is displayed in hexadecimal notation. To change the revision level, highlight the P REV field, press the **Edit Item** softkey and enter a new value.

Preset 01

Range 00–FF

Location Page M-44

Remarks None

P REV Min

Supported All with Option 401

This field displays the minimum protocol revision level value for the real-time CDMA2000 forward synchronization channel. The minimum protocol revision level is displayed in hexadecimal notation. To change the minimum level, use the down arrow key to move the cursor to the second page of data fields and highlight the P REV Min field. Press the **Edit Item** softkey and enter a new value.

Preset 01

Range 00–FF

Location Page M-44

Remarks None

Primary Key

Supported All with Option 400/401

Use this softkey to select the primary column by which the table will be sorted.

The current selection is displayed under the **Primary Key** softkey.

Preset *IS-95A:* PN Offset
CDMA2000 (forward link): Config
CDMA2000 (reverse link): Rate
W-CDMA (downlink and uplink): Rate

Range N/A

Location Pages M-20, M-27, M-36, M-235

Remarks None

Proceed With Reconfiguration

Supported All

Press this softkey to enable the selected hardware or software options. In the Hardware Options menu, selected options are indicated by an X in the column to the left of the option number. In the Software Options menu, selected options include any options that have a license key entered. After pressing this softkey, press the **Confirm Change** softkey to verify that you want to reconfigure the signal generator with the options selected. If you do not want to continue, press the **Return** key.

Preset N/A

Range N/A

Location Pages M-219, M-223

Remarks If you enable an option that does not have the required hardware installed, the menus for that option will be activated but the option cannot operate, regardless of what the menus may indicate.

PSCH

Supported All with Option 400

This softkey inserts a Primary Synchronization Channel (PSCH) into the downlink Edit Channel Setup table editor. The PSCH, along with the Secondary Synchronization Channel (SSCH), provides an identifying signal to, and a timing reference for, each base station.

Preset N/A

Range N/A

Location Pages M-234, M-237

Remarks This softkey appears in two places. If selected from the **Type** softkey

menu in the **Multiple Channels** softkey menu, you must press the **Done** softkey to insert the channel into the Edit Channel Setup table editor.

PSCH Power

Supported All with Option 400

This field displays the primary synchronization channel (PSCH) power. This channel consists of the primary synchronization code (PSC), a fixed 256-chip code broadcast by all W-CDMA base stations.

Preset –8.30 dB

Range –40.00 to 0.00 dB

Location Page M-241

Remarks None

PSCH State

Supported All with Option 400

This field displays the on/off state for the primary synchronization physical channel (PSCH).

Preset On

Range N/A

Location Page M-241

Remarks None

PSK

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 PSK Modulation

Use this softkey to display a menu of phase shift keying (PSK) modulation types to modulate a continuous stream of the selected data pattern. You can choose from QPSK and OQPSK, BPSK, π/4 DQPSK, 8PSK, 16PSK, D8PSK and EDGE.

Preset N/A

Range N/A

Location Pages M-56, M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Loading a PSK I/Q Map into the I/Q Table Editor

Use this softkey to display a menu of phase shift keying (PSK) modulation types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

Pulse

Supported All

This softkey enables you to select pulse as the modulating waveform.

Preset N/A

Range N/A

Location Pages M-90, M-95

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

Pulse Off On

Supported All

This softkey toggles the operating state for the currently selected pulse modulation source.

Off Use this setting to turn off the pulse modulation source.

On Use this setting to turn on the pulse modulation source.

When pulse modulation is on, the PULSE annunciator is shown in the display.

Preset Off

Range N/A

Location Page M-95

Remarks The RF carrier is modulated by the enabled modulation only when you have also set **Mod On/Off** to On.

Pulse Period

Supported All

This softkey enables you to change the pulse period for internally generated pulse modulation.

Preset 80.0 µsec

Range 8.0 usec–30.0 sec

Location Page M-95

Remarks If the value for pulse period is less than the value for pulse width, pulse width is changed to be 20 us less than pulse period.

The pulse period applies only to internal pulse modulation; when external pulse modulation or internal square pulse modulation is selected, this key is disabled.

Pulse Rate

Supported All

This softkey enables you to change the pulse rate for the internal square pulse modulation.

Preset 400.0 Hz

Range 100.0 mHz–100.0 kHz

Location Page M-95

Remarks The new value of pulse rate applies only to internal square pulse modulation; when external pulse modulation or internal pulse modulation is selected, this key is disabled.

Pulse Source

Supported All

Use this softkey to access a menu of choices that enables you to select the pulse source for modulation inputs.

Preset Internal Pulse

Range N/A

Location Page M-95

Remarks The RF carrier is modulated by the enabled modulation only when you have also set **Mod On/Off** to On.

Pulse Width

Supported All

This softkey enables you to change the pulse width for internally generated pulse modulation source.

Preset 40.00 µsec

Range 4.0 usec–30.0 sec

Location Page M-95

Remarks If the value for pulse period is less than the value for pulse width, pulse width is changed to be 20 ns less than pulse period.

The pulse width applies only to internal pulse modulation; when external pulse modulation or internal square pulse modulation is selected, this key is disabled.

Puncture

Supported All with Option 400

The field displays the puncture rate percentage for the transport channel or, if a negative number, the number of bits to be added to the channel. Data can be removed from or added to the fully coded channel. The number of bits removed or inserted is displayed as a percentage of the total number of bits.

Preset N/A

Range –25400 to 100%

Location Page M-243, M-249

Remarks This field is not user-definable. The value is computed based on the user selected TrCH setup.

PwrOffs

Supported All with Option 400

This field displays the power level set for the compressed data frames. The increase in transmitted power for compressed frames, expressed in decibels (dB), is typically increased to compensate for the loss in coding gain.

Preset 0

Range 0–6 dB or AUTO

Location Page M-249

Remarks The power offset can also be automatically set by using the auto setting. The amount of gain depends on the number of DTX slots in the auto mode.

PWT

Supported All with Option 001 or 002

This softkey selects a predefined personal wireless telephone (PWT) personality for the digital modulation format. The PWT standard is an adaptation of the DECT air-interface with a π/4 DQPSK modulation to reduce radio channel bandwidth.

Preset N/A

Range N/A

Location Pages M-55, M-60

Remarks None

Q

Q Offset

Supported All

Use this softkey to set an origin offset voltage for internally generated quadrature-phase signals. This offset is used to remove imperfections in the quadrature-phase signal or to introduce calibrated impairments.

Preset 0.0%

Range –100% to 100%

Location Page M-88

Remarks The **I/Q Adjustments Off On** softkey must be set to On to enable this adjustment.

When using this key to minimize the LO feedthrough signal, optimum performance is achieved when the adjustment is made after all other I/Q path adjustments, such as those made with the [Int Phase Polarity Normal Invert] or [Modulator Atten xx db Manual Auto] softkeys. If other adjustments are made after minimization is performed, the LO feedthrough signal may increase.

QAM

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 QAM Modulation

Use this softkey to display a menu of quadrature amplitude modulation (QAM) types to modulate a continuous stream of the selected data pattern. You can choose from 4QAM, 16QAM, 32QAM, 64QAM, and 256QAM.

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

Preset N/A

Range N/A

Location Pages M-56, M-65, M-76, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

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

Use this softkey to display a menu of quadrature amplitude modulation (QAM) types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-74, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

QOF

Supported All with Option 401

This field displays the current quasi-orthogonal function channel value. To change the channel value, highlight the QOF field, press the **Edit Item** softkey and enter a new value.

Preset 0

Range 0–3

Location Page M-44

Remarks None

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 QPSK Modulation

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

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

Preset N/A

Range N/A

Location Page M-56, M-72, M-114, M-130, M-146, M-162, M-178, M-194, M-210, M-213

Remarks None

Loading a QPSK I/Q Map into the Table Editor

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

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

QPSK and OQPSK

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 QPSK and OQPSK Modulation

Use this softkey to access a menu of quadrature phase shift keying (QPSK) and offset quadrature phase shift keying (OQPSK) modulation types to modulate a continuous stream of the selected data pattern. QPSK and OQPSK modulations transmit data at the rate of 2 bits per symbol. You can choose from QPSK, IS95 QPSK, Gray Coded QPSK, OQPSK, and IS95 OQPSK.

Preset N/A

Range N/A

Location Pages M-56, M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Loading a QPSK and OQPSK I/Q Map into the Table Editor

Use this softkey to access a menu of quadrature phase shift keying (QPSK) and offset

quadrature phase shift keying (OQPSK) modulation types that you can load into the I/Q table editor. For more information on mapping symbol positions with the I/Q table editor, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-76, M-117, M-133, M-149, M-165, M-181, M-197, M-213

Remarks None

Quadrature Skew

Supported All

Use this softkey to adjust the phase angle between the I and Q vectors. When the quadrature skew is zero, the phase angle is 90 degrees. Positive skew increases the angle from 90 degrees while negative skew decreases the angle from 90 degrees.

Preset 0.0 degrees

Range ±10 degrees, minimum increment of 0.01 degrees

Location Page M-88

Remarks This softkey is only available for internally generated I and Q.

When operating the signal generator in the 3.3 to 4 GHz frequency range, quadrature skew settings greater than ±5 degrees will not be within specifications.

Quarter

Supported All with Option 401

Use this softkey to set the gating rate to one quarter, causing 4 power control groups (every fourth 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 291 for more information.

Remarks None

R

RACH TrCH

Supported All with Options 400, 403

This softkey is used to select the physical random access channel (PRACH) random access channel (RACH) as the reference for determining the power level for the Eb calculation. The selection is displayed in the `E Ref` field of the uplink physical random access channel PRACH AWGN table editor.

This selection is coupled to the data rate, `C/N value (dB)` field, the `C Power` field, and the`N Power` field and can change the values displayed by these fields.

Preset N/A

Range N/A

Location Page M-250

Remarks None

Radio Config

Supported All with Option 401

This field displays the current radio configuration value. The radio configuration is a set of traffic channel transmission formats that define parameters, such as data rates and modulation characteristics. Radio configurations 1 and 2 are IS-95 backwards compatible.

To change the radio configuration value, highlight the `Radio Config` field, press the **Edit Item** softkey and enter a new value.

Preset *Forward Link: F-FCH:* 1; *F-SCH1 and F-SCH2:* 3
Reverse Link: depends on the selected operating mode

Range *Forward Link: F-FCH:* 1–5; *F-SCH1 and F-SCH2:* 3–5
Reverse Link: depends on the selected operating mode

Location Pages M-44, M-50

Remarks None

RadioConfig 1/2 Access

Supported All with Option 401

Use this softkey to select the RadioConfig 1/2 Access CDMA-standard reverse link channel configuration. This configuration consists of a radio configuration (RC) 1/2 reverse link access channel (R-ACH) only.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RadioConfig 1/2 Traffic

Supported All with Option 401

Use this softkey to select the RadioConfig 1/2 Traffic CDMA-standard reverse link channel configuration. This configuration consists of a radio configuration (RC) 1/2 reverse link fundamental channel (R-FCH) and an RC 1/2 reverse link supplemental 1 channel (R-SCH1).

Preset N/A

Range N/A

Location Page M-50

Remarks None

RadioConfig 3/4 Common Control

Supported All with Option 401

Use this softkey to select the RadioConfig 3/4 Common Control CDMA-standard reverse link channel configuration. This configuration consists of a radio configuration (RC) 3/4 reverse link common control pilot channel (R-PICH) and an RC 3/4 reverse link common control channel (R-CCCH).

Preset N/A

Range N/A

Location Page M-50

Remarks None

RadioConfig 3/4 Enhanced Access

Supported All with Option 401

Use this softkey to select the RadioConfig 3/4 Enhanced Access CDMA-standard reverse link channel configuration. This configuration consists of a radio configuration (RC) 3/4 reverse link enhanced access pilot channel (R-PICH) and an RC 3/4 reverse link enhanced access channel (R-EACH).

Preset N/A

Range N/A

Location Page M-50

Remarks None

RadioConfig 3/4 Traffic

Supported All with Option 401

Use this softkey to select the RadioConfig 3/4 Traffic CDMA-standard reverse link channel configuration. This configuration consists of a radio configuration (RC) 3/4 reverse link traffic pilot channel (R-PICH), an RC 3/4 reverse link dedicated control channel (R-DCCH), an RC 3/4 reverse link fundamental channel (R-FCH), an RC 3/4 reverse link supplemental 1 channel (R-SCH1) and an RC 3/4 reverse link supplemental 2 channel (R-SCH2).

Preset N/A

Range N/A

Location Page M-50

Remarks None

Ramp

Supported All

This softkey enables you to specify ramp as the modulating waveform.

Preset Positive

Range N/A

Location Pages M-2, M-84, M-85, M-90

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

Ramp

Supported All with Option 401

This field displays the operating state of the CDMA2000 power ramp function. When this function is enabled, the power level is increased over a time period specified by the Ramp Time data field, then decreased over the same period. The power ramp sequence is continuously repeated.

To toggle the power ramp operating state, highlight the Ramp field and press the **Edit Item** softkey.

Preset On

Range N/A

Location Page M-44

Remarks None

Ramp Step

Supported All with Option 400

This field is displayed in the Uplink Physical Type:PRACH Power menu and indicates the ramp step power level. The ramp step is the power level increase for the physical random access channel (PRACH) preamble. The ramping step power is in decibels. Refer to "Init Power" on page 311 for more information.

Preset 0 dB

Range 0–10 dB

Location Page M-253

Remarks Ramp step and Num of Pre are coupled to allow approximately 30 dB of range between the first and last preamble.

Ramp Time

Supported All with Option 401

This field displays the CDMA2000 power ramp time. When the power ramp is enabled, the power level is increased over a time period specified by the Ramp Time data field, then decreased over the same period. The power ramp sequence is continuously repeated.

To change the ramp time value, highlight the Ramp Time field, press the **Edit Item** softkey and enter a new value.

Preset 1

Range 1–80 frames

Location Page M-44

Remarks None

Random

Supported All with Option 400

This softkey selects random data as the data for the selected channel. Random data can be selected for both uplink and downlink.

Preset N/A

Range N/A

Location Pages M-27, M-36, M-40

Remarks None

Random Seed Fixed Random

Supported All with Option 001 or 002

This softkey sets the mode of the random seed for the randomly generated phases of the multitone table editor tones. This is done as part of initializing the multitone table editor.

Fixed — When you select Fixed, the same random phases will be generated after each initialization.

Random — When you select Random, new phases will be generated after each initialization.

Preset Fixed

Range N/A

Location Page M-92

Remarks Use this softkey when the **Initialize Phase Fixed Random** softkey is set to the Random selection.

Ranging Code C/A P C/A+P

Supported All with Option 409

This softkey sets the ranging code type for the modulated GPS carrier.

C/A — This choice selects a 1023-bit pseudorandom C/A (coarse acquisition) code that is BPSK modulated onto the L1 (1575.42 MHz) carrier. The C/A code factory set chip rate is 1.023 Mcps using a 10.23 Mcps reference clock.

P — This choice selects the precise (P) code which is a very long pseudorandom sequence that is BPSK modulated onto the L2 (1227.6 MHZ) carrier. The P code factory set chip rate is 10.23 Mcps using a 10.23 Mcps reference clock.

C/A+P — This choice permits both the C/A (coarse acquisition) and P (precise) codes to modulate the L1 carrier (1575.42 MHz) simultaneously by providing the C/A code on the I component and the P code in quadrature on the Q component.

Preset C/A

Range N/A

Location Page M-96

Remarks N/A

Rate

Supported All with Option 400

This softkey selects the symbol rate, `Rate ksps,` as the parameter by which the Edit Channel Setup table editor will be sorted.

Preset Rate

Range N/A

Location Pages M-27, M-36, M-235

Remarks This softkey appears in two places: the Primary Key softkey menu and the Secondary Key softkey menu. You must press the **Sort** softkey to order the listing.

Rate Full Half

Supported All with Option 402

Use this softkey to select either a full- or half-rate traffic channel. Notice that your selection, either full-rate or half-rate, is shown on the display directly above the timeslot pattern visual representation.

Full — When you select full-rate, the traffic channel utilizes two equally spaced timeslots of the frame. Timeslots 1, 2, and 3 are paired with timeslots 4, 5, and 6, respectively.

Half — When you select half-rate, the traffic channel utilizes one timeslot of the frame.

Preset Full-rate

Range N/A

Location Pages M-135, M-151

Remarks None

Rate ksps

Supported All with Option 400

This data field displays the symbol rate, in kilosymbols per second for the displayed channel.

Preset N/A

Range: *Downlink*: 7.5 ksps–960 ksps

Uplink: 15 ksps–960 ksps

Location Page M-232

Remarks The rate choice menu is automatically shown when the appropriate channel is selected or when the field is edited.

The symbol rate can not be changed for some channels.

Rate Match Attr

Supported All with Option 400

This field displays the rate matching attribute value for the selected transport channel. Press **Edit Item** to enter a value and terminate with the **Enter** softkey to set the value. A higher rate match attribute number indicates a higher priority for the channels data

bits. For example, the bits per frame will increase relative to other channels.

Preset: 256 for DCH1 and DCH2, 1 for all other transport channels

Range: 1–256

Location Page M-243, M-249, M-250

Remarks None

RCDMA

Supported All

Press this softkey to set the current catalog type to reverse link CDMA (RCDMA) and display the catalog of RCDMA files.

Preset N/A

Range N/A

Location Page M-224

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

Real-time AWGN Off On

Supported All with Option 403

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

Off When you select Off, the noise function is disabled.

On When you select On, the noise function is enabled.

Preset N/A

Range N/A

Location Page M-12

Remarks None

Real Time CDMA2000

Supported All with Option 401

Use this softkey to access a menu from which you can create real time CDMA2000 modulations.

Preset N/A

Range N/A

Location Pages M-13, M-42, M-48

Remarks None

Real Time GPS

Supported All with Option 409

Use this softkey to access a menu from which you can set up simulated GPS satellite signals.

Preset N/A

Range N/A

Location Page M-91

Remarks None

Real Time GPS Off On

Supported All with Option 409

This softkey sets the operating state of the real time Global Positioning System (GPS) personality.

Off — This selection turns off the GPS personality.

On — This selection turns on the GPS personality. The GPS personality simulates the signal produced by an individual GPS satellite.

Preset Off

Range N/A

Location Page M-96

Remarks N/A

Real Time I/Q Baseband

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can build customized unframed data formats using the real time I/Q baseband generator.

Preset N/A

Range N/A

Location Page M-54, M-64

Remarks None

Real Time I/Q Baseband 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 continuous real-time modulation generator.

Preset N/A

Range N/A

Location Page M-12

Remarks None

Real Time TDMA

Supported All with Option 402

Use this softkey to access a menu of TDMA formats for creating real time modulations.

Preset N/A

Range N/A

Location Page M-91, M-102

Remarks None

Real Time W-CDMA

Supported All with Option 400

Use this softkey to access a menu from which you can create real time W-CDMA modulations.

Preset N/A

Range N/A

Location Pages M-227, M-240

Remarks None

Rear Panel Config Setup

Supported All with Option 400

This softkey accesses a menu from which you can view or configure the rear panel signal connections, routing and signal types.

Preset N/A

Range N/A

Location Page M-245

Remarks Available for uplink only.

Recall

Supported All

Use this hardkey to access a menu of softkeys that enables you to select or delete registers and sequences.

Preset RECALL Reg

Range N/A

Location Page M-215

Remarks None

Recall Ref Osc Setting

Supported All

Use this softkey to recall the last saved reference oscillator coarse and fine adjustment setting.

Preset N/A

Range N/A

Location Page M-220

Remarks This adjustment is intended for use by service personnel. Refer to the calibration guide for more information.

RECALL Reg

Supported All

Use this softkey to recall an instrument state from a saved register. Recalling a register also selects that register number for all keys which specify a register number in this menu. You can also use the front panel knob and the up and down arrow keys to scroll through all saved registers for the selected sequence.

Preset N/A

Range N/A

Location Page M-215

Remarks None

Recall Secondary Frame State

Supported All with Option 402

Use this softkey to recall the last instrument state saved as the data pattern for the secondary frame. This will overwrite the current instrument state. When the secondary frame state is turned on, the secondary frame will be generated using the recalled instrument state.

Preset N/A

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Rectangle

Supported All with Option 001 or 002

Use this softkey to select a, rectangular pre-modulation filter from either the Select menu or the Load Default FIR menu.

In the Select (filter) Menu

In this menu, pressing the **Rectangle** softkey selects this FIR filter for use in a modulation setup.

Preset N/A

Range N/A

Location Pages M-15, M-28, M-37, M-43, M-49, M-59, M-68, M-96, M-107, M-116, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-248, M-254

Remarks None

In the Load Default FIR Menu

In this menu, use the **Rectangle** softkey to access a menu from which you can specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a rectangular filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

Preset N/A

Range N/A

Location Pages M-21, M-32, M-41, M-46, M-52, M-62, M-77, M-60, M-70, M-101, M-132, M-148, M-164, M-180, M-196, M-212, M-238, M-244

Remarks None

Ref Data Rate

Supported All with Options 400, 403

This field displays the channel data rate used to calculate the Eb/No or Ec/No value. The rate is determined by the channel selected in the `Eb Ref` field (`E Ref` in uplink PRACH) field.

Preset *Uplink*: 12.2 kbps

Uplink (PRACH): 8.4 kbps

Range N/A

Location Page M-246

Remarks None

Ref Measure Setup

Supported All with Option 400

This softkey accesses a menu from which you can select a reference measurement test setup for a physical channel. For downlink, this softkey is only available for the DPCH. For uplink, this softkey is available for DPDCH.

Preset *Downlink*: N/A

Uplink: RMC 12.2 kbps

Range N/A

Location Pages M-241, M-246

Remarks None

Ref Osc Coarse

Supported All

This softkey is provided for adjusting the internal reference oscillator. Refer to the calibration guide for more information.

Preset N/A

Range N/A

Location Page M-220

Remarks This adjustment is intended for use by service personnel.

Ref Osc Fine

Supported All

This softkey is provided for adjusting the internal reference oscillator. Refer to the calibration guide for more information.

Preset N/A

Range N/A

Location Page M-220

Remarks This adjustment is intended for use by service personnel.

Ref Oscillator Source Auto Off On

Supported All

This softkey switches off and on the signal generator's capability of automatically selecting between the internal reference oscillator and an external reference oscillator.

Off — The signal generator uses the internal reference only, even if an external reference is connected.

On — The signal generator detects when a valid reference signal is present at the 10 MHz IN connector and automatically switches from internal to external reference operation.

Preset On

Range N/A

Location Page M-86

Remarks None

Ref Param Setup (Custom)

Supported All with Option 400

This softkey accesses a menu from which a downlink (DL) reference type can be selected. The DL references available conform to parameters defined in 3GPP Standard TS25.101.

Preset DL Reference 1.1

Range N/A

Location Page M-249

Remarks This field is displayed in the uplink Compressed Mode Setup table editor

Ref Param Setup (TrCH BlkSize)

Supported All with Option 400

This softkey accesses a menu for setting the transport channel block size of the PRACH.

Preset TrCH BlkSize 168

Range N/A

Location Page M-250

Remarks This field is displayed for the DPCCH and the DPDCH in the Compressed Mode Setup table editor

Ref Sensitivity

Supported All with Option 400

This softkey is a signal button set up for “Reference Sensitivity Testing” as described in 3GPP TS 25.101. Pressing this softkey sets up the transport channel for testing the minimum receiver input power measured at the user equipment (UE) antenna connector at which the bit error rate (BER) does not exceed a specific value.

Preset N/A

Range N/A

Location Page M-241

Remarks None

Reference Frequency

Supported All with Option 401

This softkey enables you to set the reference frequency of the external clock. It is available only when you are using an external reference applied to the BASEBAND GEN REF IN connector.

Preset 10.0000000 MHz

Range 250.0000 kHz-100.0000000 MHz

Location Page M-12, M-14, M-81

Remarks None

Reference Freq

Supported All with Option 001 or 002

This softkey enables you to set the reference frequency of the external clock.

Preset 10.0000000 MHz

Range 250.0000 kHz–100.0000000 MHz

Location Page M-12, M-14, M-23, M-33, M-55, M-81, M-92, M-226, M-228

Remarks This softkey is only available when you are using an external ARB reference applied to the BASEBAND GEN REF IN connector.

Reference Oscillator Adjustment

Supported All

Use this softkey to access a menu of keys that are provided for adjusting the internal reference oscillator.

Preset N/A

Range N/A

Location Page M-220

Remarks This adjustment is intended for use by service personnel. Refer to the calibration guide for more information.

Reference 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	Data–the incoming data to the BER DATA IN connector is assumed to be PN9 data.
4	Sync Start–indicates the timing that the PN generator starts to generate a PN sequence. This signal can also indicate if the hardware is triggering a PN synchronization or making a measurement when the signal is high
20	Clock–the clock signal for the PN9 Data. The falling edge of the PN9 Clock indicates the center of PN9 Data. The PN9 Clock rate is 37.5 Mbits per second.
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	PRBS Ref–uses the pseudo-random bit stream as the reference signal.

Preset N/A

Range N/A

Location Page M-9

Remarks None

Remote Language

Supported All

Pressing this softkey reveals a menu of choices for the signal generator's remote language. The language selected will be implemented immediately without presetting the signal generator. Instrument specific languages such as 8657D NADC are available for compatibility with the signal generator. The SCPI language implements all of the

signal generator's functions.

Preset N/A

Range N/A

Location Page M-219

Remarks Numerous instrument compatible languages are available for use by the signal generator. Refer to the programming guide for specifics on commands and information on programming languages.

Rename

Supported All with Option 001 or 002

Use this softkey to rename the current bit file.

Preset N/A

Range N/A

Location Pages M-69, M-97, M-110, M-125, M-126, M-141, M-142, M-157, M-158, M-173, M-174, M-189, M-190, M-205, M-206

Remarks None

Rename Segment

Supported All with Option 001 or 002

This softkey enables you to rename the selected waveform segment in the displayed catalog.

Preset N/A

Range N/A

Location Page M-79, M-83

Remarks None

Reserved

Supported All with Option 401

This field displays the current reserved bit setting for the forward synchronization channel. These reserved bits in the frame structure of this channel may be used in the future. Presently, all bits that are marked as reserved bits should be set to "0" in all frames. The base station and mobile will ignore the reserved bits.

Preset 0

Range N/A

Location Page M-44

Remarks None

Reset & Run

Supported All with Option 001 or 002

Use this softkey to select the Reset & Run mode for continuous triggering. When this mode is selected, the waveform generator plays a sequence or frame continuously upon triggering. The waveform generator responds to subsequent triggers by immediately restarting the sequence.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-73, M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200, M-231

Remarks None

Reset RS-232

Supported All

Use this softkey to clear the RS-232 read/write buffer. Any unprocessed data is cleared and the buffer is readied for sending and receiving data over the RS-232 interface.

Preset N/A

Range N/A

Location Page M-219

Remarks All other RS-232 communication parameters are unaffected.

Resolution

Supported All with Option UN7

Use this softkey to specify the resolution of the clock and gate delays. Enter the value using the numeric keypad and terminate it by pressing the appropriate unit softkey.

Preset: 13.3 ns

Range: 26.7 nsec–80.0000 usec

Location Page M-9

Remarks The minimum resolution is 13.3 ns and corresponds to 1/75 MHz. The 75 MHz is the sampling clock of the BERT board. It must be a multiple of the minimum resolution and if not, the gate delay time is automatically rounded to a value that is the multiple value closest to the entered value.

Restore DECT Factory Default

Supported All with Option 402

Use this softkey to reset Digital European Cordless Telecommunications (DECT) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-182

Remarks None

Restore Default Burst Shape

Supported All with Option 001 or 002

Use this softkey to reset the burst shape parameters to their preset values.

Preset values

	Rise Time, bits	Rise Delay, bits	Fall Time, bits	Fall Delay, bits	Shape Type
Custom	5.000	0.000	5.000	0.000	sine
DECT	10.000	0.000	10.000	0.000	sine
EDGE	9.000	0.000	9.000	0.000	sine
GSM	3.000	0.000	3.000	0.000	sine
NADC	5.000	0.000	5.000	0.000	sine
PDC	4.000	0.000	4.000	0.000	sine

	Rise Time, bits	Rise Delay, bits	Fall Time, bits	Fall Delay, bits	Shape Type
PHS	4.000	0.000	4.000	0.000	sine
TETRA	8.000	0.000	8.000	0.000	sine

Range N/A

Location Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks None

Restore Default Filter

Supported All with Option 001 or 002

Use this softkey to replace the current FIR filter with the default filter for the selected format.

Preset *EDGE:* EDGE
GSM: Gaussian BbT = 0.300
DECT: Gaussian BbT = 0.500
CDMA2000 and IS-95A: IS-95 Mod w/EQ
Custom, NADC, and TETRA: Root Nyquist α = 0.350
PDC, PHS, and Digital Modulation: Root Nyquist α = 0.500
WCDMA: WCDMA

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-64, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240, M-248

Remarks None

Restore Default Modulation Type

Supported All with Option 001 or 002

Use this softkey to restore the default modulation type for the current real time custom digital modulation setup.

Preset N/A

Range N/A

Location Pages M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Restore Default Signal Polarities

Supported All

This softkey is used to restore the signal generator's default signal polarities.

Preset N/A

Range N/A

Location Page M-223

Remarks None

Restore Default Symbol Rate

Supported All with Option 001 or 002

Use this softkey to replace the current symbol rate with the default symbol rate for the selected format.

Preset *TETRA:* 18.000000 ksps
PDC: 21.000000 ksps
NADC, Custom: 24.300000 ksps
PHS: 192.000000 ksps
EDGE, GSM: 270.833333 ksps
DECT: 1.152000000 Msps

Range N/A

Location Pages M-64, M-105, M-120, M-136, M-152, M-168, M-184, M-200

Remarks None

Restore EDGE Factory Default

Supported All with Option 402

Press this softkey to reset Enhanced Data Rates for GSM Evolution (EDGE) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-103

Remarks None

Restore Factory Defaults

Supported All with Option UNJ

This softkey re-sets the bandwidth of the reference oscillator to the factory-defined default state. The default value for the internal reference bandwidth is 125 Hz. The default value for the external reference bandwidth is 25 Hz

Preset N/A

Range N/A

Location Page M-220

Remarks None

Restore GSM Factory Default

Supported All with Option 402

Use this softkey to reset Global System for Mobile Communications (GSM) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-118

Remarks None

Restore NADC Factory Default

Supported All with Option 402

Use this softkey to reset North American Digital Cellular (NADC) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-134

Remarks None

Restore PDC Factory Default

Supported All with Option 402

Use this softkey to reset Personal Digital Cellular (PDC) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-150

Remarks None

Restore PHS Factory Default

Supported All with Option 402

Use this softkey to reset Personal Handy Phone System (PHS) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-166

Remarks None

Restore Sys Defaults

Supported All

This softkey is used to restore the signal generator's system defaults.

Preset N/A

Range N/A

Location Page M-221

Remarks None

Restore TETRA Factory Default

Supported All with Option 402

Use this softkey to reset Trans European Trunked Radio (TETRA) configuration to the factory default values.

Preset N/A

Range N/A

Location Page M-198

Remarks None

Resync Limits

Supported All with Option UN7

Use this softkey to specify the threshold level for resynchronizing BER measurements. Enter the value using the numeric keypad and terminate it by pressing the **%** or **ppm** softkeys.

Preset 0.4000

Range 0.0500–0.4000

Location Page M-9

Remarks None

Retrigger Mode

Supported All with Option 001 or 002

Use this softkey to access a menu for operating the retrigger mode of single trigger operation. The retrigger mode enables the user to choose between normal single triggering (Off), retriggering after the completion of the current sequence (On), or immediately resetting a sequence and running from the start (Immediate).

Preset On

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-78, M-231

Remarks The retriggers do not accumulate. If several triggers are received during a waveform, it will only be replayed once.

Reverse

Supported All with Option 401

Use this key to select a reverse traffic channel for the IS-95A setup.

Preset N/A

Range N/A

Location Pages M-14, M-16

Remarks None

Reverse Power Protection Normal 8648

Supported All

This softkey is available only after selecting 8648A/B/C/D language compatible mode for the signal generator. The softkey selects the signal generator's reverse power protection mode (RPP). The choices are normal mode and 8648-compatible mode.

Normal — In normal mode, a tripped RPP circuit causes a caution message to be displayed and the front panel to be locked. Eliminate the source of the excess reverse power at the RF OUTPUT connector. Then press the **Reset RPP** softkey to continue operating the signal generator

8648 — In 8648 mode, a tripped RPP circuit, causes a caution message to be displayed and the front panel to be locked. However, any command sent over the GPIB will reset the RPP circuit and return you to normal signal generator operation. This mode is provided for compatibility with systems that use the 8648.

Preset N/A

Range N/A

Location Page M-221

Remarks Repeated tripping of the RPP can cause damage to the signal generator. It is best to eliminate the source of excess reverse power and then reset the reverse power protection circuit by pressing the **Reset RPP** softkey. The RPP mode is not affected by an instrument preset or by a power cycle.

Revert to Default Cal Settings

Supported All

Use this softkey to restore the original factory calibration data for the internal I/Q modulator.

Preset N/A

Range N/A

Location Page M-88

Remarks None

R-GSM Base

Supported All

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

Preset *Channel*: 1

Frequency: 935.200 MHz

Range *Channels*: 0–124, 975–1023

Frequency: 935.000–959.800 MHz, 921.200–934.800 MHz

Location Page M-86

Remarks None

R-GSM Mobile

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

Supported All

Preset *Channel*: 1

Frequency: 890.200 MHz

Range *Channels*: 0–124, 975–1023

Frequency: 890.000–914.800 MHz, 876.200–889.800 MHz

Location Page M-87

Remarks None

Right

Supported All with Option 400

This softkey selects a scramble code between 16384 and 24575 for the downlink ChipARB physical channel.

Preset N/A

Range N/A

Location This key is accessed by editing the `ScrCode Type` field. Refer to "ScrCode Type" on page 494 for more information.

Remarks None

Right Alternate

Supported All with Option 400

Use this softkey to set the downlink channel scramble type to right alternate. Selecting **Right Alternate** adds 16384 to the scramble code.

Preset N/A

Range N/A

Location Pages M-232, M-237

Remarks None

Rise Delay

Supported All with Option 001 or 002

Press this softkey to adjust the burst shape rise delay.

Preset 0.000 bits

Range Minimum and maximum values depend on modulation type and symbol rate.

Location Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks None

Rise Time

Supported All with Option 001 or 002

Press this softkey to adjust the burst shape rise 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 Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks None

Rising

Supported All with Option 401

Use this softkey to configure the signal generator to trigger on the rising edge of the signal applied to the PATT TRIG IN rear panel connector.

Preset N/A

Range N/A

Location This key is accessed by editing the `Trigger Edge` field. Refer to "Trigger Edge" on page 579 for more information.

Remarks None

RMC 12.2 kbps (25.141 v3.6)

Supported All with Option 400

This softkey sets the uplink reference measurement channel (RMC) test setup rate to 12.2 kbps as described in the 3GPP Technical Specification (TS 25.141 V3.63.6).

Preset N/A

Range N/A

Location Page M-246

Remarks This reference measurement is automatically selected following an instrument preset.

RMC 64 kbps (25.141 v3.6)

Supported All with Option 400

This softkey sets the uplink reference measurement channel (RMC) test setup rate to 64 kbps as described in the 3GPP Technical Specification (TS 25.141 V3.6).

Preset N/A

Range N/A

Location Page M-246

Remarks None

RMC 144 kbps (25.141 v3.6)

Supported All with Option 400

This softkey sets the uplink reference measurement channel (RMC) test setup rate to 144 kbps as described in the 3GPP Technical Specification (TS 25.141 V3.6).

Preset N/A

Range N/A

Location Page M-246

Remarks None

RMC 384 kbps (25.141 v3.6)

Supported All with Option 400

This softkey sets the uplink reference measurement channel (RMC) test setup rate to 384 kbps as described in the 3GPP Technical Specification (TS 25.141 V3.6).

Preset N/A

Range N/A

Location Page M-246

Remarks None

Root Nyquist

Supported All with Option 001 or 002

This softkey selects a root Nyquist (root-raised cosine) pre-modulation filter from either the Select menu or the Load Default FIR menu.

In the Select (filter) Menu

In this menu, use the **Root Nyquist** softkey to select this FIR filter for use in a custom modulation setup.

Preset N/A

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-68, M-96, M-107, M-116, M-122, M-138, M-156, M-170, M-186, M-202, M-233, M-248

Remarks None

In the Load Default FIR Menu

In this menu, use the **Root Nyquist** softkey to access a menu from which you can change the filter alpha value, specify the number of symbols, apply a windowing function, and generate a new FIR table that is loaded with the coefficients for a root Nyquist filter. If you change a parameter, you can press the **Generate** softkey again to reload the FIR table.

Preset N/A

Range N/A

Location Pages M-21, M-32, M-41, M-46, M-52, M-62, M-77, M-101, M-132, M-148, M-164, M-180, M-196, M-212, M-238 M-244, M-254

Remarks None

RPICH

Supported All with Option 401

Use this softkey to turn on the reverse link pilot channel within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. All other reverse link channels are turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RPICH RDCCH

Supported All with Option 401

Use this softkey to turn on the reverse link pilot and dedicated control channels within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. All other reverse link channels are turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RPICH RDCCH RFCH

Supported All with Option 401

Use this softkey to turn on the reverse link pilot, dedicated control and fundamental channels within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. All other reverse link channels are turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RPICH RDCCH RFCH RSCH1

Supported All with Option 401

Use this softkey to turn on the reverse link pilot, dedicated control, fundamental and supplemental 1 channels within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. The reverse link supplemental 2 channel is turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RPICH RDCCH RSCH1 RSCH2

Supported All with Option 401

Use this softkey to turn on the reverse link pilot, dedicated control, supplemental 1 and supplemental 2 channels within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. The reverse link fundamental channel is turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RPICH RFCH RSCH1 RSCH2

Supported All with Option 401

Use this softkey to turn on the reverse link pilot, fundamental, supplemental 1 and supplemental 2 channels within the current CDMA2000 RadioConfig 3/4 Traffic channel configuration. The reverse link dedicated control channel is turned off.

Preset N/A

Range N/A

Location Page M-50

Remarks None

RS-232 Baud Rate

Supported All

Use this softkey to access a menu of choices enabling you to set the baud rate for data communication over the RS-232 interface.

Preset N/A

Range 300 – 57600 baud

Location Page M-219

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

RS-232 Echo Off On

Supported All

This softkey selects the operating state of the RS-232 echo function.

On	When set to on, every character sent to the signal generator is echoed to the controller display.
Off	When set to off, characters sent to the signal generator are not echoed to the controller display.

Preset N/A

Range N/A

Location Page M-219

Remarks The echo state is not affected by a preset or by a power cycle.

RS-232 Setup

Supported All

Use this softkey to access a menu of choices enabling you to configure communication protocol over the RS-232 interface.

Preset N/A

Range N/A

Location Page M-219

Remarks None

RS-232 Timeout

Supported All

This softkey enables you to set the RS-232 interface timeout period. If further input is not received within the assigned timeout period while a SCPI command is being processed, then the command is aborted and the RS-232 input buffer is cleared.

Preset N/A

Range N/A

Location Page M-219

Remarks The timeout period value is not affected by a preset or by a power cycle.

Run Complete Self Test

Supported All

Use this softkey to run an automated, internal diagnostic test that checks for detectable hardware failures. If there are hardware failures in the signal generator, refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is included for use by service personnel.

Run Highlighted Tests

Supported All

This softkey is provided for self-test diagnostics. If any tests fail then refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is included for use by service personnel.

Run Selected Tests

Supported All

This softkey is provided for self-test diagnostics. If any tests fail then refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is included for use by service personnel.

RWCDMA

Supported All

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

Preset N/A

Range N/A

Location Page M-224

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

S

S

This softkey appears in two locations.

In the DECT Format

Supported All with Option 402

Use this softkey to select the 16-bit synchronization word (S) as the active function. The preset hexadecimal value (when normal preset is selected) for synchronization reflects the DECT format. The current value for S appears in the S field near the bottom of the text area of the display.

Preset: *RFP timeslots*: E98A

PP timeslots: 1675

Range N/A

Location Pages M-119, M-183

Remarks None

In the GSM Format

Supported All with Option 402

Use this softkey to select the 1-bit binary stealing flag for both stealing flag fields in the normal burst timeslot the active function. Although the stealing flag fields accept binary values of zero or one, the front panel data entry is actually hexadecimal. Any value entered that is greater than one is automatically clipped back to a value of one.

Preset 0

Range 0–1

Location Page M-118

Remarks None

SA

Supported All with Option 402

Use this softkey to select a slow associated control channel as the timeslot type for the active timeslot.

Preset N/A

Range N/A

Location Page M-167

Remarks None

SACCH

Supported All with Option 402

Use this softkey to select the 12-bit slow associated control channel (SACCH). SACCH is used for transmission of control and supervision messages between a base station and a mobile. The preset hexadecimal value (when normal preset is selected) for SACCH reflects the North American Digital Cellular (NADC) or Personal Digital Cellular (PDC) format, displayed in the SACCH field near the bottom of the text area of the display.

Preset *PDC*: 0000 (UP TCH and Up VOX),
000000 (Dn TCH)

NADC: 000

Range *PDC*: 0000–FFFF (UP TCH and Up VOX),
000000–FFFFFF (Dn TCH)

NADC: 000–FFF

Location Pages M-135, M-151

Remarks None

Satellite ID

Supported All with Option 409

Use this softkey to set the identification number of the simulated GPS satellite or ground transmitter. The signal generator uses the unique pseudorandom noise (PRN) code assigned to the selected ID number to generate the C/A and P codes.

Preset 1

Range 1–37

Location Page M-96

Remarks N/A

Save

Supported All

Use this hardkey to access a menu from which you can select, delete, and re-save registers (instrument states) and sequences (groups of registers). The menu shows the registers in use and any comments associated with the registers for the last sequence accessed. The menu is updated whenever you make any changes to the registers or to the comments.

Preset N/A

Range N/A

Location Page M-216

Remarks Up to 100 storage registers and 10 register sequences are available, depending on the number and size of files.

Save Reg

Supported All

Use this softkey to save the current instrument state in the specified register.

Preset N/A

Range N/A

Location Page M-216

Remarks None

Save Secondary Frame State

Supported All with Option 402

Use this softkey to perform the following functions:

- save the current instrument state to memory using the selected format (such as DECT) as the prefix and _SECONDARY_FRAME as the suffix
- move the data pattern to the end of the data generator memory where it can be used to generate the secondary frame data

Preset N/A

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks When you turn on the secondary frame state, the secondary frame is generated as needed using the saved instrument state.

Save Seq[*n*] Reg[*nn*]

Supported All

This softkey enables you to save the current instrument state in the specified register within the specified sequence. The instrument state includes all of your setup selections except list sweep data and functions that do not change by the preset function or by a power cycle.

Preset N/A

Range N/A

Location Page M-216

Remarks Do not press this key until you have specified the correct sequence and register using the **Select Seq** and **Select Reg** softkey.

Save User Preset

Supported All

Use this softkey to establish a user-defined preset state. Set up the signal generator for conditions that you want to use for your unique preset state. Once defined, press the **Save User Preset** softkey to save the state. Only one user-defined preset state is allowed, any previously-saved state will be over-written. Press the **Preset Normal User** softkey to select **User**, and your instrument state will be recalled by the signal generator any time you press **Preset**. Refer to "Preset Normal User" on page 438 for more information.

Preset N/A

Range N/A

Location Page M-221

Remarks The user's state definition is a state file; it is not affected by an instrument preset or by a power cycle.

Scale To 0dB

Supported All with Option 400/401

This softkey scales all of the current channel powers so that the total power equals 0 dB while maintaining the power ratios between the individual channels.

Preset N/A

Range N/A

Location Pages M-19, M-20, M-30, M-40, M-44, M-50, M-235, M-241, M-246

Remarks None

Scale Waveform Data

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to scale the waveform data. To enable scaling of non-volatile waveform (NVWFM) memory, move the waveform to WFM1 memory first. This can be done by selecting the waveform in NVWFM memory, the **Load Store** softkey must be set to Load, and selecting Load Segment from NVWFM memory. Then toggle the **Load Store** softkey to Store. This activates the **Waveform Utilities** softkey from which you can select the **Scale Waveform Data** softkey.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks As the waveform is scaled down, it can lose bits of resolution. Once a bit of resolution is lost, it can not be regained by increasing the scaling value of the waveform.

Scaling

Supported All with Option 001 or 002

This softkey enables you to change the scaling percentage of the selected waveform segment. You can set the scaling percentage to a resolution of 0.01% within the specified range. After entering the desired scaling percentage, terminate the entry with the **%** softkey.

Preset 100.00%

Range: 1.00%–100.00%

Location Pages M-81, M-82

Remarks None

SCCPCH

Supported All with Option 400

This softkey selects a Secondary Common Control Physical Channel (SCCPCH) . The SCCPCH is used to transmit pages and signals to idling UEs.

Preset N/A

Range N/A

Location Pages M-234, M-237

Remarks The pre-defined Test Models 1, 2, and 3 each have a SCCPCH as a part of the configuration. The SCCPCH can also be selected from the Edit Channel Setup, Insert Row menu and the Multiple Channels, Type menu.

SCPI

Supported All

This softkey is available in the Preset Language menu and the Remote Language menu. All signal generator features can be accessed using SCPI (Standard Commands for Programmable Instruments). Choosing **SCPI** in the Preset Language menu allows you to select this remote language as the default after a normal preset. Choosing **SCPI** in the Remote Language menu allows you to immediately use this language to control the signal generator.

Preset N/A

Range N/A

Location Pages M-220, M-221

Remarks None

Scramble

Supported All with Option 400

This softkey appears in the Multiple Channels menu where you can define a channel and then insert multiple entries of that channel into the downlink Edit Channel Setup table editor.

Press this softkey to access a menu where you can select the scramble code, scramble type, and scramble offset for those channels.

After you enter the desired values, press the **Done** softkey to terminate the entry.

Preset N/A

Range N/A

Location Page M-237

Remarks This softkey is only available for downlink.

Scramble Code

Supported All with Option 400

This softkey selects a scramble code or enables you to sort the Edit Channel Setup table editor by scramble code number. The primary scrambling codes consist of scrambling codes n=16×i where i = 0 through 511. The nth set of secondary scrambling codes consists of scrambling codes 16×i+k, where k = 1 through 15.

There is a one-to-one mapping between each primary scrambling code and the 15 secondary scrambling codes so that the i:th primary scrambling code corresponds to nth secondary scrambling codes.

For uplink, the scrambling code is used to encode DPCH.

Preset 0

Range 0–511

Location Pages M-232, M-235, M-237

Remarks This key appears in several locations. In the Sort menu, this softkey will order the channels by the scramble code. In other locations this softkey enables you to enter in a scramble code number. The scramble code number can be entered from a menu, front-panel knob, up/down arrow keys or from the numeric keypad.

Scramble Code

Supported All with Option 400

This data field displays the scramble code for each of the channels in the Edit Channel Setup table editor.

Preset 0

Range 0–511

Location Page M-232

Remarks This field is only displayed in the downlink Edit Channel Setup table editor.

Scramble Off On

Supported All with Option 402

Use this softkey to set the operating state of the scramble capability.

Off When you select Off, the scrambling function is turned off.

On When you select On, the data in the related fields will be scrambled using the seed value set with the **Scramble Seed** softkey.

Preset Off

Range N/A

Location Pages M-167, M-199

Remarks This softkey is only available when the **Data Format Pattern Framed** softkey is set to Framed.

Scramble Offset

Supported All with Option 400

This softkey sets the scramble offset in the downlink Edit Channel Setup table editor. This is a value that is multiplied by 16 and added to the primary code . The primary code is entered under the scramble code softkey. To change the scramble offset, rotate the front-panel knob until the desired value is displayed, use the arrow keys, or enter the value using the numeric keypad and press the **Enter** and **Done** softkeys.

Preset 0

Range 0–15

Location Pages M-232, M-237

Remarks This softkey is only available for downlink.

Scramble Offset

Supported All with Option 400

This data field displays the scramble code offset for each of the channels in the Edit Channel Setup table editor.

Preset 0

Range 0–15

Location Page M-232

Remarks This field is only displayed in the downlink Edit Channel Setup table editor.

Scramble Seed

Supported All with Option 402

This softkey enables you to set the value of the scramble seed. Scramble seed specifies the scramble starting point in the PRBS generator. Enter values in hexadecimal.

In the Trans European Trunked Radio (TETRA) format, the 32-bit scramble seed comprises four fields. The two least significant bits are defined by the TETRA format as 1 (but you must input them anyway). The remaining 30 bits are the extended color code that is divided into three fields:

- mobile country code
- mobile network code
- color code

The two least-significant bits are appended to the color code, so if, for example, you set a color code of 1, a scramble seed of 7 is required.

Preset *TETRA*: FFFFFFFF

PHS: 3FFF

Range *TETRA*: 00000000–FFFFFFFF

PHS: 000–3FF

Location Pages M-167, M-199

Remarks This softkey is only available when the **Data Format Pattern Framed** softkey is set to Framed.

Scramble Type

Supported All with Option 400

This softkey accesses a menu from which you can select Standard, Right Alternate, or

Left Alternate as the scramble type in the downlink Edit Channel Setup table editor.

Preset Standard

Range N/A

Location Pages M-232, M-237

Remarks This softkey is only available for downlink.

Scramble Type

Supported All with Option 400

This data field displays the scramble type for each of the channels in the Edit Channel Setup table editor.

Preset STD

Range N/A

Location Page M-232

Remarks None

Scrambling Code

Supported All with Option 400

This field is displayed in the uplink user equipment (UE) menu and the downlink base station (BTS) menu. For uplink, the scrambling code is used to encode the signature of the physical random access channel (PRACH) preamble. For downlink, the scramble code is determined by the value set in the `SecScr Code OS` (secondary scramble code offset) field. The secondary scrambling code is the sum of the primary scramble code and the non-zero secondary scramble code offset. The primary scramble code is the product of the value set in the `Scrambling Code` field (0–511) and 16.

Preset N/A

Range *Downlink*: 0–511
Uplink: 0–16777215

Location Pages M-42, M-240, M-245

Remarks None

ScrCode Type

Supported All with Option 400

This field is displayed in the downlink ChipARB and displays the scramble code being used. To change the field selection, highlight the `ScrCode Type` field, press the **Edit Item** softkey and make a choice from the menu that appears.

Normal	Select scramble codes (16*511 + 15) 0–8191
Left	Normal + 8192 = 16384
Right	Left + Normal = 24575

Preset Normal

Range N/A

Location Page M-241

Remarks None

Screen Saver Delay:

Supported All

This softkey enables you to set a time interval before the screen saver is activated. This event, activating the screen saver, occurs after the specified time interval if there is no input from the front panel.

Preset N/A

Range 1–12 hours

Location Page M-219

Remarks The screen saver delay state is not affected by a preset or by a power cycle.

Screen Saver Mode

Supported All

This softkey selects **Light Only** or **Light & Text** for the screen saver. When you set the screen saver to Light Only, the display light is turned off after screen saver delay time has expired. When you set the screen saver to Light & Text, the display light and the text are turned off.

Preset N/A

Range N/A

Location Page M-219

Remarks The screen saver mode is not affected by a preset or by a power cycle. If you are leaving the display unchanged for long periods of time, set the mode to light & text; this prevents text burn-in on the display.

Screen Saver Off On

Supported All

This softkey selects the screen saver mode.

Off — With the screen saver off, the display remains on indefinitely.

On — With the screen saver on, the display is turned off after a specified time interval when no input from the front panel has occurred. The display will turn back on when any front panel signal generator key is pressed

Preset N/A

Range N/A

Location Page M-219

Remarks The screen saver mode is not affected by a preset or by a power cycle.

Search DL MCS5 Configure

Supported All with Option 300

Use this softkey to select the downlink MCS5 packet data channel to configure for the sensitivity search measurement.

Preset N/A

Range N/A

Location Page M-8

Remarks N/A

Search DL MCS9 Configure

Supported All with Option 300

Use this softkey to select the downlink MCS9 packet data channel to configure for the sensitivity search measurement.

Preset N/A

Range N/A

Location Page M-8

Remarks N/A

Search Uncoded Configure

Supported All with Option 300

Use this softkey to select the downlink uncoded channel to configure for the sensitivity search measurement.

Preset N/A

Range N/A

Location Page M-8

Remarks N/A

Second DPDCH I Q

Supported All with Option 400

This softkey selects whether the second DPDCH, if present, is set on I or Q. Subsequent DPDCH channels will alternate between I and Q.

I The second DPDCH is on I.

Q The second DPDCH is on Q.

Preset Q

Range N/A

Location Page M-232

Remarks This softkey is displayed in the uplink Edit Channel Setup menu.

Secondary Frame Off On

Supported All with Option 402

Use this softkey to select the operating state of the secondary frame. The secondary frame is a data pattern that coexists with the primary (the pattern that can be modified either from the front panel or by using SCPI commands).

Off When you select Off, the secondary frame is turned off.

On When you select On, the secondary pattern is generated from the instrument state saved using the **Save Secondary State** softkey.

Preset Off

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks A frame must have already been set as the secondary frame to turn the secondary state on.

Secondary Frame Trigger

Supported All with Option 402

This softkey accesses a menu of choices for triggering the use of either the primary frame or the secondary frame (whichever is not being currently used) when the current frame is completed. You can choose to trigger using the front panel **Trigger** hardkey, an external trigger supplied to the PATTERN TRIG IN connector, or by a SCPI command.

Preset Ext

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Secondary Key

Supported All with Option 400/401

Use this softkey to select the secondary column by which the table will be sorted.

The current selection is displayed under the **Secondary Key** softkey.

Preset *IS-95A:* Walsh Code
CDMA2000 (forward link): Rate
CDMA2000 (reverse link): Rate
W-CDMA (downlink and uplink): Spread Code

Range N/A

Location Pages M-20, M-27, M-36, M-235

Remarks None

SecScr Code OS

Supported All with Option 400

This field displays the secondary scramble code offset. The secondary scramble code offset is added to the primary scramble code.

Preset 0

Range: 0–15

Location Page M-241

Remarks None

Seed

Supported All with Option 001 or 002

Use this softkey to enter the initial value of the pseudorandom bit sequence.

Preset N/A

Range N/A

Location Pages M-69, M-75, M-100, M-115, M-131, M-147, M-163, M-179, M-195, M-211

Remarks None

Seg Advance Mode

Supported All with Option 001 or 002

This softkey accesses a menu of choices for segment advance as the dual arbitrary waveform (ARB) generator trigger type.

Preset N/A

Range N/A

Location Page M-78

Remarks None

Segment Advance

Supported All with Option 001 or 002

This softkey selects segment advance as the dual arbitrary waveform (dual ARB) generator trigger type. After receiving a trigger, while operating with a waveform sequence, the sequencer will play the next segment in the sequence.

Preset N/A

Range N/A

Location Page M-78

Remarks None

Select

Supported All with Option 001 or 002

There are two softkeys named Select, one in the Filter menu and one in the Modulation type menu. In the Filter menu, you can select a pre-modulation filter type; in the Modulation type menu, you can select a modulation.

Selecting a Filter

In the Filter menu, use this softkey to access a menu for selecting the pre-modulation filter type. You can choose from Root Nyquist, Nyquist, Gaussian, Rectangle, APCO 25 C4FM, UN3/4 Gaussian (for backward compatibility with previous models of ESG), W-CDMA and various IS-95 and IS-2000 filters. In addition to the pre-defined filters, you can access the catalog of files stored in the signal generator memory. You can select any filter that you have either created externally and downloaded into memory, or that you have created internally in the Define User FIR menu and then subsequently stored.

The selected filter type is displayed under the **Select** softkey.

Preset *NADC, PDC, PHS, TETRA and Custom:* Root Nyquist
GSM, DECT: Gaussian
EDGE: EDGE
CDMA,CDMA2000: IS-95 Mod w/EQ
WCDMA: WCDMA
GPS: Rectangle

Range N/A

Location Pages M-15, M-24, M-34, M-43, M-49, M-59, M-64, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240

Remarks None

Selecting a Modulation

In the Modulation Type menu, use this softkey to access a menu for defining the modulation types. In addition to the pre-defined modulations, you can access a catalog of FSK or I/Q files stored in the signal generator memory, where you can select a modulation that you have created and stored in either the Define User FSK or Define User I/Q menu.

The selected modulation type is displayed under the **Select** softkey.

Preset *Custom, NADC, PDC, PHS, and TETRA:* π/4 DQPSK
DECT: 2-Lvl FSK
EDGE: EDGE
GSM: MSK

Range N/A

Location Pages M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Select/Deselect All

Supported All

This softkey is provided for self-test diagnostics. Refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is intended for use by service personnel.

Select/Deselect Test

Supported All

This softkey is provided for self-test diagnostics. Refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is intended for use by service personnel.

Select File

Supported All with Option 001 or 002

Use this softkey to select a file in the displayed catalog of files. If you select a custom file as a data pattern for modulated transmissions, `UserFile` appears in the `Data` field of the

text display. If you select a custom file as the modulation type, `UserFile` appears in the `Mod Type` field of the text display.

Select File is located in each of the catalogs of files.

Preset N/A

Range N/A

Location Pages M-25, M-55, M-59, M-64, M-66, M-67, M-68, M-96, M-98, M-106, M-107, M-108, M-109, M-121, M-122, M-123, M-124, M-126, M-137, M-138, M-139, M-140, M-142, M-230

Remarks None

Select Reg

Supported All

Use this softkey to select a specific register to be highlighted in the list of saved states.

Preset N/A

Range N/A

Location Page M-216

Remarks If you use the front panel knob, each state is automatically activated as you pass over it.

Select Reg:

Supported All

This softkey enables you to select a register for all softkeys that specify a register in this menu. For example, if you want to select register 5, press **Select Reg:**. The currently selected register is displayed in the active entry area. Change the number to 5 and press the **Select Reg** terminator softkey. Register 5 is now displayed in all softkeys which specify a register in this menu.

You can also use this softkey to select a register and save the current instrument state to that register. For example, if you want to select and save to register 6, press **Select Reg:**. The currently selected register is displayed in the active entry area. Change the number to 6 and press the **Save Reg** terminator softkey. Register 6 is now displayed in all softkeys which specify a register in this menu and the current instrument state has been saved to register 6.

Preset N/A

Range 00–99

Location Page M-216

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

Select Seq:

Supported All

This softkey enables you to select a sequence for all softkeys which specify a sequence in this menu. For example, if you want to select sequence 4, press **Select Seq:**. The currently selected sequence is displayed in the active entry area. Change the number to 4 and press the **Enter** terminator softkey. Sequence 4 is now displayed in all softkeys that specify a sequence in this menu.

Preset N/A

Range 0–9

Location Pages M-215, M-216

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

Select Waveform

Supported All with Option 001 or 002

This softkey enables you to select the type of signal for the dual arbitrary waveform (Dual ARB) to generate.

Preset N/A

Range N/A

Location Page M-79

Remarks If there are no waveforms or sequences, this softkey selects None.

Self Test

Supported All

This softkey accesses an automatic, internal diagnostic test that checks for detectable hardware failures. If there are hardware failures in the signal generator, refer to the troubleshooting section of the service guide.

Preset N/A

Range N/A

Location Page M-222

Remarks This key is intended for use by service personnel.

Sensitivity Search Configure

Supported All with Option 300

This softkey accesses a menu that enables you to configure the parameters for the sensitivity search measurement functions.

Preset N/A

Range N/A

Location Page M-8

Remarks This softkey is active when the **Measurement Mode BER/BLER% Search** softkey is set to Search.

Seq

Supported All

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

Preset N/A

Range N/A

Location Page M-224

Remarks This key is intended for use by service personnel.

Set Date

Supported All

This softkey is used to set the date of the display clock. Enter the date in the year-month-day (YYYYMMDD) format and terminate the entry by pressing the **Enter** softkey.

Preset N/A

Range N/A

Location Page M-223

Remarks None

Set Marker Off All Points

Supported All with Option 001 or 002

This softkey enables you to clear the active marker from all waveform points.

Preset N/A

Range N/A

Location Pages M-81, M-82

Remarks This softkey is not available unless a waveform segment is selected.

Set Marker Off Range Of Points

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to clear the active marker over a range of points on the selected waveform.

Preset N/A

Range N/A

Location Pages M-81, M-82

Remarks This softkey is not available unless a waveform segment is selected.

Set Marker On First Point

Supported All with Option 001 or 002

This softkey turns on the active marker on the first point of the selected waveform.

Preset N/A

Range N/A

Location Pages M-81, M-82

Remarks This softkey is not available unless a waveform segment is selected.

Set Marker On Range Of Points

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to set the active marker over a range of points on the selected waveform.

Preset N/A

Range N/A

Location Pages M-81, M-82

Remarks This softkey is not available unless a waveform segment is selected.

Set Markers

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to set waveform markers on a selected waveform in arbitrary waveform (ARB) memory. To set markers in non-volatile arbitrary waveform (NVARB) memory, move the waveform to ARB memory first. This can be done by selecting the waveform in NVARB memory and setting the **Load Store** softkey to Store. This activates the **Set Markers** softkey.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Set Time

Supported All

This softkey is used to set the time of the display clock in the 24 hour format. Enter the hour values (00–23), minute and seconds values (00–59), and terminate the entry by pressing the **Enter** softkey.

Preset N/A

Range N/A

Location Page M-223

Remarks None

Setup Select

Supported All with Option 401

Use this softkey to access a menu for defining the type of digital modulation, IS-95A, or multicarrier IS-95A setup required for your application.

Preset *Digital Modulation:* NADC
IS-95A: 9 Ch Fwd
Multicarrier IS-95A: 3 Carriers

Range N/A

Location Pages M-14, M-55

Remarks To access the multicarrier IS-95A Setup Select menu, **Multicarrier Off On** must be set to On.

SF/2

Supported All with Option 400

This softkey, in the Compressed Mode Setup menu, indicates that the compressed mode is implemented by reducing the spread factor (SF) by a factor or two. The reduction in the SF allows for a doubling of the data rate. Refer to "CM Method" on page 129 for more information.

Preset N/A

Range N/A

Location Page M-249

Remarks If 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.

SFN-CFN Frame Offset

Supported All with Option 400

This field sets the system frame number – connection frame number (SFN-CFN) frame offset. When selected, this softkey adds a delay to the frame counter by specifying the starting frame number. Frame number "0" starts with the system sync trigger reset signal when the frame offset is set to zero. For example, if the frame offset is set to two, the signal generator counter starts 2 frames after the system sync trigger.

Preset 0

Range 0–255

Location Page M-245

Remarks None

SFN RST Polarity Neg Pos

Supported All with Option 400

This softkey sets the polarity of the system frame number (SFN) reset (RST) signal for uplink synchronization.

Neg The signal generator responds to a falling edge reset signal.

Pos The signal generator responds to a rising edge reset signal.

Preset Positive

Range N/A

Location Page M-248

Remarks None

Shape

Supported All

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

Preset N/A

Range N/A

Location Page M-223

Remarks None

Show Waveform Sequence Contents

Supported All with Option 001 or 002

This softkey displays the contents of the selected waveform sequence in a table format. The content information displayed is a list of the waveforms and corresponding repetitions for that sequence.

Preset N/A

Range N/A

Location Pages M-79, M-80, M-82

Remarks This softkey is only active when a sequence is highlighted.

Signal Polarity Setup

Supported All with Option 001 or 002

This softkey accesses a menu of external signals and choices for selecting the polarity of those signals.

Preset N/A

Range N/A

Location Page M-220

Remarks None

Signature

Supported All with Option 400

This field displays the signature for the PRACH preamble. The signature points to a node on the orthogonal variable spreading factor code (OVSF) code tree at a spread factor (SF) of 16. The signature helps the base station (BTS) know what OVSF code is going to be used to spread the message part of the PRACH signal.

Preset 0

Range 0–15

Location Page M-250

Remarks None

Sine

Supported All

This softkey appears in two different situations, enabling you to either select a sine burst shape, or specify sine as a modulation waveform.

Selecting Sine as a Burst Shape

Use this softkey to specify sine for the timeslot burst shape. Sine, as it is modified by the

default burst rise and fall values, is the default burst shape.

Preset N/A

Range N/A

Location Pages M-66, M-109, M-124, M-140, M-156, M-172, M-188, M-204

Remarks None

Specifying Sine as a Modulation Waveform

This softkey enables you to specify sine as the modulation waveform for the internally generated, ac-coupled signal.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85, M-90

Remarks The selected waveform applies only to the path configuration you have currently selected.

Single

Supported All with Option 001 or 002

In the Trigger Menu

This softkey sets the trigger type to single. After receiving a trigger, the waveform will play once and then wait for another signal from the selected trigger source before playing again.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-78, M-55, M-231

Remarks None

In the Segment Advance Menu

This softkey sets the segment advance mode to single. After receiving a trigger, the next segment is played once. Triggers received during play are ignored.

Preset N/A

Range N/A

Location Pages M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200

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

Single Sweep

Supported All

Use this softkey to arm the sweep. The signal generator will begin the sweep as soon as the sweep trigger is received. The sweep sets the power and the frequency to the first point of the sweep while it is not initiated or is waiting for the sweep trigger. If you have set the sweep trigger to **Free Run**, a sweep is initiated as soon as you arm the sweep.

The ARMED annunciator will turn on in the display, unless the sweep trigger is set to **Free Run**.

Preset N/A

Range N/A

Location Page M-217

Remarks This key is disabled when **Sweep** is set to Off.

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. For downlink, the 17 slot formats are described in the 3GPP Technical Specification (TS 25.141 V3.3). For uplink, the 6 slot formats for DPCCH and the 7 slot formats for DPDCH are described in the 3GPP Technical Specification (TS 25.211 V3.6).

Preset *Downlink*: 0

Range *Downlink*: 0–16 Refer to Table 2.

Table 2

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

Preset *Uplink, DPCCH*: 0

Range *Uplink, DPCCH*: 0–5 Refer to Table 3.

Table 3

Slot Format	**0**	**1**	**2**	**3**	**4**	**5**
Symbol Rate (ksps)	15	15	15	15	15	15
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

Preset *Uplink, DPDCH*: 2

Range *Uplink, DPDCH*: 0–6 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 Page M-241, M-246

Remarks None

Software Options

Supported All

This softkey accesses a menu from which you can configure your signal generator to enable any software option that you have purchased. Software options are linked to specific optional hardware that must first be installed before the software option can be used. Adding new software options requires the use of a license key that is provided by Agilent Technologies at the time of purchase.

Preset N/A

Range N/A

Location Page M-223

Remarks Do not modify the license key for enabled software options: you will disable the option.

NOTE If a previously installed software option becomes disabled, verify the following:

- the optional hardware is present/installed.
- the hardware option is enabled.
- the software option is enabled with the correct license key.

Refer to your License Key Certificate for the correct license key or, if the option was installed by Agilent Technologies, contact your local service office and tell them the instrument's model number, the host ID number, and the software option that should be enabled

Sort

In the CDMA Menu

Supported All with Option 401

Use this softkey to sort the CDMA channel setups based on the values in the columns selected using the **Primary Key** (first sort) and **Secondary Key** (second sort) softkeys.

Preset N/A

Range N/A

Location Pages M-20, M-27, M-36

Remarks None

In the W-CDMA Menu

Supported All with Option 400

Use this softkey to sort the table using the parameters selected from the Sort Table menu.

Preset N/A

Range N/A

Location Page M-235

Remarks None

Sort Table

In the CDMA Menu

Supported All with Option 401

Use this softkey to access a menu from which you can sort the CDMA channel setups based on the values in the columns selected using the **Primary Key** (first sort) and **Secondary Key** (second sort) softkeys.

Preset N/A

Range N/A

Location Page M-19, M-27, M-36

Remarks None

In the W-CDMA Menu

Supported All with Option 400

This softkey accesses a menu from which you can sort the Edit Channel Setup table editor files by selecting primary and secondary keys. The primary and secondary keys are columns in the Edit Channel Setup table editor.

Preset N/A

Range N/A

Location Page M-232

Remarks Sorting of the uplink channel is done by spread code and/or rate. The downlink channel can be sorted by spread code, rate, and/or scramble code.

Source 1

Supported All

Use this softkey to access a menu from which you can select a signal source to be routed to the internal I/Q modulator.

Preset Ext 50 Ohm

Range N/A

Location Page M-94

Remarks When a digital modulation format is turned on, the **Source 1** and **I/Q Out** selections automatically switch to BBG1. When the digital modulation is turned off, the **Source 1** and **I/Q Out** selections automatically switch to Ext 50 Ohm. You can manually override the automatic settings.

Spcl Pattern 0's 1's

Supported All with Option UN7

Use this softkey to set the parameter of the special pattern ignore function.

0's — With this choice, the function detects more than 80 bits of 0's in the incoming bit stream and ignores these bits during BER measurements.

1's — With this choice, the function detects more than 80 bits of 1's in the incoming bit stream and ignores these bits during BER measurements.

Preset 0's

Range N/A

Location Page M-6

Remarks This key is enabled when the **Special Pattern Ignore Off On** softkey is set to On.

Spcl Pattern Ignore Off On

Supported All with Option UN7

Use this softkey to set the operating state of the special pattern ignore function.

Off — This choice disables the special pattern ignore function.

On — With this choice, the function detects more than 80 bits of 0's or 1's in the incoming bit stream and ignores these bits during BER measurements.

Preset Off

Range N/A

Location Page M-6

Remarks None

Spectrum Invert Off On

Supported All with Option 300

Use this softkey to set the spectrum inverting state of the received RF signal.

Off — With this choice, the spectrum state is unaffected.

On — This choice inverts the RF signal.

Preset On

Range N/A

Location Page M-7, M-8

Remarks None

Spread Code

Supported All with Option 400

This softkey selects spread code values as the parameter for sorting the Edit Channel

Setup table editor.

Preset N/A

Range N/A

Location Page M-235

Remarks N/A

Spread Code

Supported All with Option 400

This data field displays the spread code number used for each channel in the Edit Channel Setup table editor. The spread code is an Orthogonal Variable Spread Factor (OVSF) code. This field is displayed for both uplink and downlink setups.

Preset *Downlink*: 8

Uplink: 0

Range *Downlink*: 0–511

Uplink: 0–255

Location Page M-232

Remarks The maximum spreading code that can be used for a particular channel depends on the selected symbol rate for that channel.

Spread Rate

Supported All with Option 401

This field displays the current spread rate value. The grayed-out text in this field indicates that you cannot change the value.

Preset 1

Range N/A

Location Pages M-42, M-48

Remarks Spread rate 1 equals 1.2288 Mcps.

Spread Rate

Supported All with Option 401

Use this softkey to access a menu from which you can choose a spread rate for the current CDMA2000 waveform.

Preset SR1

Range N/A

Location Pages M-23, M-33

Remarks This softkey becomes inactive (text is grayed-out) when multicarrier mode is on since the spread rate data is already contained in the individual carrier setups.

Spread Rate 1

Supported All with Option 401

Use this softkey to select spread rate 1 for the CDMA2000 waveform.

Spread rate 1 equals a 1.2288 Mcps chip rate. Spread rate 1 has the advantage of being spectrally more efficient than spread rate 3, but with lower available data rates.

Preset N/A

Range N/A

Location Pages M-23, M-33

Remarks None

Spread Rate 3

Supported All with Option 401

Use this softkey to select spread rate 3 for the CDMA2000 waveform.

Spread rate 3 equals a 3.6864 Mcps chip rate. Higher data rates can be achieved using spread rate 3, though offset by greater bandwidth/spectrum usage.

Preset N/A

Range N/A

Location Pages M-23, M-33

Remarks None

Spreading Type Direct Mcarrier

Supported All with Option 401

This softkey toggles the CDMA2000 waveform spreading type between single (direct spread) and multiple carriers.

Direct — In this mode, transmissions are spread over a single carrier.

Mcarrier — In this mode, transmissions are spread over three carriers.

Preset Direct

Range N/A

Location Page M-23

Remarks This softkey is available only when the spread rate is 3, **Link Forward Reverse** is set to Forward, and **Multicarrier Off On** is set to Off.

Spurious Response

Supported All with Option 400

This softkey selects spurious response as the test setup. The spurious response test is a measure of the receiver's ability to receive a desired signal in the presence of an unwanted signal. Refer to 3GPP Standard TS 25.101 for information on the spurious response setup.

Preset N/A

Range N/A

Location Page M-241

Remarks None

Square

Supported All

This softkey enables you specify a square wave as the modulating waveform.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85, M-90

Remarks In the LF Out menu this softkey is available after selecting the internal source to operate as a function generator. The modulation applies only to the path configuration you have selected.

SR1 9 Channel

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 1, 9 channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SR1 Pilot

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 1, single pilot channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SR3 Direct 9 Channel

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 3, direct spread, 9 channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SR3 Direct Pilot

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 3, direct spread, single pilot channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SR3 Mcarrier 9 Channel

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 3, multicarrier spread, 9 channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SR3 Mcarrier Pilot

Supported All with Option 401

Use this softkey to insert a forward link, spread rate 3, multicarrier spread, single pilot channel CDMA2000 setup into the multicarrier table.

Preset N/A

Range N/A

Location Page M-25

Remarks None

SSCH

Supported All with Option 400

Pressing this softkey inserts a Secondary Synchronization Channel (SSCH) into the

downlink Edit Channel Setup table editor. The SSCH channel sends a pattern of codes in each frame and is used to provide an identifying signal and timing reference for each base station.

Preset N/A

Range N/A

Location Pages M-234, M-237

Remarks None

SSCH 2nd Scramble Group

Supported All with Option 400

This field displays the secondary synchronization code (SSC) group. The SSC represents a code group of 16 subcodes, each with a length or 256 chips.

Preset 2nd Scramble Group 0

Range 0–15

Location Page M-241

Remarks None

SSCH Power

Supported All with Option 400

This field displays the secondary synchronization channel (SSCH) power. This channel consists of the secondary synchronization code (SSC), a fixed 256-chip code broadcast by all W-CDMA base stations (BTS).

Preset –8.30 dB

Range –40 dB to 0

Location Page M-241

Remarks None

SSCH State

Supported All with Option 400

This field displays the on/off state for the secondary synchronization channel (SSCH).

Preset On

Range N/A

Location Page M-241

Remarks None

Standard

Supported All with Option 400

This softkey sets the downlink channel scramble type to standard.

Preset N/A

Range N/A

Location Pages M-232, M-237

Remarks Standard scramble, left alternate, and right alternate are the scramble type choices.

Start Frequency

Supported All

Use this softkey to set the start frequency for an I/Q calibration.

You can select a portion of the frequency range for an I/Q calibration by setting the **Calibration Type User Full** softkey to User and entering new start and stop frequencies. This softkey is automatically set to the minimum specified frequency of the signal generator if you have set the **Calibration Type User Full** softkey to Full. If you toggle back to User from the Full setting, the User value for **Start Frequency** will be restored.

Preset N/A

Range 100 kHz–stop frequency setting (up to maximum frequency of instrument)

Location Page M-88

Remarks This softkey is grayed out (not editable) until the calibration type is set to User.

The **Start Frequency** setting is not affected by an instrument preset or by a power cycle.

Start Sub-Channel#

Supported All with Option 400

This field displays the sub-channel number used for the first preamble generation timing of physical random access channel (PRACH).

Preset 0

Range 0–11

Location Page M-253

Remarks The 80 msec frame clock matches the cycle of sub-channel number zero.

State

Supported All

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

Preset N/A

Range N/A

Location Page M-221

Remarks None

State

Supported All with Option 401

This field displays the operating state of the selected real time CDMA2000 channel. To toggle the operating state of the selected channel, highlight the State field and press the **Edit Item** softkey.

Preset Depends on the channel configuration

Range N/A

Location Pages M-44, M-50

Remarks None

Step Dwell

Supported All

This softkey enables you to set the dwell time for each point of a step sweep. The dwell time is the amount of time the sweep is guaranteed to pause after setting the frequency and power for the current sweep/list point.

Preset 2.0 ms

Range 1.0 ms–60.0 s (in 1.0 ms increments)

Location Page M-217

Remarks Dwell time is used when the point trigger is set to **Free Run**.

Step/Knob Ratio

Supported All

This softkey enables you to set the ratio between the increment value of the step keys and the front panel knob. For example, if you set the increment value for frequency to 1.0 MHz and set the step/knob ratio to 10/1, when frequency is the active function the up and down arrow keys will change the frequency in 1.0 MHz steps and the front panel knob will change the frequency in 1/10th of 1.0 MHz steps.

When you press **Step/Knob Ratio** the number displayed in the active entry area represents the arrow keys step size in the ratio. To enter a new value, rotate the front panel knob until the desired value is displayed, use the up and down arrow keys, or enter the value using the numeric keypad and press the **Enter** terminator key.

Preset N/A

Range 1–10,000

Location Page M-220

Remarks This ratio applies only when you have a function active that has an associated increment value. The step/knob ratio is not affected by a preset or by a power cycle.

Stop CFN

Supported All with Option 400

This field displays the first radio frame of the first pattern 1 connection frame number (CFN). It defines the stop CFN number to end compressed mode when a stop trigger occurs. When the stop trigger occurs, the next stop CFN will terminate the compressed

mode operation regardless of the transmission gap pattern repetition count (TGPRC) number.

Preset 0

Range 0–255

Location Page M-249

Remarks The signal generator counts the CFN relative to the system sync signal.

Stop Frequency

Supported All

Use this softkey to set the stop frequency for an I/Q calibration.

You can select a portion of the frequency range for an I/Q calibration by setting the **Calibration Type User Full** softkey to User and entering new start and stop frequencies. This softkey is automatically set to the maximum specified frequency of the signal generator if you have set the **Calibration Type User Full** softkey to Full. If you toggle back to User from the Full setting, the User value for **Stop Frequency** will be restored.

Preset N/A

Range Current start frequency setting–maximum frequency of instrument

Location Page M-88

Remarks This softkey is grayed out (not editable) until the calibration type is set to User.

The **Stop Frequency** setting is not affected by an instrument preset or by a power cycle.

Stop Measurement

Supported All with Option 300

This softkey stops the current measurement.

Preset N/A

Range N/A

Location Page M-7, M-8

Remarks This softkey is active only when the format is enabled.

Store All To NVARB Memory

Supported All with Option 001 or 002

This softkey enables you to store all of the files from arbitrary waveform (ARB) memory to non-volatile arbitrary waveform (NVARB) memory.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Store All To NVWFM Memory

Supported All with Option 001 or 002

This softkey enables you to store all of the files from arbitrary waveform (WFM1) memory to non-volatile arbitrary waveform (NVWFM) memory.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Store Custom CDMA State

Supported All with Option 401

Use this softkey to access a menu from which you can store the current custom CDMA state into a user-defined file. Afterward, you can recall this custom state from the signal generator's memory.

Along with the contents of the CDMA channel table editor (channel types, Walsh code, power levels, PN offset, and data), this softkey enables you to store the following signal generator state information to the memory catalog:

- FIR filter
- FIR filter file name
- FIR filter alpha
- FIR filter BbT

- channel setup
- chip rate
- waveform length
- oversample ratio
- normal or inverted I/Q mapping
- I/Q clipping

Preset N/A

Range N/A

Location Pages M-15, M-24, M-34

Remarks None

Store Custom Dig Mod State

Supported All with Option 001 or 002

This softkey accesses a menu that enables you to store the current custom digital modulation state into a user-defined file. Afterward, you can recall this custom state from the signal generator's memory using the **Custom Digital Mod State** softkey.

This softkey stores the following signal generator state information to the memory catalog:

- filter information
- symbol rate
- modulation type
- FSK deviation

Preset N/A

Range N/A

Location Page M-56

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

Store Custom Multicarrier

Supported All with Option 401

Use this softkey to access a menu from which you can store the contents of the

multicarrier table editor into a file.

This softkey enables you to store the following information for each carrier:

- type of carrier
- frequency offset
- power level
- number of different carriers

Preset N/A

Range N/A

Location Pages M-16, M-25, M-230

Remarks To recall a custom multicarrier setup, use the **Custom CDMA Carrier** softkey.

Store Custom W-CDMA State

Supported All with Option 400

This softkey accesses a menu where you can store the current custom W-CDMA state into a file. The stored state file can be recalled for later use as described under the **Custom W-CDMA State** softkey.

Along with the contents of the W-CDMA channel table editor, the following information is also stored:

- FIR filter
- FIR filter file name
- FIR filter alpha
- FIR filter BbT
- FIR filter channel (EVM or ACP)
- I/Q Mapping
- Link
- Chip rate
- ARB reference clock source (internal or external)
- ARB reference clock frequency
- Clipping Level

- Downlink TFCI state
- Uplink TFCI state
- Uplink DPDCH (second DPDCH I or Q)
- Uplink Scramble Code

Preset N/A

Range N/A

Location Page M-229

Remarks None

Store Ref Osc Setting

Supported All

This softkey enables you to store the current coarse and fine reference oscillator adjustment settings. Refer to the calibration guide for more information.

Preset N/A

Range N/A

Location Page M-220

Remarks This adjustment is intended for use by service personnel.

Store Segment To NVARB Memory

Supported All with Option 001 or 002

This softkey enables you to store the selected file from arbitrary waveform (ARB) memory to non-volatile arbitrary waveform (NVARB) memory.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Store Segment To NVWFM Memory

Supported All with Option 001 or 002

This softkey enables you to store the selected file from arbitrary waveform (WFM1)

memory to non-volatile arbitrary waveform (NVWFM) memory.

Preset N/A

Range N/A

Location Pages M-79, M-82

Remarks None

Store To File

Supported All

Use this softkey to store the current data to a file in the internal non-volatile memory for later recall and use.

Preset N/A

Range N/A

Location Pages M-4, M-25, M-56, M-60, M-66, M-68, M-71, M-72, M-100, M-114, M-115, M-116, M-117, M-130, M-131, M-132, M-133, M-146, M-147, M-148, M-149, M-218, M-230

Remarks The file name can consist of up to 23 alpha-numeric and special characters.

Sub Channel Timing (RPS17)

Supported All with Option 400

This softkey assigns sub channel timing to the selected rear panel AUX I/O output connector or BNC. The sub channel number sets the start of preamble transmission.

Preset N/A

Range N/A

Location Page M-251

Remarks The sub-channel timing can be assigned to numerous different output connectors/pins. The **(RPS17)** designator refers to the remote SCPI command that corresponds to this softkey.

Subnet Mask

Supported All

This softkey is used to configure the LAN subnet mask.

Preset N/A

Range N/A

Location Page M-219

Remarks Your IT service can define up a subnet mask for the signal generator.

Supplemental1 Traffic

Supported All with Option 401

Use this softkey to access a menu from which you can define and insert one or more supplemental 1 traffic channels into the CDMA2000 channel setup.

Preset N/A

Range N/A

Location Pages M-30, M-39

Remarks This softkey is available only when **Multicarrier Off On** is set to Off.

Supplemental2 Traffic

Supported All with Option 401

Use this softkey to access a menu from which you can define and insert one or more supplemental 2 traffic channels into the CDMA2000 channel setup.

Preset N/A

Range N/A

Location Pages M-30, M-39

Remarks This softkey is available only when **Multicarrier Off On** is set to Off.

SW

Supported All with Option 402

Use this softkey to select the 20-bit frame synchronization word as the active function. The preset hexadecimal value (when normal preset is selected) for SW reflects the Personal Digital Cellular (PDC) format, and appears in the SW field near the bottom of the text area of the display.

Preset *UP TCH and Up VOX*: 785B4

Dn TCH: 87A4B

Range N/A

Location Page M-151

Remarks None

Sweep

Supported All

Use this softkey to access a menu from which you can configure the sweep parameters. In this menu you can choose to sweep frequency only, amplitude only, or both frequency and amplitude. You can also choose to turn off all sweep functions.

Preset Off

Range N/A

Location Page M-217

Remarks None

Sweep Direction Down Up

Supported All

This softkey enables you to change the direction of the sweep.

Down — Choose Down to sweep from the last point in the list sweep to the first point, or from the step sweep stop frequency and amplitude to the start frequency and amplitude.

Up — Choose Up to sweep from the first point in the list sweep to the last point, or from the step sweep start frequency and amplitude to the stop frequency and amplitude.

Preset Up

Range N/A

Location Page M-217

Remarks None

Sweep/List

Supported All

Use this hardkey to access a menu of softkeys that enables you to define a series of points containing frequency, amplitude, and dwell time information for the signal generator to sweep.

Preset N/A

Range N/A

Location Page M-217

Remarks None

Sweep Repeat Single Cont

Supported All

This softkey toggles the sweep repetition between single sweep and continuous sweep types. The sweep and point triggers will then trigger the sweep.

Single — Choose Single to configure the instrument to perform a single sweep upon triggering.

Cont — Choose Cont to configure the instrument to perform a continuous sweep loop upon triggering.

Preset Cont

Range N/A

Location Page M-217

Remarks None

Sweep Trigger

Supported All

Use this softkey to access a menu from which you can select a triggering mode for a sweep. You can choose triggering that, once a sweep is armed, occurs immediately, is supplied by the GPIB or LAN, occurs on either the positive or negative edge of a signal supplied to the TRIG IN connector, or is initiated by the **Trigger** hardkey.

Preset Free Run

Range N/A

Location Page M-217

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.

Sweep Type List Step

Supported All

This softkey toggles the sweep type between list sweep and step sweep.

List — You can create a list sweep by supplying the frequency, amplitude, and dwell time for each point in the sweep.

Step — You can create a step sweep by supplying the start and stop frequency and amplitude, the number of points, and a dwell time. The signal generator then calculates the points between the first and last point in a linear manner.

Preset List

Range N/A

Location Page M-217

Remarks None

Swept-Sine

Supported All

This softkey selects a swept-sine wave for the modulation waveform. A menu of choices for setting the parameters is also available with this softkey. The menu selections are dependent on the modulation format.

In each of these menus the TRIGGER OUT polarity can be selected to be either positive or negative.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85, M-90

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

Symbol Rate

This softkey occurs in different locations.

As a menu

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can set a new transmission symbol rate or restore the default symbol rate.

Preset N/A

Range N/A

Location Pages M-64, M-120, M-136

Remarks None

As a Setting

Supported All with Option 001 or 002

Use this softkey to set a new transmission symbol rate value.

The current symbol rate is displayed under the **Symbol Rate** setting softkey.

Preset *Custom, NADC*: 24.300 ksps
PDC: 21.000 ksps
DECT: 1.152000 Msps
PHS: 192.000 ksps
EDGE, GSM: 270.833 ksps
TETRA: 18.000 ksps
APCO 25 w/C4FM, APCO 25 w/CQPSK: 4.800ksps
CDPD: 19.200 ksps
PWT: 576.000 ksps

Range *EDGE:* 1.000 ksps–25.000000 Msps
Other formats: 1.000 ksps–50.000000 Msps

Location Pages M-56, M-64, M-120, M-136

Remarks None

In W-CDMA Menus

Supported All with Option 400

In downlink, this softkey appears in the Multiple Channels menu where you set a symbol rate value, define a channel and then insert multiple entries of that channel into

the Edit Channel Setup table editor.

In uplink, this softkey appears in the Insert DPDCH menu where you can set a symbol rate value, select the number of channels, and select the first spread code.

Preset *Downlink*: 30 ksps

Uplink: 60 ksps

Range *Downlink*: 7.5 ksps–960 ksps

Uplink: 15 ksps–960 ksps

Location Page M-237

Remarks None

Symbol Rate

Supported All with Option 400

This field displays the symbol rate for the selected channel. The symbol rate is shown in the active entry area of the display. For downlink, this field is displayed for the DPCH channel. For uplink, this field is active for the DPCCH and DPDCH.

Preset *DPCH*: 7.0 ksps

DPCCH: 15.0 ksps

DPDCH: 60.0 ksps

Range 7.5–960.0 ksps

Location Pages M-241, M-246

Remarks None

Slot Format, Symbol Rate and Maximum Channel Code for downlink are determined from Table 5:

Table 5

Slot Format	**0-1**	**2-7**	**8-11**	**12**	**13**	**14**	**15**	**16**
Symbol Rate (ksps)	7.5	15.0	30.0	60.0	120.0	240.0	480.0	960.0
Max Ch Code	511	255	127	63	31	15	7	3

Slot Format, Symbol Rate and Maximum Channel Code for uplink are determined from Table 6:

Table 6

Slot Format	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Symbol Rate (ksps)	15.0	30.0	60.0	120.0	240.0	480.0	960.0
Max Ch Code	255	127	63	31	15	7	3

Symbol Sync Out

Supported All with Option 400

This field, displayed in the PRACH and DPCCH Rear Panel Setup menu, indicates symbol sync out rear panel connector settings. For example, signal type and connection locations are shown.

Preset N/A

Range N/A

Location Page M-247

Remarks For information on the rear panel AUX I/O connector configuration, refer to chapter 1 of the User's Guide.

Symbol Sync Out Polarity Neg Pos

Supported All with Option 001 or 002

This softkey is used to configure the polarity of the TTL signal at the SYM SYNC OUT pin of the AUX I/O connector.

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

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

Preset N/A

Range N/A

Location Page M-223

Remarks None

Symbol Sync Polarity Neg Pos

Supported All with Option 001 or 002

This softkey is used to configure the polarity of the TTL signal at the SYMBOL SYNC connector.

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

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

Preset Pos

Range N/A

Location Page M-220

Remarks None

Symbol Timing Err

Supported All with Option 406

This softkey enables you to set a symbol timing error in either parts per million (ppm) or hertz (Hz). A 20 ppm timing error corresponds to a 20 Hz shift in the symbol rate.

Preset 0.0

Range –50 ppm to 50 ppm

Location Page M-226

Remarks None

Sync

In the CDMA Menu

Supported All with Option 401

Use this softkey to insert a synchronization channel into the current channel setup table.

Preset N/A

Range N/A

Location Page M-19, M-30

Remarks None

In the Real Time TDMA Menu

Supported All with Option 402

Use this softkey to select synchronization as the timeslot type for the active timeslot. Synchronization is a downlink burst that allows the mobile to synchronize in time with the base station.

When you select **Sync** for a timeslot, the visual representation of the timeslot pattern on the display updates to show the selection.

Preset N/A

Range N/A

Location Page M-119

Remarks None

SYNC

In the NADC Format

Supported All with Option 402

This softkey enables you to select the 28-bit synchronization word that is used for slot synchronization, equalizer training, and timeslot identification.

The current value appears in the SYNC field near the bottom to the text area of the display.

Preset A91DE4A

Range 0000000–FFFFFFF

Location Page M-135

Remarks None

In the PHS Format

Supported All with Options 402

Press this softkey to select a synchronization channel as the timeslot type for the active timeslot. This channel includes the correct burst envelope timing and, for internally generated data, a correct cyclic redundancy check (CRC).

Preset N/A

Range N/A

Location Page M-167

Remarks None

Sync Out

Supported All with Option 001 or 002

Use this softkey to access a menu of choices for outputting a 1-bit synchronization signal to the EVENT 1 rear panel connector. You can set the synchronization signal to occur at various points, relative to the selected data pattern.

Preset Begin Pattern

Range N/A

Location Pages M-67, M-103, M-118, M-134, M-150, M-166, M-182, M-198

Remarks None

Sync Out Offset

Supported All with Option 001 or 002

Press this softkey to set an offset from the synchronization location.

Preset 0 bits

Range *DECT:* –479 through +479 bits
EDGE and GSM: –155 through +155 bits
NADC, PDC: –323 through +323 bits
PHS: –239 through +239 bits
TETRA: –509 through +509 bits

Location Pages M-67, M-103, M-118, M-134, M-150, M-166, M-182, M-198

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.

Sync Source BCH TCH/PDCH

Supported All with Option 300

This softkey enables you to select the synchronization source for the GSM 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.

TCH/PDCH — This choice selects a traffic channel (TCH) or a packet data channel (PDCH) as the synchronization source.

TCH synchronization relies on the BTS to supply a TCH training sequence to which the receiver can synchronize. However, the receiver must be told which timeslot is being received, since it has no absolute reference (unlike a BCH, which is always transmitted in timeslot 0).

PDCH synchronization relies on the BTS to monitor the delay of the access bursts and update the timing advance values in the next downlink signalling message following the access burst.

PDCH synchronization is used when one of the GSM channels CS1, CS4, or MCS1 is selected.

Preset BCH

Range N/A

Location Page M-7

Remarks None

Sync Source SFN FClk

Supported All with Option 400

This softkey sets the uplink synchronization signal to system frame number reset signal or to the frame clock signal.

SFN — Selects the system frame number reset signal as the synchronization source.

FClk — The synchronization source is the frame clock signal.

Preset FClk

Range N/A

Location Page M-248

Remarks None

Synchronize to BCH/TCH/PDCH

Supported All with Option 300

This softkey releases the current synchronization with the base transceiver station (BTS) and immediately tries to synchronize to the sync source that is selected. This softkey also stops the measurement.

Preset BCH

Range N/A

Location Page M-7

Remarks This softkey is active when the **GSM BERT Off On** softkey is set to On.

Synchronize to BCH/PDCH

Supported All with Option 300

This softkey releases the current synchronization with the base transceiver station (BTS) and immediately tries to synchronize to the sync source that is selected. This softkey also stops the measurement.

Preset BCH

Range N/A

Location Page M-8

Remarks None

System ID

Supported All with Option 401

This field displays the current system identification value. To change the system identification, highlight the System ID field, press the **Edit Item** softkey and enter a new hexadecimal value.

Preset 0007

Range 0000–7FFF

Location Page M-44

Remarks None

T

T1

Supported All with Option 402

Use this softkey to edit the 9-bit tail fields in the normal burst timeslot. Use hexadecimal to enter the value; the signal generator will convert it to binary.

Preset 1FF

Range 0–1FF

Location Page M-104

Remarks None

T2

Supported All with Option 402

Use this softkey to edit the 9-bit tail fields in the normal burst timeslot. Use hexadecimal to enter the value; the signal generator will convert it to binary.

Preset 1FF

Range 0–1FF

Location Page M-104

Remarks None

Target %

Supported All with Option 300

This softkey enables you to set the target bit error rate (BER) or residual bit error rate (RBER) in percent (the percent of allowable errors) for the GSM BER sensitivity search.

Preset 2%

Range 0–100%

Location Page M-7

Remarks None

Target BER %

Supported All with Option 300

This softkey enables you to set the target bit error rate (BER) in percent (the percent of allowable errors) for the EDGE uncoded channel BER sensitivity search.

Preset 2%

Range 0–100%

Location Page M-11

Remarks None

Target BLER %

Supported All with Option 300

This softkey enables you to set the target block error rate (BLER) in percent (the percent of allowable errors) for the EDGE downlink MCS5 or MCS9 channel BER sensitivity search.

Preset 2%

Range 0–100%

Location Page M-8

Remarks None

TCH

Supported All with Option 402

This softkey appears in two locations.

In the Timeslot Type Menu

In this menu, this softkey selects traffic channel as the timeslot type for the active timeslot. When you select **TCH** for a timeslot, the visual representation of the timeslot pattern on the display immediately updates to show the configuration.

In the Configure TCH Menu

In this menu, this softkey accesses a menu of choices for internal data generation (PN sequences, fixed, 4-bit repeating sequences, set patterns of ones and zeroes) or you can choose to supply your own data (download a binary file or input data using the

DATA INPUT connector) for configuring the timeslot TCH fields.

Preset PN23

Range N/A

Location Pages M-151, M-167

Remarks None

TCH/FS

Supported All with Option 402

Use this softkey to select a full rate speech traffic channel as the timeslot type for the active timeslot in the GSM personality.

Preset N/A

Range N/A

Location Page M-121

Remarks None

TCH All

Supported All with Option 402

Use this softkey to select traffic channel as the timeslot type for all timeslots in either the uplink or the downlink channel, depending on which is active.

When you select **Up TCH All**, the visual representation of the timeslot pattern on the display immediately updates.

Preset N/A

Range N/A

Location Page M-167

Remarks None

tDPCH Offset

Supported All with Option 400

This field displays the timing offset for the DPCH and Chip ARB. Each numeric value entered is equivalent to 256 chips or 1/10 of a timeslot offset. The timing offset affects the crest factor of the signal. By varying the timing offset, the probability of all DPCH's

adding in phase and producing a high peak-to-average ratio or crest factor is minimized. Base stations vary the timing between DPCHs so that amplifiers can be run at the most efficient level. The signal generator duplicates this behavior.

Preset N/A

Range 0–149

Location Page M-232, M-241

Remarks None

Test Models

Supported All with Option 400

Use this softkey to display a menu of pre-configured Test Model setups for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 1 W/ 16 DPCH

Supported All with Option 400

This softkey selects Test Model 1 with 16 DPCHs for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 1 W/ 32 DPCH

Supported All with Option 400

This softkey selects Test Model 1 with 32 DPCHs for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 1 W/ 64 DPCH

Supported All with Option 400

This softkey selects Test Model 1 with 64 DPCHs for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 2

Supported All with Option 400

This softkey selects Test Model 2 for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 3 W/ 16 DPCH

Supported All with Option 400

This softkey selects Test Model 3 with 16 DPCHs for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 3 W/ 32 DPCH

Supported All with Option 400

This softkey selects Test Model 3 with 32 DPCHs for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Model 4

Supported All with Option 400

This softkey selects Test Model 4 for the W-CDMA downlink channel setup.

Preset N/A

Range N/A

Location Pages M-228, M-230

Remarks None

Test Setup

Supported All with Option 400

This softkey accesses a menu of pre-defined test setups. The tests are in compliance with 3G TS 25.101 specifications.

Preset N/A

Range N/A

Location Page M-241

Remarks None

TETRA

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 TETRA for Custom Digital Modulations

Use this softkey to select a predefined Trans European Trunked Radio (TETRA) personality for the digital modulation format.

Preset N/A

Range N/A

Location Page M-55

Remarks None

Accessing the TETRA 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 (where the data bits are located in fields defined by the TETRA protocol) or a sequence that can be output one or more times.

Preset N/A

Range N/A

Location Page M-102, M-198

Remarks None

TETRA Bands

Supported All

Use this softkey to access a menu from which you can select the frequency bands for TETRA. The output frequency depends on both frequency band and channel selections.

Preset N/A

Range N/A

Location Pages M-86, M-87

Remarks None

TETRA Base 390/400

Supported All

This softkey selects Base 390–400 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 3600

Frequency: 390.000 MHz

Range *Channels*: 3600–4000

Frequency: 390.000–400.000 MHz

Location Page M-86

Remarks None

TETRA Base 420/430

Supported All

This softkey selects Base 420-430 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 800

Frequency: 420.000 MHz

Range *Channels*: 800–1200

Frequency: 420.000–430.000 MHz

Location Page M-86

Remarks None

TETRA Base 460/470

Supported All

This softkey selects Base 460-470 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 2400

Frequency: 460.000 MHz

Range *Channels*: 2400–2800

Frequency: 460.000–470.000 MHz

Location Page M-86

Remarks None

TETRA Base 915/921

Supported All

This softkey selects Base 915-921 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 600

Frequency: 915.000 MHz

Range *Channels*: 600–840

Frequency: 915.000–921.000 MHz

Location Page M-86

Remarks None

TETRA Mobile 380/390

Supported All

This softkey selects Mobile 380–390 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 3600

Frequency: 380.000 MHz

Range *Channels*: 3600–4000

Frequency: 380.000–390.000 MHz

Location Page M-87

Remarks None

TETRA Mobile 410/420

Supported All

This softkey selects Mobile 410-420 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 800

Frequency: 410.000 MHz

Range *Channels*: 800–1200

Frequency: 410.000–420.000 MHz

Location Page M-87

Remarks None

TETRA Mobile 450/460

Supported All

This softkey selects Mobile 450-460 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 2400

Frequency: 450.000 MHz

Range *Channels*: 2400–2800

Frequency: 450.000–460.000 MHz

Location Page M-87

Remarks None

TETRA Mobile 870/876

Supported All

This softkey selects Mobile 870–876 as the frequency band for TETRA. The output frequency depends on both frequency band and channel selections.

Preset *Channel*: 600

Frequency: 870.000 MHz

Range *Channels*: 600–840

Frequency: 870.000–876.000 MHz

Location Page M-87

Remarks None

TETRA Off On

Supported All with Option 402

This softkey enables you to select the operating state of the Trans European Trunked Radio (TETRA) communications format.

Off When you select Off, the TETRA format is turned off.

On — When you select On, this sets up the internal hardware to generate the structure that follows the TETRA format. The internal I/Q modulator generates π/4DQPSK digital modulation, and the TETRA and I/Q annunciators appear 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 Page M-198

Remarks Setting the **TETRA 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.

TFCI

Supported All with Option 400

This field displays the TFCI code.

Preset 0

Range 0 – 1023

Location Page M-232

Remarks The number of TFCI bits sent to each timeslot are determined by the slot format.

TFCI Field Off On

Supported All with Option 400

Use this softkey to set the transport format combination indicator (TFCI) field on or off for all the channels in the Edit Channel Setup table editor.

Off — The TFCI field displays a grayed-out N/A.

On — On selects TFCI for insertion in the selected channel.

This is an optional bit pattern that describes and gives information on what services are available; for example, data and video. It allows the user equipment (UE) or the base station (BTS) to determine the active service and bit rates in each service.

Preset On

Range N/A

Location Page M-232

Remarks The TFCI field applies to every DPCH channel in downlink. The TFCI only applies to the DPCCH channel in uplink as this channel carries the control information for all of the DPDCH channels present.

TFCI Pat

Supported All with Option 400

This field displays the transport format combination indicator (TFCI) bits. This is a 10-bit pattern that describes the services in use so that blind rate detection does not have to be performed.

Preset 0

Range 0–1023 (decimal)

Location Page M-241

Remarks This softkey is available for downlink. The TFCI is optional and describes the services in use (for example, voice and data).

TFCI Pattern

Supported All with Option 400

This field, in the uplink configuration, displays the transport format combination indicator (TFCI) bit pattern set in the **PhyCH Setup** menu for a physical channel. Press the **Edit Item** softkey to enter in a desired bit pattern. See "Slot Format" on page 511 for more information.

The TFCI is an optional field describing what services are in use (for example, data and video). Fixed rate service does not include TFCI.

Preset 0000

Range 0000–03FF (hexadecimal)

Location Page M-246

Remarks None

TFCI Power dB

Supported All with Option 400

This field displays the total power, in dB, for the TFCI bits in the selected channel.

Preset 0.00 dB

Range – 20 dB to 20 dB

Location Page M-232

Remarks This field is only available for downlink.

TFCI State

Supported All with Option 400

This field displays the on/off status for the transport format combination indicator (TFCI) bits. If the field indicates on, then the TFCI bits are included in the dedicated physical control channel (DPCCH). The TFCI is coupled to the `Slot Format` field. Refer to "Slot Format" on page 511 for more information.

Preset N/A

Range N/A

Location Page M-246

Remarks None

Tfirst

Supported All with Option 400

This field displays the first transmission slot at which a gap appears. The entry in this field, sets the starting position of the first DTX slot from the compressed frame boundary.

Preset N/A

Range 0–7

Location Page M-241

Remarks None

TGCFN

Supported All with Option 400

This field displays the transmission gap connection frame number (TGCFN). This is the connection frame number (CFN) of the first radio frame of the first pattern (pattern 1) within the transmission gap pattern sequence. Refer to "Gap1 1st" on page 285 for more information.

Preset

Range 0–255

Location Page M-249

Remarks This field is displayed for the uplink configuration in the Compressed Mode Setup table editor.

TGD

Supported All with Option 400

This field displays the transmission gap start distance (TGD) or, if only one transmission gap is used, "Undefined". The TGD is the duration between the starting slots of two consecutive transmission gaps within a transmission gap pattern, expressed in number of slots. Refer to "Gap1 1st" on page 285 for more information.

Selecting the **Undefined** softkey for this field, designates only one transmission gap is to be used.

The position of the second transmission gap within a radio frame(s) complies with the limitations established in the 3GPP standard.

Preset Undefined

Range 15–269

Location Page M-249

Remarks This field is displayed in the Compressed Mode Setup table editor for the uplink configuration.

Tgl

Supported All with Option 400

This field displays the transmission gap length (Tgl) in the compressed frames. The Tgl is the number of consecutive idle slots during the compressed mode transmission gap.

The Tgl field is available for the downlink compressed mode configuration.

Preset N/A

Range 1–7

Location Page M-241

Remarks This field is displayed for downlink.

TGL1

Supported All with Option 400

This field displays the transmission gap length 1 (TGL1). This is the duration of the first transmission gap, expressed in slots, within the transmission gap pattern.

Preset 7

Range 3, 4, 5, 7, 10, or 14 slots

Location Page M-249

Remarks This field is displayed in the Compressed Mode Setup table editor for the uplink configuration. See "TGPL2" for more information.

TGL2

Supported All with Option 400

This field displays the transmission gap length 2. This is the duration of the second transmission gap, expressed in slots, within the transmission gap pattern. When Omitted is specified as the parameter, then TGL2 = TGL1. The transmission gap pattern length 1 and 2 can have one or two transmission gaps. Refer to 3 GPP TS25.215 version 4.1.0 Release 4 for more information.

Preset Omitted

Range 3, 4, 5, 7, 10, 14 or Omitted

Location Page M-249

Remarks This field is displayed in the Compressed Mode Setup table editor for the uplink configuration.

TGPL1

Supported All with Option 400

This field displays the duration of the transmission gap pattern length 1 (TGPL1). The duration is expressed in number of frames used for the TGPL1.

Preset 2 frames

Range 1–144

Location Page M-249

Remarks This field is displayed in the Compressed Mode Setup table editor for the uplink configuration.

TGPL2

Supported All with Option 400

This field displays the duration of the transmission gap pattern length 2 (TGPL2). The duration is expressed in the number of frames used for the TGPL2. If this parameter is set to omitted , then TGPL2 = TGPL1.

Preset Omitted

Range 1–144

Location Page M-249

Remarks This field is displayed in the Compressed Mode Setup table editor for the uplink configuration.

TGPRC

Supported All with Option 400

This field displays the transmission gap pattern repetition count (TGPRC) number. This is the number of transmission gap patterns within the transmission gap pattern sequence. Use the Edit Item softkey to select a repetition to use.

Preset 1

Range 1– 511 or Infinity

Location Page M-249

Remarks When Infinity is selected, the compressed mode patterns are continuously transmitted. For counts 1–511, the compressed mode patterns will end after the specified repetition number.

TGPS

Supported All with Option 400

This field indicates the active/inactive state for the transmission gap pattern sequence (TGPS).

Preset Inactive

Range N/A

Location Page M-249

Remarks This field is displayed for the DPCCH and the DPDCH in the Compressed Mode Setup table editor

TGPS Inactive Active

Supported All with Option 400

This softkey enables the transmission of the compressed frame sequence. Compressed frame sequence will not be transmitted until the front panel or external trigger is received.

Inactive Compressed mode is disabled.

Active Compressed mode is enabled.

Preset Inactive

Range N/A

Location Page M-249

Remarks None

TGPSI

Supported All with Option 400

The transmission gap pattern sequence indicator (TGPSI) is a parameter that references the compressed mode pattern sequence. Only 1 compressed mode pattern sequence can be activated.

Preset TGPSI 1

Range N/A

Location Page M-249

Remarks This softkey is displayed for the DPCCH and the DPDCH in the Compressed Mode Setup table editor.

TGSN

Supported All with Option 400

This field displays the transmission gap starting slot number (TGSN). The transmission gap pattern begins in a radio frame (called the first radio frame of the transmission gap pattern) and contains at least one transmission gap slot. The TGSN is the slot number of the first transmission gap slot within the first radio frame of the transmission gap pattern.

Preset 0

Range 0–14

Location Page M-249

Remarks This field is displayed for the DPCCH and the DPDCH in the uplink configuration.

Threshold

Supported All with Option UN7

This softkey accesses a menu that enables you to select the input level of the BER CLK IN, BER DATA IN, and BER GATE IN rear panel connectors.

Preset 1.4 V

Range N/A

Location Page M-6

Remarks None

Threshold # of Events to Stop

Supported All with Option UN7

This softkey accesses a menu that enables you to select the parameters of the events-to-stop function. If no stop criteria is specified, the measurement continues until the number of frames to measure is met.

Preset N/A

Range N/A

Location Page M-9, M-10, M-11

Remarks None

Through

Supported All

Use this softkey to enable a path selection that bypasses all filters. This is useful for using external filters at frequencies different to those supplied internally.

Preset N/A

Range N/A

Location Pages M-81, M-89, M-233

Remarks None

Time

Supported All with Option 401

This field displays the current system time value. To change the system time, highlight the Time field, press the **Edit Item** softkey and enter a new hexadecimal value.

Preset 000000000

Range 000000000–FFFFFFFFF

Location Page M-44

Remarks None

Time/Date

Supported All

Use this softkey to access a menu from which you can set the time and date functions of the clock display.

Preset N/A

Range N/A

Location Page M-220

Remarks None

Time/Date Off On

Supported All

Use this softkey to set the state of the display clock.

Off	When you select Off, the display clock is off.
On	When you select On, the display clock is turned on.

Preset Off

Range N/A

Location Page M-223

Remarks None

Timeslot

Supported All with Option 402

This softkey enables you to select a timeslot to be configured. Choose any of the available timeslots in the active channel.

Preset *NADC, PHS, TETRA*: 1

Other Formats: 0

Range 0–7

Location Pages M-7, M-8, M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Timeslot Ampl Main Delta

Supported All with Option 402

Use this softkey to set the selected timeslot RF output power source.

Main	This choice selects the current RF output as the power level.
Delta	This choice selects an alternate power level (Delta) that is determined by the difference between the current amplitude and the amplitude that is selected with the Alternate Amplitude menu. To accesses this menu, press **Amplitude** > **More (1 of 2)** > **Alternate Amplitude**. This menu enables you to configure the alternate amplitude.

Preset Main

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Timeslot Off On

Supported All with Option 402

Use this softkey to set the operating state of the selected timeslot. The visual representation of the timeslot pattern reflects the timeslot status in the active channel.

Off This selection turns the timeslot off.

On This selection turns the timeslot on.

Preset *DECT, EDGE, GSM, and PDC*: On (timeslot 0)

NADC and PHS: On (timeslot 1)

TETRA: On (timeslot 1), Off (timeslots 2 through 4)

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Timeslot Offset

Supported All with Option 400

This softkey, in the PRACH and DPCH Trigger Delay menu, enables you to set the number of slots to be delayed from the uplink synchronization source.

Preset 0

Range 0-119

Location Page M-245

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

Timeslot Type

Supported All with Option 402

This softkey accesses a menu from which you can set the timeslot type for the active timeslot.

The visual representation of the timeslot pattern on the display is updated to show the current selection.

Preset *DECT*: Traffic Bearer (timeslot 0)

EDGE and GSM: Normal (timeslot 0)

NADC: Up TCH (timeslot 1)

PDC: Up TCH (timeslot 0)

PHS: TCH (downlink 1)

TETRA: Uplink Normal (all timeslots)

Range N/A

Location Pages M-104, M-119, M-135, M-151, M-167, M-183, M-199

Remarks None

Timing Offset (numeric value) chip

Supported All with Option 400

This softkey, available in the PRACH Trigger Delay Setup and DPCH Trigger Delay Setup, enables you to specify the number of chips to be delayed in addition to the slot delay between the downlink frame clock and uplink frame timing signals. The actual delay time is the sum of 1024 chips, the slot delay, and the timing offset.

Preset 0

Range *PRACH, DPCH*: –512 to 2560

Location Page M-245

Remarks A minus value means a negative delay. The actual timing offset

DPCH= Timeslot Delay + Timing Offset (T0) × 2560 – T0 (chips)

PRACH= Timeslot Delay + Timing Offset (T0) × 2560 – Tp-a (chips)

where T0 = 1024 chips.

This is the standard timing offset between downlink and uplink.

tOCNS Offset

Supported All with Option 400

This field displays the timing offset for the orthogonal channel noise simulator (OCNS). The timing offset affects the crest factor of the signal. By varying the timing offset, the probability of all OCNS's adding in phase and producing a high peak-to-average ratio or crest factor is minimized. Base stations vary the timing between OCNSs so that amplifiers can be run at the most efficient level. The signal generator duplicates this behavior.

Preset N/A

Range 0–149

Location Page M-241

Remarks None

Toggle Marker 1

Supported All with Option 001 or 002

This softkey enables or disables marker1 for the selected segment of a waveform sequence.

Preset Off

Range N/A

Location Page M-80

Remarks None

Toggle Marker 2

Supported All with Option 001 or 002

This softkey enables or disables marker 2 for the selected segment of a waveform sequence.

Preset Off

Range N/A

Location Page M-80

Remarks None

Toggle Markers

Supported All with Option 001 or 002

This softkey accesses a menu from which you can toggle markers 1 and 2 to enable or disable markers for selected segments of a sequence.

Preset N/A

Range N/A

Location Page M-80

Remarks None

Toggle State

Supported All with Option 001 or 002

In the multitone editor, this key enables you to turn the individually selected tone on and off. This determines whether or not a particular tone is generated.

Preset N/A

Range N/A

Location Page M-92

Remarks None

Total Bits

Supported All with Option UN7

Use this softkey to specify the total number of bits to be measured for one measurement cycle.

Preset 10,000

Range 100–4294967295

Location Page M-6

Remarks None

Total Bits

Supported All with Option 400

This field displays the actual number of total bits after the error bits are inserted into the current data of each transport channel.

Preset 0

Range N/A

Location Pages M-249, M-250

Remarks This data field is on the second page of the table editor.

Total Blocks

Supported All with Option 400

This field displays the actual number of total blocks after the error blocks are inserted into the current data of each transport channel.

Preset 0

Range N/A

Location Pages M-249, M-250

Remarks This data field is on the second page of the table editor.

Tp–a

Supported All with Option 400

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

Range 0–12800 chips

Location Page M-245

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

Tp–m

Supported All with Option 400

This field displays the time period, in slots, between the PRACH preamble and message.

Preset 3 access slots

Range 1–15 access slots

Location Page M-253

Remarks None

Tp-p

Supported All with Option 400

This field displays the time period between the one preamble and another preamble before the message part.

Preset 3 access slots

Range 1–60 access slots

Location Page M-253

Remarks None

TPC

Supported All with Option 400

This data field displays the hexadecimal transmit power control (TPC) values for the selected channel in the Edit Channel Setup table editor. The binary conversion of this hex number will consist of 15 values which are transmitted during one frame. For more information refer to the *Users Guide*.

Preset 555

Range 0000–7FFF

Location Page M-232

Remarks TCP values determine how the transmit power of the base station and user equipment (UE) will vary.

TPC Pat

Supported All with Option 400

This field displays the transmit power control (TPC) pattern. The TPC controls the power of the UE. The power can be stepped all up, all down, alternately step up then step down or step down then step up. To change the field selection, highlight the TPC pat field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset Up/Down

Range All Up, All Down, Up then Down or Down then UP.

Location Page M-241

Remarks None

TPC Pat Steps

Supported All with Option 400

This field displays the number of successive down and up commands for the transport power control (TPC) pattern, when the TPC Pattern field is set to Up/Down or Down/Up.

In uplink, the power of the base station (BTS) will decrease or increase by 1 dB on a slot-by-slot basis for every down or up command.

The TPC pattern has a number of different formats See "TPC Pattern" on page 571 for more information.

Preset 1

Range 1–80

Location Page M-246

Remarks None

TPC Pat Trig Off On

Supported All with Option 400

This softkey selects the operating state for transmit power control (TPC) pattern trigger. The softkey is available for the uplink dedicated physical control channel (DPCCH).

Off When you select Off, the operating state is turned off.

On When you select On, the operating state is turned on.

Preset Off

Range N/A

Location Page M-249

Remarks None

TPC Pat Trig Polarity Neg Pos

Supported All with Option 400

This softkey sets the pattern trigger polarity for transmit power control (TPC) for the uplink dedicated physical control channel (DPCCH). The choices are negative or positive.

Pos The signal generator responds to a rising edge trigger transition.

Neg The signal generator responds to a falling edge trigger transition.

Preset Positive

Range N/A

Location Page M-249

Remarks None

TPC Pattern

Supported All with Option 400

This field displays the transmit power control (TPC) pattern command format in use. The `TPC Pattern` is used to change the base station (BS) power level. To change the current selection, highlight the `TPC pat` field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset Up/Down

Range N/A

Location Page M-246

Remarks None

TPC Power dB

Supported All with Option 400

This data field displays the power for the transmit power control (TPC) bits.

Preset 0.00 dB

Range – 20 dB to 20 dB

Location Page M-232

Remarks This field is only available for downlink.

TPC Steps

Supported All with Option 400

This field displays the number of the transmit power control (TPC) steps. Each step indicates an increase or decrease in the user equipment (UE) power.

Preset 1

Range 1–80

Location Page M-241

Remarks The TPC step is used with the TPC Pattern. For example the pattern can be Up/Down, Down/Up, All Up, All Down, or a user file.

Traffic

Supported All with Option 401

This softkey appears in two places, enabling you to either insert a traffic channel into the current CDMA Channel Setup table, or select a menu from which you can define and insert one or more fundamental traffic channels into the current CDMA2000 Channel Setup table.

Preset N/A

Range N/A

Location Pages M-19, M-30, M-39

Remarks None

Traffic Bearer

Supported All with Option 402

Use this softkey to select traffic bearer as the timeslot type for the active timeslot. When you have selected **Traffic Bearer** for a timeslot, the visual representation of the timeslot type on the display immediately updates.

Preset N/A

Range N/A

Location Page M-183

Remarks None

Traffic Bearer with Z Field

Supported All with Option 402

Use this softkey to select traffic bearer with Z field as the timeslot type for the active timeslot. When you have selected **Traffic Bearer with Z Field** for a timeslot, the visual representation of the timeslot type on the display immediately updates.

Preset N/A

Range N/A

Location Page M-183

Remarks None

Transmit Link RFP PP

Supported All with Option 402

Use this softkey to select the operating state of the frame.

RFP — When you select RFP, the timeslot number, type and configuration settings are applied to the twelve radio fixed part (RFP) timeslots.

PP — When you select PP, the timeslot number, type and configuration settings are applied to the twelve portable part (PP) timeslots.

Preset RFP

Range N/A

Location Page M-183

Remarks RFP and PP timeslots can be active concurrently.

Transmit Settings

Supported All with Option 300

This softkey accesses the GSM or EDGE menu of softkeys used for selecting framed data, configuring timeslots, and selecting frequency channels.

Preset N/A

Range N/A

Location Page M-7, M-8

Remarks None

Transp Chan A

Supported All with Option 400

Use this softkey to select transport channel A as the data input to the currently selected physical channel.

Preset N/A

Range N/A

Location This key is accessed by editing the `Data Type` field. Refer to "Data Type" on page 171 for more information.

Remarks None

Transp Chan B

Supported All with Option 400

Use this softkey to select transport channel B as the data input to the currently selected physical channel.

Preset N/A

Range N/A

Location This key is accessed by editing the `Data Type` field. Refer to "Data Type" on page 171 for more information.

Remarks None

Transp Group A B

Supported All with Option 400

Use this softkey to select the transport channel data for the selected physical channel.

A — This softkey selects transport channel A as the data for the selected physical channel.

B — This softkey selects transport channel B as the data for the selected physical channel.

Preset: A

Range N/A

Location Page M-243

Remarks There are two transport layer definitions and either one can be applied to either DPCH. This can be used to test multiple transport layer scenarios, RMC 12.2 and AMR for example, without having to lose synchronization with the mobile. The mobile is only required to change OVSF codes thus saving time.

Transport Setup

Supported All with Option 400

Use this softkey to access a menu from which you can configure the transport channels.

Preset N/A

Range N/A

Location Page M-241, M-246, M-250

Remarks None

Transp Position Flexible Fixed

Supported All with Option 400

This softkey selects a coupling mode for the downlink transport type and determines the method of transport channel multiplexing (TrCH MUX) used to form the coded composite transport channel.

Flexible — This selection sets the block set size (BSSize) and tracks the block size.

Fixed — This selection allows the BSSize and block size to be edited. The values are limited to two values; equal to BSSize or 0. An error message is generated if a value other than these is enter and the setting will default to the BSSize.

Preset Flexible

Range N/A

Location Page M-243

Remarks See "Blk Size" on page 100 for more information.

Transport CH

Supported All with Option 400

This softkey selects the data generated from the transport channel setup as the data source for the physical random access channel (PRACH) message data part.

Preset N/A

Range N/A

Location This key is accessed by editing the `Data` field. Refer to "Data" on page 163 for more information.

Remarks None

TrCH BER

Supported All with Option 400

This field displays the total bit error rate for the uplink dedicated physical data channel (DPDCH). The TrCH BER value is an estimate of the average BER of the DPDCH. One bit error is included in the length of bits specified in the TrCH BER field. A value of 100 means 1 bit error is inserted in 100 bits. Use this field to add bit errors on the DPDCH symbol bit sequence.

Preset 0 bit cycle

Range 0–65535

Location Page M-246

Remarks None

TrCH BlkSize 168

Supported All with Option 400

This softkey selects a channel configuration as defined in 3GPP Standard TS25.104. This softkey is available in the Uplink Physical Type:PRACH Preamble menu. Parameters are defined for a transport block size of 168.

Preset N/A

Range N/A

Location Page M-253

Remarks None

TrCH BlkSize 360

Supported All with Option 400

This softkey selects a channel configuration as defined in the 3GPP Standard TS25.104.This softkey is available in the Uplink Physical Type:PRACH Preamble menu. Parameters are defined for a transport block size of 360.

Preset N/A

Range N/A

Location Page M-253

Remarks None

TrCH Setup

Supported All with Option 400

This softkey accesses a menu in which you can edit transport channel (TrCH) data. This softkey is active with physical channel type DPCH for downlink and physical channel type DPDCH for uplink configurations.

Preset N/A

Range N/A

Location Pages M-243, M-249, M-250

Remarks The default setting for the transport channel is DCH 1 and is available for both uplink and downlink configurations.

TrCH State Off On

Supported All with Option 400

This softkey turns the selected transport channel off or on. Transport channel #1 is always in the active state. Select transport channel #2, #3, #4, #5, or #6 to active this key. These transport channels can also be turned on or off with this softkey. Channels must be turned on in sequence. For example, channel 3 must be on before channel 4 can be turned on.

Preset N/A

Range N/A

Location Pages M-243, M-249, M-250

Remarks None

Triangle

Supported All

This softkey selects a triangle wave as the modulation.

Preset N/A

Range N/A

Location Pages M-2, M-84, M-85, M-90

Remarks The modulation applies only to the path configuration you have currently selected.

Trigger

Supported All with Option 001 or 002

Use this softkey to access a menu from which you can choose between the continuous, single or gated triggering modes. The menu also contains a **Trigger Setup** softkey that enables you to adjust the trigger source, the continuous mode, the retrigger mode and the gate active polarity.

Preset Continuous

Range N/A

Location Pages M-14, M-23, M-33, M-55, M-78

Remarks None

Trigger Advance

Supported All with Option 401

This field displays the current number of chips that the trigger is advanced. The trigger advance is referenced to the ESG even second clock and is used to synchronize the ESG with the base station. The base station's timing signal is input at the PATT TRG IN rear panel connector. To change the trigger advance, highlight the `Trigger Advance` field, press the **Edit Item** softkey and enter a new value.

Preset 28

Range 0–2457599

Location Page M-48

Remarks The trigger advance value automatically adjusts to compensate for additional delays introduced when noise is turned on (Option 403).

Changing the trigger advance value may cause the signal generator to lose synchronization with the base station signal.

Trigger & Run

Supported All with Option 001 or 002

Use this softkey to select the Trigger & Run mode for continuous triggering. When this mode is selected, the waveform generator plays a sequence or segment continuously

upon triggering. The waveform generator does not respond to further triggers.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-73, M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200, M-231

Remarks None

Trigger Edge

Supported All with Option 401

This field indicates whether the ESG will trigger on the rising or the falling edge of the base station trigger signal. To change the field selection, highlight the `Trigger Edge` field, press the **Edit Item** softkey and make a choice from the menu that appears.

Preset Falling

Range N/A

Location Page M-48

Remarks None

Trigger In Polarity Neg Pos

Supported All

This softkey toggles the polarity of the TTL trigger signal at the TRIGGER IN connector.

Pos — The swept-sine sweep will start on the rising edge of a positive (+5.0 V) input trigger signal and stop with the falling edge of the trigger signal.

Neg — The swept-sine sweep will start on the falling edge of the negative (+5.0 V) input trigger signal and stop with the rising edge of the trigger signal.

Preset Pos

Range N/A

Location Pages M-2, M-84, M-85, M-90, M-104, M-119, M-135, M-151, M-167, M-183, M-199 M-217, M-220

Remarks This key is coupled to the **Trigger In Polarity Neg Pos** key for swept-sine

FM, ΦM, and LF Out, and the Sweep/List menu. When the polarity is changed in any one of these menus, it is changed in all the menus. In the LF Out menu this key appears after selecting the internal source to operate as a function generator and selecting Ext as the LF Out sweep trigger.

Trigger Key

Supported All

Use this softkey to enable the front panel **Trigger** hardkey to trigger an event.

Pressing the **Trigger Key** softkey in the appropriate menu will enable the front panel **Trigger** hardkey to immediately do one of the following:

- Sweep trigger– Initiate a step or list sweep.
- Point trigger– Cause the sweep to step point-by-point in a step or list sweep.
- AM, FM, or ΦM– Initiate a single sweep of swept-sine amplitude, frequency, or phase modulation.
- Swept-sine LF output– Initiate a swept-sine low frequency output.
- Digital modulation formats– Initiate a burst to output a frame or data sequence. For framed transmissions, you can toggle between the primary and/or secondary framed data. For patterned transmissions, you can trigger a single output of modulated data that is not framed.
- Bit error rate test (BERT)– Initiate a bit error rate test.

Preset N/A

Range N/A

Location Pages M-2, M-6, M-7, M-8, M-17, M-26, M-35, M-58, M-73, M-84, M-85, M-90, M-104, M-105, M-119, M-120, M-135, M-136, M-151, M-152, M-167, M-168, M-183, M-184, M-199, M-200, M-217, M-231

Remarks The **Trigger** hardkey has autorepeat capability. Hold it down and you will repeatedly trigger until you release the key.

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

Trigger Out Polarity Neg Pos

Supported All

This softkey toggles the polarity of the TTL signal at the rear panel TRIGGER OUT connector.

Pos	The trigger out signal is asserted high (+5.0 V) at the start of the swept-sine modulation sweep and low (0.0 V) when the sweep is concluded.
Neg	Neg reverses the polarity, so that the trigger out signal is low (0.0V) at the start of the swept-sine modulation sweep and high (5.0V) when the sweep ends.

Preset Pos

Range N/A

Location Pages M-2, M-84, M-85, M-90, M-217, M-223

Remarks This key is coupled to the **Trigger Out Polarity Neg Pos** key for swept-sine FM, ΦM, and LF Out, and the Sweep/List menu. When the polarity is changed in any one of these menus, it is changed in all the menus.

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

Trigger Setup

Supported All with Option 001 or 002

This softkey accesses the trigger setup menu. This menu enables you to adjust the trigger source, the continuous mode, the retrigger mode (not available for real-time waveform generation), and the gate active polarity.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-55, M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200

Remarks None

In the W-CDMA Menu

Supported All with Option 400

This softkey accesses a menu from which you can select parameters to configure uplink synchronization. Timing offset, slot delay, signal setup, and sync trigger mode are available selections.

Preset N/A

Range N/A

Location Pages M-231, M-245

Remarks None

Trigger Source

Supported All with Option 001 or 002

This softkey accesses the trigger source menu. This menu enables you to adjust the trigger source between the front panel **Trigger** hardkey, a trigger command sent over the GPIB bus or LAN, or an external trigger applied to the PATT TRIG IN or AUX I/O connectors.

Preset N/A

Range N/A

Location Pages M-17, M-26, M-35, M-58, M-67, M-78, M-105, M-120, M-136, M-152, M-168, M-184, M-200, M-231

Remarks None

Trigger Sync Reply (RPS7)

Supported All with Option 400

This softkey assigns the trigger sync reply to the selected rear panel AUX I/O output connector or BNC.

Preset N/A

Range N/A

Location Page M-251

Remarks The trigger sync reply can be assigned to several different output connectors. The **(RPS7)** designator refers to the remote SCPI command that corresponds to this softkey

Truncated PN9

Supported All with Option 406

This softkey enters a truncated PN9 pattern in a Bluetooth setup. The truncated PN9 places the first 216 bits of a PN9 sequence into one packet of a single-packet waveform.

Preset N/A

Range N/A

Location Page M-226

Remarks None

TS

Supported All with Option 402

Use this softkey to select the training sequence (TS) as the active function. The preset hexadecimal value (when normal preset is selected) for TS reflects the current format, and appears in the TS field near the bottom of the text area of the display.

In the Enhanced Data Rates for GSM Evolution (EDGE) and Global System for Mobile Communications (GSM) formats, **TS** is also located in the Configure Dummy and Configure Sync menus.

In the Trans European Trunked Radio (TETRA) format, **TS** is also located in the uplink configure control 1 and control 2 menus, and in the downlink configure normal continuous and discontinuous menus.

Preset *EDGE*: TSC0

GSM: TSC0 (Normal and Dummy), B962040F2D45761B (Sync)

TETRA: 343A74 (uplink normal, downlink normal continuous and discontinuous)
2743A743 (uplink control 1 and 2)

Range N/A

Location Pages M-104, M-119, M-199

Remarks None

TSC0–TSC7

Supported All with Option 402

Use these softkeys to select a training sequence code for EDGE or GSM. The hexadecimal values for each training sequence code are shown in Table 7.

Table 7

Training Sequence Code	EDGE Hexadecimal Value	GSM Hexadecimal Value
TSC0	3F3F9E49FFF3FF3F9E49	0970897
TSC1	3F3C9E49E493FF3C9E49	0B778B7
TSC2	39FFF24F24F3F9FFF24F	10EE90E
TSC3	39FF924F279FF9FF924F	11ED11E
TSC4	3FE4F3C93F9FFFE4F3C9	06B906B
TSC5	39FC93CF27FFF9FC93CF	13AC13A
TSC6	0F3F9249E4FFCF3F9249	29F629F
TSC7	093C927FE7F3C93C927F	3BC4BBC

Preset N/A

Range N/A

Location Pages M-107, M-122

Remarks None

TTI

Supported All with Option 400

This field displays the transport channel transmission time interval (TTI). TTI is the time interval for the product of BLK size and NBlock (BLKsize*NBlock) of data to be transmitted. The field is displayed for uplink and downlink configurations. The TTI indicates over how many consecutive frames the transport layer data is distributed. For example, if set to 40 msecs it indicates that the data is distributed over 4 frames.

Preset: Uplink: DCH1 20, DCH2 40, DCH3-6 10 msecs, PRACH 20 msecs. Downlink: 10 msecs (all)

Range 10, 20, 40, or 80 msecs

Location Pages M-243, M-249, M-253

Remarks None

TTI Frame Pulse (RPS9)

Supported All with Option 400

This softkey assigns the transmission time interval (TTI) frame pulse to the selected rear panel AUX I/O output connector or BNC.

Preset N/A

Range N/A

Location Page M-251

Remarks The TTI frame pulse can be assigned to several different output connectors. The **(RPS9)** designator refers to the remote SCPI command that corresponds to this softkey.

Turbo

Supported All with Option 400

Use this softkey to select turbo coding to be used for transport channel error protection coding. Turbo coding has better error rate performance than convolutional encoding.

Preset N/A

Range N/A

Location This key is accessed by editing the `Coding` field. Refer to "Coding" on page 130 for more information.

Remarks None

`Turbo Coding`

Supported All with Option 401

This field indicates whether turbo coding is turned off or on. To toggle the current turbo coding operating state, highlight the `Turbo Coding` field and press the **Edit Item** softkey.

Turbo coding is available with the channel, radio configuration (RC), frame length (FL) and bit rate combinations shown in Table 8 on page 586:

Table 8

	Forward Link	Reverse Link
Channel Type	**F-SCH1 F-SCH2**	**R-SCH1 R-SCH2**
Valid Bit Rates	*RC 3:* 19.2 kbps 38.4 kbps 76.8 kbps *RC 4:* 19.2 kbps 38.4 kbps 76.8 kbps 153.6 kbps *RC 5:* 28.8 kbps 57.6 kbps 115.2 kbps	*FL 20, RC 3:* 19.2 kbps 38.4 kbps 76.8 kbps *FL 20, RC 4:* 28.8 kbps 57.6 kbps 115.2 kbps *FL 40, RC 3:* 19.2 kbps 38.4 kbps 76.8 kbps 153.6 kbps *FL 40, RC 4:* 14.4 kbps 28.8 kbps 57.6 kbps 115.2 kbps *FL 80, RC 3:* 19.2 kbps 38.4 kbps 76.8 kbps *FL 80, RC 4:* 7.2 kbps 14.4 kbps 28.8 kbps 57.6 kbps

Preset Off

Range N/A

Location Pages M-243, M-44, M-50

Remarks None

Type

Supported All with Option 400

This softkey accesses a menu enabling you to select the type of channel for insertion into the Edit Channel Setup table editor. The selection can be multiplied by the number set using the **Channels** softkey. Press **Done** to insert the information into the Edit Channel Setup table editor.

Preset DPCH

Range N/A

Location Page M-237

Remarks None

Type

Supported All with Option 400

This data field displays the channel type for each channel in the Edit Channel Setup table editor. This field is displayed for both uplink and downlink setups.

Preset DPCH for downlink and DPCCH for uplink.

Range N/A

Location Pages M-19, M-27, M-36, M-40, M-93, M-232

Remarks None

U

UDI 64 kbps

Supported All with Option 400

This softkey selects the unrestricted digital information (UDI) 64 kbps reference test setup as described in the 3GPP Technical Specification (TS 25.944 V3.7).

Preset N/A

Range N/A

Location Page M-246

Remarks This selection is one of several reference configurations available.

UDI ISDN (25.944 v3.5)

Supported All with Option 400

This softkey configures the downlink DPCH to an unrestricted digital information (UDI) integrated services digital network (ISDN) reference measurement channel as per 3G TS25.944 v3.7 specifications.

Preset N/A

Range N/A

Location Pages M-241, M-249, M-250

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 `ISDN`.

UE Setup

Supported All with Option 400

This softkey accesses the uplink table editor from which you can select and modify user equipment (UE) parameters. Highlight the data field you want to change and press the **Edit Item** key. Press a softkey, use the numeric keypad, or front panel knob to change values displayed in the table. Press the appropriate softkey to terminate the entry.

Preset N/A

Range N/A

Location Page M-245

Remarks None

UN3/4 GSM Gaussian

Supported All with Option 001 or 002

Use this softkey to select an Option UN3/4 delay-compatible GSM filter in the Select filter menu. This is a Gaussian filter with a fixed BbT of 0.300.

Preset N/A

Range N/A

Location Pages M-15, M-28, M-37, M-43, M-49, M-59, M-68, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240, M-248

Remarks Options UN3 and UN4 are obsolete options that were offered for previous models of ESG. This filter remains in the current ESG firmware for backward compatibility.

Uncoded

Supported All with Option 402

Use this softkey to select an uncoded channel which is a normal EDGE burst that carries only PN9 or PN15 bits.

Preset N/A

Range N/A

Location Page M-106

Remarks None

Undefined

Supported All with Option 400

This field entry, in the Compressed Mode Setup menu, indicates there is only one transmission gap within the transmission gap start distance (TGD).

Preset N/A

Range N/A

Location Page M-249

Remarks This selection is used with the TGD.

Undefined

Supported All with Option 400

This softkey selects one transmission gap within the transmission gap pattern. The transmission gap start distance (TGD) field, in the Compressed Mode Setup menu, displays the selection.

Preset N/A

Range N/A

Location Page M-249

Remarks This selection is one of several reference configurations available.

Up Control 1

Supported All with Option 402

Use this softkey to select the uplink control subslot 1 as the timeslot type for the active timeslot.

You cannot mix uplink and downlink timeslots. If a timeslot is designated as downlink, it changes to uplink if you designate any other timeslot as uplink. The following table shows the timeslot type interchange to a frame designated as downlink when uplink is selected.

From Continuous Downlink Timeslot	From Discontinuous Downlink Timeslot	To Uplink Timeslot
Dn Custom Cont	Dn Custom Disc	Up Custom
Dn Normal Cont	Dn Normal Disc	Up Normal
Dn Sync Cont	Dn Sync Disc	Up Custom

When you select **Up Control 1** for a timeslot, the visual representation of the timeslot pattern updates.

Preset N/A

Range N/A

Location Page M-199

Remarks None

Up Control 2

Supported All with Option 402

Use this softkey to select uplink control subslot 2 as the timeslot type for the active timeslot.

You cannot mix uplink and downlink timeslots. If a timeslot is designated as downlink, it changes to uplink if you designate any other timeslot as uplink. The following table shows the timeslot type interchange to a frame designated as downlink when uplink is selected.

From Continuous Downlink Timeslot	From Discontinuous Downlink Timeslot	To Uplink Timeslot
Dn Custom Cont	Dn Custom Disc	Up Custom
Dn Normal Cont	Dn Normal Disc	Up Normal
Dn Sync Cont	Dn Sync Disc	Up Custom

When you select **Up Control 2** for a timeslot, the visual representation of the timeslot pattern updates.

Preset N/A

Range N/A

Location Page M-199

Remarks None

Up Custom

Supported All with Option 402

Use this softkey to select an uplink 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. Uplink timeslots cannot be mixed with downlink timeslots. If you already have any timeslots designated as downlink, they will be changed to uplink when any other timeslot is designated as

uplink. The custom timeslot is provided for users' flexibility; it is not a standard timeslot type.

From Continuous Downlink Timeslot	From Discontinuous Downlink Timeslot	To Uplink Timeslot
Dn Custom Cont	Dn Custom Disc	Up Custom
Dn Normal Cont	Dn Normal Disc	Up Normal
Dn Sync Cont	Dn Sync Disc	Up Custom

When you select **Up Custom** for a timeslot, the displayed representation of the timeslot pattern updates.

Preset

Range

Location Pages M-135, M-151, M-199

Remarks

Up Normal

Supported All with Option 402

Press this softkey to select uplink normal as the timeslot type for the active timeslot.

You cannot mix uplink and downlink timeslots. If a timeslot is designated as downlink, it changes to uplink if you designate any other timeslot as uplink. The following table shows the timeslot type interchange to a frame designated as downlink when uplink is selected.

From Continuous Downlink Timeslot	From Discontinuous Downlink Timeslot	To Uplink Timeslot
Dn Custom Cont	Dn Custom Disc	Up Custom
Dn Normal Cont	Dn Normal Disc	Up Normal
Dn Sync Cont	Dn Sync Disc	Up Custom

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

Preset N/A

Range N/A

Location Page M-199

Remarks None

Up TCH

Supported All with Option 402

Use this softkey to select uplink traffic channel (mobile to base station) as the timeslot type for the active timeslot. Uplink timeslots cannot be mixed with downlink timeslots. If you already have any timeslots designated as downlink, they will be changed to uplink when any other timeslot is designated as uplink.

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

Preset N/A

Range N/A

Location Pages M-135, M-151

Remarks None

Up TCH All

Supported All with Option 402

Use this softkey to select uplink traffic channel (mobile to base station) as the timeslot type for all timeslots. When you select **Up TCH**, the frame pattern is bursted with RF power turning off during off timeslots.

When you select **Up TCH All**, the visual representation of the timeslot pattern updates.

Preset N/A

Range N/A

Location Pages M-135, M-151

Remarks None

Up VOX

Supported All with Option 402

Use this softkey to select uplink voice activated transmission channel as the timeslot

type for the active timeslot.

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

Preset N/A

Range N/A

Location Page M-151

Remarks None

Update Display Cycle End Cont

Supported All with Option UN7

Use this softkey to set the display update mode for BER measurement results.

Cycle End — This selection displays the results of the measurement when the cycle is completed.

Cont — This selection displays the intermediate results of the measurement in addition to results when the cycle is completed.

Preset Cont

Range N/A

Location Page M-6

Remarks None

Update in Remote Off On

Supported All

This softkey turns display updating on and off. The signal generator's display updates and displays the results of remote commands when this softkey is set to on. However, command processing time is faster when the softkey is set to off.

On — When on, remote commands update the signal generator's display.

Off — When off, remote commands will not update the display.

Preset N/A

Range N/A

Location Page M-219

Remarks This key is not affected by a preset. However, it resets to off when the power is cycled. This mode affects the signal generator when it is in remote mode.

Up/Down

Supported All with Option 400

This softkey sets the transport power control (TPC) pattern to repeatedly send consecutive up and consecutive down commands. The number of successive down and up commands is defined in the `TPC Pat Steps` field of the **PhyCH Setup** menu.

Preset N/A

Range N/A

Location This key is accessed by editing the `TPC Pat` field. Refer to "TPC Pat" on page 569 for more information.

Remarks None

Uplink MCS-1

Supported All with Option 402

Use this softkey to select an uplink packet data traffic channel with block type 5 that is in compliance with GSM 05.03.

Preset N/A

Range N/A

Location Page M-121

Remarks None

Uplink MCS-5

Supported All with Option 402

Use this softkey to select an uplink 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 Page M-106

Remarks None

Uplink MCS-9

Supported All with Option 402

Use this softkey to select a uplink 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 Page M-106

Remarks None

Uplink Timing Advance

Supported All with Option 300

This softkey enables you to set the uplink timing advance. Setting the uplink timing advance allows you to compensate for the insertion of equipment, such as fading simulators, into the uplink RF path.

Preset 0

Range *GSM*: –500 to 10000 bits

EDGE: –500 to 10000 symbols

Location Page M-7, M-8

Remarks None

User File

Supported All with Option 001 or 002

Use this softkey to display the catalog of binary/bit files stored in the signal generator's memory. You can select a custom file from this catalog for the data pattern or burst shape.

User files should exactly fill the data fields in a framed transmission (create the files to fill an integer number of frames). If the end of a user file does not coincide with the end of a frame, data is truncated. For more information, see the *User's Guide*.

Preset N/A

Range N/A

Location Pages M-64, M-66, M-96, M-103, M-106, M-109, M-118, M-121, M-124, M-134, M-137, M-140, M-150, M-153, M-156, M-166, M-169, M-172, M-182, M-185, M-188, M-198, M-201, M-204

Remarks None

User FIR

Supported All with Option 001 or 002

Use this softkey to display the catalog of user-defined FIR filter files stored in the signal generator's memory, and to access a menu for selecting a file.

Preset N/A

Range N/A

Location Pages M-15, M-28, M-37, M-43, M-49, M-59, M-68, M-96, M-107, M-122, M-138, M-154, M-170, M-186, M-202, M-233, M-240, M-248

Remarks None

User Flatness

Supported All

This softkey enables you to specify that only user flatness correction files be listed in the catalog of files currently displayed.

Preset N/A

Range N/A

Location Pages M-3, M-221

Remarks None

User FSK

Supported All with Option 001 or 002

Use this softkey to display the catalog of frequency shift keying (FSK) files stored in the signal generator's memory. You can select a custom file from this catalog for an FSK modulation by scrolling through the listed files, highlighting the desired file, and pressing the **Select File** softkey.

The selected file name and type is displayed under the **Select** softkey.

Preset N/A

Range N/A

Location Pages M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

User I/Q

Supported All with Option 001 or 002

Use this softkey to display the catalog of I/Q files stored in the signal generator's memory. You can select a custom file from this catalog for an I/Q modulation by scrolling through the listed files, highlighting the desired file, and pressing the **Select File** softkey.

The selected file name and type is displayed under the **Select** softkey.

Preset N/A

Range N/A

Location Pages M-65, M-108, M-123, M-139, M-155, M-171, M-187, M-203

Remarks None

Utility

Supported All

Use this softkey to access a menu of choices that enables you to view and erase error messages, access the GPIB/RS-232 LAN menu, adjust the display, access a menu of adjustments for the signal generator, set the help mode and power on state, and access the memory catalog menu.

Preset N/A

Range N/A

Location Page M-219

Remarks None

UW

Supported All with Option 400

Use this softkey to select the unique word (UW) as the active function. The preset hexadecimal value (when normal preset is selected) for UW reflects the PHS format, and the current value for UW is displayed in the UW field near the bottom of the text area of the display.

Preset *TCH (downlink)*: 3D4C

TCH (uplink): E149

SYNC (downlink): 050EF2993

SYNC (uplink): 6B899AF0

Range N/A

Location Page M-167

Remarks **UW** is also located in the uplink Configure TCH menu and in the downlink and uplink Configure SYNC menus.

UWCDMA

Supported All

Press this softkey to set the current catalog type to uplink W-CDMA (UWCDMA) and display the catalog of UWCDMA files.

Preset N/A

Range N/A

Location Page M-224

Remarks None

V

View Details

Supported All

This softkey enables you to view detailed information about the highlighted test. Refer to the troubleshooting section in the service guide for more information.

Preset N/A

Range N/A

Location Page M-222

Remarks This is intended for use by service personnel.

View Next Error Message

Supported All

Use this softkey to display the next error message in the queue. (The first error message is the oldest error.) There may be more than one error message in the queue; the number of error messages is displayed along with the first message. Press any key to exit the Error Info menu.

Preset N/A

Range N/A

Location Page M-219

Remarks None

View Previous Error Message

Supported All

Use this softkey to display the newest error message first. Continue pressing this key to view additional error messages in order of newest to oldest. Press any key to exit the Error Info menu.

Preset N/A

Range N/A

Location Page M-219

Remarks None

View Test Info

Supported All

Use this softkey to display details of the self tests. Refer to the calibration guide for more information.

Preset N/A

Range N/A

Location Page M-222

Remarks This is intended for use by service personnel.

W

Walsh

Supported All with Option 401

This field displays the current Walsh code (orthogonal code) for the selected channel. To change the Walsh code, highlight the Walsh field, press the **Edit Item** softkey and enter a new code number. If the text is grayed out in this field, you cannot change the Walsh code.

Table 9 lists the CDMA2000 Walsh code ranges and preset values by channel type, radio configuration (RC) and bit rate.

Table 9

Channel Type	Walsh Code		Comment
	Preset	Range	
Forward Link			
F-PICH	0	–	Not editable
F-SYNCH	32	0–63	
F-FCH	10	RC 1,2,3,5: 0–63 RC 4: 0–127	
OCNS	61	0–63	
F-PCH	1	0–63	

Table 9

Channel Type	Walsh Code		Comment
	Preset	Range	
F-SCH1	12	RC3 19.2 kbps: 0–31 38.4 kbps: 0–15 76.8 kbps: 0–7 153.6 kbps: 0–3 RC4 19.2 kbps: 0–63 38.4 kbps: 0–31 76.8 kbps: 0–15 153.6 kbps: 0–7 307.2 kbps: 0–3 RC5 28.8 kbps: 0–31 57.6 kbps: 0–15 115.2 kbps: 0–7 230.4 kbps: 0–3	
F-SCH2	14	RC3 19.2 kbps: 0–31 38.4 kbps: 0–15 76.8 kbps: 0–7 153.6 kbps: 0–3 RC4 19.2 kbps: 0–63 38.4 kbps: 0–31 76.8 kbps: 0–15 153.6 kbps: 0–7 307.2 kbps: 0–3 RC5 28.8 kbps: 0–31 57.6 kbps: 0–15 115.2 kbps: 0–7 230.4 kbps: 0–3	
F-QPCH	80	0–127	

Table 9

Channel Type	Walsh Code		Comment
	Preset	Range	
Reverse Link			
R-PICH	0	–	Not editable
R-DCCH	8	–	Not editable
R-FCH	4	–	Not editable
R-SCH1	1	1, 2	
R-SCH2	2	2, 6	
R-CCCH	2	–	Not editable
R-EACH	2	–	Not editable

Preset Refer to Table 9

Range Refer to Table 9

Location Pages M-19, M-27, M-40, M-44, M-50

Remarks None

Walsh Code

Supported All with Option 401

This softkey selects the Walsh code as a column by which the table will be sorted.

Preset N/A

Range N/A

Location Pages M-20, M-27, M-36

Remarks None

Waveform Catalog Types

Supported All

This softkey accesses a menu from which you can select an ARB waveform file type.

Preset N/A

Range N/A

Location Page M-224

Remarks None

Waveform Length

Supported All with Option 403

This softkey opens a menu of waveform length choices. The longer the waveform, the more accurate the statistics (at the expense of memory usage and time taken to generate the waveform).

Preset 524288 points

Range N/A

Location Page M-12

Remarks The current waveform length is displayed under the **Waveform Length** softkey.

Waveform Length *n* Short Codes

Supported All with Option 401

This softkey adjusts the waveform length for CDMA modulation. The upper limit is adjusted based on the oversample ratio to fit the signal within the available memory.

Preset 1 short code

Range 1–16 short codes (depends on oversample ratio and available memory)

Location Page M-15

Remarks None

Waveform Runtime Scaling

Supported All with Option 001 or 002

This softkey enables you to set the scaling value to be applied to the waveform while it is playing. Scaling can be used to get the best dynamic range without overflowing the I and Q digital to analog converters.

Preset 70.00 %

Range 1.00–100.00%

Location Page M-81

Remarks This scaling function does not change the data in the waveform file.

Waveform Segments

Supported All with Option 001 or 002

This softkey accesses a menu and table editor from which you can store and load waveform segments to or from the non-volatile waveform memory (NVWFM) and perform various waveform utilities such as markers, scaling, and clipping.

Preset N/A

Range N/A

Location Pages M-78, M-79, M-82

Remarks None

Waveform Sequences

Supported All with Option 001 or 002

This softkey accesses a menu and table editor from which you can build waveform sequences, edit existing sequences, and/or delete sequences.

Preset N/A

Range N/A

Location Page M-78

Remarks The **Edit Selected Waveform Sequence** and **Show Waveform Sequence Contents** softkeys are active only when a sequence is highlighted.

Waveform Statistics

Supported All with Option 001 or 002

Use this softkey to access a menu for viewing the available statistics for the selected waveform.

Preset N/A

Range N/A

Location Pages M-12, M-14, M-23, M-33, M-55, M-79, M-83, M-92, M-228

Remarks To activate the softkey, make sure that the selected dual arbitrary waveform (Dual Arb) generator option (such as, AWGN, Multitone, Digital Modulation, and so on) is turned on.

Waveform Utilities

Supported All with Option 001 or 002

This softkey accesses a menu of operations that can be applied to the selected waveform segment. Waveform utilities include: markers, scaling, and clipping.

Preset N/A

Range N/A

Location Page M-79, M-82

Remarks To activate this softkey, the waveform segment must be selected from volatile arbitrary waveform (WFM) generator memory and the **Load Store** softkey must be set to Store.

WCDMA

Supported All with Option 400

This softkey appears in more than one location.

Selecting the WCDMA Filter

This softkey selects the WCDMA pre-modulation filter in the Select (filter) menu. Pressing the **WCDMA** softkey selects this FIR filter and returns you to the Filter menu.

Preset WCDMA

Range N/A

Location Pages M-15, M-24, M-34, M-59, M-233

Remarks If the **I/Q Mod Filter Manual Auto** softkey is set to 2.1 MHz, the WCDMA filter will include compensation for droop and phase of the 2.1 MHz hardware filter. If the **I/Q Mod Filter Manual Auto** softkey is set to 40.0 MHz or Through, the compensation is removed, and the WCDMA filter becomes identical to a root-raised cosine filter with an alpha of 0.22.

In the Catalog of Files

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

Preset N/A

Range N/A

Location Page M-225

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

W-CDMA

Supported All with Option 400

Use this softkey to select a menu of W-CDMA personalities.

Preset N/A

Range N/A

Location Page M-91, M-227

Remarks None

W-CDMA Define

Supported All with Option 400

This softkey displays the W-CDMA Define menu for the uplink or downlink. This menu allows you to define a W-CDMA signal. With the **Multicarrier Off On** softkey set to On, this softkey is replaced with the **Multicarrier Define** softkey.

Preset

Range

Location Page M-228

Remarks Refer to “Multicarrier Define” on page 370 for more information.

W-CDMA Off On

Supported All with Option 400

This softkey selects the operating state of the wideband CDMA (W-CDMA) waveform generator.

Off	This selection turns off the W-CDMA waveform generator.
On	This selection turns on the W-CDMA waveform generator and a waveform based on the current settings is generated. This waveform resides in volatile memory.

Preset Off

Range N/A

Location Page M-228, M-240

Remarks N/A

W-CDMA Select

Supported All with Option 400

This softkey accesses a menu of channel selections that can be used to configure the signal generator for W-CDMA. The menu will change, depending on whether uplink or downlink has been selected. In downlink, 1 DPCH channel is the default selection. The **Multicarrier Off On** softkey will change the menu selections for downlink. In uplink, a DPPCH channel is the default selection.

NOTE The **Multicarrier Off On** softkey and related functions are accessed only when using the W-CDMA downlink setup.

Preset 1 DPCH

Range N/A

Location Page M-228

Remarks Refer to "Multicarrier Define" on page 370 for more information.

Multicarrier Off

Supported All with Option 400

The **W-CDMA Select** softkey menu displays selections for a pre-defined channel setup, stored custom state or test models.

Preset 1 DPCH

Range N/A

Location Page M-228

Remarks This is the default condition when downlink is selected.

Multicarrier On

Supported All with Option 400

Displays the multicarrier W-CDMA Select menu, where you can select a 2, 3, or 4 multicarrier setup or a stored custom W-CDMA multicarrier setup.

Preset N/A

Range N/A

Location Page M-228

Remarks With multicarrier on, the W-CDMA Select softkey will automatically show **2 Carriers** as the selection.

WFM1

Supported All with Option 001,002

Press this softkey to specify that only ARB waveform files be listed in the catalog of files.

Preset N/A

Range N/A

Location Page M-224

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

White Pixels Screen Test

Supported All

This softkey enables you to set all of the pixels on the display to white. Press the **Local** hardkey to return the display to normal operation.

Preset N/A

Range N/A

Location Page M-219

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

Window

Supported All with Option 001 or 002

Use this softkey to access a menu for applying a windowing function to the selected filter.

The default is to use no windowing which optimizes the passband response (EVM). Several windowing selections are provided in this menu which can be applied to smooth the filter's transition to zero. Windowing improves out of band performance (ACP) but simultaneously degrades EVM.

The selected window type is displayed under the **Window** softkey.

Preset None

Range N/A

Location Pages M-21, M-32, M-41, M-46, M-52, M-62, M-77, M-101, M-116, M-132, M-148, M-164, M-180, M-196, M-212, M-238, M-244, M-254

Remarks None

Wireless Networking

Supported All with Option 406

This softkey enables you to access a menu of installed wireless LAN standards.

Preset N/A

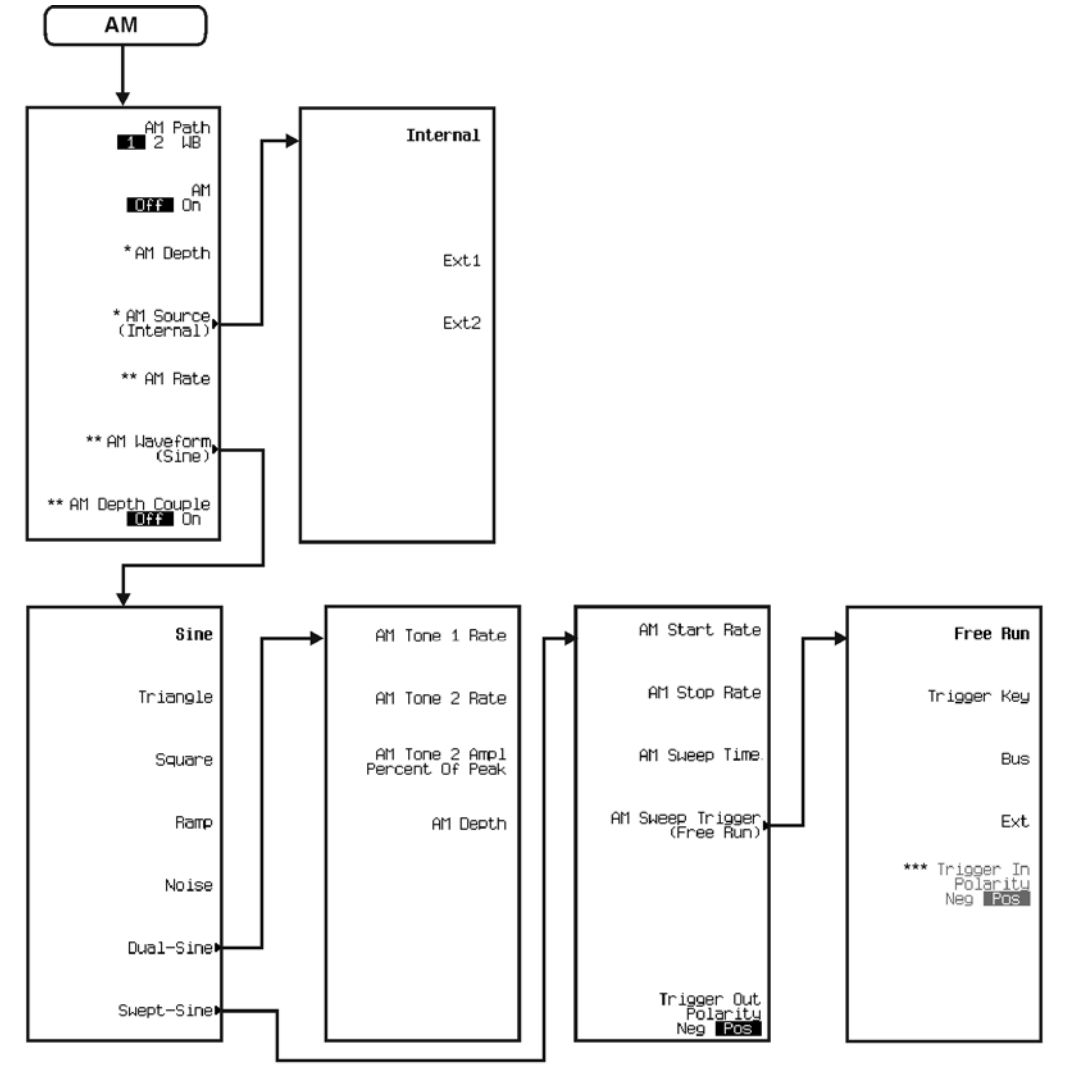
Range N/A

Location Page M-91, M-226

Remarks None

Menu Maps

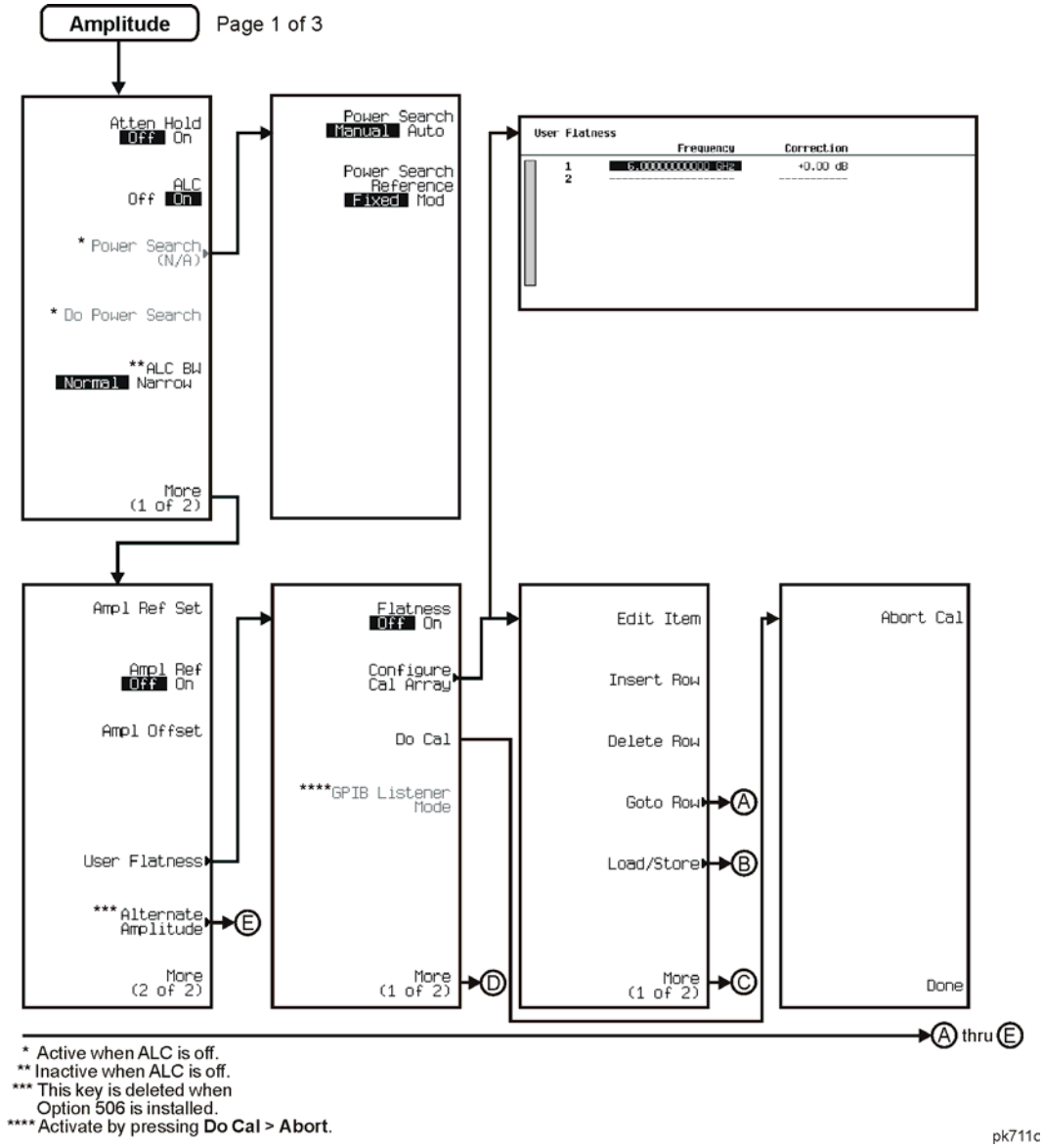
AM

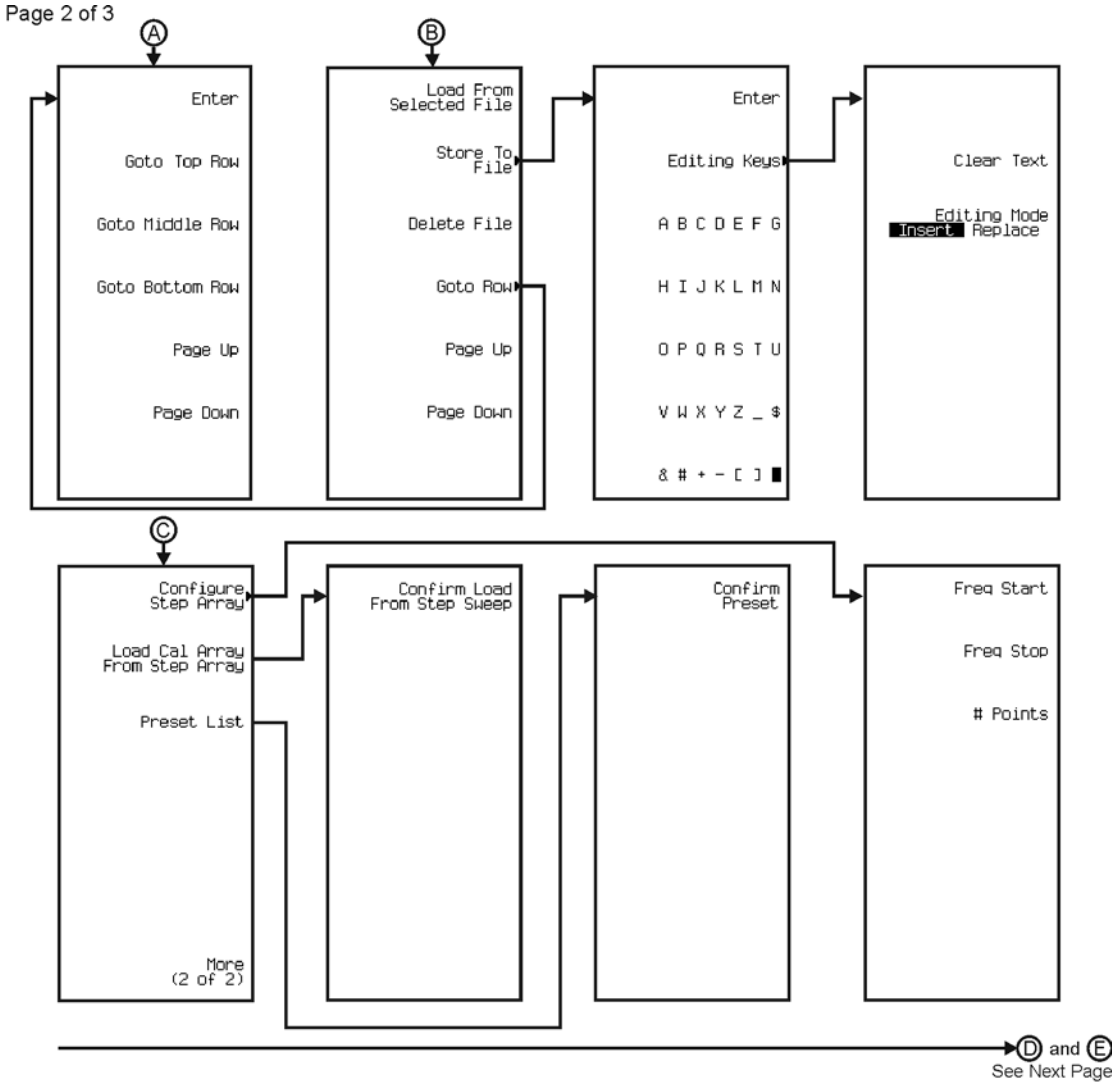


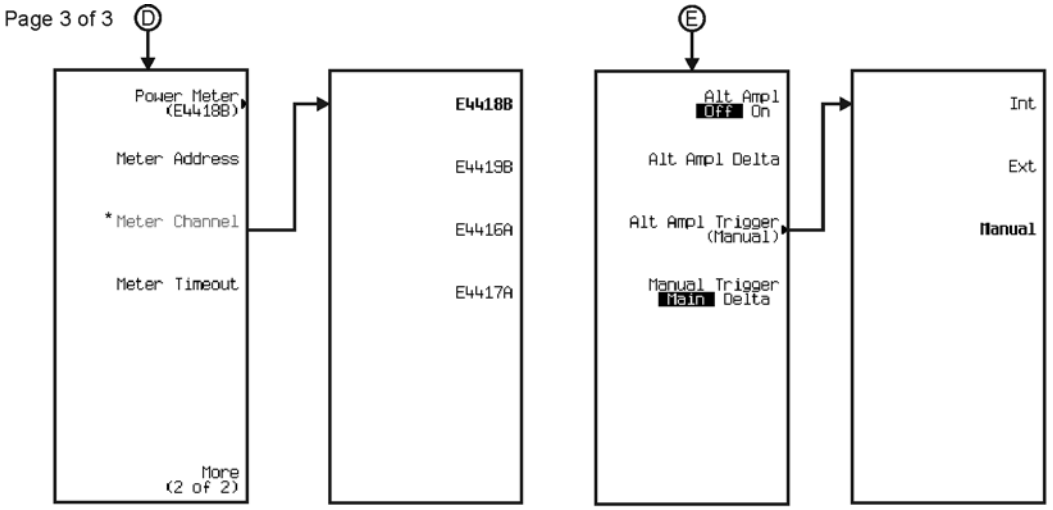
* Inactive when **AM Path 1 2 WB** is selected.
** Non-existant when **AM Path 1 2 WB** is selected.
*** Active when **EXT** is selected.

pk710c

Amplitude


Amplitude
Page 1 of 3
Atten Hold
Off On
ALC
Off On
* Power Search
(N/A)
* Do Power Search
**ALC BW
Normal Narrow
More
(1 of 2)
Power Search
Manual Auto
Power Search
Reference
Fixed Mod
User Flatness
Frequency
Correction
1
2
+0.00 dB
Ampl Ref Set
Ampl Ref
Off On
Ampl Offset
User Flatness
***Alternate
Amplitude
E
More
(2 of 2)
Flatness
Off On
Configure
Cal Array
Do Cal
****GPIB Listener
Mode
More
(1 of 2)
D
Edit Item
Insert Row
Delete Row
Goto Row
A
Load/Store
B
More
(1 of 2)
C
Abort Cal
Done
A thru E
* Active when ALC is off.
** Inactive when ALC is off.
*** This key is deleted when
Option 506 is installed.
**** Activate by pressing Do Cal > Abort.
pk711c

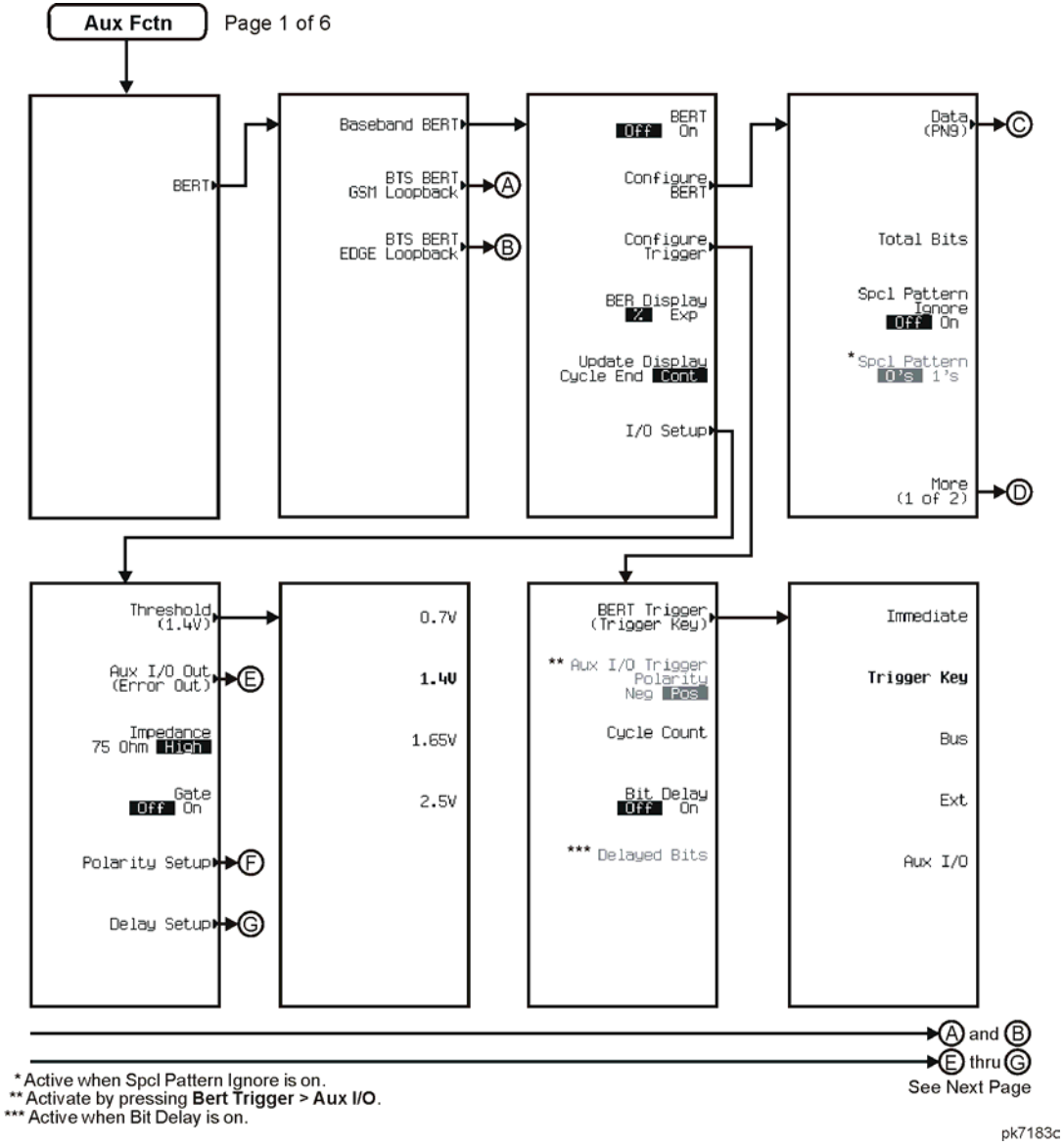

Page 2 of 3
A
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
B
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
C
Configure Step Array
Load Cal Array From Step Array
Preset List
More (2 of 2)
Confirm Load From Step Sweep
Confirm Preset
Freq Start
Freq Stop
Points
D and E
See Next Page
pk712c

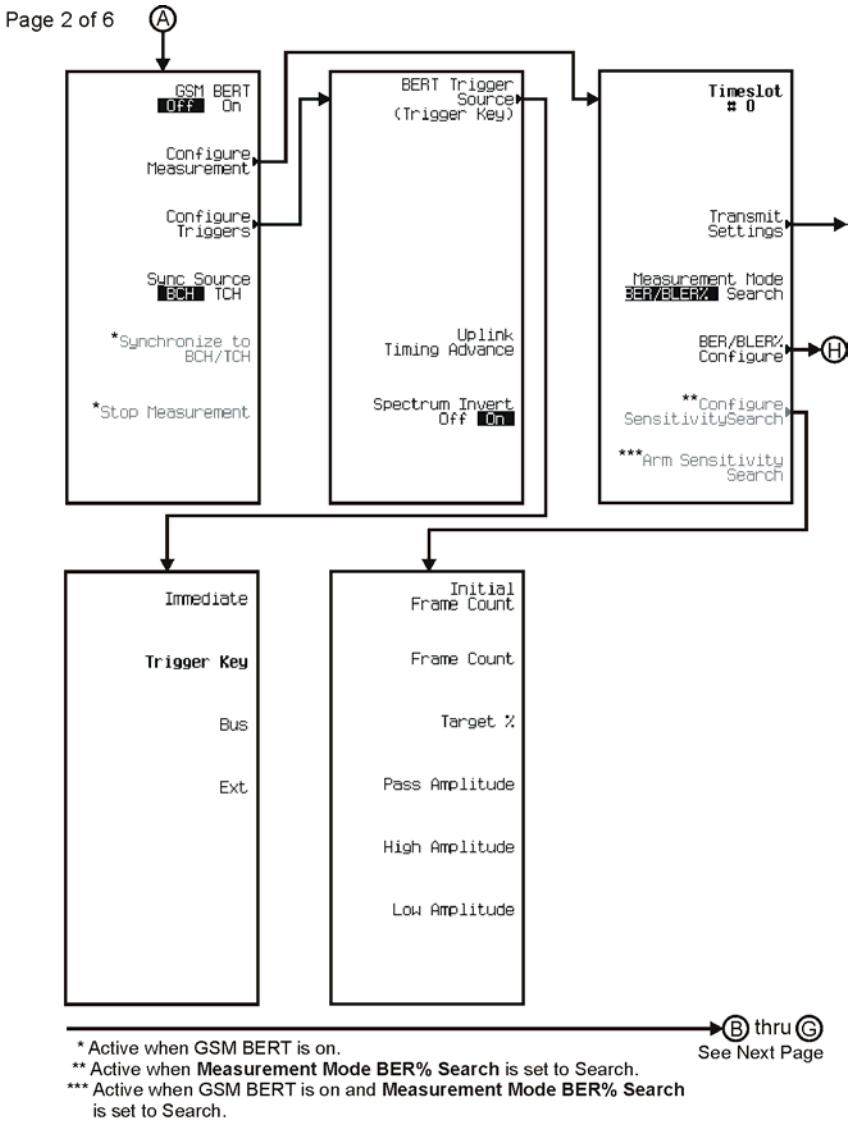


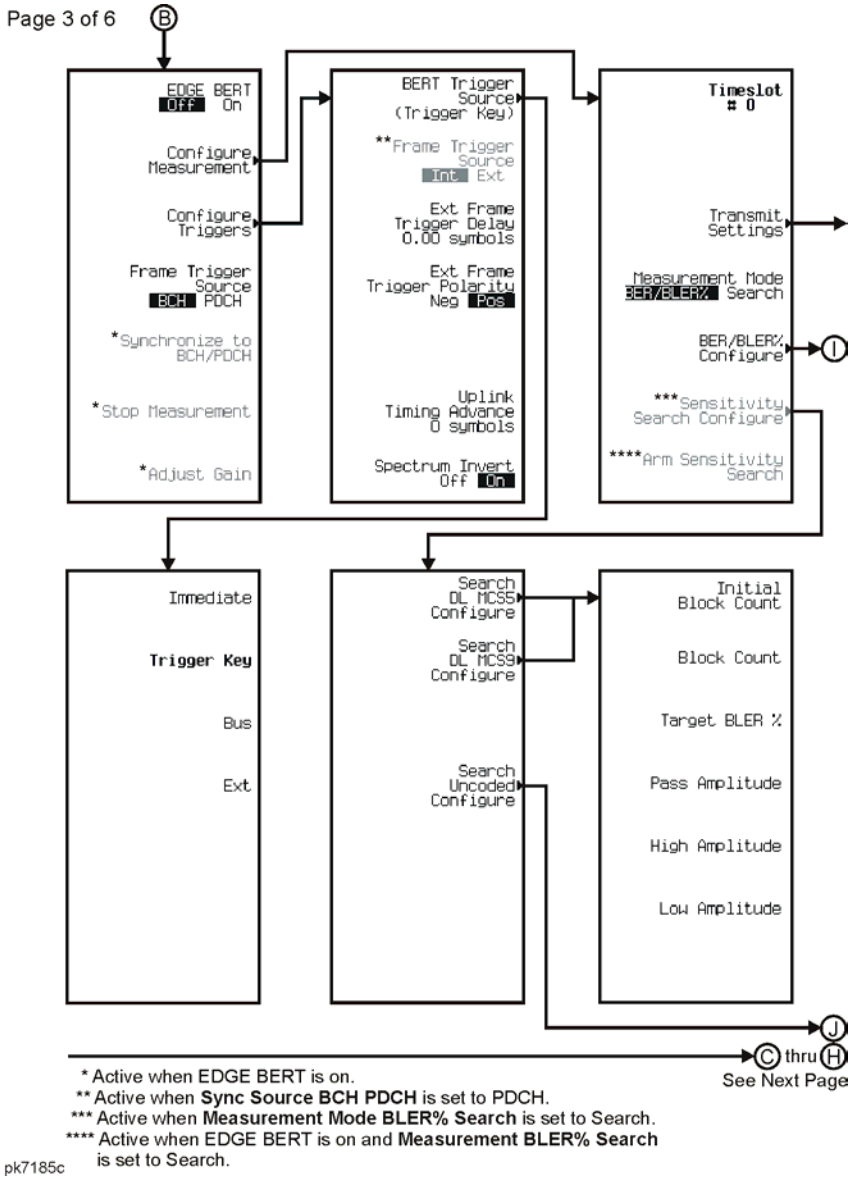
*Activate by pressing **Power Meter** > **E4419B** or **E4417A**.

pk713c

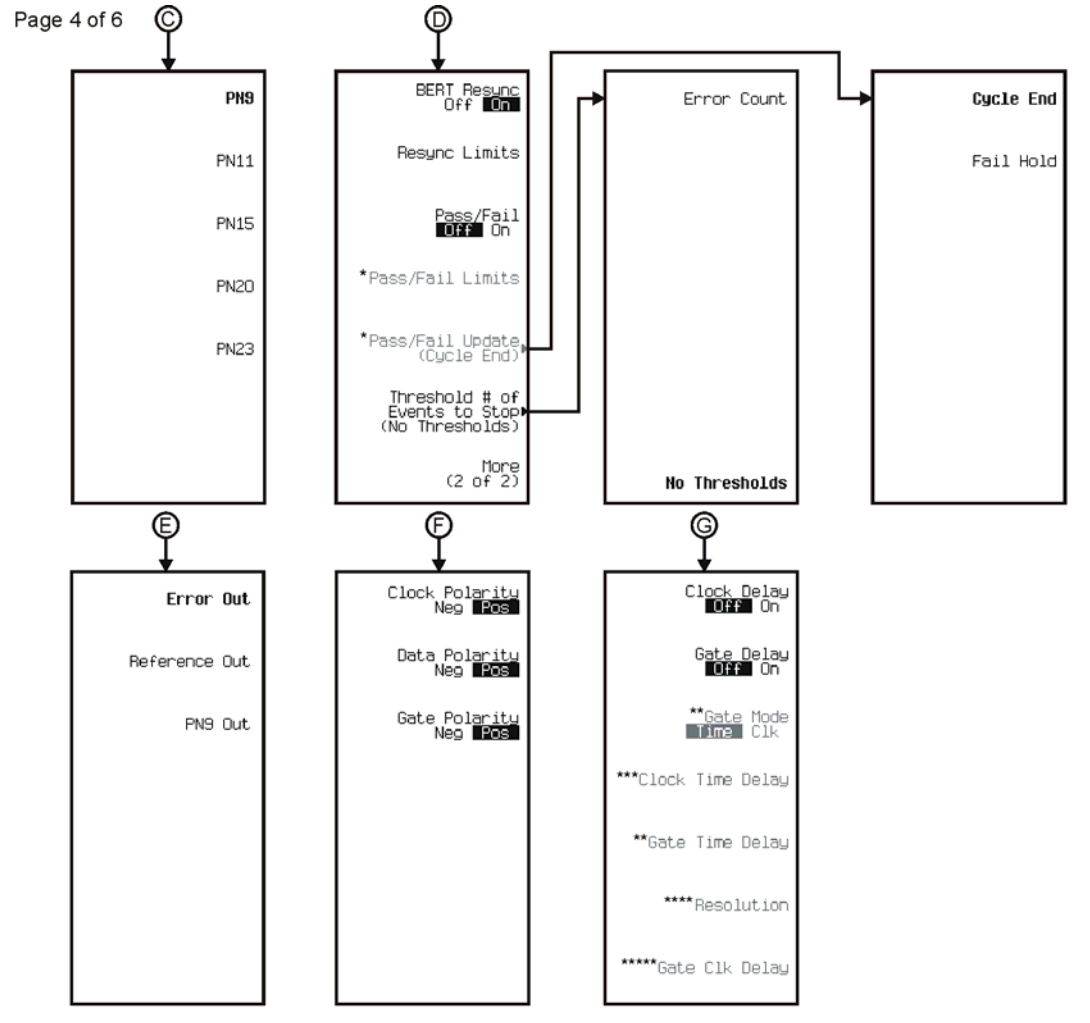
Auxiliary Function




Page 2 of 6
A
GSM BERT
Off On
Configure Measurement
Configure Triggers
Sync Source
BCH TCH
*Synchronize to BCH/TCH
*Stop Measurement
BERT Trigger Source (Trigger Key)
Uplink Timing Advance
Spectrum Invert
Off On
Timeslot
0
Transmit Settings
Measurement Mode
BER/BLER% Search
BER/BLER% Configure
H
**Configure SensitivitySearch
***Arm Sensitivity Search
GSM Menu, page M-118
Immediate
Trigger Key
Bus
Ext
Initial Frame Count
Frame Count
Target %
Pass Amplitude
High Amplitude
Low Amplitude
B thru G
See Next Page
* Active when GSM BERT is on.
** Active when Measurement Mode BER% Search is set to Search.
*** Active when GSM BERT is on and Measurement Mode BER% Search is set to Search.
pk7184c

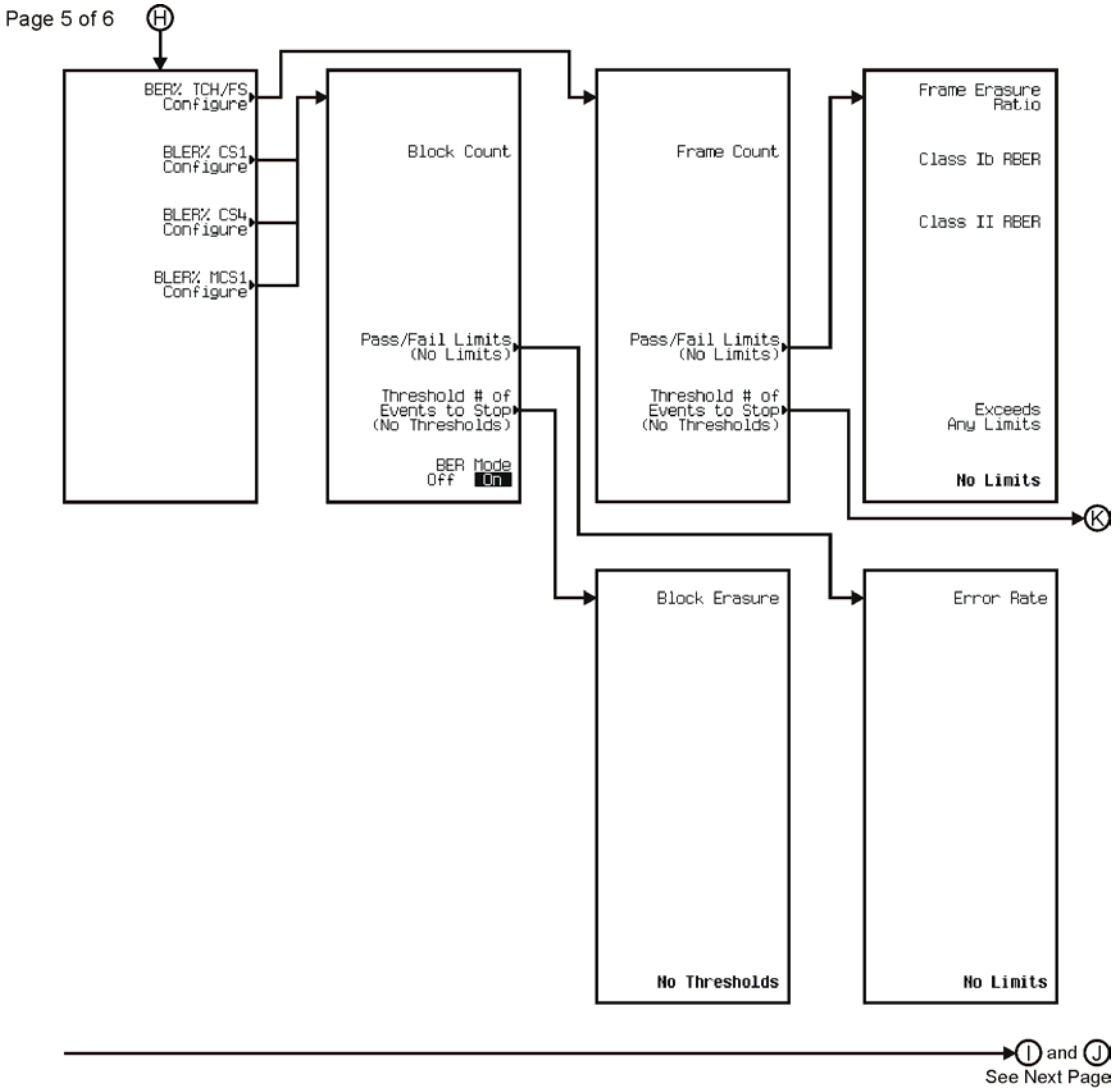


EDGE Menu, page M-103

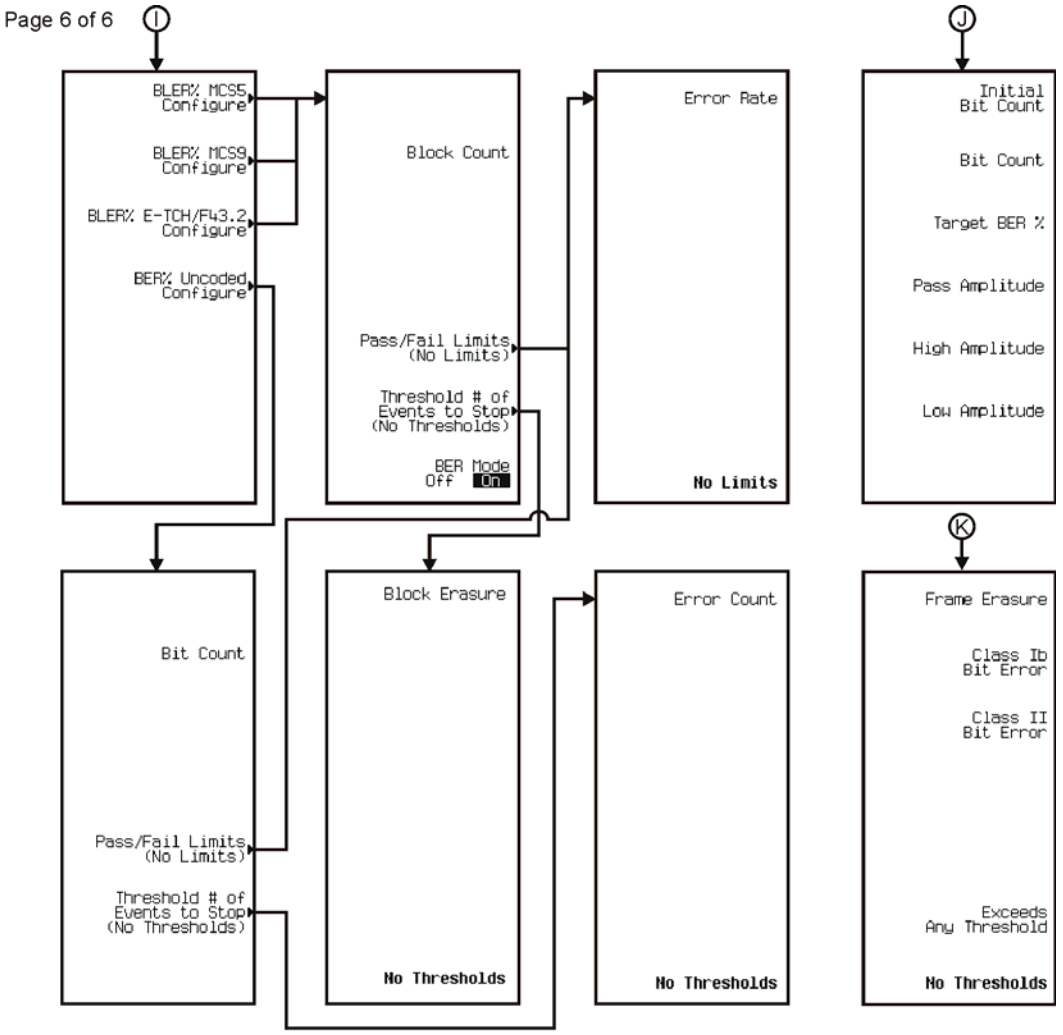


* Active when Pass/Fail is on.
** Active when Gate Delay is on.
*** Active when Clock Delay is on.
**** Active when Gate Delay or Clock Delay is on.
***** Active when **Gate Mode Time Clk** is set to Clk.

pk7186c

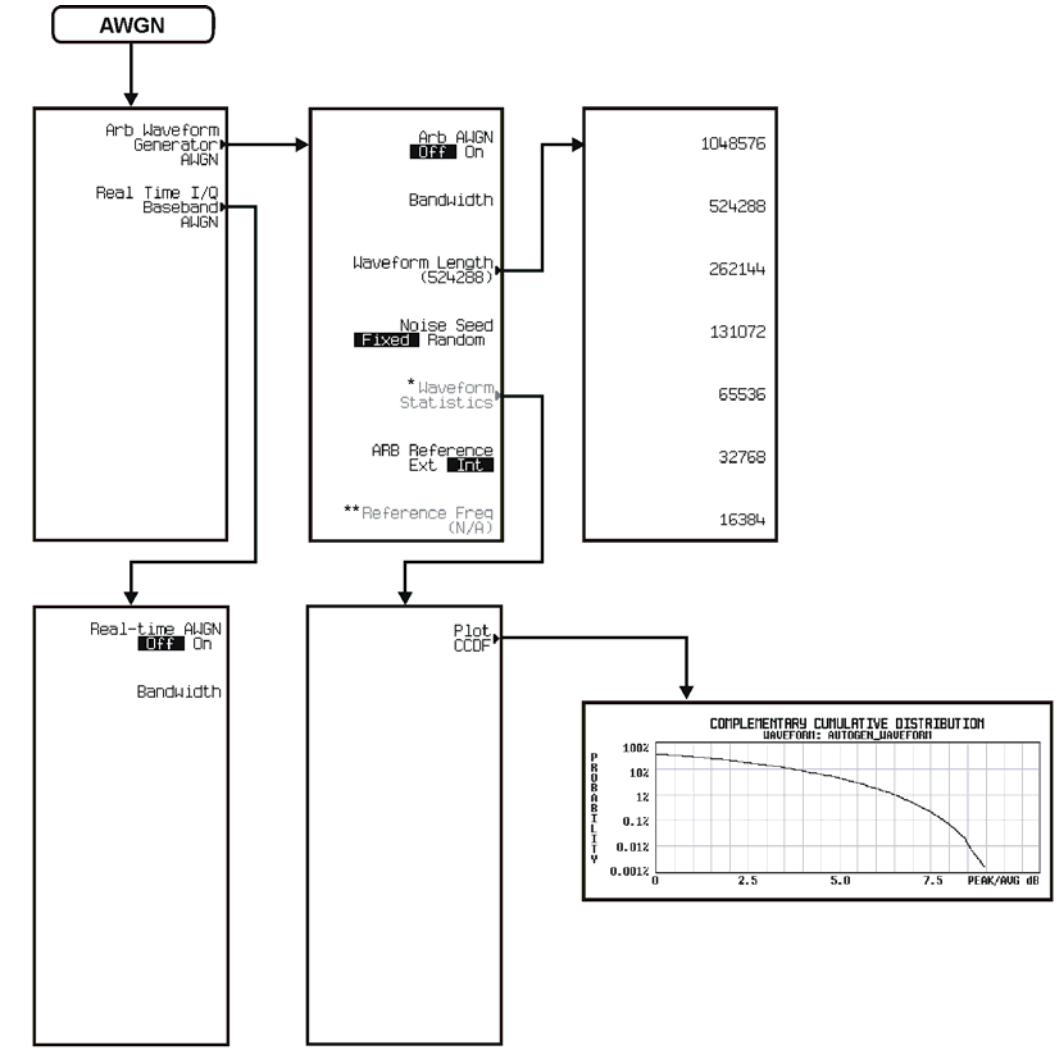

Page 5 of 6
H
BER% TCH/FS Configure
BLER% CS1 Configure
BLER% CS4 Configure
BLER% MCS1 Configure
Block Count
Pass/Fail Limits (No Limits)
Threshold # of Events to Stop (No Thresholds)
BER Mode Off On
Frame Count
Pass/Fail Limits (No Limits)
Threshold # of Events to Stop (No Thresholds)
Frame Erasure Ratio
Class Ib RBER
Class II RBER
Exceeds Any Limits
No Limits
K
Block Erasure
No Thresholds
Error Rate
No Limits
I and J
See Next Page

pk7187c


Page 6 of 6
I
BLER% MCS5 Configure
BLER% MCS9 Configure
BLER% E-TCH/F43.2 Configure
BER% Uncoded Configure
Block Count
Pass/Fail Limits (No Limits)
Threshold # of Events to Stop (No Thresholds)
BER Mode Off On
Error Rate
No Limits
J
Initial Bit Count
Bit Count
Target BER %
Pass Amplitude
High Amplitude
Low Amplitude
Bit Count
Pass/Fail Limits (No Limits)
Threshold # of Events to Stop (No Thresholds)
Block Erasure
No Thresholds
Error Count
No Thresholds
K
Frame Erasure
Class Ib Bit Error
Class II Bit Error
Exceeds Any Threshold
No Thresholds

pk7188c

AWGN



* Active when AWGN is On.
** Active when **ARB Reference** Ext **Int** is selected.

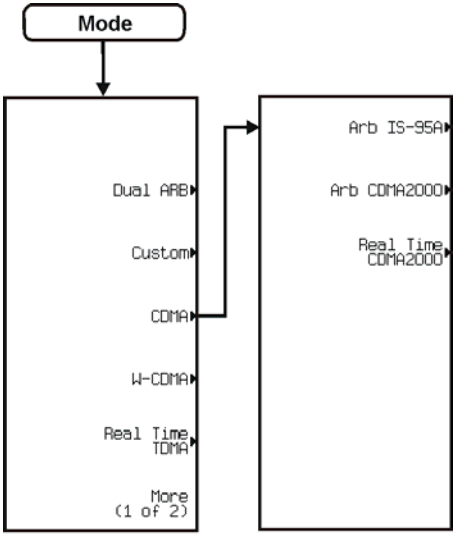
pk714c

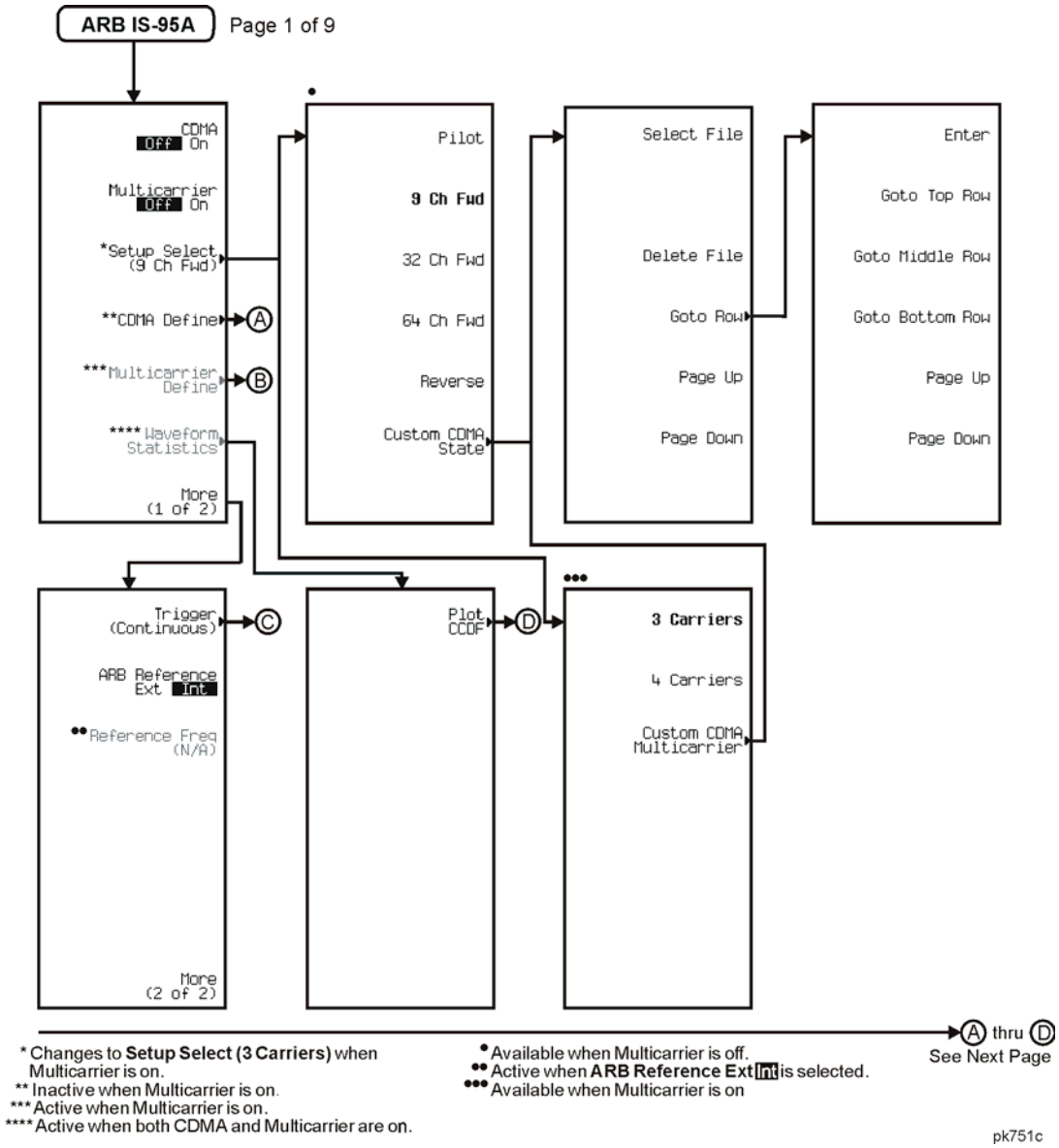
CDMA

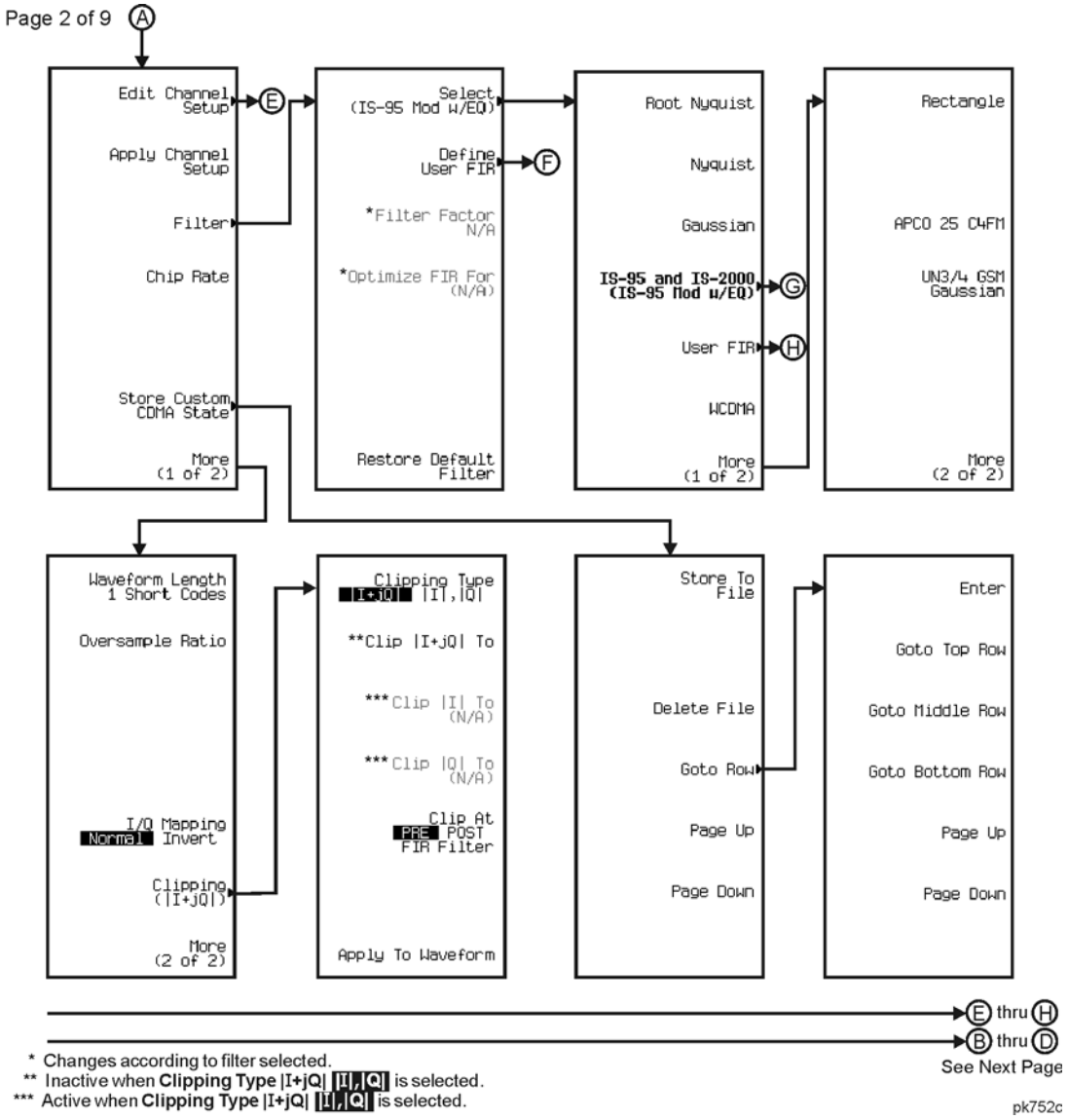
The CDMA personality is accessed by pressing the **Mode** hardkey.

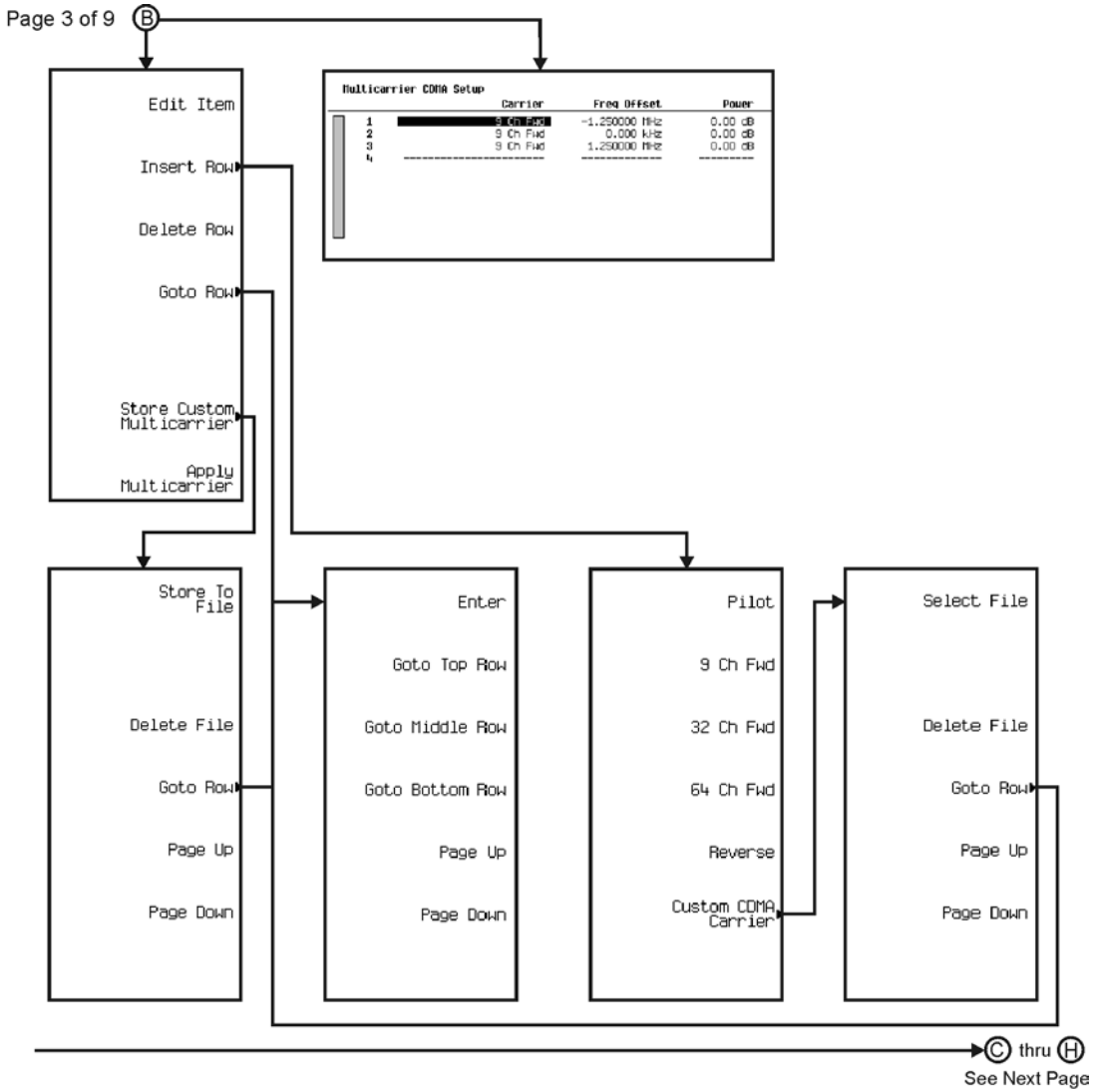
The CDMA menu maps are split into five sections:

- for Arb IS-95A go to page M-14
- for Arb CDMA2000 Forward Link go to page M-23
- for Arb CDMA2000 Reverse Link go to page M-33
- for Real Time CDMA2000 Forward Link go to page M-42
- for Real Time CDMA2000 Reverse Link go to page M-48

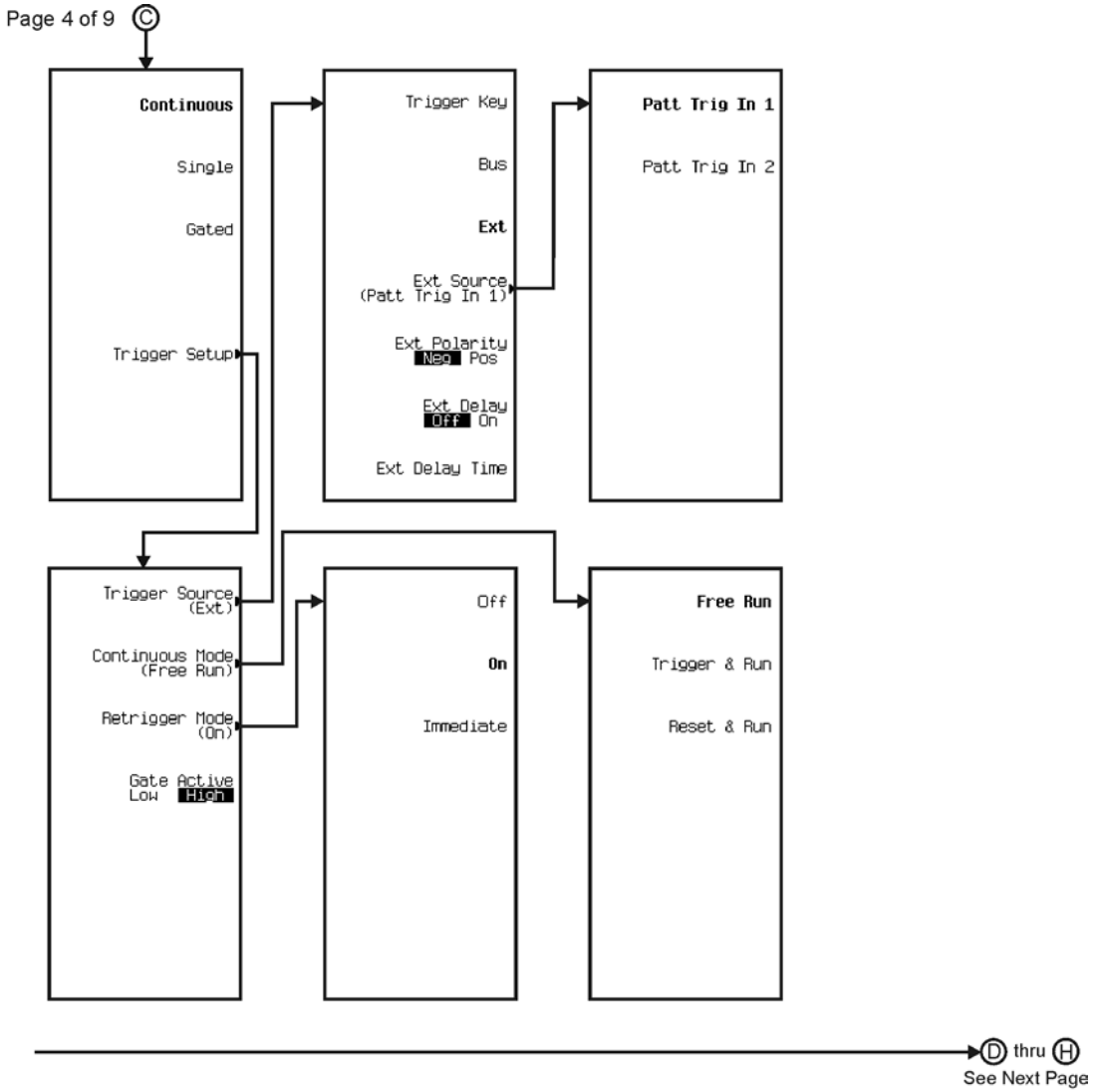



ARB IS-95A
Page 1 of 9
CDMA
Off On
Multicarrier
Off On
*Setup Select
(9 Ch Fwd)
**CDMA Define
***Multicarrier
Define
****Waveform
Statistics
More
(1 of 2)
Pilot
9 Ch Fwd
32 Ch Fwd
64 Ch Fwd
Reverse
Custom CDMA
State
Select File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Trigger
(Continuous)
ARB Reference
Ext Int
••Reference Freq
(N/A)
More
(2 of 2)
Plot
CCDF
3 Carriers
4 Carriers
Custom CDMA
Multicarrier
A thru D
See Next Page
* Changes to Setup Select (3 Carriers) when Multicarrier is on.
** Inactive when Multicarrier is on.
*** Active when Multicarrier is on.
**** Active when both CDMA and Multicarrier are on.
• Available when Multicarrier is off.
•• Active when ARB Reference Ext Int is selected.
••• Available when Multicarrier is on
pk751c

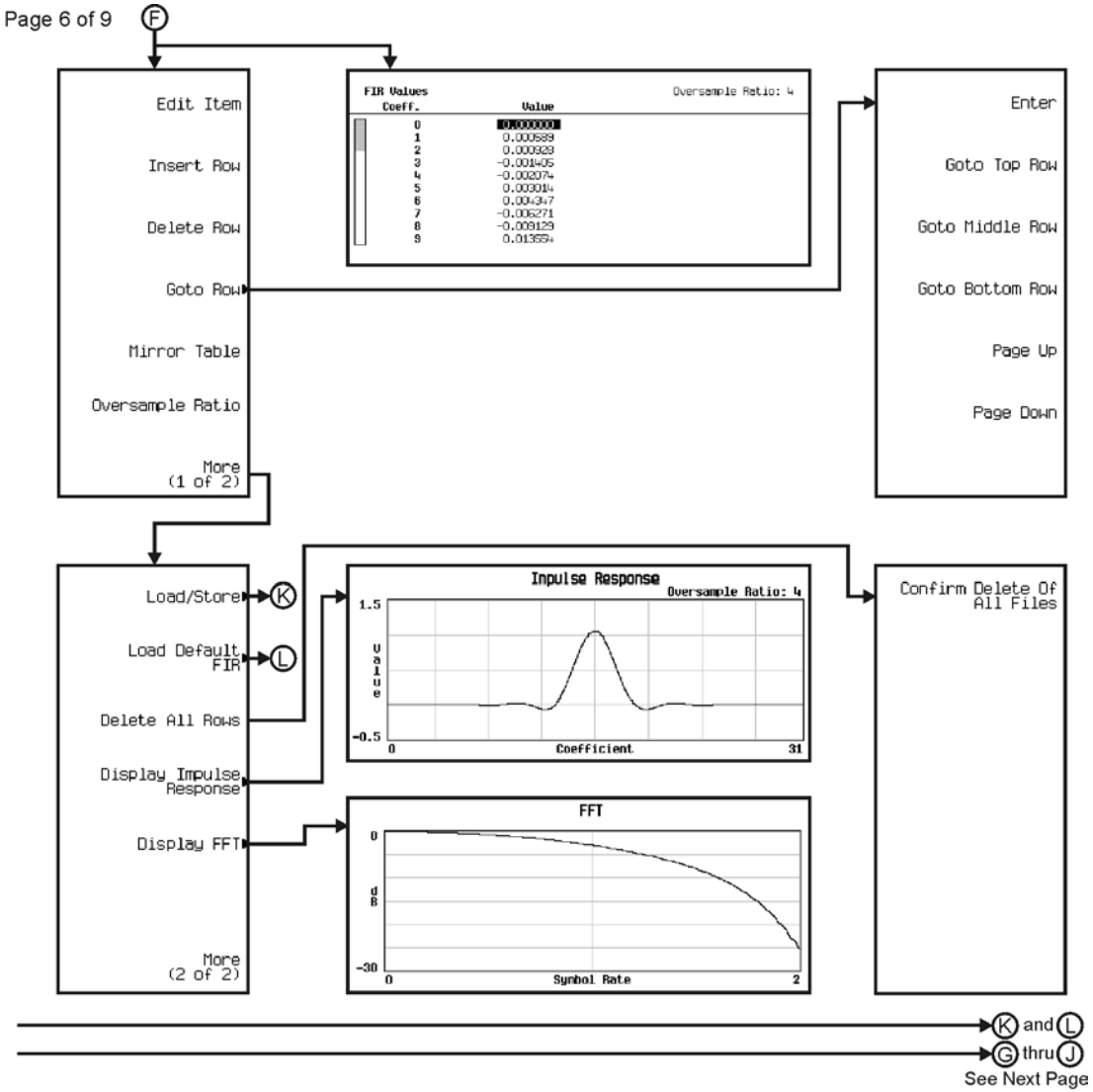

Page 2 of 9 A
Edit Channel Setup
Apply Channel Setup
Filter
Chip Rate
Store Custom CDMA State
More (1 of 2)
E
Select (IS-95 Mod w/EQ)
Define User FIR
F
*Filter Factor N/A
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000 (IS-95 Mod w/EQ)
G
User FIR
H
WCDMA
More (1 of 2)
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Waveform Length 1 Short Codes
Oversample Ratio
I/Q Mapping Normal Invert
Clipping (|I+jQ|)
More (2 of 2)
Clipping Type I+jQ |I|,|Q|
**Clip |I+jQ| To
***Clip |I| To (N/A)
***Clip |Q| To (N/A)
Clip At PRE POST FIR Filter
Apply To Waveform
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
E thru H
B thru D
See Next Page
* Changes according to filter selected.
** Inactive when Clipping Type |I+jQ| I,Q is selected.
*** Active when Clipping Type |I+jQ| I,Q is selected.
pk752c


Page 3 of 9
B
Edit Item
Insert Row
Delete Row
Goto Row
Store Custom Multicarrier
Apply Multicarrier
Multicarrier CDMA Setup
Carrier
Freq Offset
Power
1
2
3
4
9 Ch Fwd
9 Ch Fwd
-1.250000 MHz
0.000 kHz
1.250000 MHz
0.00 dB
0.00 dB
0.00 dB
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Pilot
9 Ch Fwd
32 Ch Fwd
64 Ch Fwd
Reverse
Custom CDMA Carrier
Select File
Delete File
Goto Row
Page Up
Page Down
C thru H
See Next Page

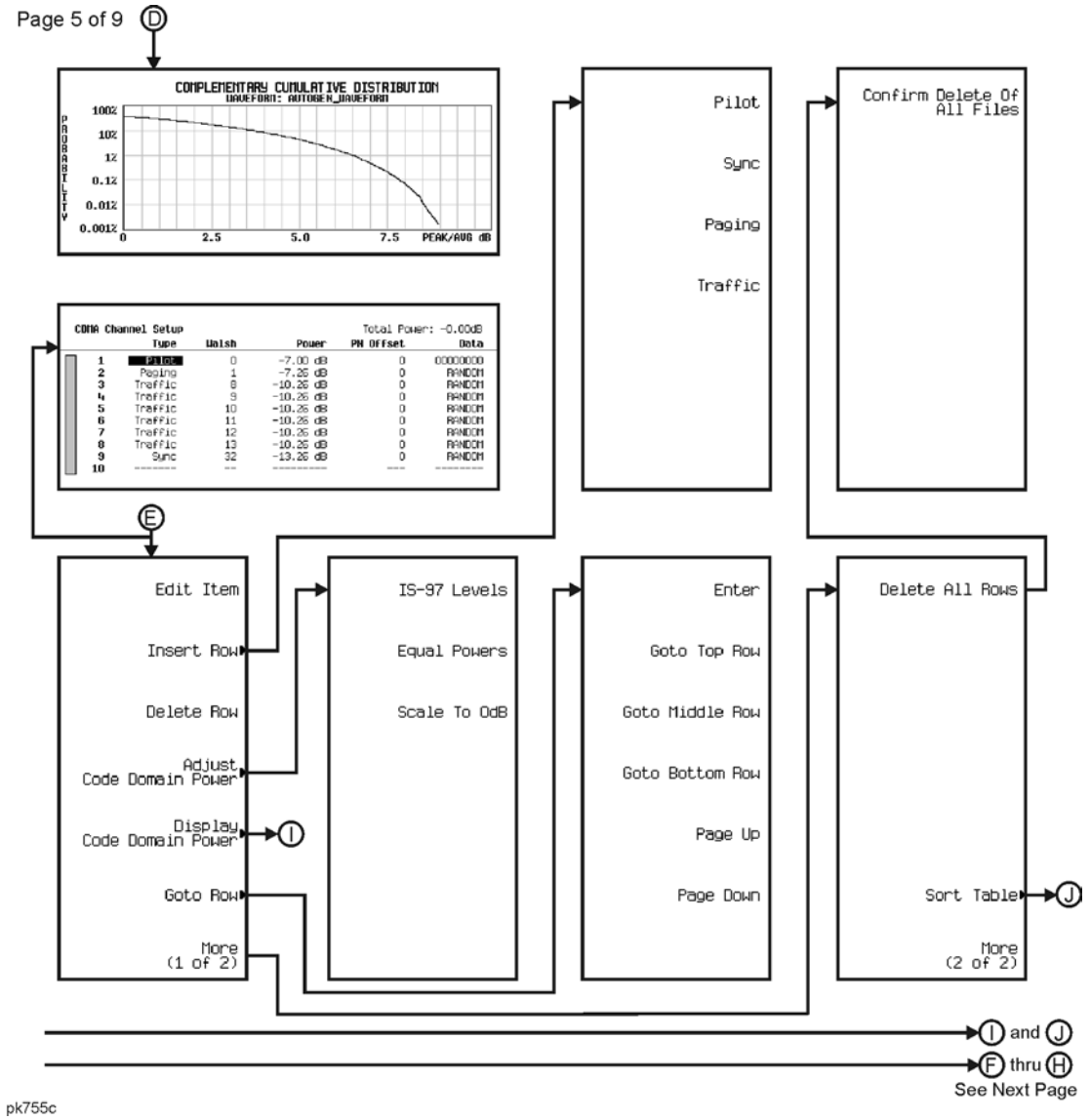
pk753c


Page 4 of 9 C
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
Ext Polarity Neg Pos
Ext Delay Off On
Ext Delay Time
Patt Trig In 1
Patt Trig In 2
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Gate Active Low High
Off
On
Immediate
Free Run
Trigger & Run
Reset & Run
D thru H
See Next Page

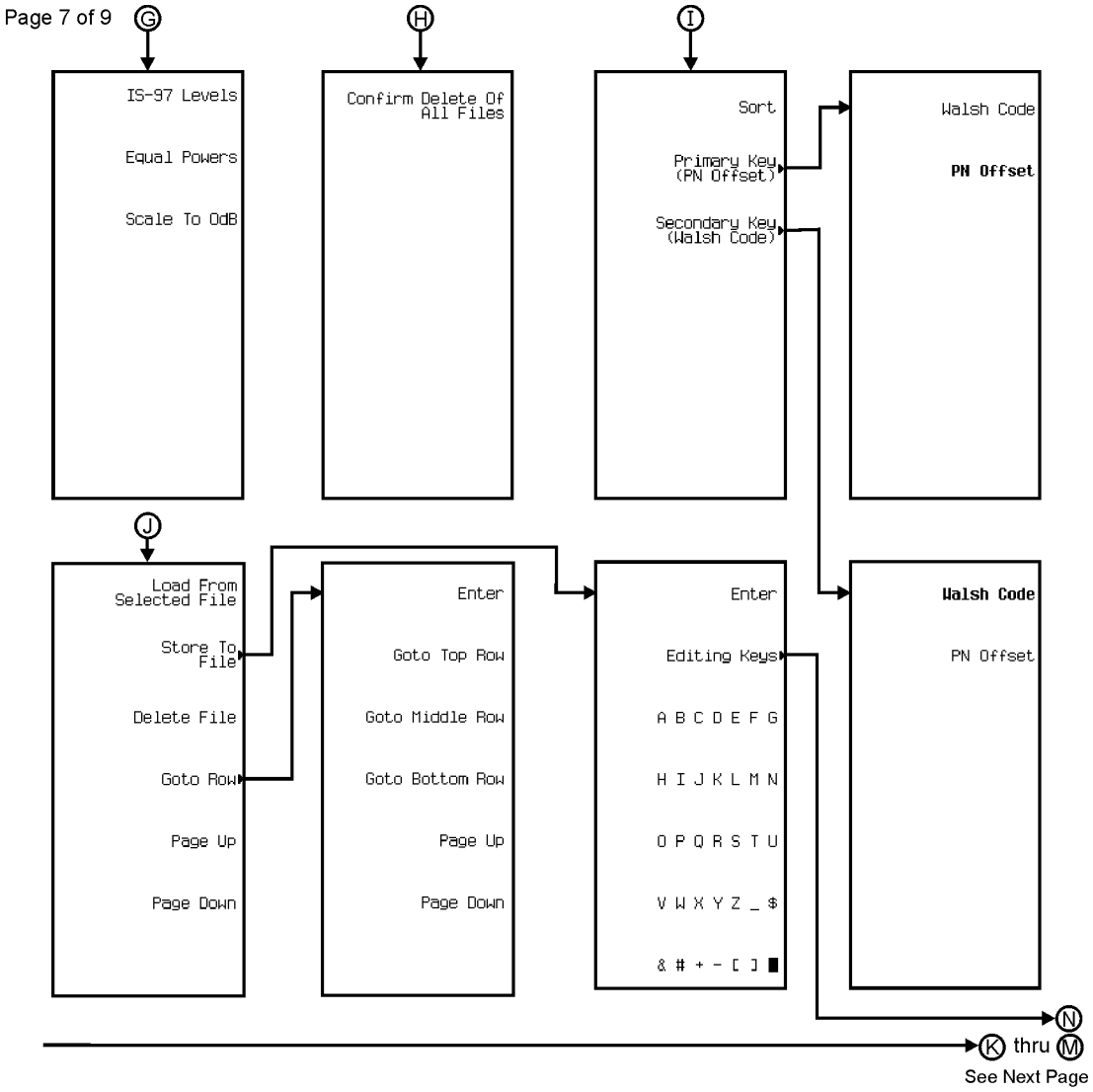
pk754c


Page 6 of 9
F
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 0.000000
1 0.000589
2 0.000929
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
K
Load Default FIR
L
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
K and L
G thru J
See Next Page

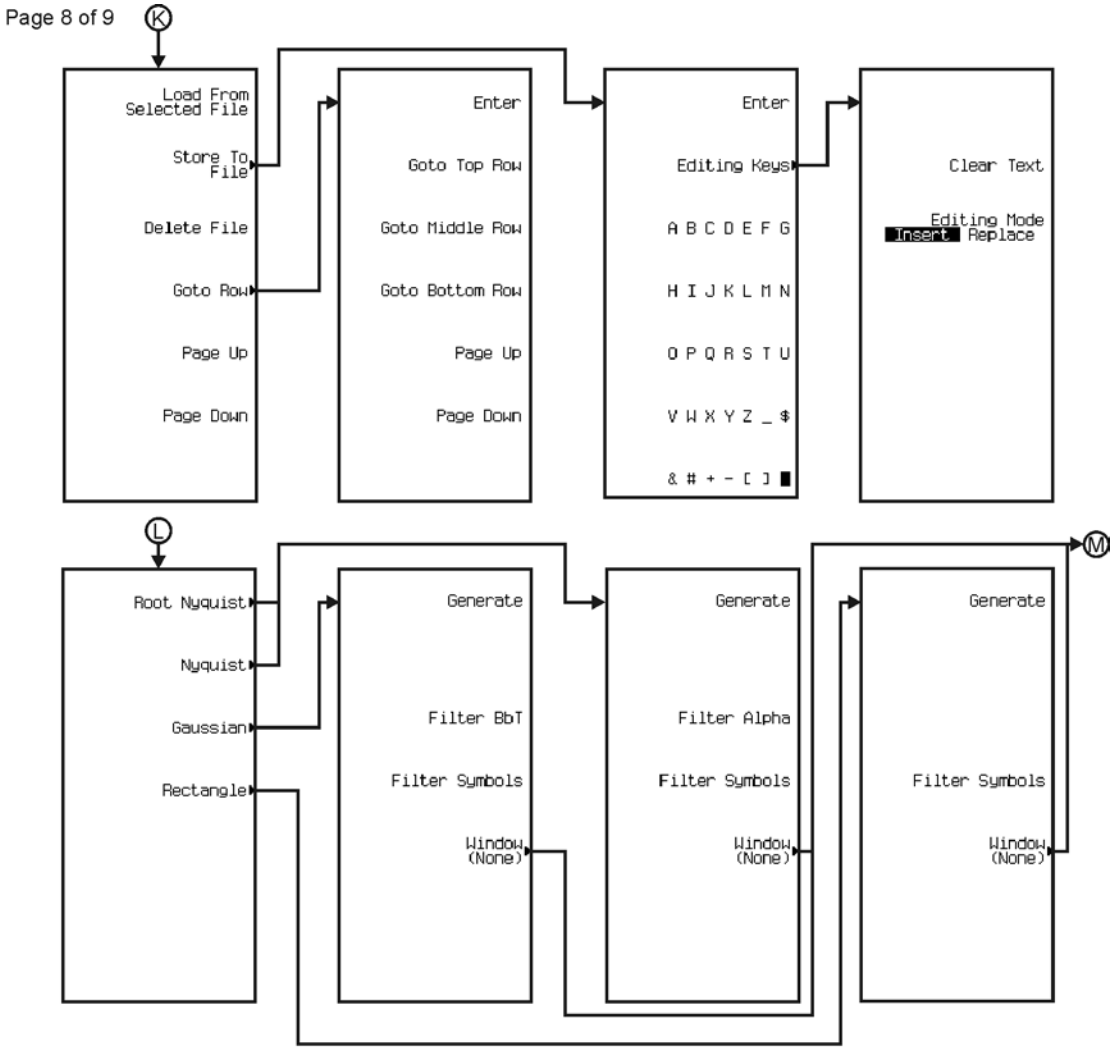
pk756c


Page 5 of 9
D
COMPLEMENTARY CUMULATIVE DISTRIBUTION
WAVEFORM: AUTOGEN_WAVEFORM
PROBABILITY
100%
10%
1%
0.1%
0.01%
0.001%
0
2.5
5.0
7.5
PEAK/AVG dB
CDMA Channel Setup
Total Power: -0.00dB
Type
Walsh
Power
PN Offset
Data
1 Pilot 0 -7.00 dB 0 00000000
2 Paging 1 -7.26 dB 0 RANDOM
3 Traffic 8 -10.26 dB 0 RANDOM
4 Traffic 9 -10.26 dB 0 RANDOM
5 Traffic 10 -10.26 dB 0 RANDOM
6 Traffic 11 -10.26 dB 0 RANDOM
7 Traffic 12 -10.26 dB 0 RANDOM
8 Traffic 13 -10.26 dB 0 RANDOM
9 Sync 32 -13.26 dB 0 RANDOM
10
Pilot
Sync
Paging
Traffic
Confirm Delete Of All Files
E
Edit Item
Insert Row
Delete Row
Adjust Code Domain Power
Display Code Domain Power
I
Goto Row
More (1 of 2)
IS-97 Levels
Equal Powers
Scale To 0dB
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Delete All Rows
Sort Table
J
More (2 of 2)
I and J
F thru H
See Next Page

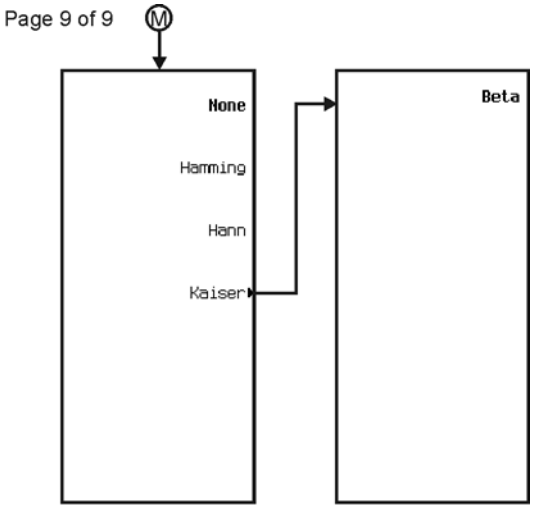
pk755c


Page 7 of 9
G
IS-97 Levels
Equal Powers
Scale To 0dB
H
Confirm Delete Of All Files
I
Sort
Primary Key (PN Offset)
Secondary Key (Walsh Code)
Walsh Code
PN Offset
J
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Walsh Code
PN Offset
N
K thru M
See Next Page

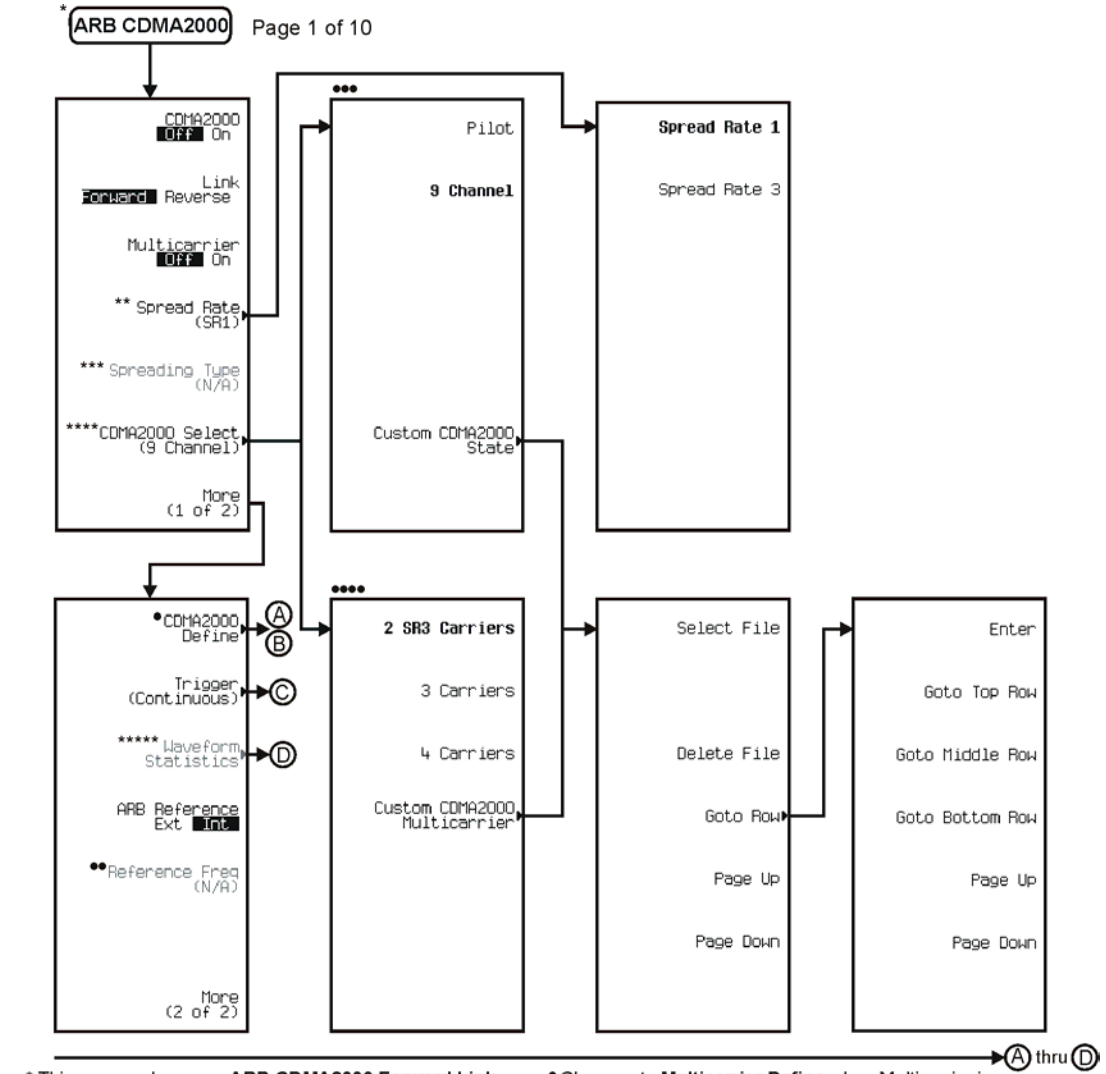
pk757c


Page 8 of 9
K
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
L
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
Generate
Filter Symbols
Window (None)
M

pk758c



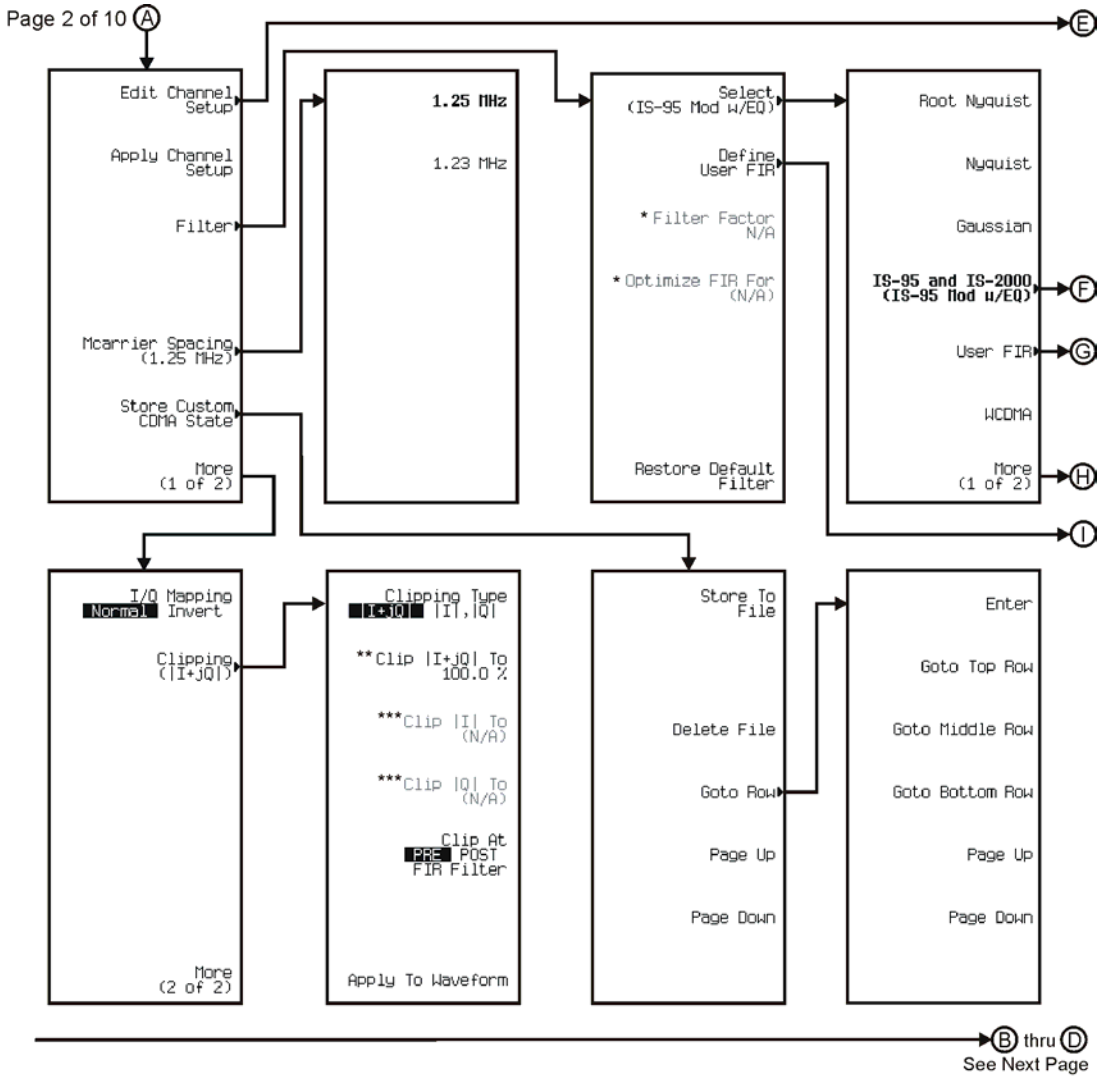
pk759c



* This menu only covers **ARB CDMA2000 Forward Link**.
** Inactive when Multicarrier is on.
*** To activate press **Spread Rate (SR1)** > **Spread Rate 3**.
**** Changes to **CDMA2000 Select (2 SR# Carriers)** when Multicarrier is on.
***** Active when **CDMA2000** is on.

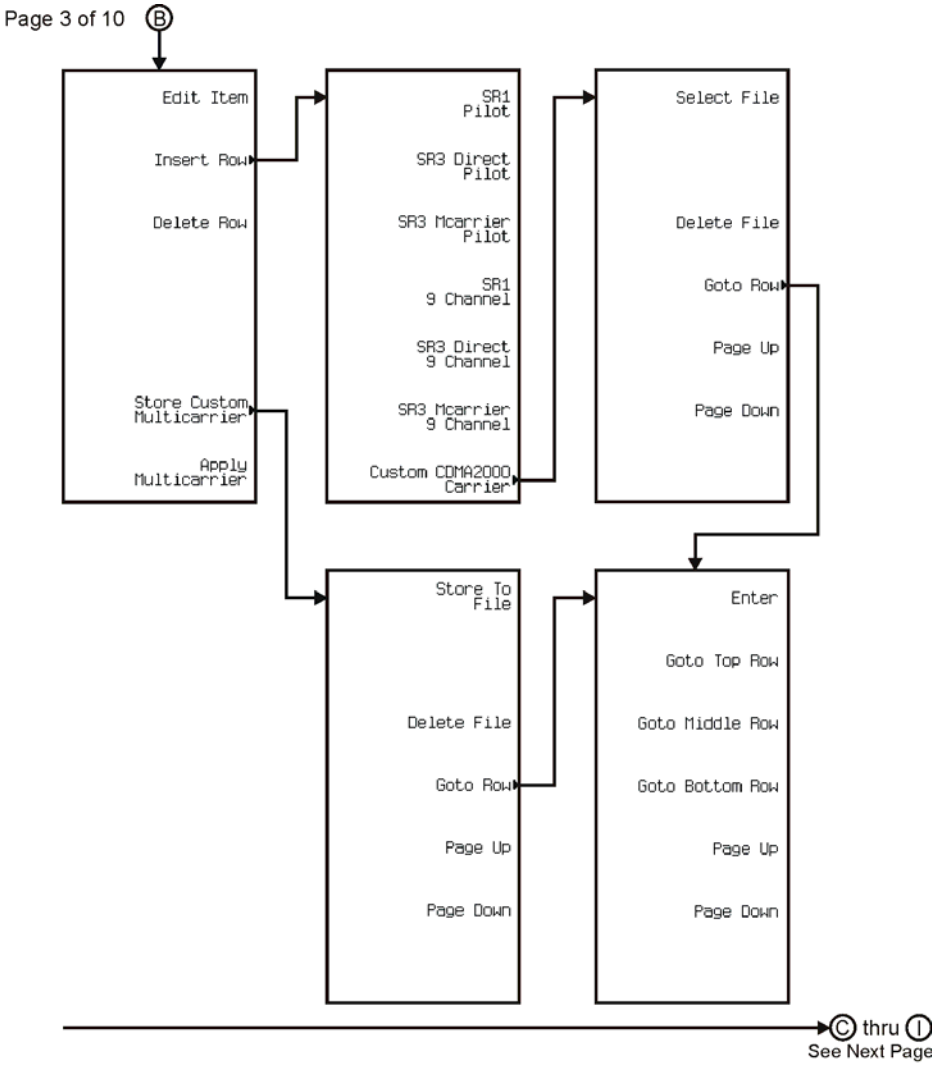
• Changes to **Multicarrier Define** when Multicarrier is on. Follow Ⓐ when Multicarrier is off. Follow Ⓒ when Multicarrier is on.
•• Active when **ARB Reference EXT Int** is selected.
••• Available when Multicarrier is off.
•••• Available when Multicarrier is on.

pk780c

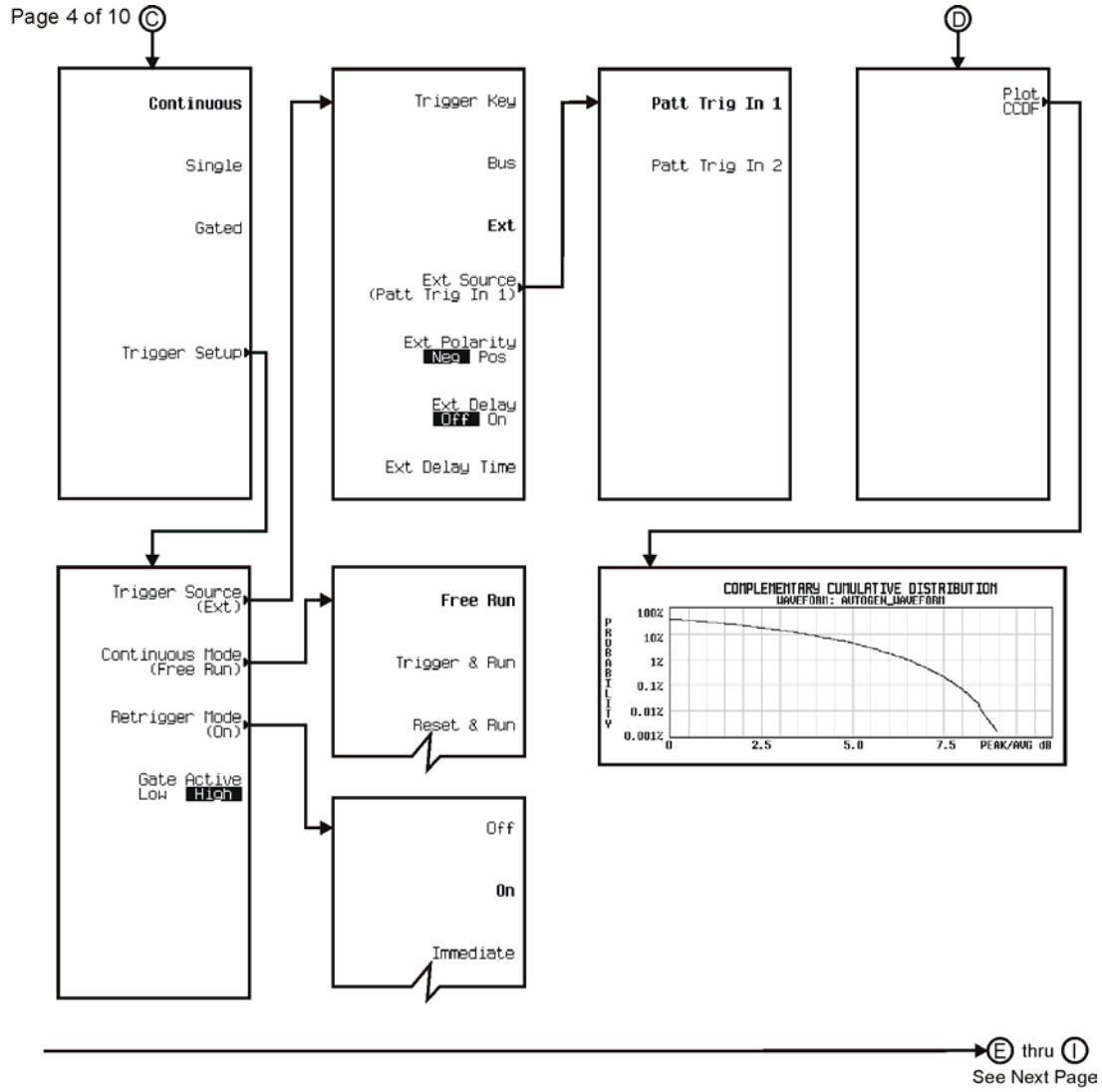


* Changes according to the filter selected.
** Inactive when **Clipping Type |I+jQ|** **|I|,|Q|** is selected.
*** Active when **Clipping Type |I+jQ|** **|I|,|Q|** is selected.

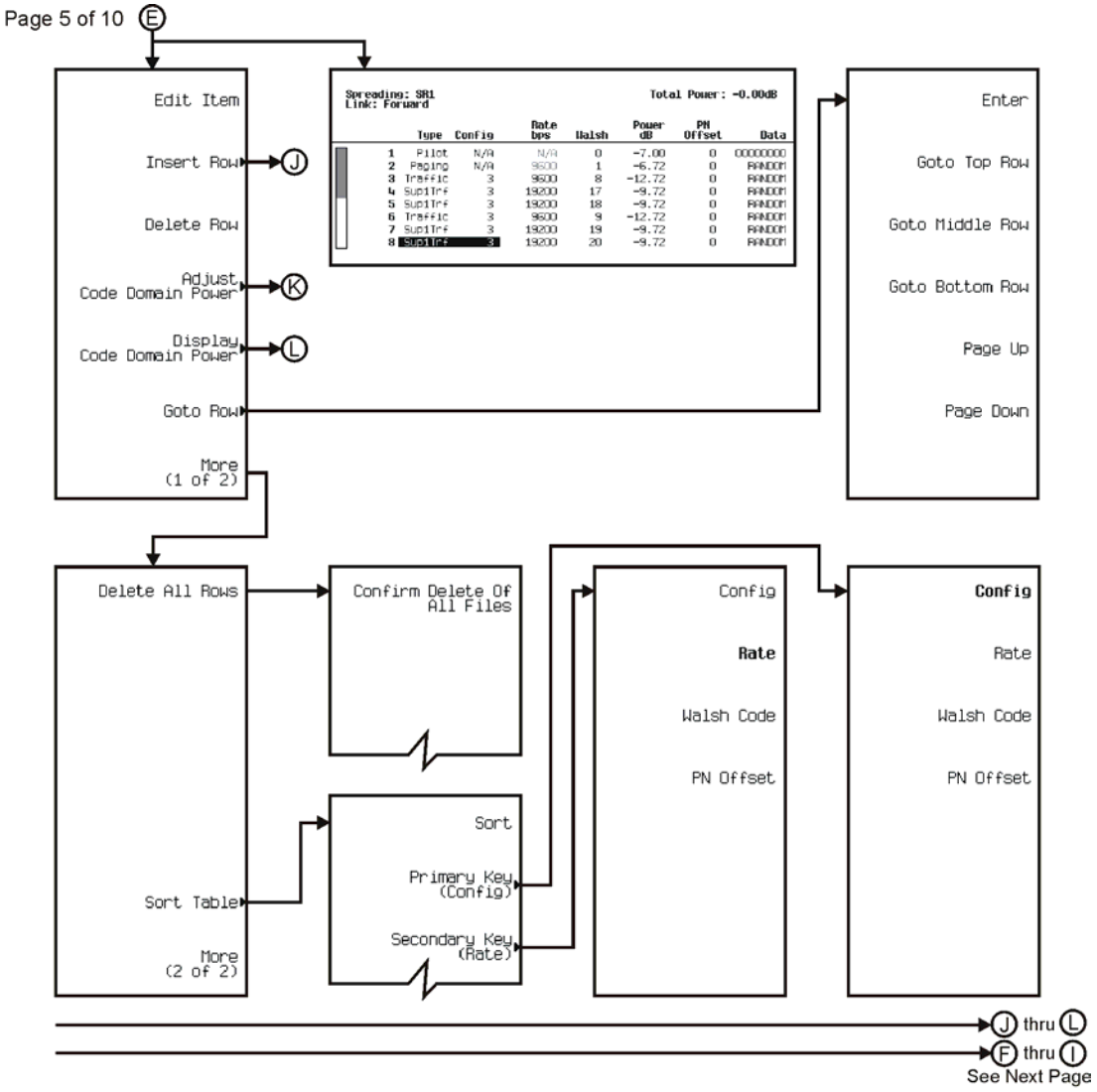
pk781c


Page 3 of 10
Ⓑ
Edit Item
Insert Row
Delete Row
Store Custom Multicarrier
Apply Multicarrier
SR1 Pilot
SR3 Direct Pilot
SR3 Mcarrier Pilot
SR1 9 Channel
SR3 Direct 9 Channel
SR3 Mcarrier 9 Channel
Custom CDMA2000 Carrier
Select File
Delete File
Goto Row
Page Up
Page Down
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Ⓒ thru Ⓘ
See Next Page

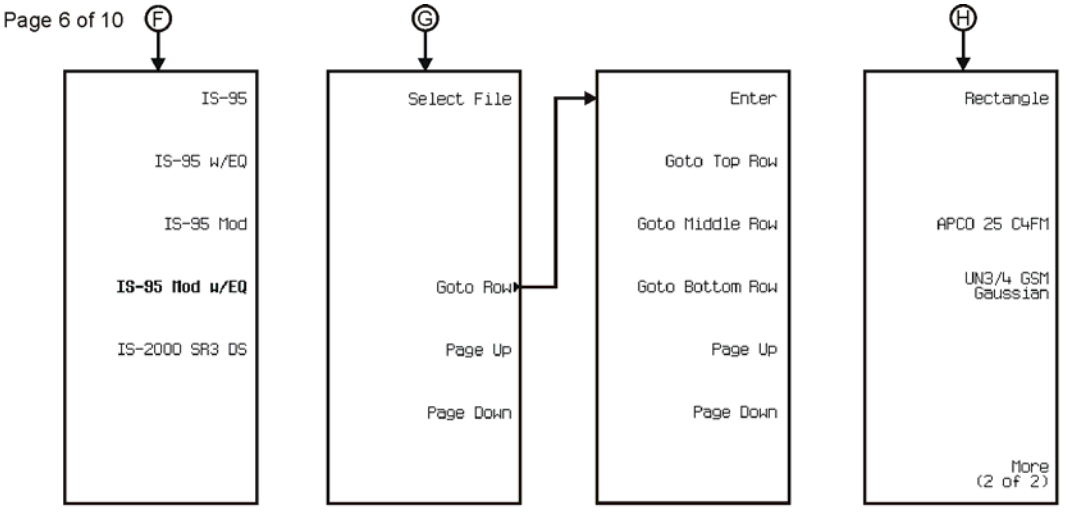
pk7189c


Page 4 of 10 C
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
Ext Polarity Neg Pos
Ext Delay Off On
Ext Delay Time
Patt Trig In 1
Patt Trig In 2
D
Plot CCDF
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Off
On
Immediate
COMPLEMENTARY CUMULATIVE DISTRIBUTION
WAVEFORM: AUTOGEN_WAVEFORM
PROBABILITY
100%
10%
1%
0.1%
0.01%
0.001%
0
2.5
5.0
7.5
PEAK/AVG dB
E thru I
See Next Page

pk782c

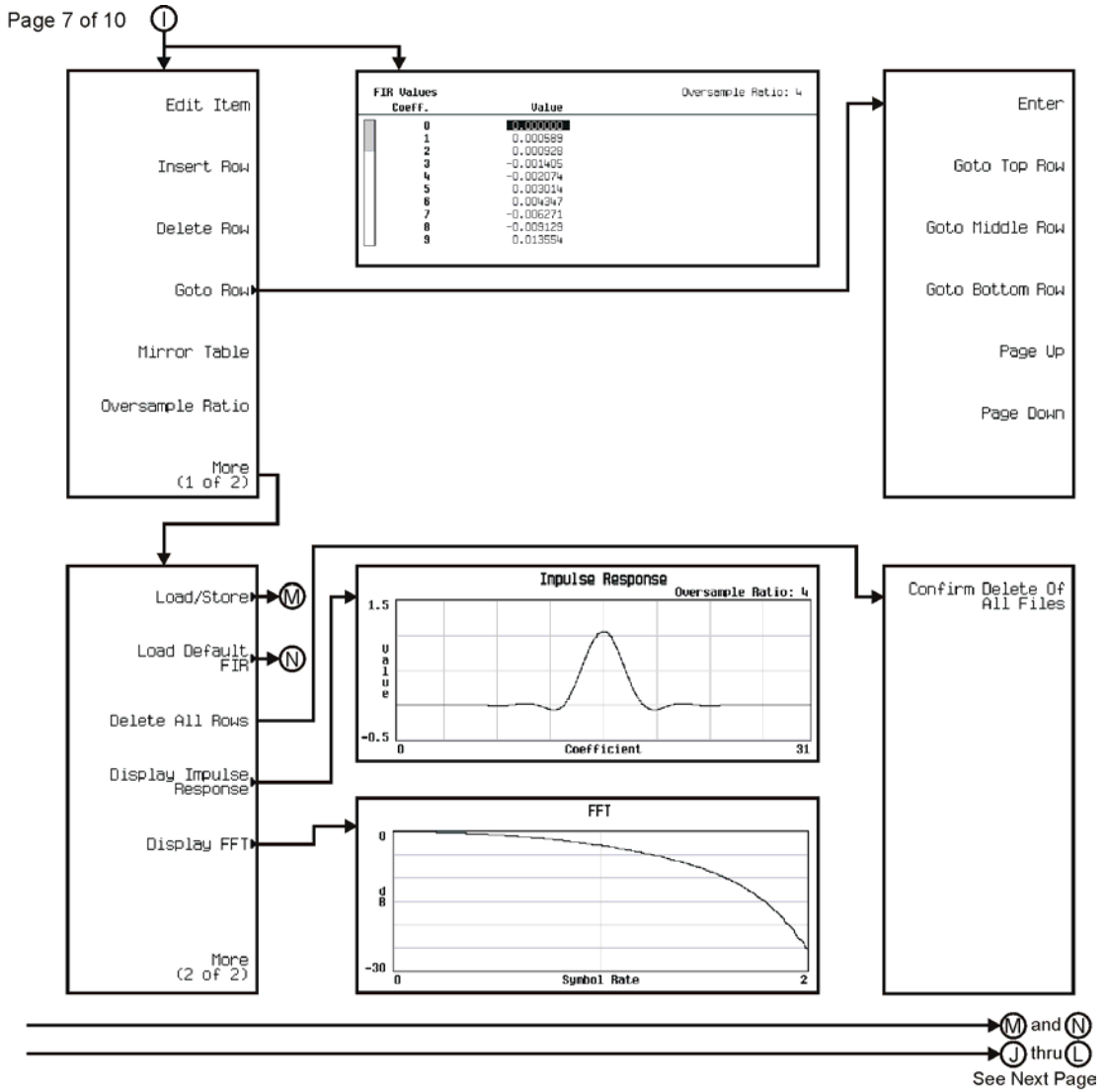

Page 5 of 10
E
Edit Item
Insert Row
J
Delete Row
Adjust Code Domain Power
K
Display Code Domain Power
L
Goto Row
More (1 of 2)
Spreading: SR1
Link: Forward
Total Power: -0.00dB
Type Config Rate bps Walsh Power dB PN Offset Data
1 Pilot N/A N/A 0 -7.00 0 00000000
2 Paging N/A 9600 1 -6.72 0 RANDOM
3 Traffic 3 9600 8 -12.72 0 RANDOM
4 SupITrf 3 19200 17 -9.72 0 RANDOM
5 SupITrf 3 19200 18 -9.72 0 RANDOM
6 Traffic 3 9600 9 -12.72 0 RANDOM
7 SupITrf 3 19200 19 -9.72 0 RANDOM
8 SupITrf 3 19200 20 -9.72 0 RANDOM
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Delete All Rows
Confirm Delete Of All Files
Sort Table
More (2 of 2)
Sort
Primary Key (Config)
Secondary Key (Rate)
Config
Rate
Walsh Code
PN Offset
Config
Rate
Walsh Code
PN Offset
J thru L
F thru I
See Next Page

pk783c

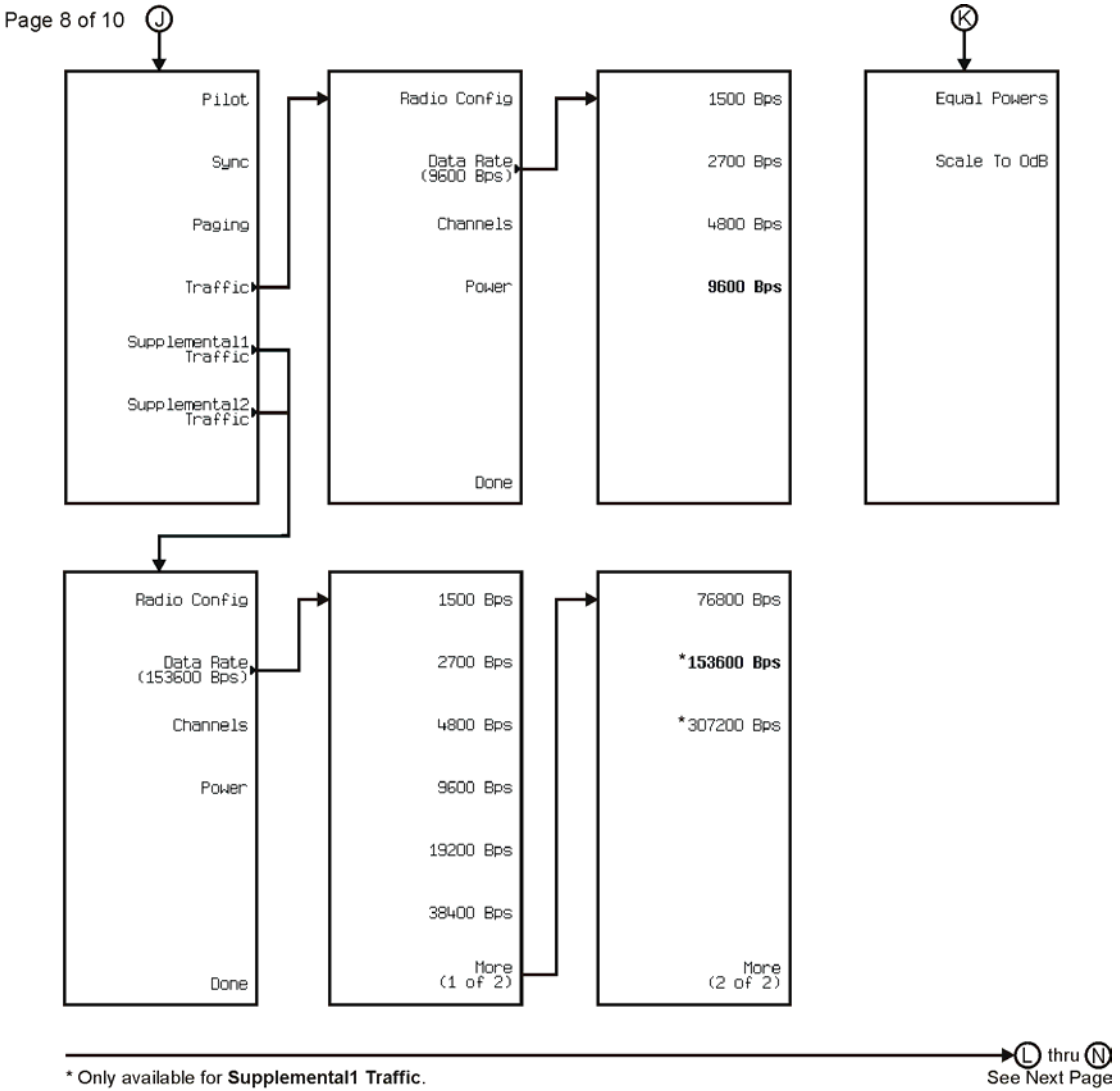


I thru L
See Next Page

pk784c

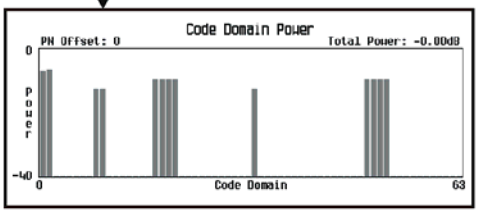

Page 7 of 10
I
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
M
Load Default FIR
N
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
M and N
J thru L
See Next Page

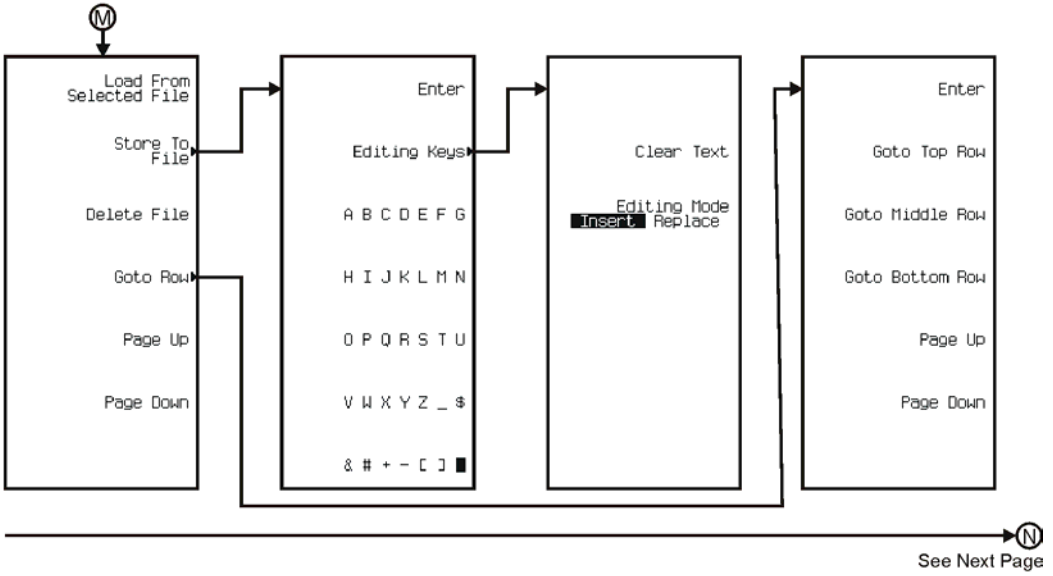
pk785c


Page 8 of 10
J
K
Pilot
Sync
Paging
Traffic
Supplemental1 Traffic
Supplemental2 Traffic
Radio Config
Data Rate (9600 Bps)
Channels
Power
Done
1500 Bps
2700 Bps
4800 Bps
9600 Bps
Equal Powers
Scale To 0dB
Radio Config
Data Rate (153600 Bps)
Channels
Power
Done
1500 Bps
2700 Bps
4800 Bps
9600 Bps
19200 Bps
38400 Bps
More (1 of 2)
76800 Bps
*153600 Bps
*307200 Bps
More (2 of 2)
L thru N
See Next Page
* Only available for Supplemental1 Traffic.

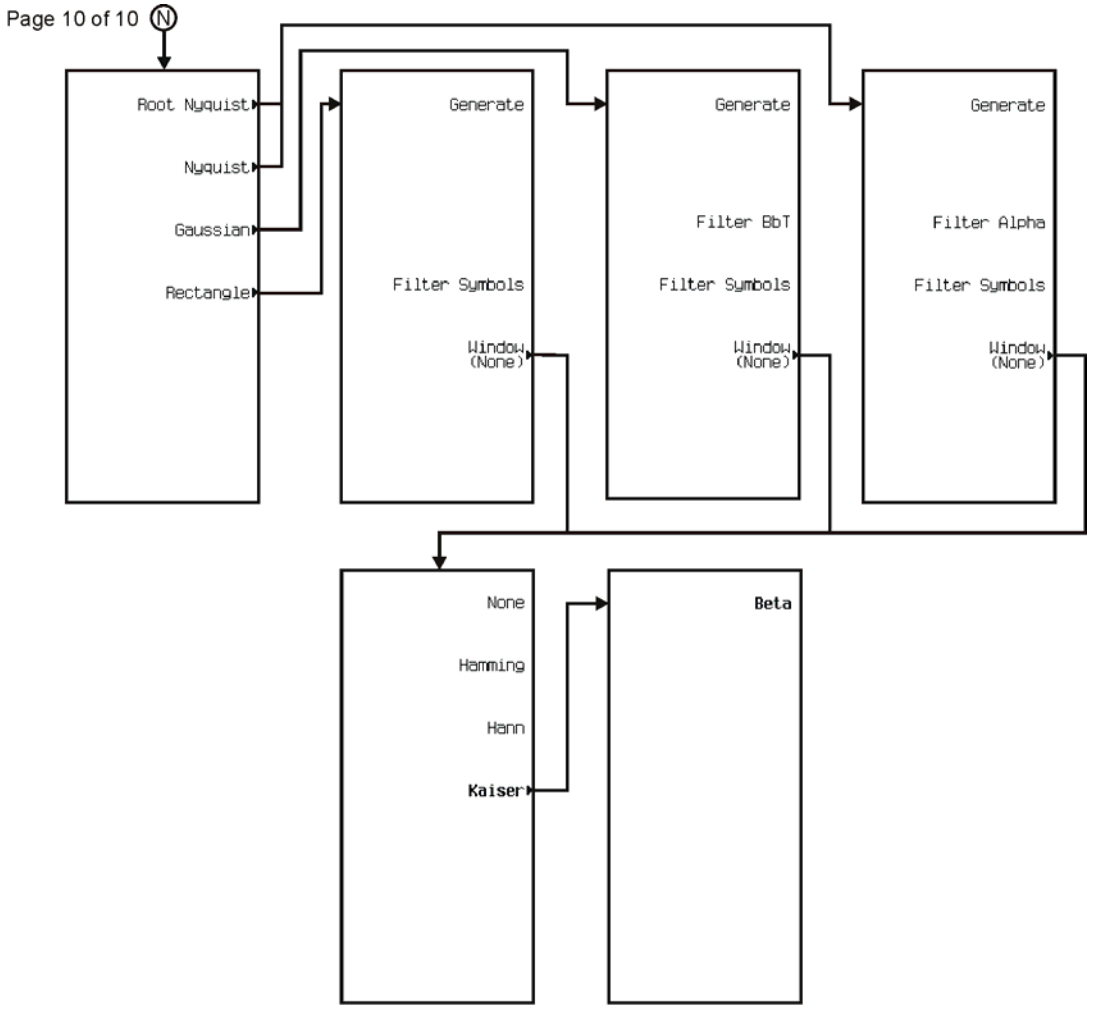
pk7166c

Page 9 of 10 (L)

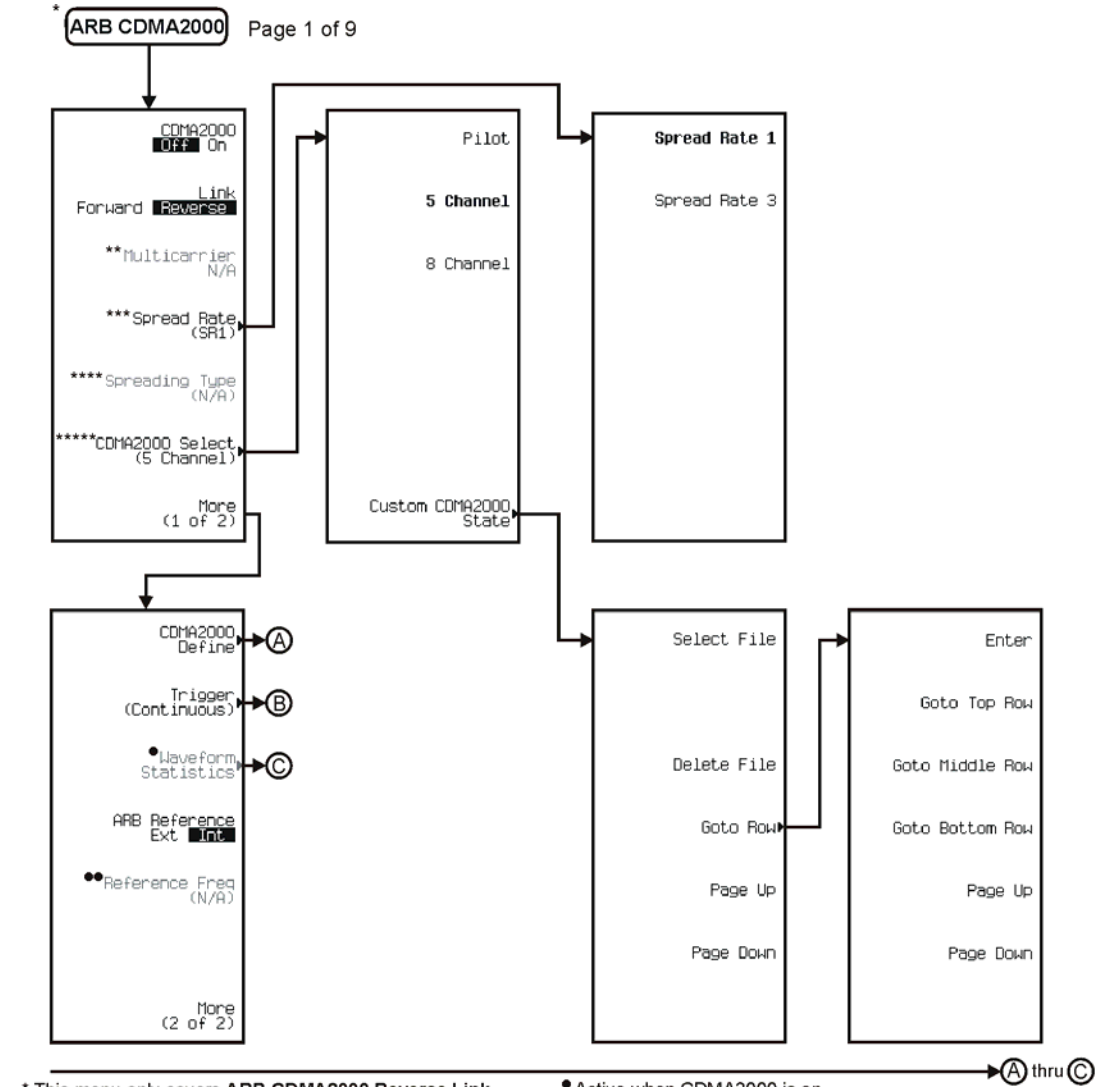




pk7167c

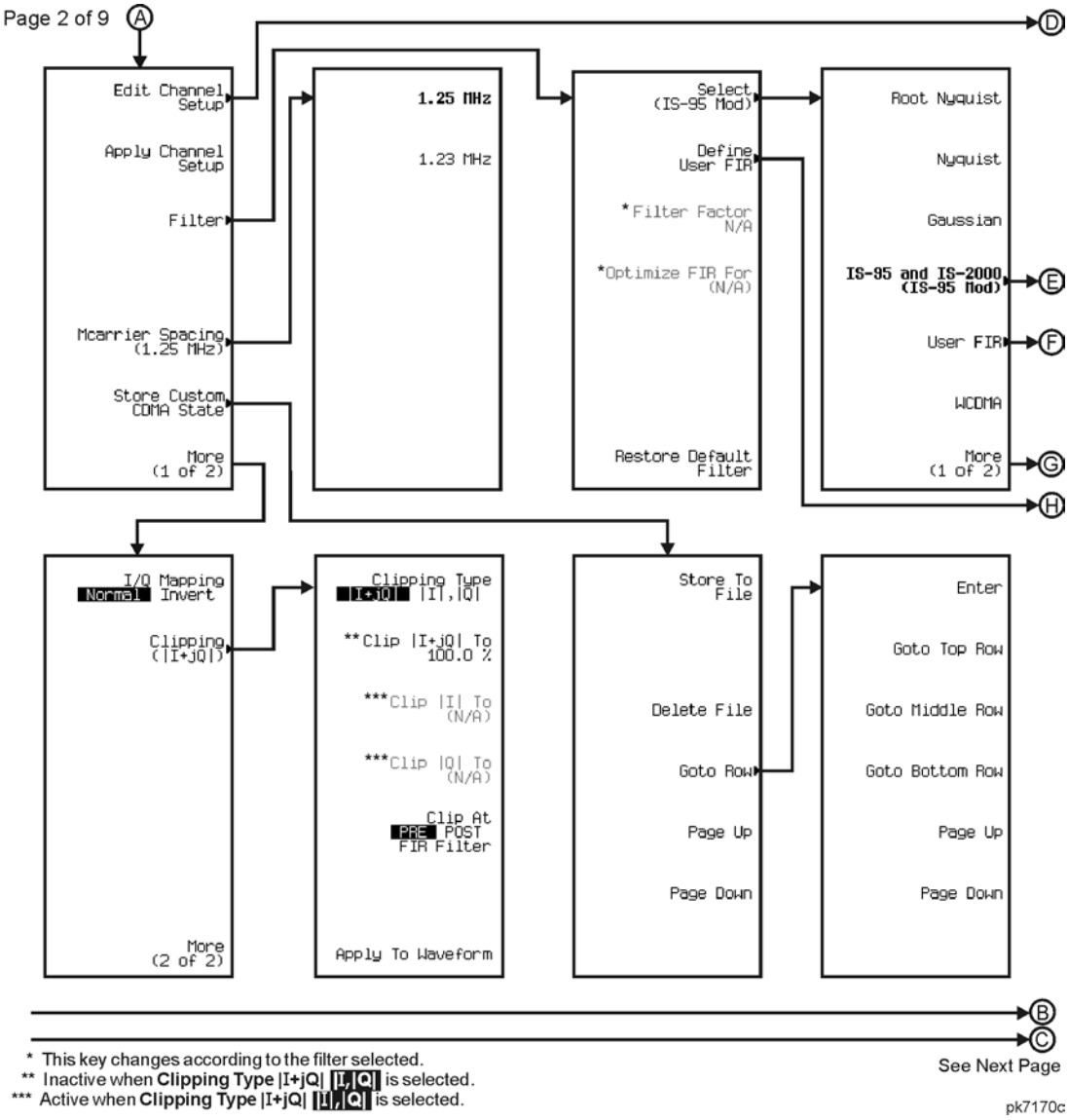

Page 10 of 10
N
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window
(None)
Generate
Filter BbT
Filter Symbols
Window
(None)
Generate
Filter Alpha
Filter Symbols
Window
(None)
None
Hamming
Hann
Kaiser
Beta

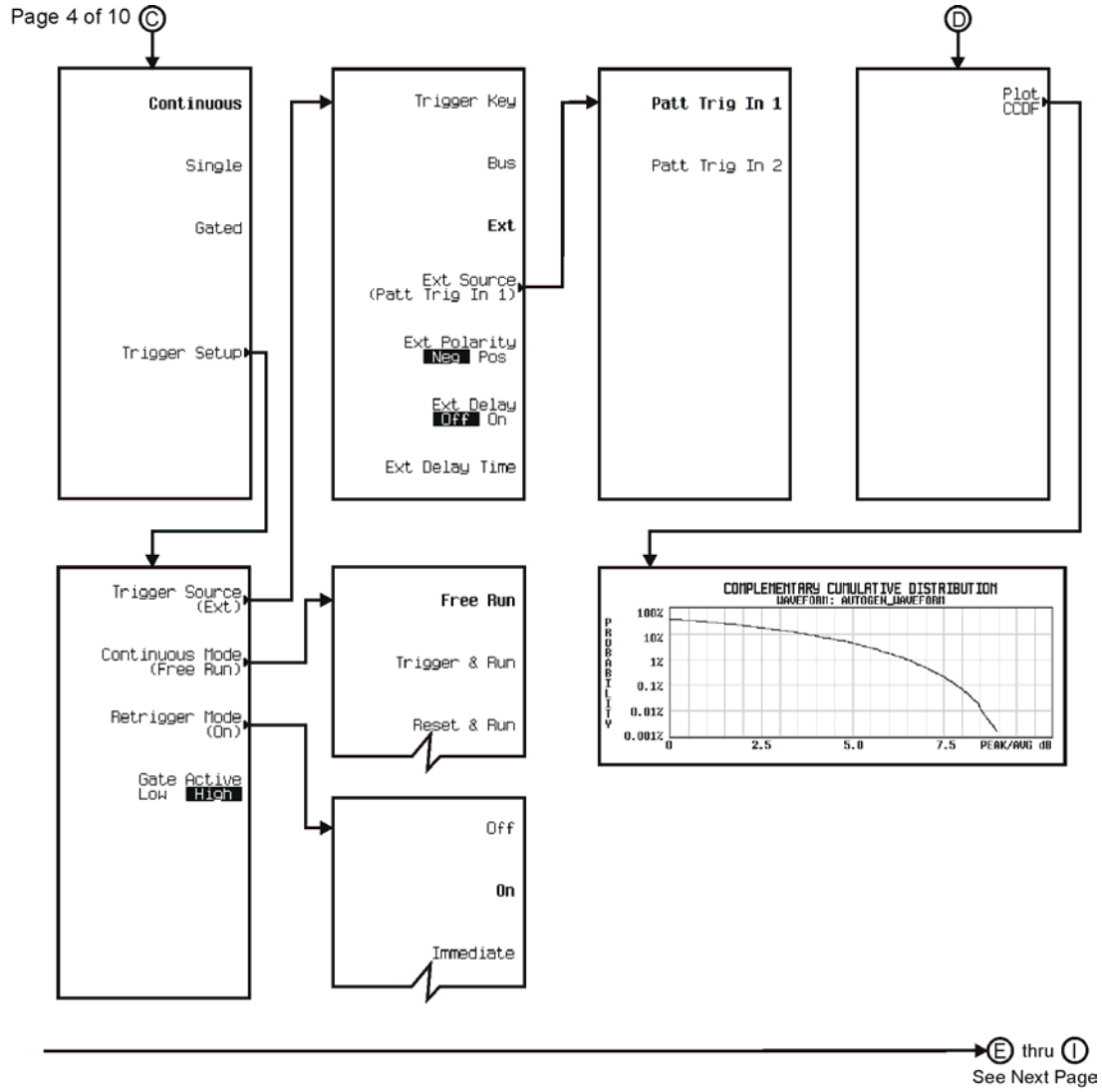
pk7168c



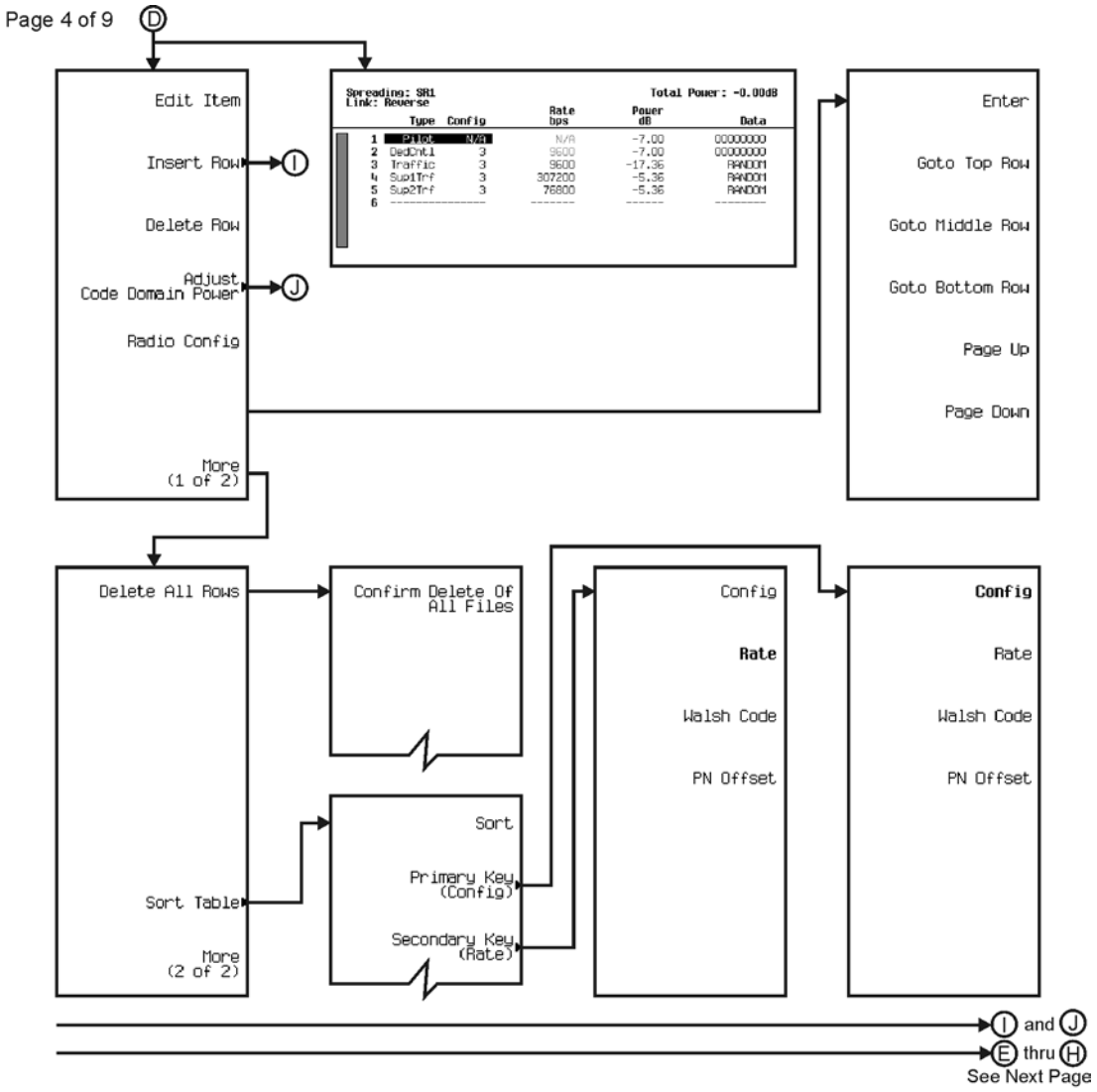
* This menu only covers **ARB CDMA2000 Reverse Link**.
** Unavailable when ARB CDMA2000 is in Revese Link.
*** Inactive when Multicarrier is on.
**** To activate press **Spread Rate (SR1)** > **Spread Rate 3**.
***** Changes to **CDMA2000 Select (2 SR# Carriers)** when Multicarrier is on.
•Active when CDMA2000 is on.
••Active when **ARB Reference EXT Int** is selected.

pk7169c

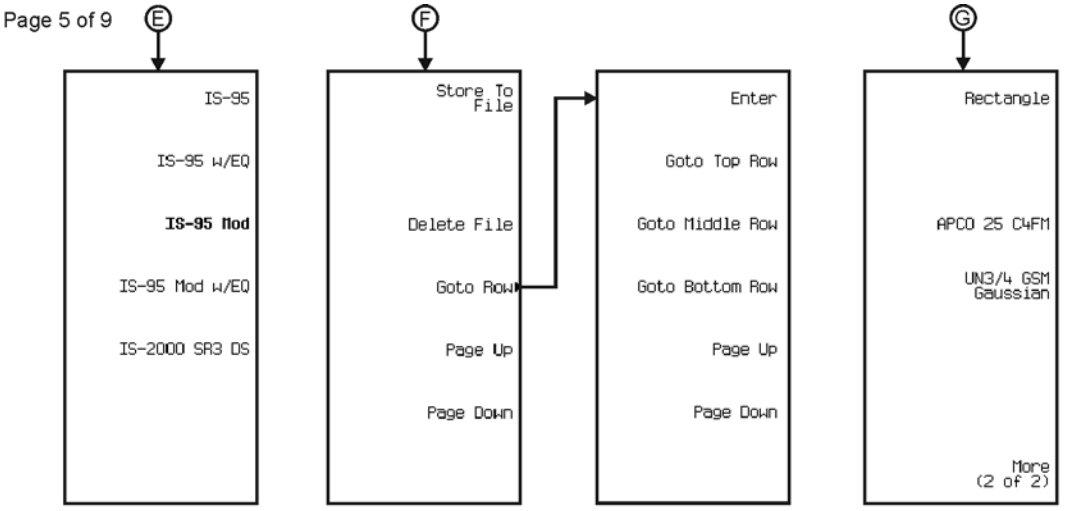

Page 2 of 9
A
Edit Channel Setup
Apply Channel Setup
Filter
Mcarrier Spacing (1.25 MHz)
Store Custom CDMA State
More (1 of 2)
1.25 MHz
1.23 MHz
Select (IS-95 Mod)
Define User FIR
*Filter Factor N/A
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000 (IS-95 Mod)
User FIR
WCDMA
More (1 of 2)
D
E
F
G
H
I/Q Mapping Normal Invert
Clipping (|I+jQ|)
More (2 of 2)
Clipping Type |I+jQ| |I|,|Q|
**Clip |I+jQ| To 100.0 %
***Clip |I| To (N/A)
***Clip |Q| To (N/A)
Clip At PRE POST FIR Filter
Apply To Waveform
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
B
C
See Next Page
* This key changes according to the filter selected.
** Inactive when Clipping Type |I+jQ| |I,Q| is selected.
*** Active when Clipping Type |I+jQ| |I,Q| is selected.
pk7170c


Page 4 of 10 C
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
Ext Polarity Neg Pos
Ext Delay Off On
Ext Delay Time
Patt Trig In 1
Patt Trig In 2
D
Plot CCDF
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Off
On
Immediate
COMPLEMENTARY CUMULATIVE DISTRIBUTION
WAVEFORM: AUTOGEN_WAVEFORM
PROBABILITY
100%
10%
1%
0.1%
0.01%
0.001%
0
2.5
5.0
7.5
PEAK/AVG dB
E thru I
See Next Page

pk782c

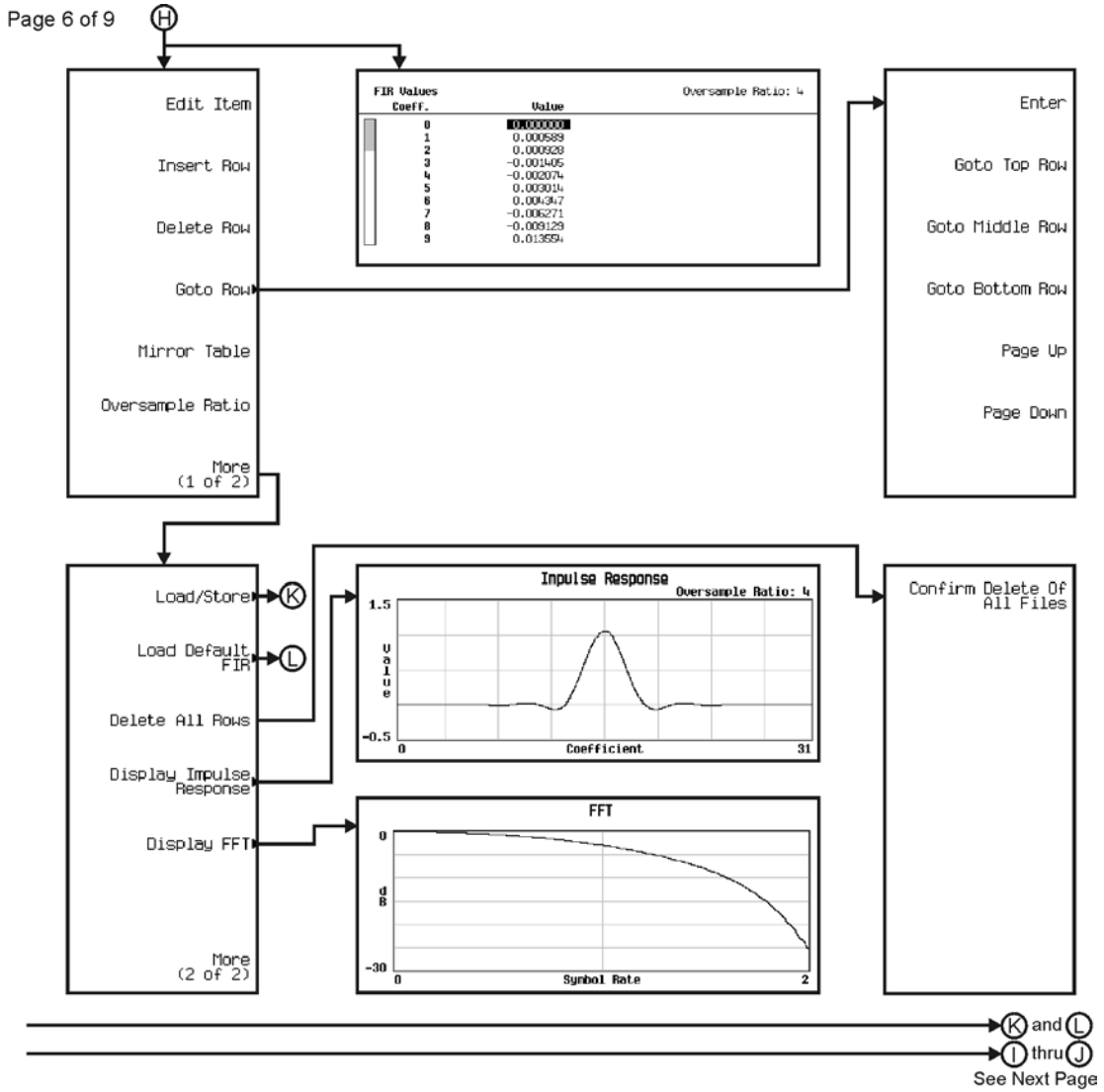

Page 4 of 9
D
Edit Item
Insert Row
I
Delete Row
Adjust
Code Domain Power
J
Radio Config
More
(1 of 2)
Spreading: SR1
Link: Reverse
Total Power: -0.00dB
Type Config
Rate
bps
Power
dB
Data
1 PrTch N/A N/A -7.00 00000000
2 DedCntl 3 9600 -7.00 00000000
3 Traffic 3 9600 -17.36 RANDOM
4 Sup1Trf 3 307200 -5.36 RANDOM
5 Sup2Trf 3 76800 -5.36 RANDOM
6
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Delete All Rows
Confirm Delete Of
All Files
Sort Table
More
(2 of 2)
Sort
Primary Key
(Config)
Secondary Key
(Rate)
Config
Rate
Walsh Code
PN Offset
Config
Rate
Walsh Code
PN Offset
I and J
E thru H
See Next Page

pk7171c

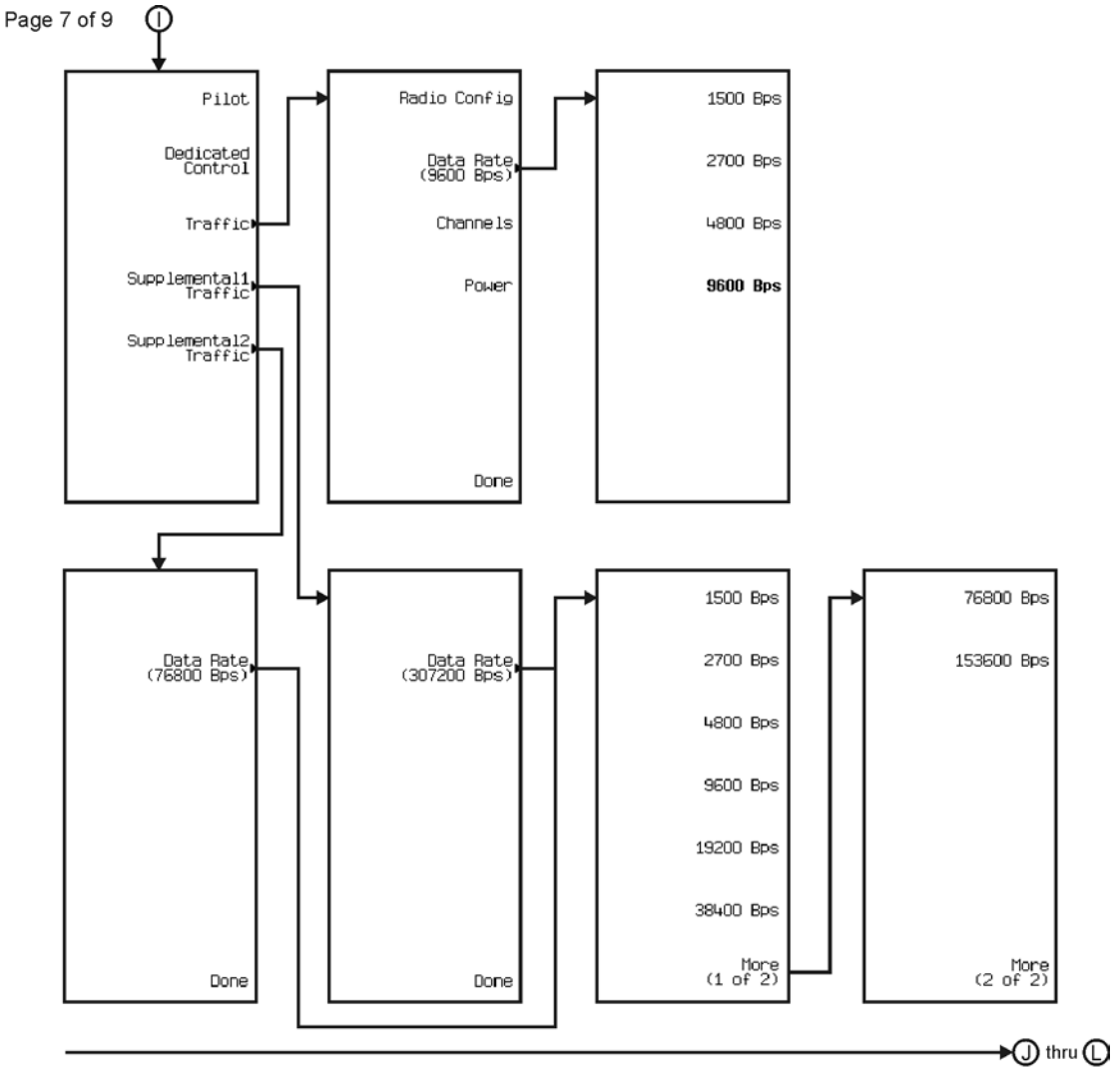


H thru J
See Next Page

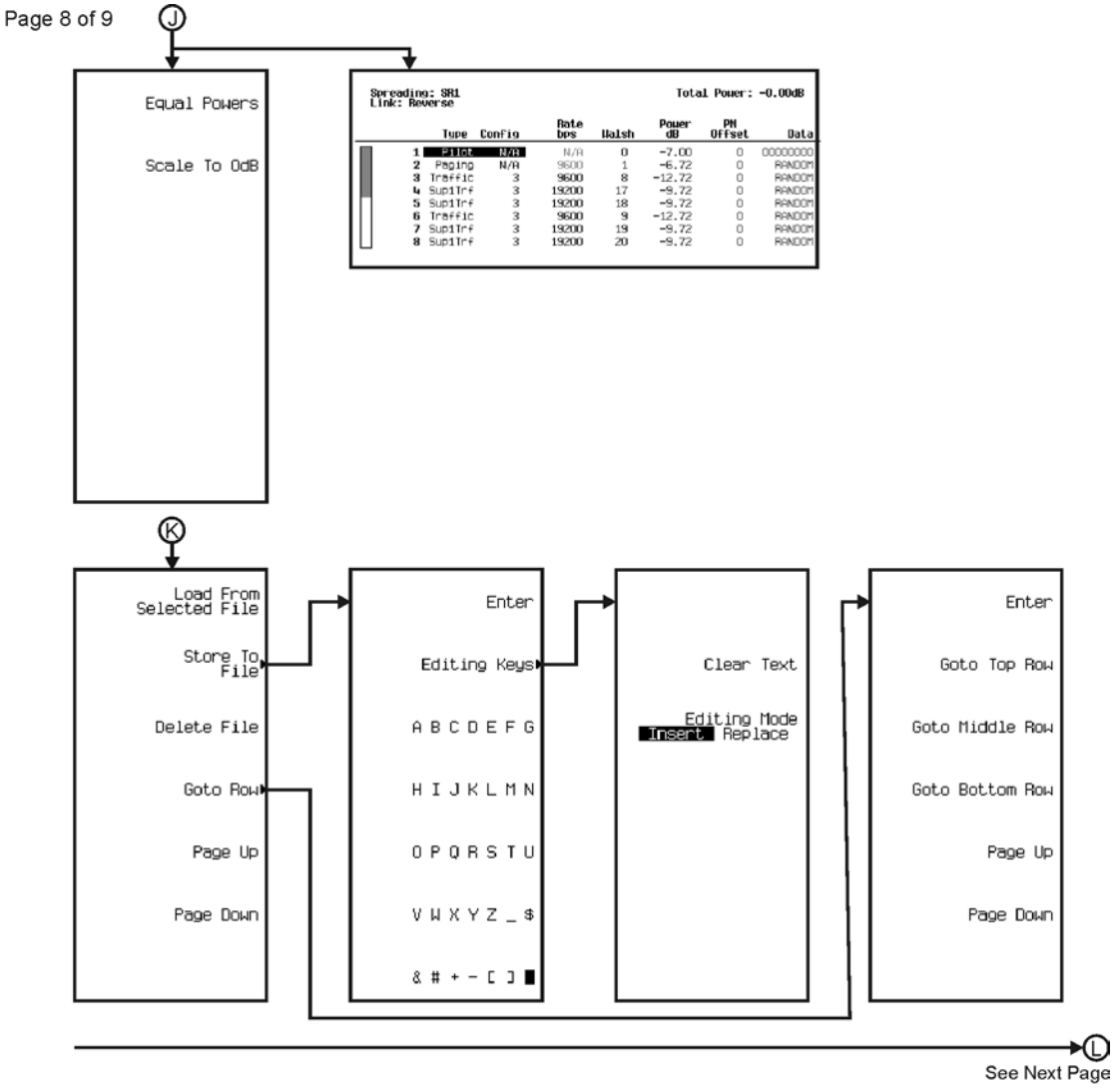
pk7172c


Page 6 of 9
H
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Coeff.
Value
Oversample Ratio: 4
0 0.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013594
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
K
Load Default FIR
L
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Inpulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
K and L
I thru J
See Next Page

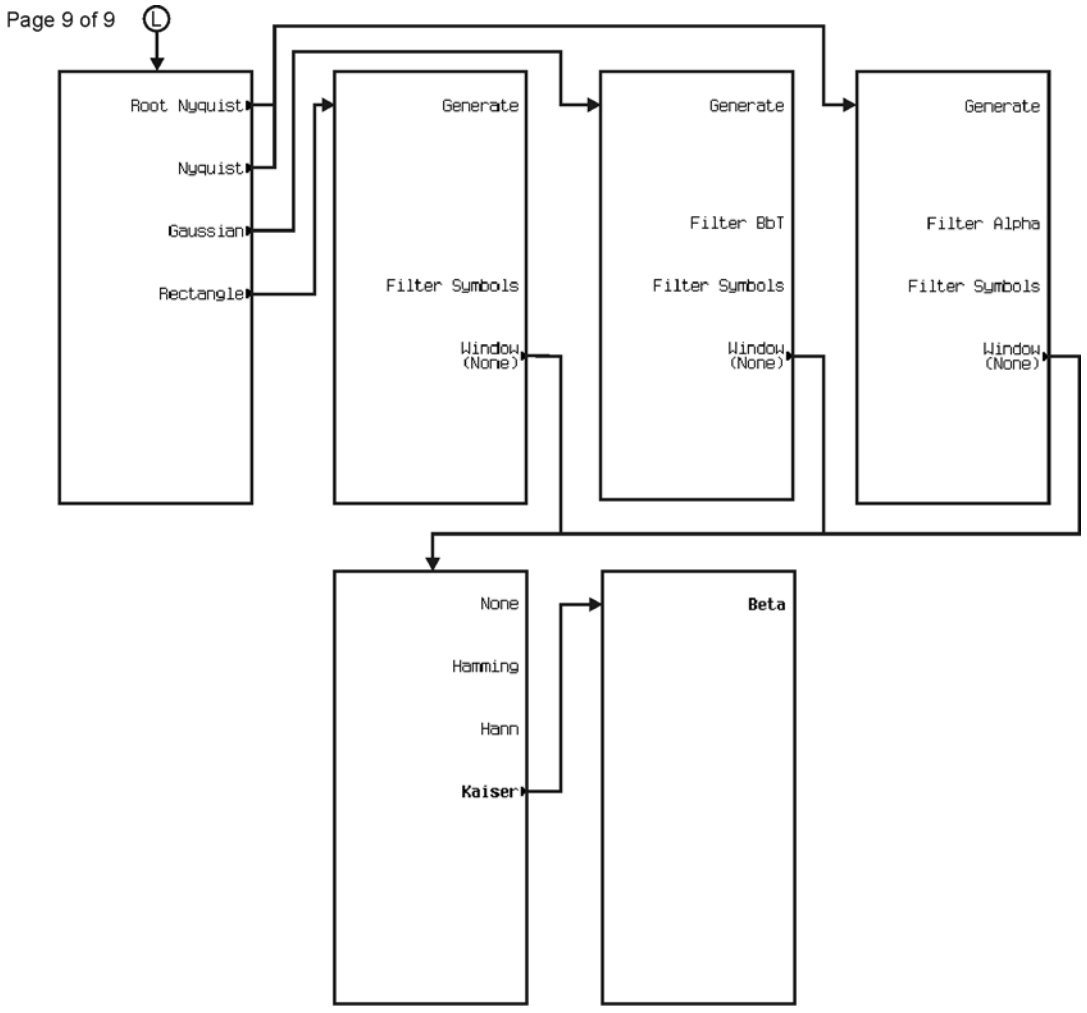
pk7173c


Page 7 of 9
I
Pilot
Dedicated Control
Traffic
Supplemental1 Traffic
Supplemental2 Traffic
Radio Config
Data Rate (9600 Bps)
Channels
Power
Done
1500 Bps
2700 Bps
4800 Bps
9600 Bps
Data Rate (76800 Bps)
Done
Data Rate (307200 Bps)
Done
1500 Bps
2700 Bps
4800 Bps
9600 Bps
19200 Bps
38400 Bps
More (1 of 2)
76800 Bps
153600 Bps
More (2 of 2)
J thru L

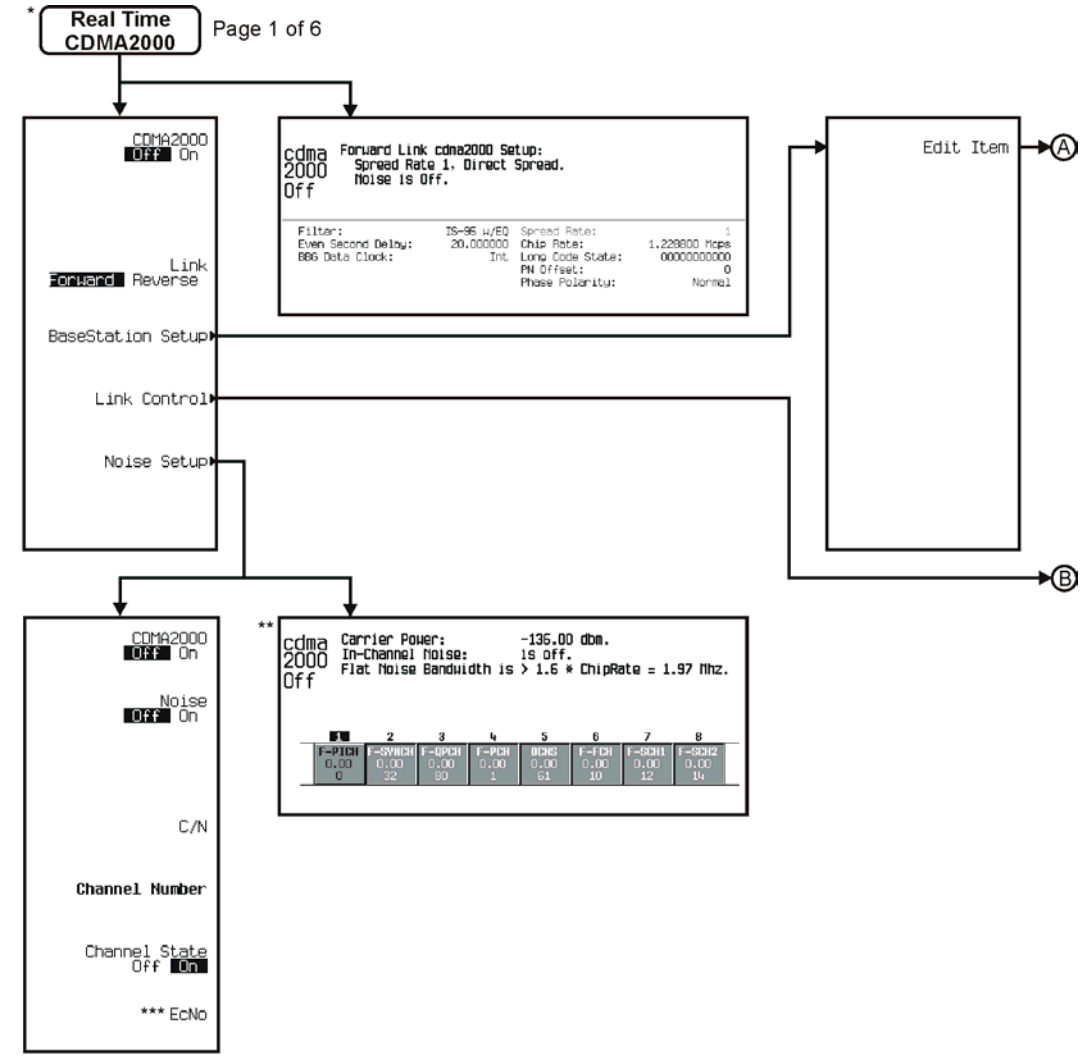
pk7174c


Page 8 of 9
J
Equal Powers
Scale To 0dB
Spreading: SR1
Link: Reverse
Total Power: -0.00dB
Type Config Rate bps Walsh Power dB PN Offset Data
1 Pilot N/A N/A 0 -7.00 0 00000000
2 Paging N/A 9600 1 -6.72 0 RANDOM
3 Traffic 3 9600 8 -12.72 0 RANDOM
4 Sup1Trf 3 19200 17 -9.72 0 RANDOM
5 Sup1Trf 3 19200 18 -9.72 0 RANDOM
6 Traffic 3 9600 9 -12.72 0 RANDOM
7 Sup1Trf 3 19200 19 -9.72 0 RANDOM
8 Sup1Trf 3 19200 20 -9.72 0 RANDOM
K
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
L
See Next Page

pk7175c

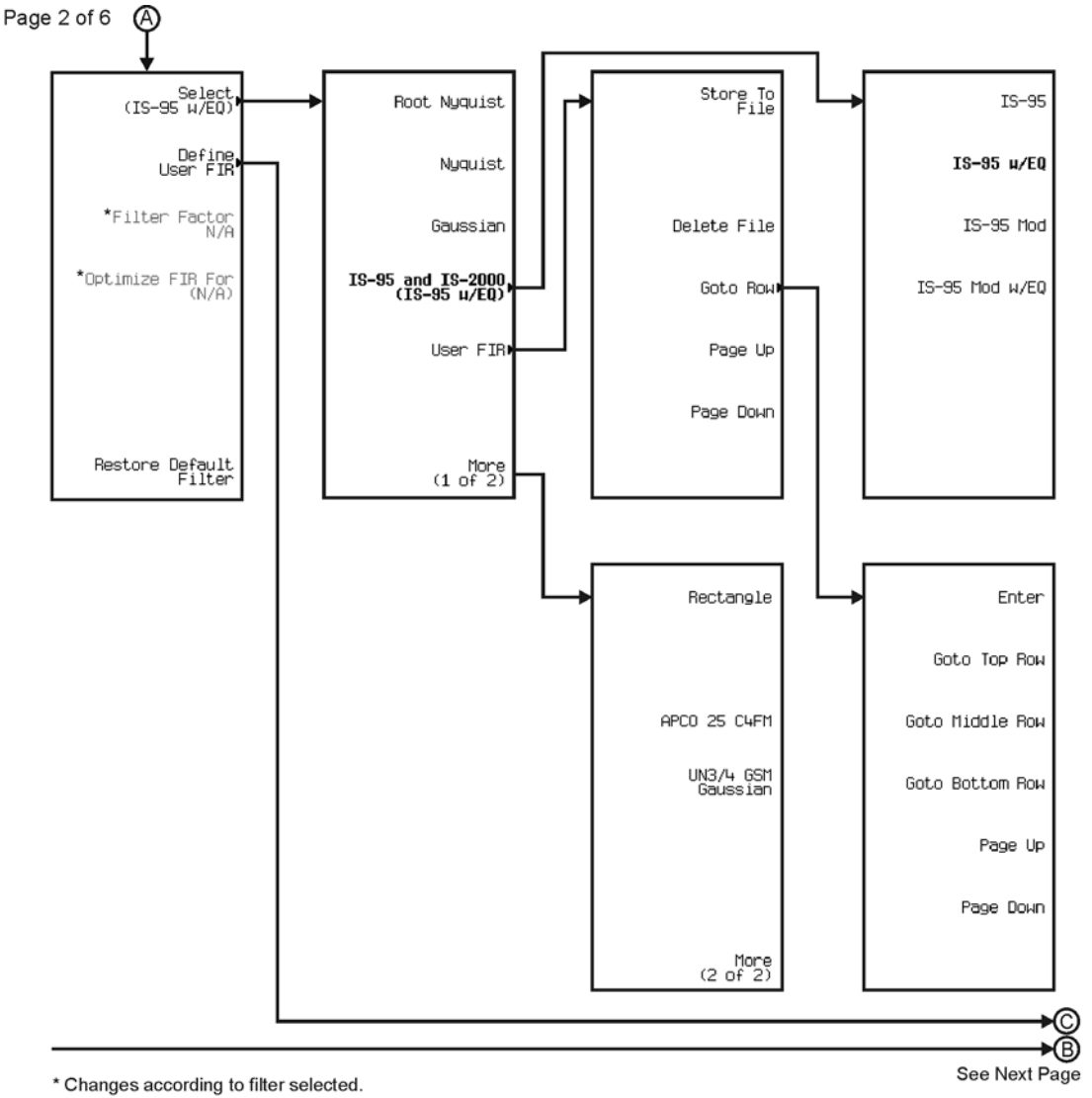

Page 9 of 9
L
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window
(None)
Generate
Filter BbT
Filter Symbols
Window
(None)
Generate
Filter Alpha
Filter Symbols
Window
(None)
None
Hamming
Hann
Kaiser
Beta

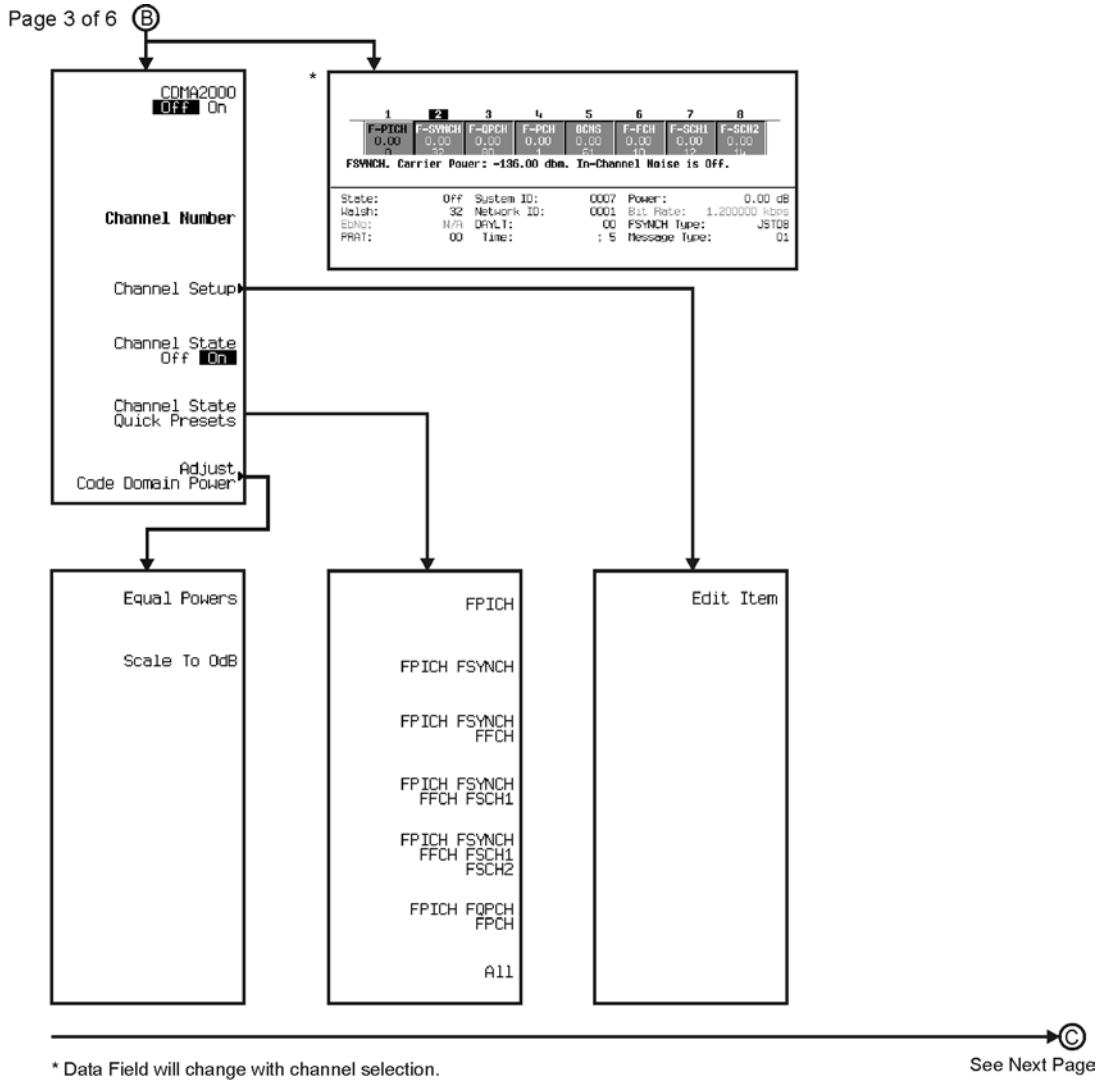
pk7176c



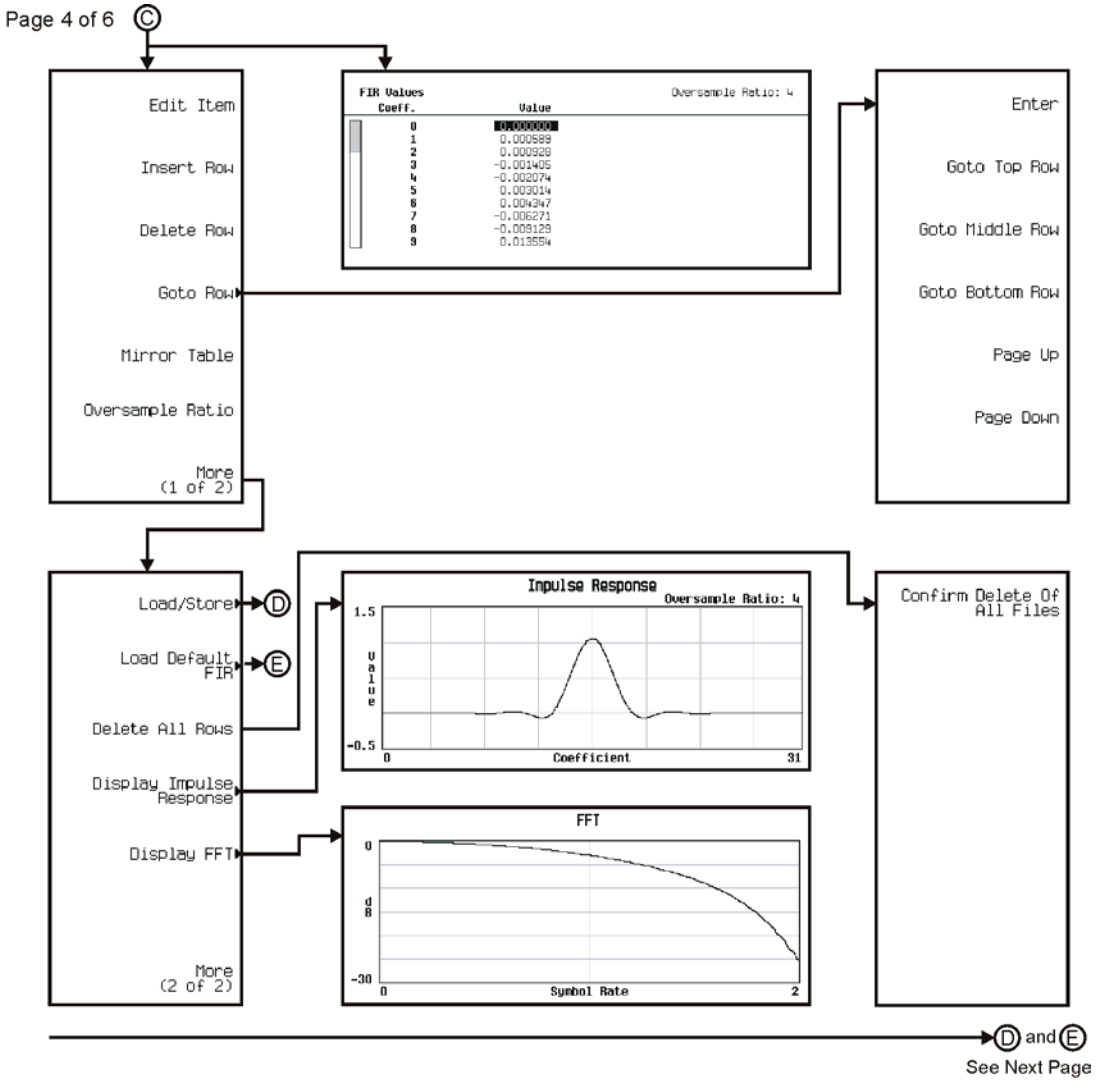
* This menu covers **Real Time CDMA2000 Forward Link** only.
** Data Field will change with channel selection.
*** Inactive when Channel State is off.

pk786c

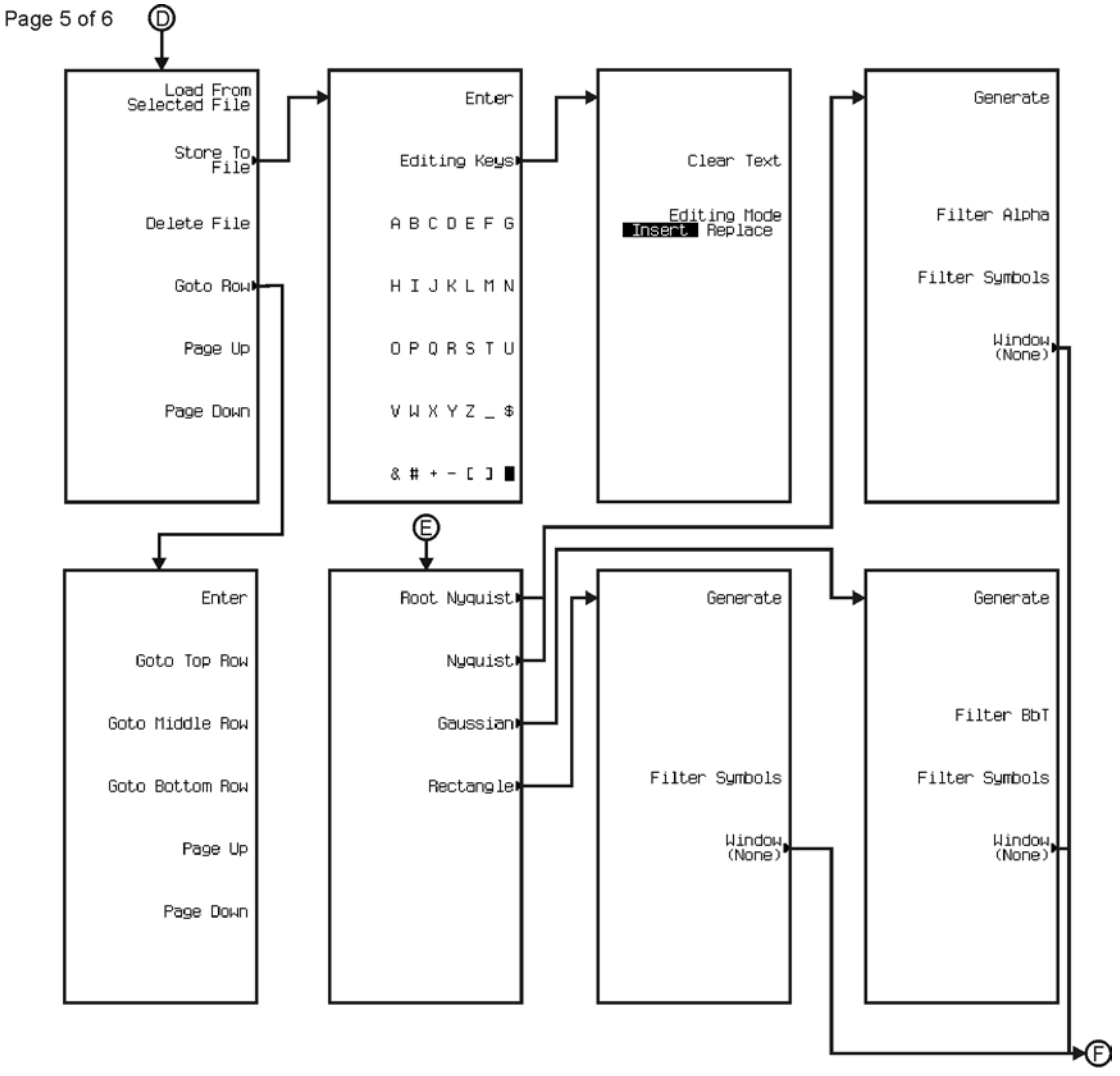

Page 2 of 6
A
Select (IS-95 w/EQ)
Define User FIR
*Filter Factor N/A
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000 (IS-95 w/EQ)
User FIR
More (1 of 2)
Store To File
Delete File
Goto Row
Page Up
Page Down
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
C
B
See Next Page
* Changes according to filter selected.
pk7105c


Page 3 of 6 B
CDMA2000
Off On
Channel Number
Channel Setup
Channel State
Off On
Channel State
Quick Presets
Adjust
Code Domain Power
*
1 2 3 4 5 6 7 8
F-PICH F-SYNCH F-QPCH F-PCH OCNS F-FCH F-SCH1 F-SCH2
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
FSYNCH. Carrier Power: -136.00 dbm. In-Channel Noise is Off.
State: Off System ID: 0007 Power: 0.00 dB
Walsh: 32 Network ID: 0001 Bit Rate: 1.200000 kbps
EbNo: N/A DAYLT: 00 FSYNCH Type: JSTD8
PRAT: 00 Time: : 5 Message Type: 01
Equal Powers
Scale To 0dB
FPICH
FPICH FSYNCH
FPICH FSYNCH FFCH
FPICH FSYNCH FFCH FSCH1
FPICH FSYNCH FFCH FSCH1 FSCH2
FPICH FQPCH FPCH
All
Edit Item
C
See Next Page
* Data Field will change with channel selection.

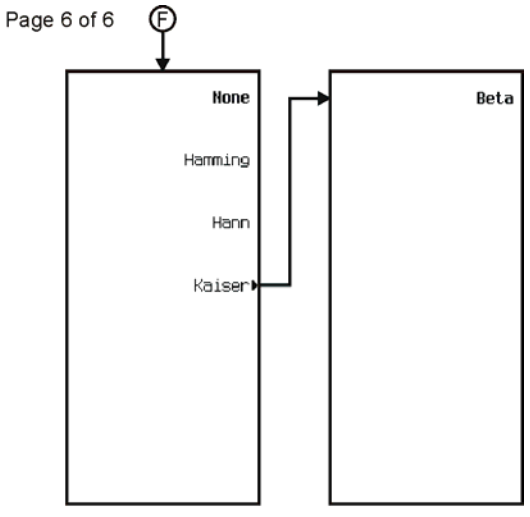
pk787c


Page 4 of 6 Ⓒ
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Coeff.
Value
Oversample Ratio: 4
0 0.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009128
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store Ⓓ
Load Default FIR Ⓔ
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
Ⓓ and Ⓔ
See Next Page

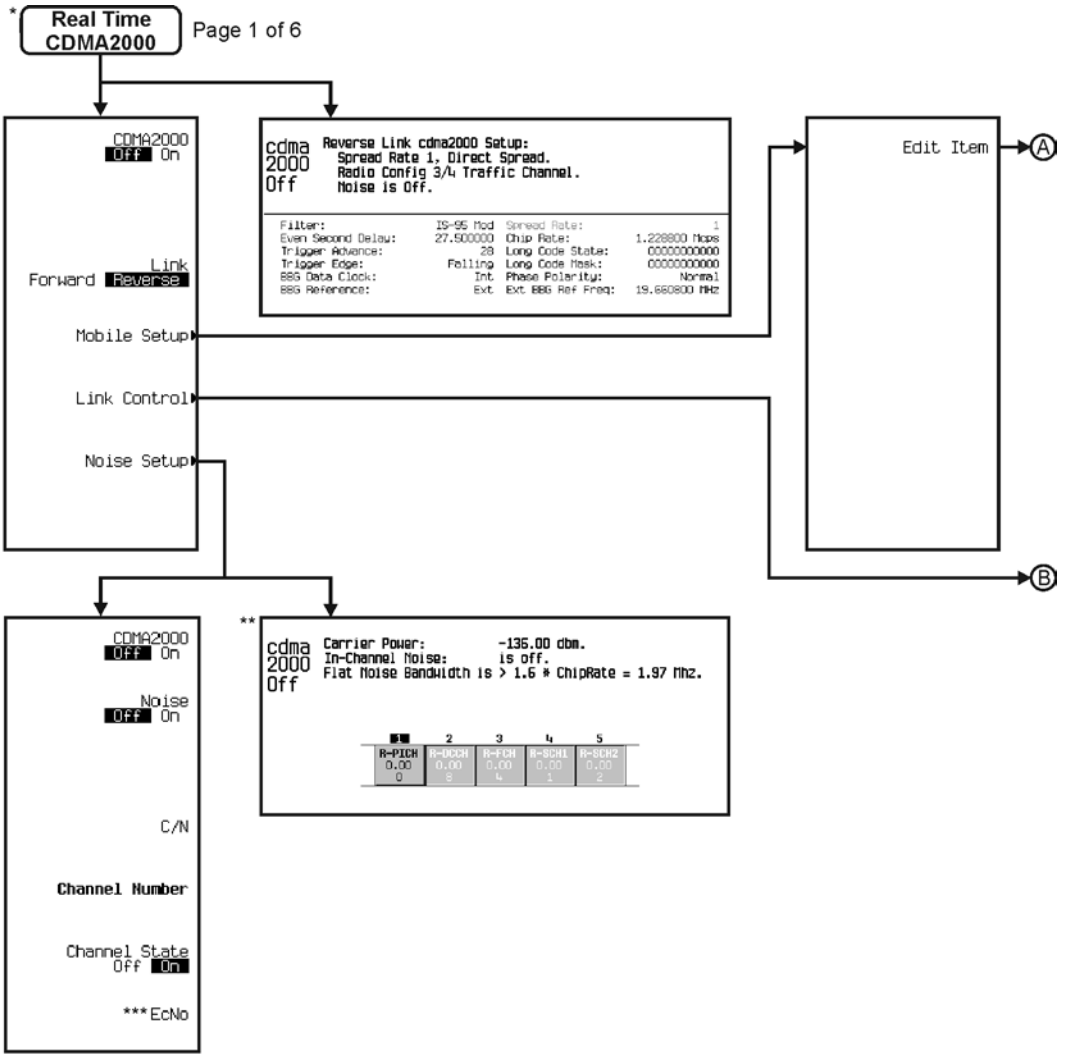
pk7106c


Page 5 of 6
D
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Generate
Filter Alpha
Filter Symbols
Window (None)
E
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
F

pk7107c

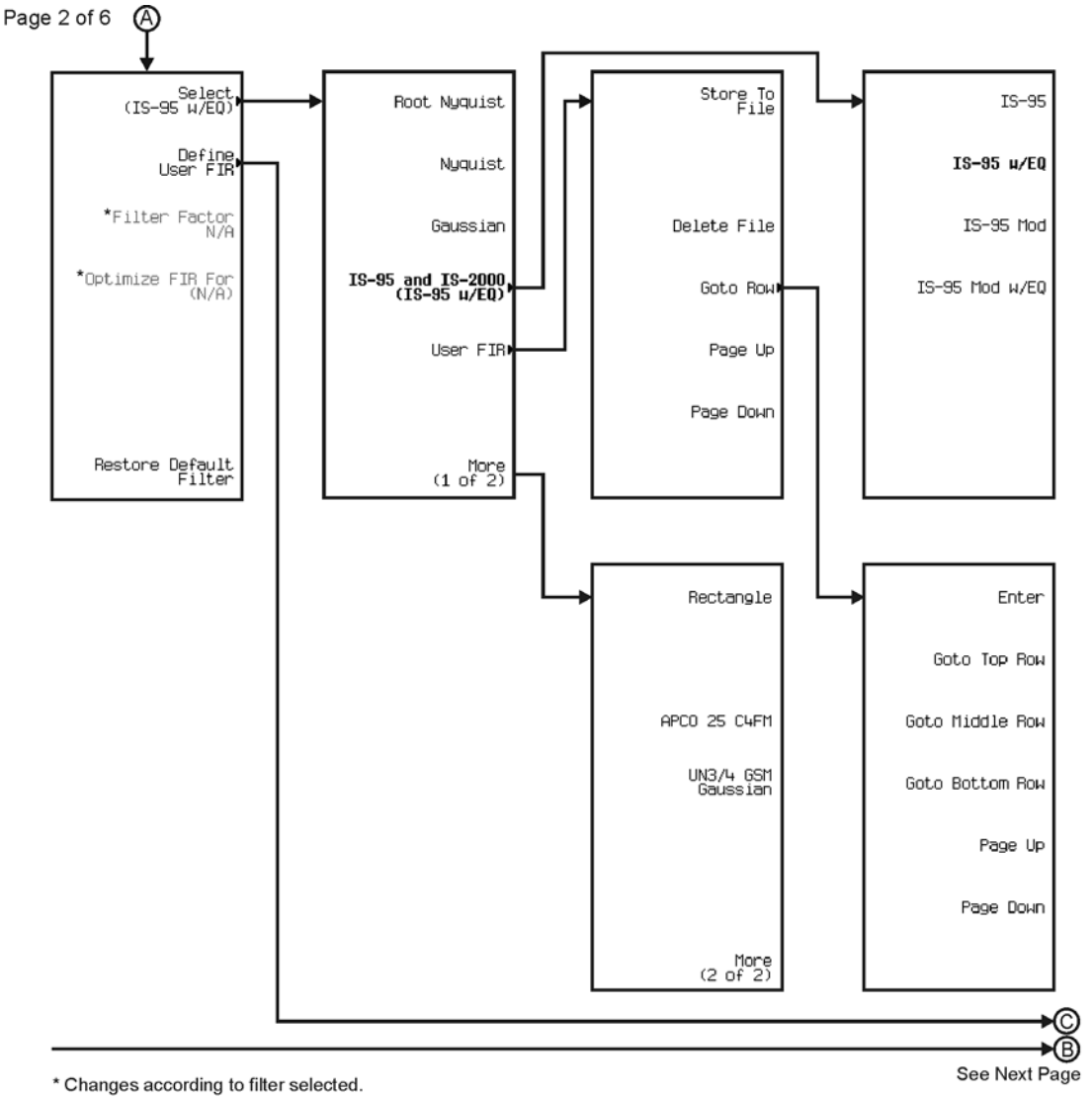


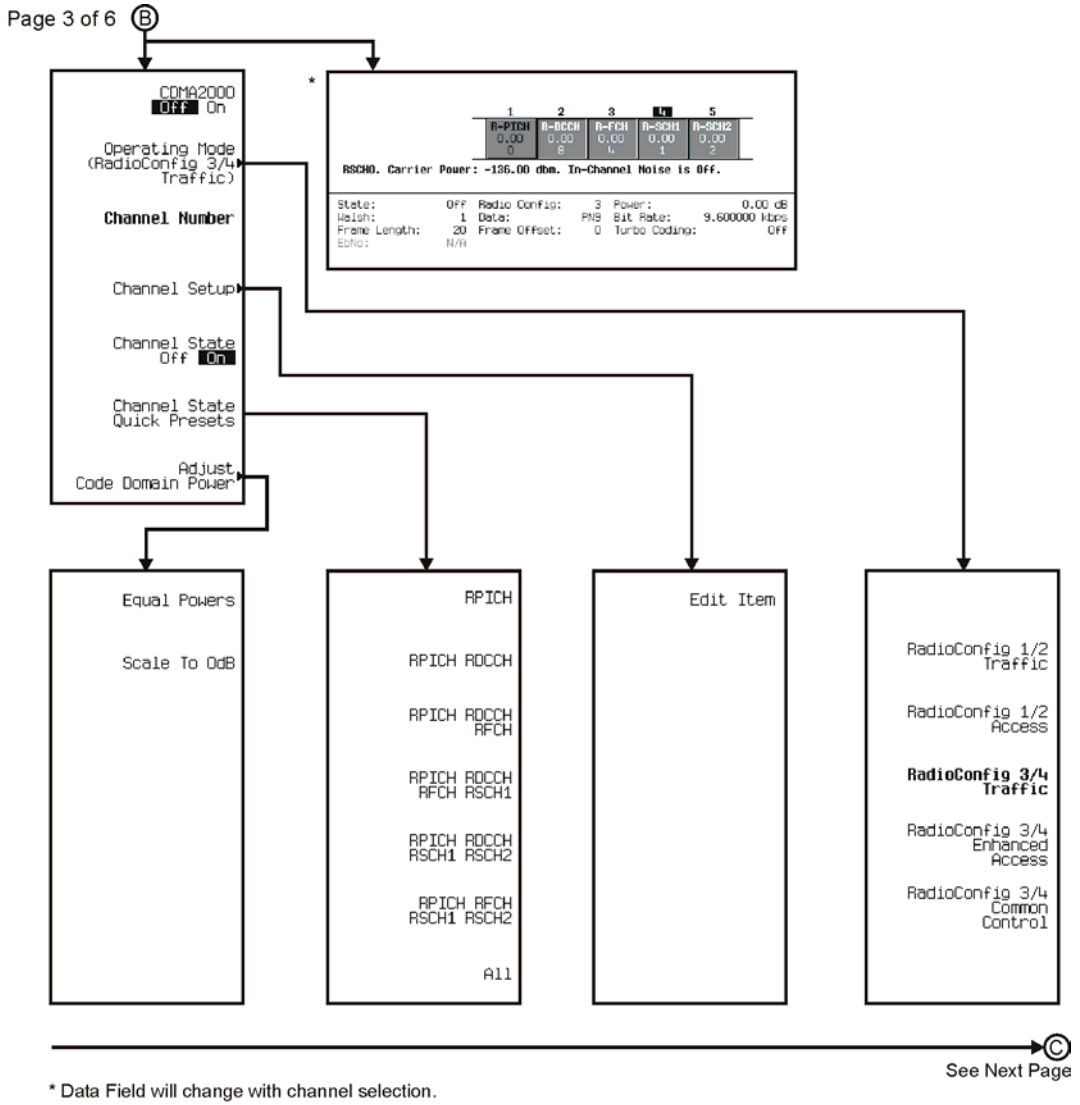
pk7108c



* This menu covers **Real Time CDMA2000 Reverse Link** only.
** Data Field will change with channel selection.
*** Inactive when Channel State is off.

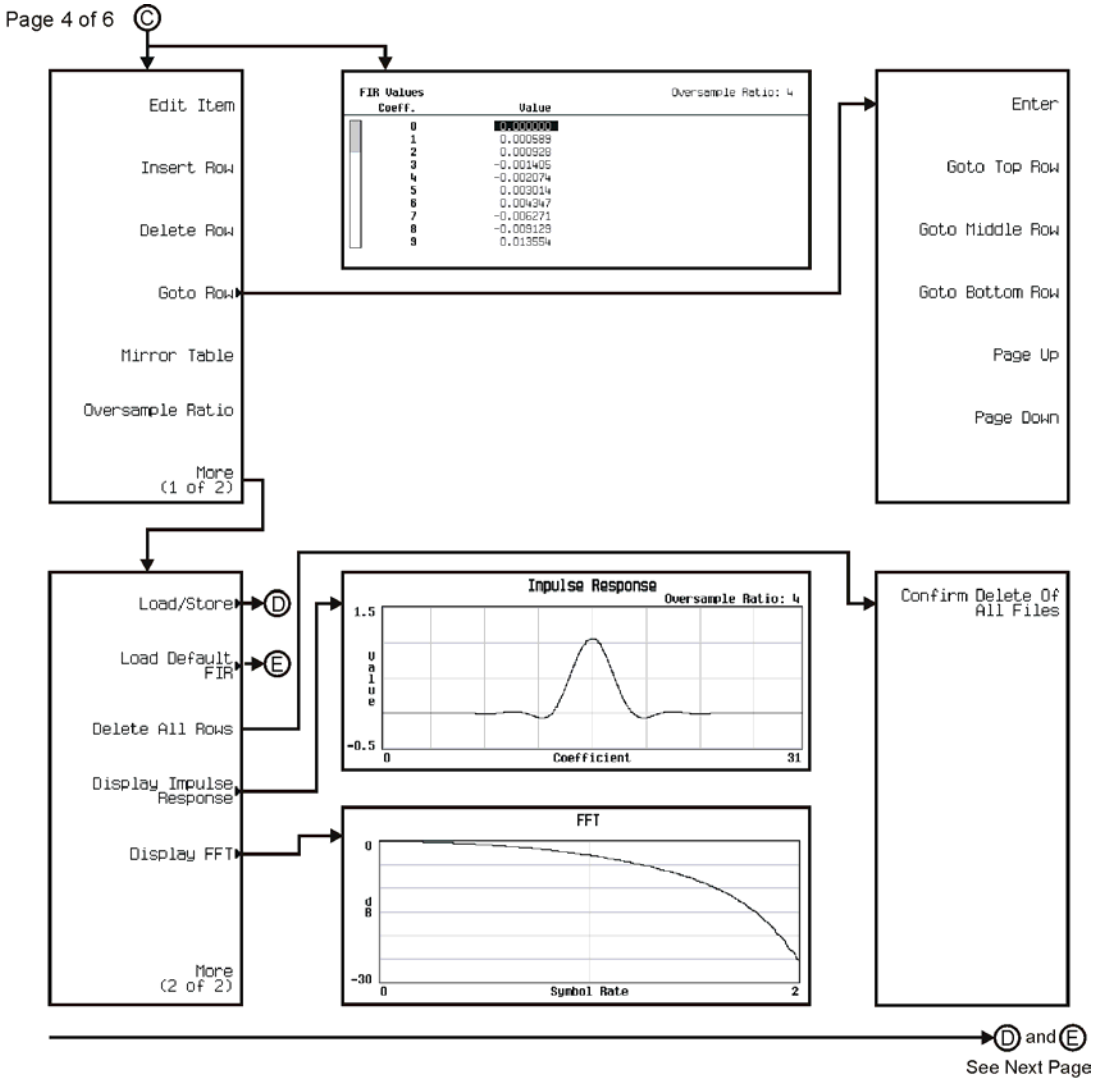
pk788c


Page 2 of 6
A
Select (IS-95 w/EQ)
Define User FIR
*Filter Factor N/A
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000 (IS-95 w/EQ)
User FIR
More (1 of 2)
Store To File
Delete File
Goto Row
Page Up
Page Down
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
C
B
See Next Page
* Changes according to filter selected.
pk7105c

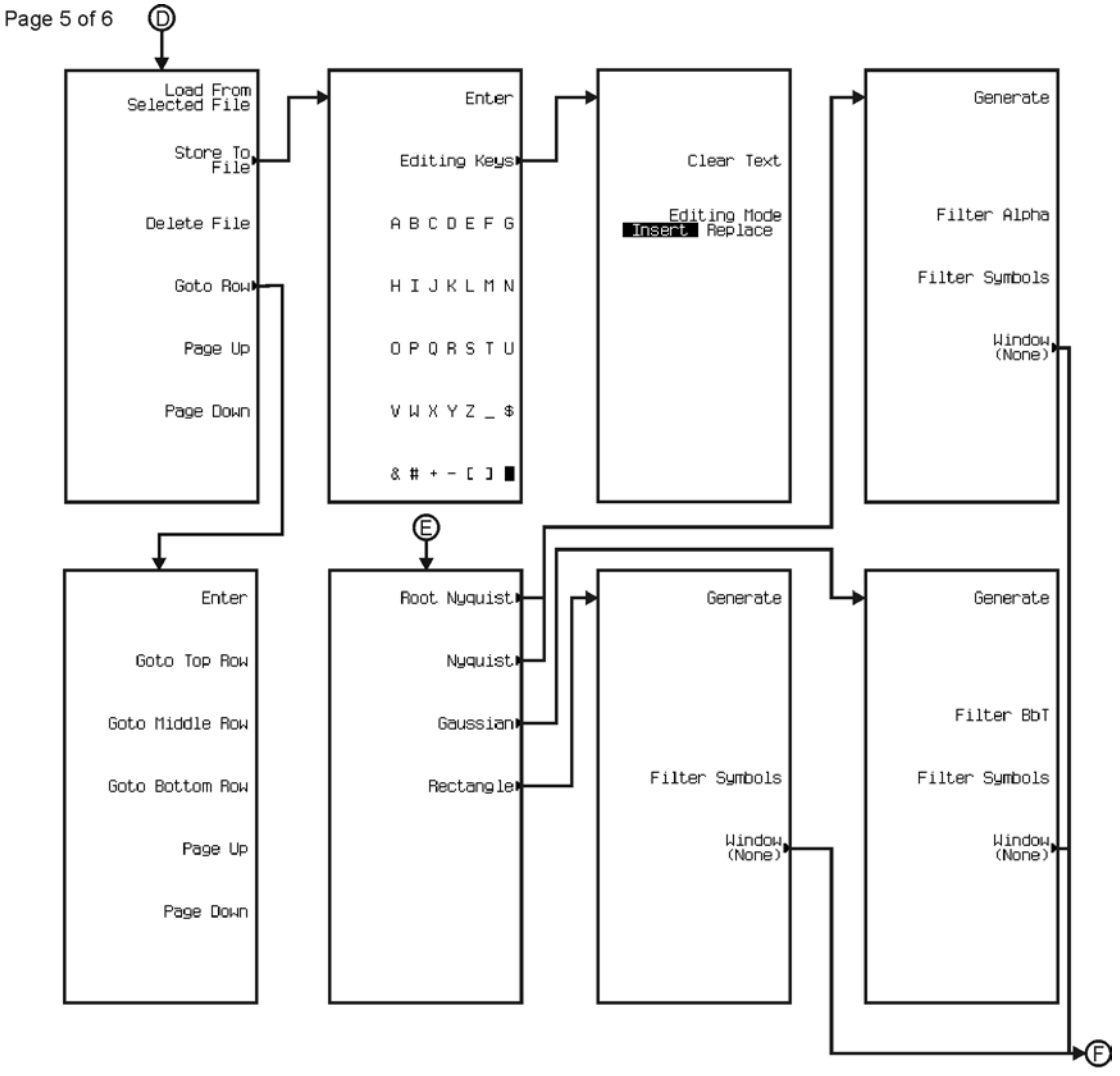


* Data Field will change with channel selection.

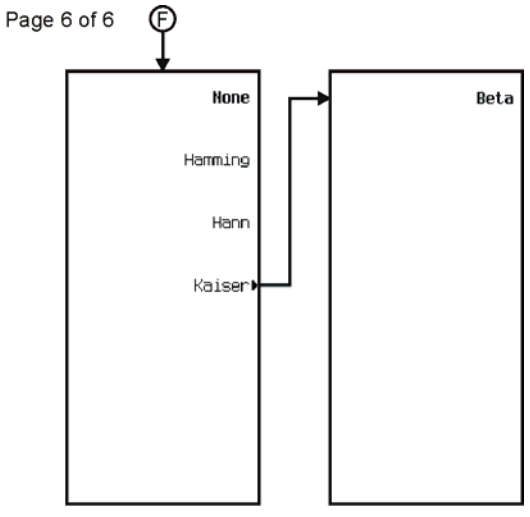
pk789c


Page 4 of 6 Ⓒ
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Coeff.
Value
Oversample Ratio: 4
0 0.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009128
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store Ⓓ
Load Default FIR Ⓔ
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
Ⓓ and Ⓔ
See Next Page

pk7106c


Page 5 of 6
D
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Generate
Filter Alpha
Filter Symbols
Window (None)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
E
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
F

pk7107c



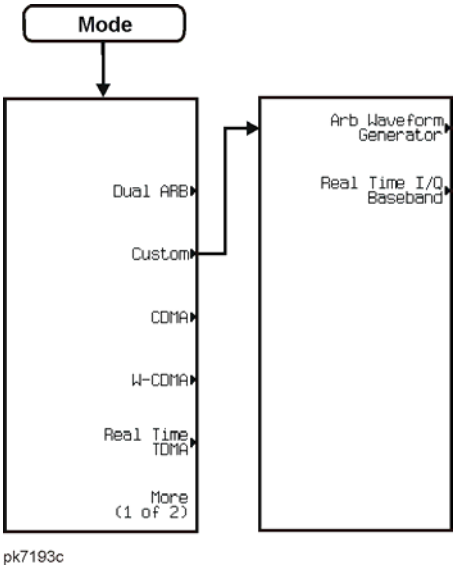
pk7108c

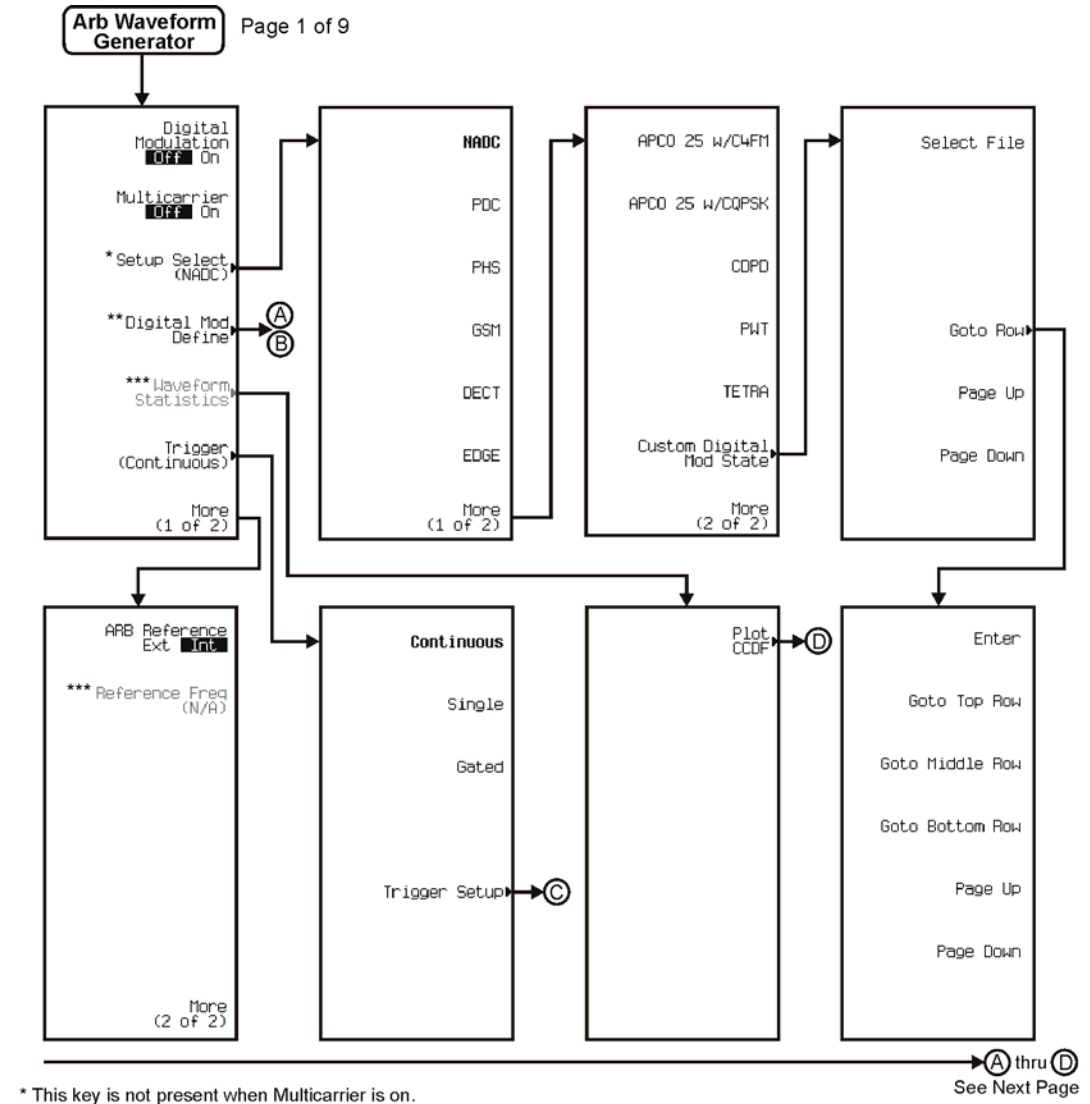
Custom

The Custom personality is accessed by pressing the **Mode** hardkey.

The Custom menu maps are split into two sections:

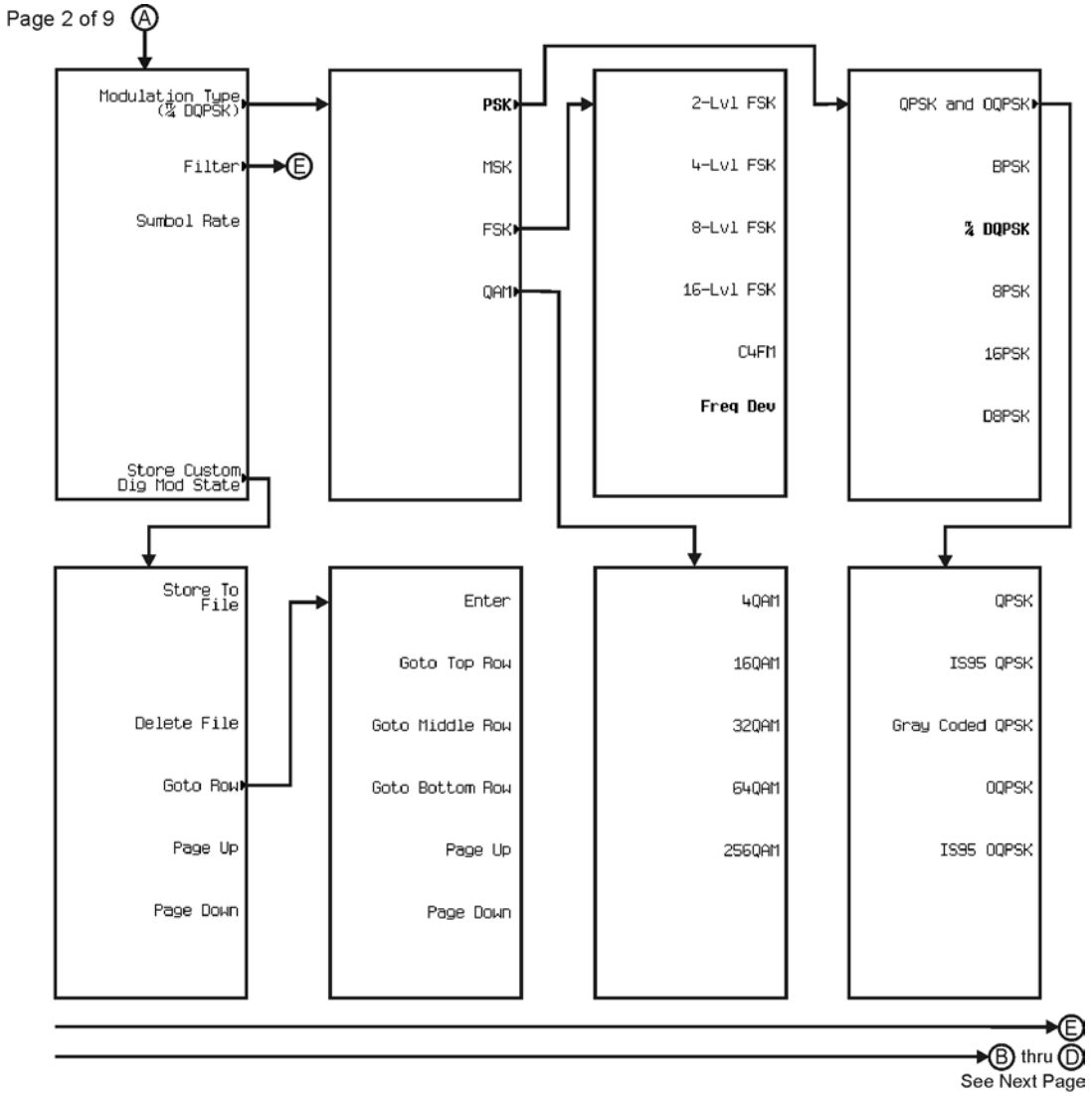
- for Arb Waveform Generator go to page M-55
- for Real Time I/Q Baseband go to page M-64



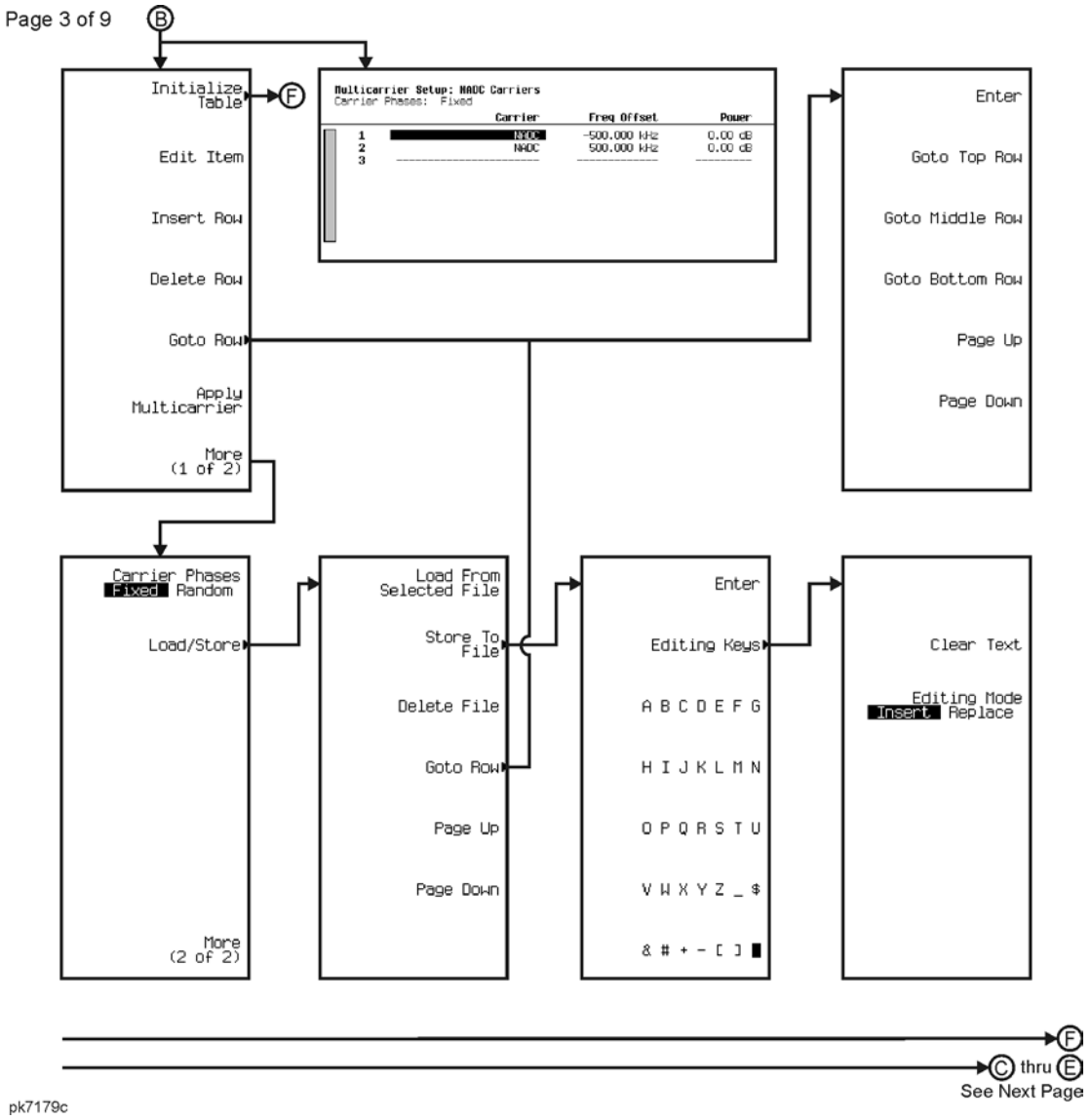


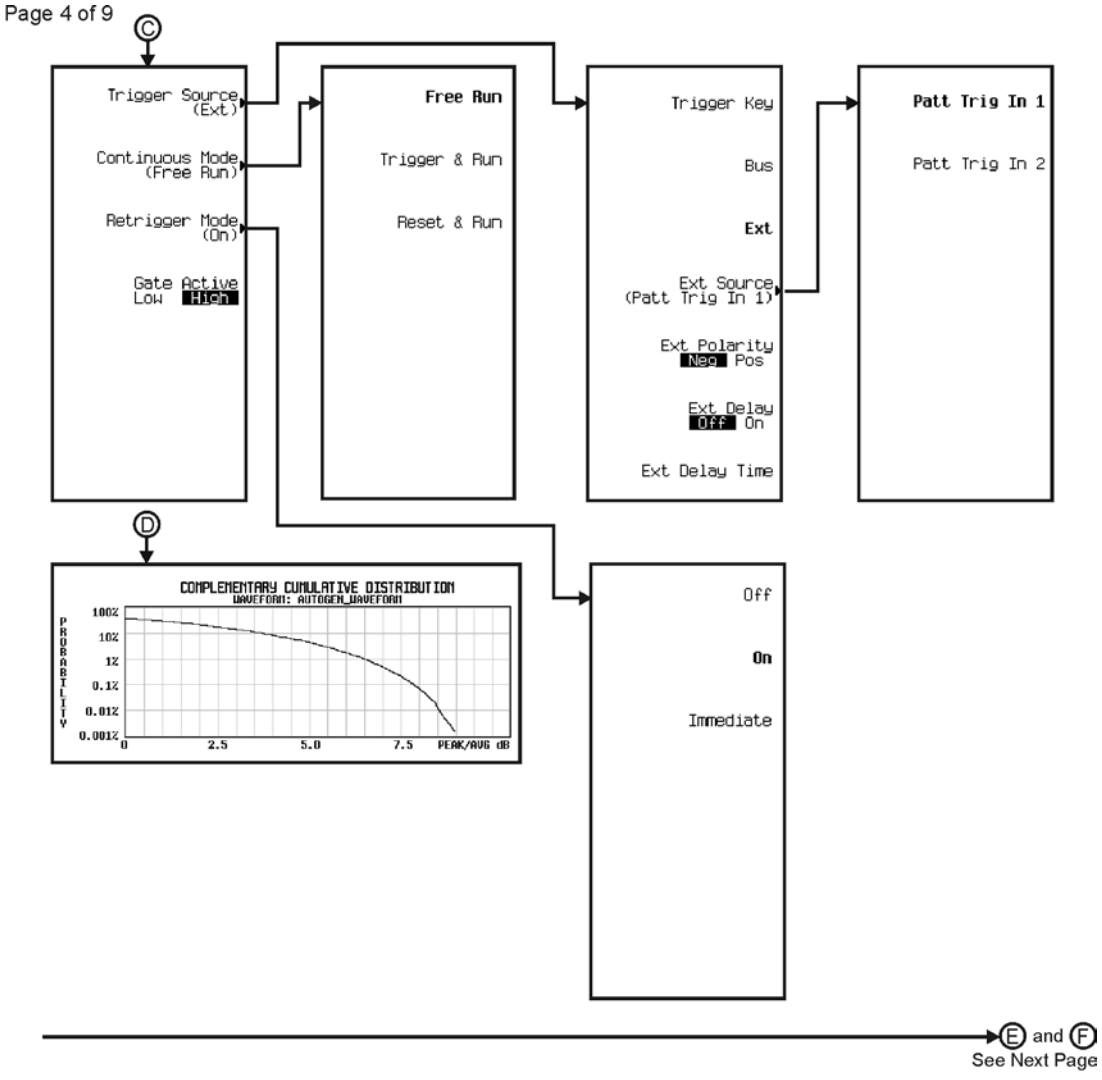
* This key is not present when Multicarrier is on.
** Follow Ⓐ when Multicarrier is off. Follow Ⓑ when Multicarrier is on.
*** Active when Digital Modulation is on.
**** Active when **ARB Reference Ext Int** is selected.

pk737c

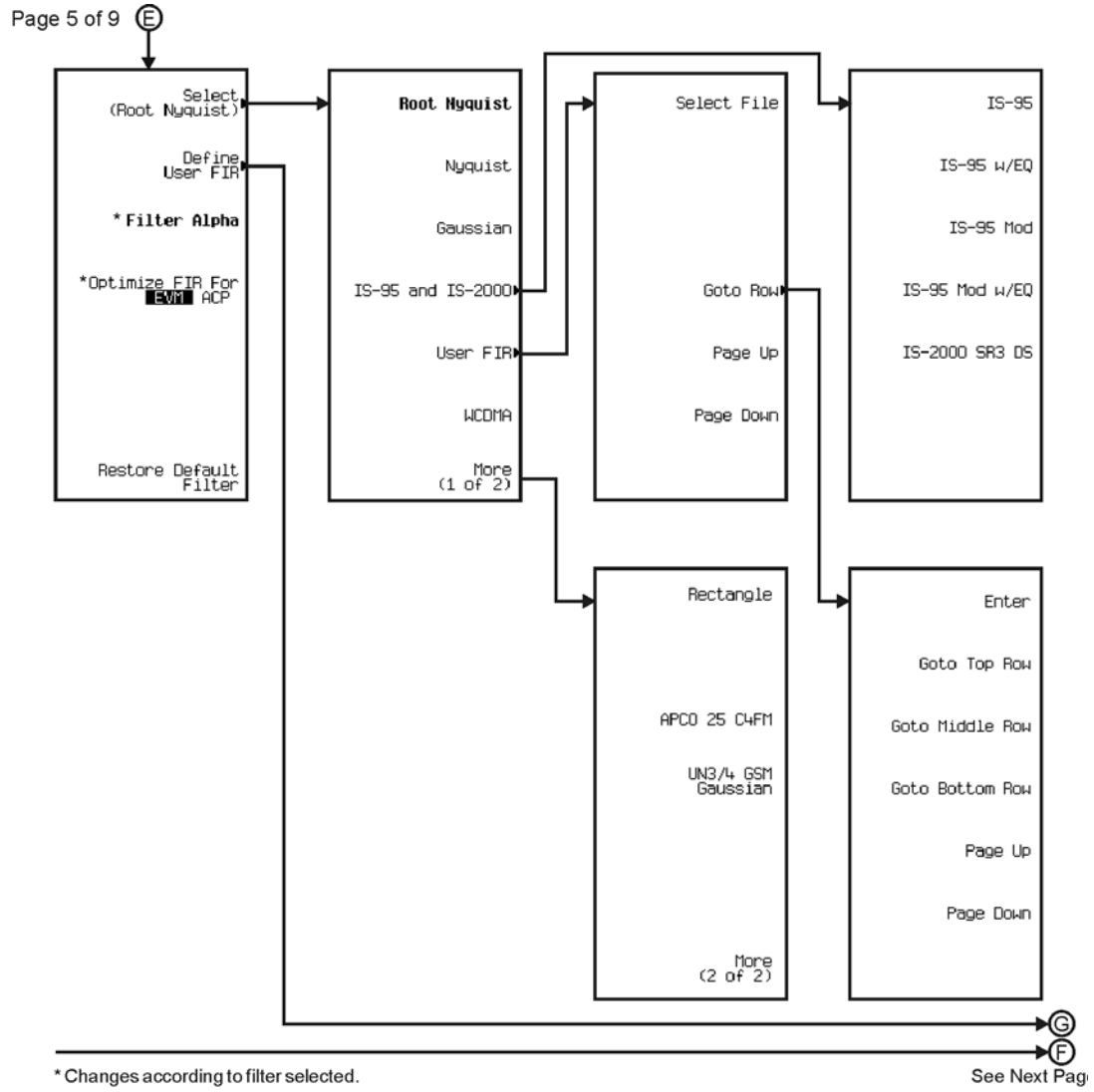

Page 2 of 9 A
Modulation Type (π/4 DQPSK)
Filter
E
Symbol Rate
Store Custom Dig Mod State
PSK
MSK
FSK
QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
E
B thru D
See Next Page

pk738c

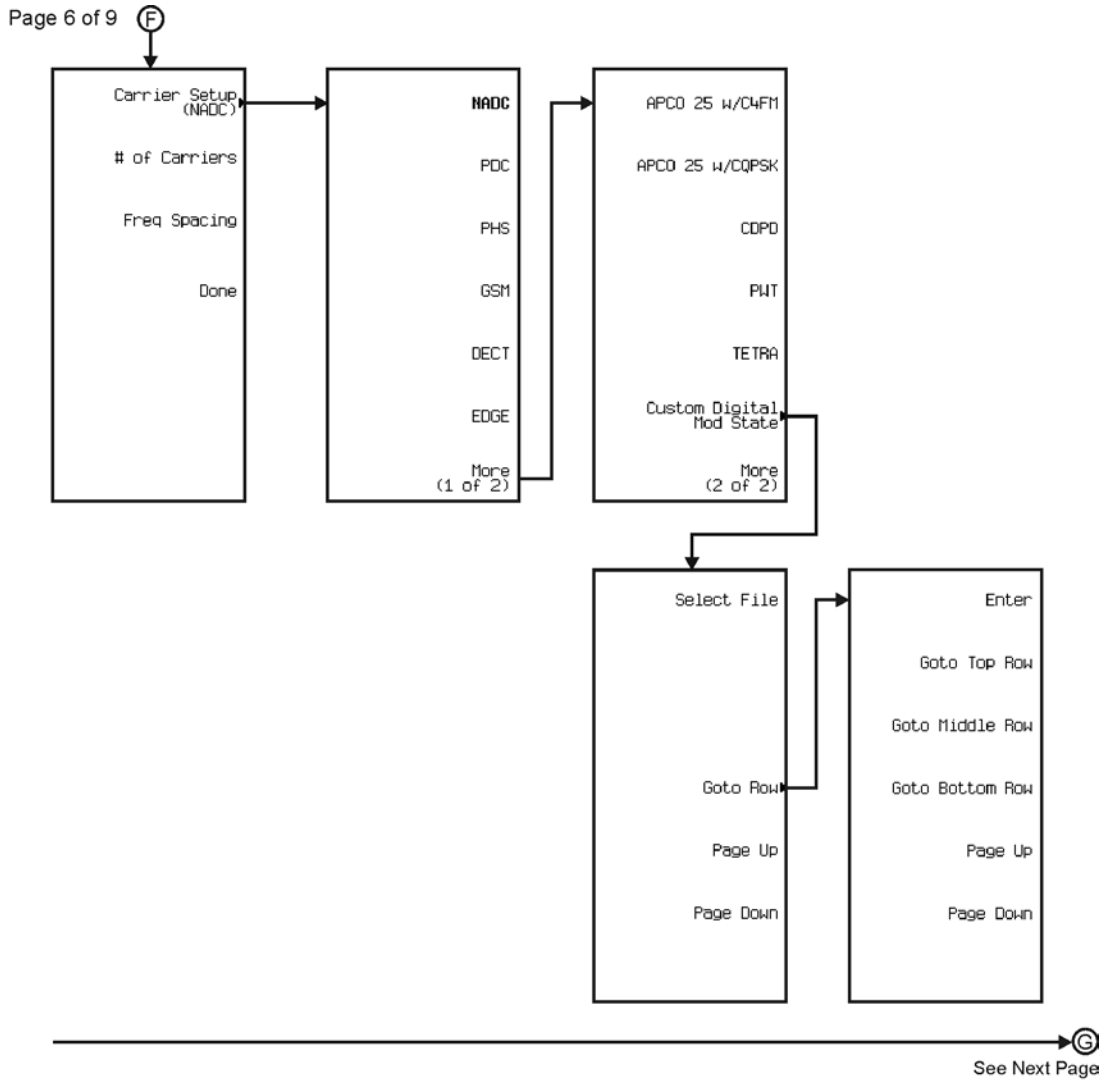

Page 3 of 9
B
Initialize Table
F
Edit Item
Insert Row
Delete Row
Goto Row
Apply Multicarrier
More (1 of 2)
Multicarrier Setup: NADC Carriers
Carrier Phases: Fixed
Carrier
Freq Offset
Power
1 NADC -500.000 kHz 0.00 dB
2 NADC 500.000 kHz 0.00 dB
3
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Carrier Phases Fixed Random
Load/Store
More (2 of 2)
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode Insert Replace
F
C thru E
See Next Page
pk7179c


Page 4 of 9
C
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
Ext Polarity Neg Pos
Ext Delay Off On
Ext Delay Time
Patt Trig In 1
Patt Trig In 2
D
COMPLEMENTARY CUMULATIVE DISTRIBUTION
WAVEFORM: AUTOGEN_WAVEFORM
PROBABILITY
100%
10%
1%
0.1%
0.01%
0.001%
0
2.5
5.0
7.5
PEAK/AVG dB
Off
On
Immediate
E and F
See Next Page

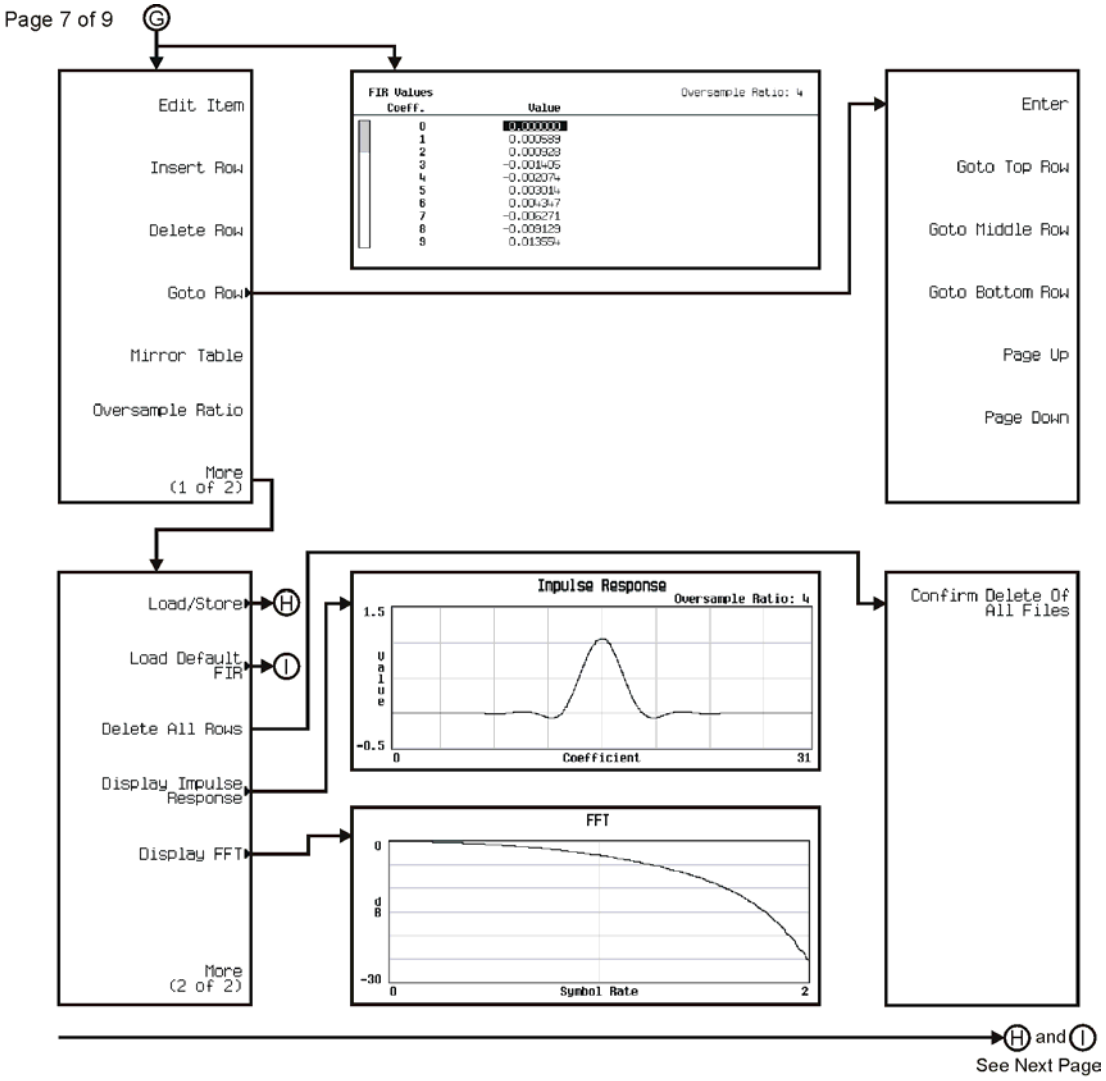
pk739c


Page 5 of 9
E
Select (Root Nyquist)
Define User FIR
* Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
WCDMA
More (1 of 2)
Select File
Goto Row
Page Up
Page Down
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
IS-2000 SR3 DS
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
G
F
* Changes according to filter selected.
See Next Pag

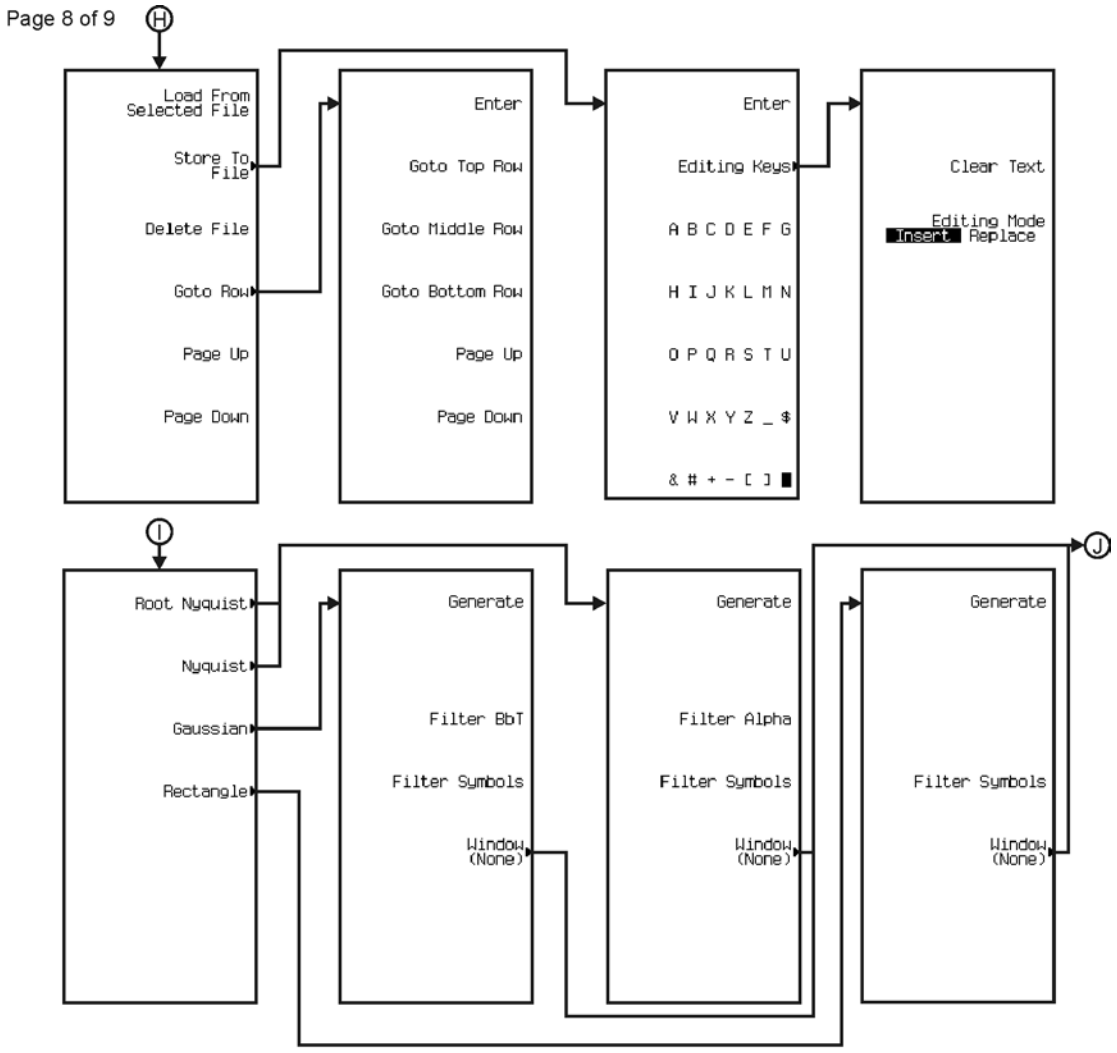
pk740c


Page 6 of 9
F
Carrier Setup (NADC)
# of Carriers
Freq Spacing
Done
NADC
PDC
PHS
GSM
DECT
EDGE
More (1 of 2)
APCO 25 w/C4FM
APCO 25 w/CQPSK
CDPD
PWT
TETRA
Custom Digital Mod State
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
G
See Next Page

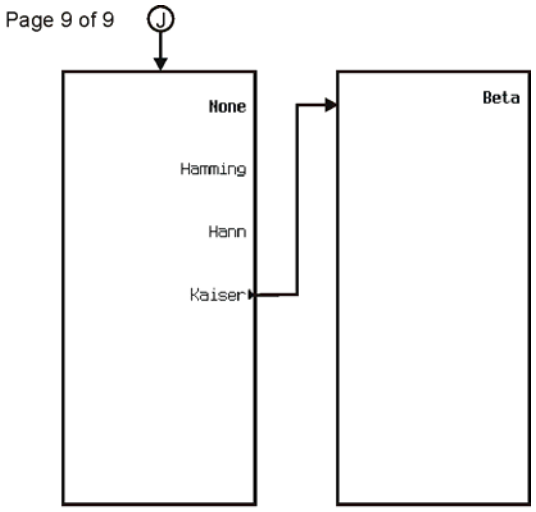
pk741c

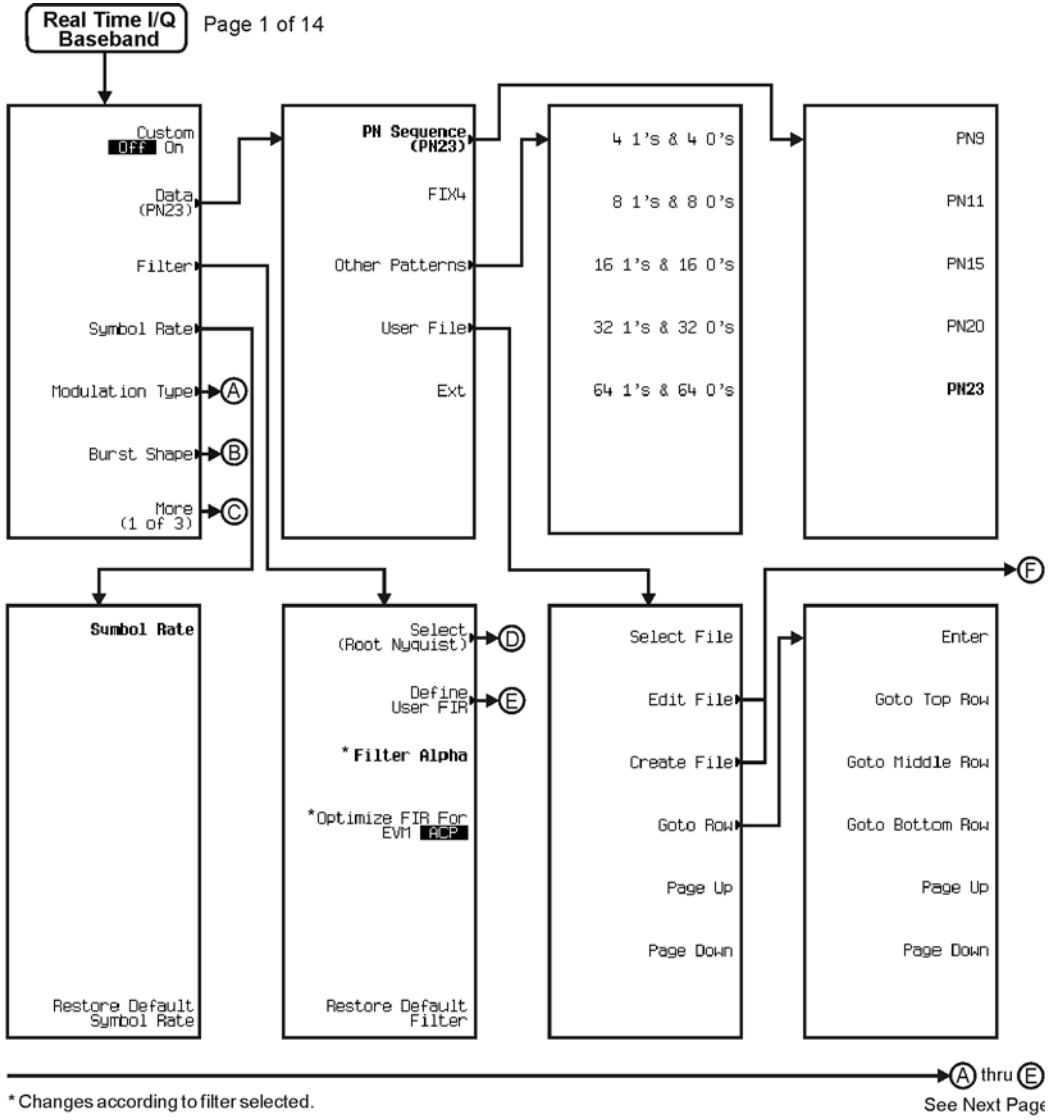

Page 7 of 9
G
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 0.000001
1 0.000589
2 0.000929
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
H
Load Default FIR
I
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
H and I
See Next Page

pk742c

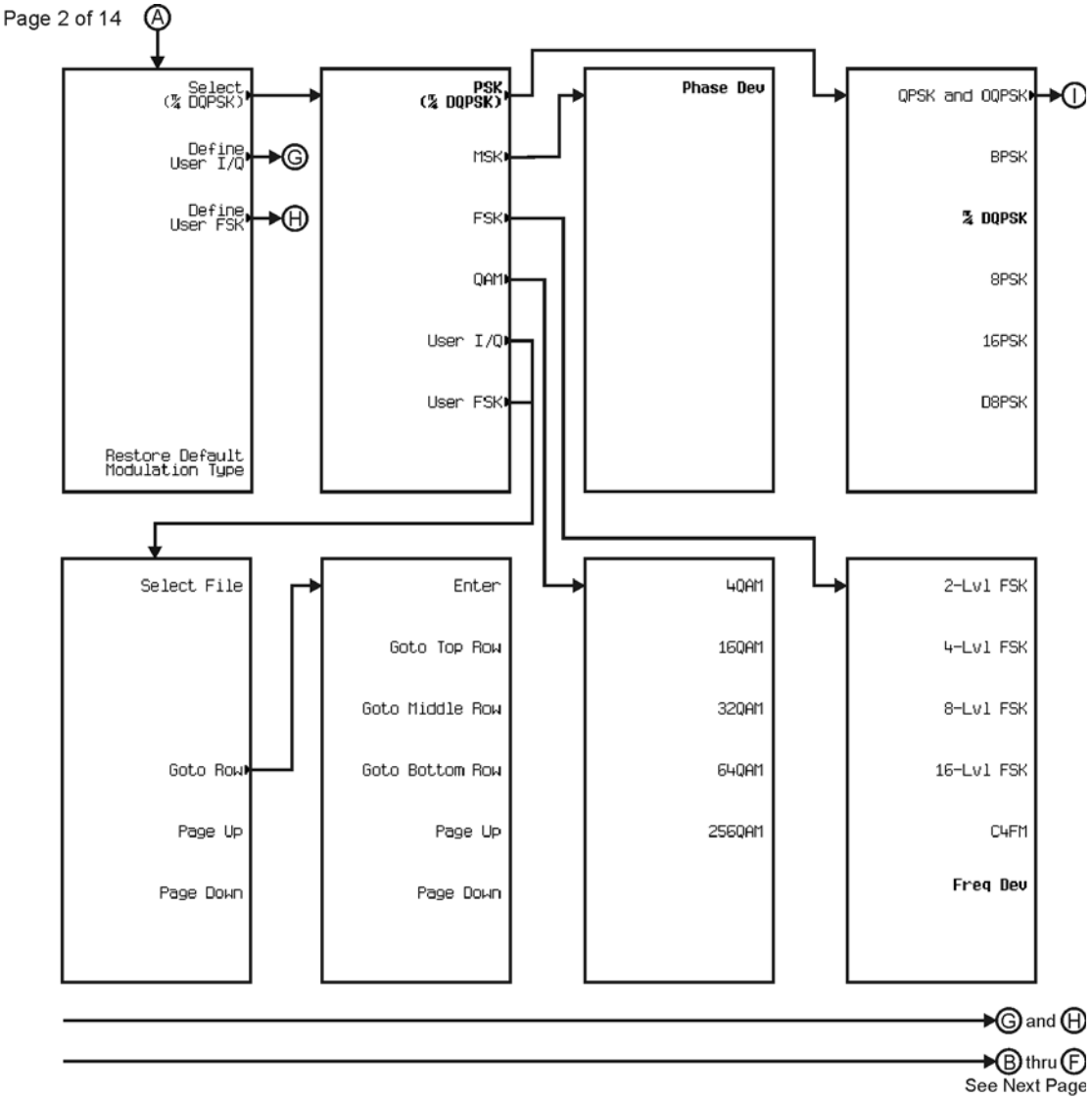

Page 8 of 9
H
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
I
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
Generate
Filter Symbols
Window (None)
J

pk7180c

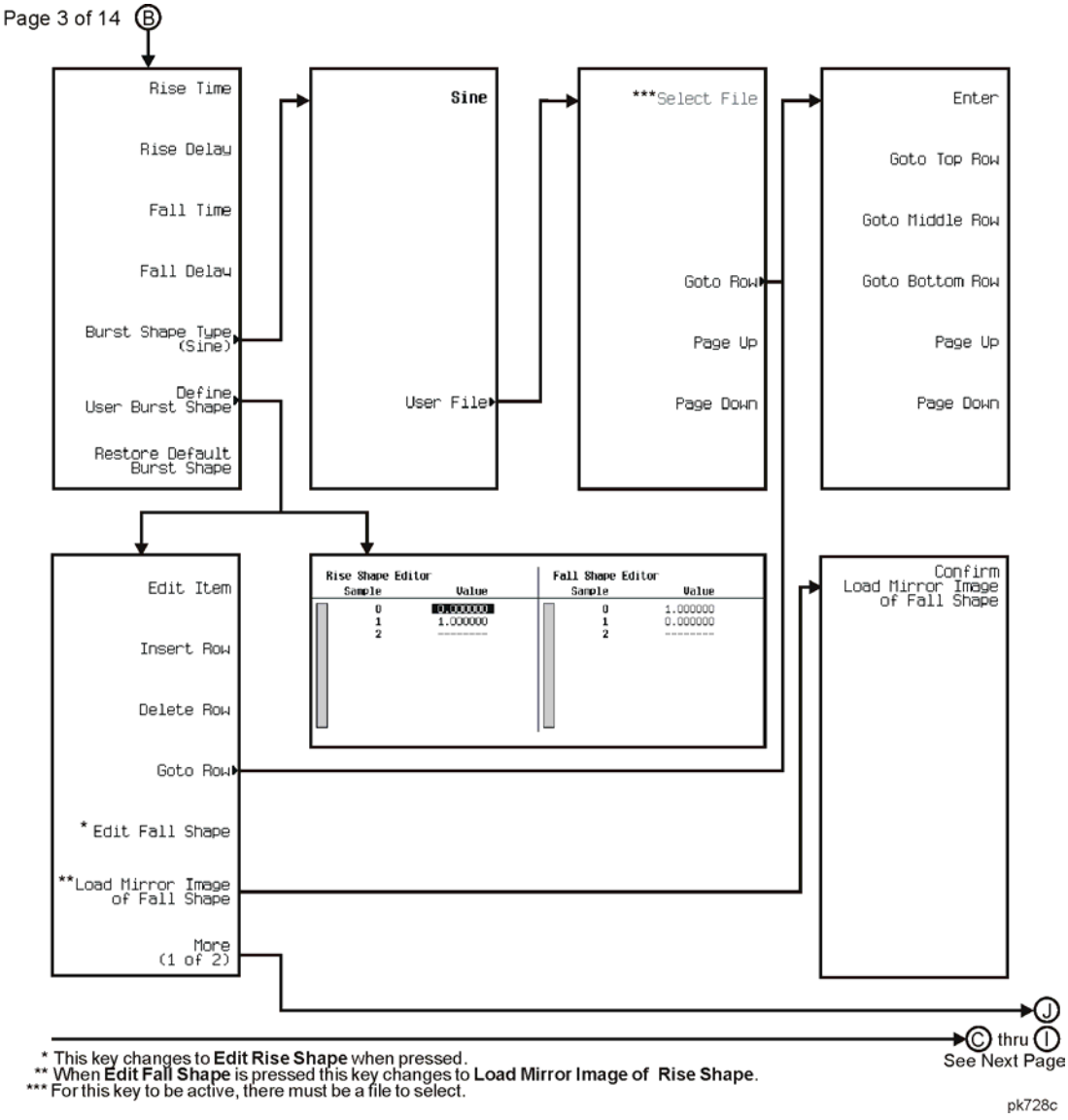

Page 9 of 9
J
None
Hamming
Hann
Kaiser
Beta
pk7181c

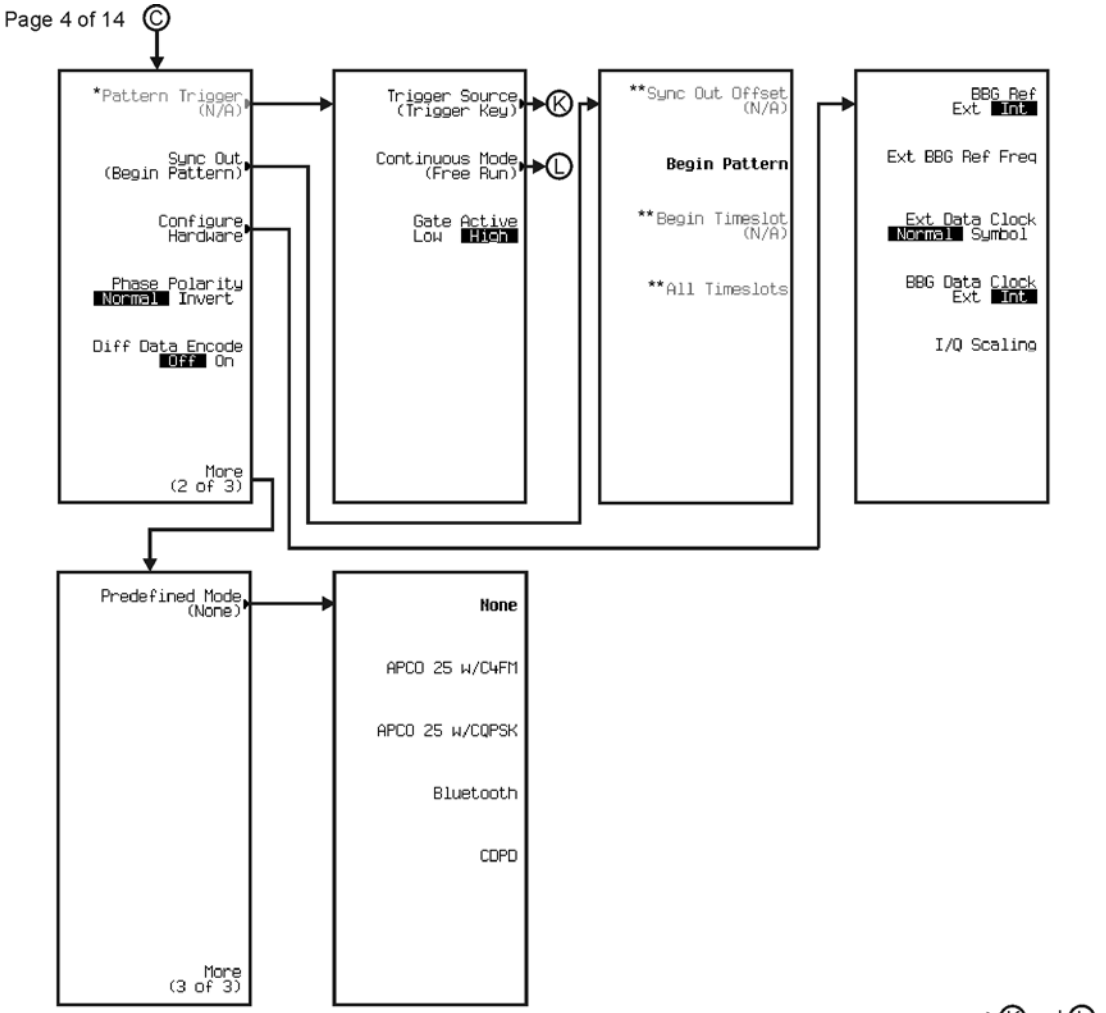

Real Time I/Q Baseband
Page 1 of 14
Custom Off On
Data (PN23)
Filter
Symbol Rate
Modulation Type
Burst Shape
More (1 of 3)
PN Sequence (PN23)
FIX4
Other Patterns
User File
Ext
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
Symbol Rate
Restore Default Symbol Rate
Select (Root Nyquist)
Define User FIR
*Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
A thru E
See Next Page
* Changes according to filter selected.

pk726c


Page 2 of 14
A
Select (π/4 DQPSK)
Define User I/Q
G
Define User FSK
H
Restore Default Modulation Type
PSK (π/4 DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
I
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
G and H
B thru F
See Next Page

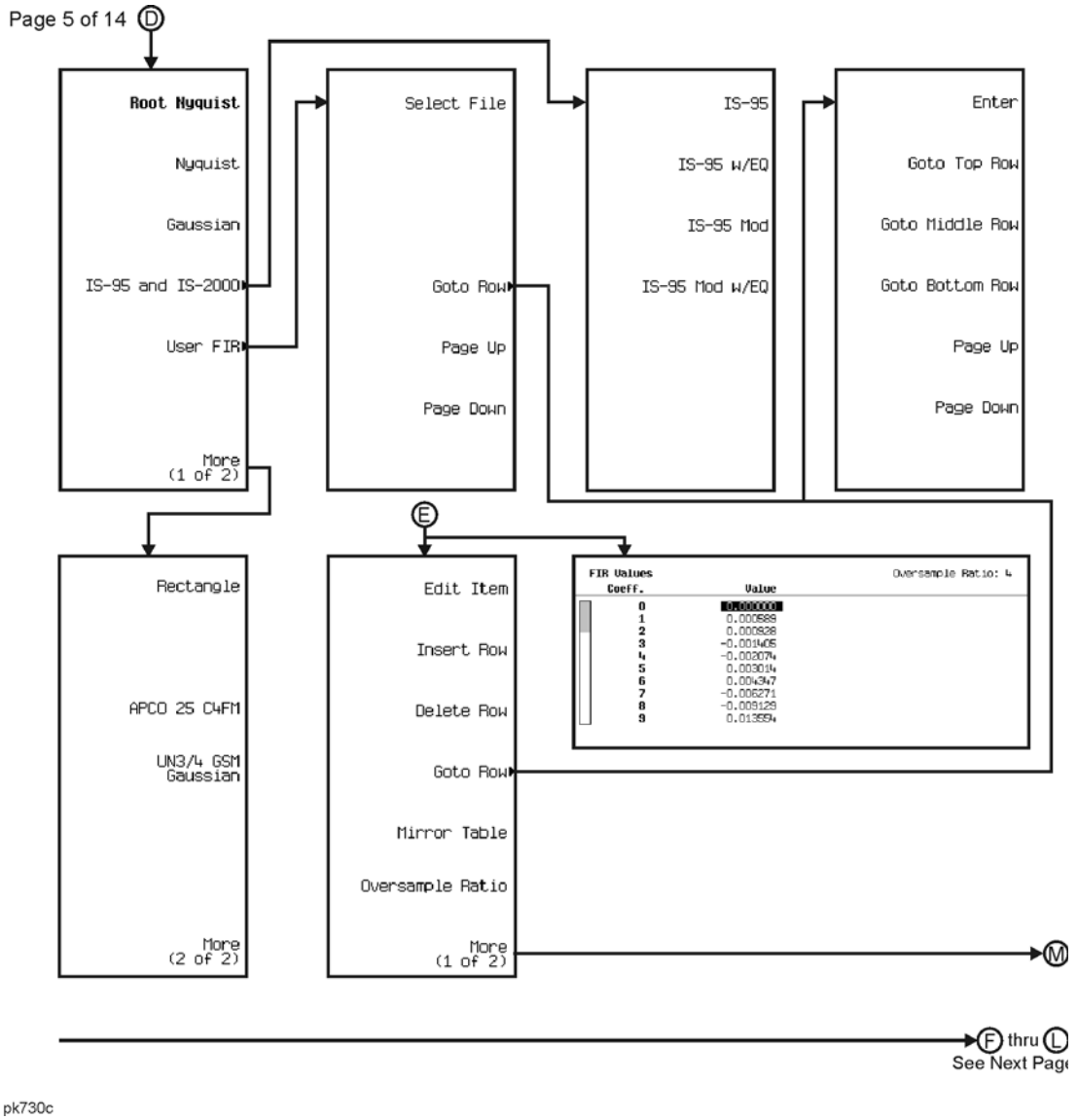
pk727c


Page 3 of 14 B
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0
1
2
1.000000
Fall Shape Editor
Sample
Value
0
1
2
1.000000
0.000000
Confirm Load Mirror Image of Fall Shape
J
C thru I
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk728c

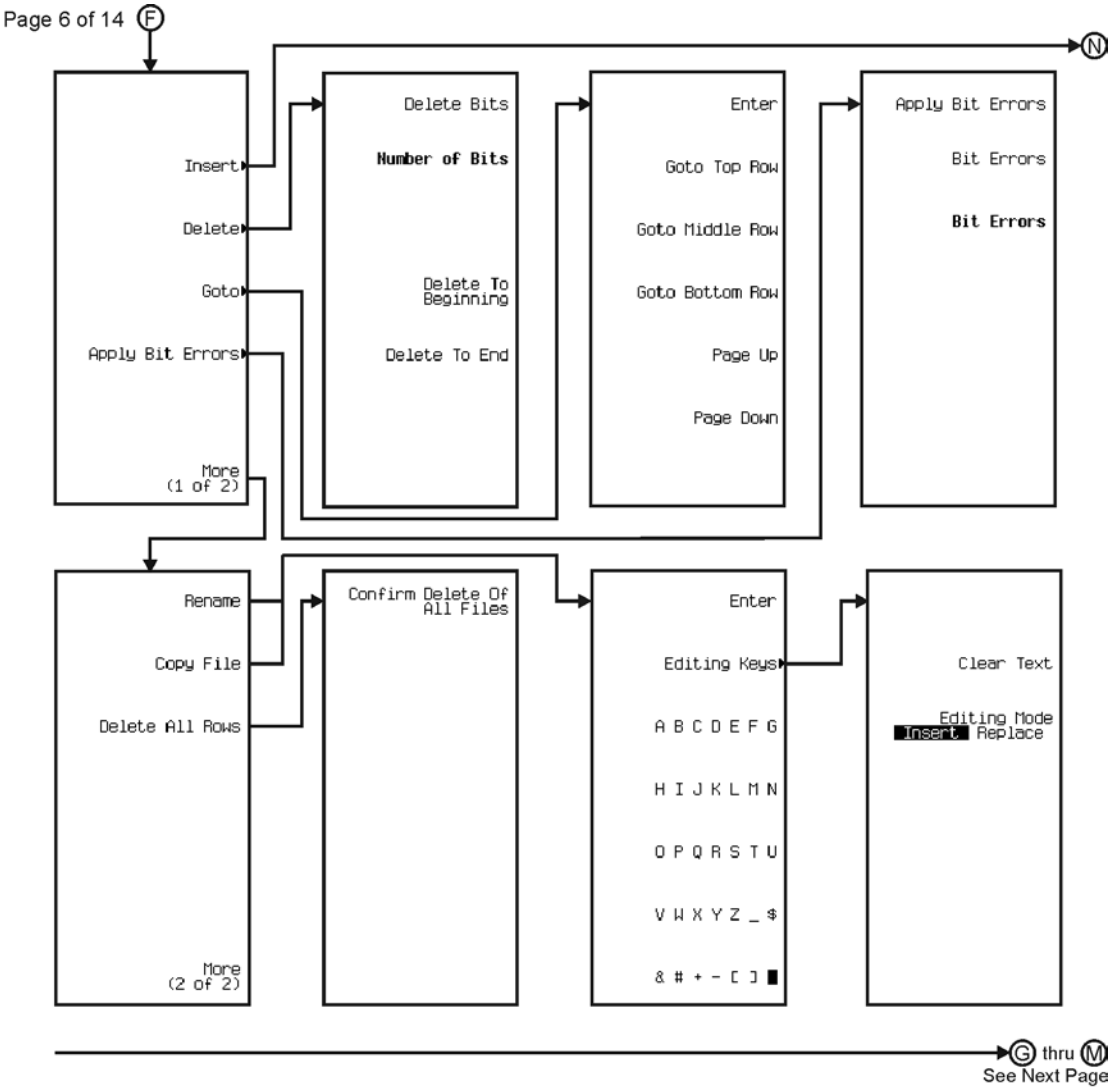


* To activate a repeating sequence must be selected.
** These keys are not available in the **Custom** personality.

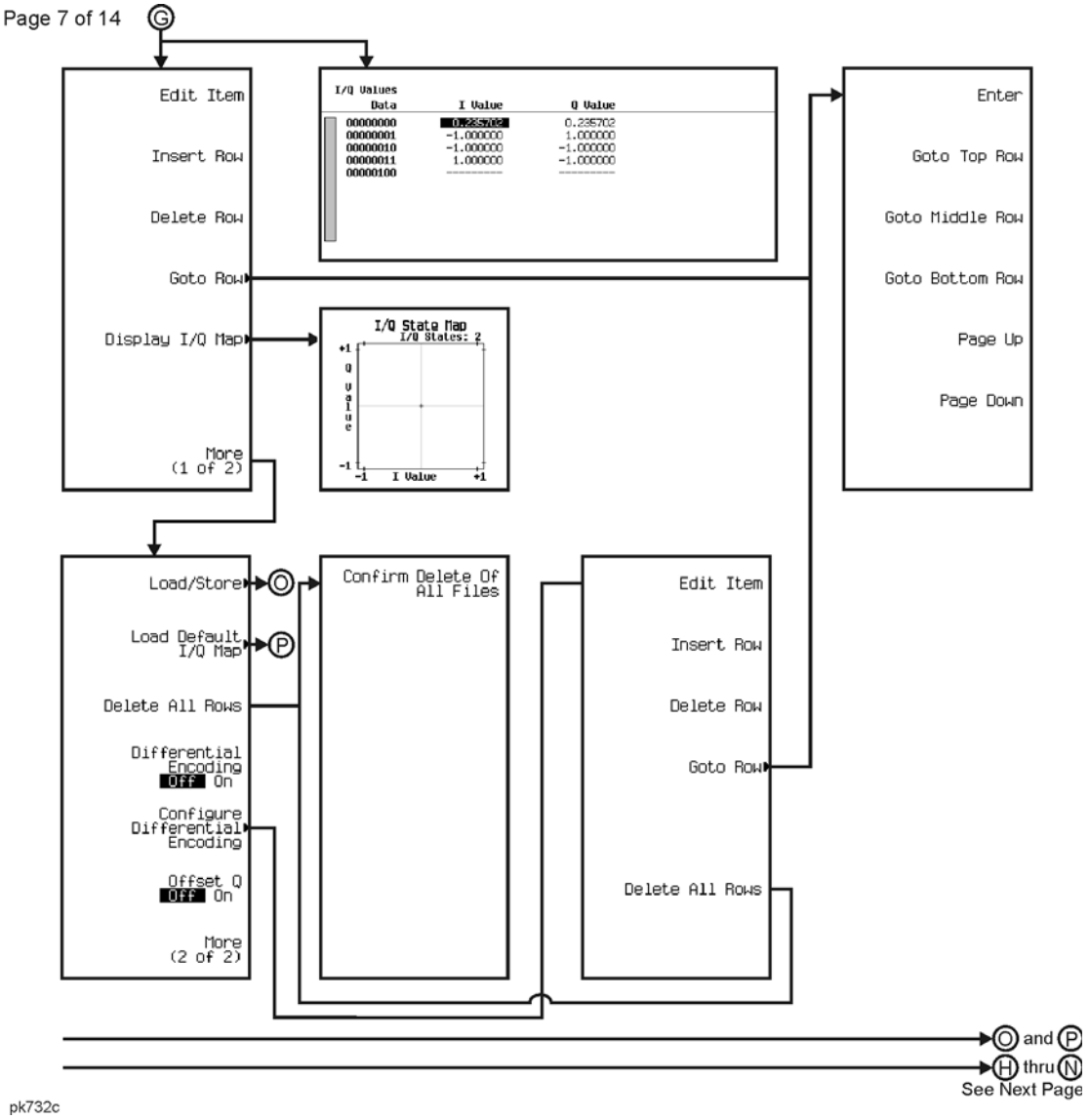
pk729c

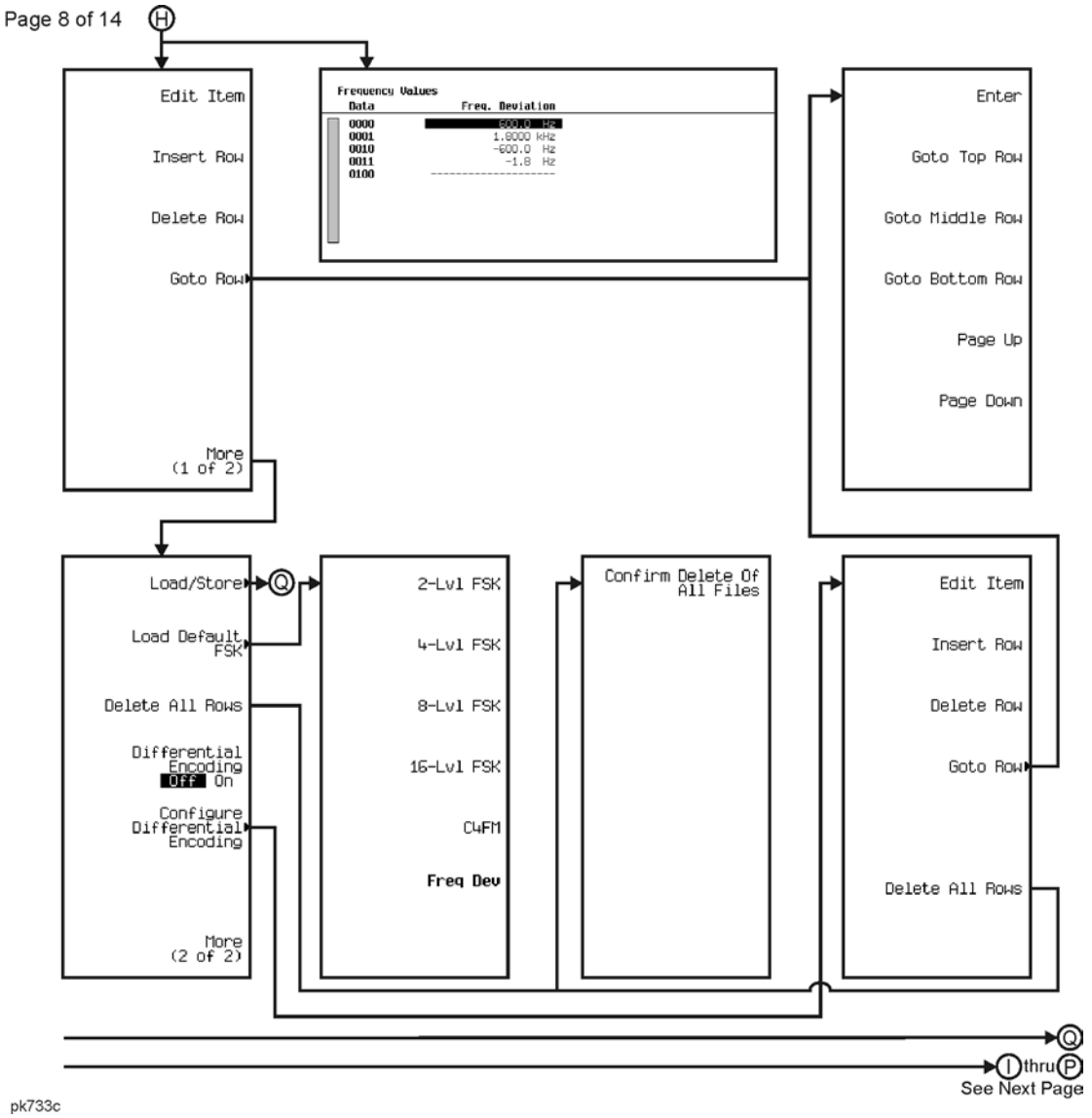

Page 5 of 14 Ⓓ
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
Select File
Goto Row
Page Up
Page Down
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Ⓔ
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More (1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000688
2 0.000828
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009128
9 0.013594
Ⓜ
Ⓕ thru Ⓛ
See Next Page

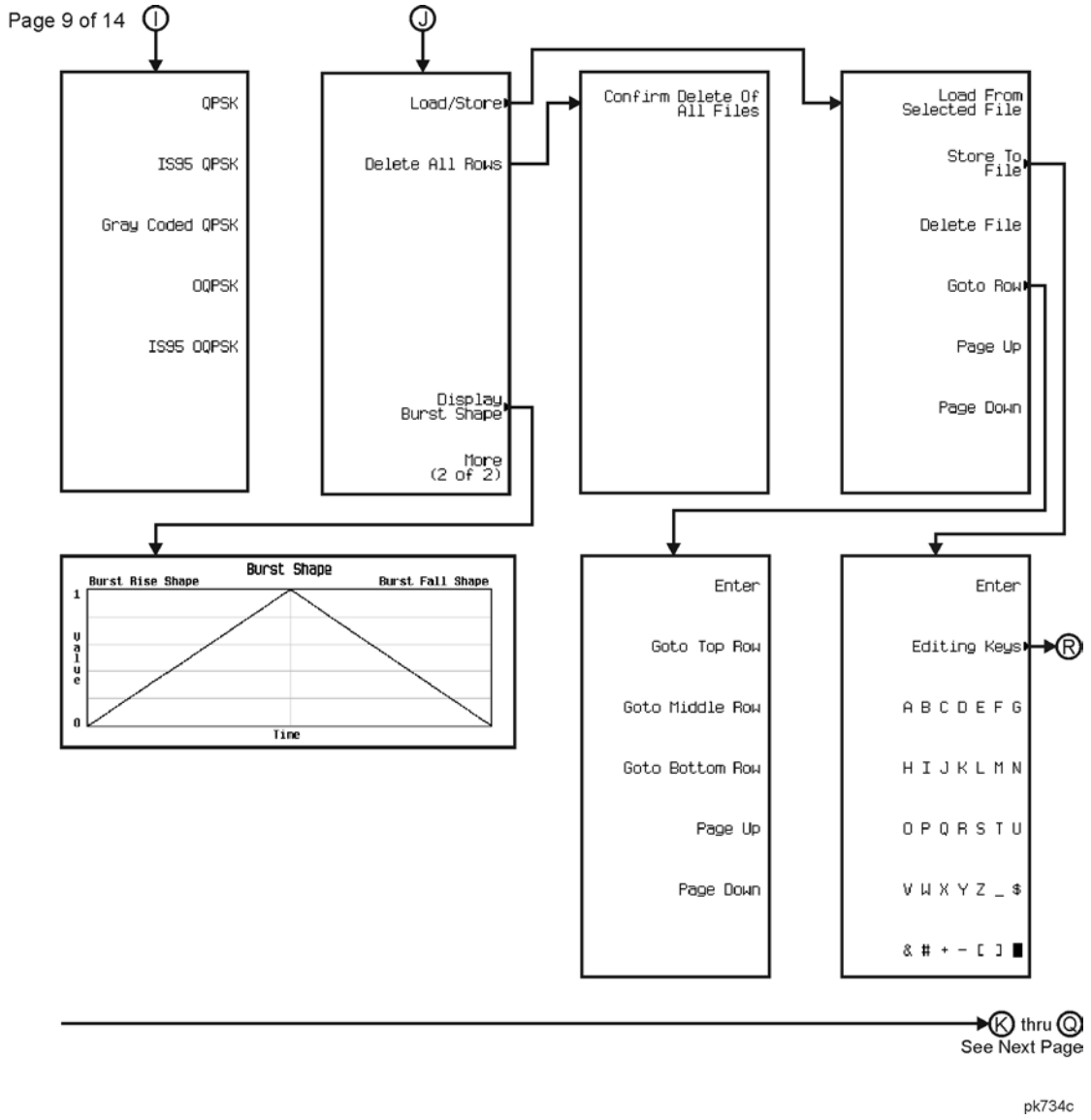
pk730c


Page 6 of 14 F
N
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
G thru M
See Next Page

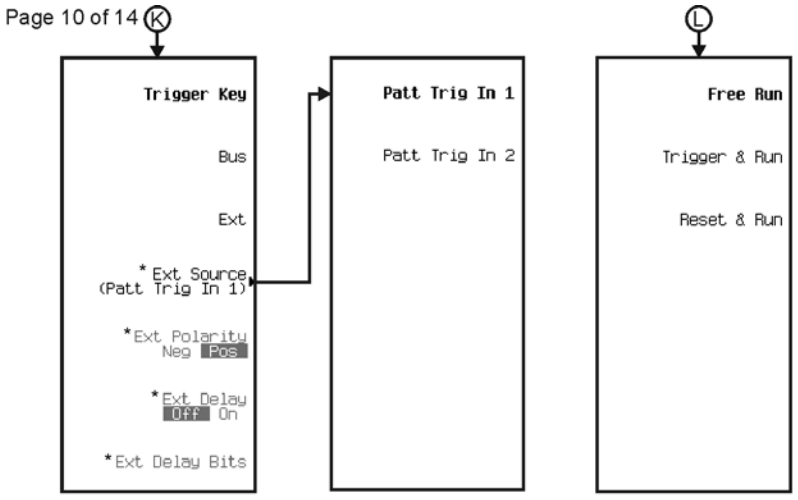
pk731c


Page 7 of 14
G
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000
00000001
00000010
00000011
00000100
-1.000000
1.000000
-1.000000
1.000000
-1.000000
-1.000000
I/Q State Map
I/Q States: 2
+1
Q
Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
O
Load Default
I/Q Map
P
Delete All Rows
Differential
Encoding
Off On
Configure
Differential
Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of
All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
O and P
H thru N
See Next Page
pk732c


Page 8 of 14
H
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
0001
0010
0011
0100
1.8000 kHz
-600.0 Hz
-1.8 Hz
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
Q
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
Q
I thru P
See Next Page
pk733c


Page 9 of 14
I
J
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
R
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
K thru Q
See Next Page

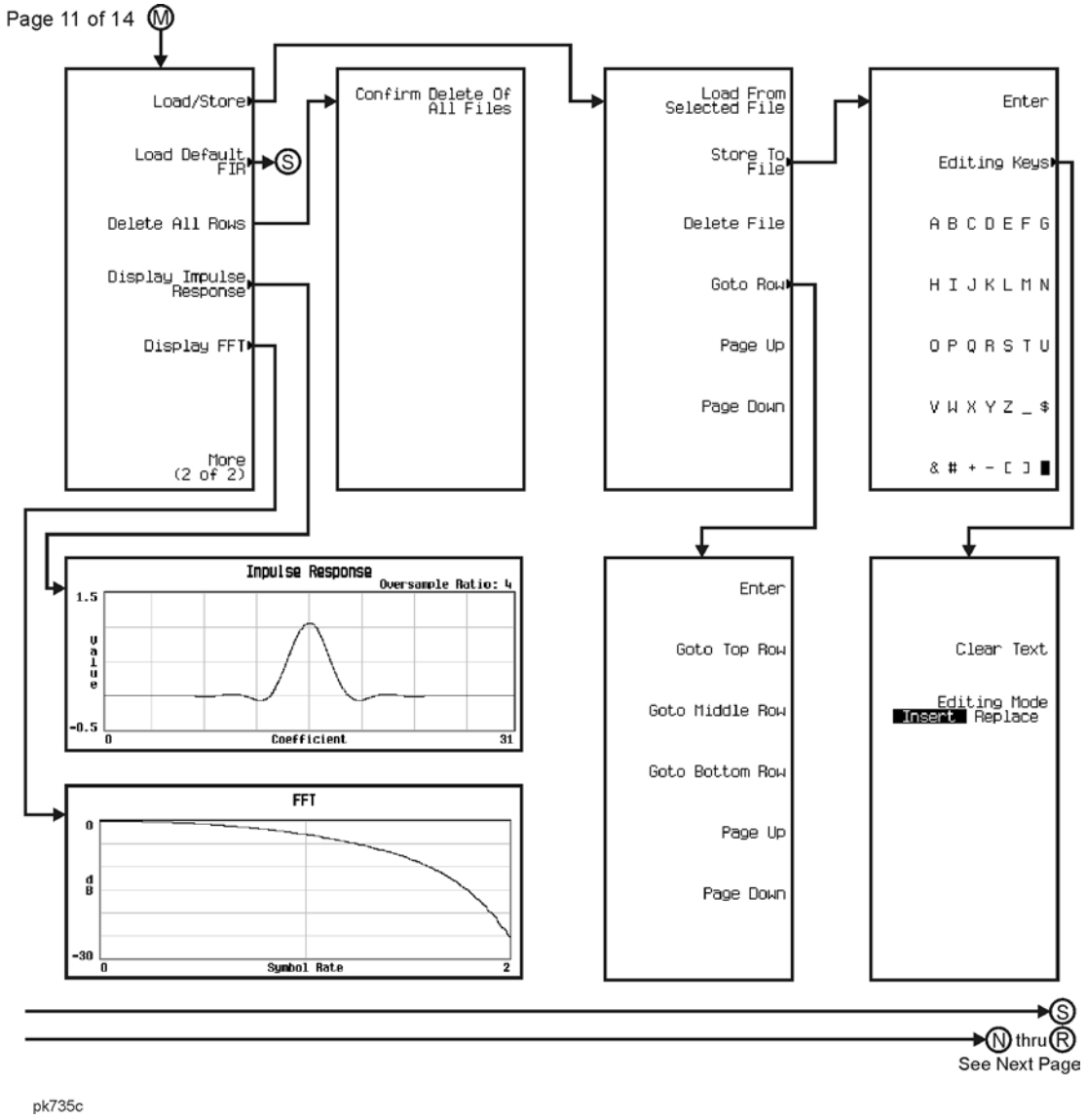
pk734c



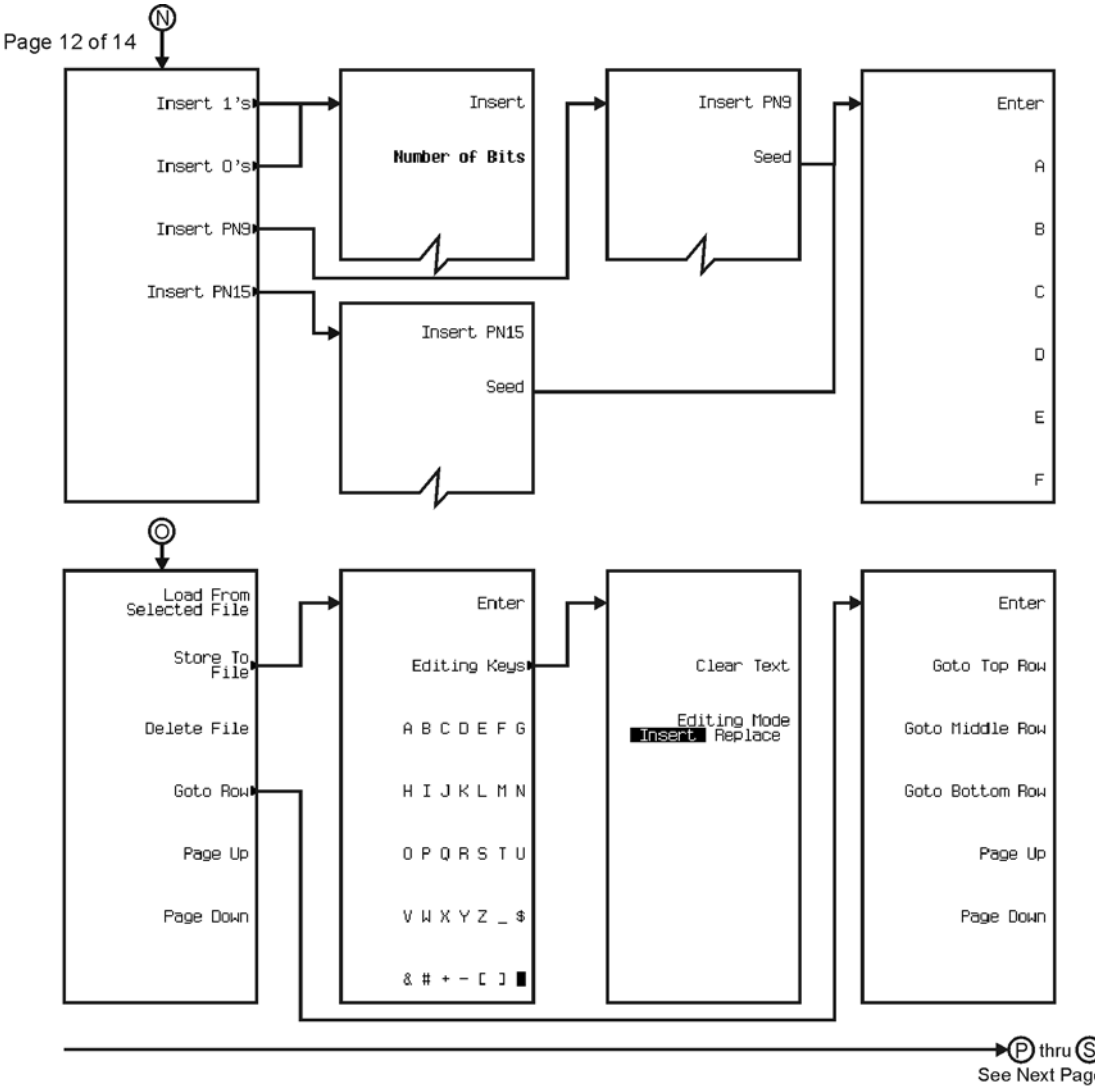
M thru R
See Next Page

* Activate by pressing **Ext**.

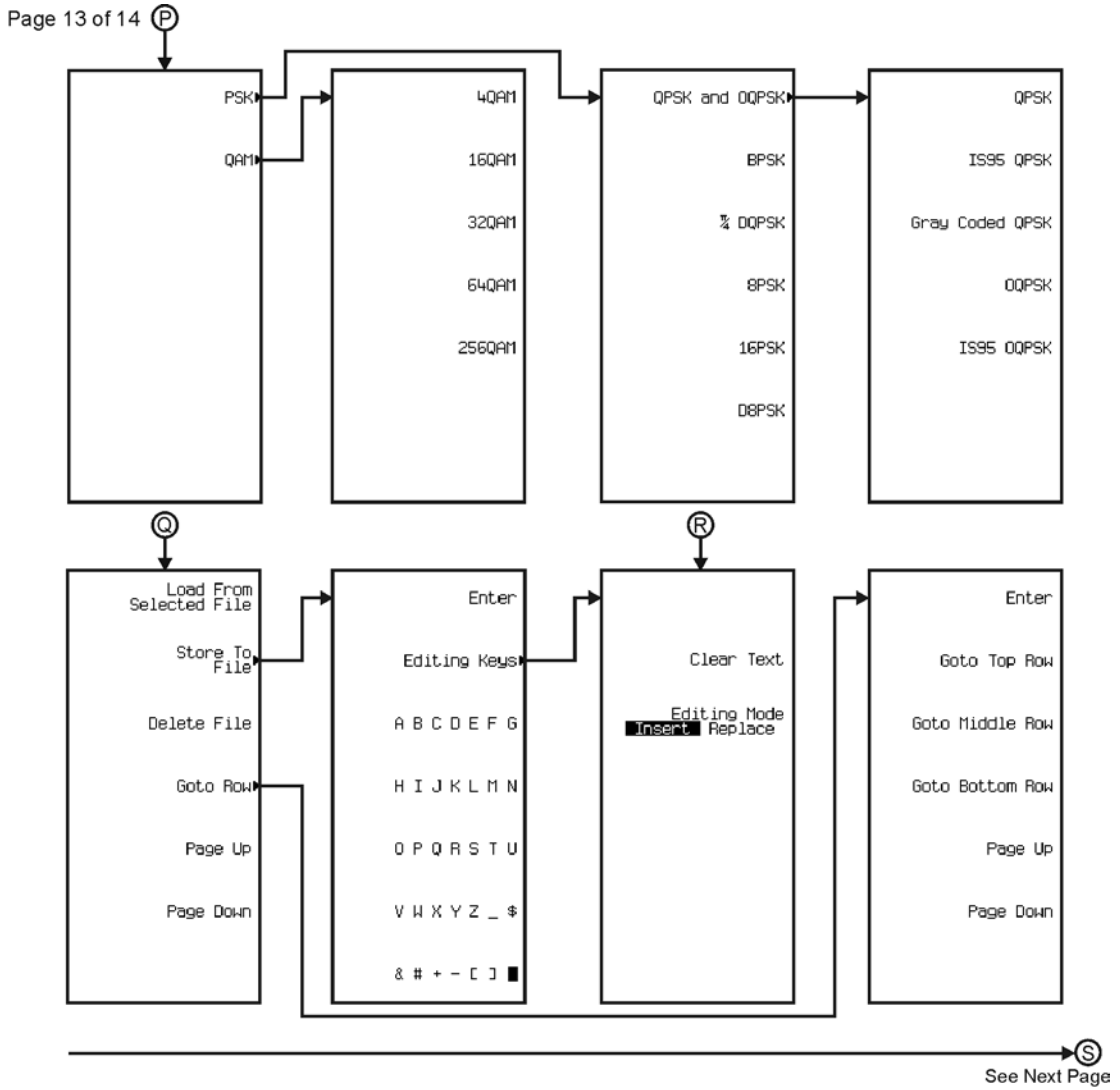
pk7182c


Page 11 of 14 M
Load/Store
Load Default FIR
S
Delete All Rows
Display Impulse Response
Display FFT
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Clear Text
Editing Mode
Insert Replace
S
N thru R
See Next Page

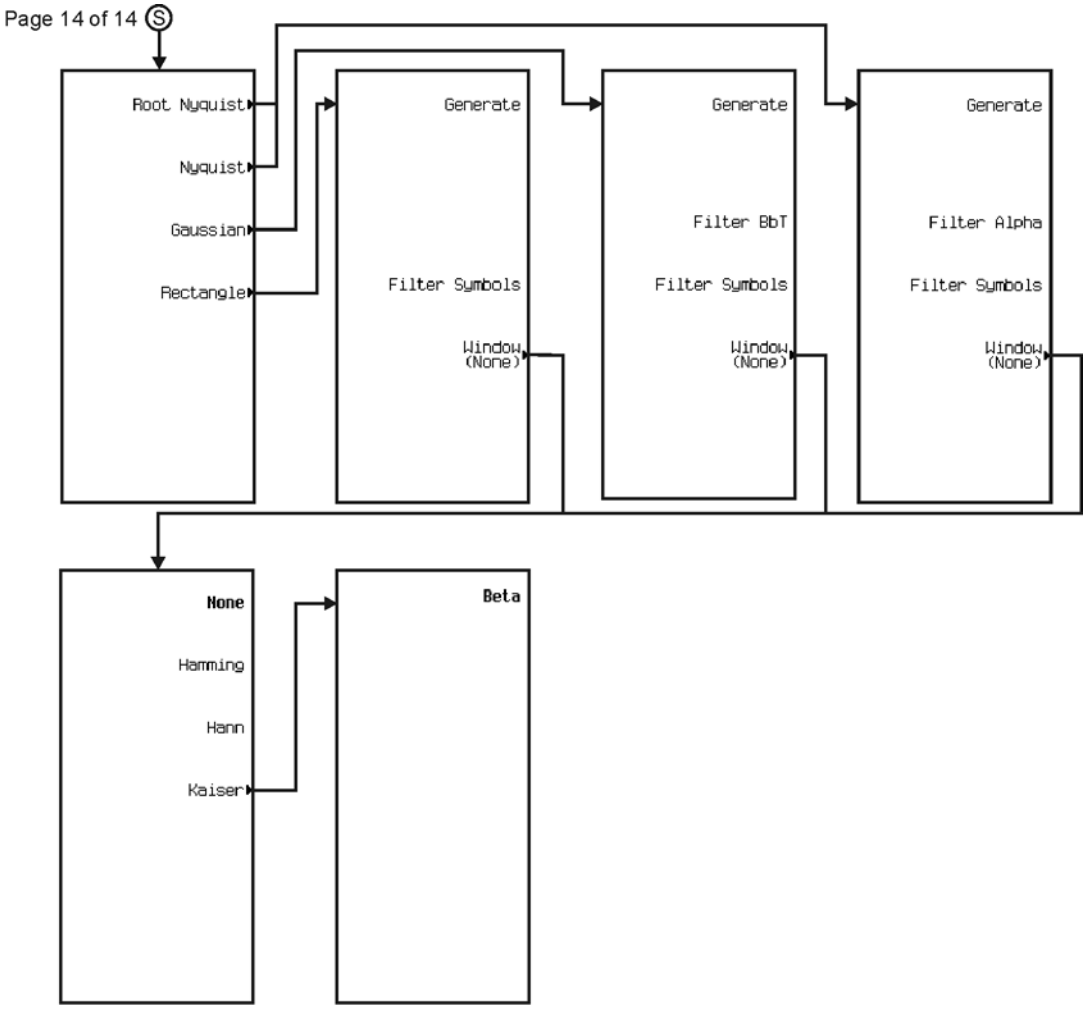
pk735c


Page 12 of 14
N
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
O
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
P thru S
See Next Page

pk736c

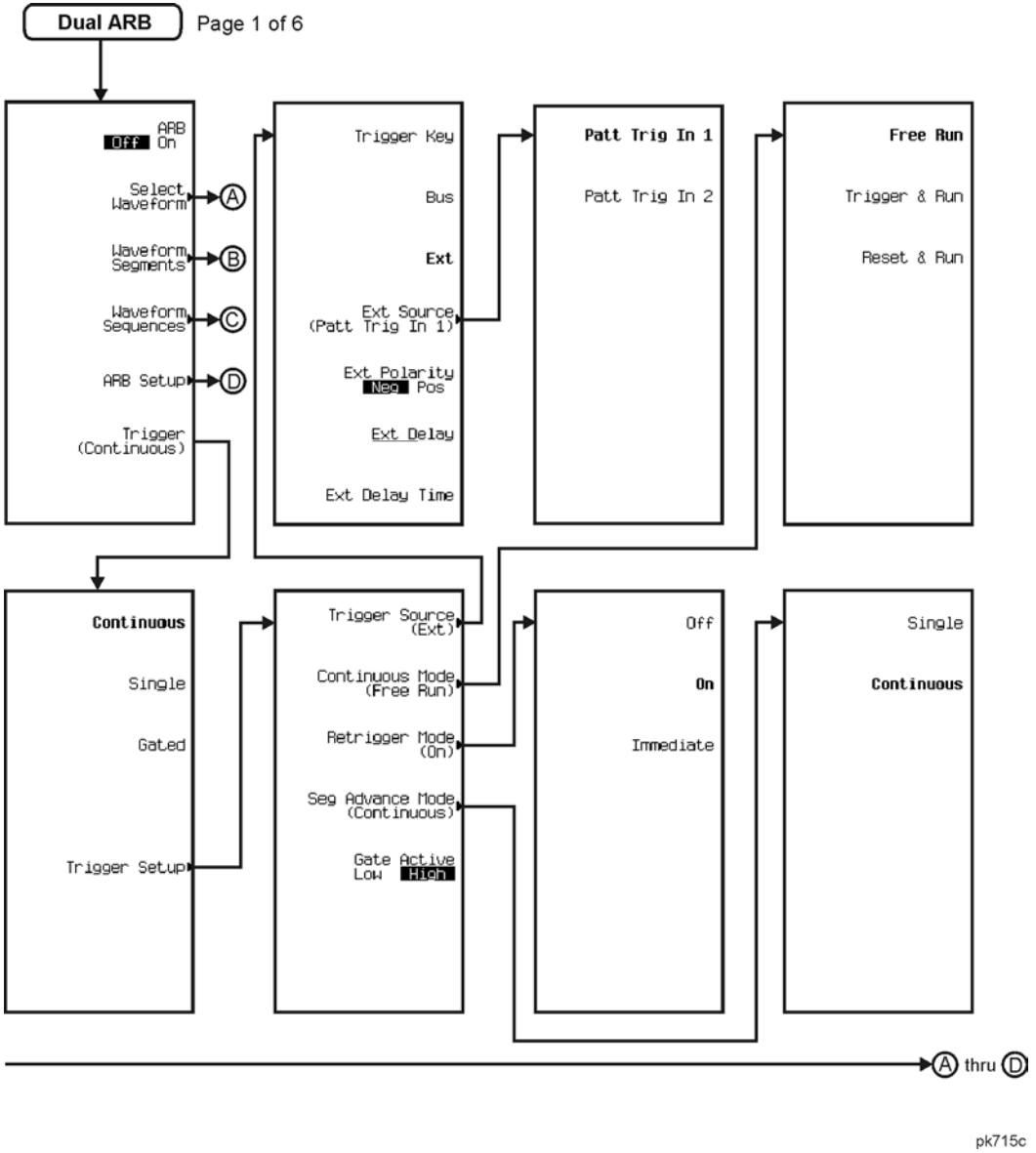

Page 13 of 14 P
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
Q
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
R
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
S
See Next Page

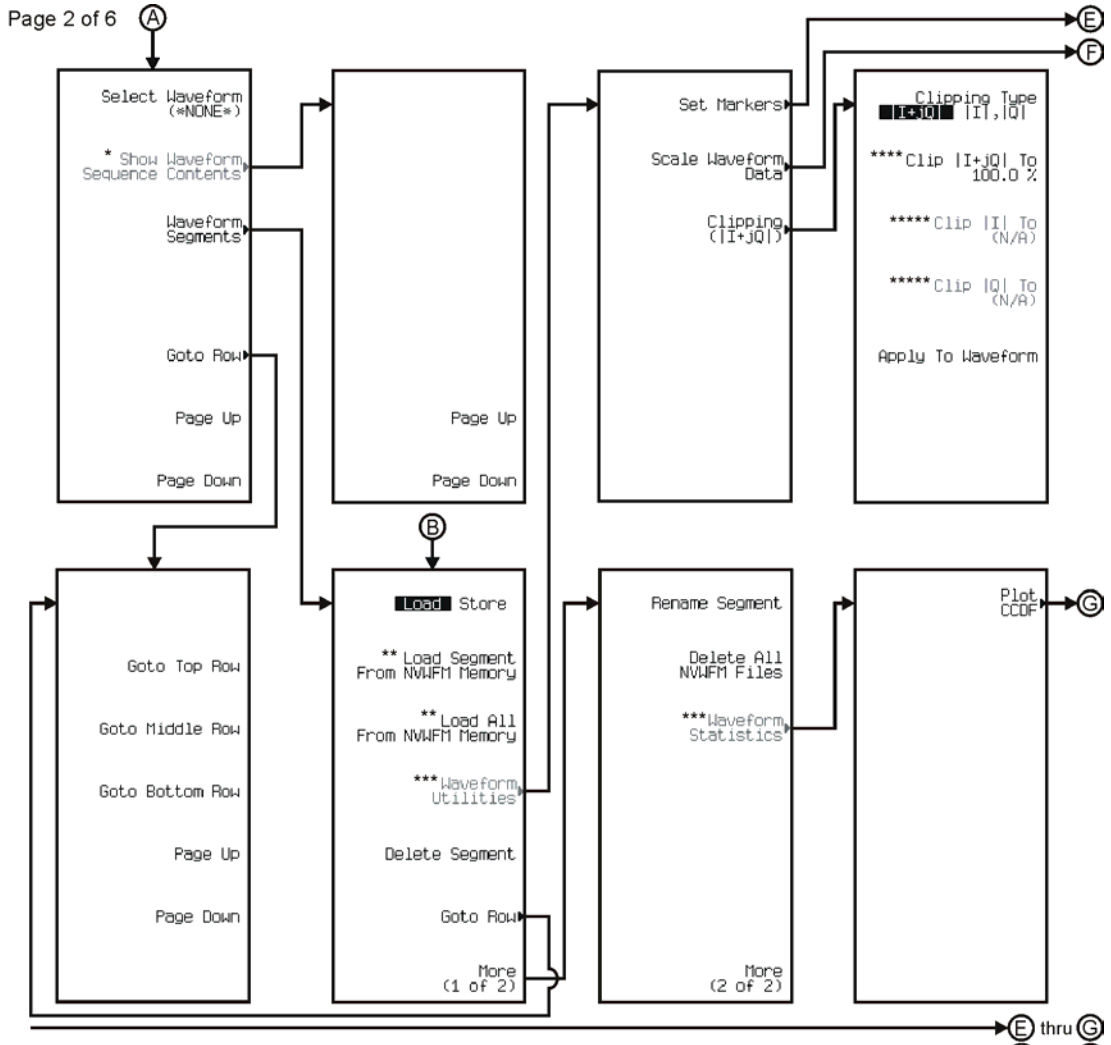
pk7177c

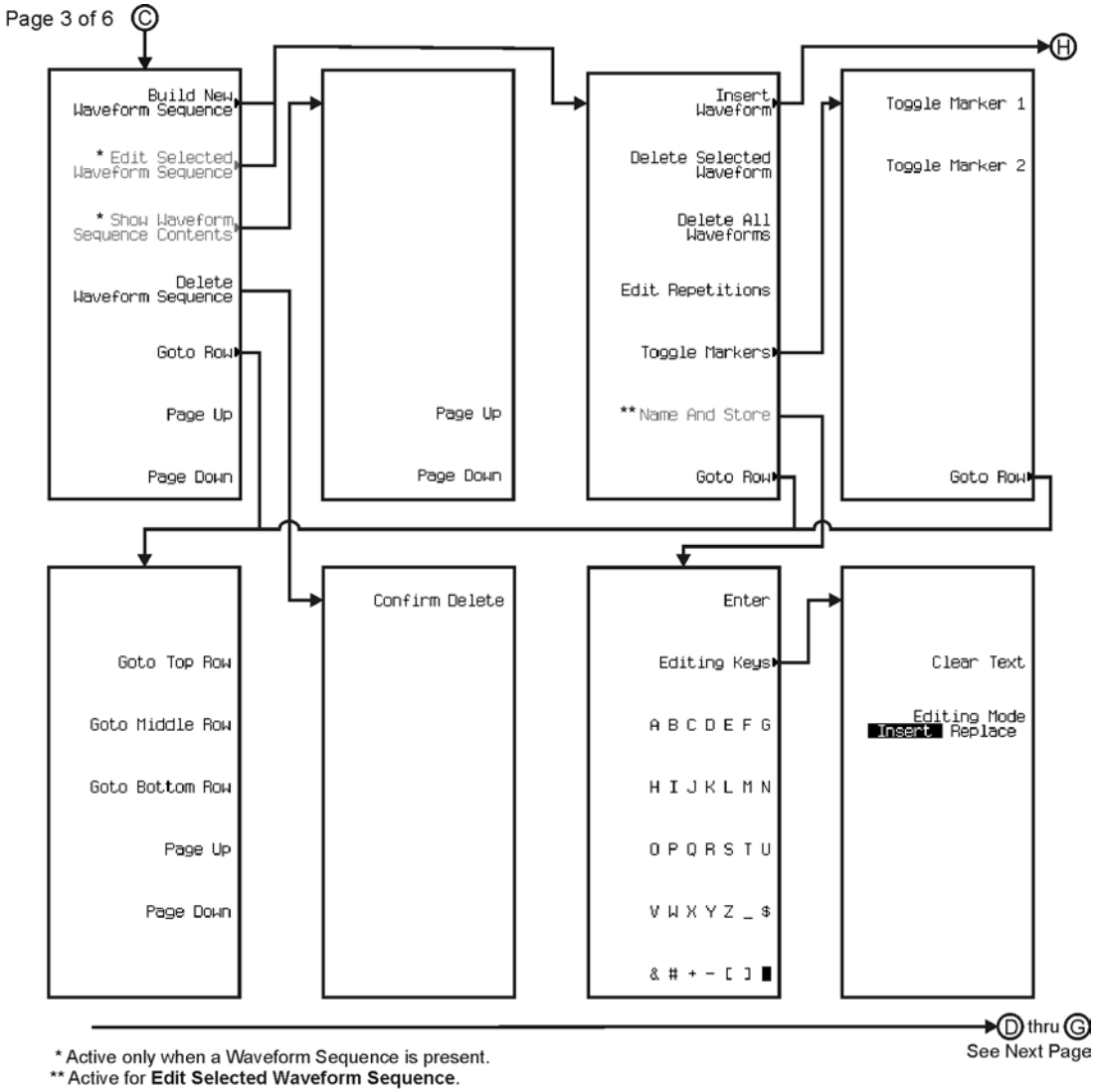

Page 14 of 14 Ⓢ
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta

pk7178c

Dual ARB

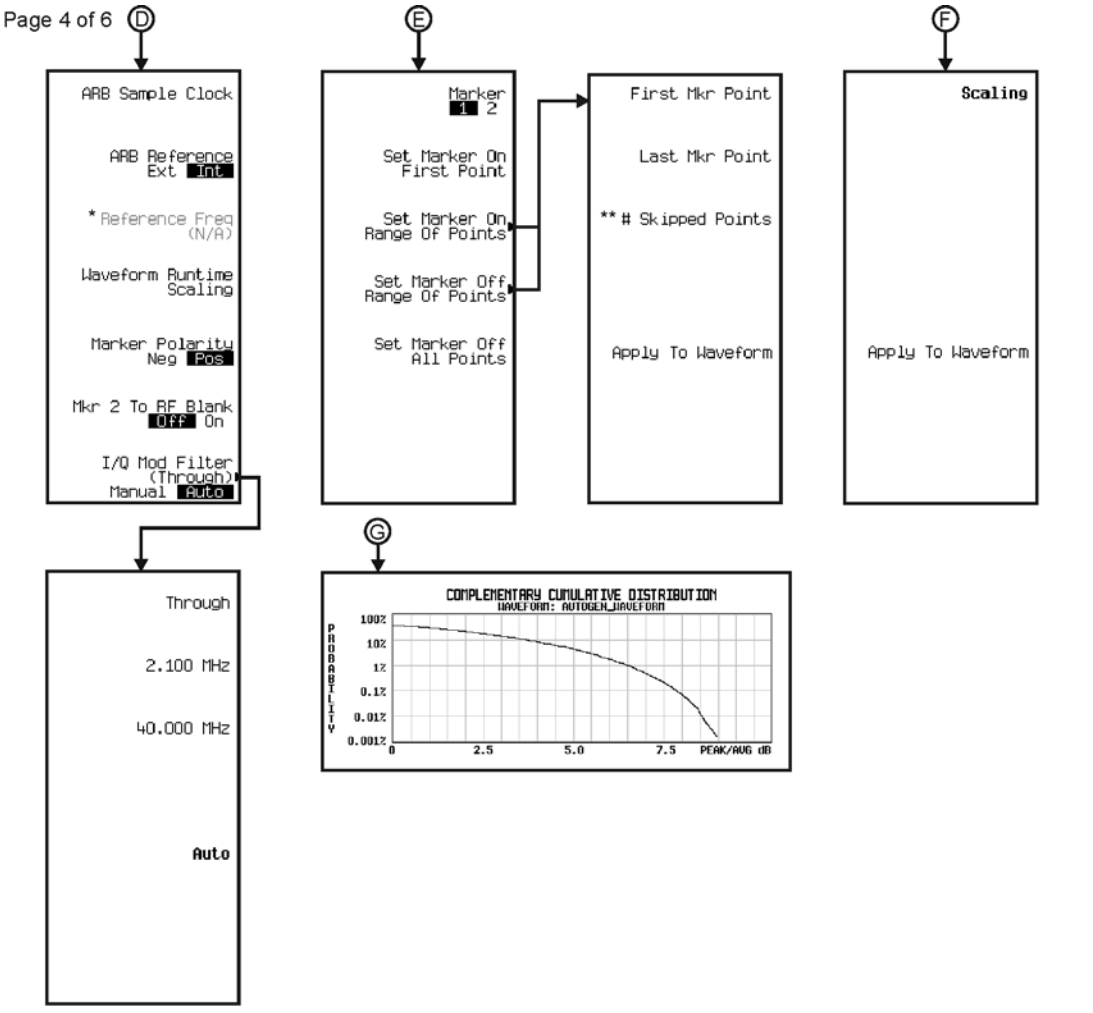

Dual ARB
Page 1 of 6
ARB
Off On
Select Waveform
Waveform Segments
Waveform Sequences
ARB Setup
Trigger (Continuous)
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
Ext Polarity
Neg Pos
Ext Delay
Ext Delay Time
Patt Trig In 1
Patt Trig In 2
Free Run
Trigger & Run
Reset & Run
Continuous
Single
Gated
Trigger Setup
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Seg Advance Mode (Continuous)
Gate Active
Low High
Off
On
Immediate
Single
Continuous
A thru D
pk715c


Page 2 of 6
A
Select Waveform (*NONE*)
* Show Waveform Sequence Contents
Waveform Segments
Goto Row
Page Up
Page Down
Page Up
Page Down
Set Markers
Scale Waveform Data
Clipping (|I+jQ|)
E
F
Clipping Type I+jQ |I|,|Q|
****Clip |I+jQ| To 100.0 %
*****Clip |I| To (N/A)
*****Clip |Q| To (N/A)
Apply To Waveform
B
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load Store
** Load Segment From NVWFM Memory
** Load All From NVWFM Memory
***Waveform Utilities
Delete Segment
Goto Row
More (1 of 2)
Rename Segment
Delete All NVWFM Files
***Waveform Statistics
More (2 of 2)
Plot CCDF
G
E thru G
C and D
See Next Page
* A Waveform Sequence must be present to activate this key.
** Switches to Store... when Load Store is set to Store.
*** Active when Load Store is selected and ARB is on.
**** Inactive when Clipping Type |I+jQ| I,Q is selected.
***** Active when Clipping Type |I+jQ| I,Q is selected.
pk716c



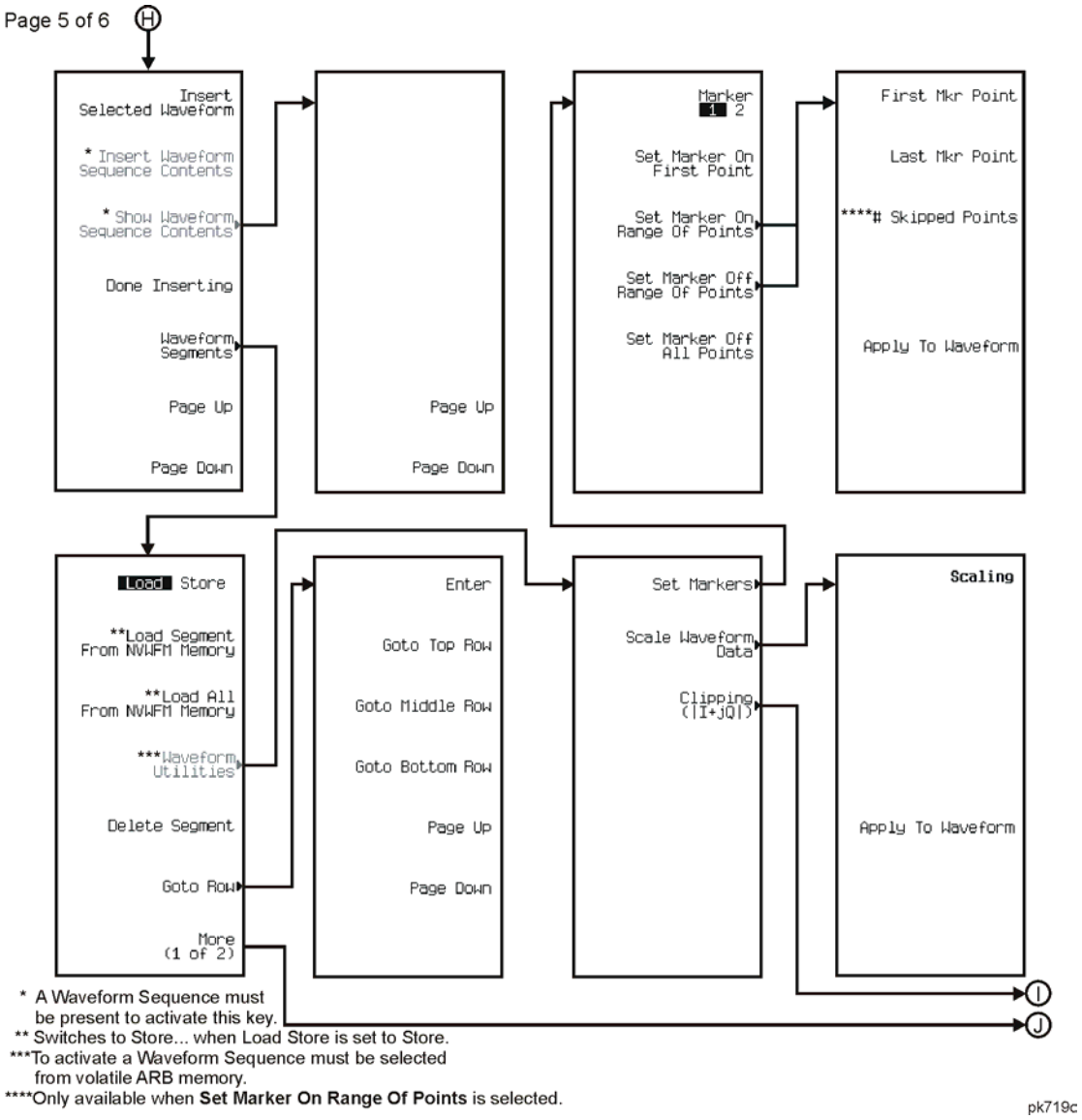
* Active only when a Waveform Sequence is present.
** Active for **Edit Selected Waveform Sequence**.

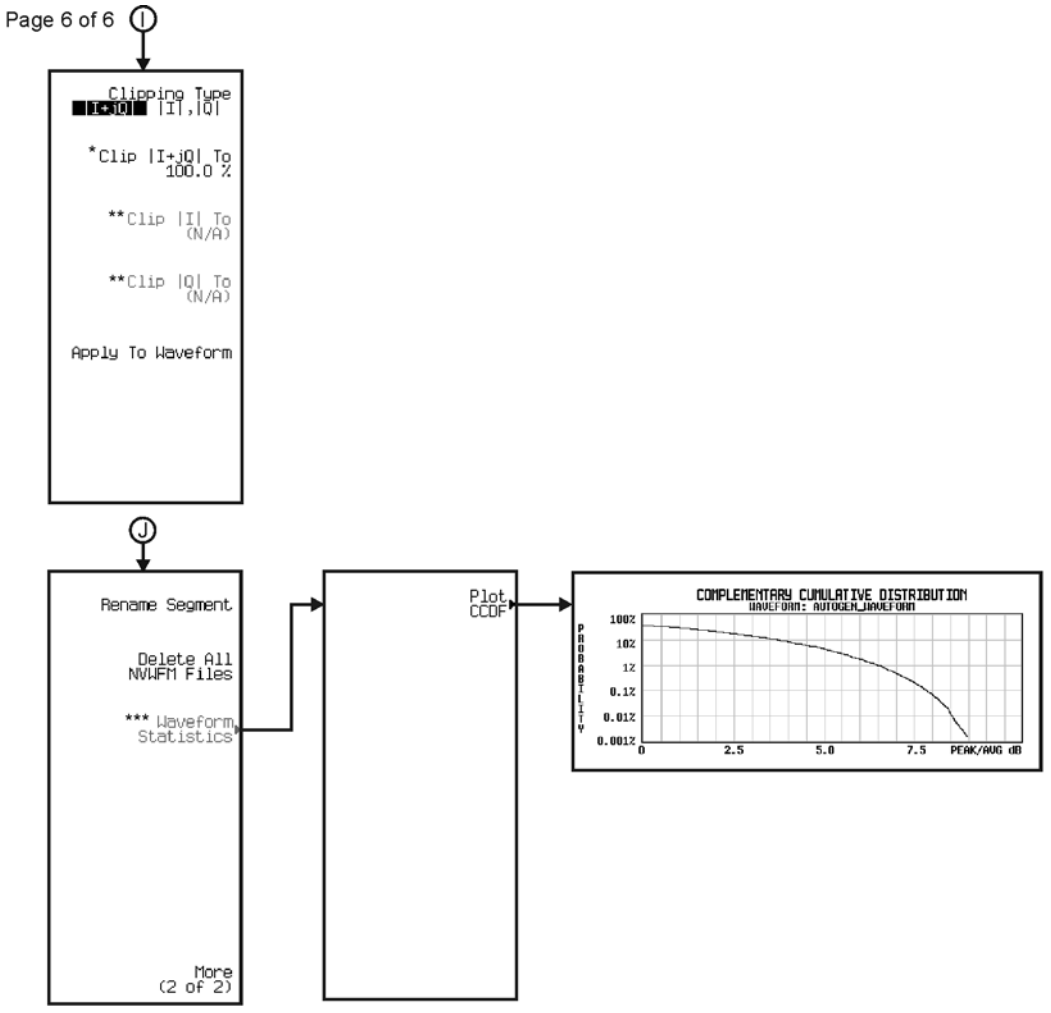
pk717c



* Active when **ARB Reference Ext Int** is selected.
** Only available when **Set Marker On Range Of Points** is selected.

pk718c

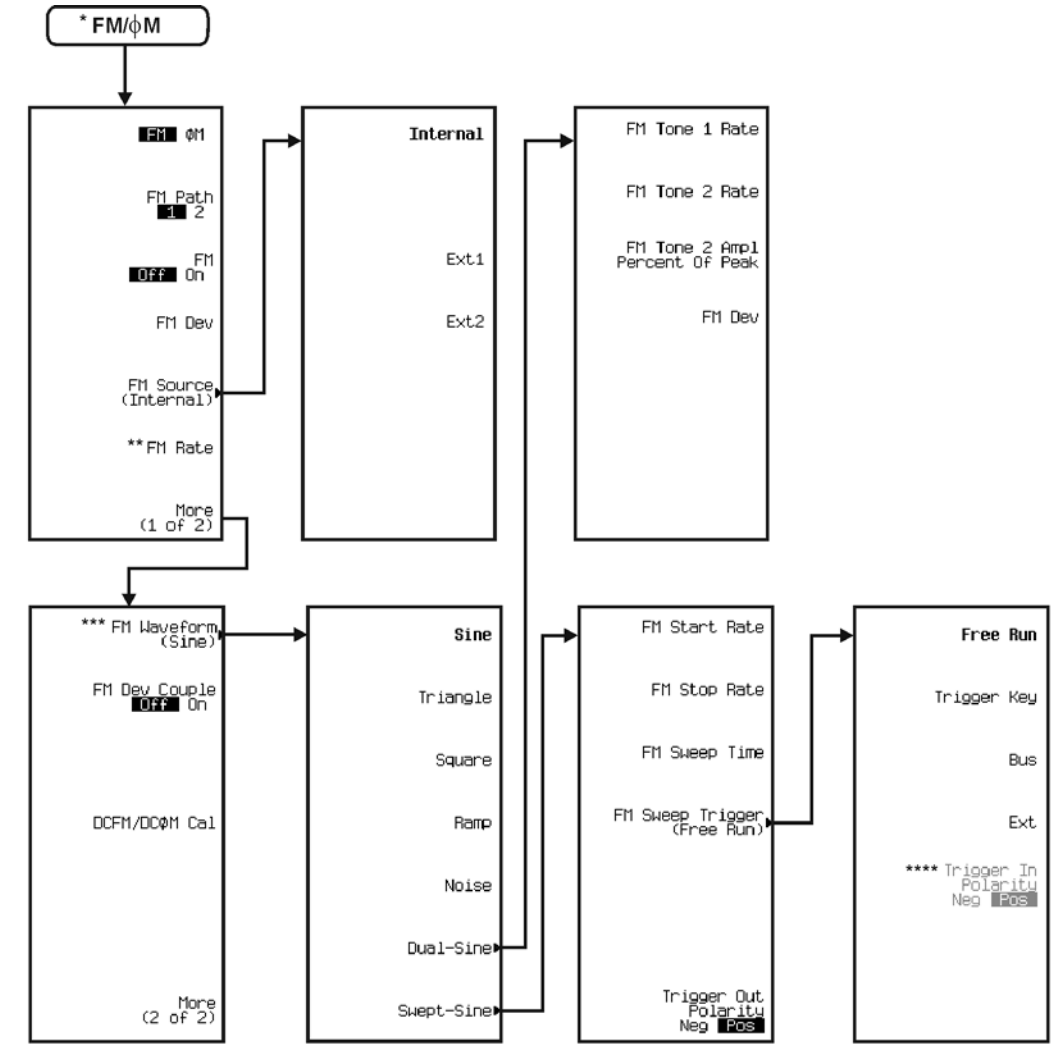

Page 5 of 6
H
Insert Selected Waveform
* Insert Waveform Sequence Contents
* Show Waveform Sequence Contents
Done Inserting
Waveform Segments
Page Up
Page Down
Page Up
Page Down
Marker 1 2
Set Marker On First Point
Set Marker On Range Of Points
Set Marker Off Range Of Points
Set Marker Off All Points
First Mkr Point
Last Mkr Point
****# Skipped Points
Apply To Waveform
Load Store
**Load Segment From NVWFM Memory
**Load All From NVWFM Memory
***Waveform Utilities
Delete Segment
Goto Row
More (1 of 2)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Set Markers
Scale Waveform Data
Clipping (|I+jQ|)
Scaling
Apply To Waveform
I
J
* A Waveform Sequence must be present to activate this key.
** Switches to Store... when Load Store is set to Store.
***To activate a Waveform Sequence must be selected from volatile ARB memory.
****Only available when Set Marker On Range Of Points is selected.
pk719c



* Inactive when **Clipping Type |I+jQ|** |I,Q| is selected.
** Active when **Clipping Type |I+jQ|** |I,Q| is selected.
*** To activate a Waveform Sequence must be selected from volatile ARB memory.

pk720c

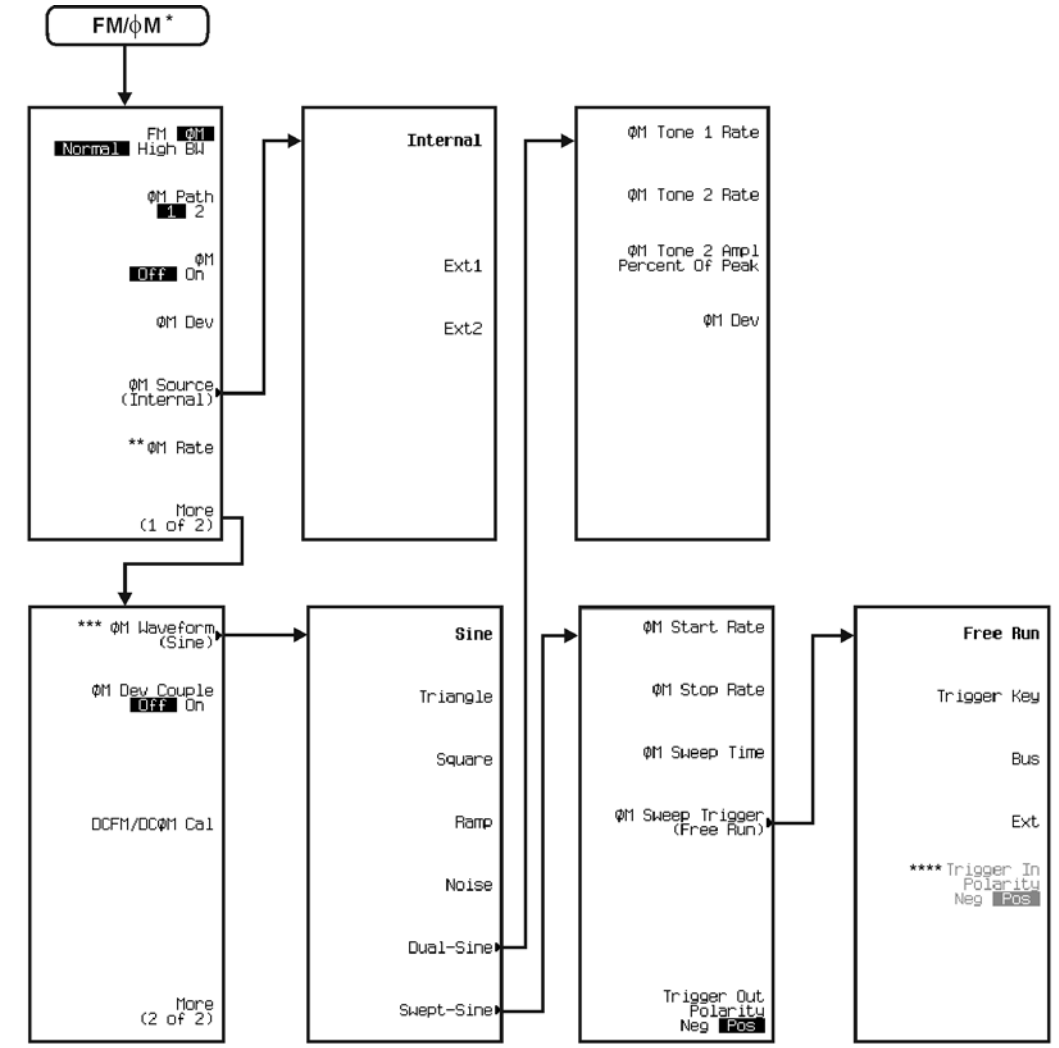
*FM/ΦM



* When **FM** is selected.
** Changes to **Ext Coupling** DC **AC** when **FM Source** > **Ext1** or **Ext2** are selected. DC being the default selection.
Inactive when **FM Source** > **Arb1** or **Arb2** are selected.
*** Inactive when **FM Source** > **Ext1** or **Ext2** or **Arb1** or **Arb2** are selected.
**** Active when **Ext** is selected.

pk721c

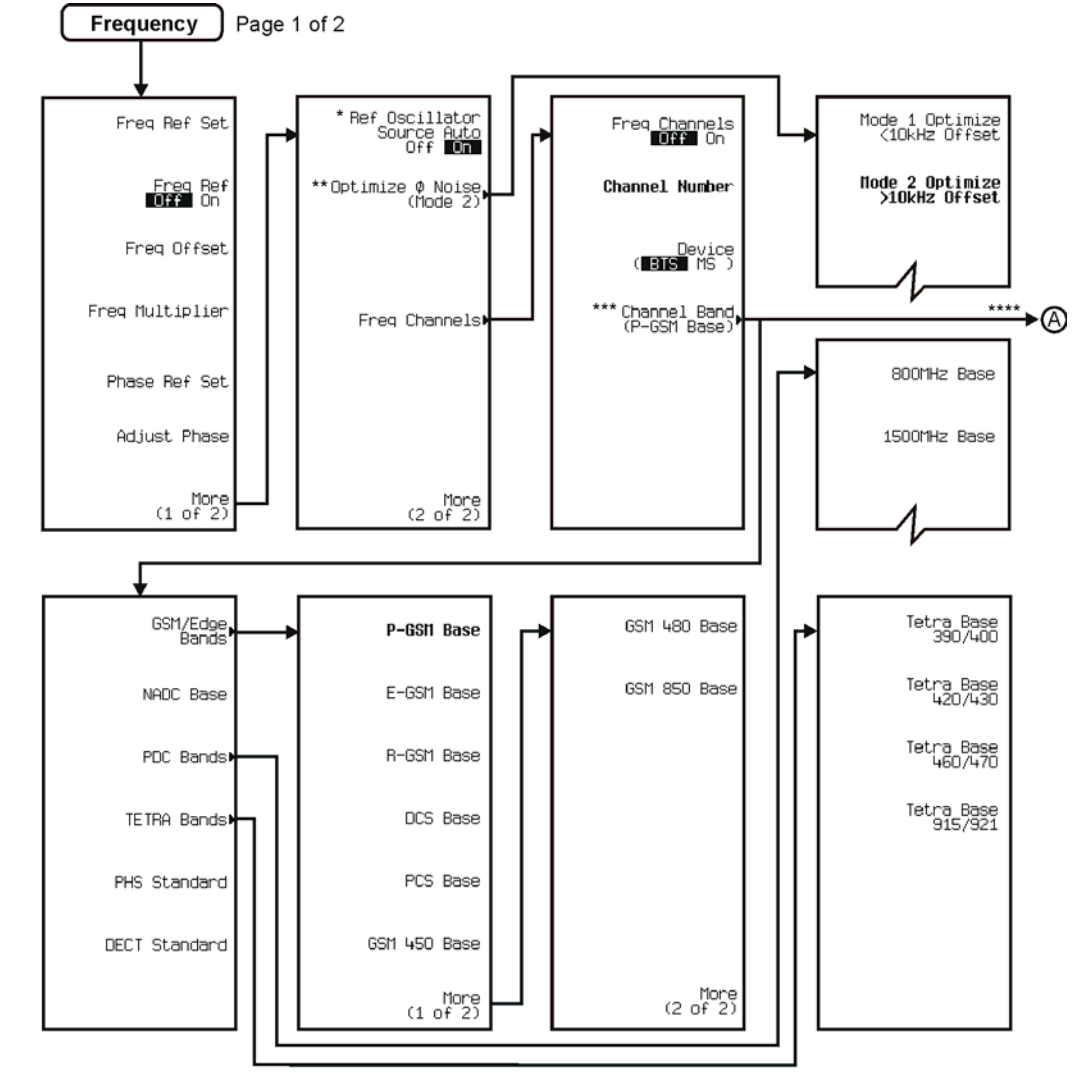
FM/ΦM*



* When ϕM is selected.
** Changes to **Ext Coupling** DC **AC** when **FM Source** > **Ext1** or **Ext2** are selected. DC being the default selection.
Inactive when **FM Source** > **Arb1** or **Arb2** are selected.
*** Inactive when **FM Source** > **Ext1** or **Ext2** or **Arb1** or **Arb2** are selected.
**** Active when **Ext** is selected.

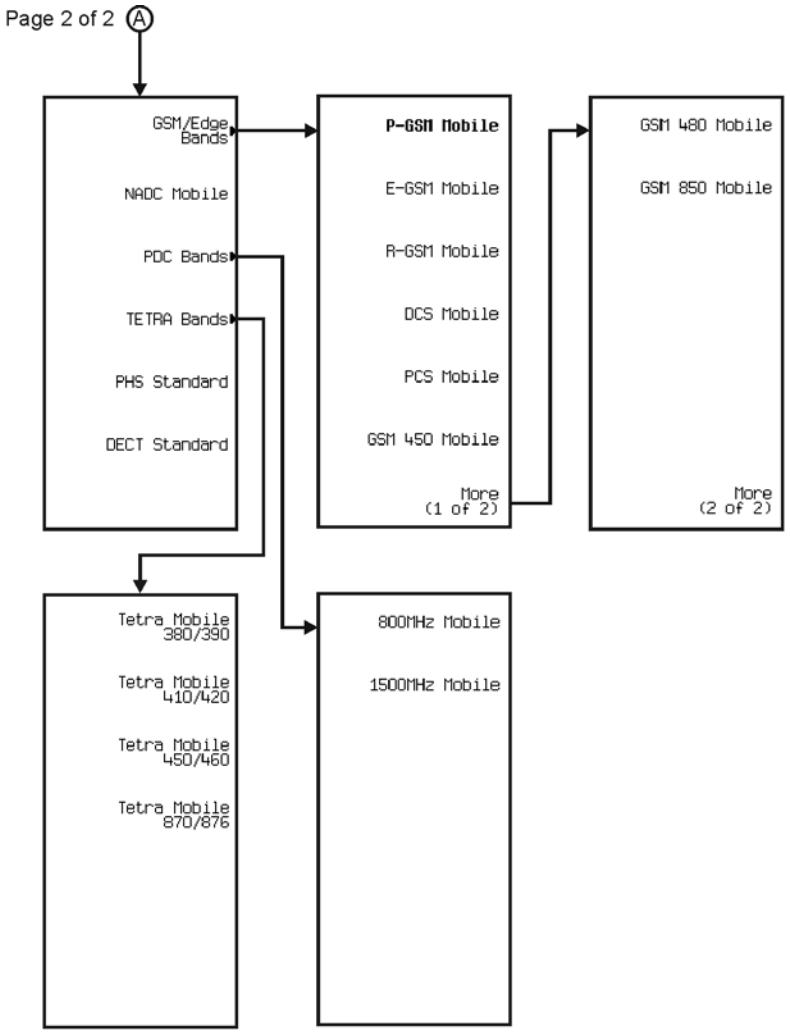
pk722c

Frequency



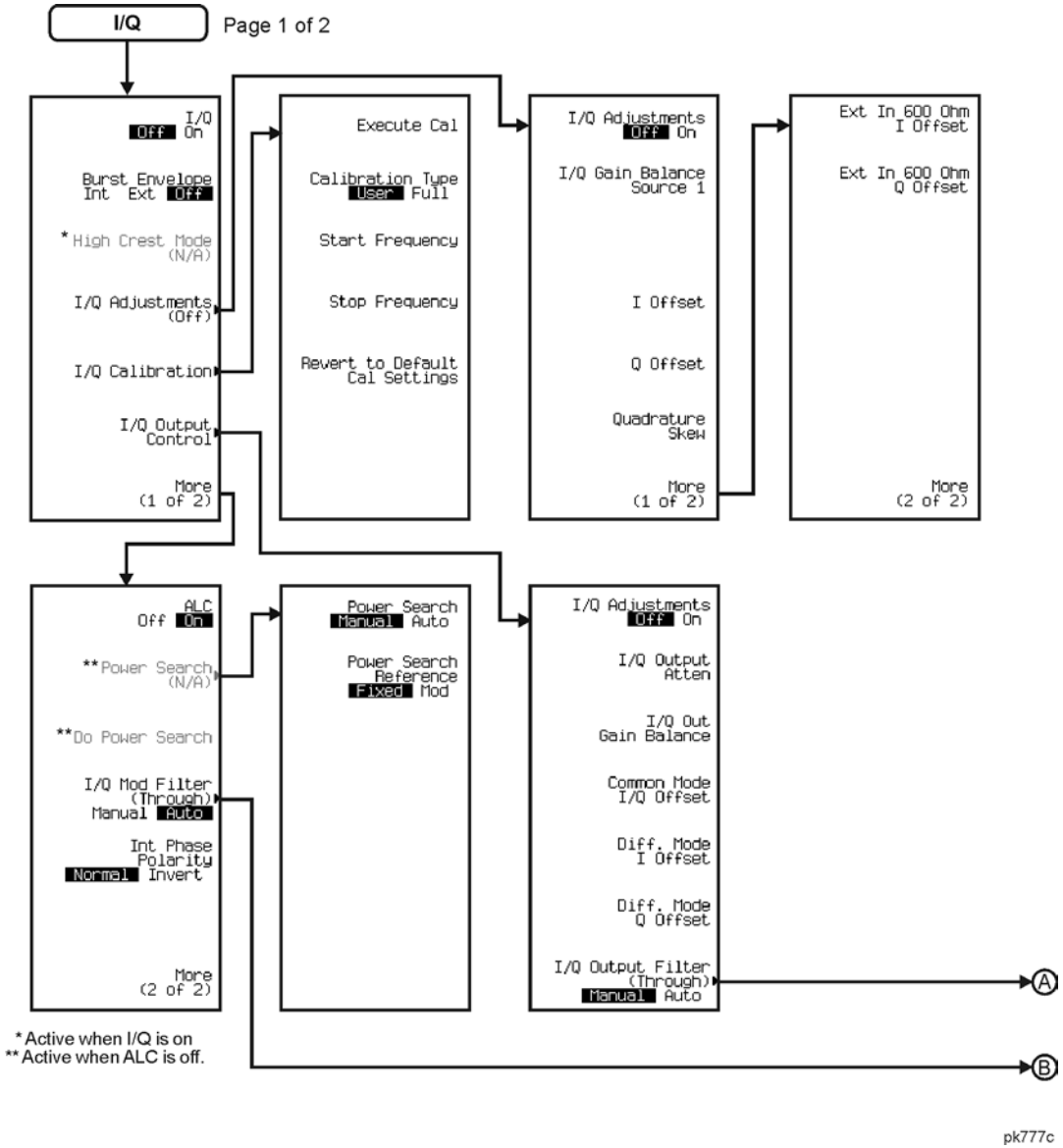
* This key is deleted when Option UNJ is installed.
** This key is deleted when Option 506 is installed.
*** This key changes to **Channel Band (P-GSM Mobile)** when **Device (BTS MS)** is selected.
**** A Follows the menus when **Device (BTS MS)** is selected.

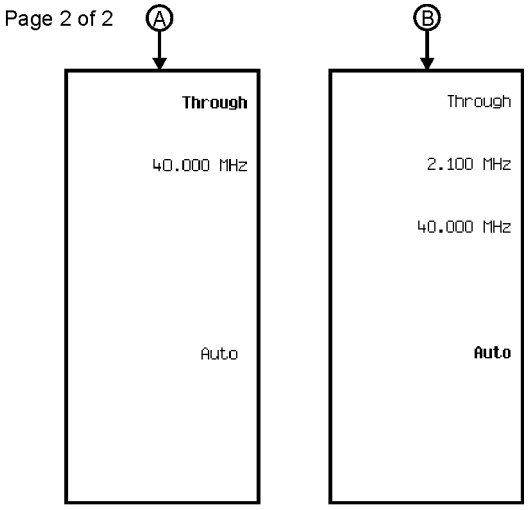
pk723c


Page 2 of 2 Ⓐ
GSM/Edge Bands
NADC Mobile
PDC Bands
TETRA Bands
PHS Standard
DECT Standard
P-GSM Mobile
E-GSM Mobile
R-GSM Mobile
DCS Mobile
PCS Mobile
GSM 450 Mobile
More (1 of 2)
GSM 480 Mobile
GSM 850 Mobile
More (2 of 2)
Tetra Mobile 380/390
Tetra Mobile 410/420
Tetra Mobile 450/460
Tetra Mobile 870/876
800MHz Mobile
1500MHz Mobile

pk760c

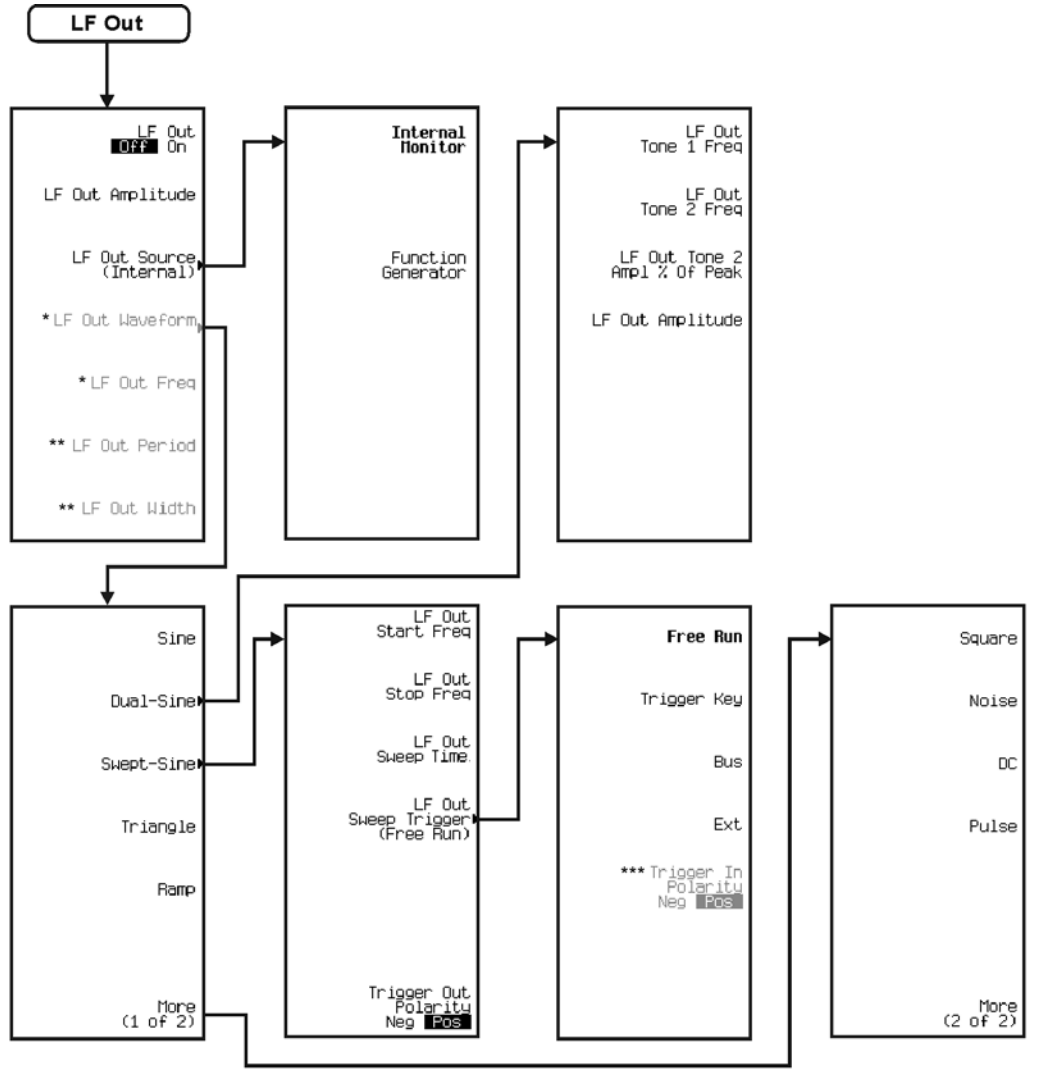
I/Q


I/Q
Page 1 of 2
I/Q
Off On
Burst Envelope
Int Ext Off
*High Crest Mode
(N/A)
I/Q Adjustments
(Off)
I/Q Calibration
I/Q Output
Control
More
(1 of 2)
Execute Cal
Calibration Type
User Full
Start Frequency
Stop Frequency
Revert to Default
Cal Settings
I/Q Adjustments
Off On
I/Q Gain Balance
Source 1
I Offset
Q Offset
Quadrature
Skew
More
(1 of 2)
Ext In 600 Ohm
I Offset
Ext In 600 Ohm
Q Offset
More
(2 of 2)
ALC
Off On
**Power Search
(N/A)
**Do Power Search
I/Q Mod Filter
(Through)
Manual Auto
Int Phase
Polarity
Normal Invert
More
(2 of 2)
Power Search
Manual Auto
Power Search
Reference
Fixed Mod
I/Q Adjustments
Off On
I/Q Output
Atten
I/Q Out
Gain Balance
Common Mode
I/Q Offset
Diff. Mode
I Offset
Diff. Mode
Q Offset
I/Q Output Filter
(Through)
Manual Auto
A
B
*Active when I/Q is on
**Active when ALC is off.
pk777c


Page 2 of 2
A
Through
40.000 MHz
Auto
B
Through
2.100 MHz
40.000 MHz
Auto

pk7202c

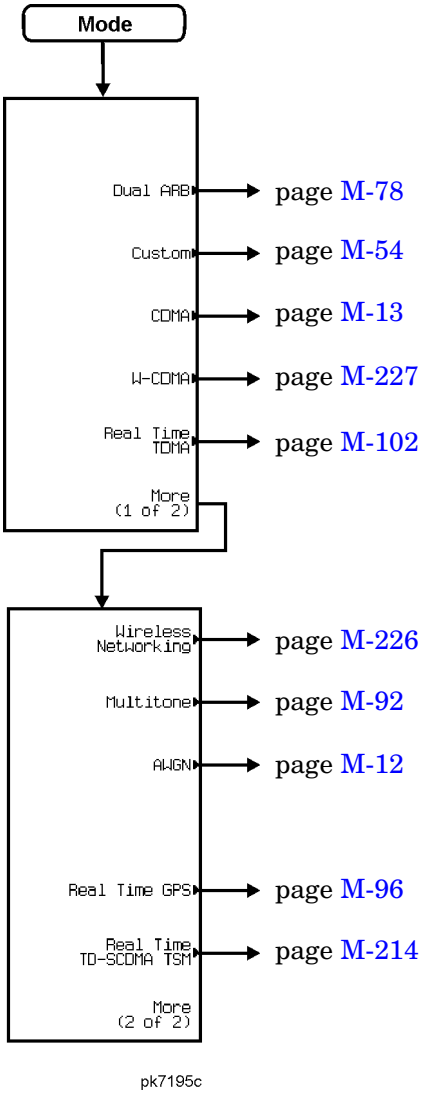
LF Output



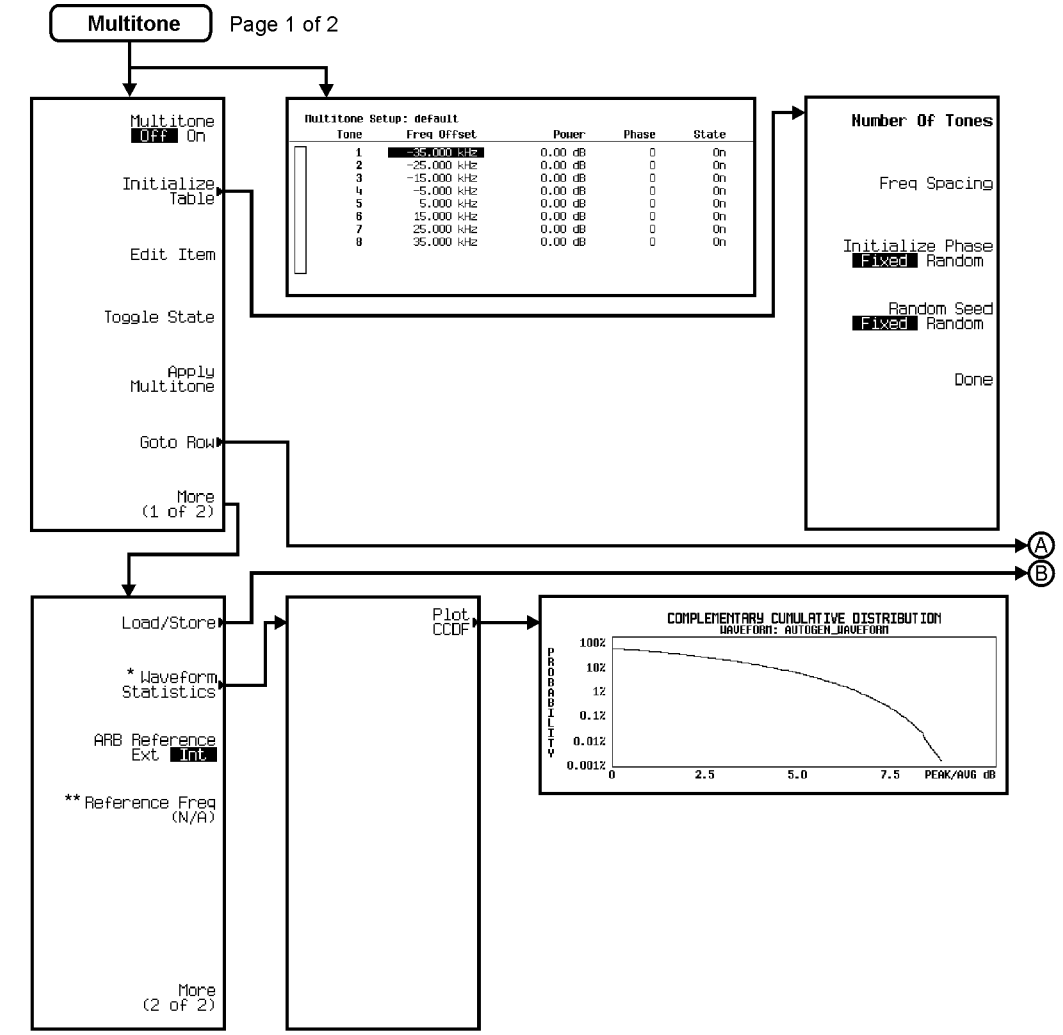
* Activate by pressing **LF Out Source > Function Generator**.
** Activate by pressing **LF Out Waveform > More (1 of 2) > Pulse**.
*** Active when **EXT** is selected.

pk724c

Mode

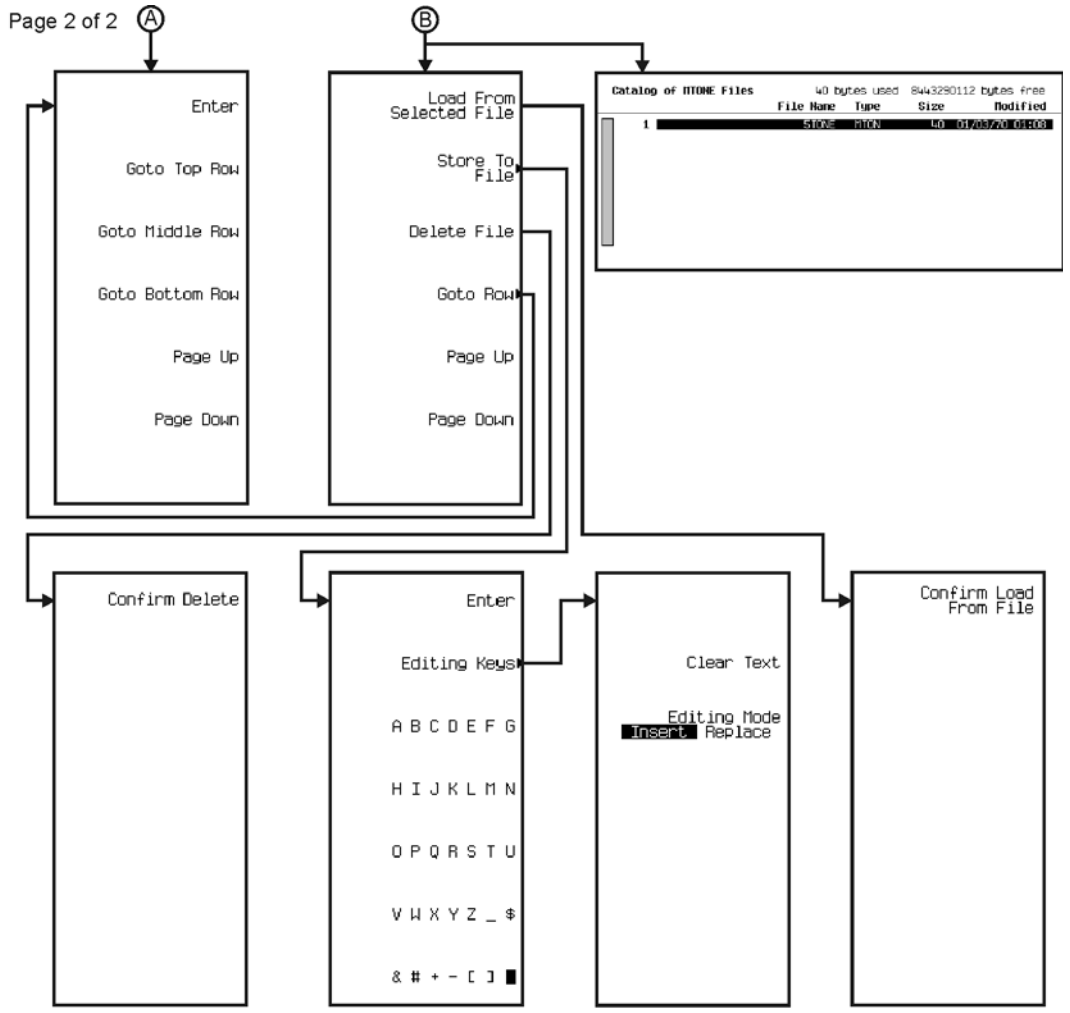

Mode
Dual ARB
page M-78
Custom
page M-54
CDMA
page M-13
W-CDMA
page M-227
Real Time TDMA
page M-102
More (1 of 2)
Wireless Networking
page M-226
Multitone
page M-92
AWGN
page M-12
Real Time GPS
page M-96
Real Time TD-SCDMA TSM
page M-214
More (2 of 2)
pk7195c

Multitone



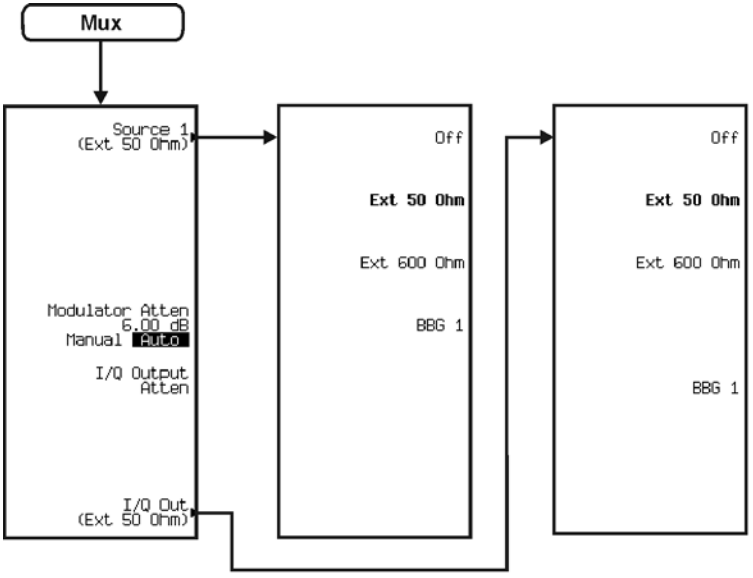
* Active when Multitone is on.
** Active when **ARB Reference** **Ext** **Int** is selected.

pk775c


Page 2 of 2
A
B
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Catalog of MTONE Files
40 bytes used
8443280112 bytes free
File Name
Type
Size
Modified
1
STORE
MTN
40
01/03/70 01:08
Confirm Delete
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert
Replace
Confirm Load From File

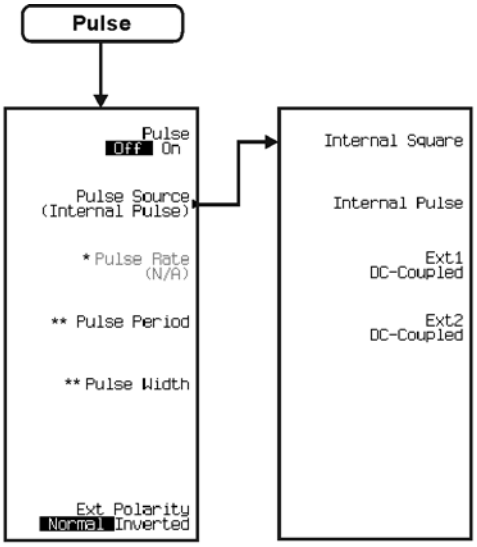
pk776c

Mux


Mux
Source 1
(Ext 50 Ohm)
Modulator Atten
6.00 dB
Manual
Auto
I/Q Output
Atten
I/Q Out
(Ext 50 Ohm)
Off
Ext 50 Ohm
Ext 600 Ohm
BBG 1
Off
Ext 50 Ohm
Ext 600 Ohm
BBG 1

pk772c

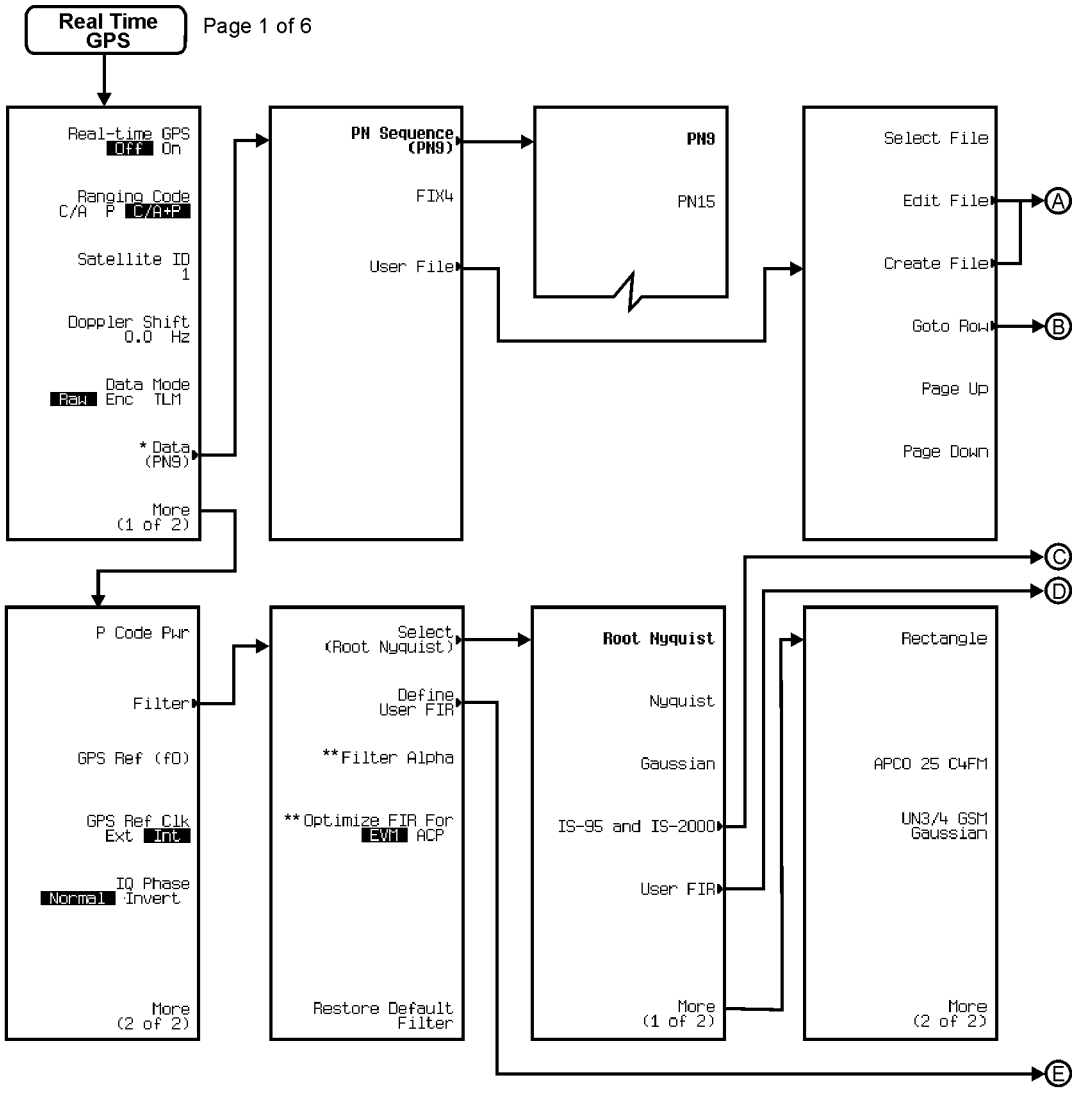
Pulse Modulation



* Activate by pressing **Pulse Source > Internal Square**.
** Inactive when **Pulse Source > Internal Square** or **Ext1 DC-Coupled** or **Ext2 DC-Coupled** is selected.

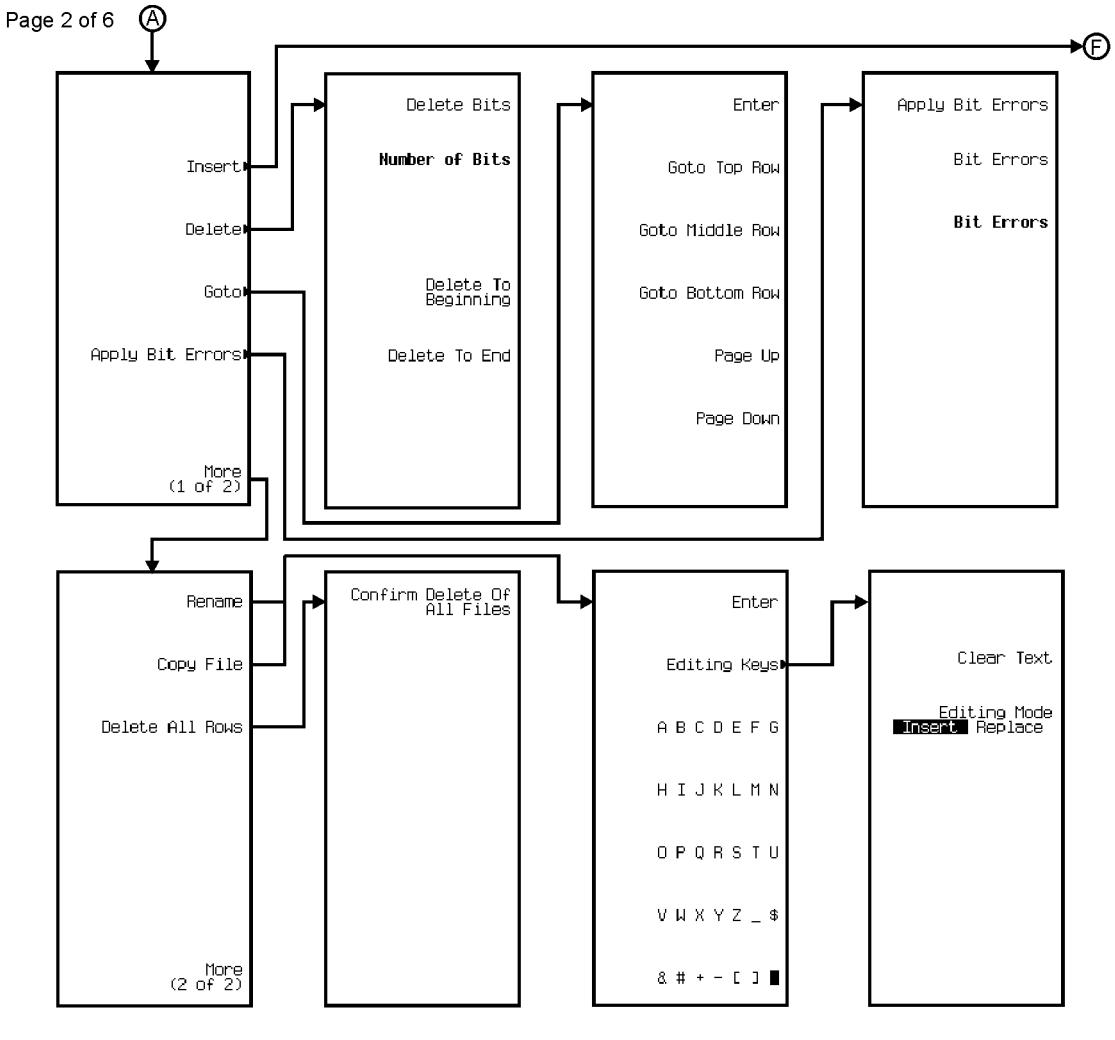
pk725c

Real Time GPS

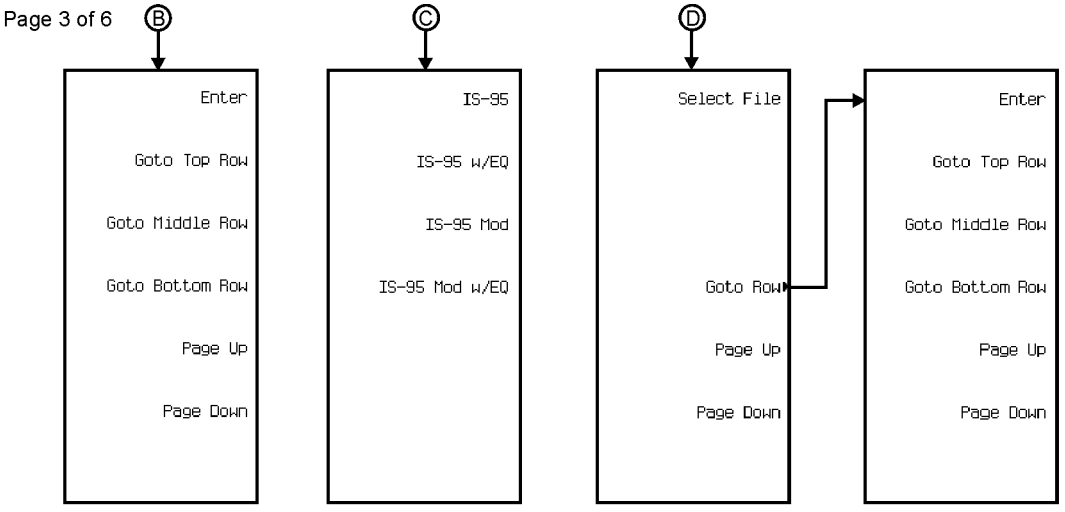


* Inactive in the TLM data mode.
** Changes according to the filter selected.

pk7196c

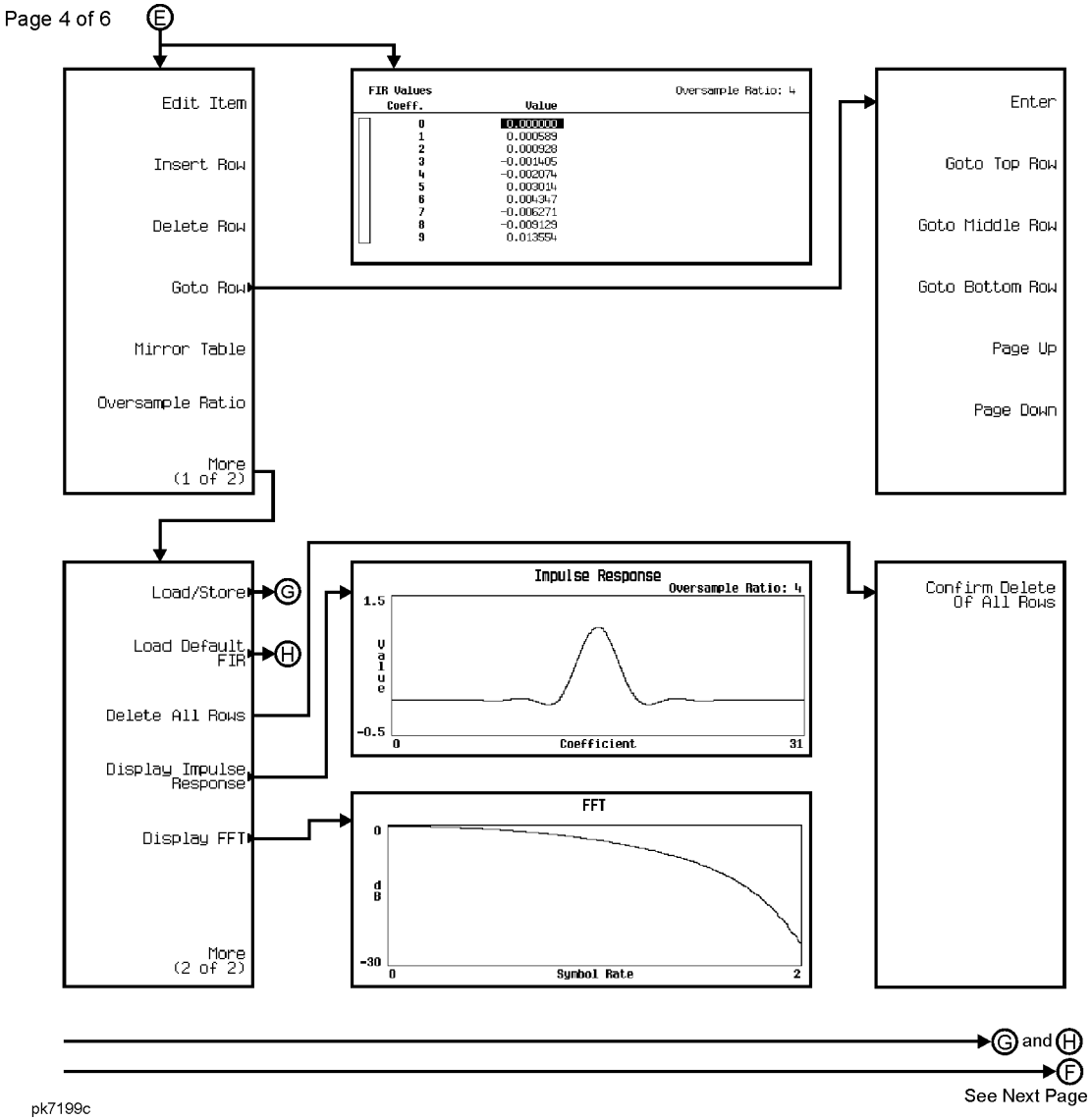

Page 2 of 6
A
F
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
B thru E
See Next Page

pk7197c

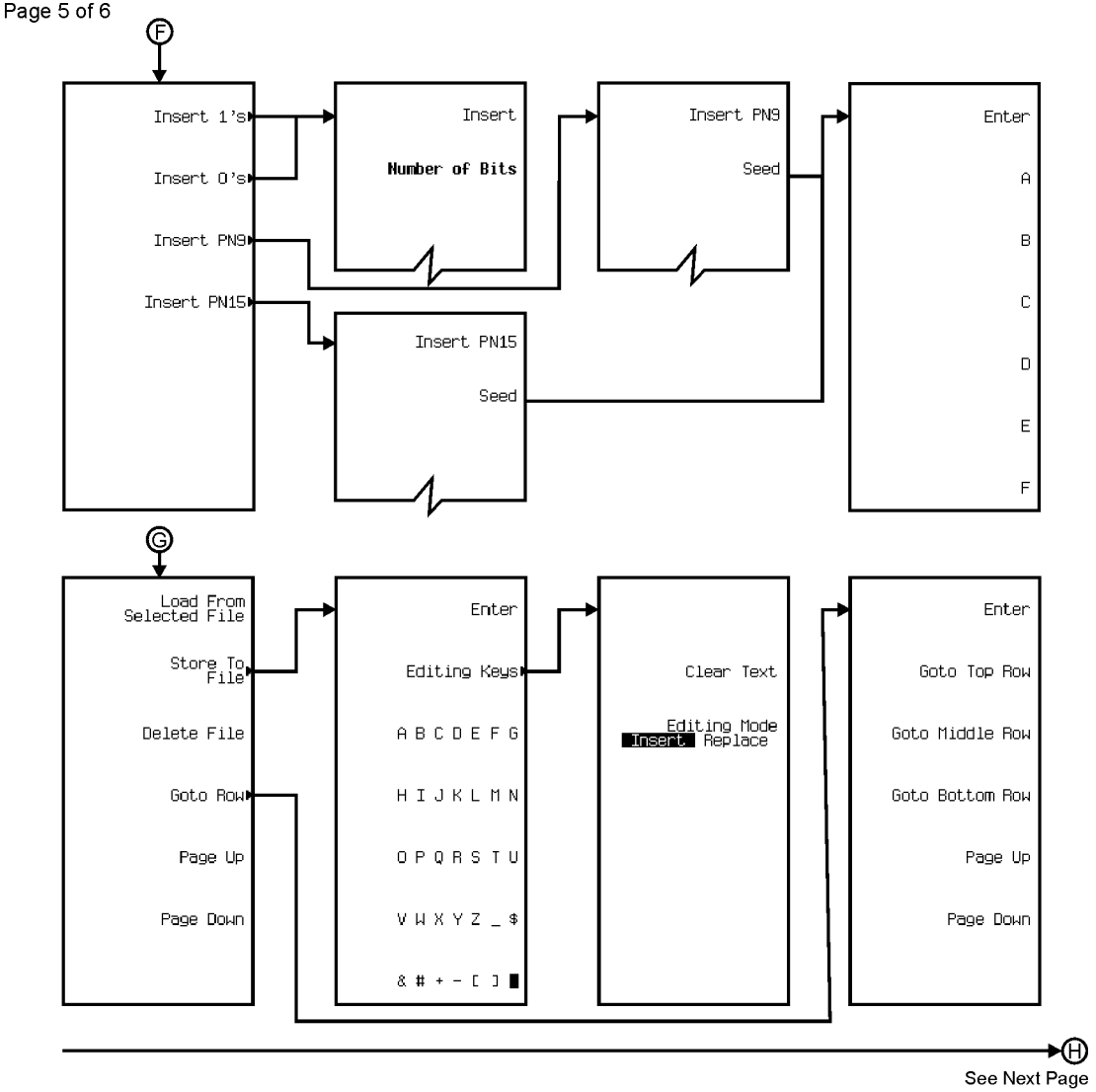


E and F
See Next Page

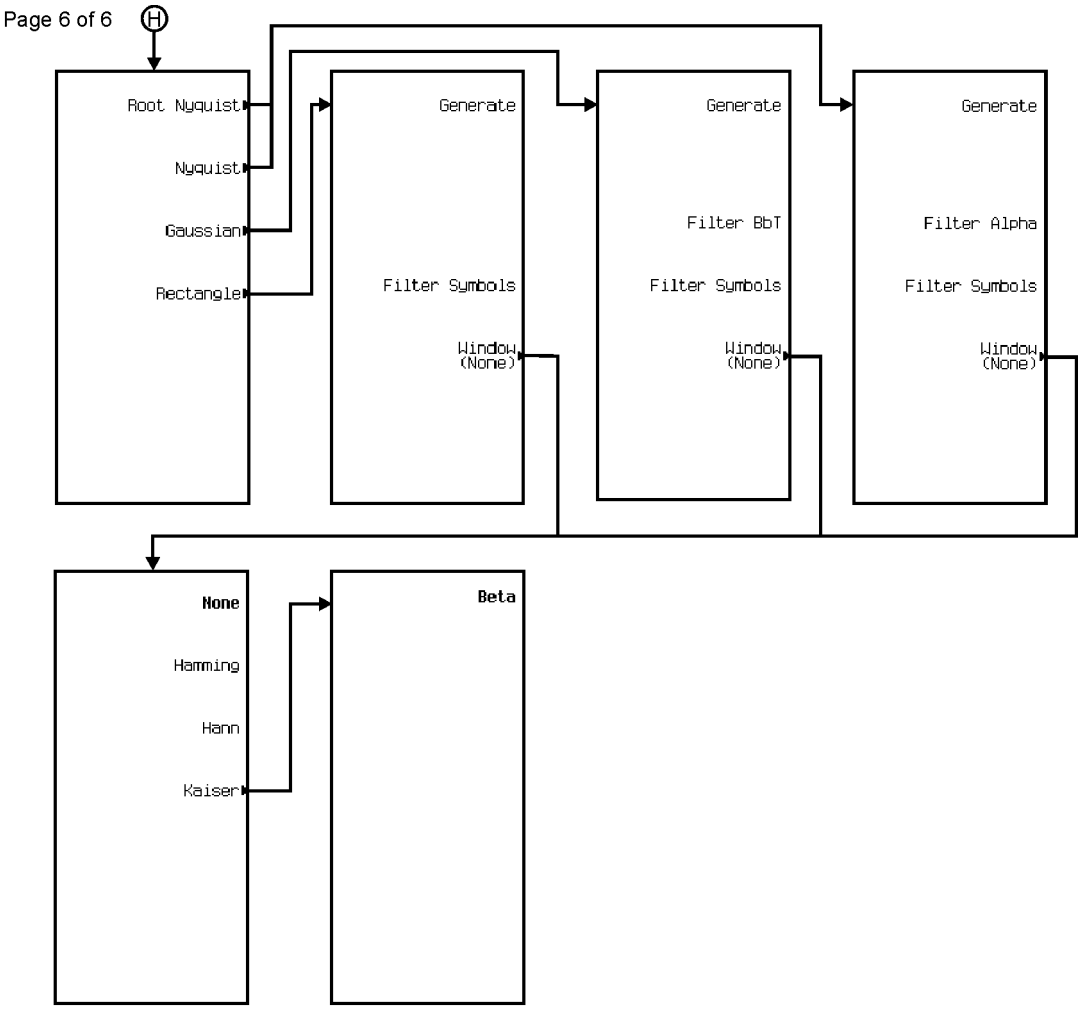
pk7198c


Page 4 of 6
E
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Coeff.
Value
Oversample Ratio: 4
0 0.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013594
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
G
Load Default FIR
H
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Rows
G and H
F
See Next Page
pk7199c

Page 5 of 6



pk7200c


Page 6 of 6
H
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta

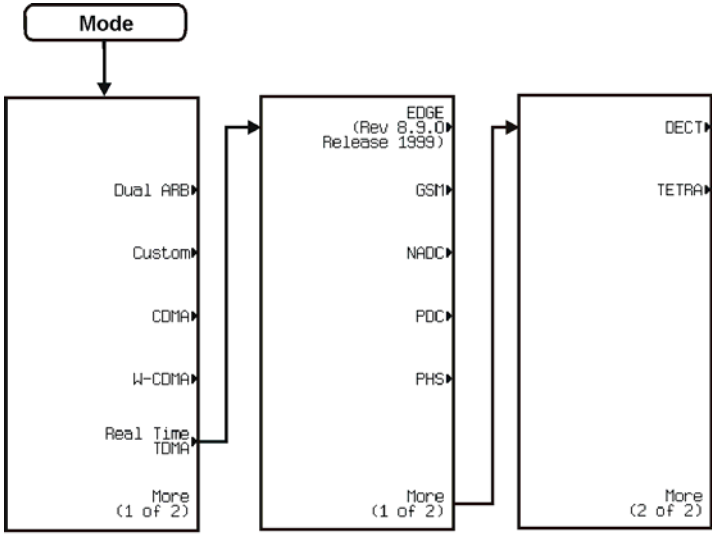
pk7201c

Real Time TDMA

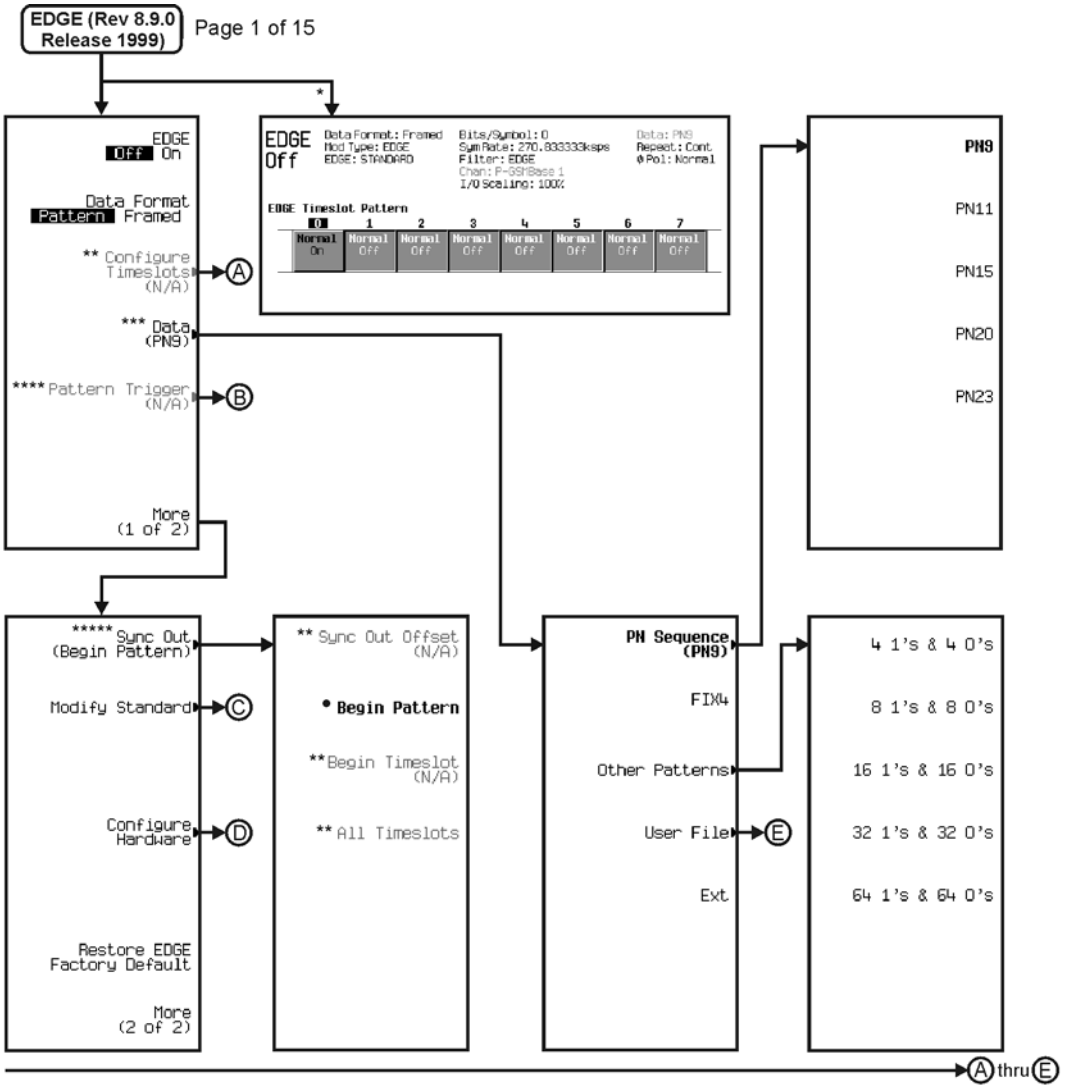
The Real Time TDMA personality is accessed by pressing the **Mode** hardkey.

The Real Time TDMA menu maps are split into seven sections:

- for EDGE (Rev 8.9.0 Release 1999) go to page M-103
- for GSM go to page M-118
- for NADC go to page M-134
- for PDC go to page M-150
- for PHS go to page M-166
- for DECT go to page M-182
- for TETRA go to page M-198

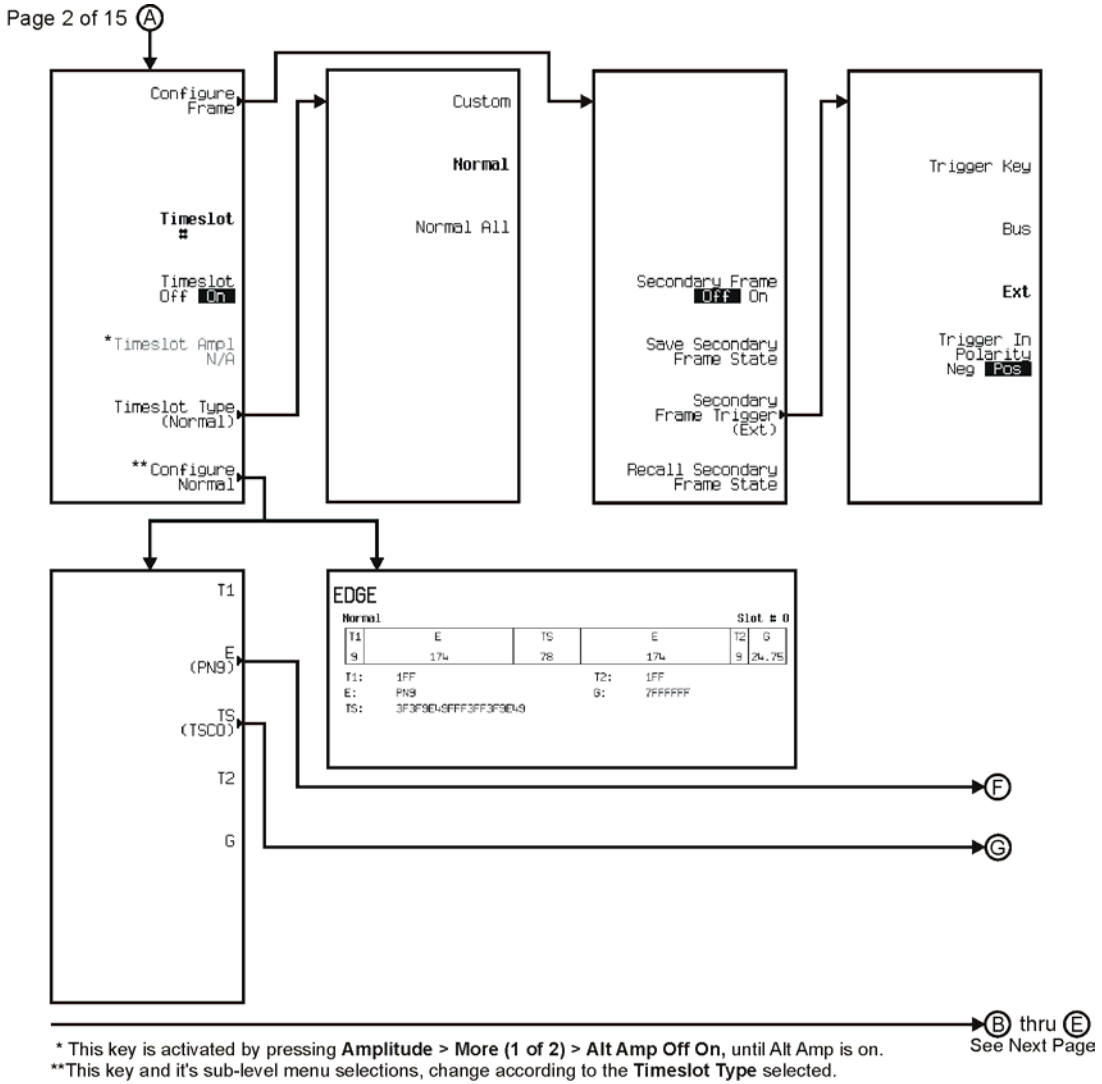


pk7194c



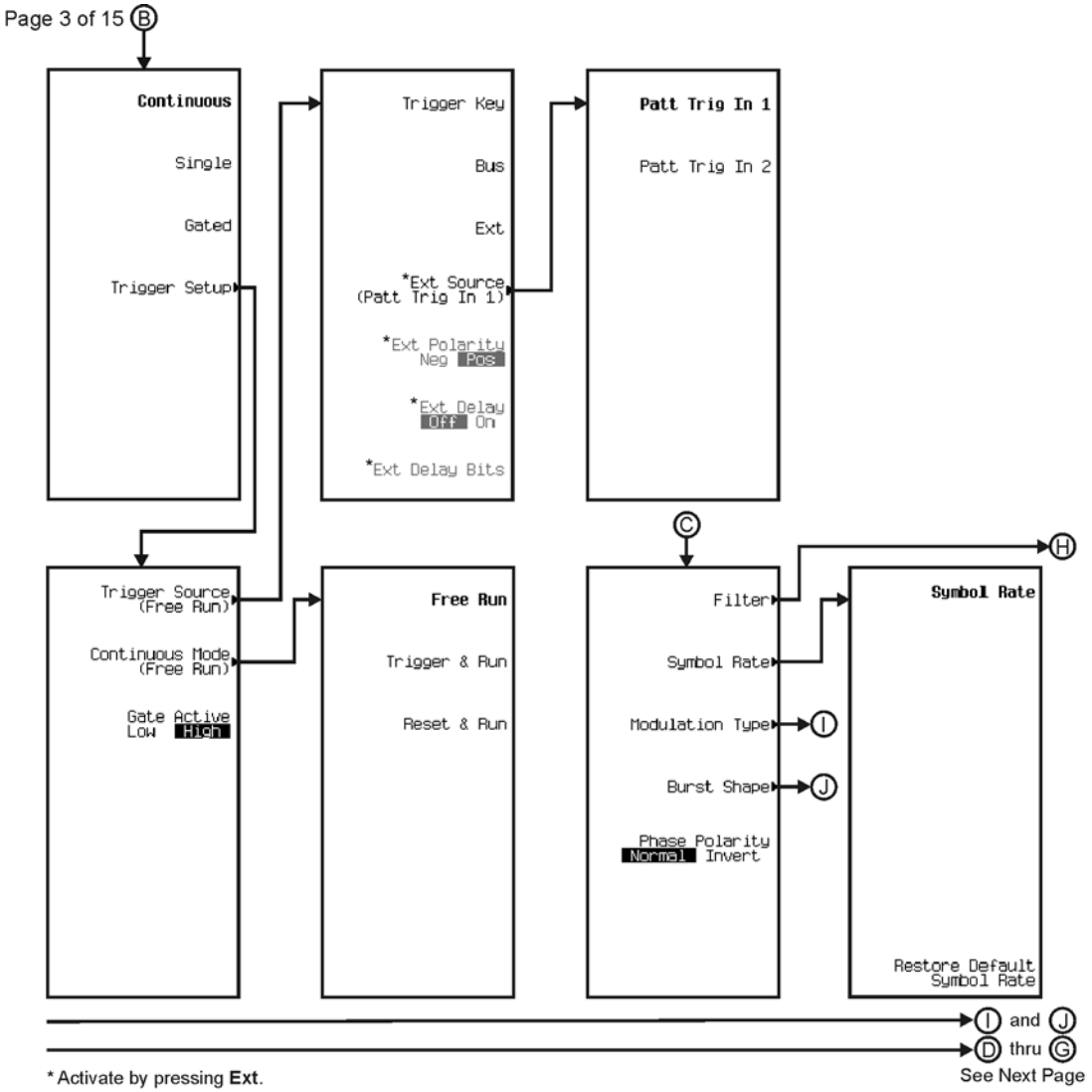
* Appears when the **Data Format Pattern Framed** softkey is set to Framed.
** Active when the **Data Format Pattern Framed** softkey is set to Framed.
*** Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
**** Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
***** Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
• Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

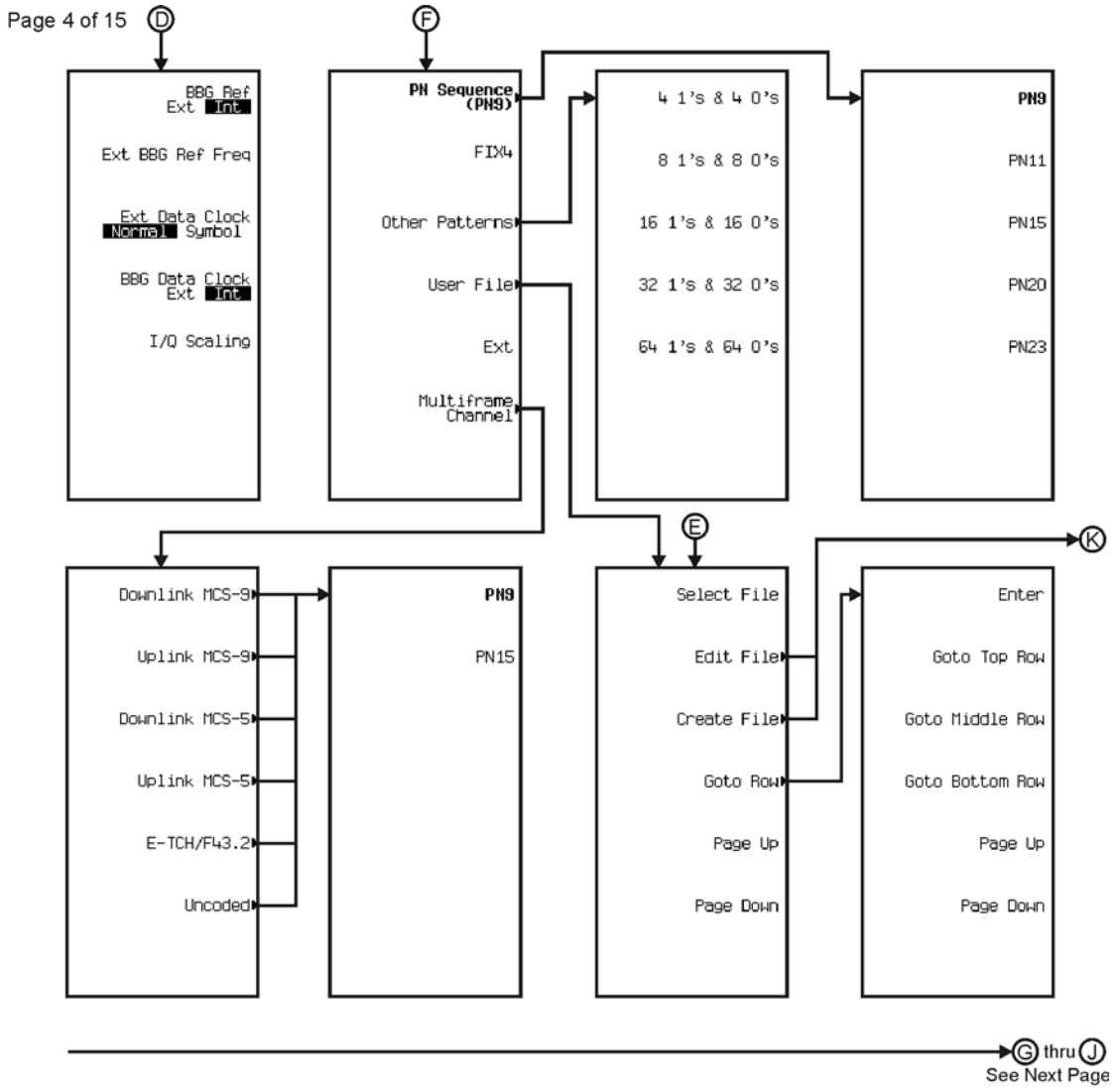
pk7109c



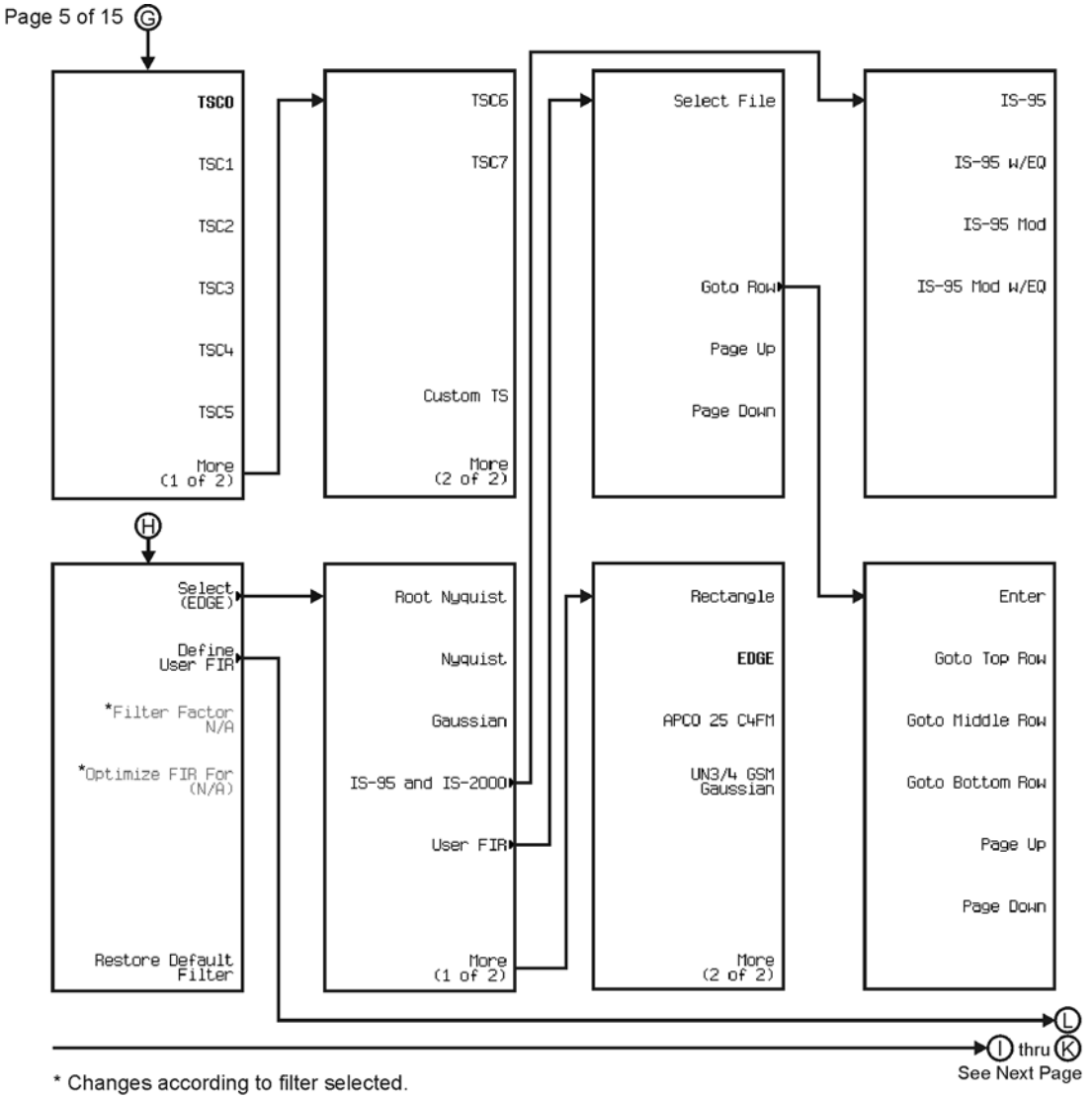
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On,** until Alt Amp is on.
This key and it's sub-level menu selections, change according to the **Timeslot Type selected.

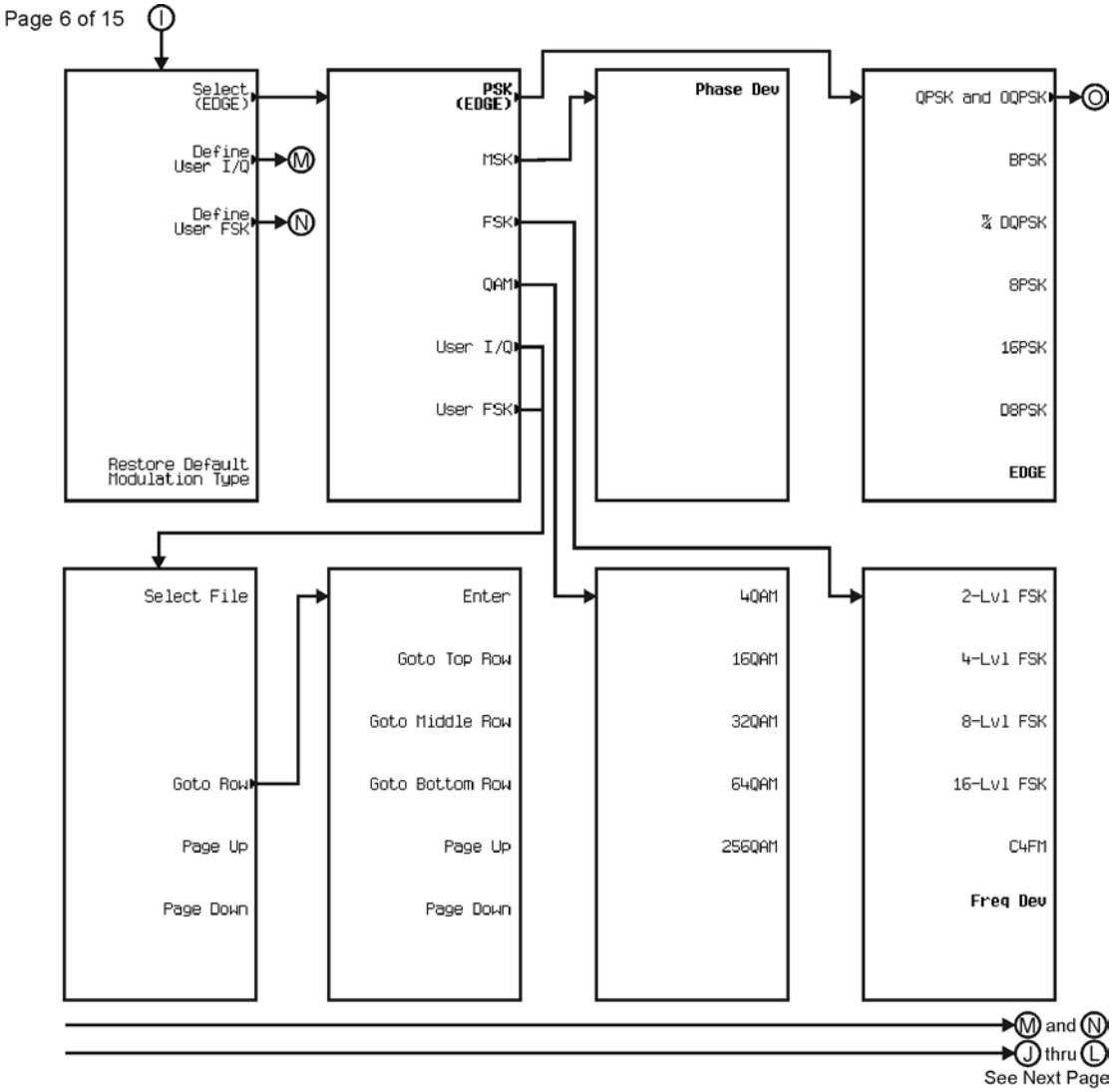
pk7110c


Page 3 of 15 B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
Trigger Source (Free Run)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
C
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
H
Symbol Rate
Restore Default Symbol Rate
I and J
D thru G
* Activate by pressing Ext.
See Next Page
pk7111c

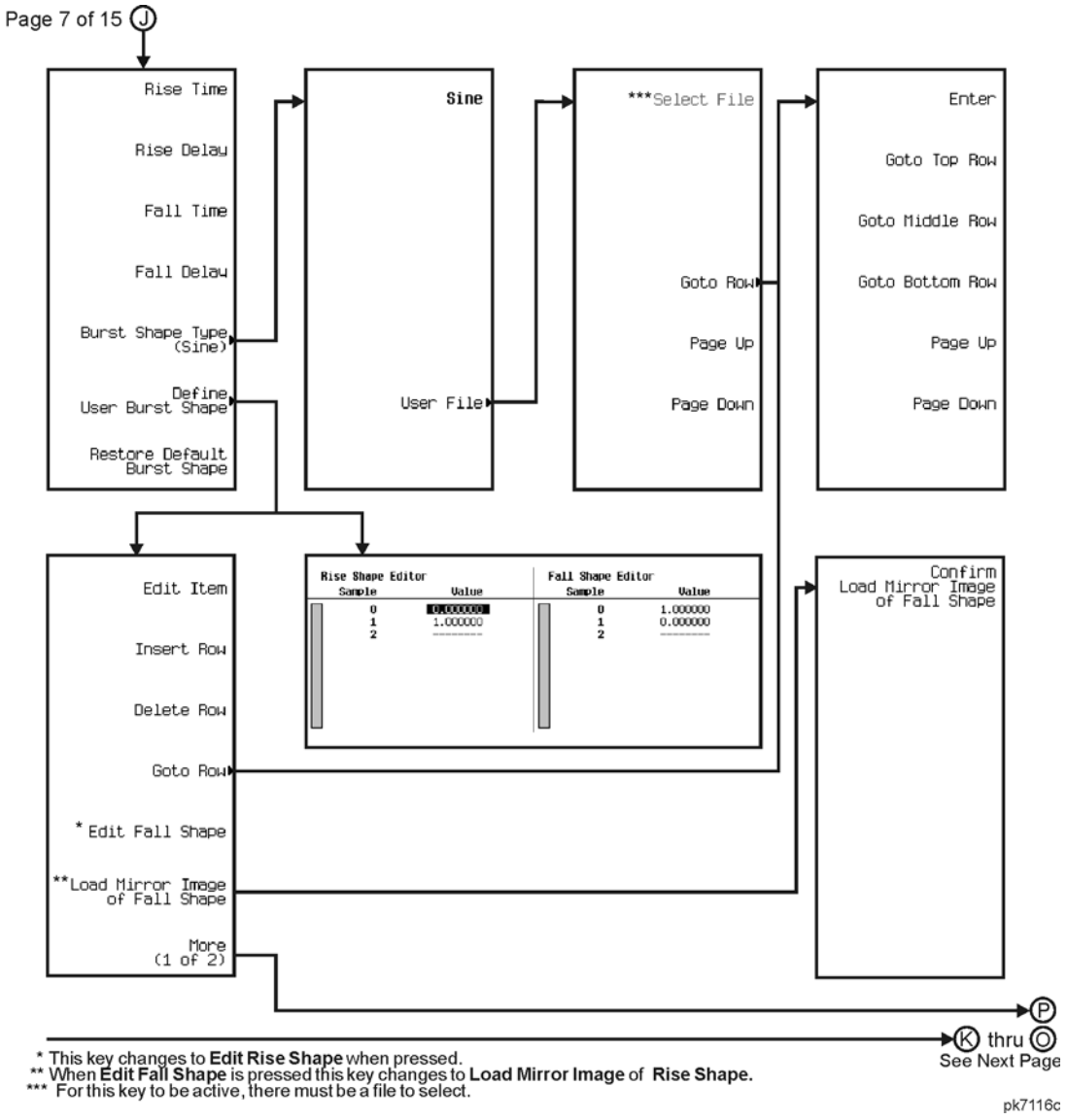

Page 4 of 15
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence (PN9)
FIX4
Other Patterns
User File
Ext
Multiframe Channel
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
Downlink MCS-9
Uplink MCS-9
Downlink MCS-5
Uplink MCS-5
E-TCH/F43.2
Uncoded
PN9
PN15
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
K
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
G thru J
See Next Page

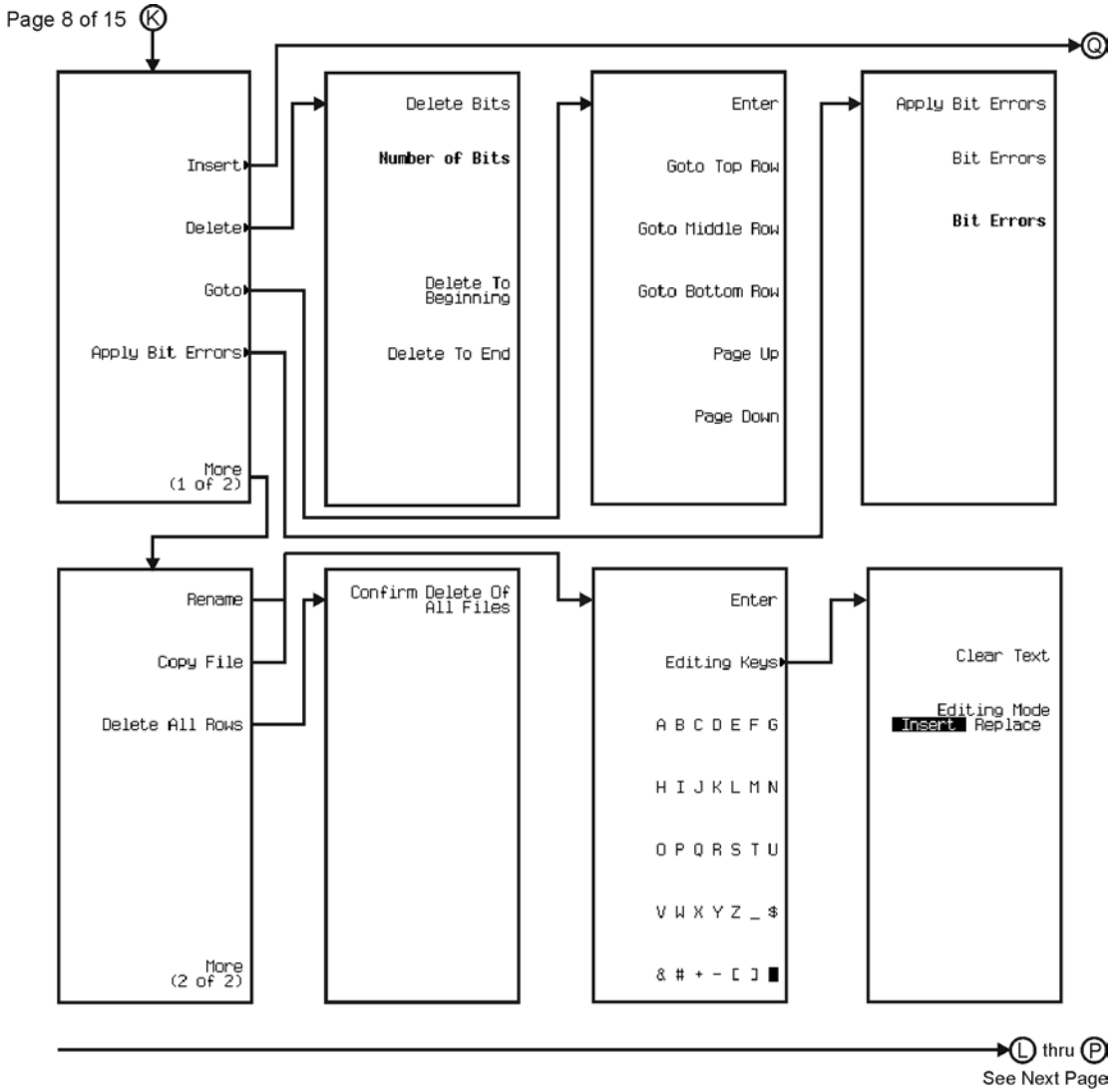
pk7112c

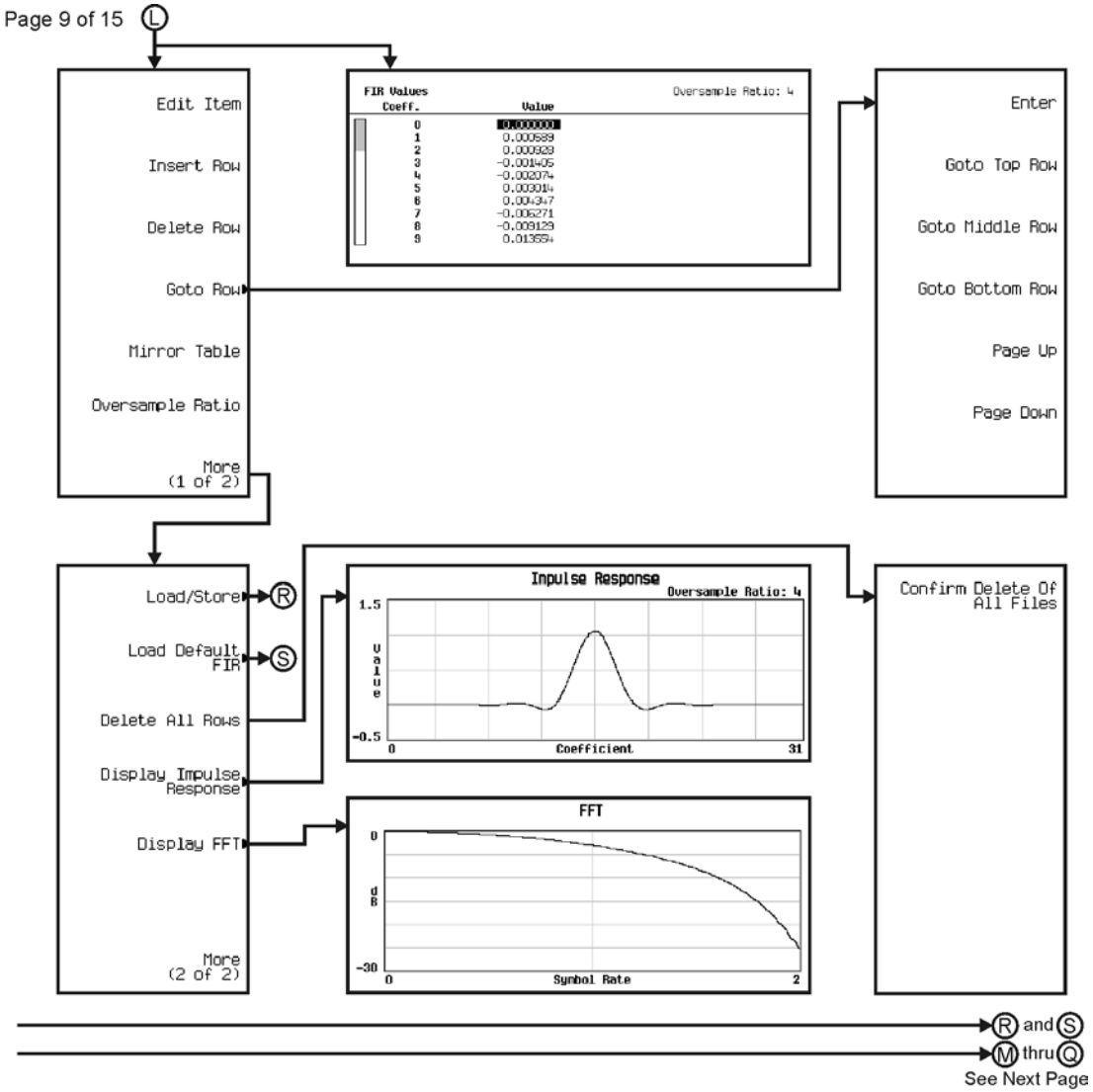

Page 5 of 15 G
TSC0
TSC1
TSC2
TSC3
TSC4
TSC5
More (1 of 2)
TSC6
TSC7
Custom TS
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
H
Select (EDGE)
Define User FIR
*Filter Factor N/A
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
Rectangle
EDGE
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
L
I thru K
See Next Page
* Changes according to filter selected.
pk7114c


Page 6 of 15
I
Select (EDGE)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (EDGE)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
EDGE
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
J thru L
See Next Page

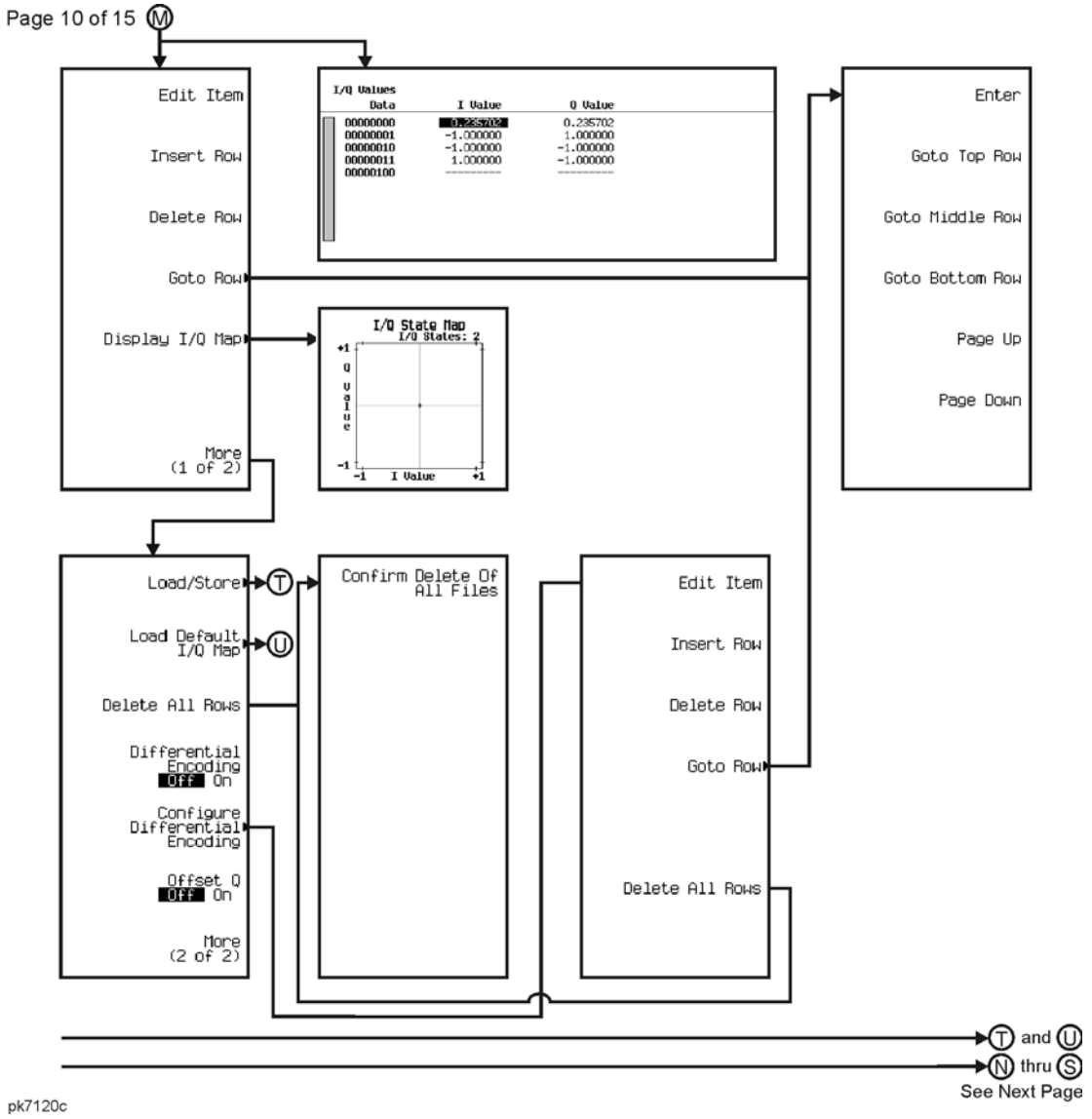
pk7115c

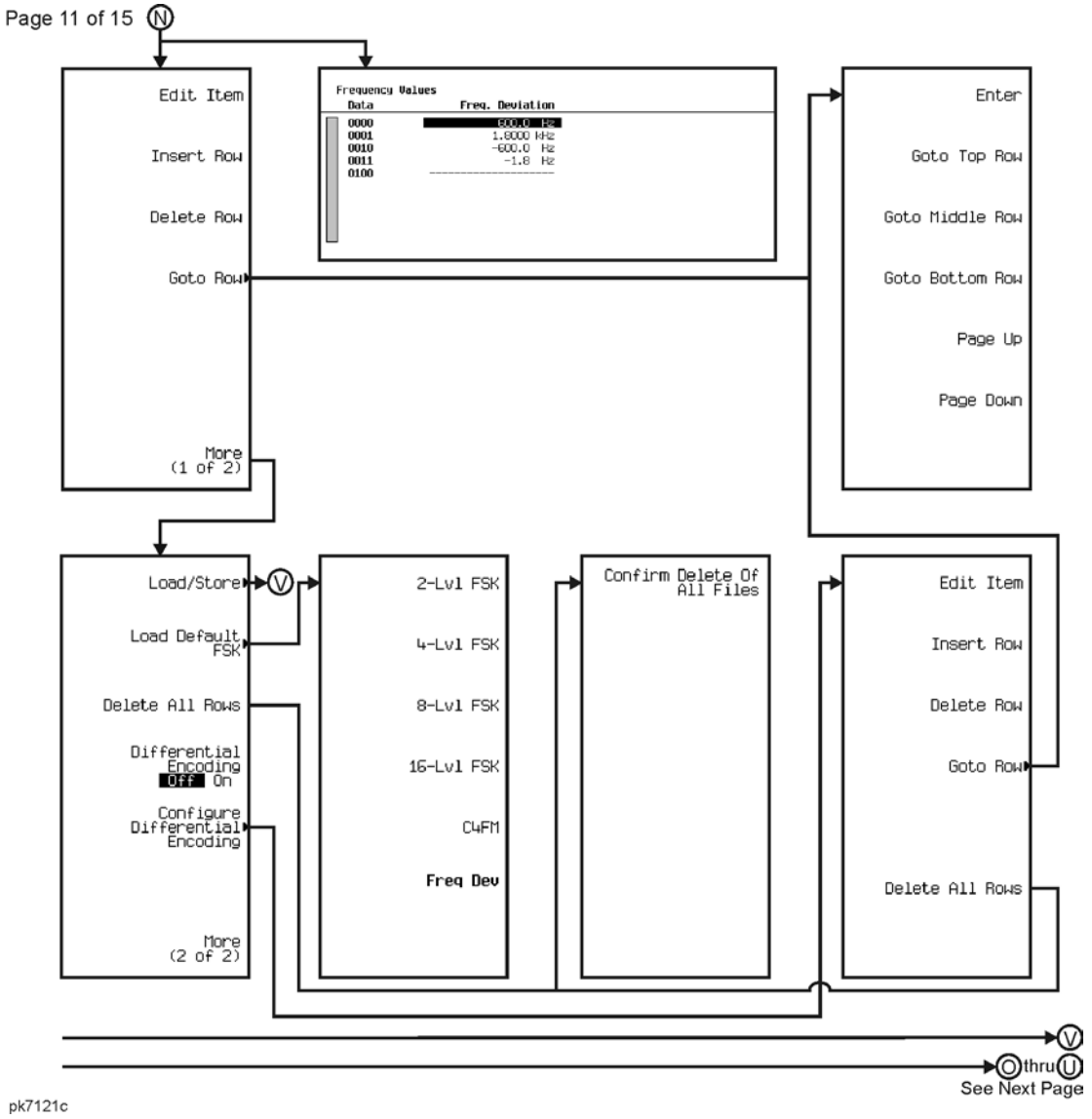

Page 7 of 15 J
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
* Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 1.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
K thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7116c


Page 8 of 15 K
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
L thru P
See Next Page
pk7117c

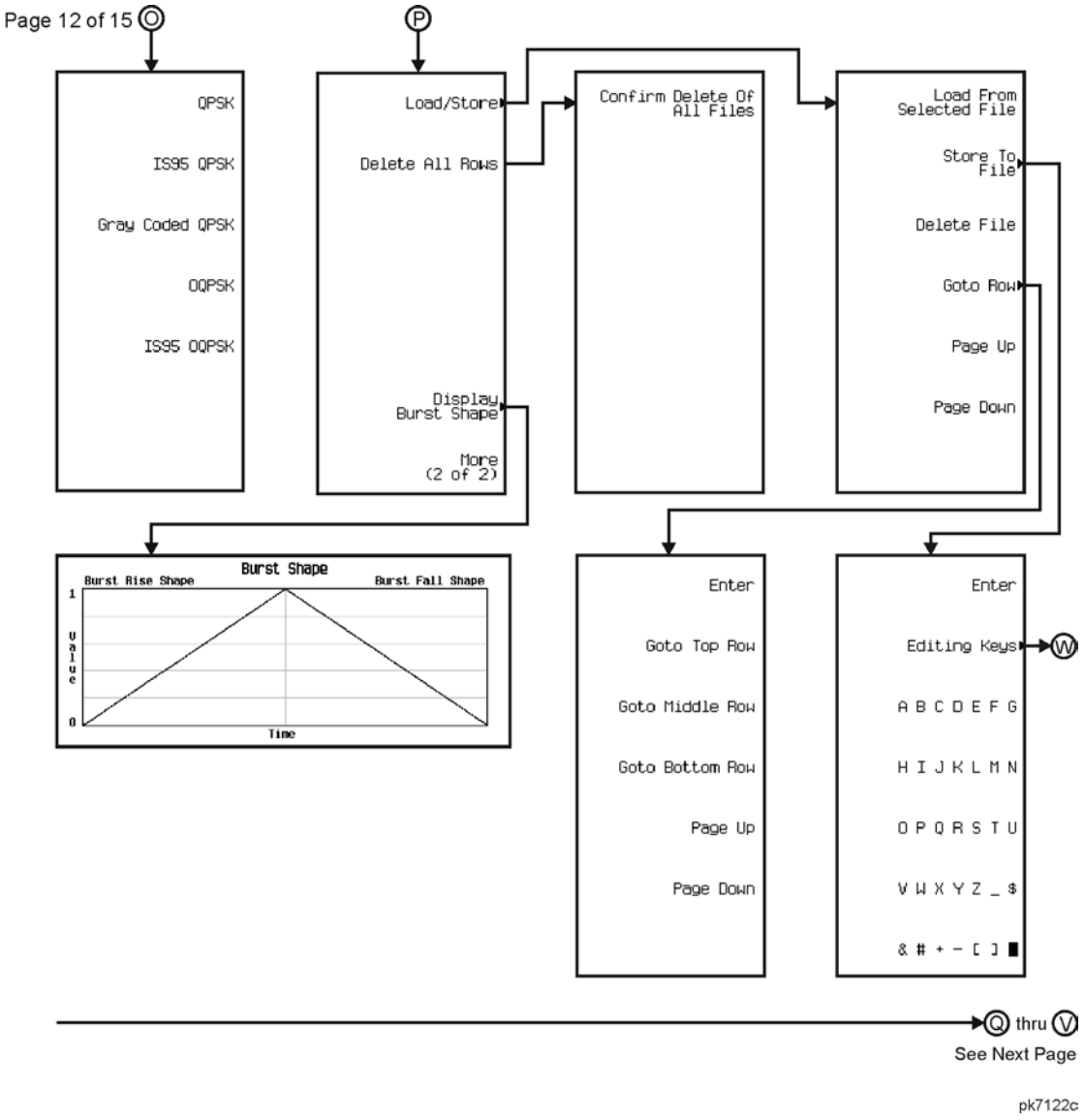

Page 9 of 15 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More (1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 0.000000
1 0.000589
2 0.000929
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store R
Load Default FIR S
Delete All Rows
Display Impulse Response
Display FFT
More (2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
R and S
M thru Q
See Next Page

pk7119c

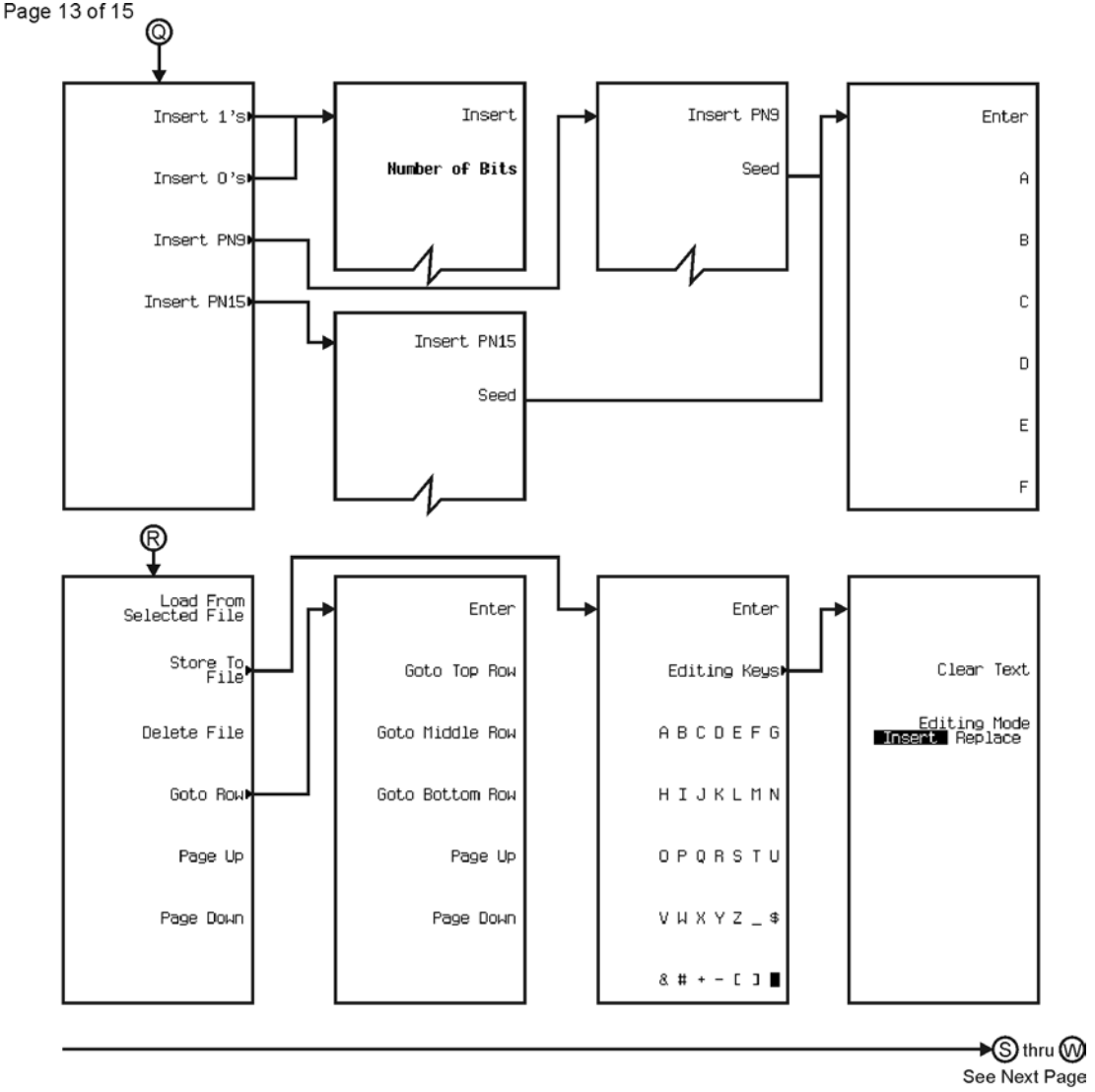

Page 10 of 15 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000
00000001
00000010
00000011
00000100
-1.000000
1.000000
-1.000000
1.000000
0.235702
1.000000
-1.000000
-1.000000
I/Q State Map
I/Q States: 2
+1
Q
u
a
l
u
e
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store T
Load Default
I/Q Map U
Delete All Rows
Differential
Encoding
Off On
Configure
Differential
Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of
All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
T and U
N thru S
See Next Page
pk7120c


Page 11 of 15 N
Edit Item
Insert Row
Delete Row
Goto Row
More (1 of 2)
Frequency Values
Data
Freq. Deviation
0000 600.0 Hz
0001 1.8000 kHz
0010 -600.0 Hz
0011 -1.8 kHz
0100
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store V
Load Default FSK
Delete All Rows
Differential Encoding Off On
Configure Differential Encoding
More (2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
V
O thru U
See Next Page

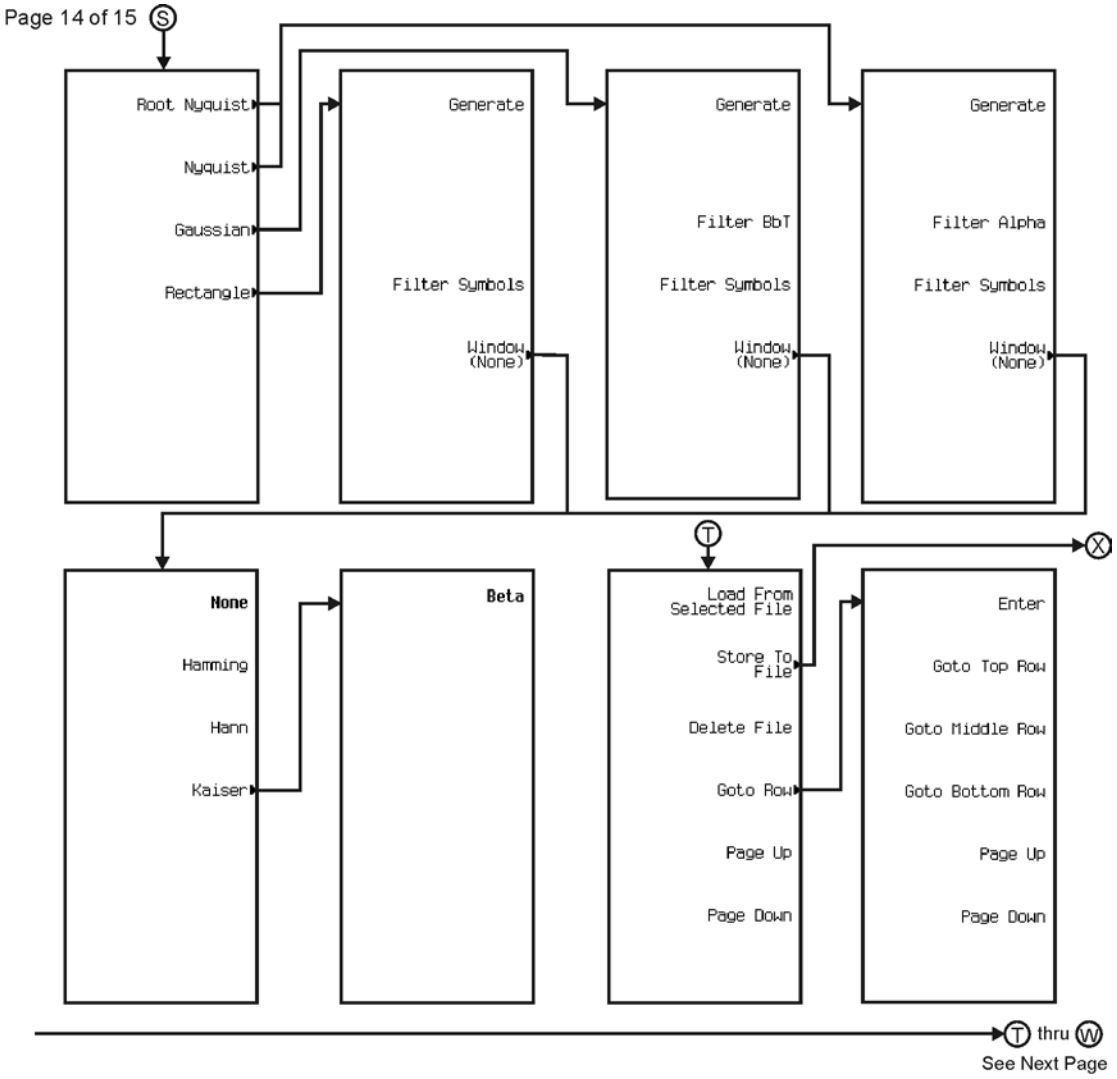
pk7121c


Page 12 of 15 O
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
P
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
W
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru V
See Next Page
pk7122c

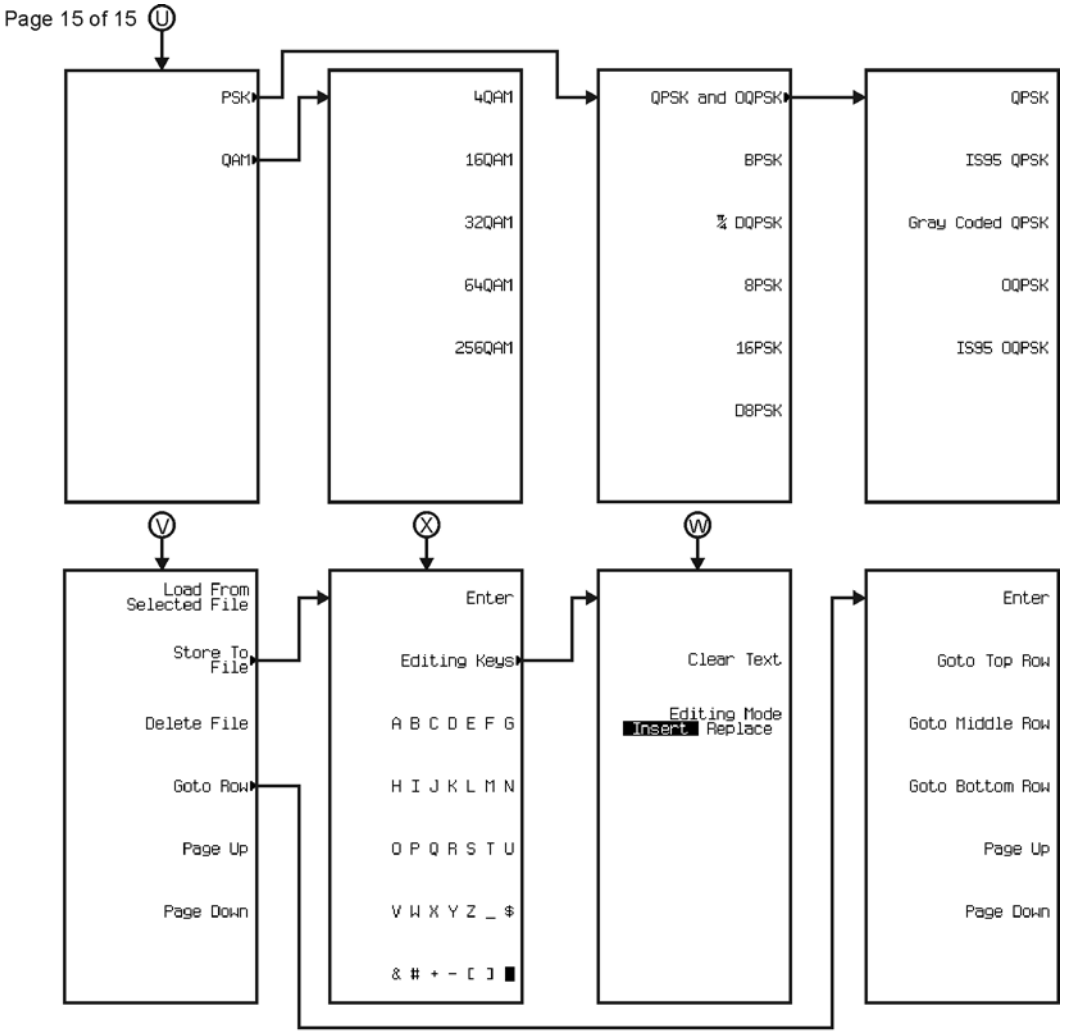
Page 13 of 15



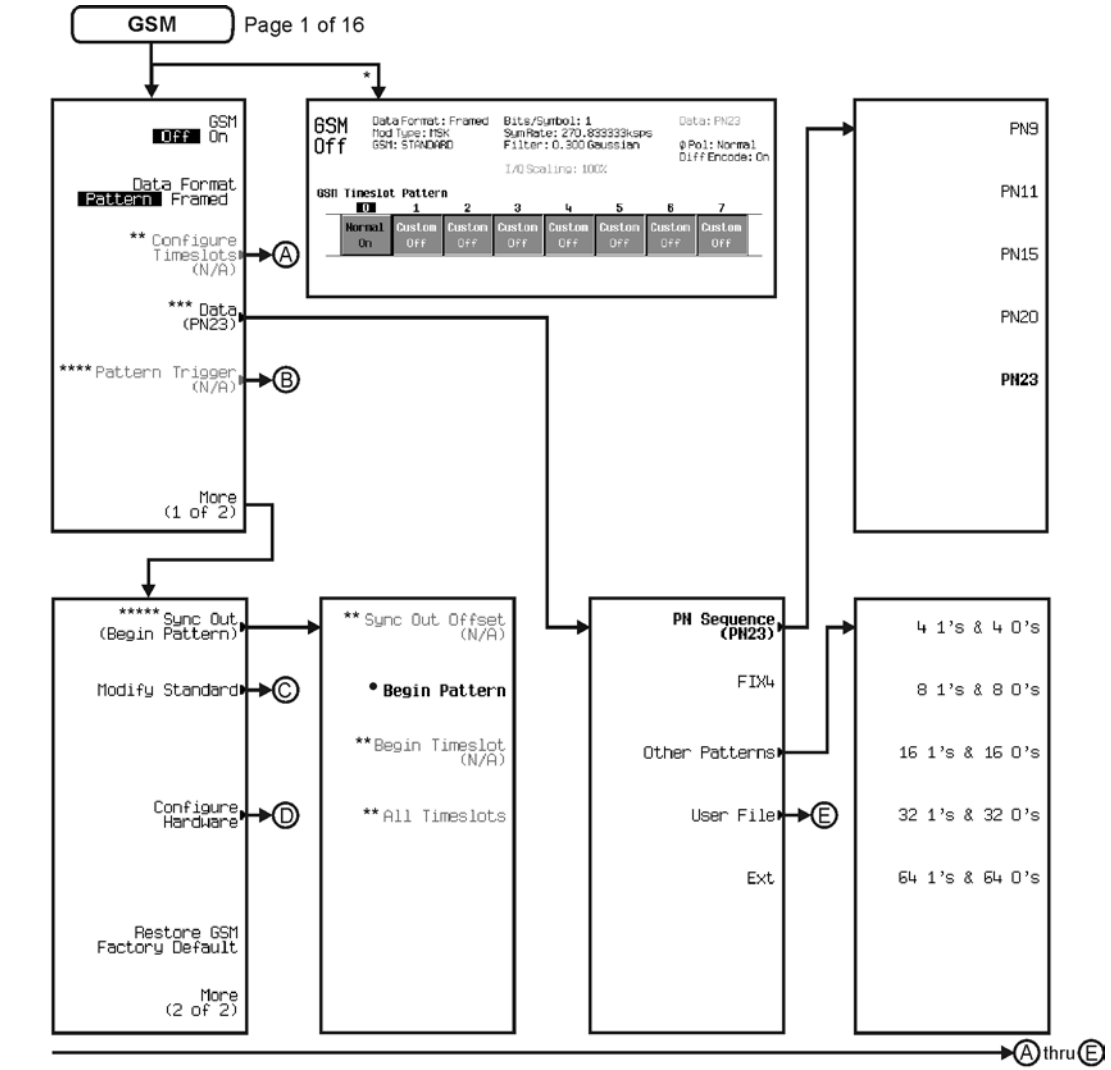
pk7123c


Page 14 of 15 S
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
T
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
X
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru W
See Next Page

pk7124c

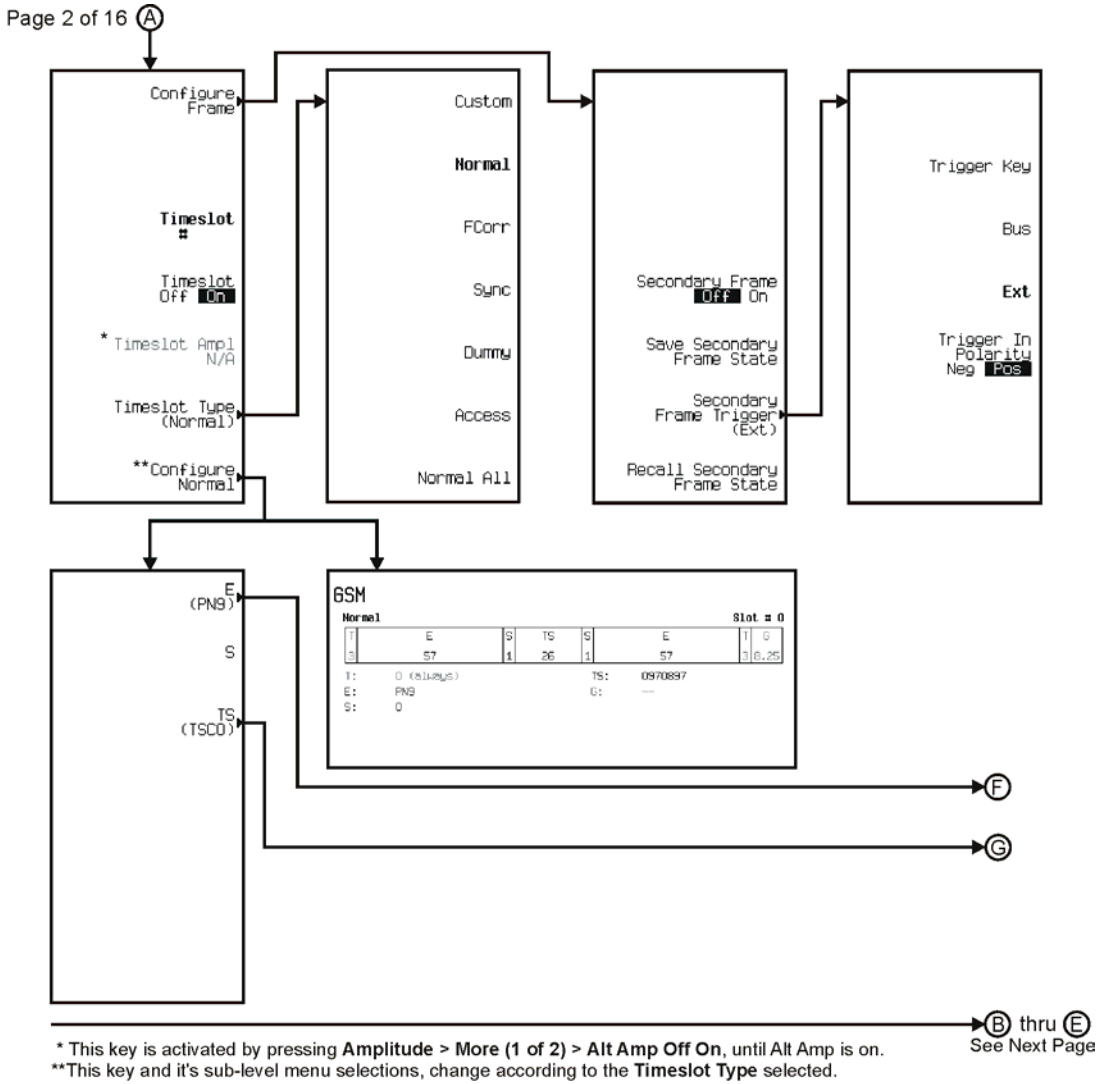

Page 15 of 15 U
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
V
X
W
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7125c



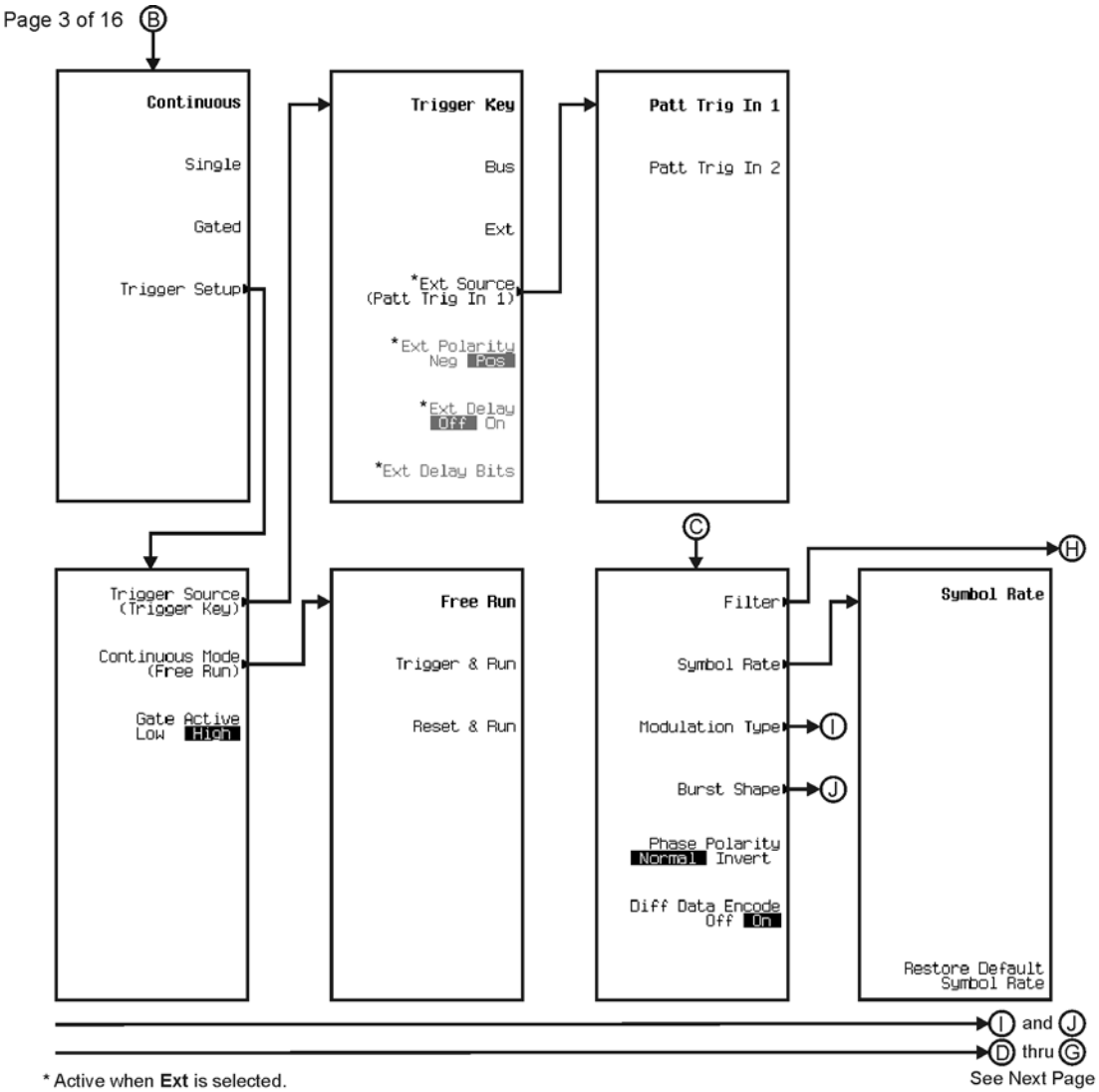
* Appears when the **Data Format Pattern Framed** softkey is set to Framed.
** Active when the **Data Format Pattern Framed** softkey is set to Framed.
*** Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
**** Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
***** Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
• Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

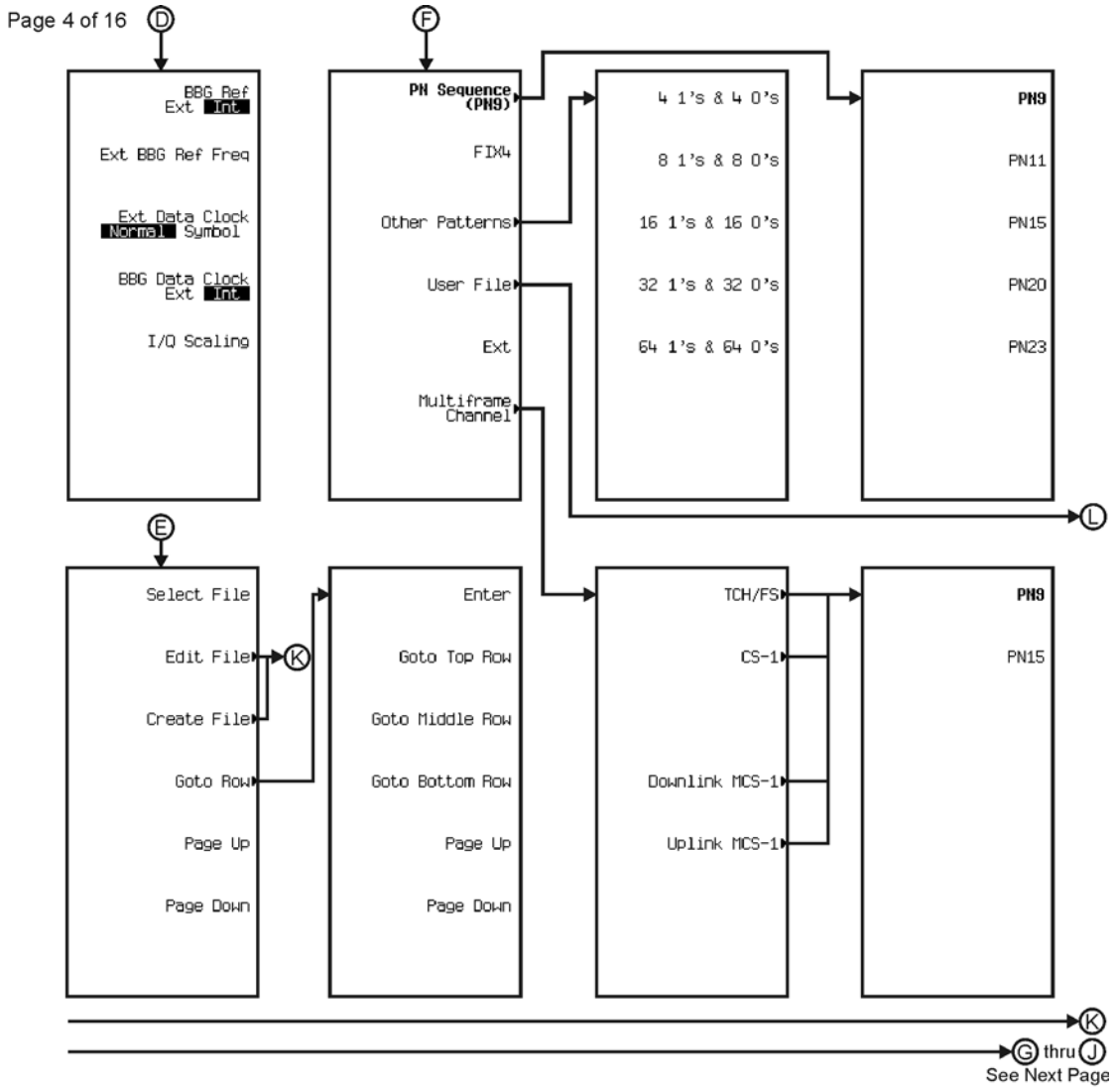
pk7126c



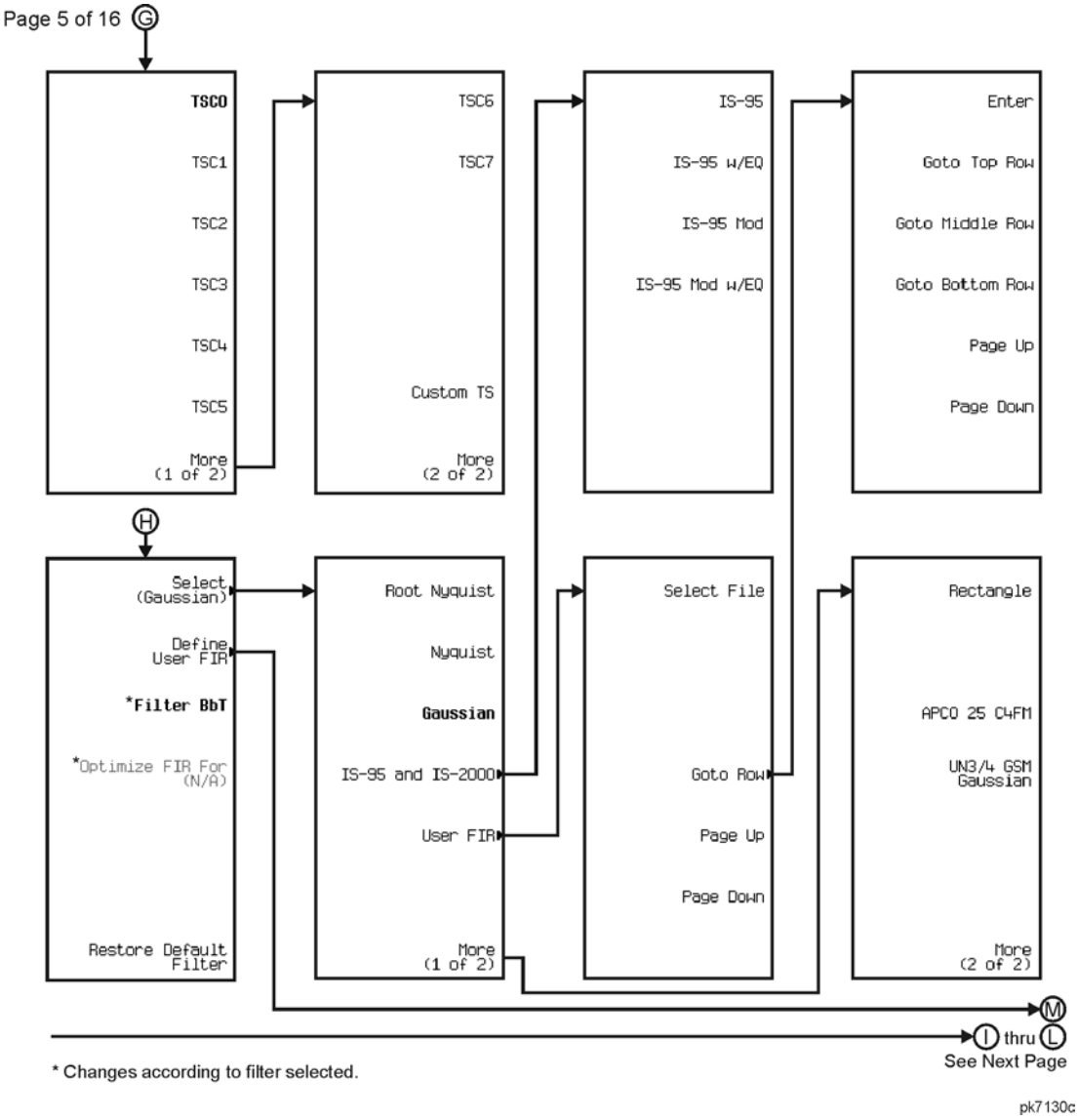
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
This key and it's sub-level menu selections, change according to the **Timeslot Type selected.

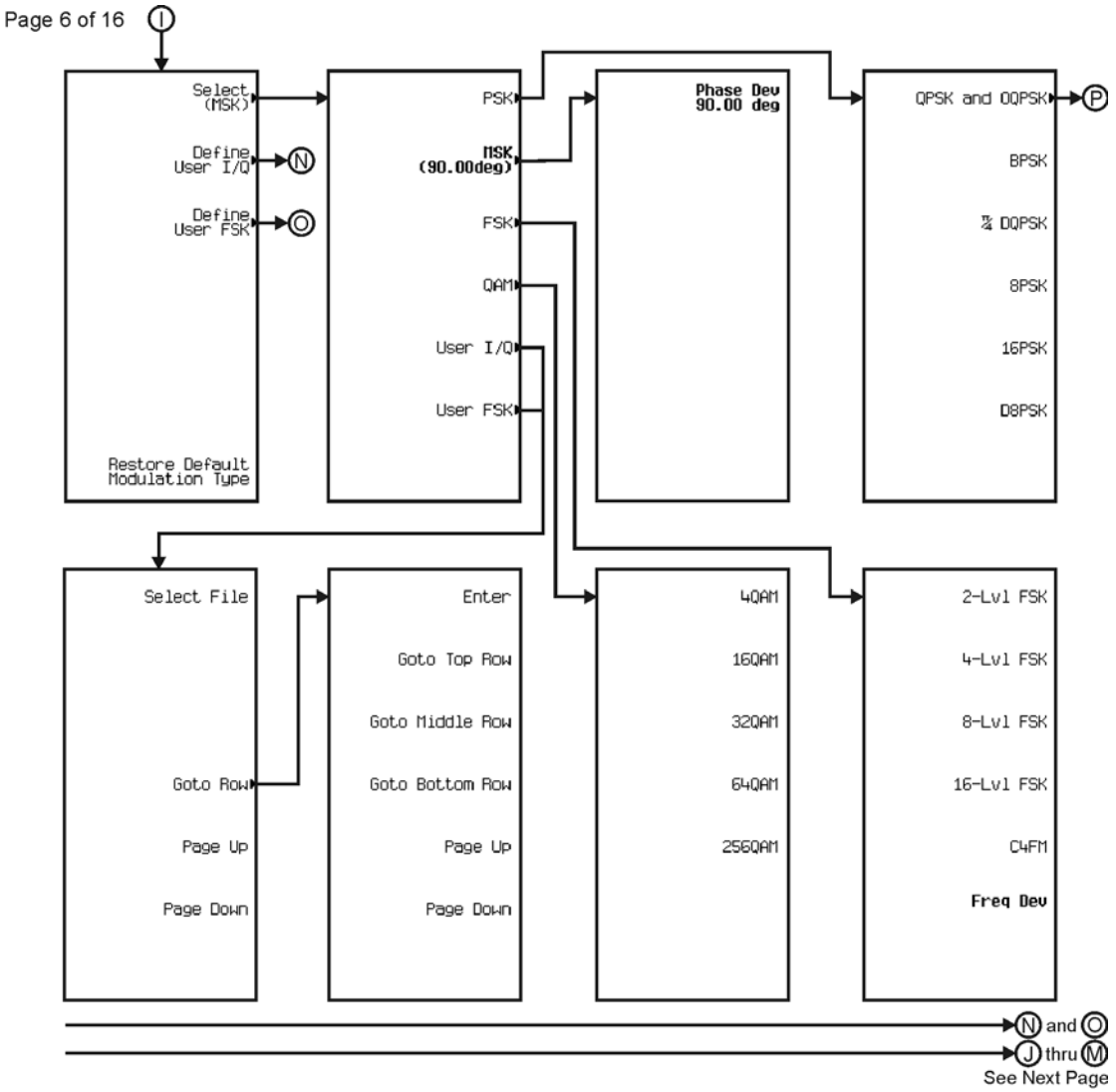
pk7127c


Page 3 of 16 B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
H
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
Diff Data Encode Off On
Symbol Rate
Restore Default Symbol Rate
I and J
D thru G
* Active when Ext is selected.
See Next Page
pk7128c

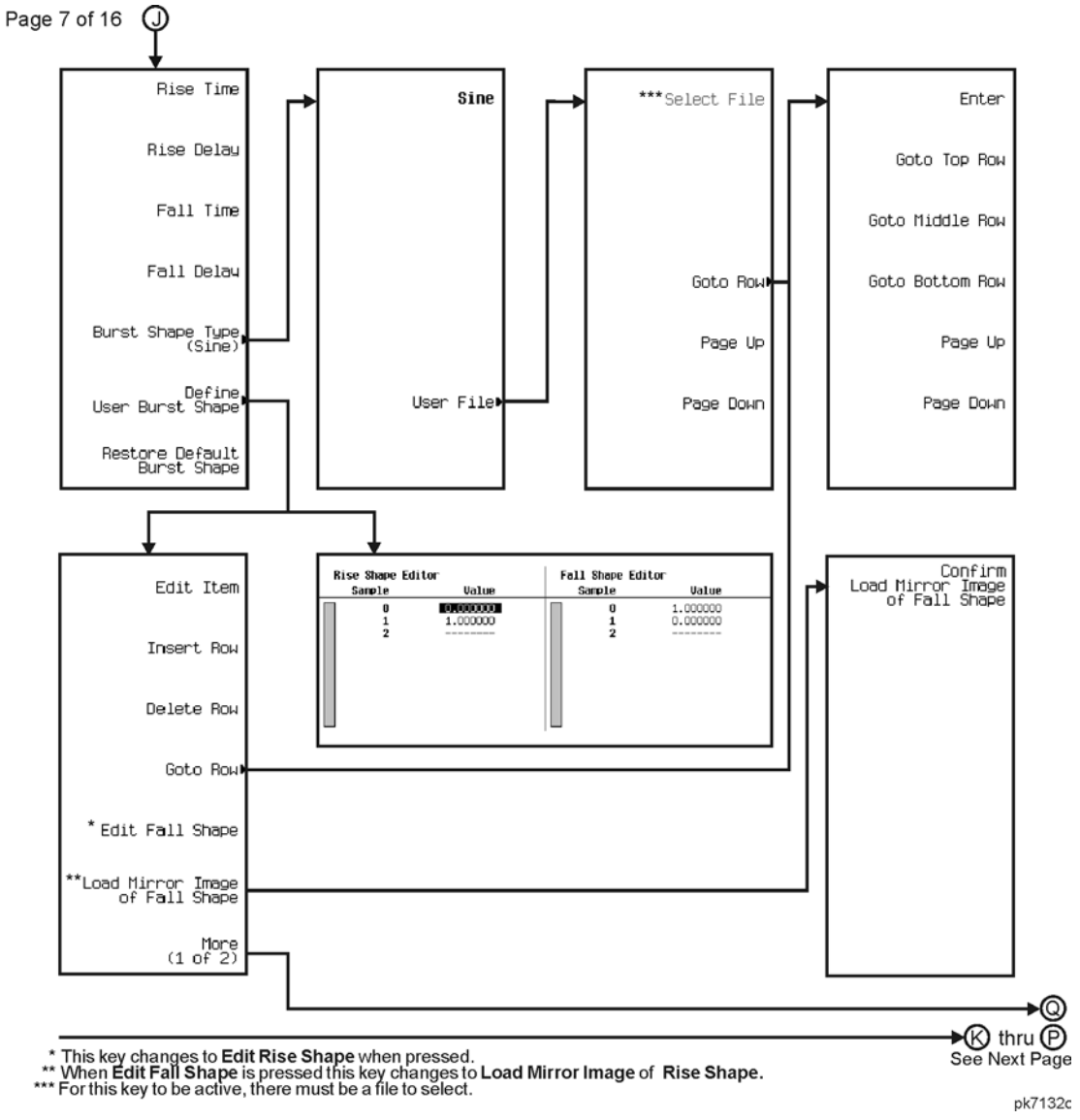

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence (PN9)
FIX4
Other Patterns
User File
Ext
Multiframe Channel
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
L
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
K
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
TCH/FS
CS-1
Downlink MCS-1
Uplink MCS-1
PN9
PN15
K
G thru J
See Next Page

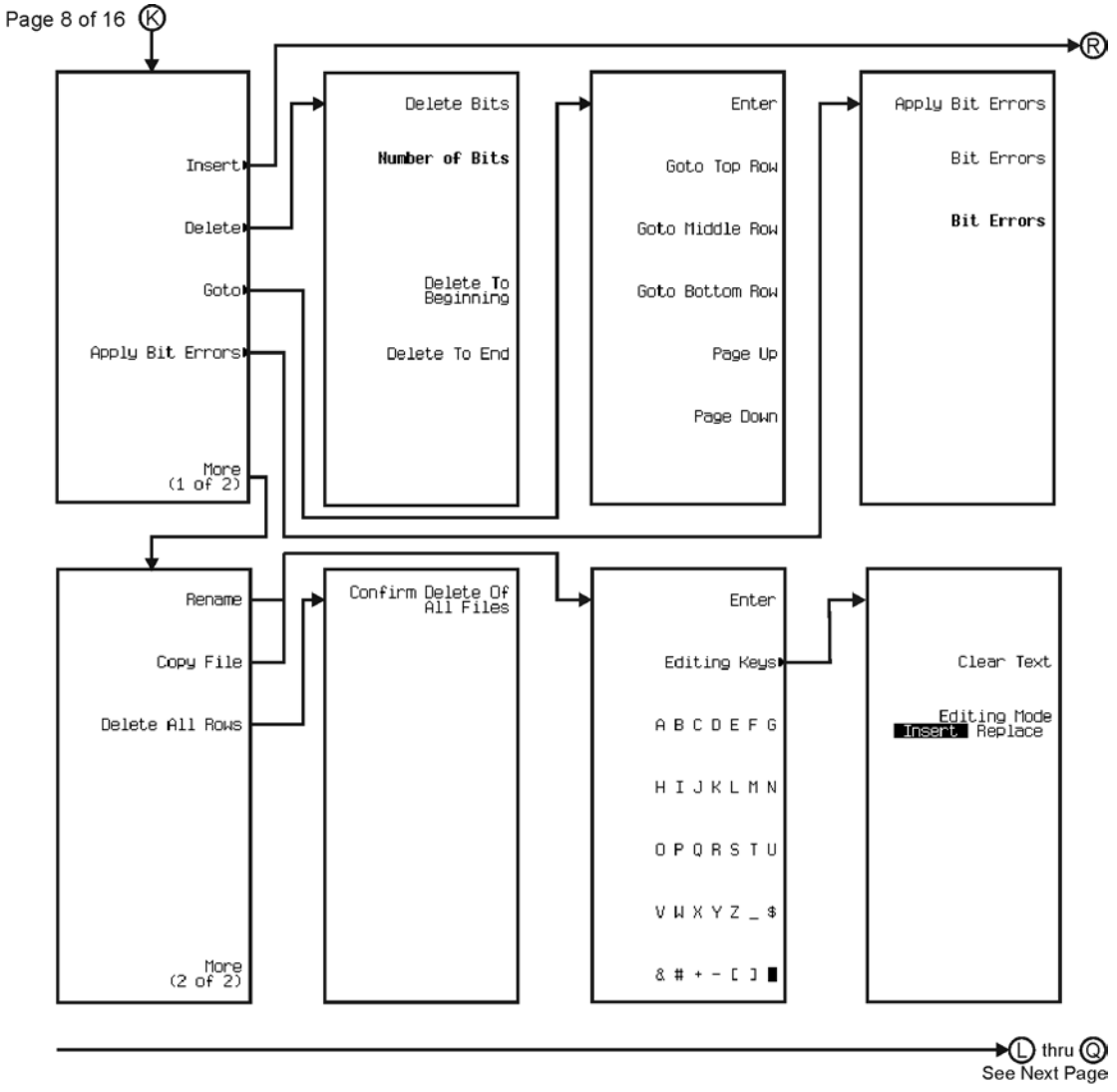
pk7129c


Page 5 of 16 G
TSC0
TSC1
TSC2
TSC3
TSC4
TSC5
More (1 of 2)
TSC6
TSC7
Custom TS
More (2 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
H
Select (Gaussian)
Define User FIR
*Filter BbT
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
Select File
Goto Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
M
I thru L
See Next Page
* Changes according to filter selected.
pk7130c

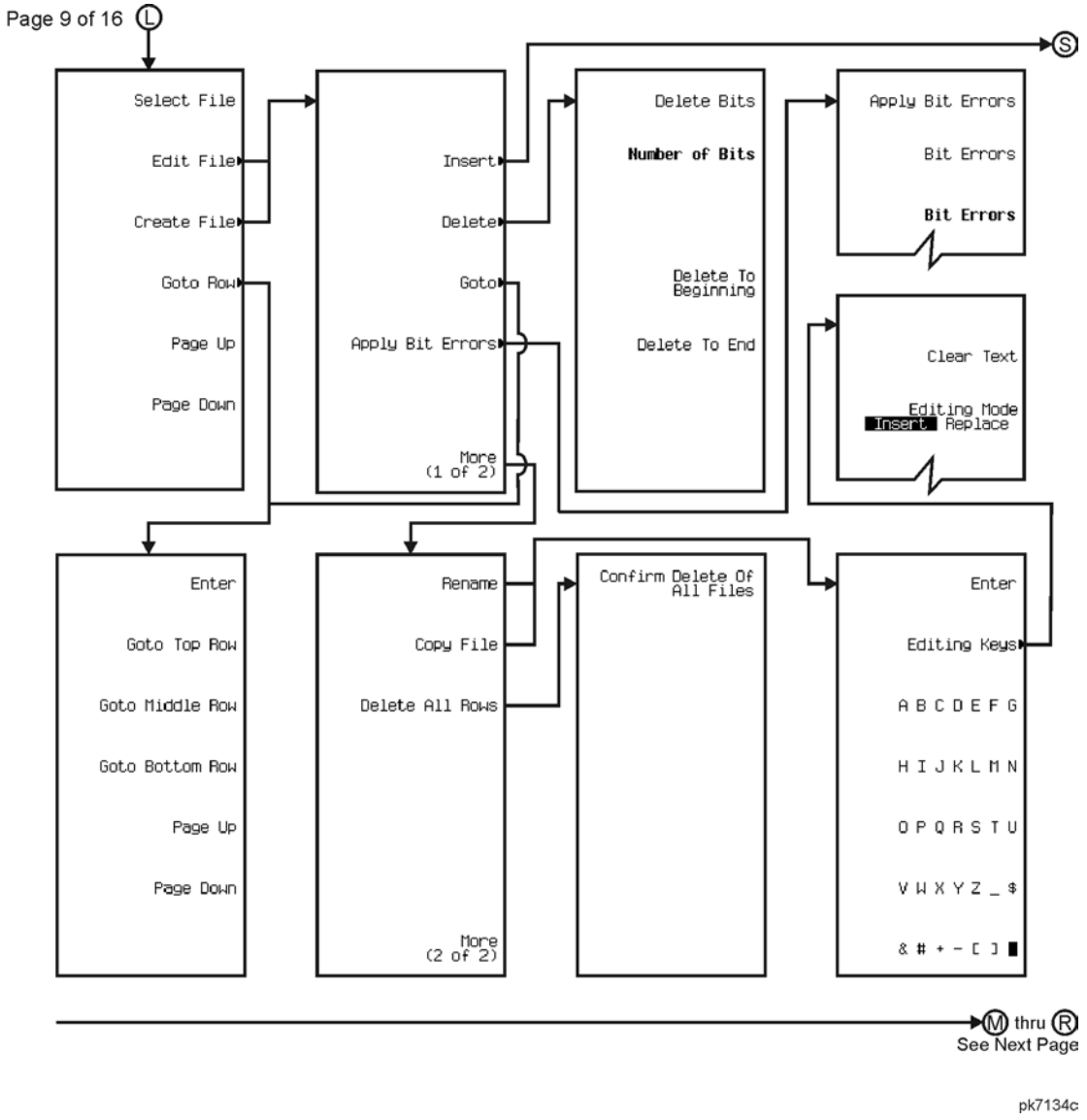

Page 6 of 16
I
Select (MSK)
Define User I/Q
N
Define User FSK
O
Restore Default Modulation Type
PSK
MSK (90.00deg)
FSK
QAM
User I/Q
User FSK
Phase Dev 90.00 deg
QPSK and OQPSK
P
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
N and O
J thru M
See Next Page

pk7131c

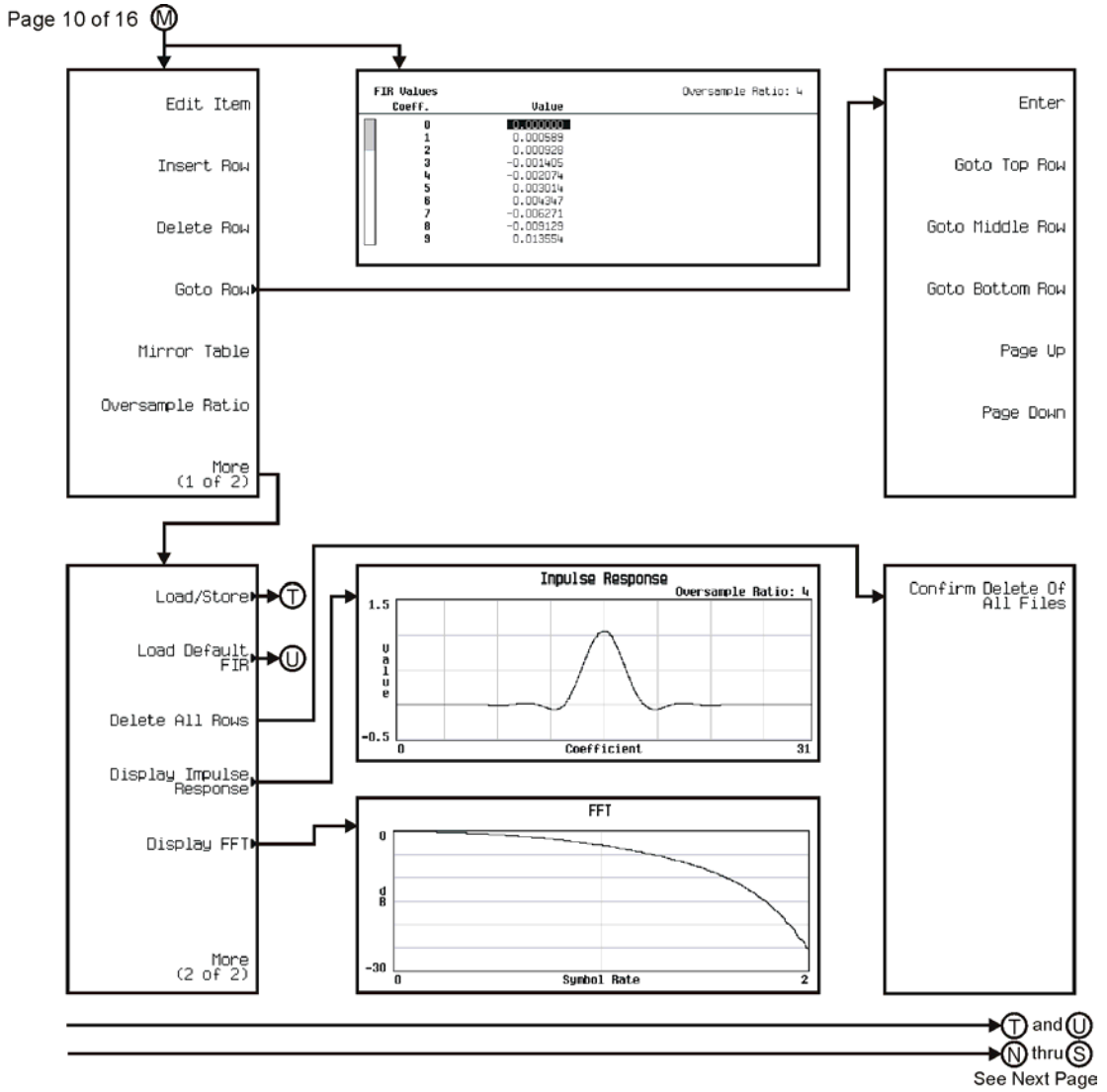

Page 7 of 16
J
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0
1
2
1.000000
Fall Shape Editor
Sample
Value
0
1
2
1.000000
0.000000
Confirm Load Mirror Image of Fall Shape
Q
K thru P
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7132c


Page 8 of 16 K
R
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
L thru Q
See Next Page

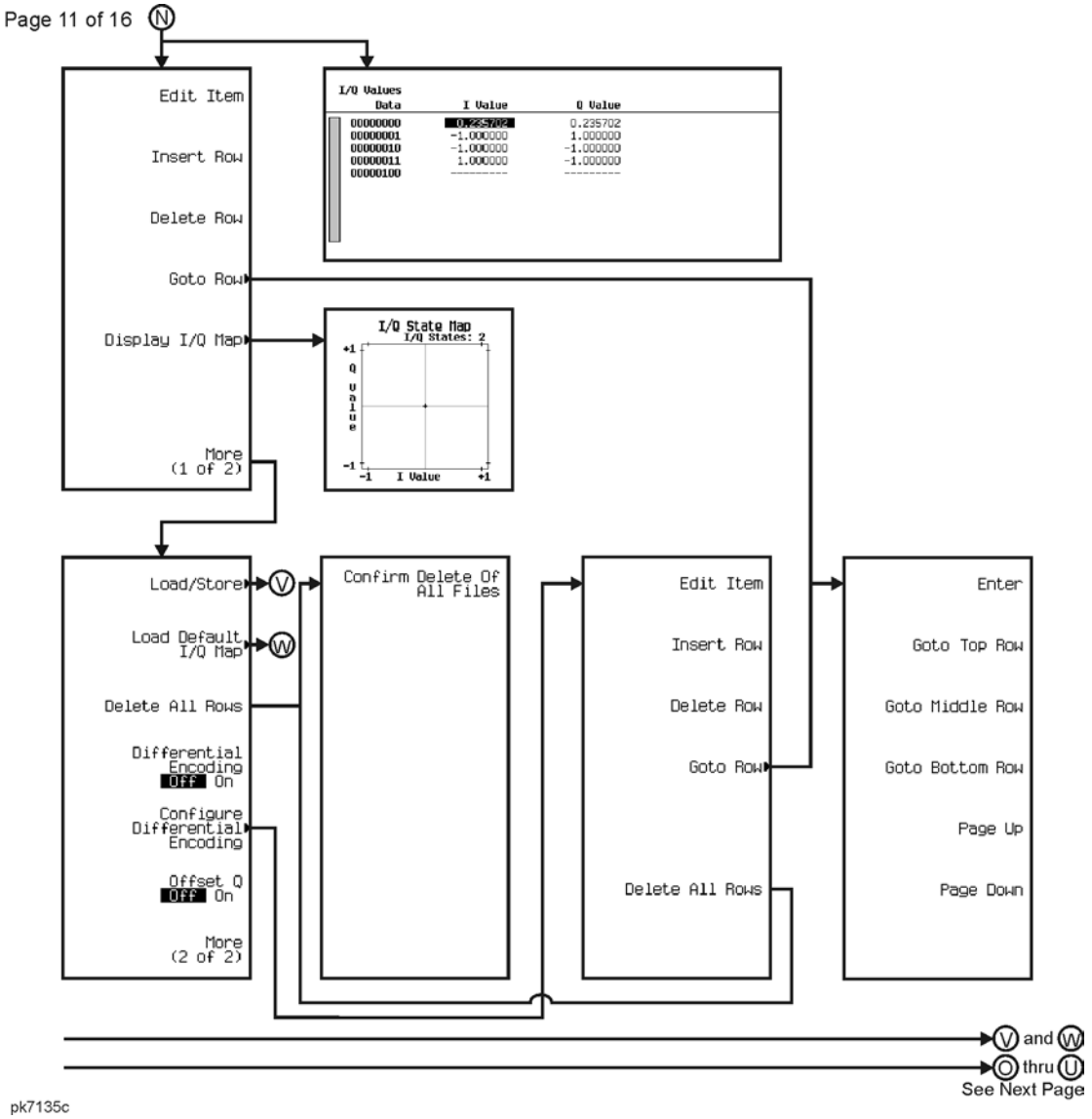
pk7133c

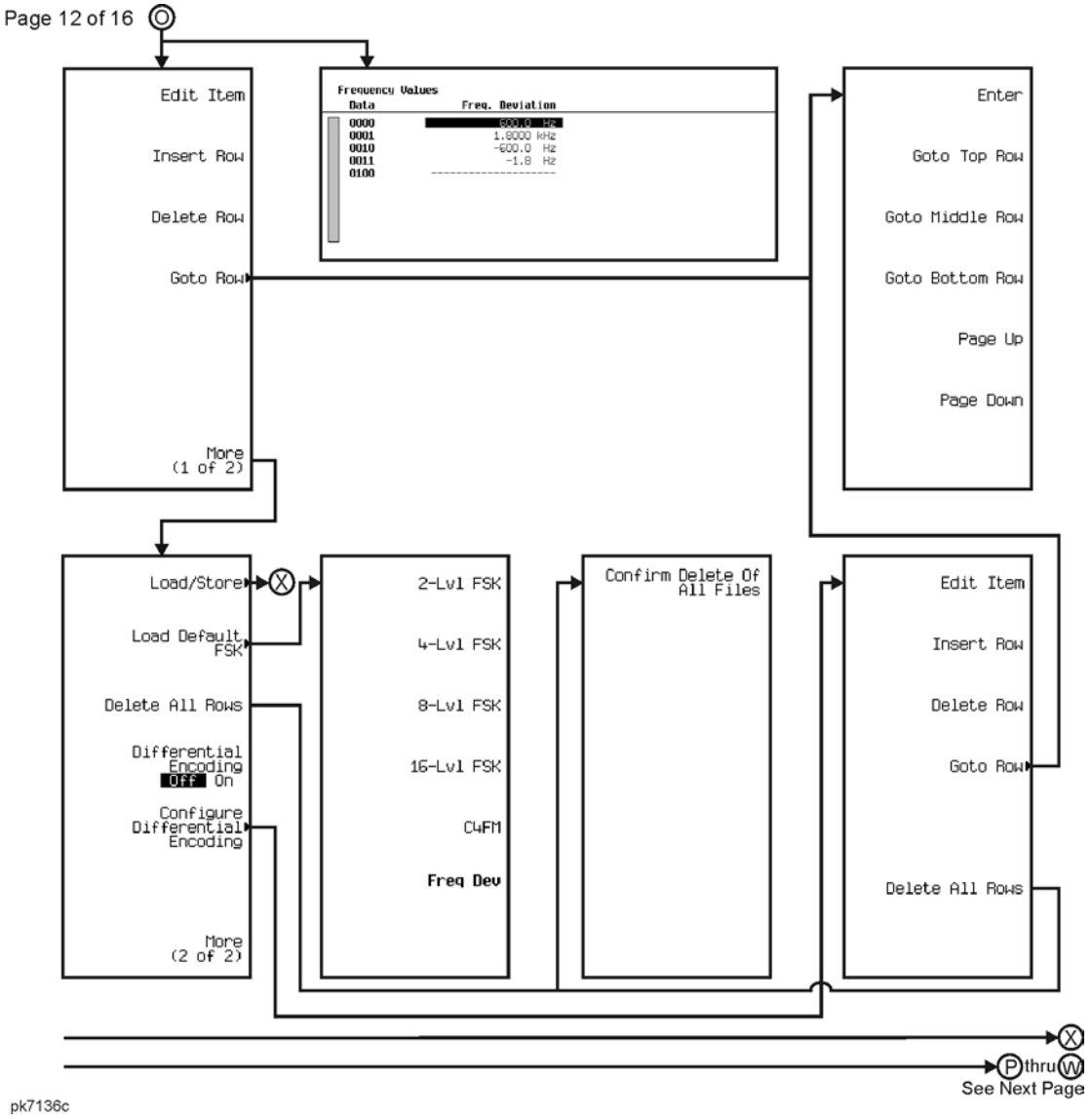

Page 9 of 16
L
S
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To
Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert
Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of
All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
M thru R
See Next Page

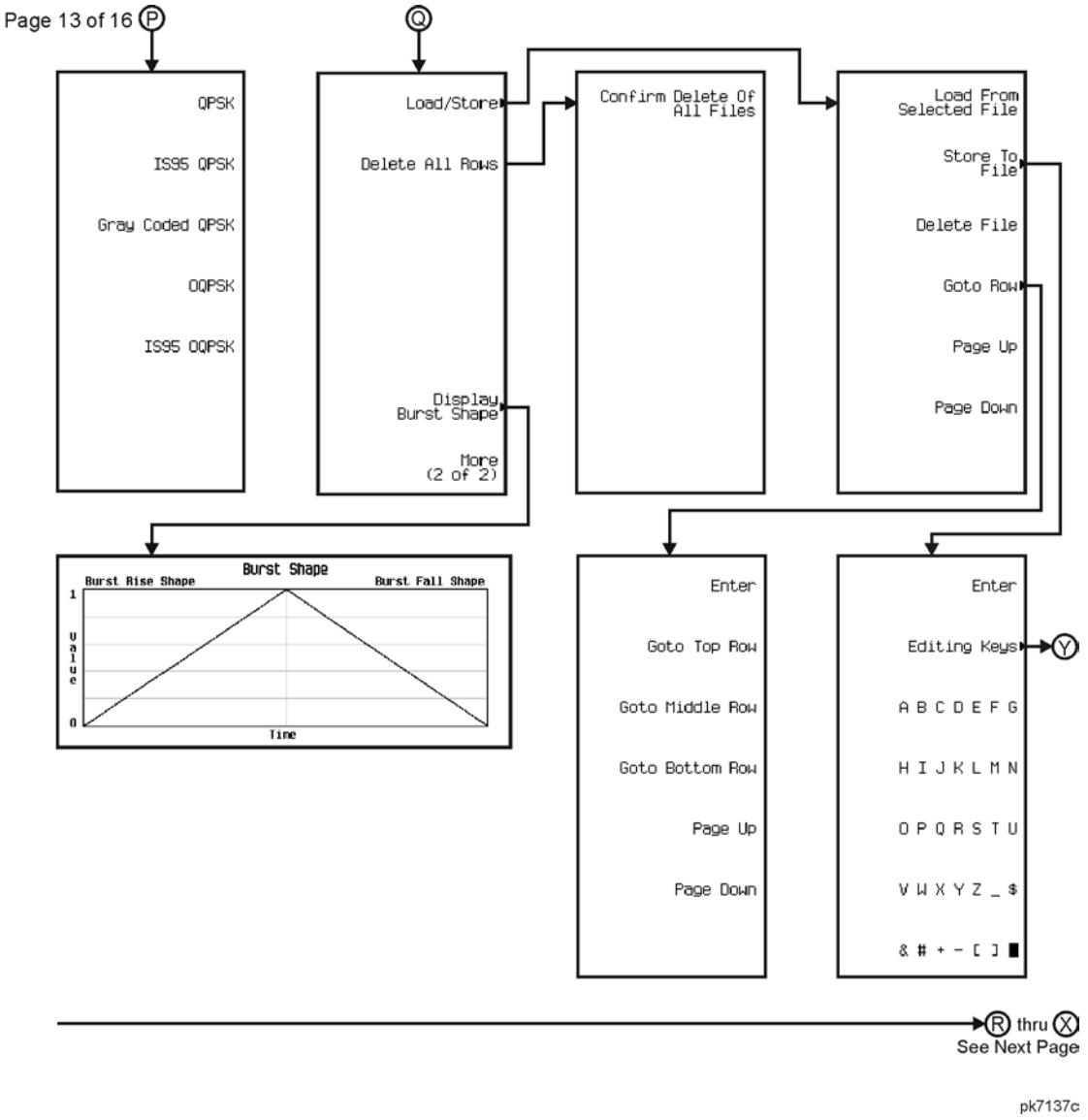
pk7134c

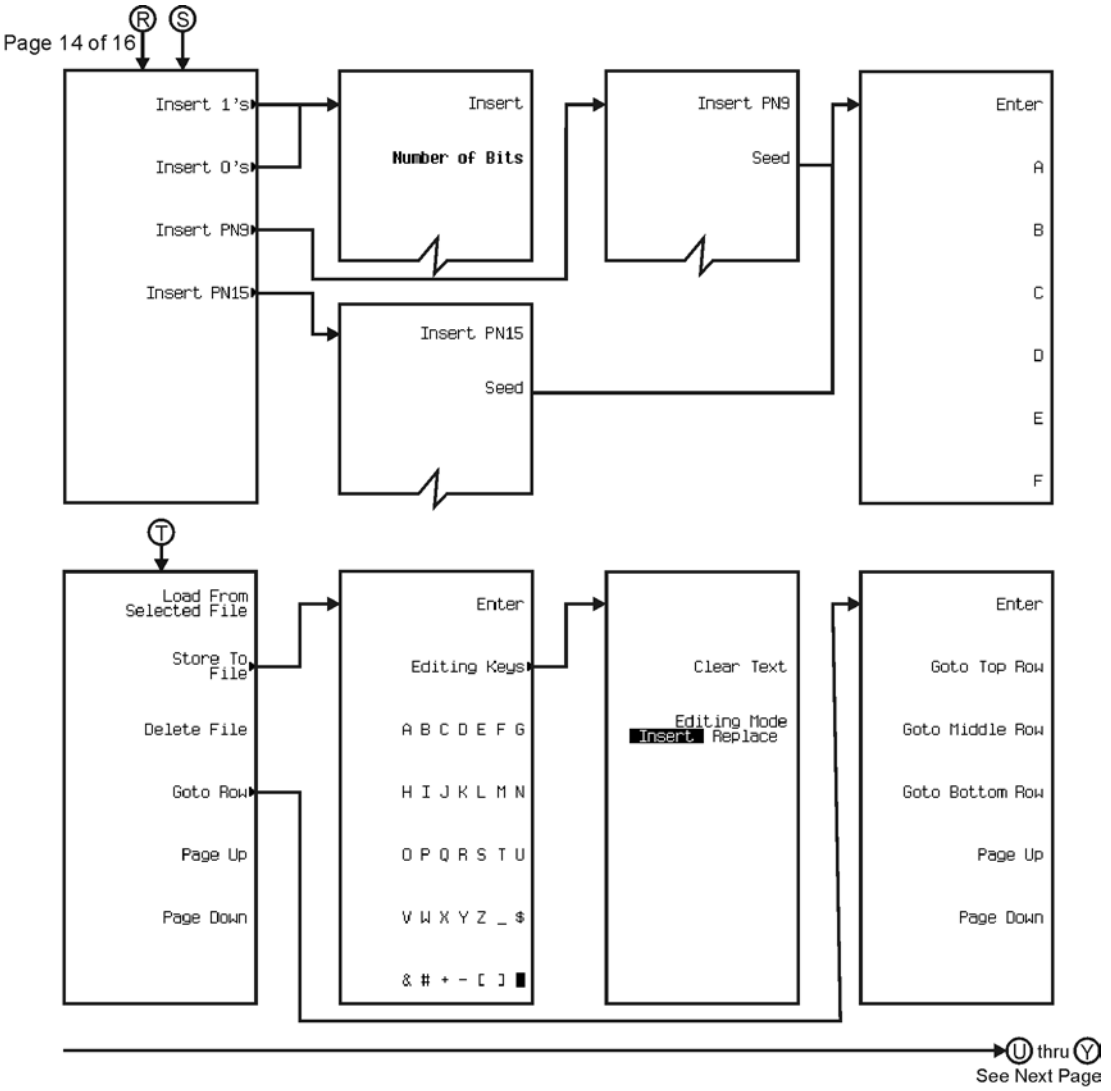

Page 10 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store T
Load Default FIR U
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
T and U
N thru S
See Next Page

pk7113c

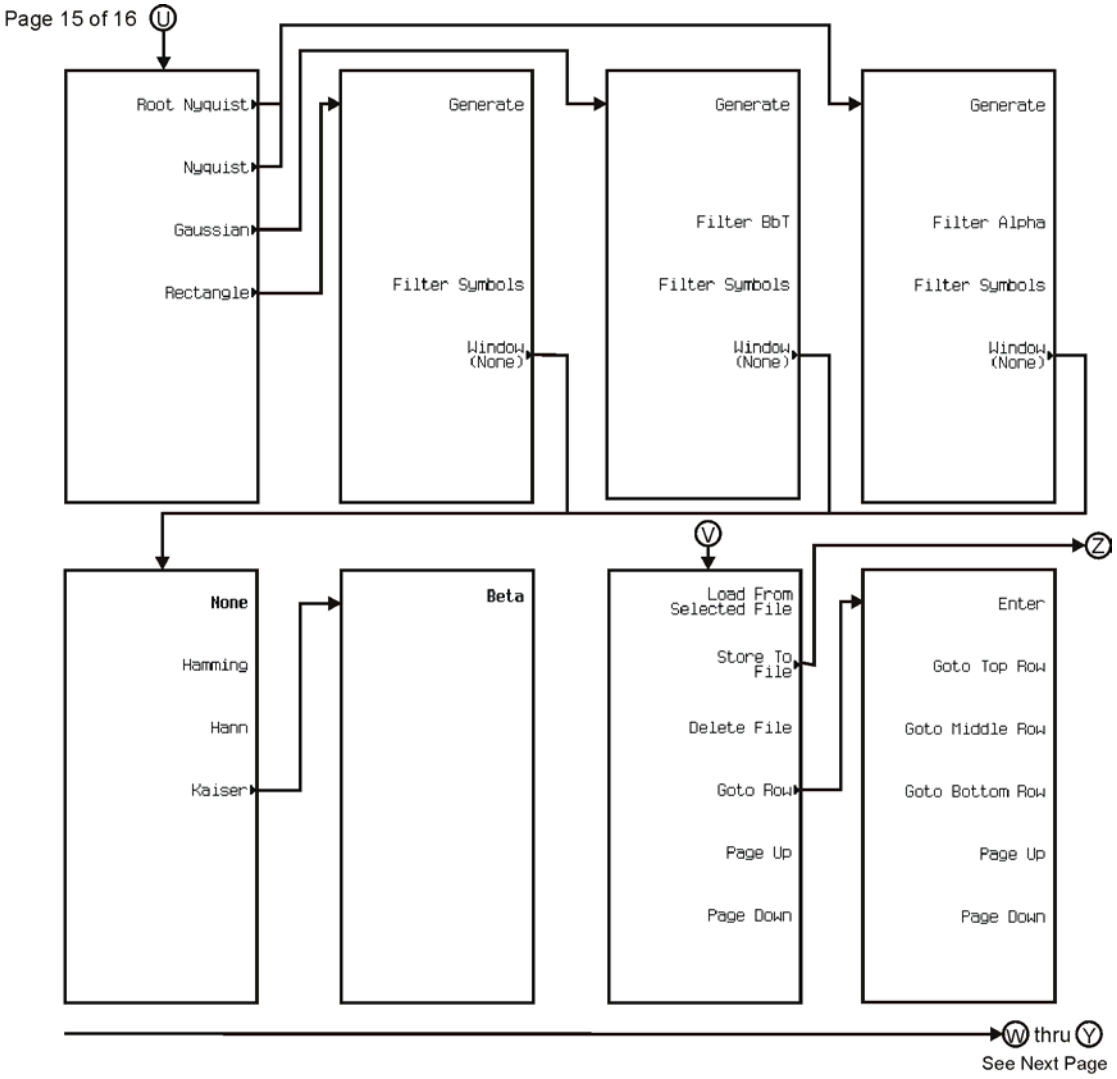

Page 11 of 16
N
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000
0.235702
0.235702
00000001
-1.000000
1.000000
00000010
-1.000000
-1.000000
00000011
1.000000
-1.000000
00000100
I/Q State Map
I/Q States: 2
Q Value
+1
-1
I Value
Load/Store
V
Load Default I/Q Map
W
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V and W
O thru U
See Next Page
pk7135c


Page 12 of 16
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
0001
0010
0011
0100
600.0 Hz
1.8000 kHz
-600.0 Hz
-1.8 Hz
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
X
P thru W
See Next Page
pk7136c

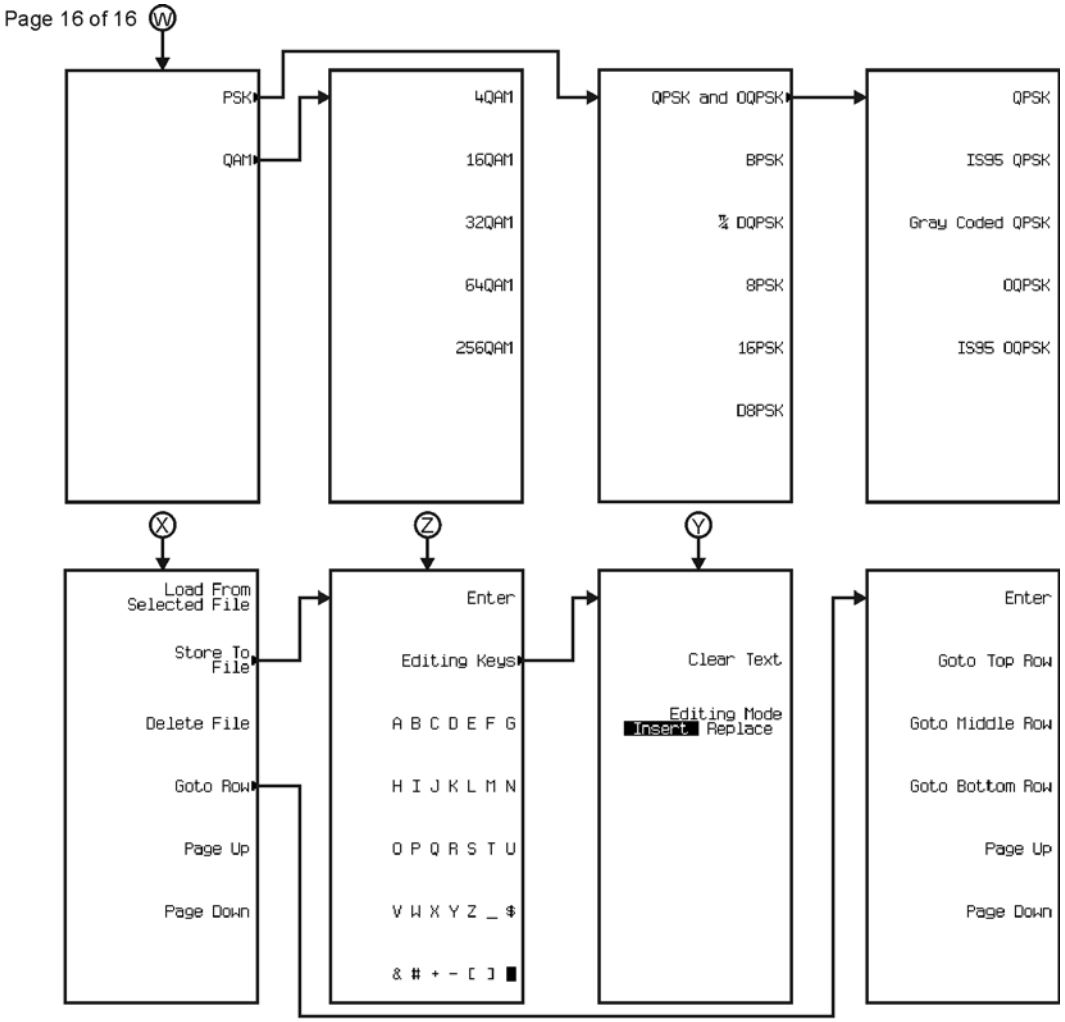

Page 13 of 16 P
Q
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
Y
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
R thru X
See Next Page
pk7137c


Page 14 of 16
R
S
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
T
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
U thru Y
See Next Page

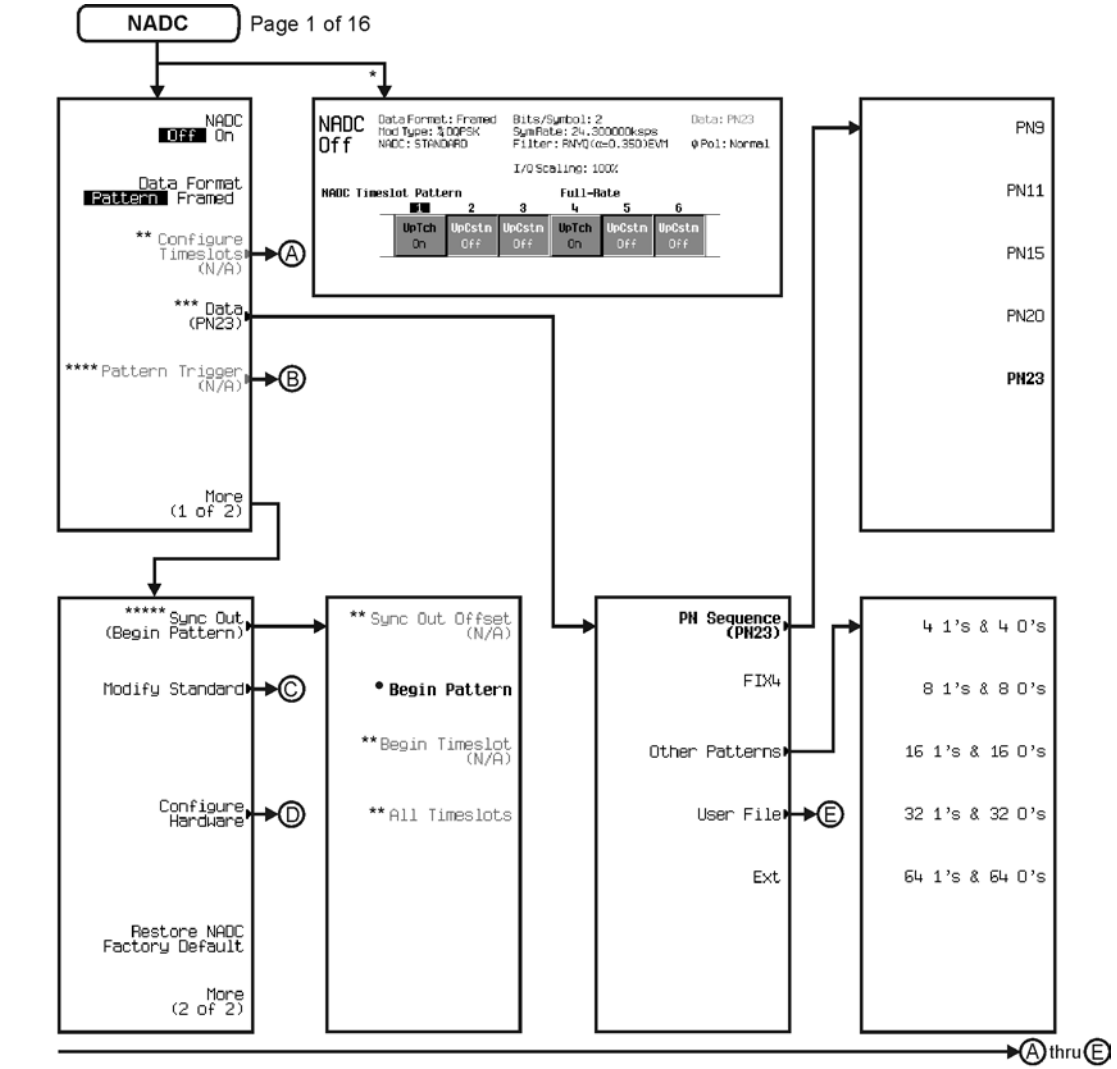
pk7138c


Page 15 of 16 U
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
V
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Z
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
W thru Y
See Next Page

pk7118c

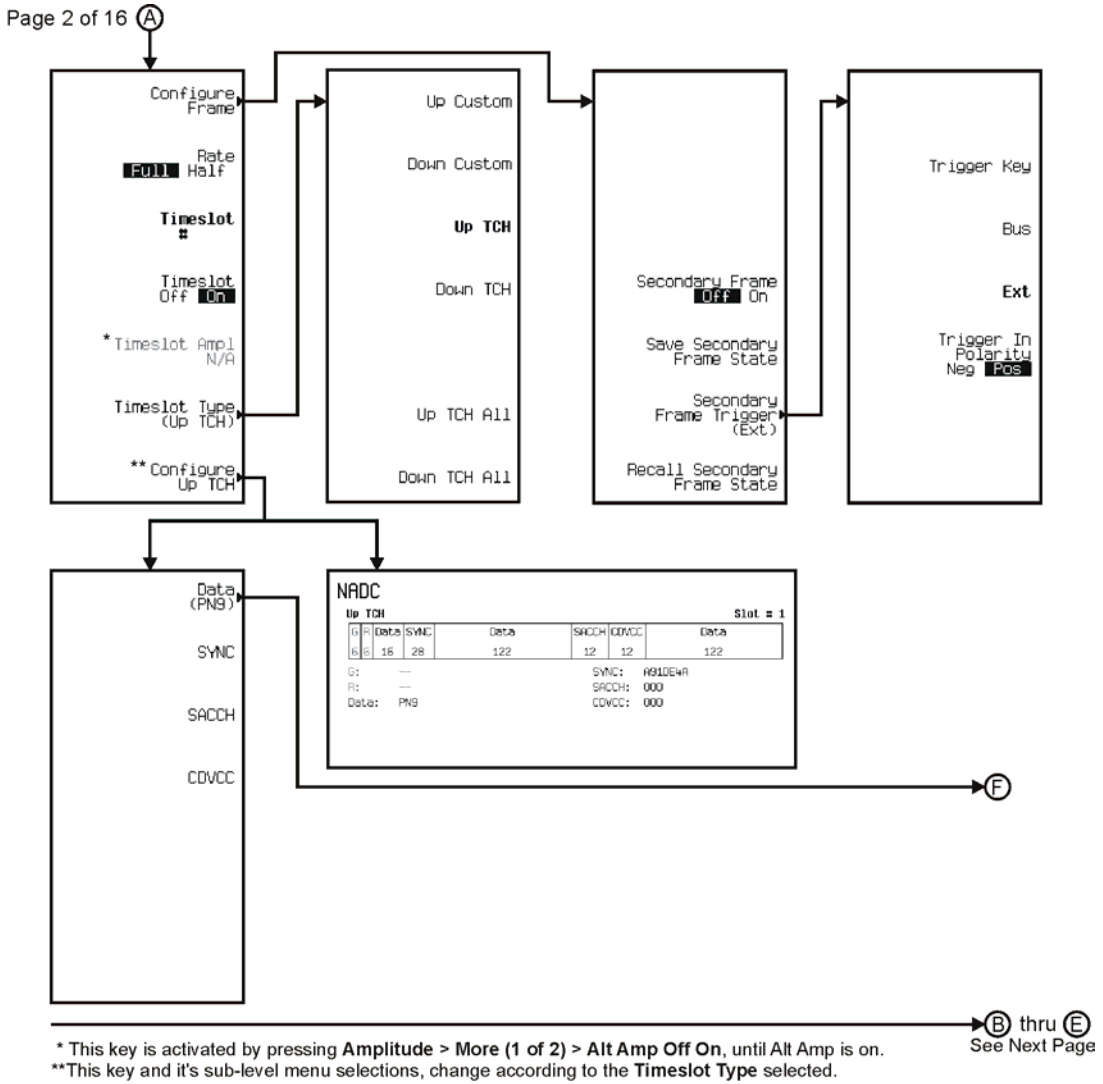

Page 16 of 16
W
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
X
Z
Y
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7139c



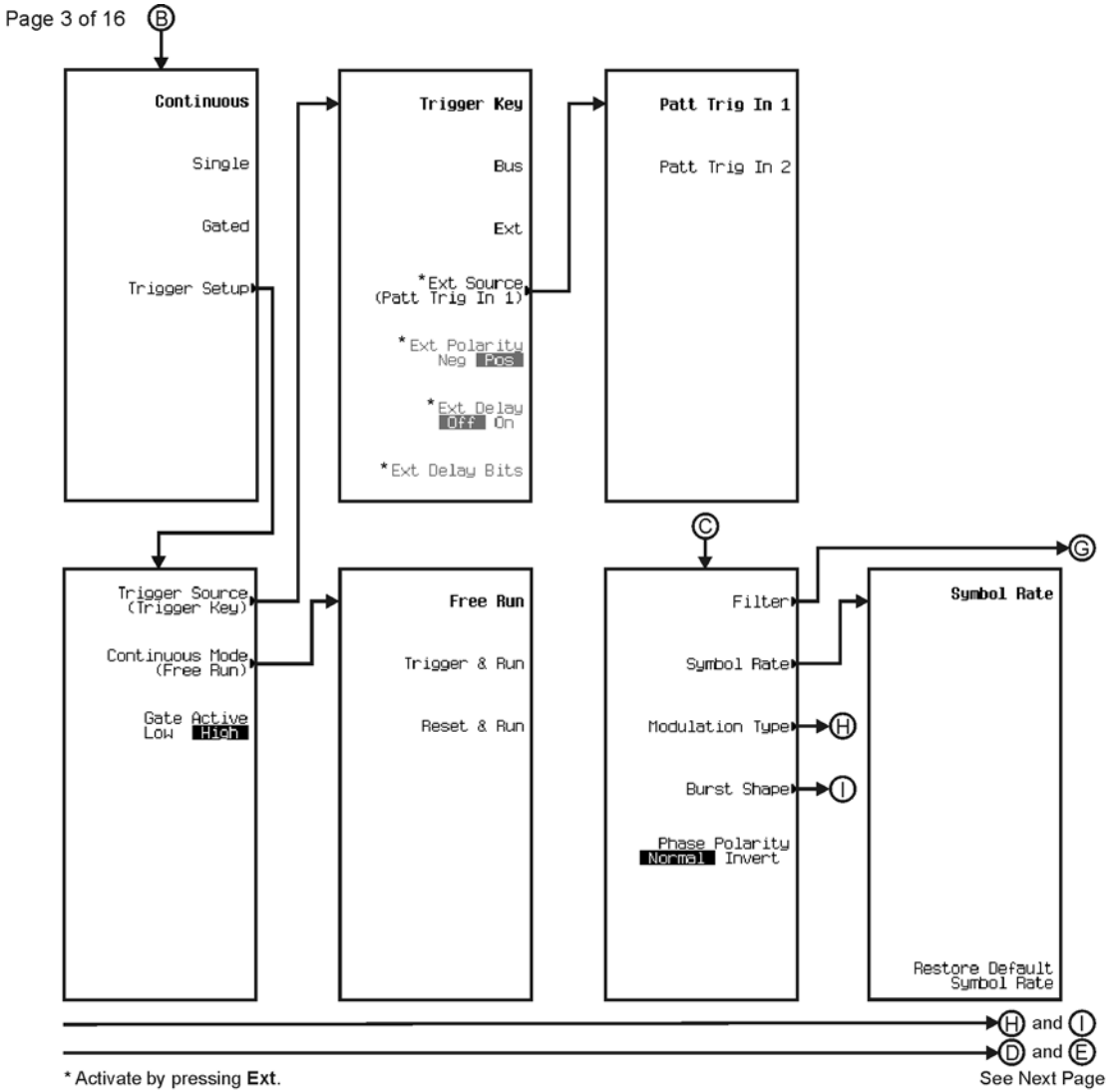
*Appears when the **Data Format Pattern Framed** softkey is set to Framed.
Active when the **Data Format Pattern Framed softkey is set to Framed.
***Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
****Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
*****Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
•Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

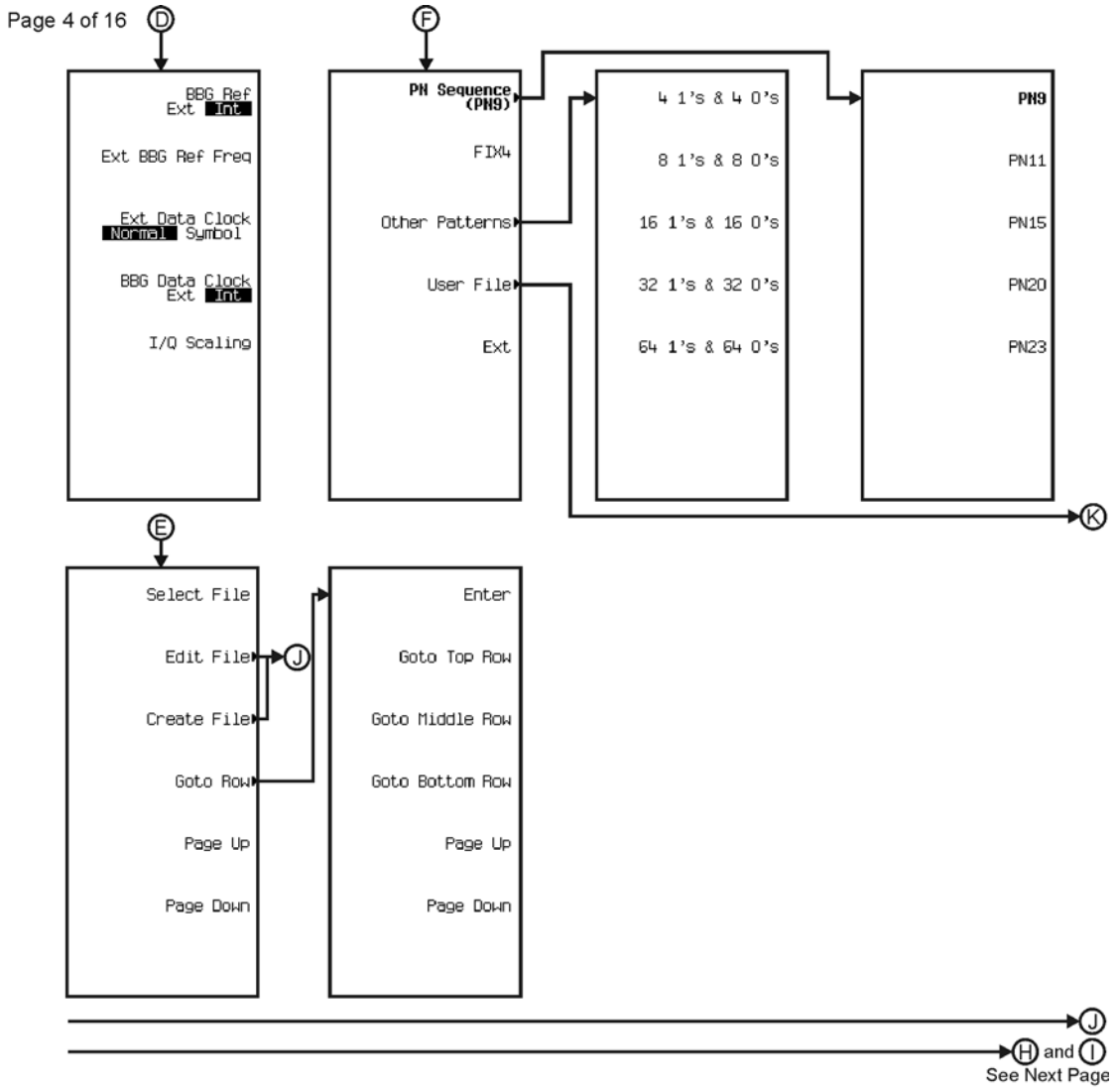
pk7140c



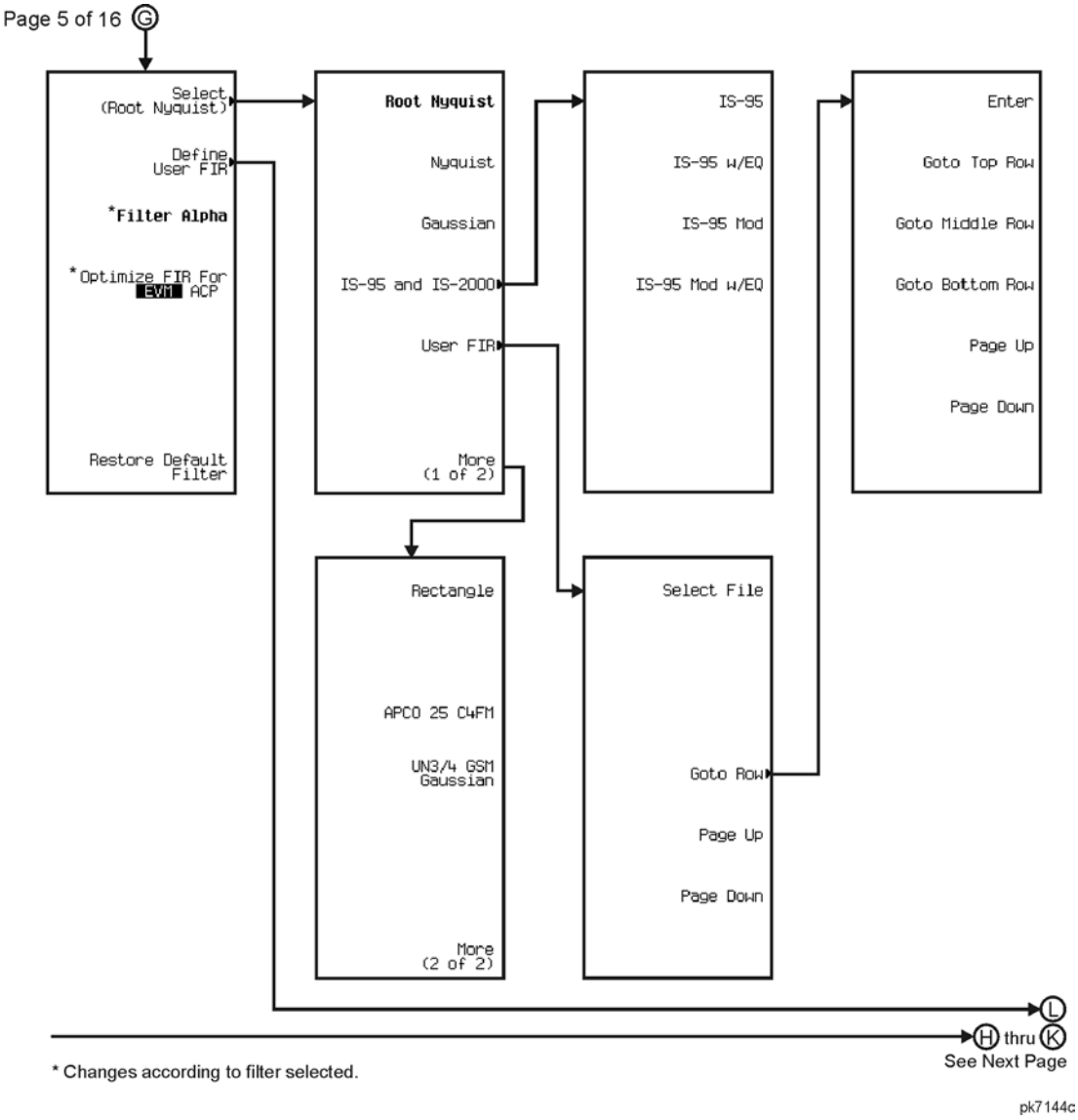
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
This key and it's sub-level menu selections, change according to the **Timeslot Type selected.

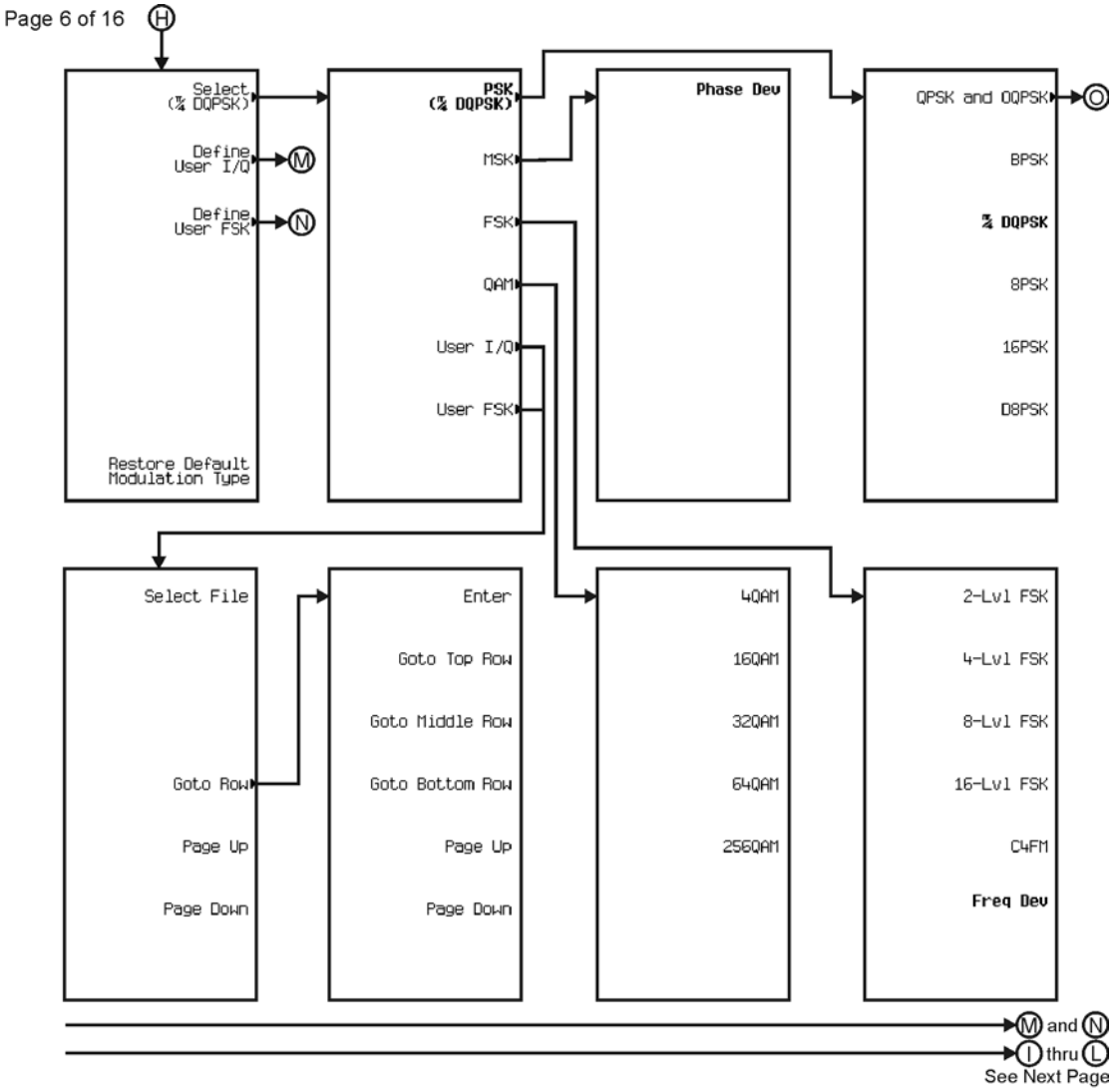
pk7141c


Page 3 of 16 B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type H
Burst Shape I
Phase Polarity Normal Invert
G
Symbol Rate
Restore Default Symbol Rate
H and I
D and E
* Activate by pressing Ext.
See Next Page
pk7142c

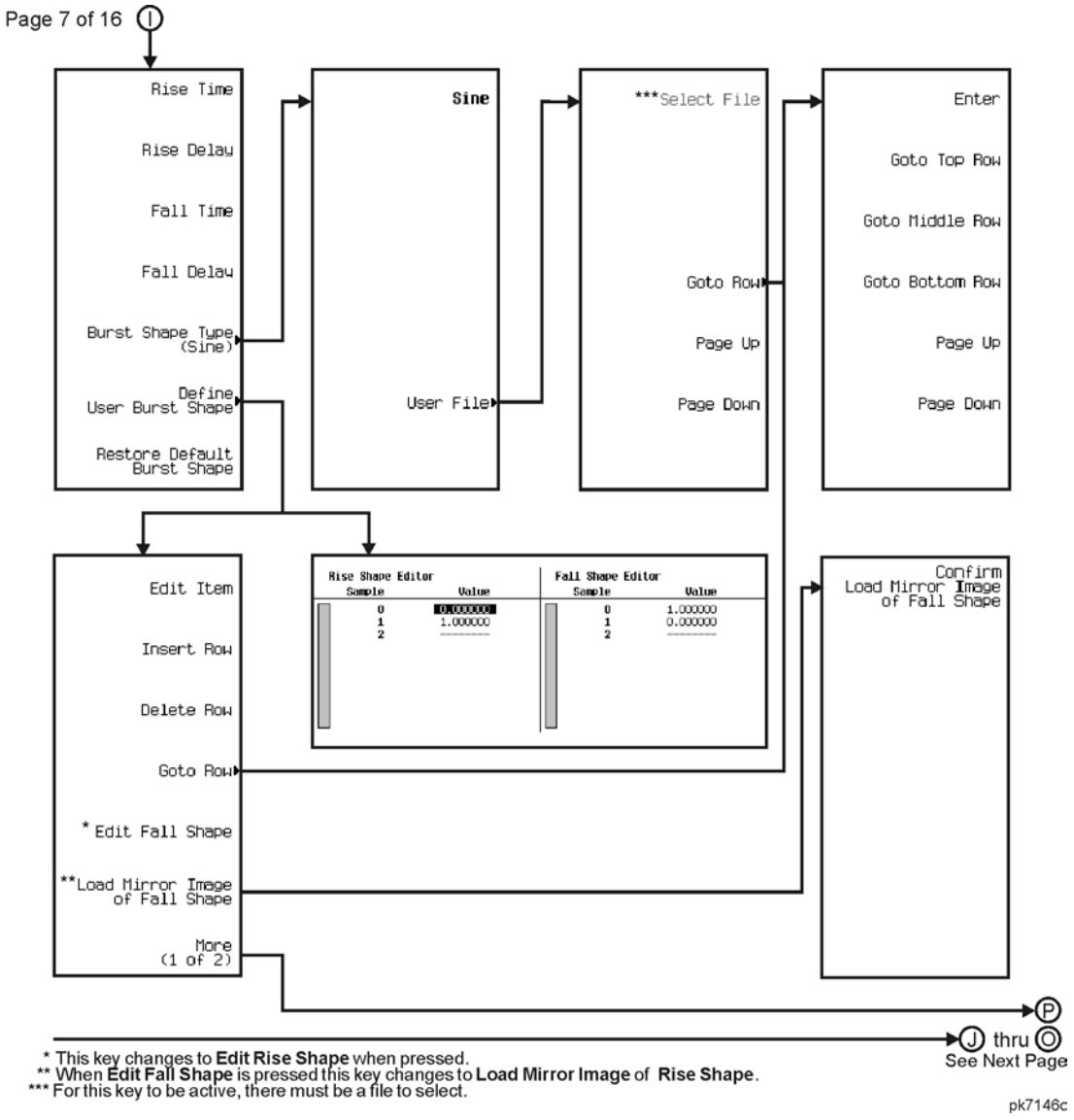

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence
(PN9)
FIX4
Other Patterns
User File
Ext
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
K
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
J
H and I
See Next Page

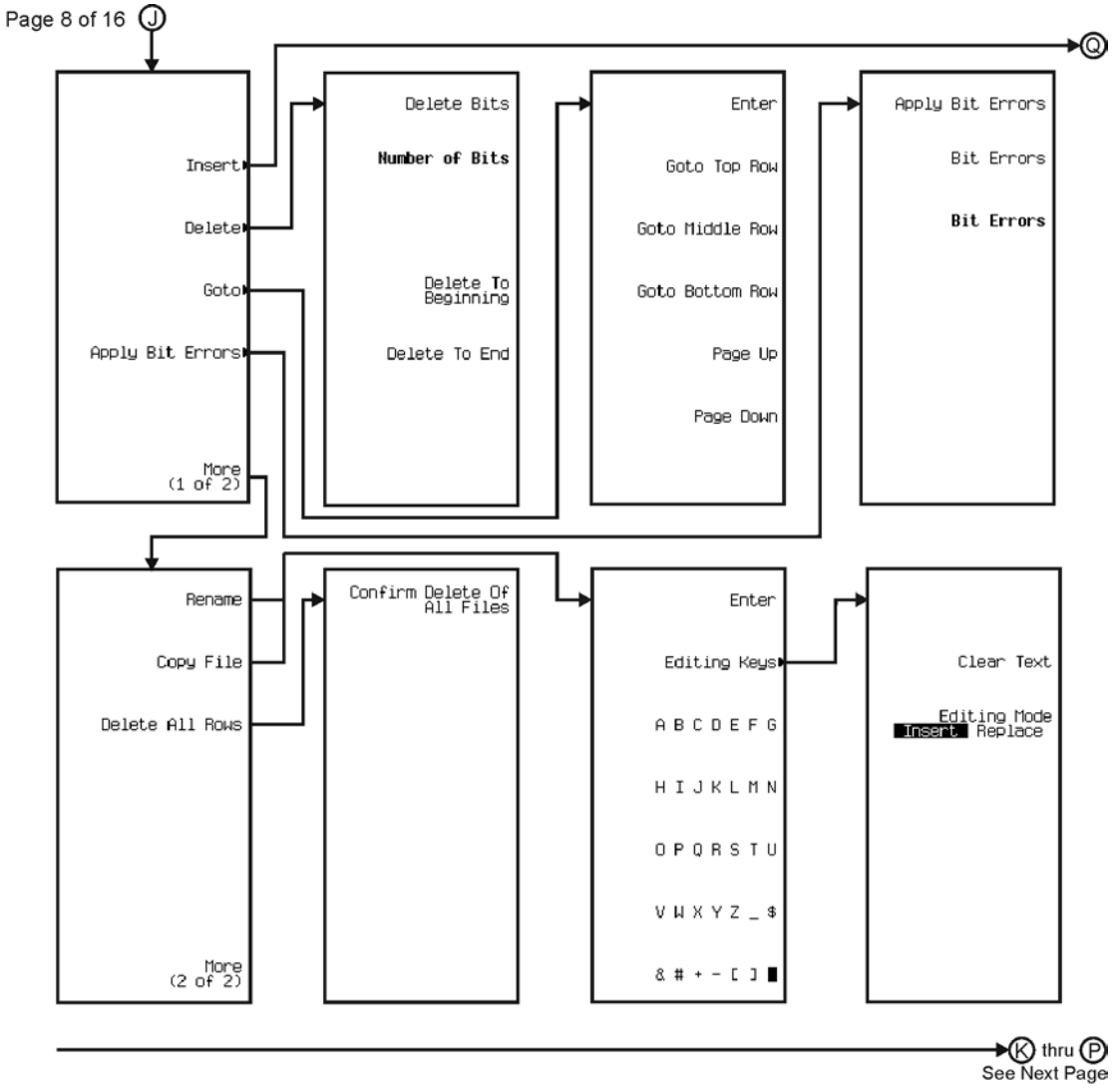
pk7143c


Page 5 of 16 G
Select (Root Nyquist)
Define User FIR
*Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
L
H thru K
See Next Page
* Changes according to filter selected.
pk7144c

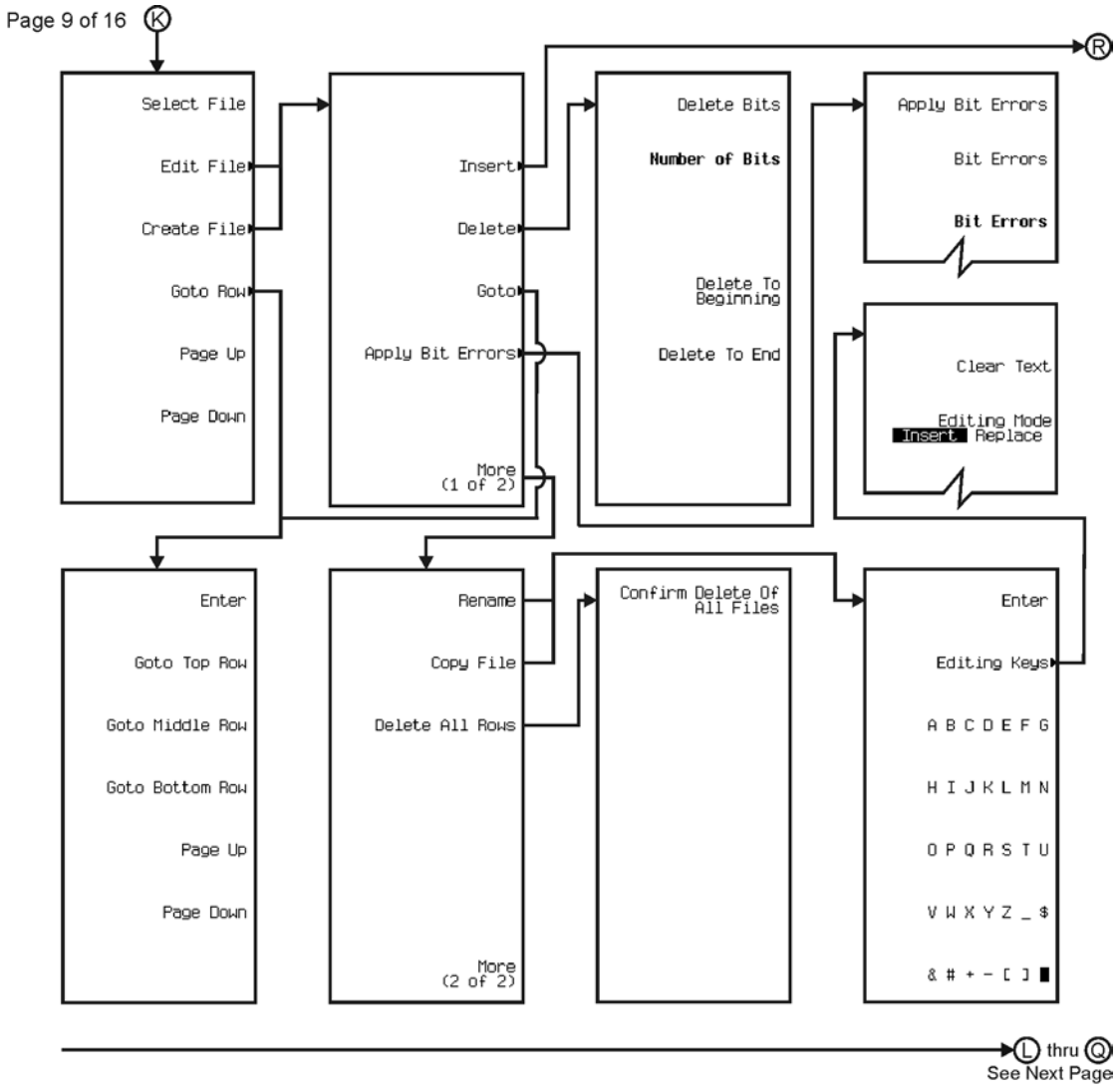

Page 6 of 16
H
Select (¾ DQPSK)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (¾ DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
¾ DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
I thru L
See Next Page

pk7145c

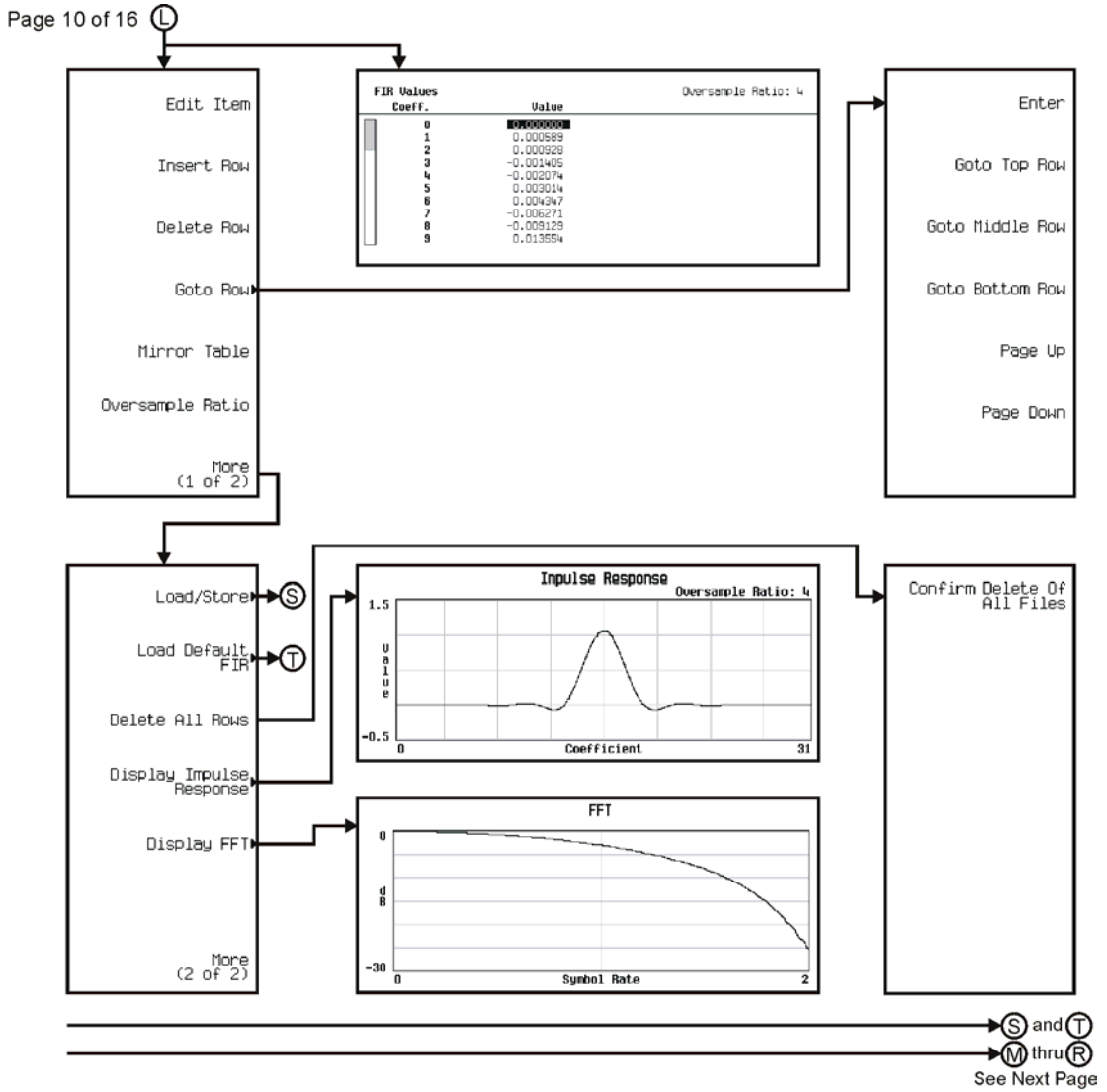

Page 7 of 16
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 0.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
J thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7146c


Page 8 of 16 J
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
K thru P
See Next Page

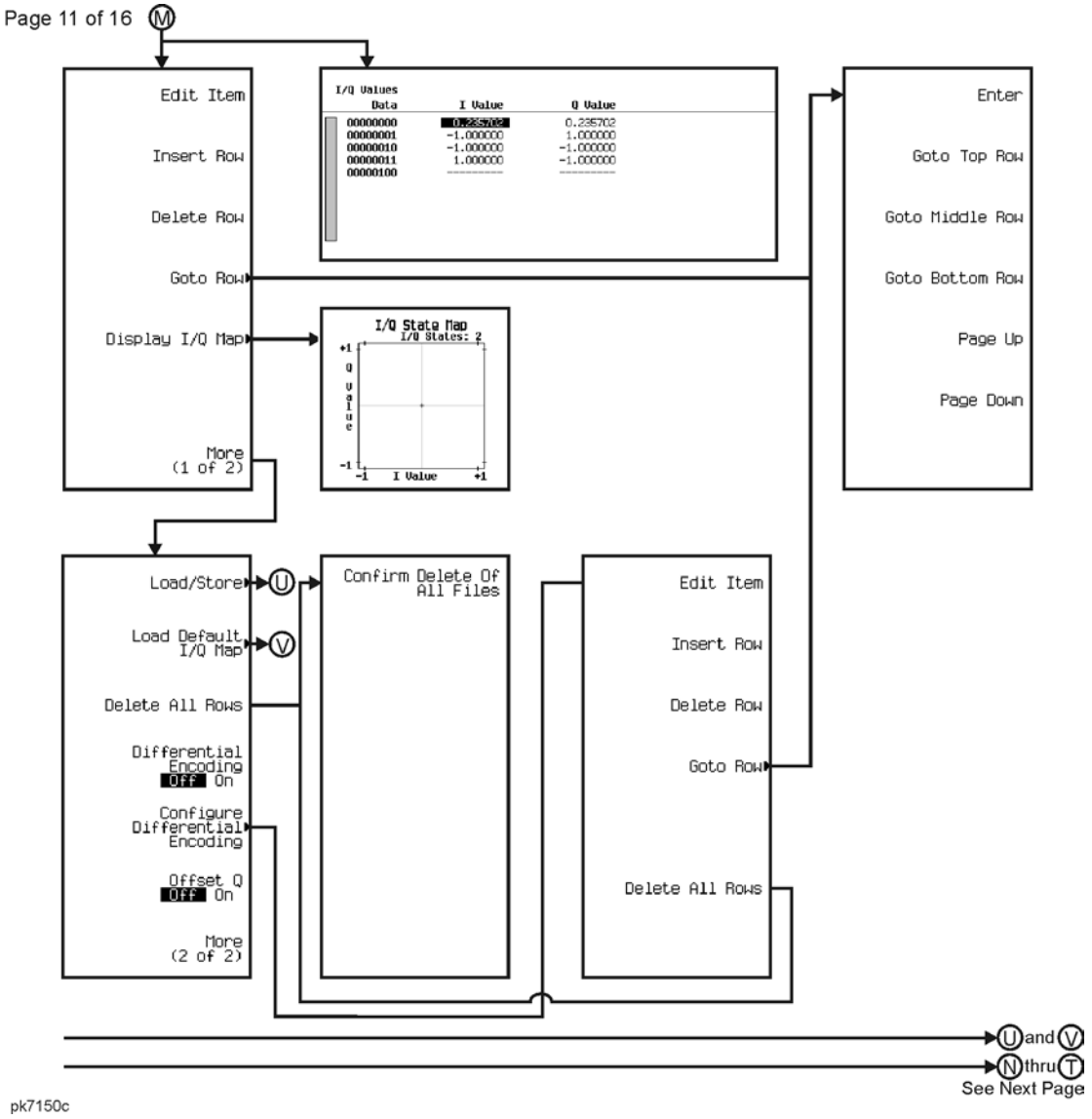
pk7147c

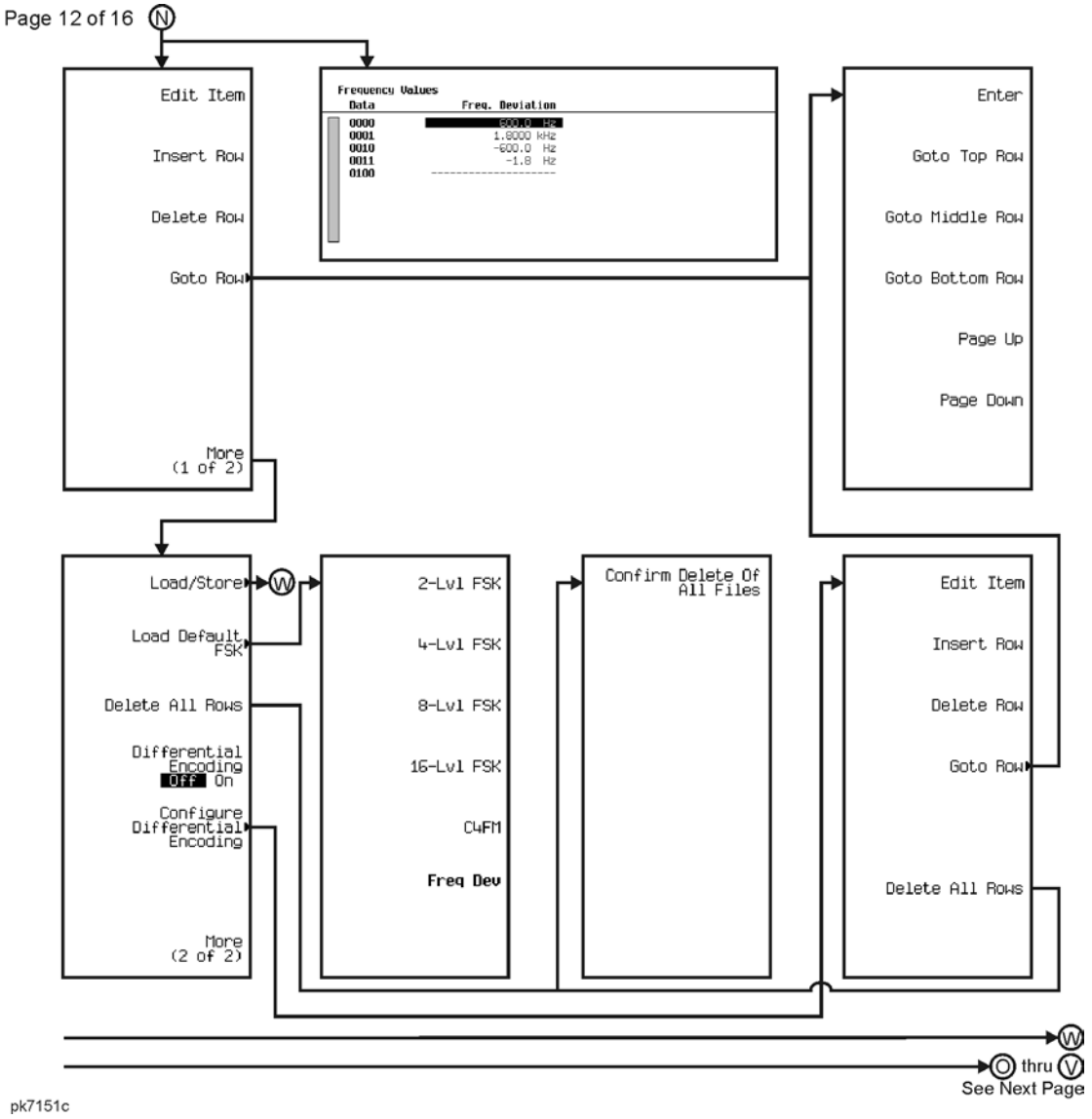

Page 9 of 16
K
R
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
L thru Q
See Next Page

pk7148c

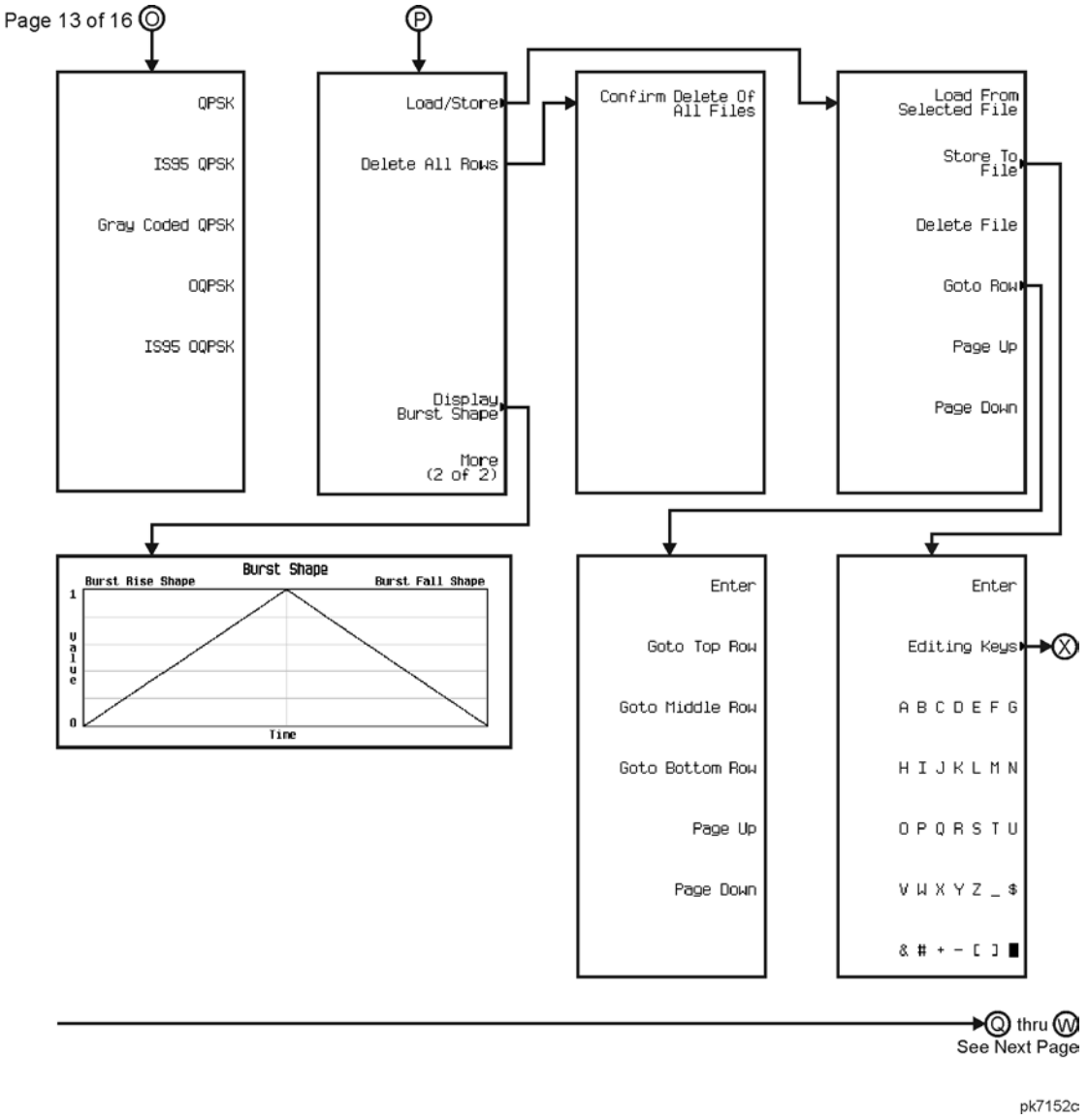

Page 10 of 16 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store S
Load Default FIR T
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
S and T
M thru R
See Next Page

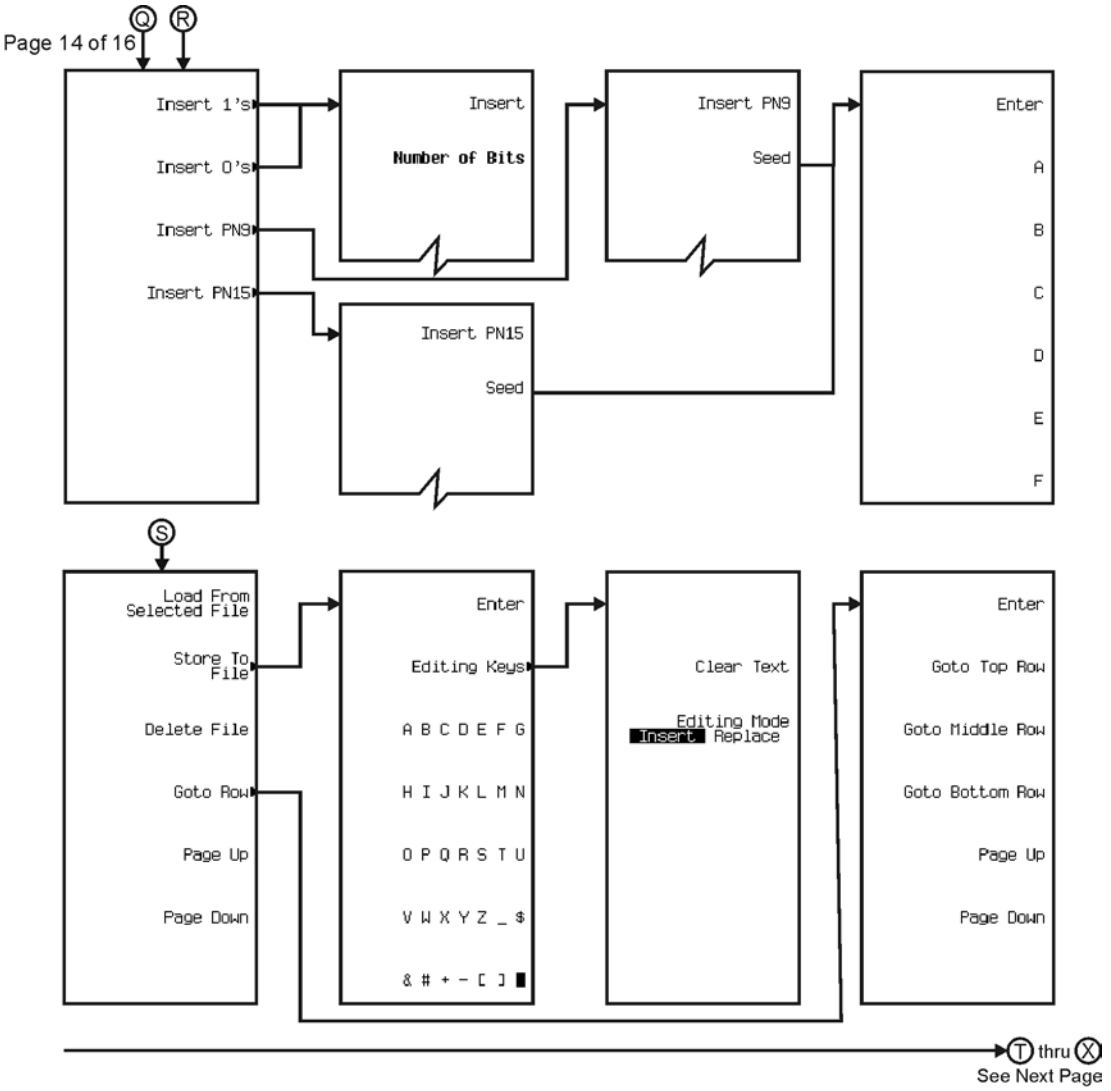
pk7149c


Page 11 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000 0.235702 0.235702
00000001 -1.000000 1.000000
00000010 -1.000000 -1.000000
00000011 1.000000 -1.000000
00000100
I/Q State Map
I/Q States: 2
+1
Q Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store U
Load Default I/Q Map V
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
U and V
N thru T
See Next Page
pk7150c

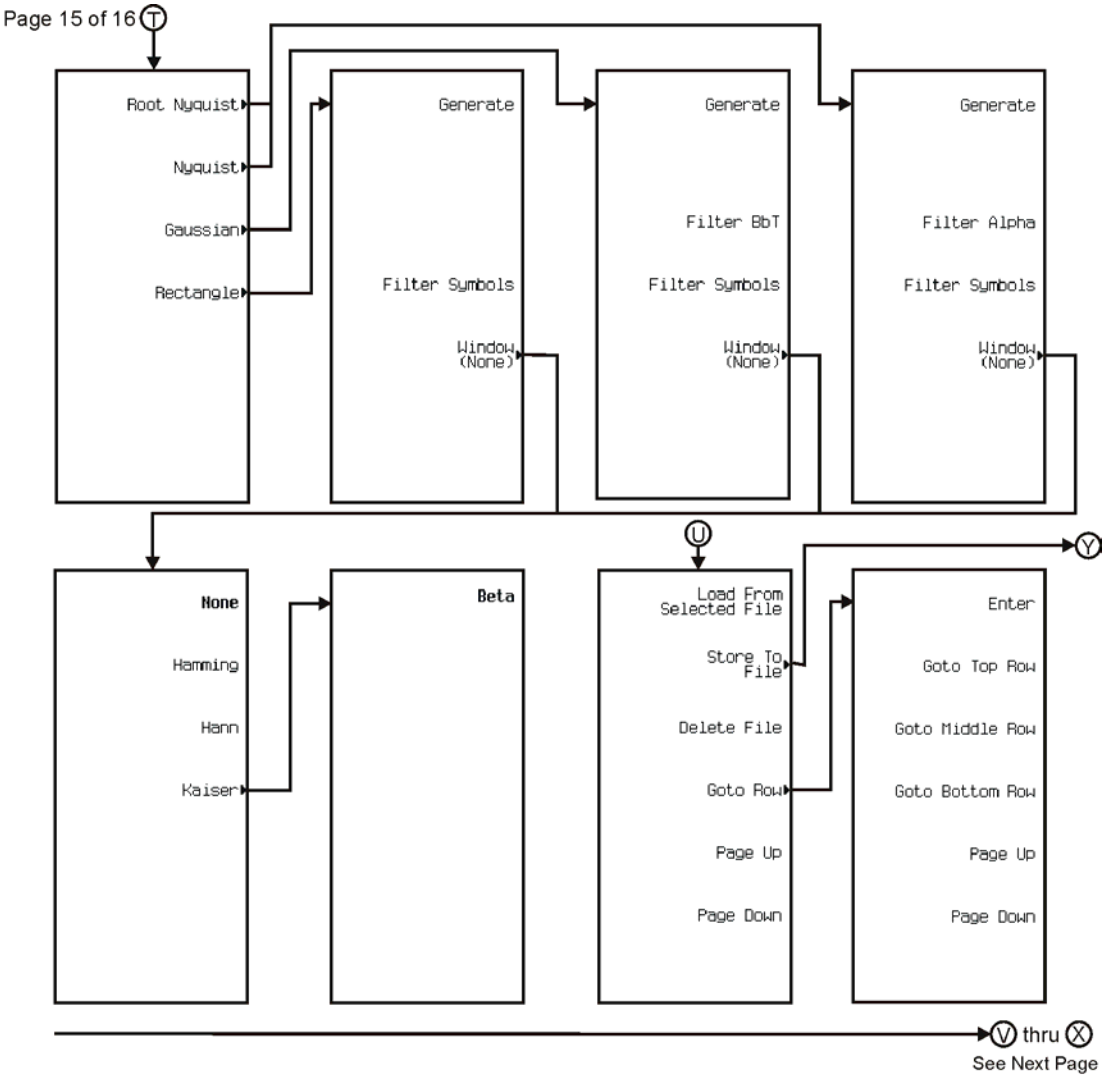

Page 12 of 16 N
Edit Item
Insert Row
Delete Row
Goto Row
More (1 of 2)
Frequency Values
Data
Freq. Deviation
0000
0001
0010
0011
0100
600.0 Hz
1.8000 kHz
-600.0 Hz
-1.8 Hz
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
W
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More (2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
W
O thru V
See Next Page

pk7151c

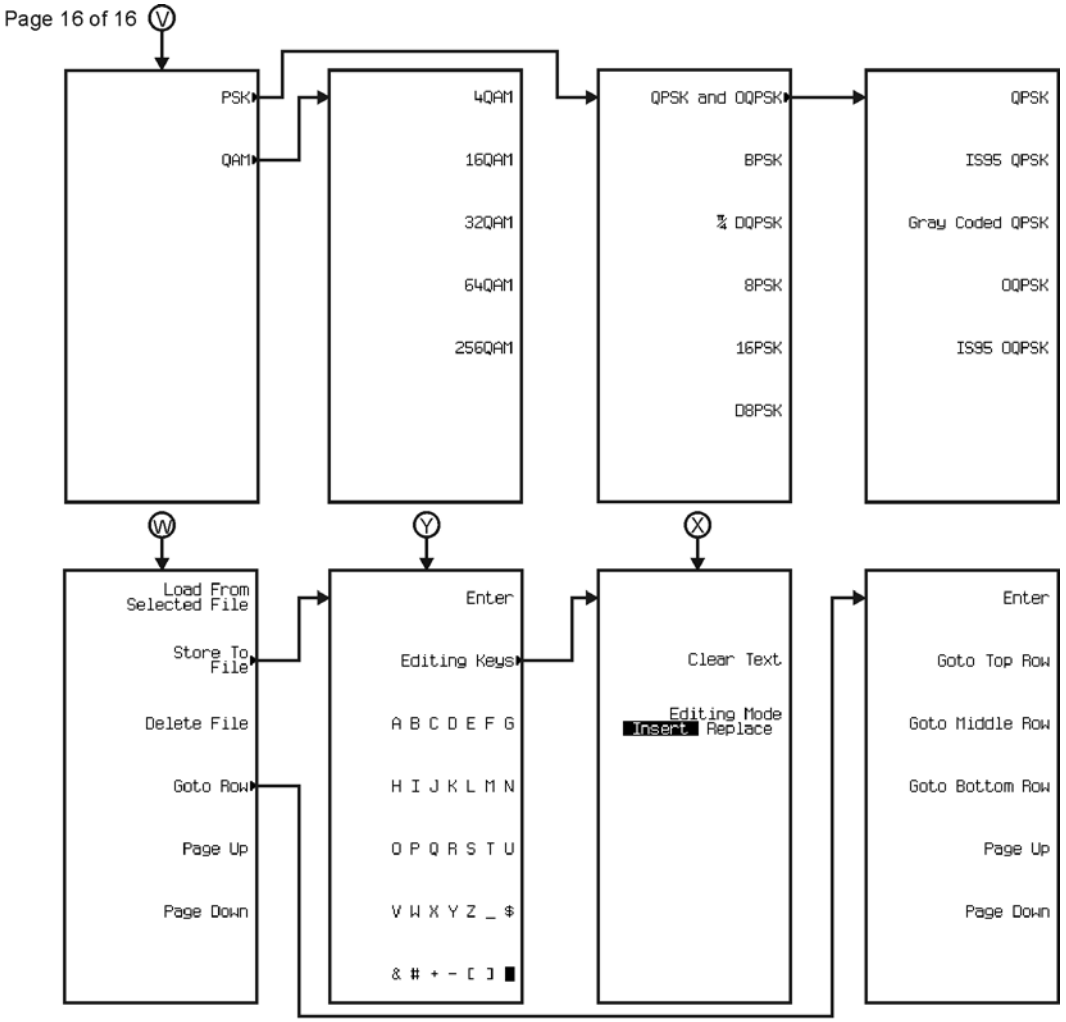

Page 13 of 16 O
P
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
X
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru W
See Next Page
pk7152c


Page 14 of 16
Q
R
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
S
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru X
See Next Page

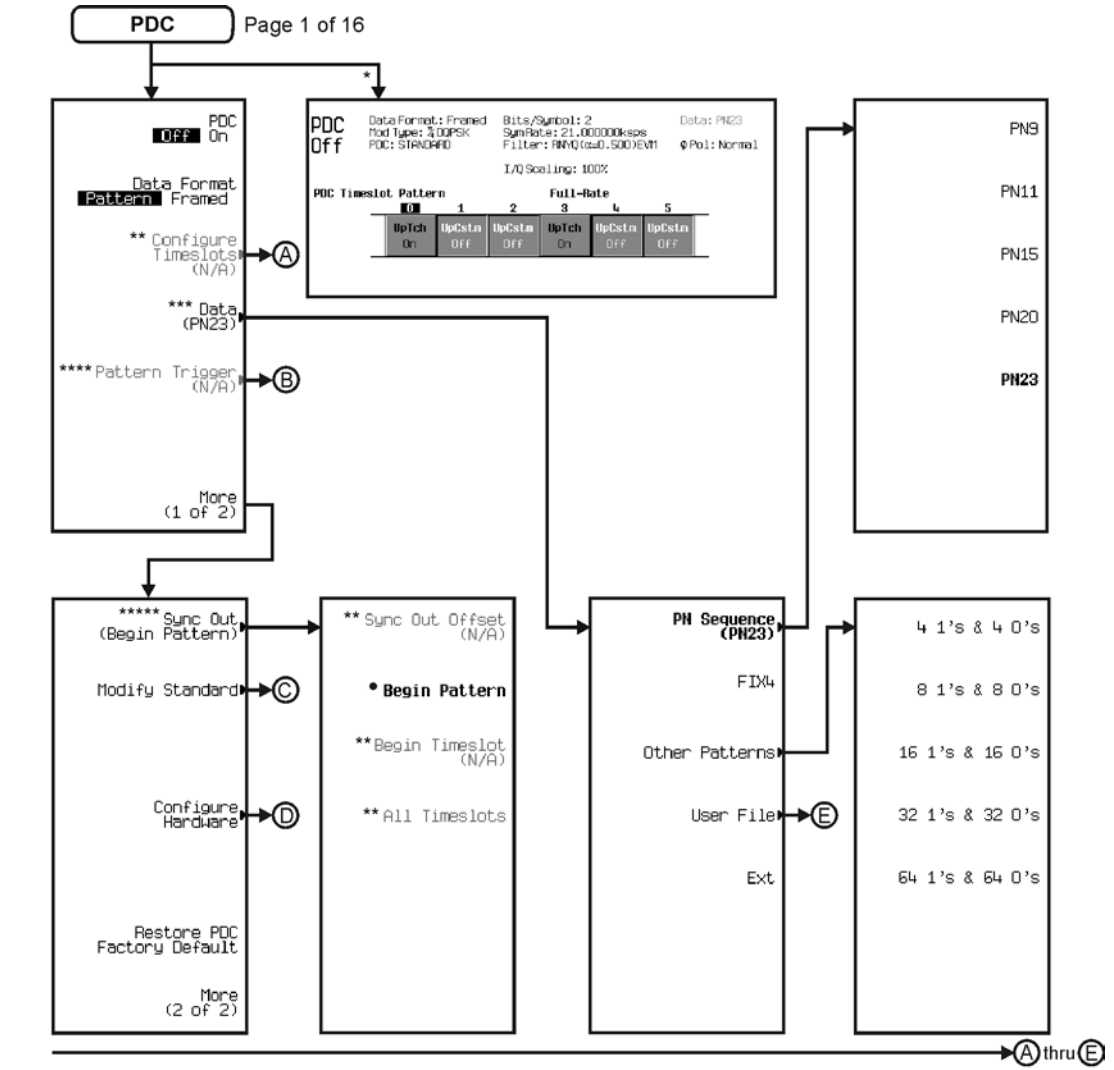
pk7153c


Page 15 of 16 T
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
U
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Y
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V thru X
See Next Page

pk7154c

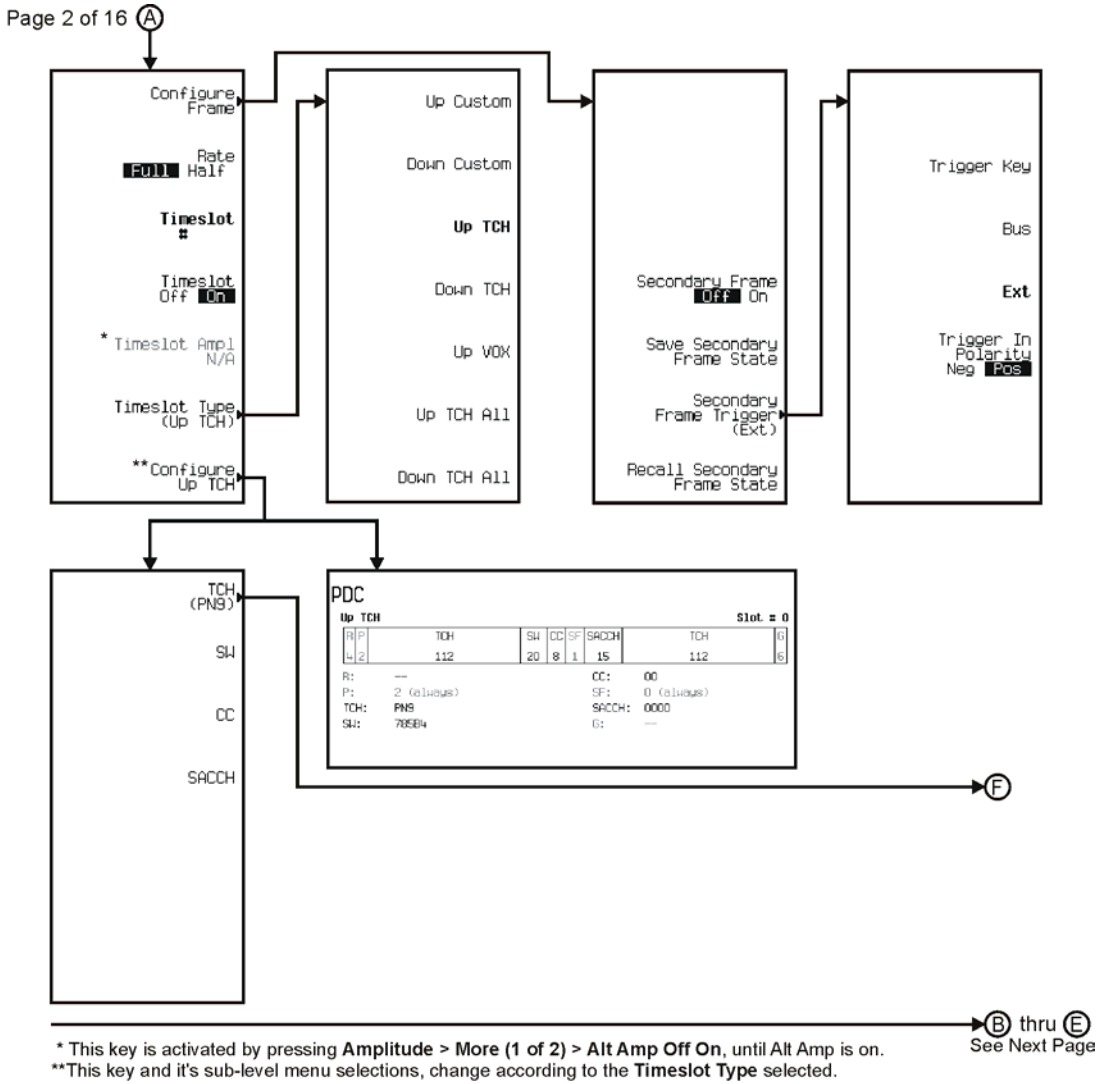

Page 16 of 16 V
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
W
Y
X
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7155c



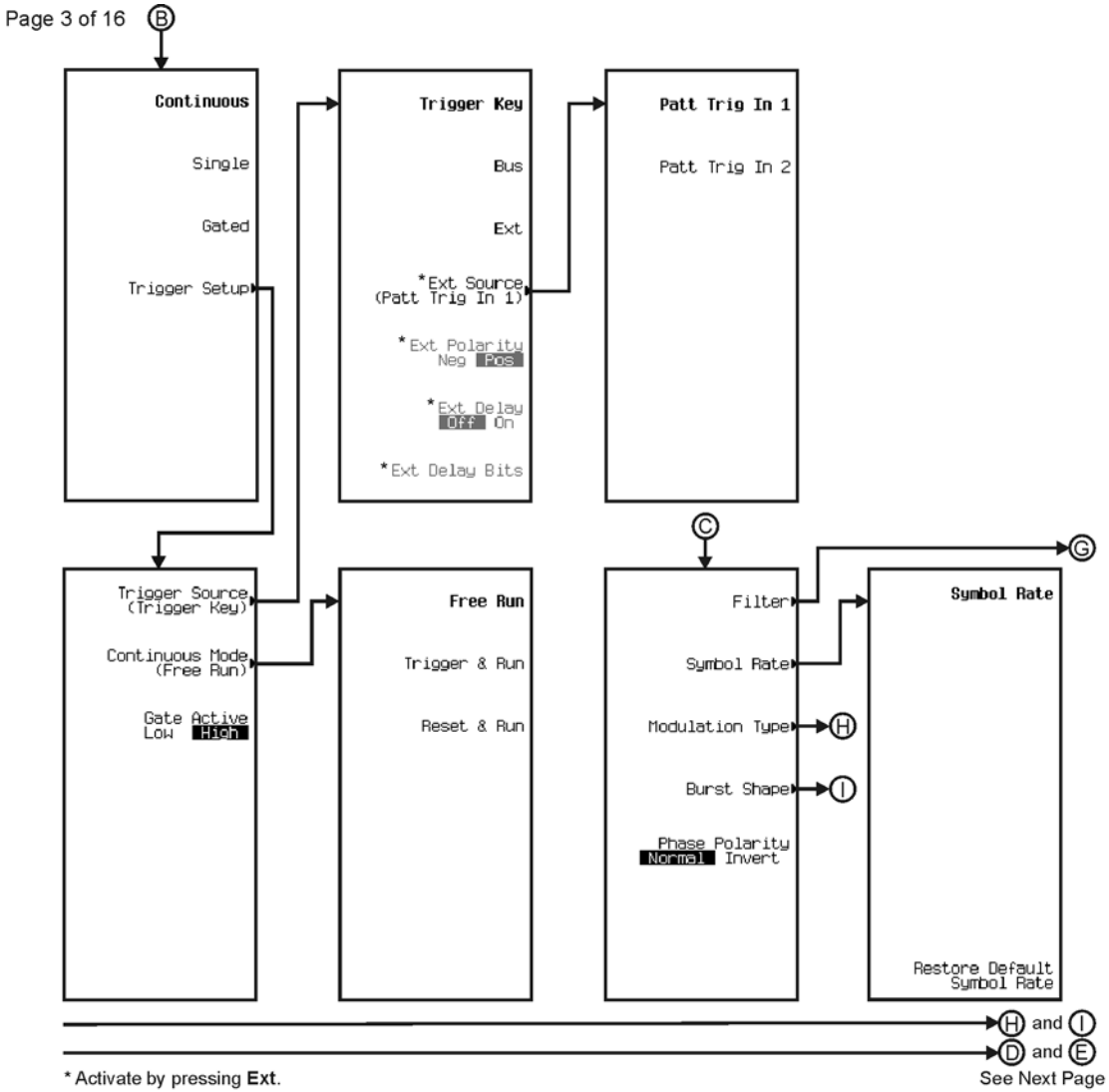
* Appears when the **Data Format Pattern Framed** softkey is set to Framed.
** Active when the **Data Format Pattern Framed** softkey is set to Framed.
*** Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
**** Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
***** Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
• Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

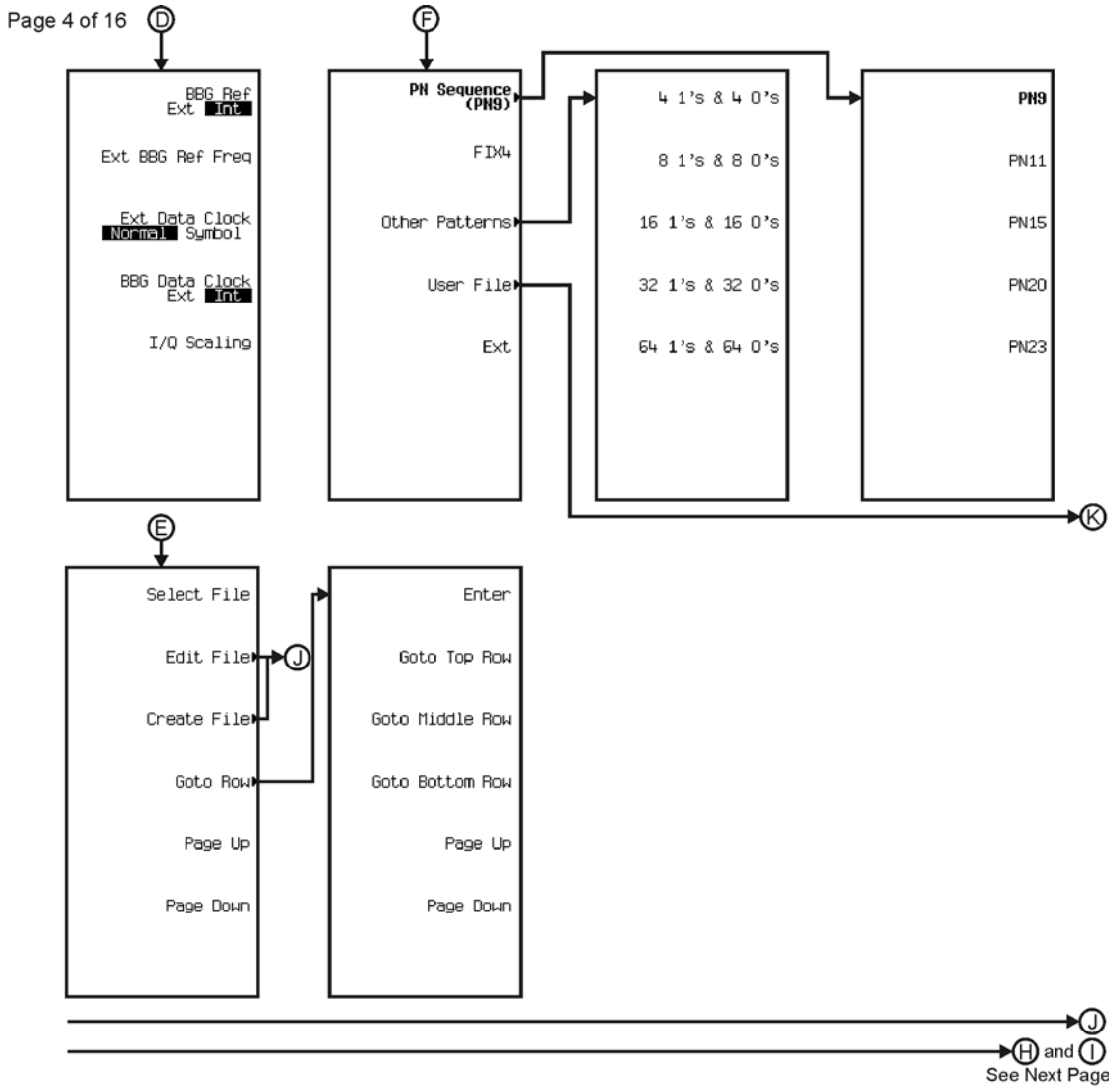
pk7156c



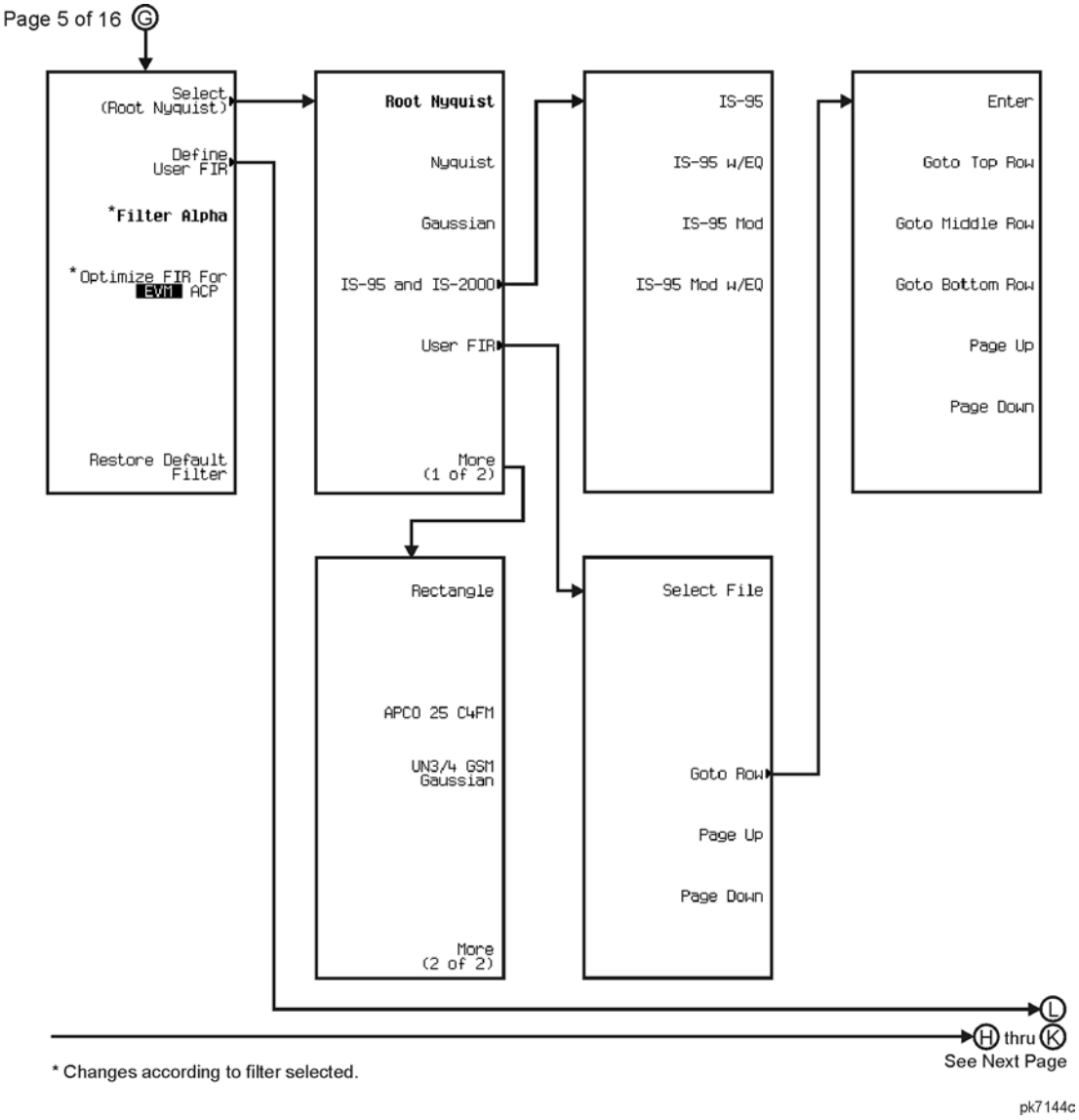
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
This key and it's sub-level menu selections, change according to the **Timeslot Type selected.

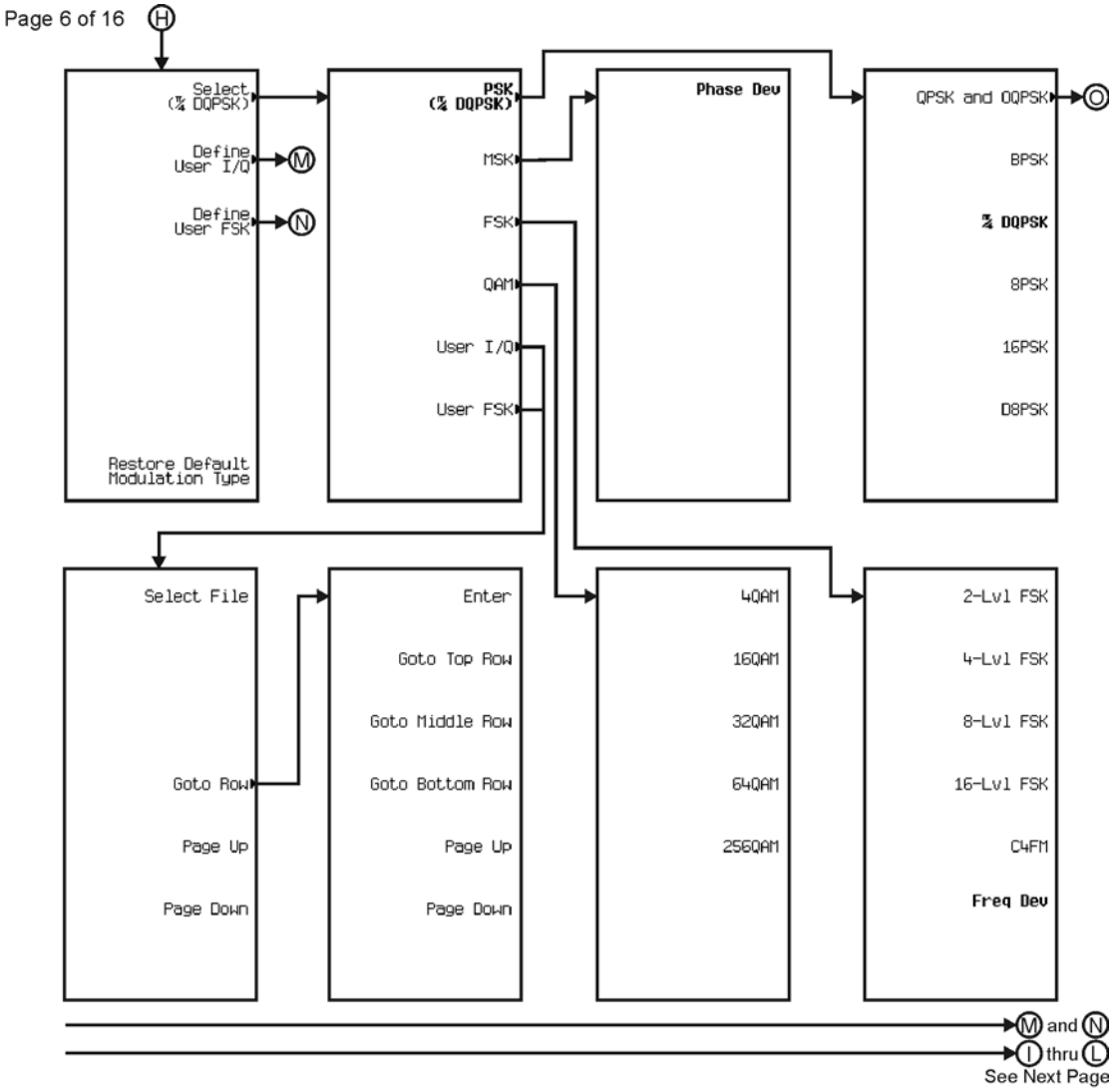
pk7157c


Page 3 of 16
B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
G
Symbol Rate
Restore Default Symbol Rate
H and I
D and E
* Activate by pressing Ext.
See Next Page
pk7142c

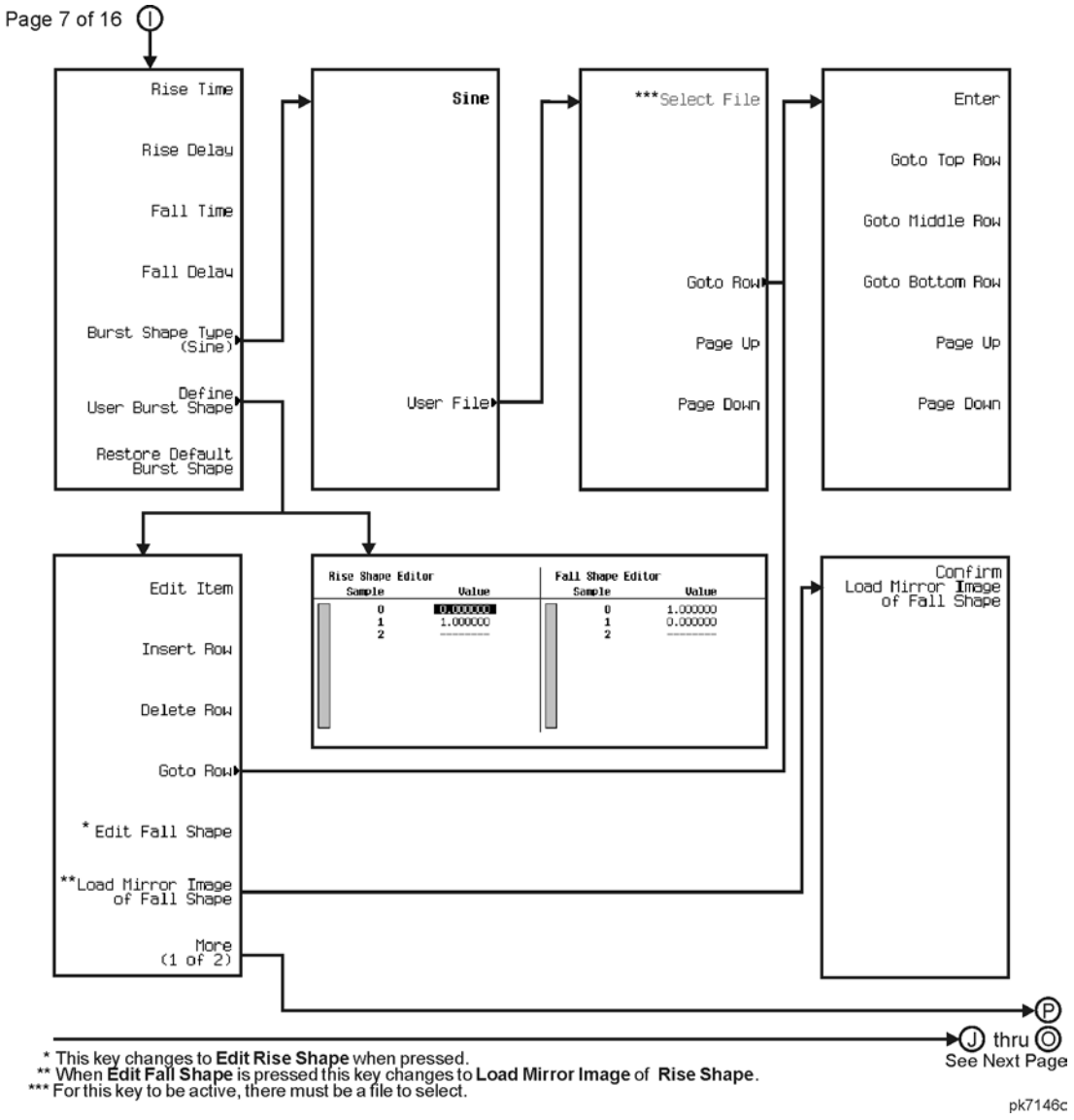

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence
(PN9)
FIX4
Other Patterns
User File
Ext
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
K
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
J
H and I
See Next Page

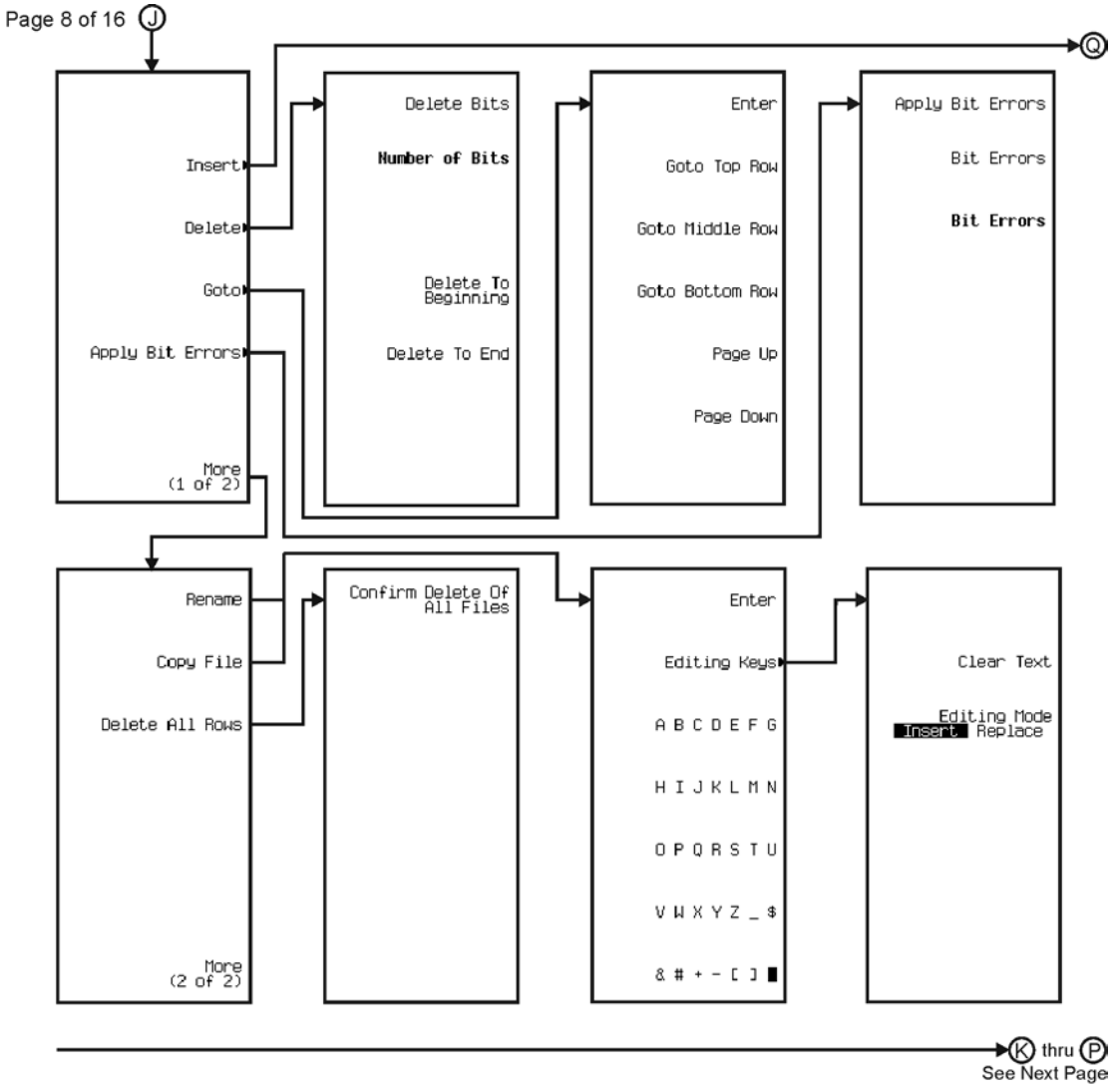
pk7143c


Page 5 of 16 G
Select (Root Nyquist)
Define User FIR
*Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
L
H thru K
See Next Page
* Changes according to filter selected.
pk7144c

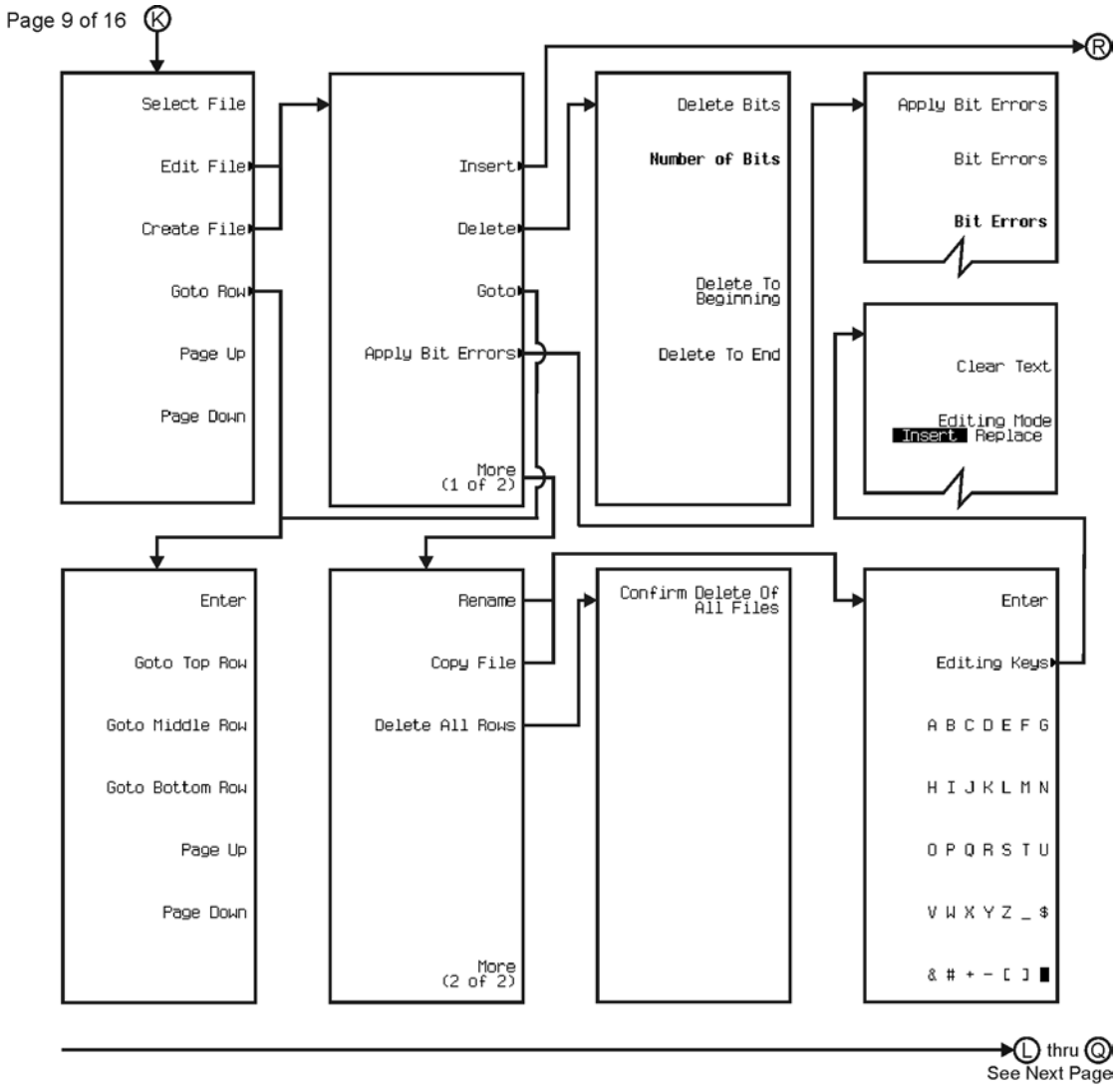

Page 6 of 16
H
Select (¼ DQPSK)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (¼ DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
¼ DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
I thru L
See Next Page

pk7145c

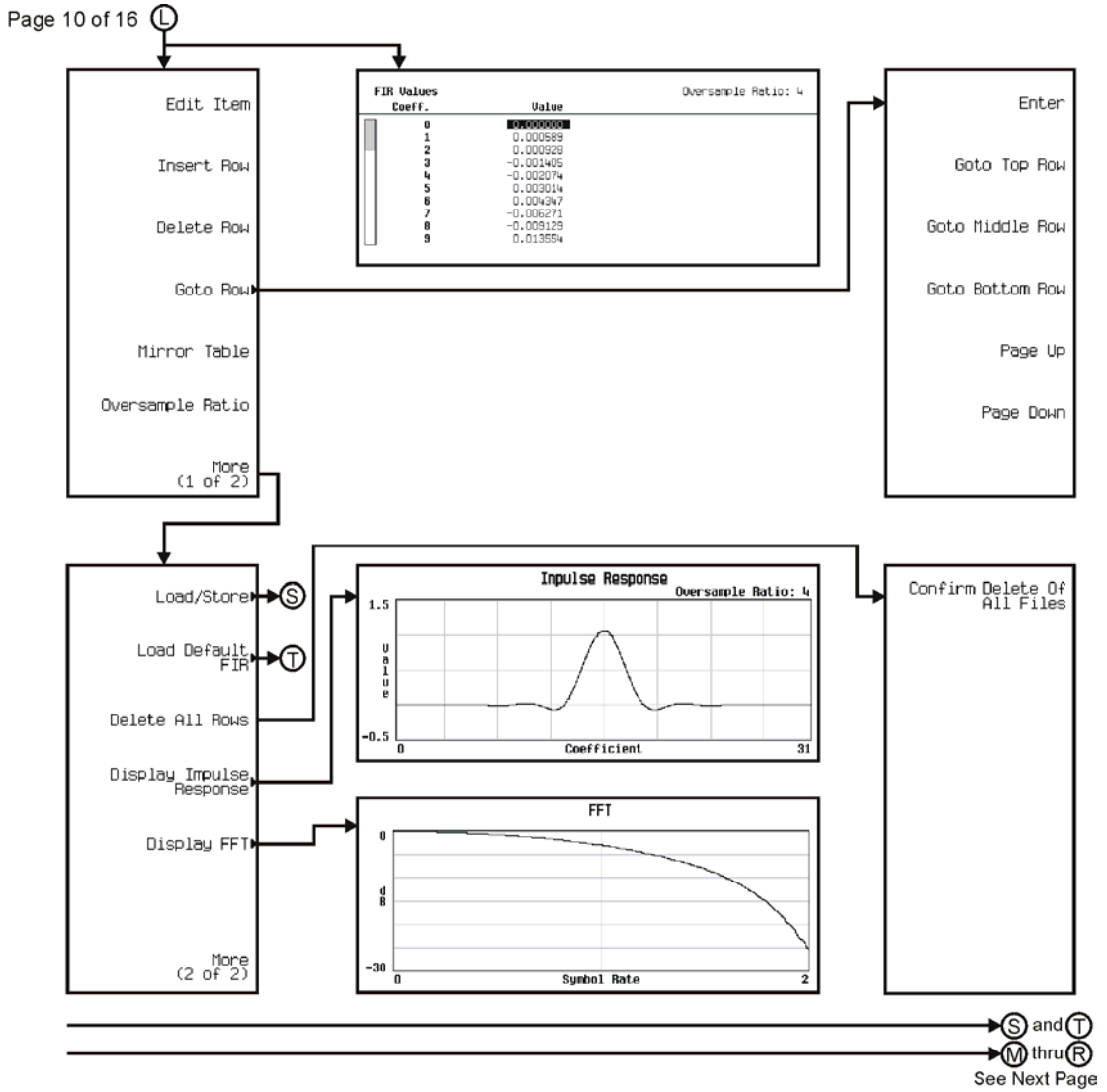

Page 7 of 16
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 0.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
J thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7146c


Page 8 of 16 J
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
K thru P
See Next Page

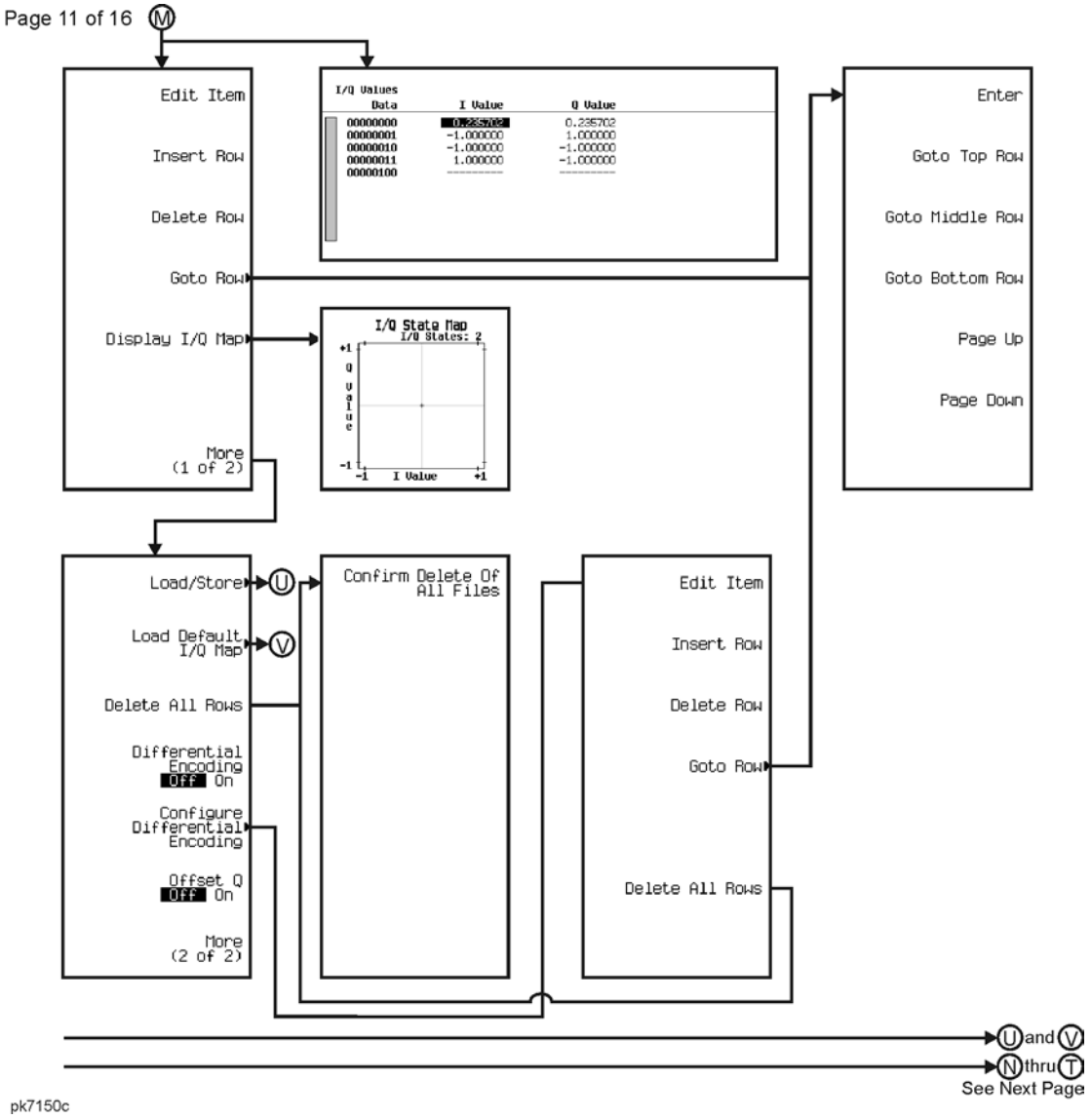
pk7147c

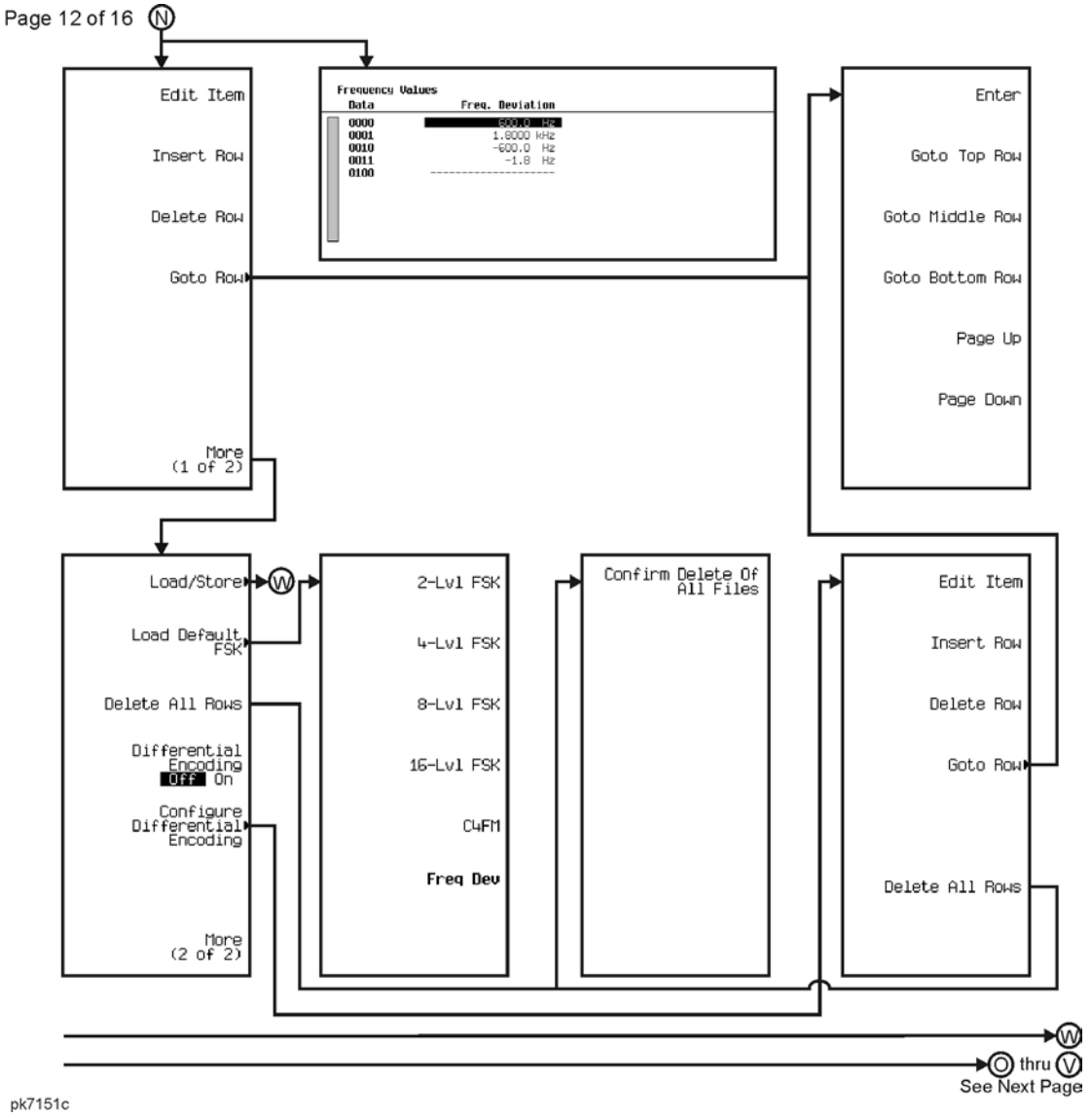

Page 9 of 16
K
R
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
L thru Q
See Next Page

pk7148c

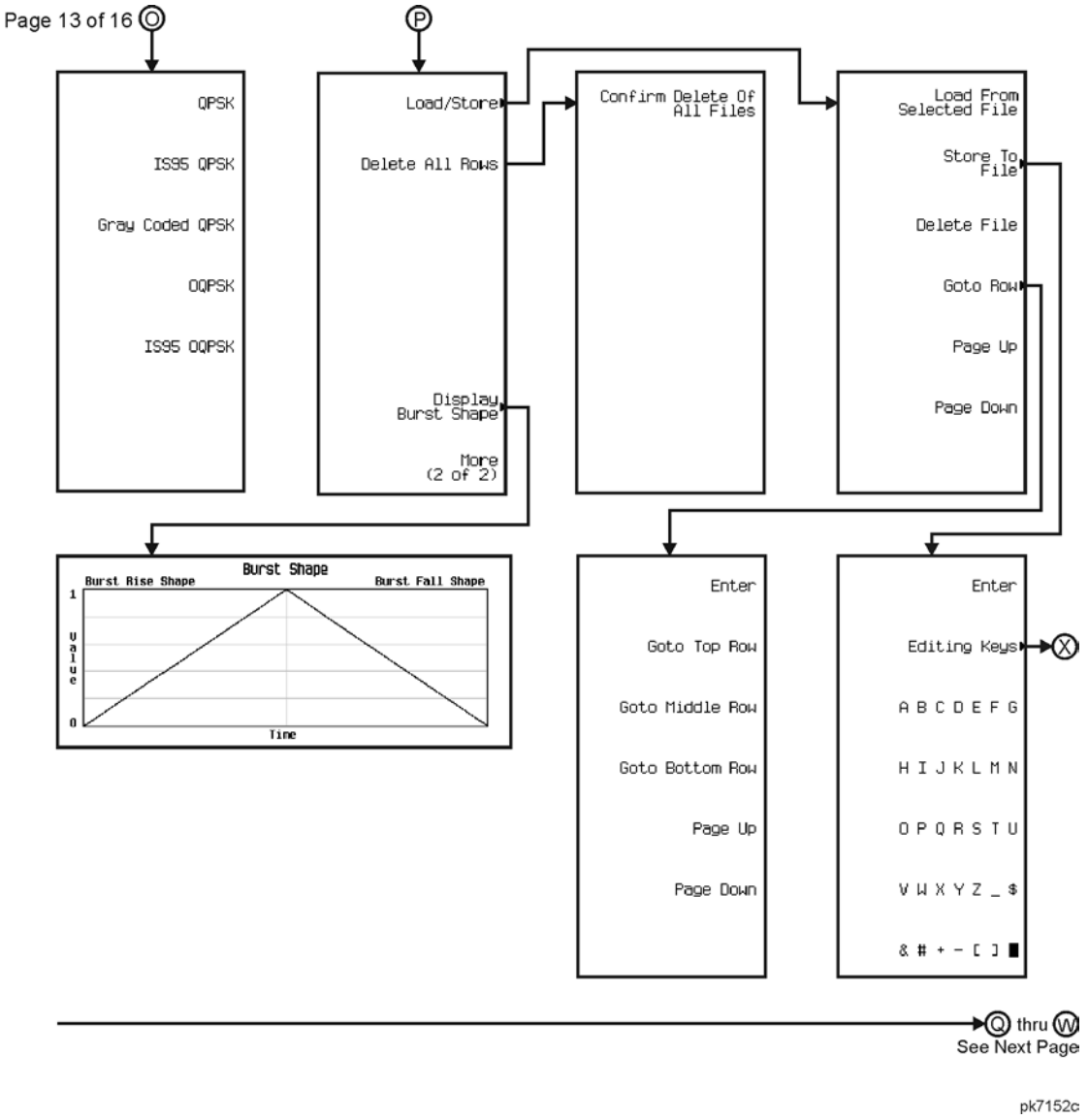

Page 10 of 16 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store S
Load Default FIR T
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Inpulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
S and T
M thru R
See Next Page

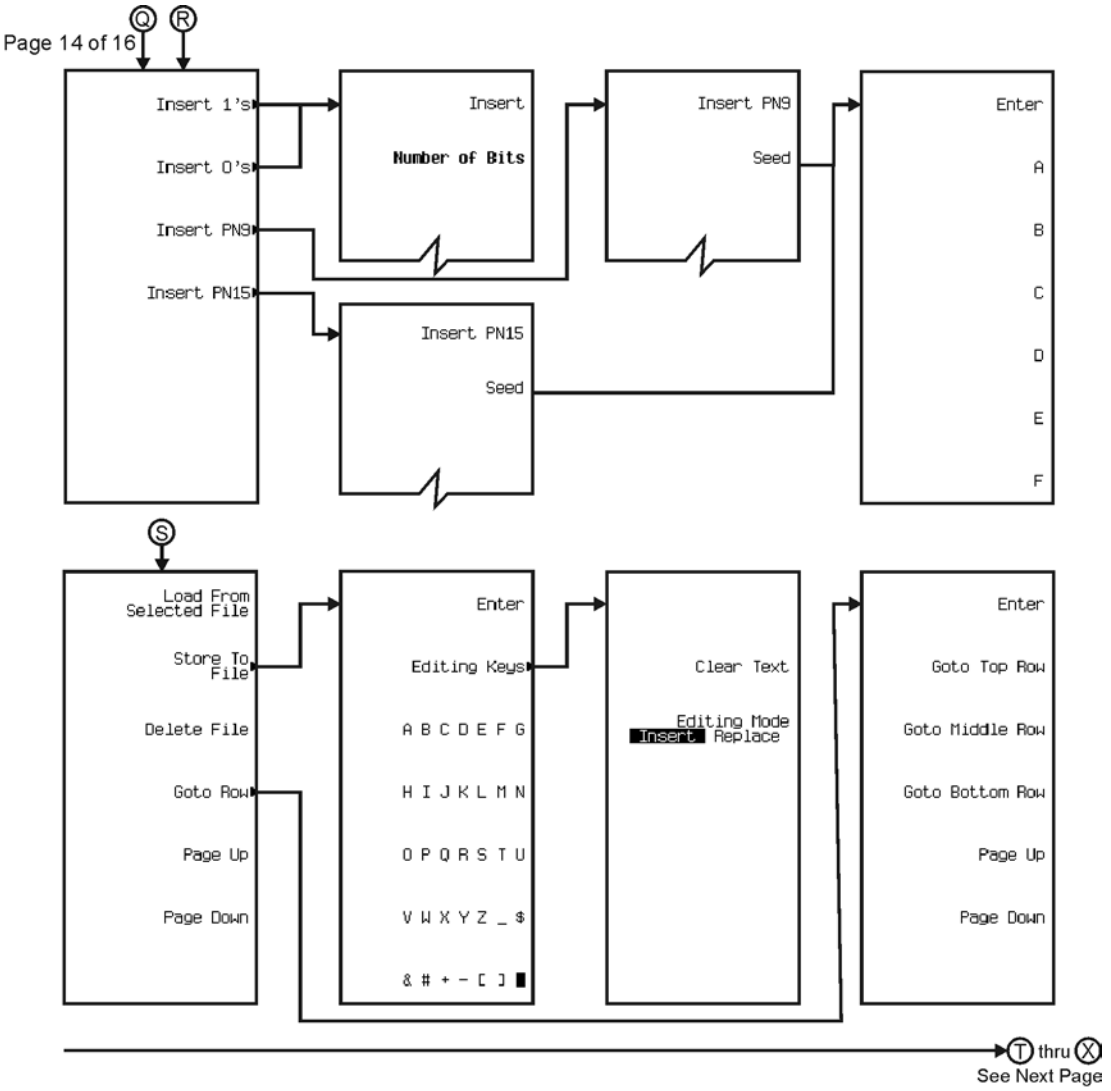
pk7149c


Page 11 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000 0.235702 0.235702
00000001 -1.000000 1.000000
00000010 -1.000000 -1.000000
00000011 1.000000 -1.000000
00000100
I/Q State Map
I/Q States: 2
+1
Q Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store U
Load Default I/Q Map V
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
U and V
N thru T
See Next Page
pk7150c

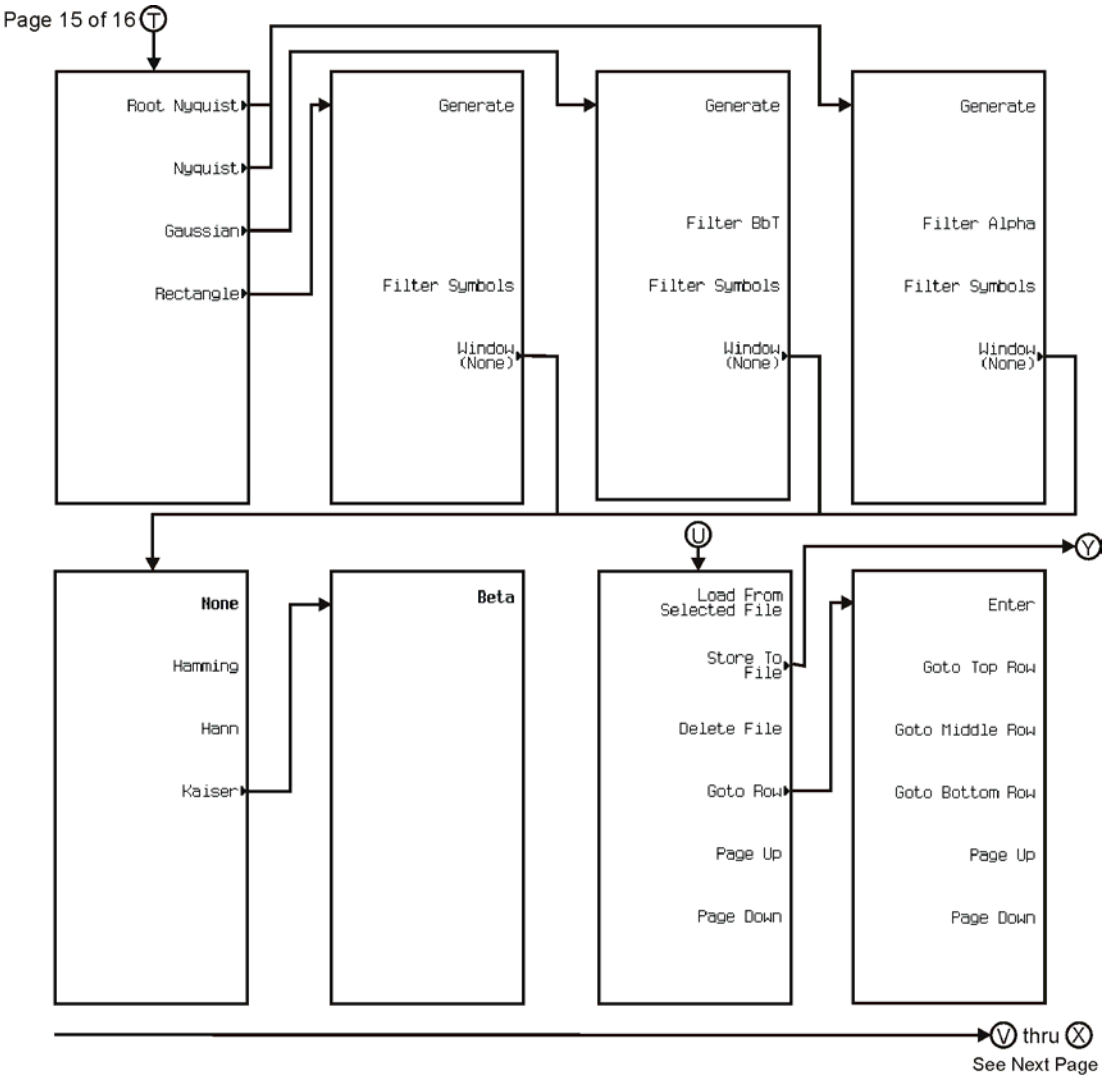

Page 12 of 16
N
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
0001
0010
0011
0100
600.0 Hz
1.8000 kHz
-600.0 Hz
-1.8 Hz
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
W
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
W
O thru V
See Next Page

pk7151c

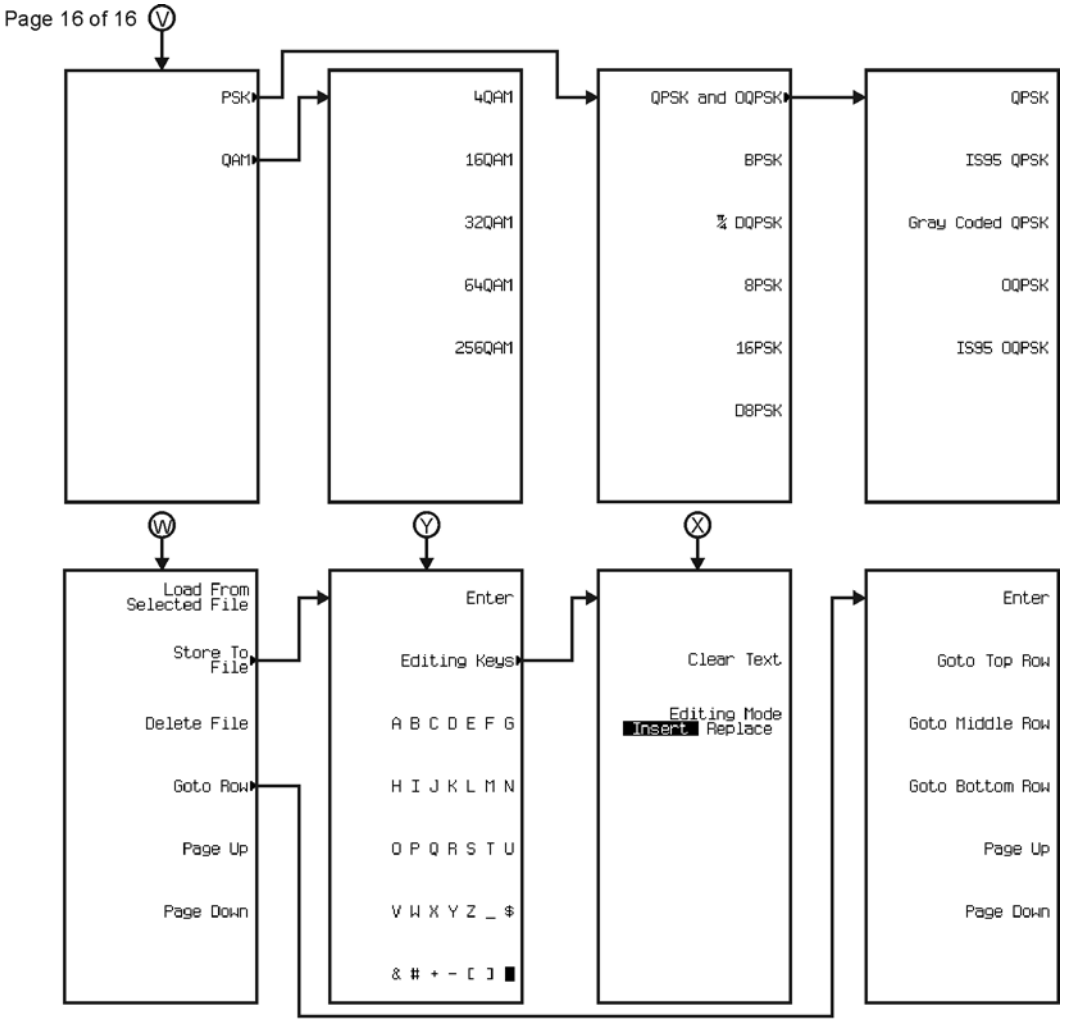

Page 13 of 16 O
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
P
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
X
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru W
See Next Page
pk7152c


Page 14 of 16
Q
R
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
S
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru X
See Next Page

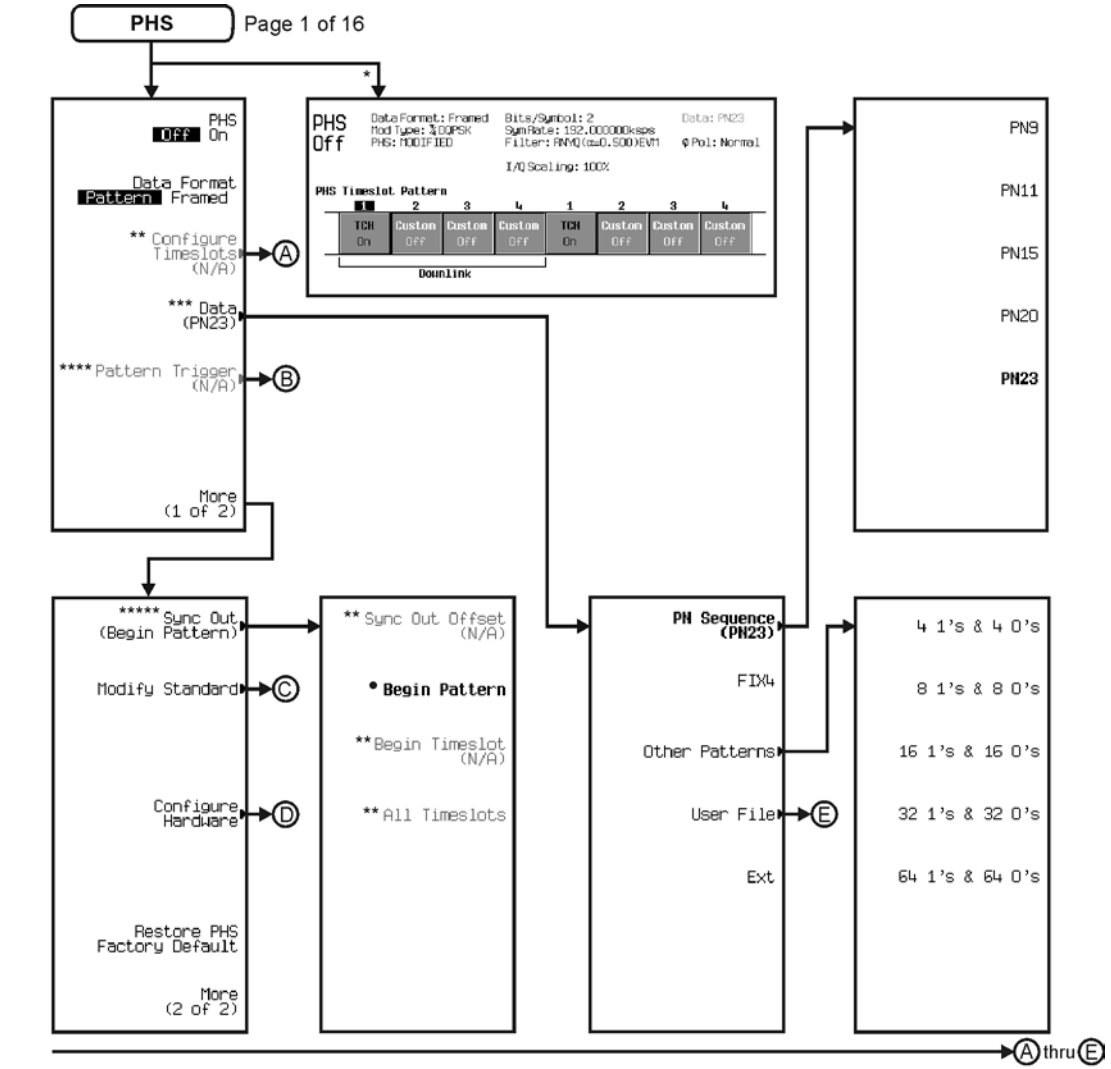
pk7153c


Page 15 of 16 T
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
U
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Y
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V thru X
See Next Page

pk7154c

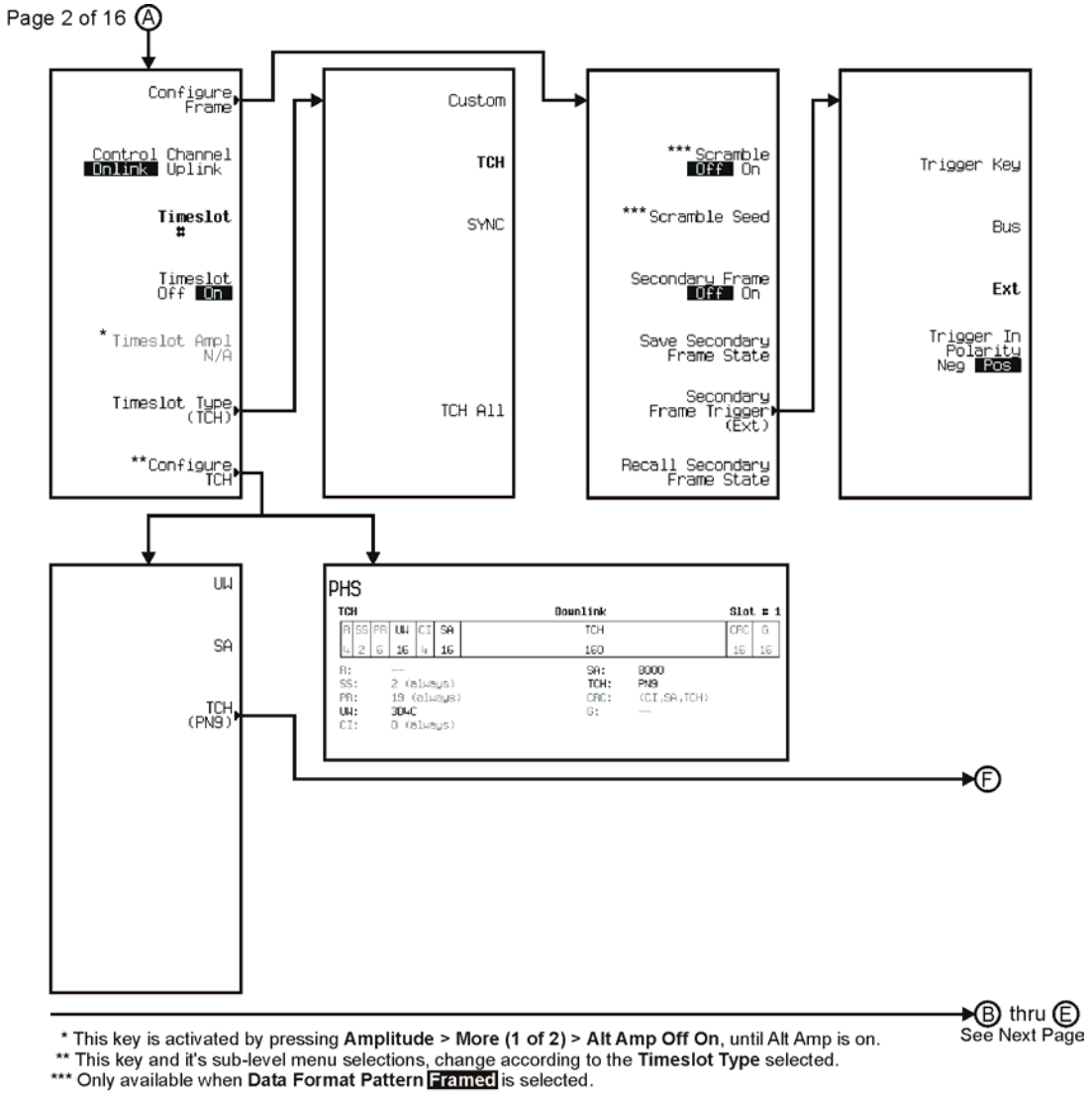

Page 16 of 16
V
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
W
Y
X
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7155c



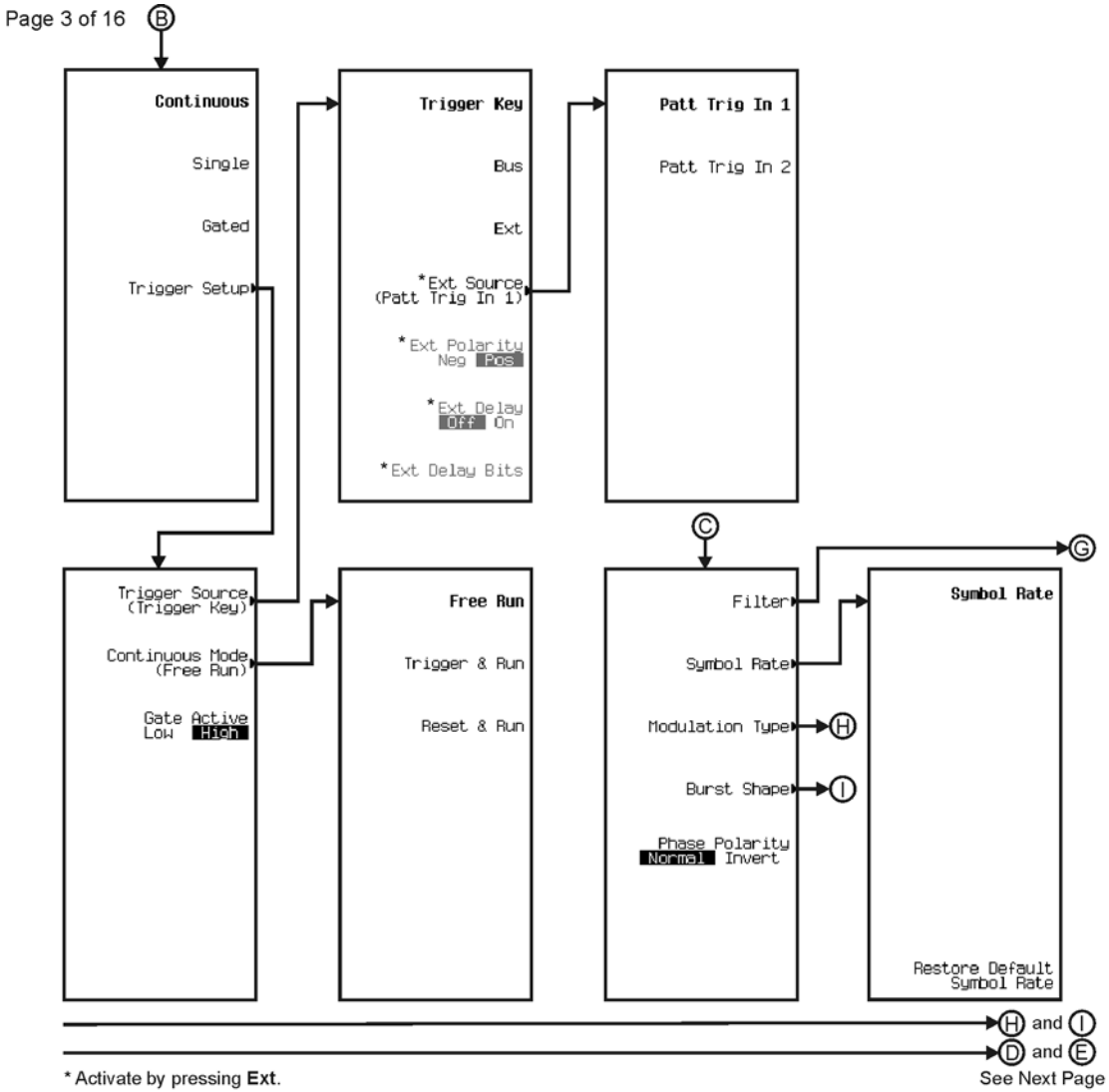
*Appears when the **Data Format Pattern Framed** softkey is set to Framed.
Active when the **Data Format Pattern Framed softkey is set to Framed.
***Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
****Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
*****Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
•Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

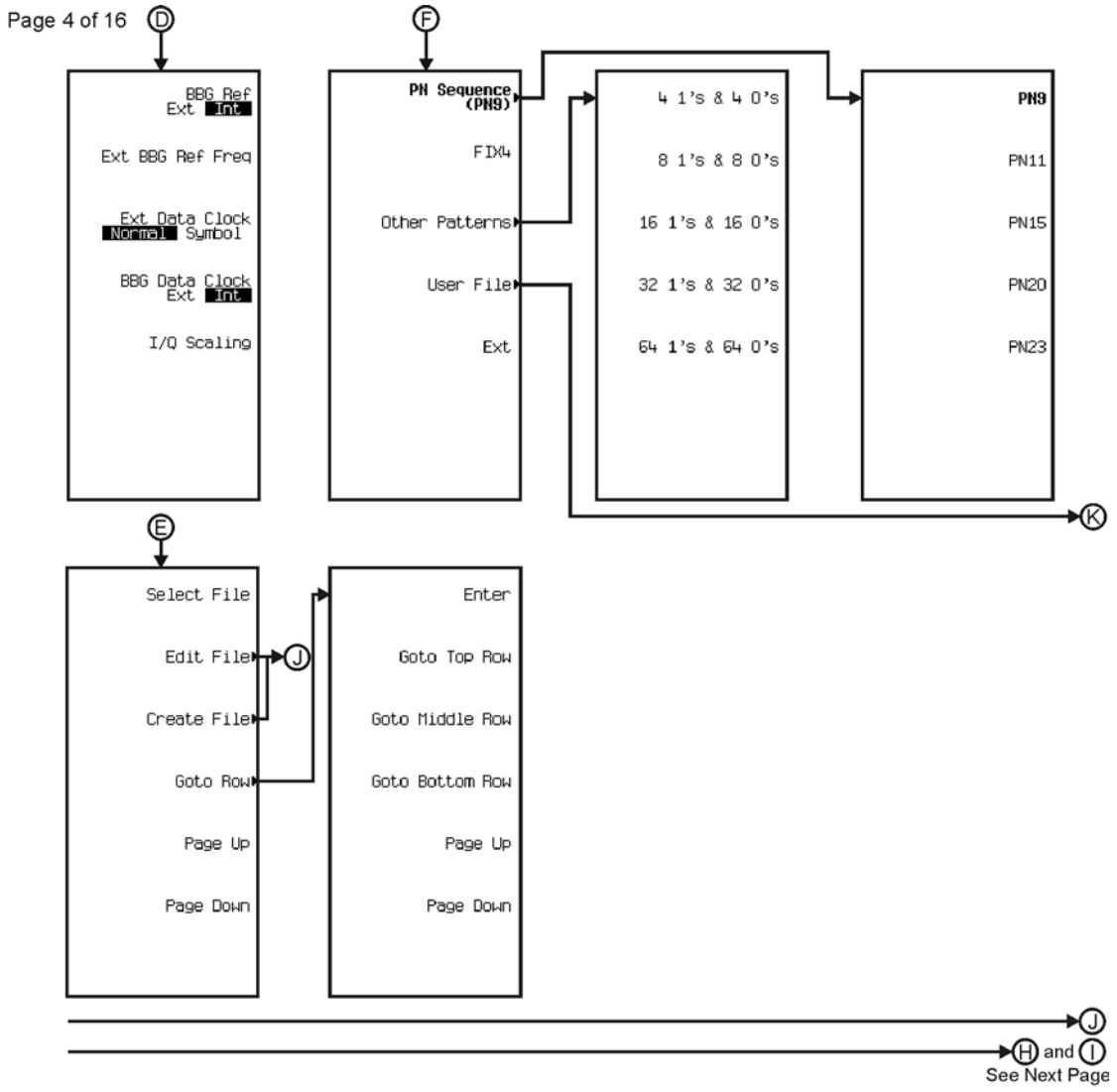
pk7158c



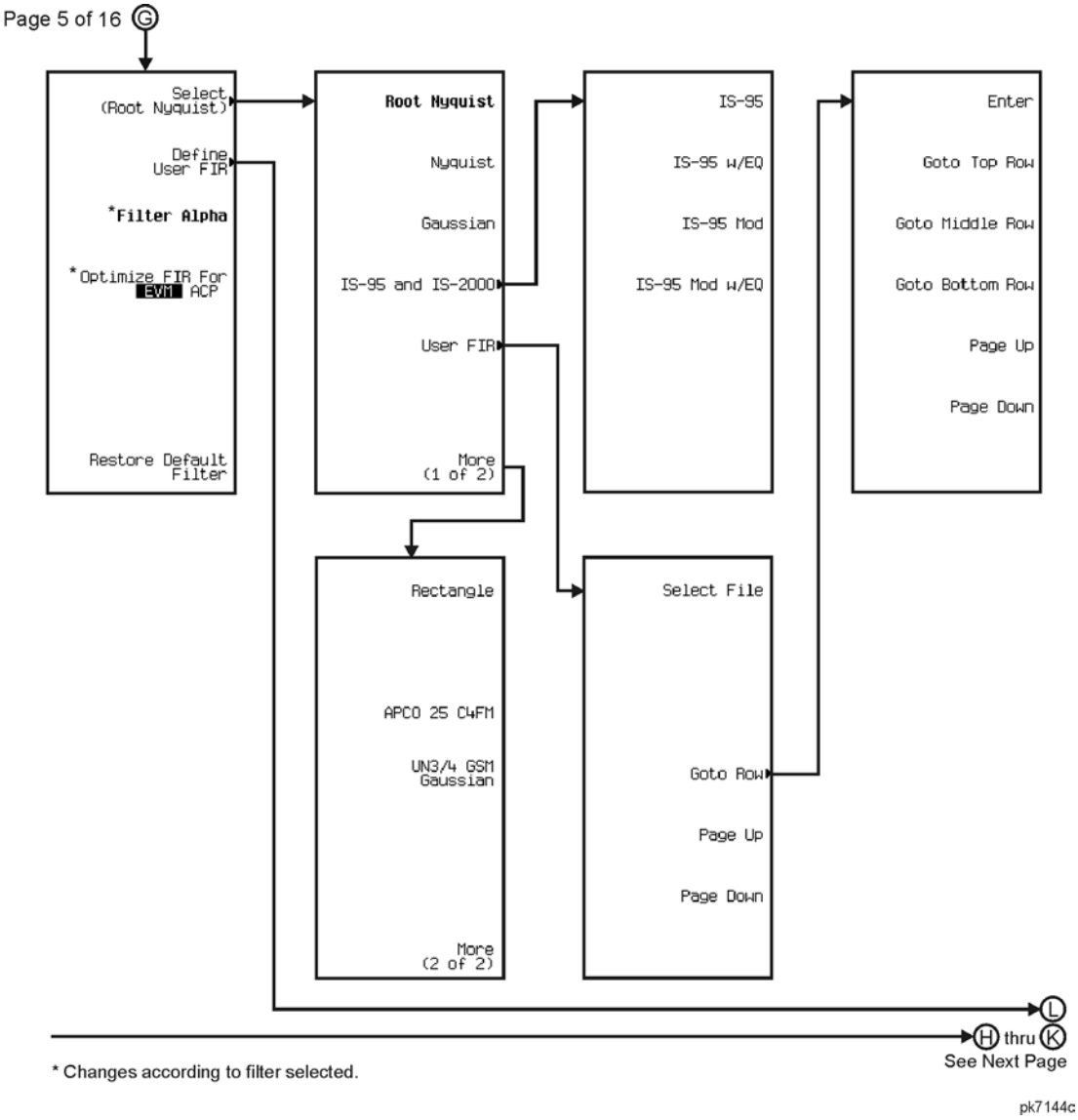
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
** This key and it's sub-level menu selections, change according to the **Timeslot Type** selected.
*** Only available when **Data Format Pattern** **Framed** is selected.

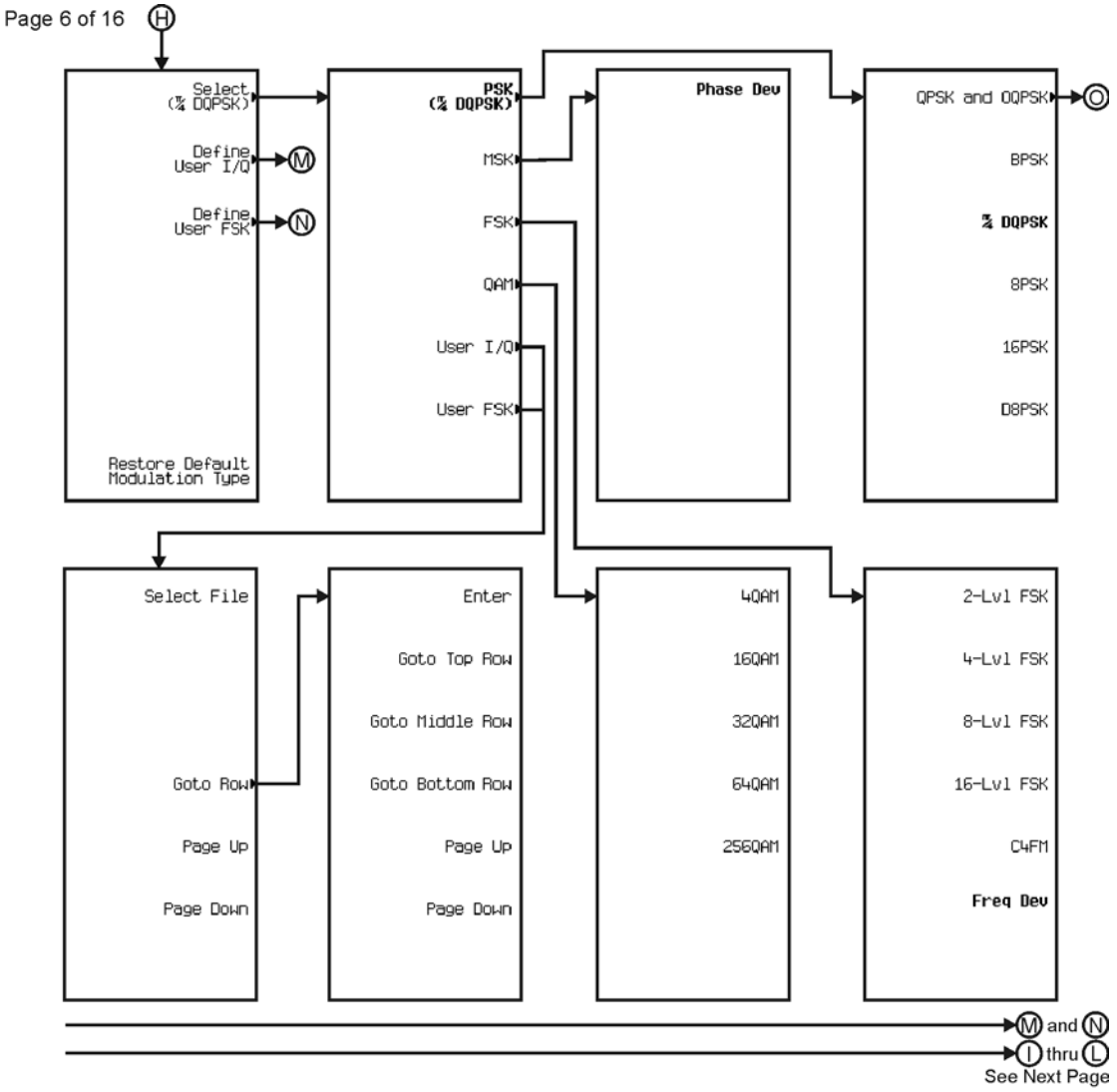
pk7159c


Page 3 of 16
B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
G
Symbol Rate
Restore Default Symbol Rate
H and I
D and E
* Activate by pressing Ext.
See Next Page
pk7142c

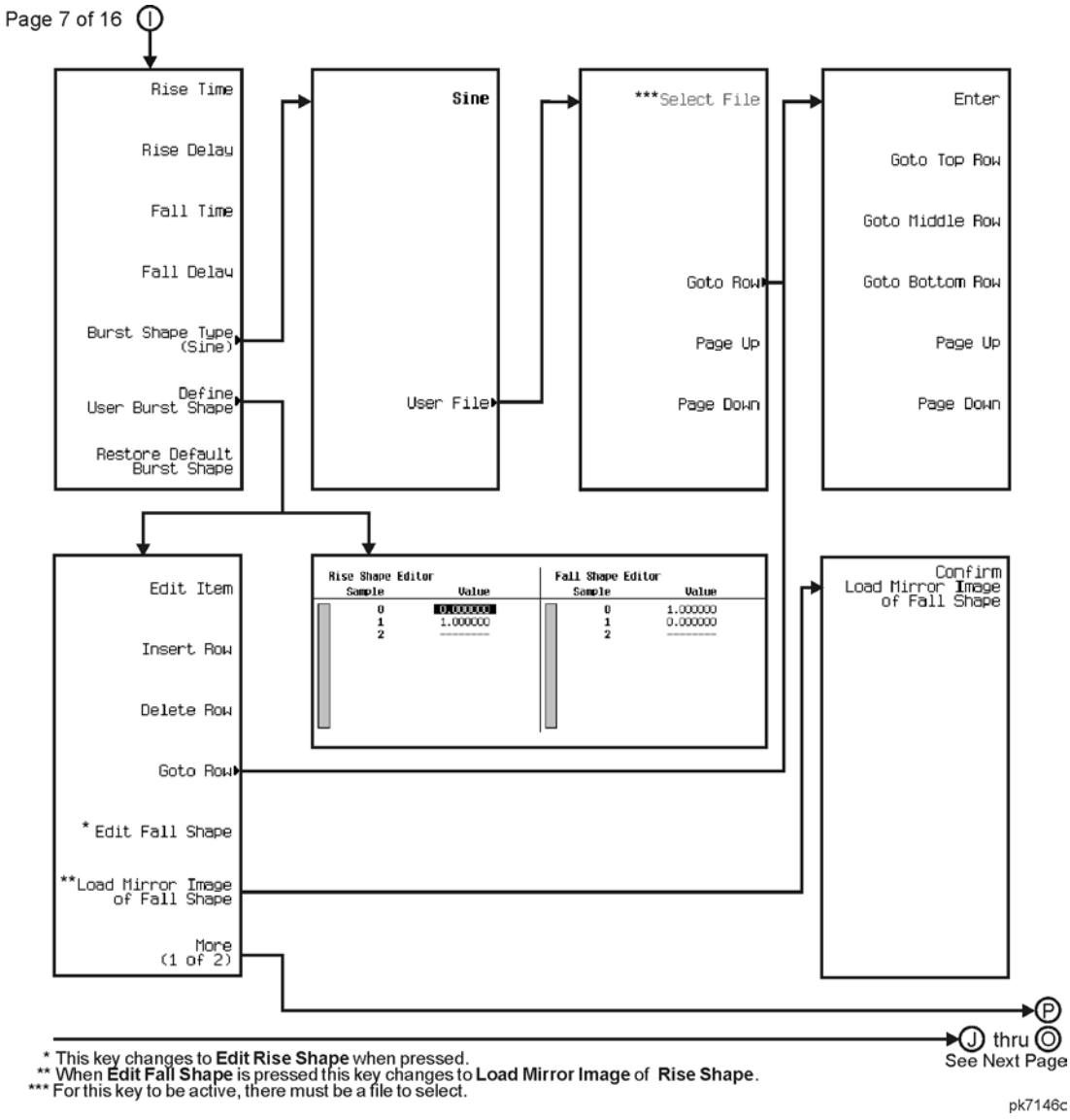

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence
(PN9)
FIX4
Other Patterns
User File
Ext
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
K
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
J
H and I
See Next Page

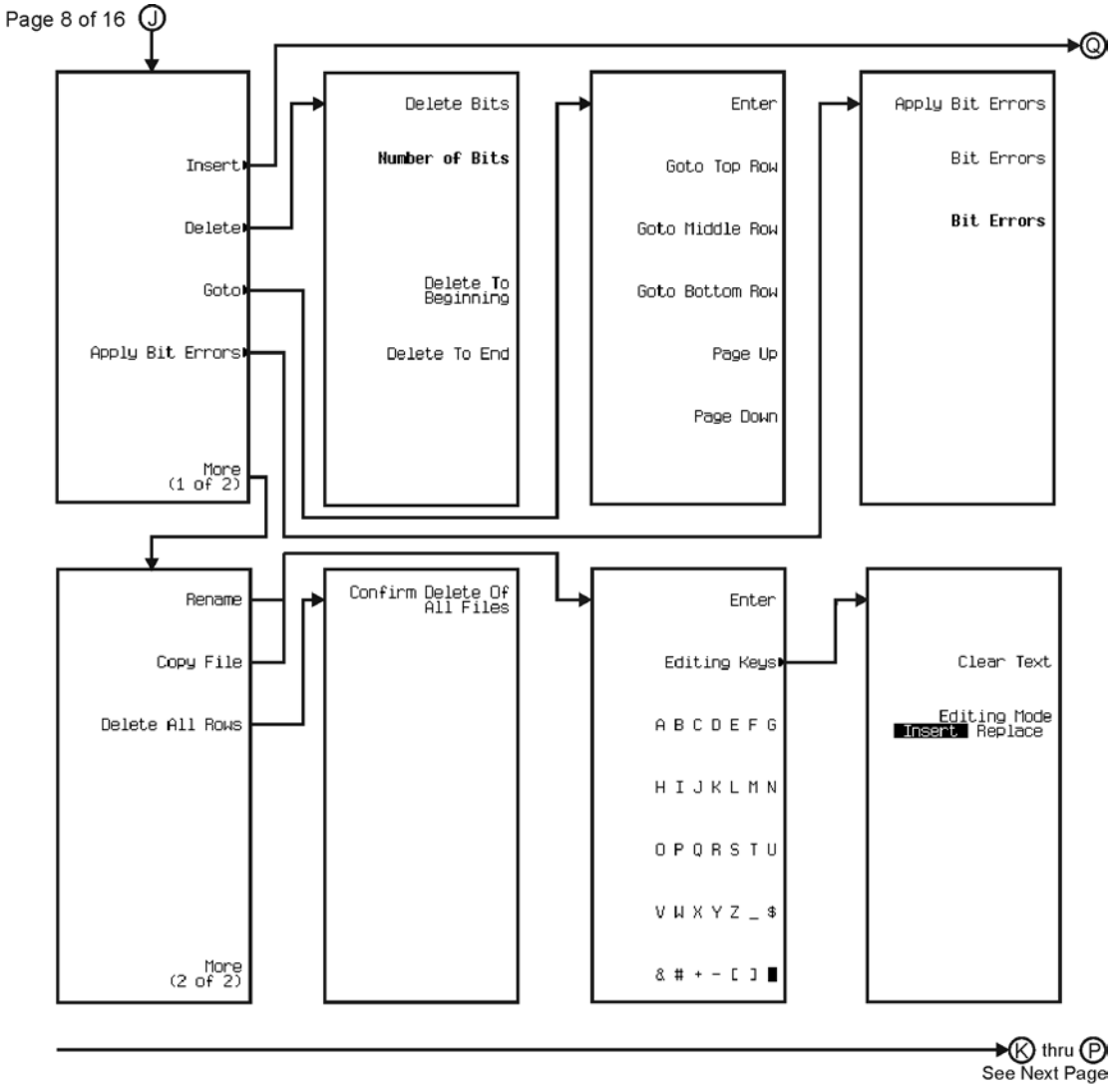
pk7143c


Page 5 of 16 G
Select (Root Nyquist)
Define User FIR
*Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
L
H thru K
See Next Page
* Changes according to filter selected.
pk7144c

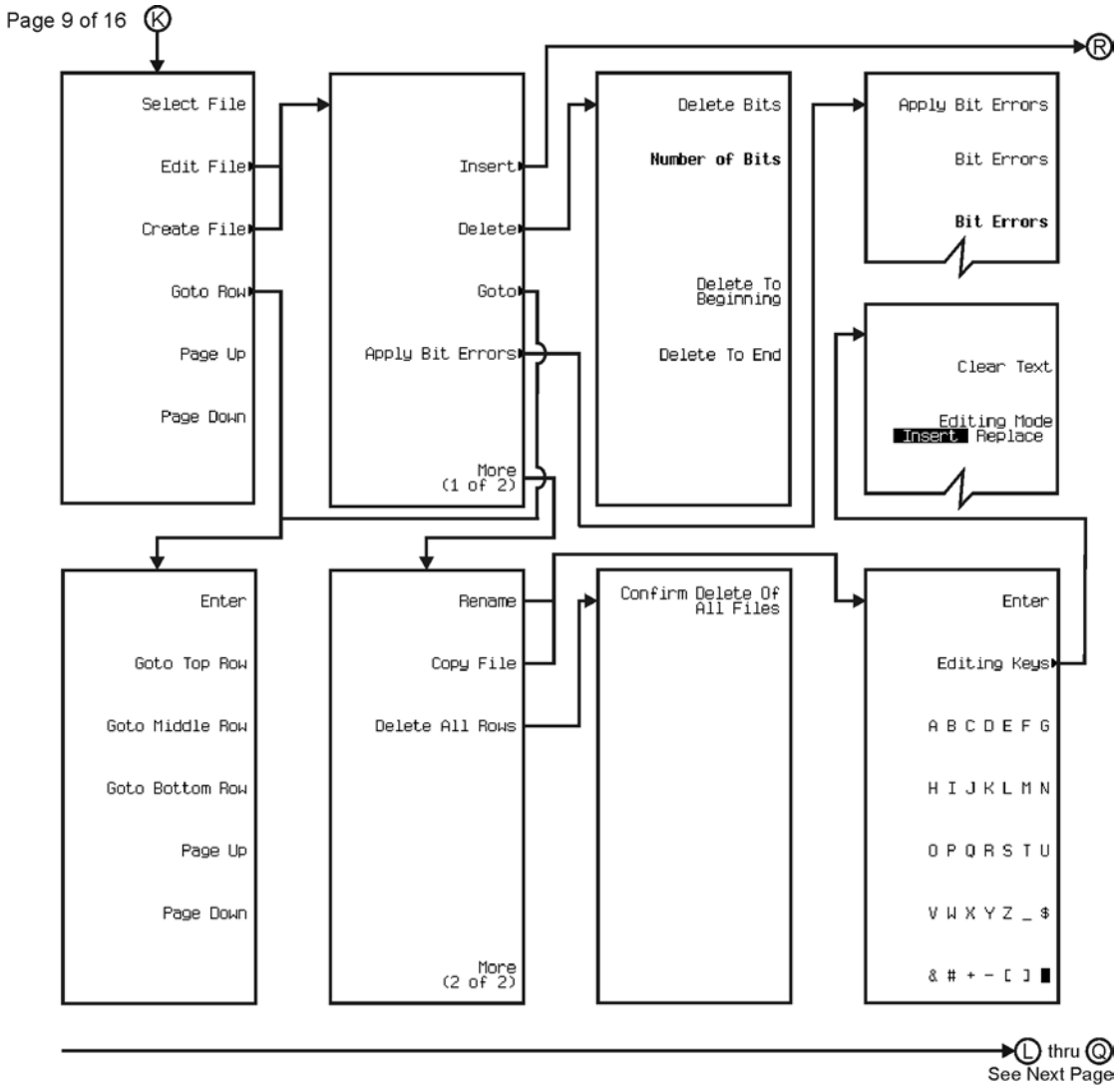

Page 6 of 16
H
Select (¼ DQPSK)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (¼ DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
¼ DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
I thru L
See Next Page

pk7145c

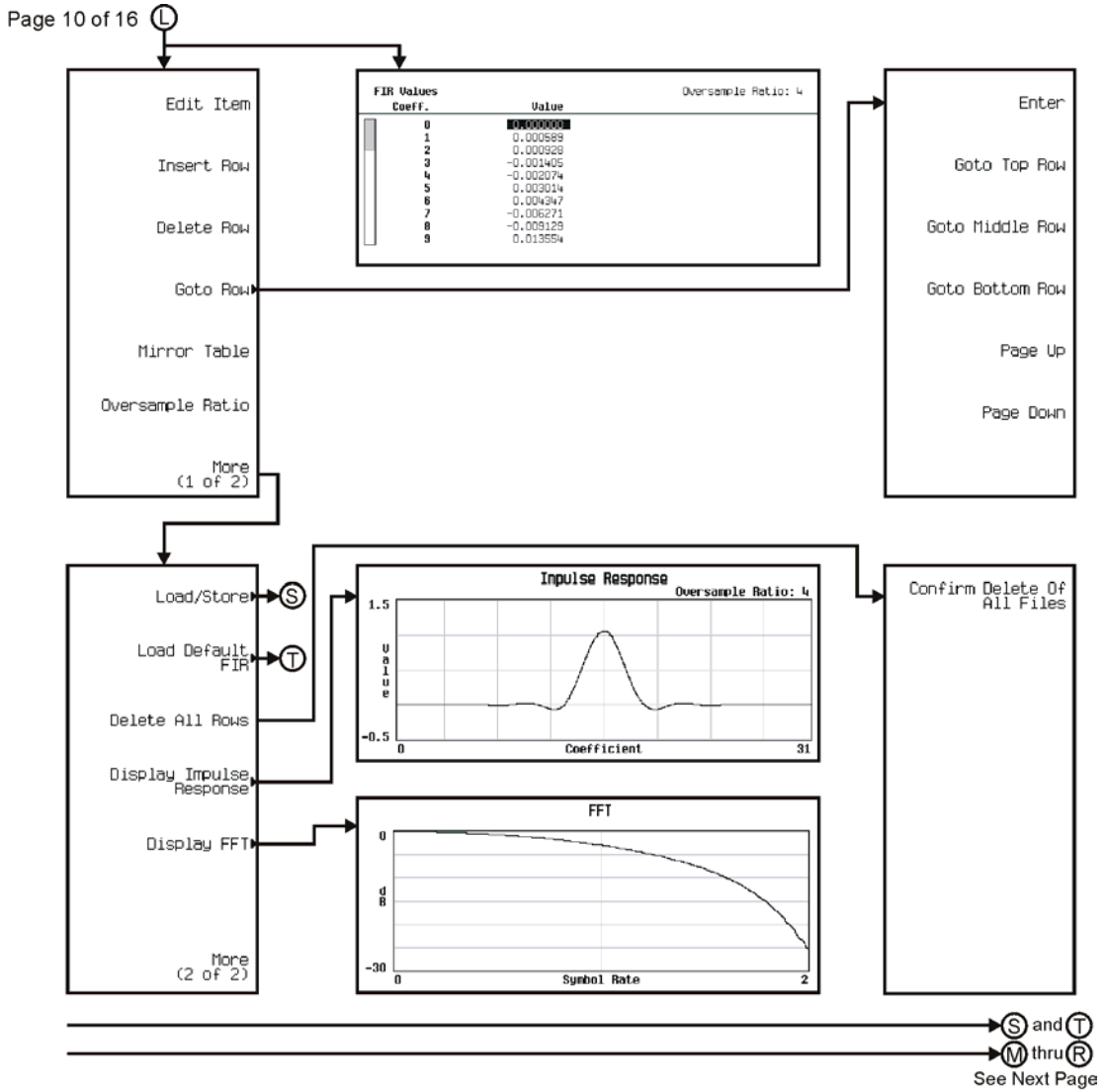

Page 7 of 16
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 0.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
J thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7146c


Page 8 of 16 J
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
K thru P
See Next Page

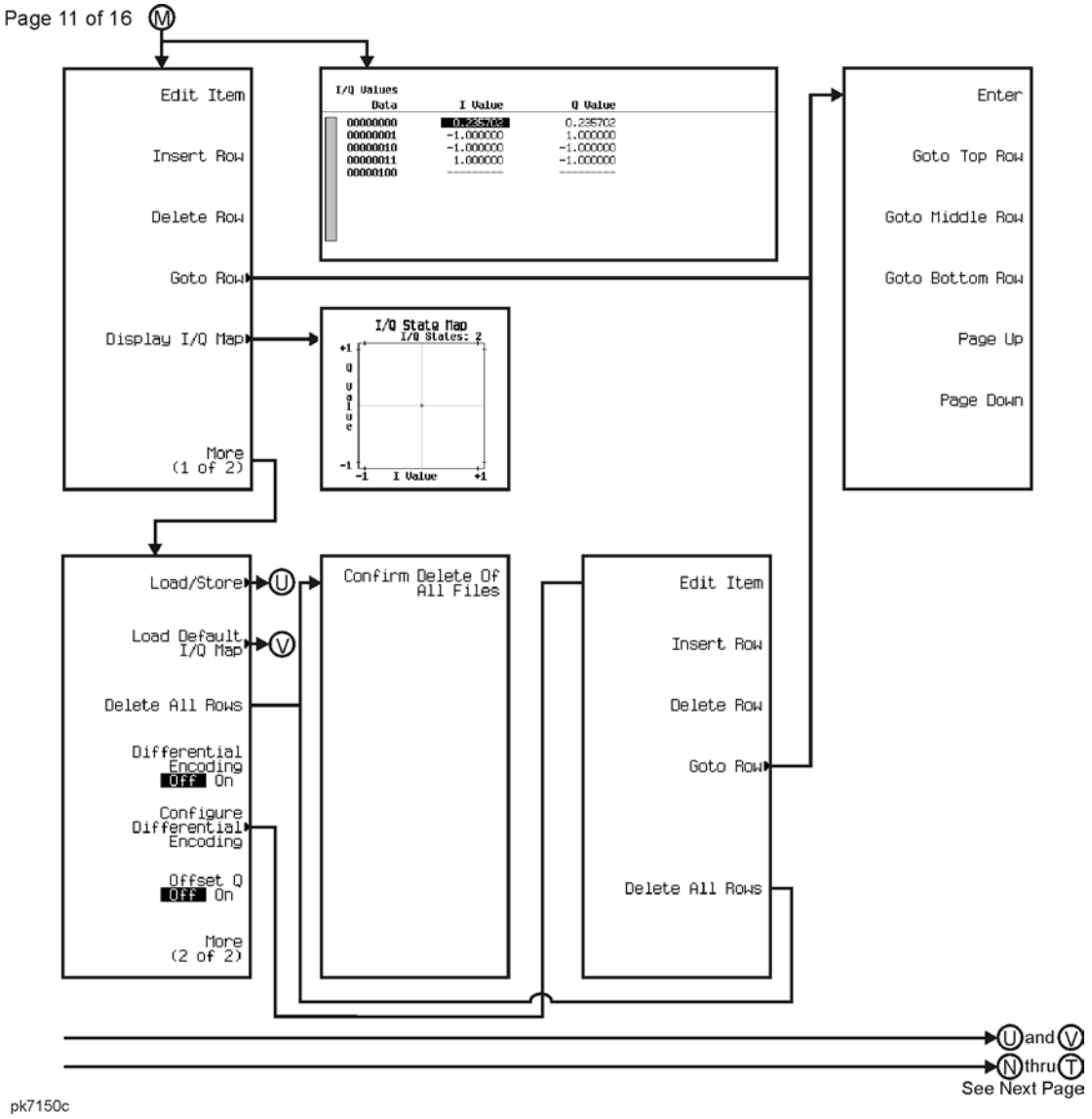
pk7147c

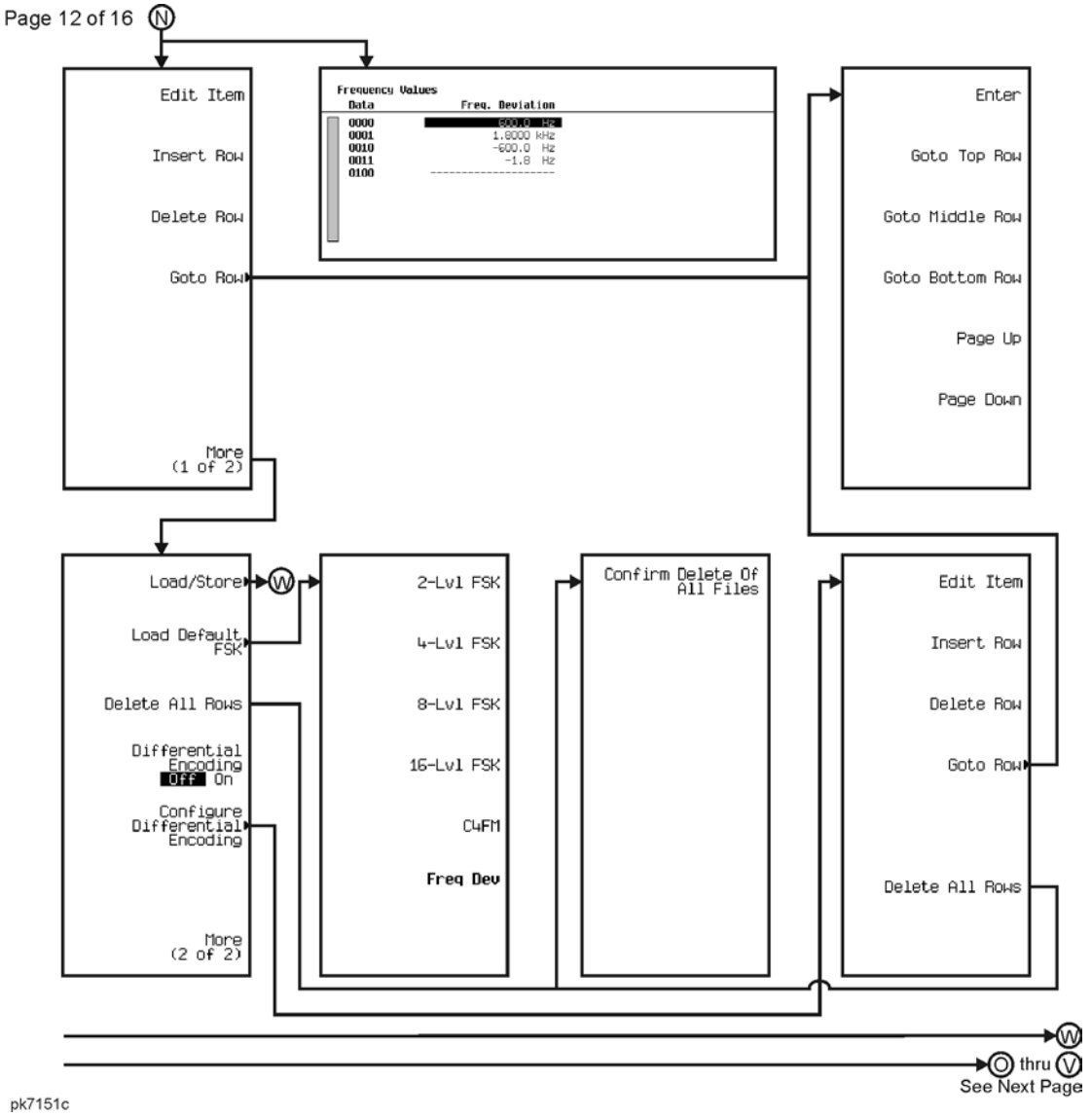

Page 9 of 16
K
R
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert
Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
L thru Q
See Next Page

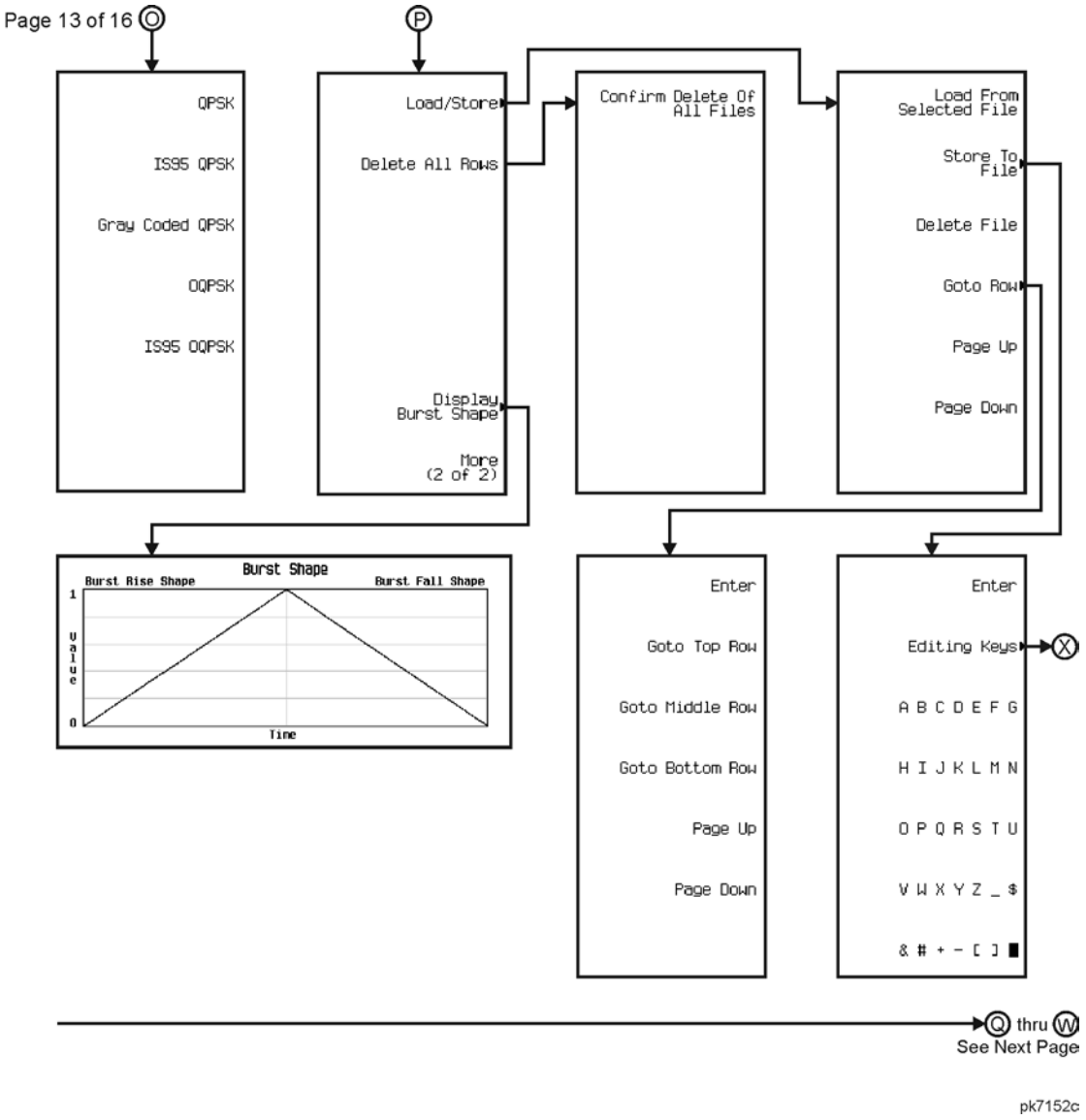
pk7148c


Page 10 of 16 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More (1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store S
Load Default FIR T
Delete All Rows
Display Impulse Response
Display FFT
More (2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
S and T
M thru R
See Next Page

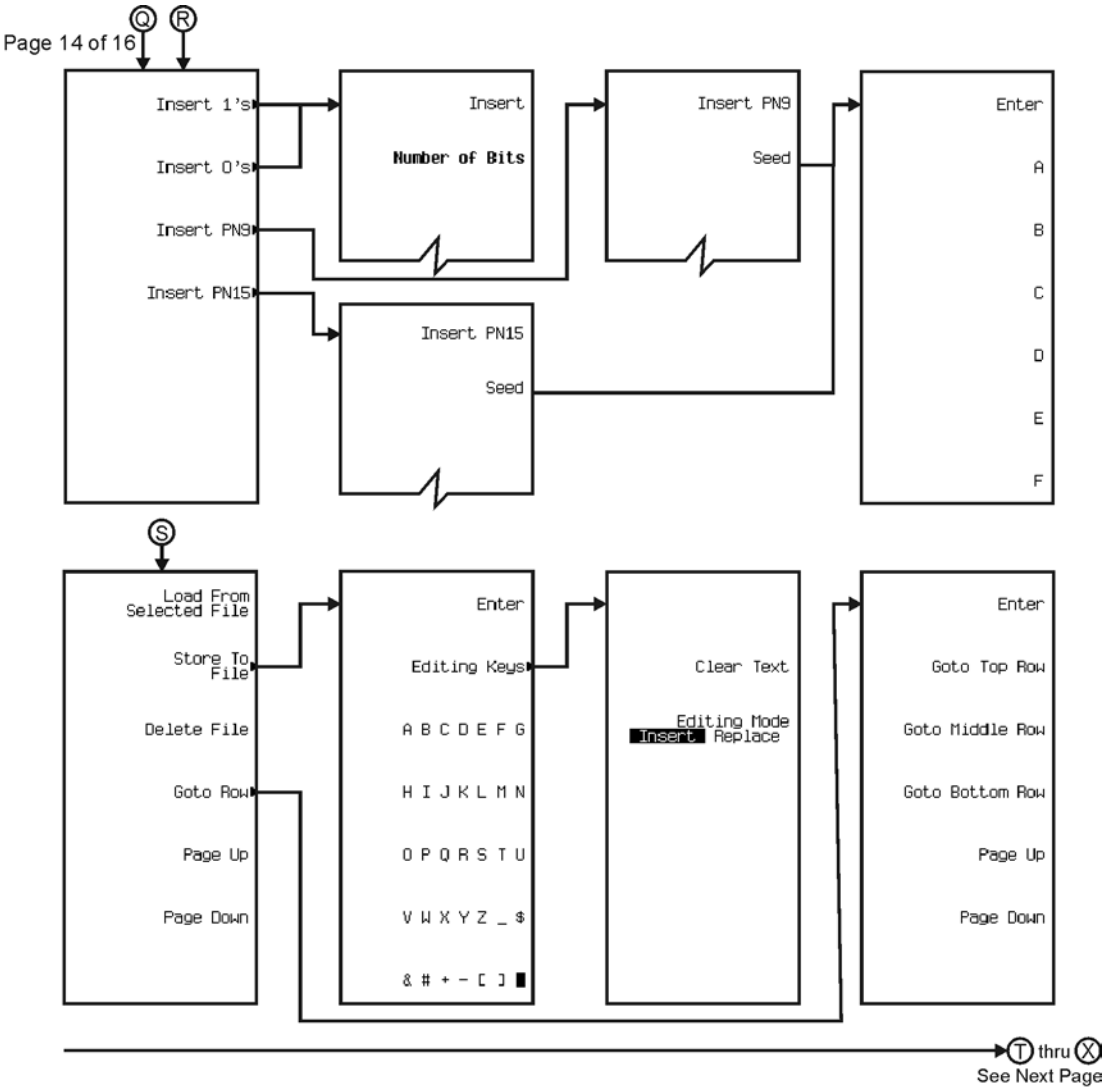
pk7149c


Page 11 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000 0.235702 0.235702
00000001 -1.000000 1.000000
00000010 -1.000000 -1.000000
00000011 1.000000 -1.000000
00000100
I/Q State Map
I/Q States: 2
+1
Q Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store U
Load Default I/Q Map V
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
U and V
N thru T
See Next Page
pk7150c

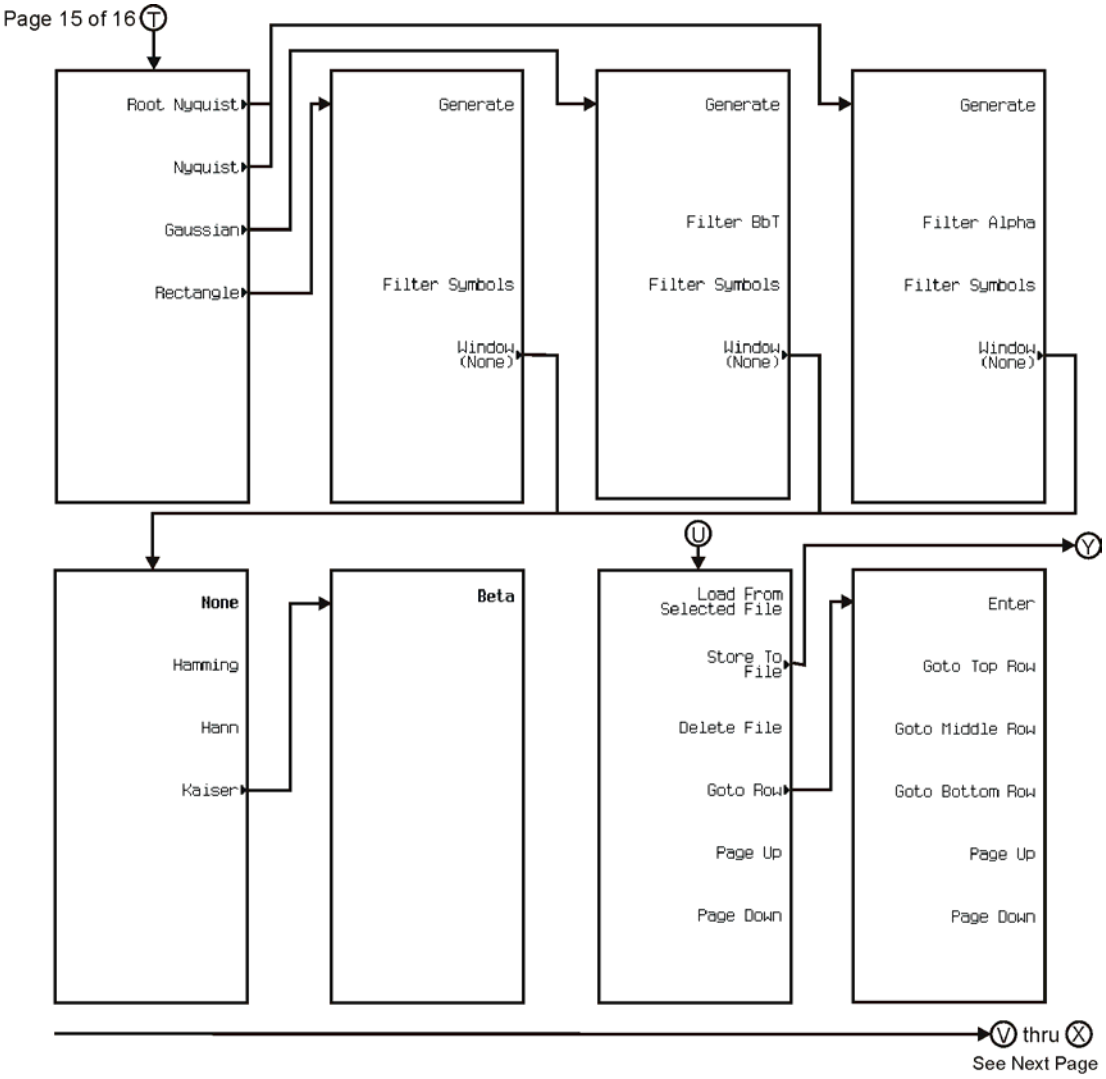

Page 12 of 16
N
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
600.0 Hz
0001
1.8000 kHz
0010
-600.0 Hz
0011
-1.8 Hz
0100
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
W
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
W
O thru V
See Next Page
pk7151c


Page 13 of 16 O
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
P
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
X
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru W
See Next Page

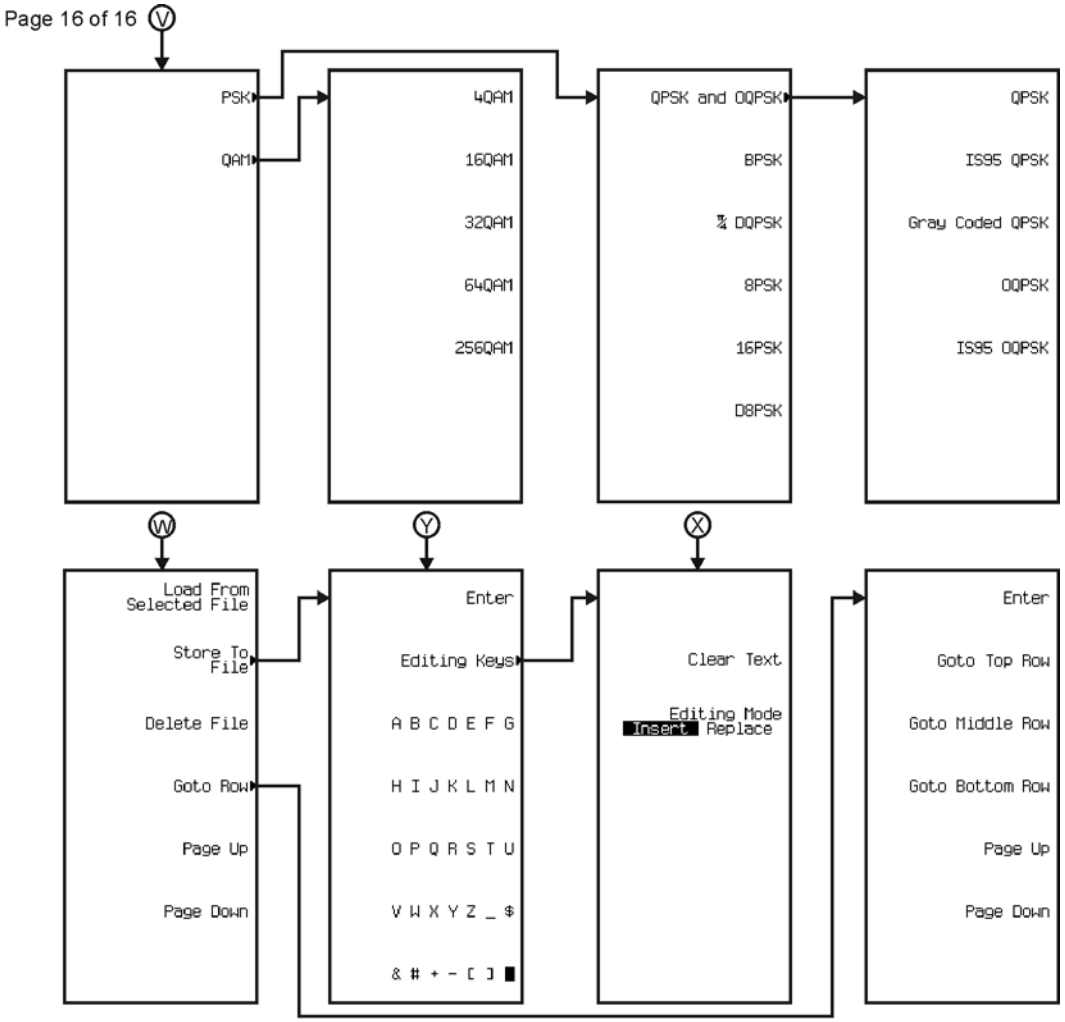
pk7152c


Page 14 of 16
Q
R
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
S
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru X
See Next Page

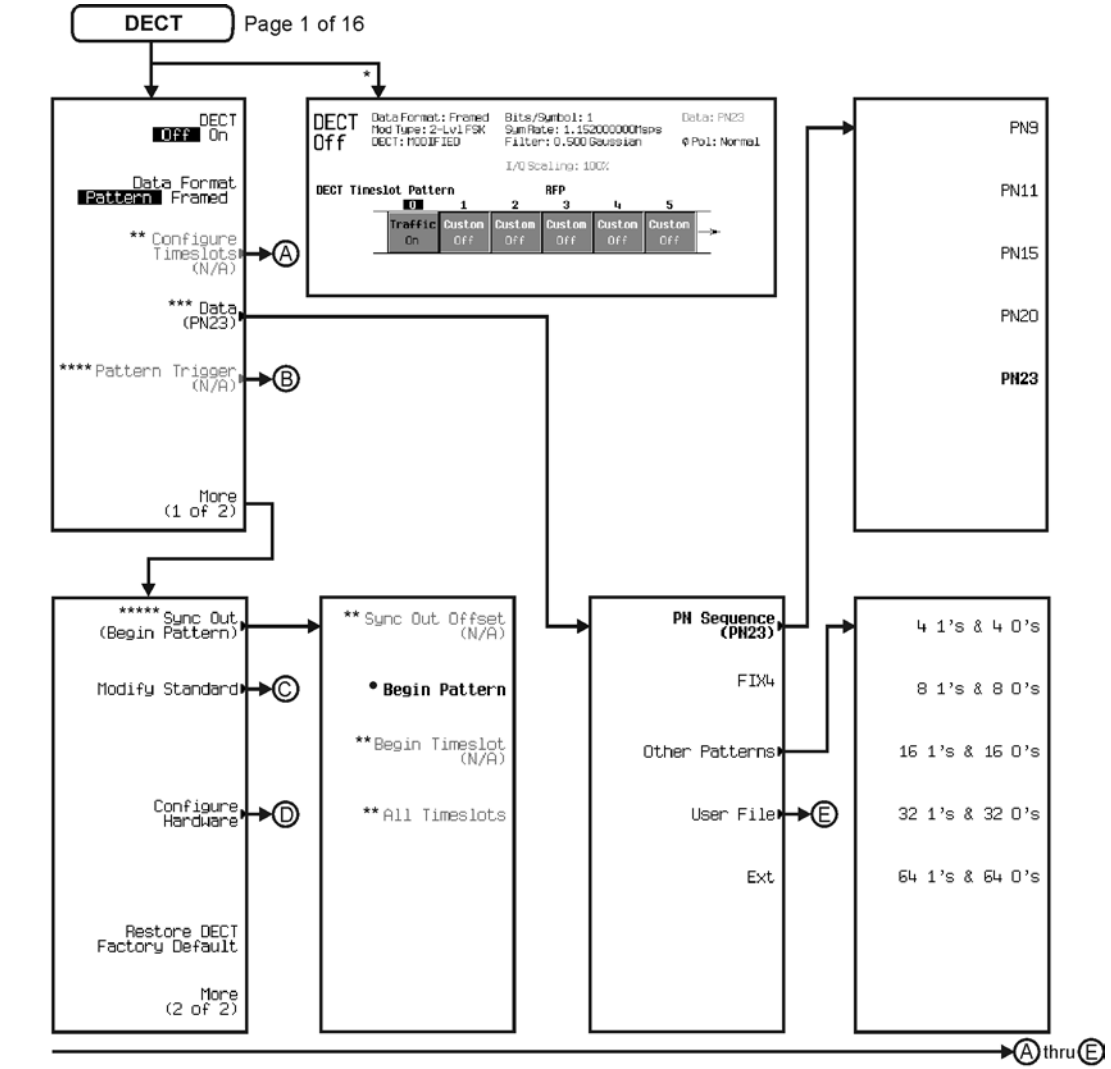
pk7153c


Page 15 of 16 T
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
U
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Y
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V thru X
See Next Page

pk7154c

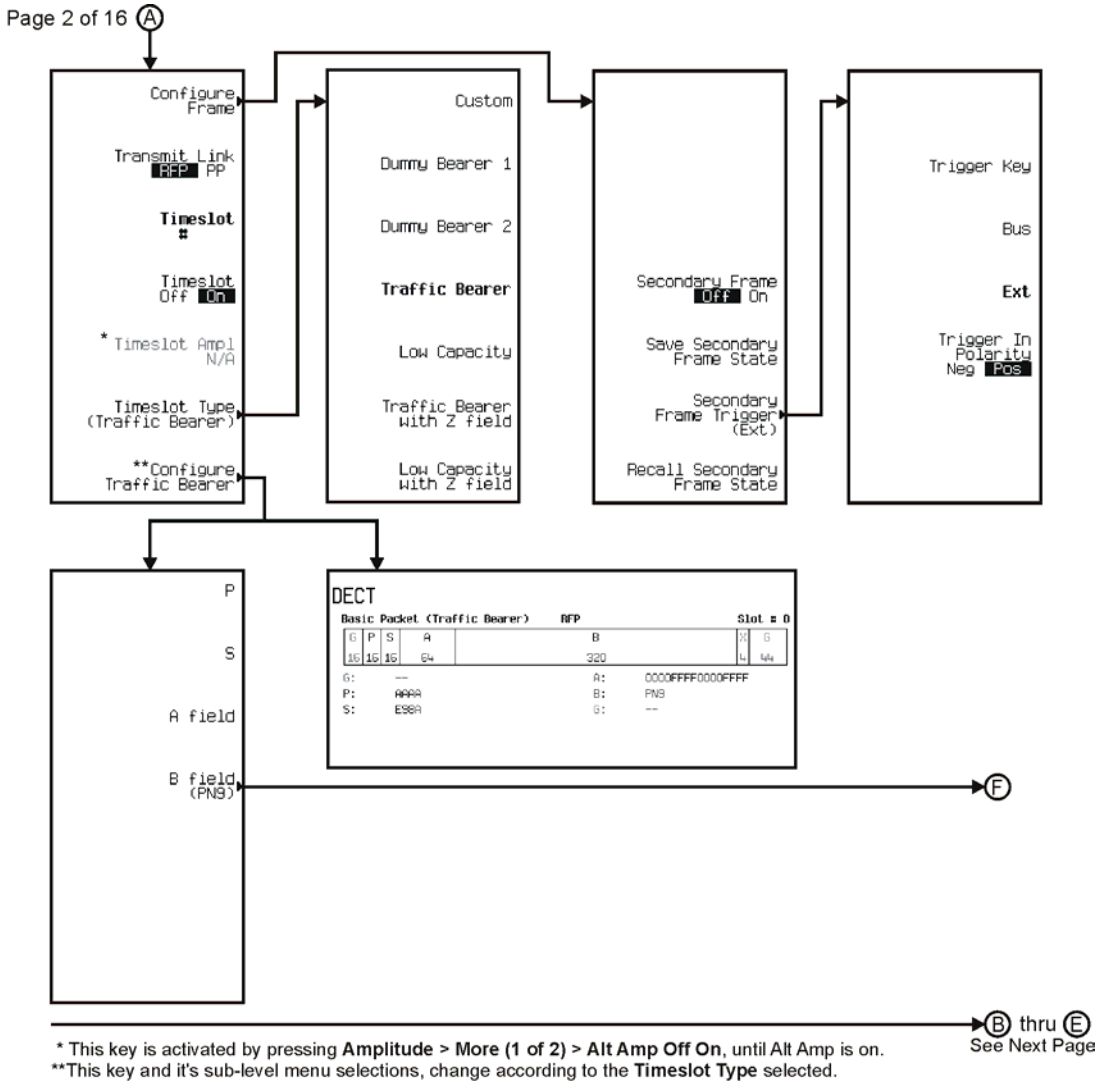

Page 16 of 16
V
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
W
Y
X
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7155c



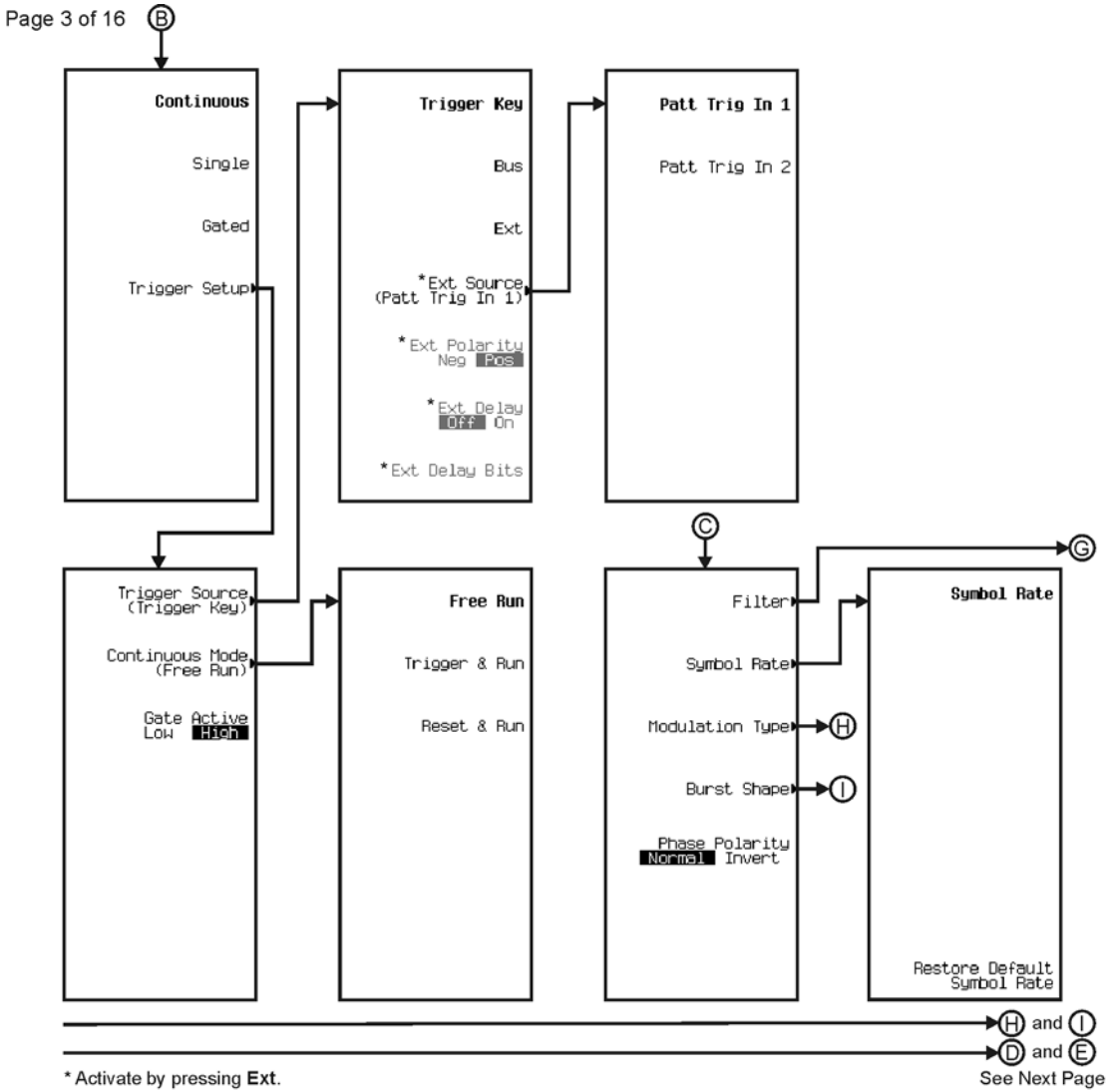
*Appears when the **Data Format Pattern Framed** softkey is set to Framed.
Active when the **Data Format Pattern Framed softkey is set to Framed.
***Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
****Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
*****Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
•Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

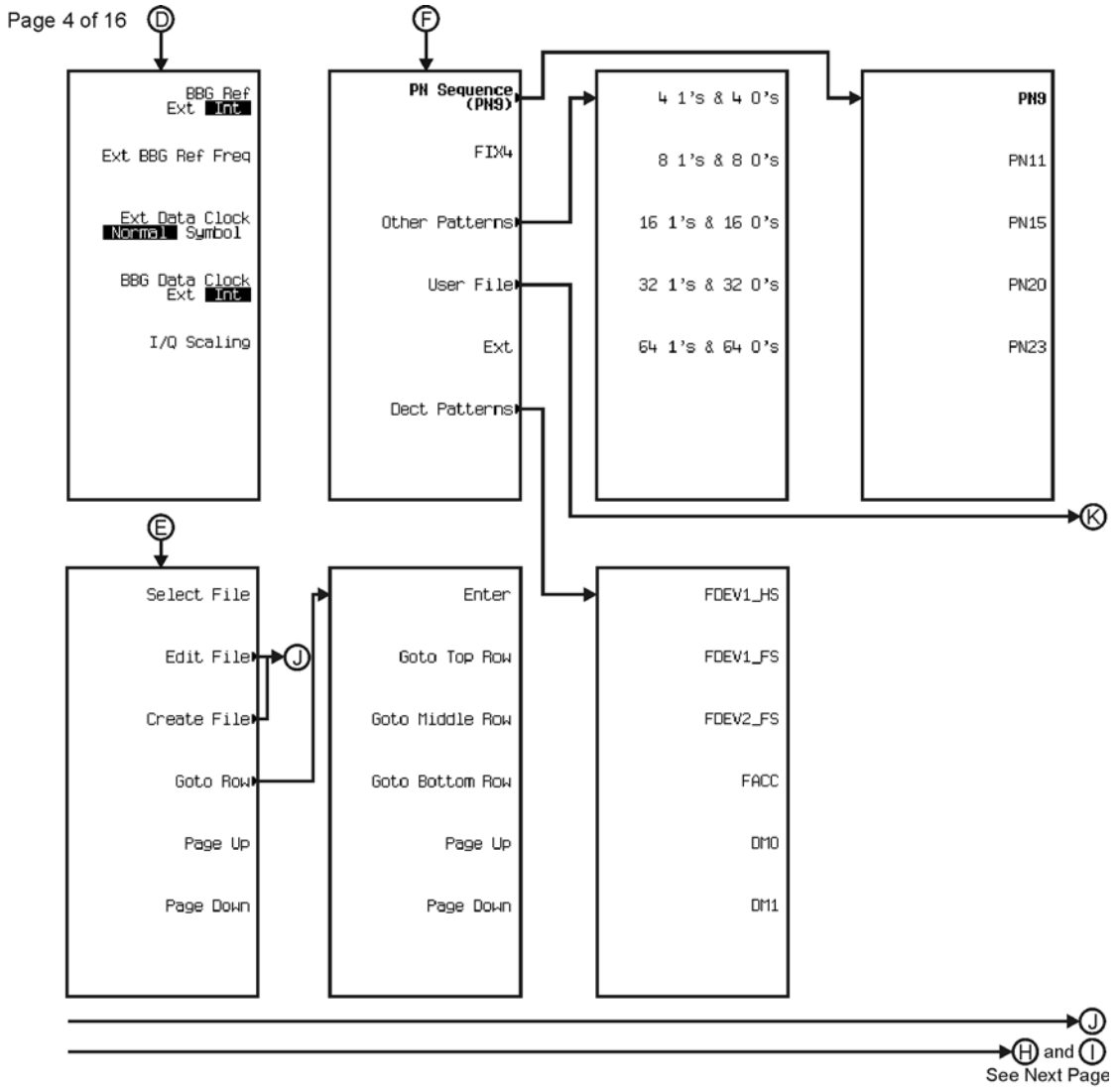
pk7160c



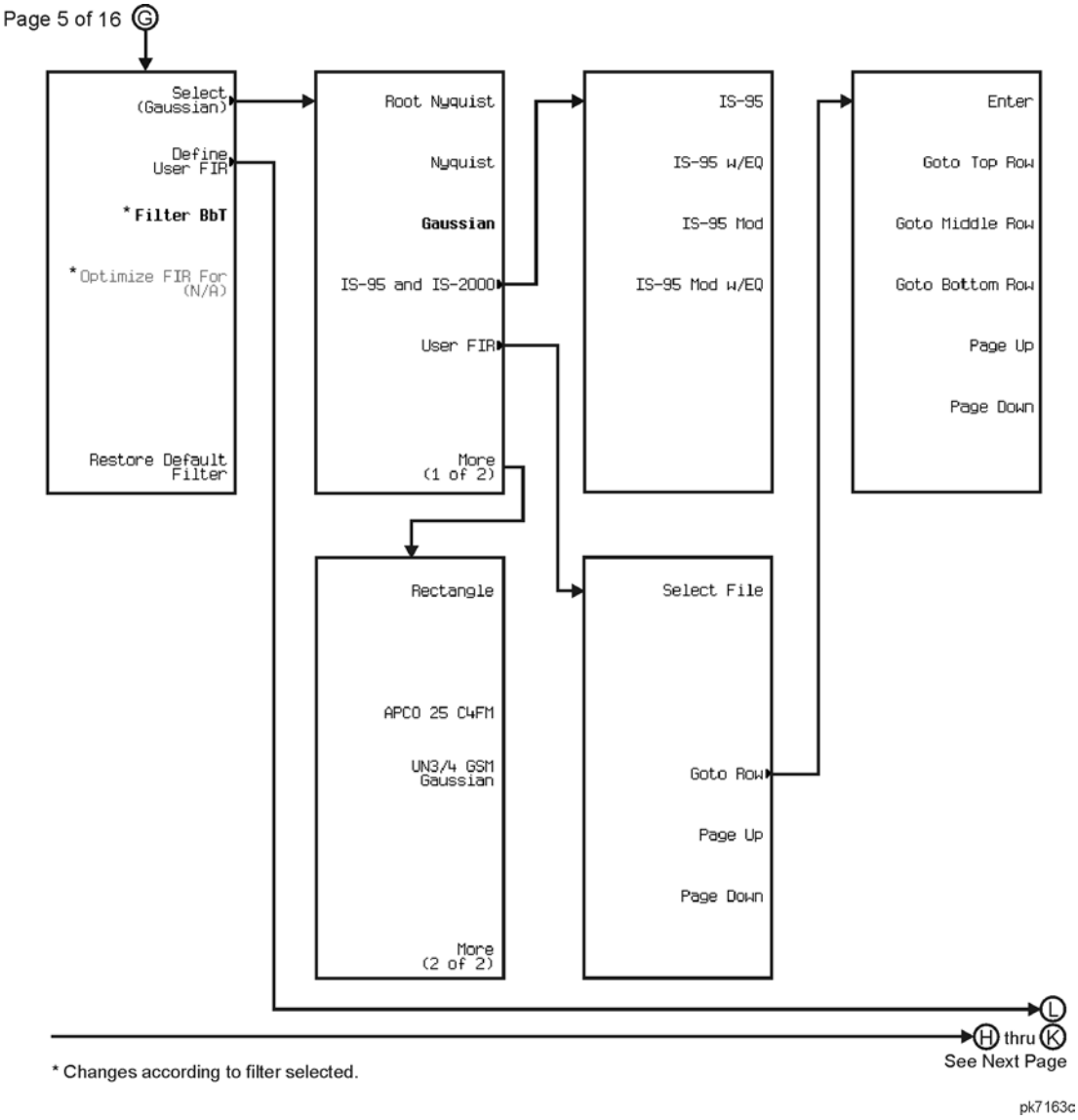
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
This key and it's sub-level menu selections, change according to the **Timeslot Type selected.

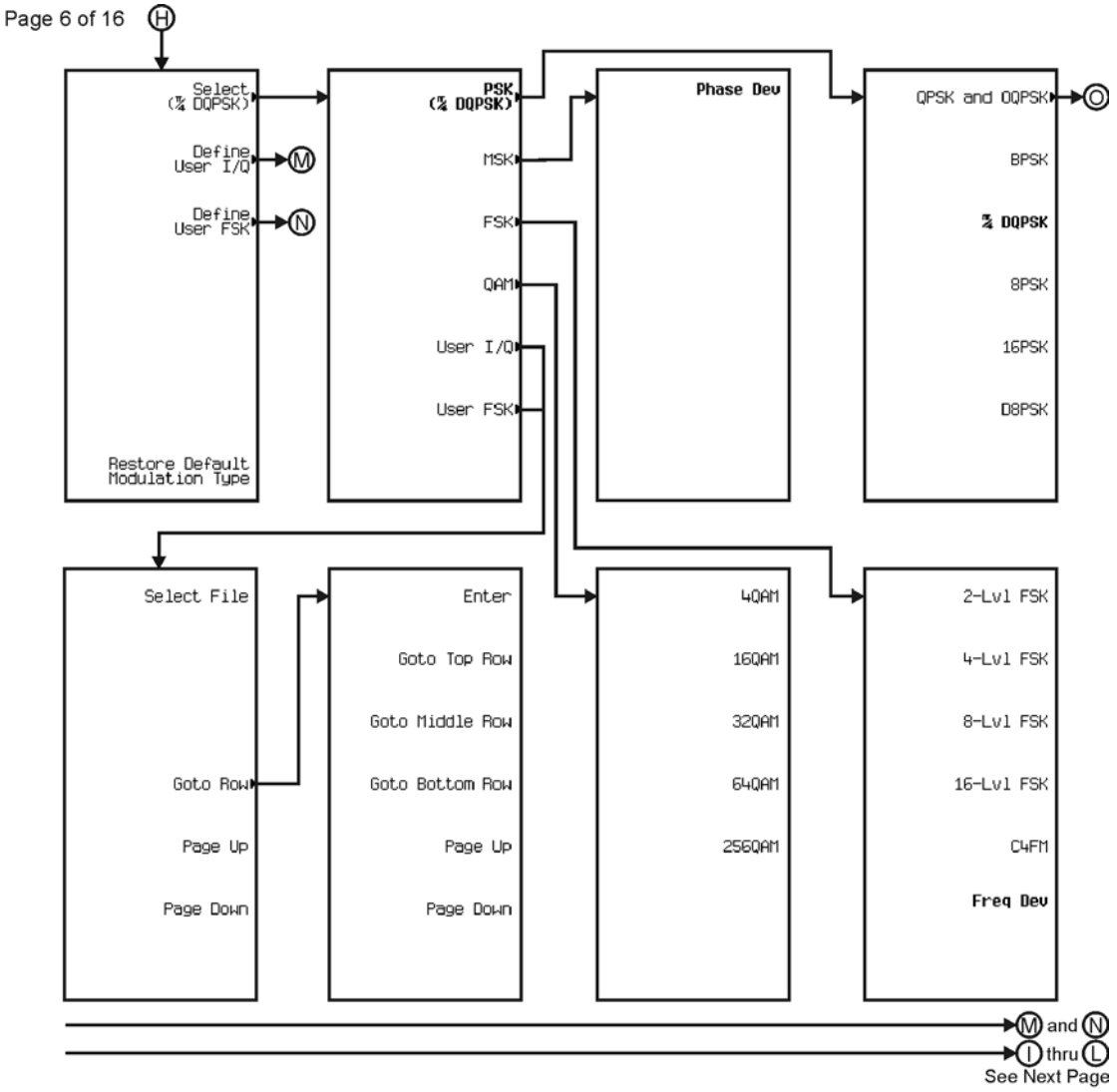
pk7161c


Page 3 of 16
B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
G
Symbol Rate
Restore Default Symbol Rate
H and I
D and E
* Activate by pressing Ext.
See Next Page
pk7142c

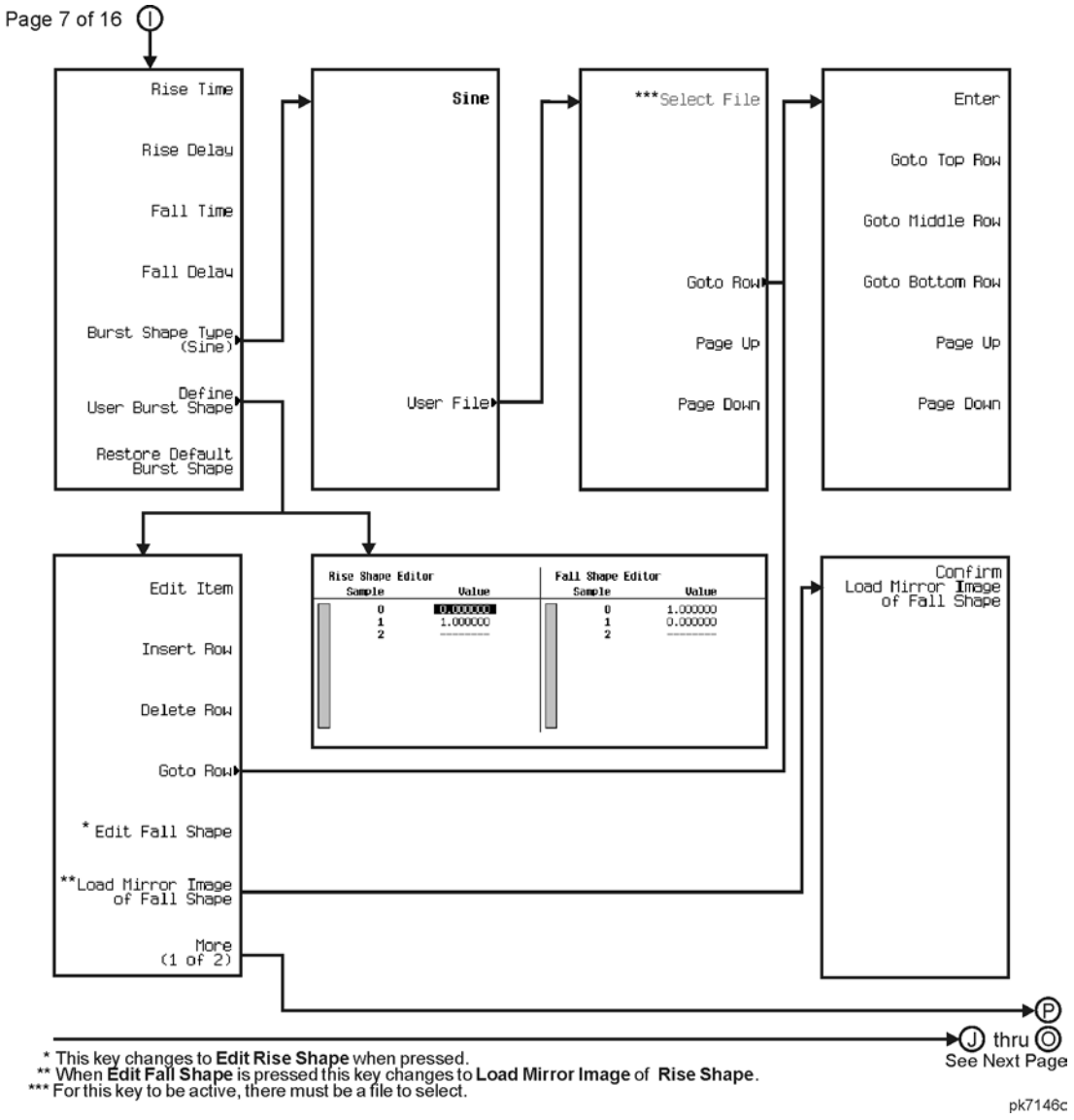

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence (PN9)
FIX4
Other Patterns
User File
Ext
Dect Patterns
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
K
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
FDEV1_HS
FDEV1_FS
FDEV2_FS
FACC
DM0
DM1
J
H and I
See Next Page

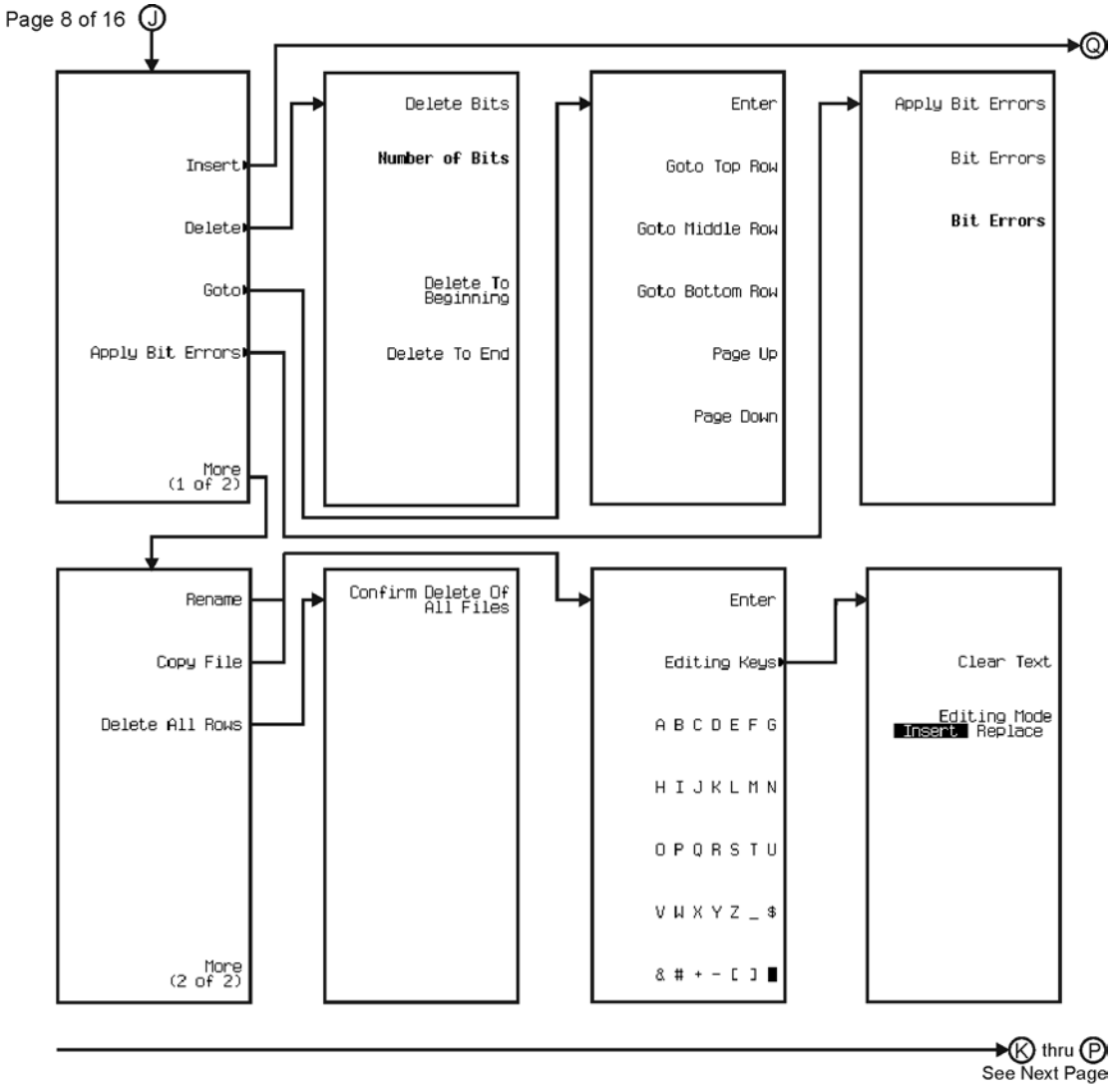
pk7162c


Page 5 of 16 G
Select (Gaussian)
Define User FIR
*Filter BbT
*Optimize FIR For (N/A)
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
L
H thru K
See Next Page
* Changes according to filter selected.
pk7163c

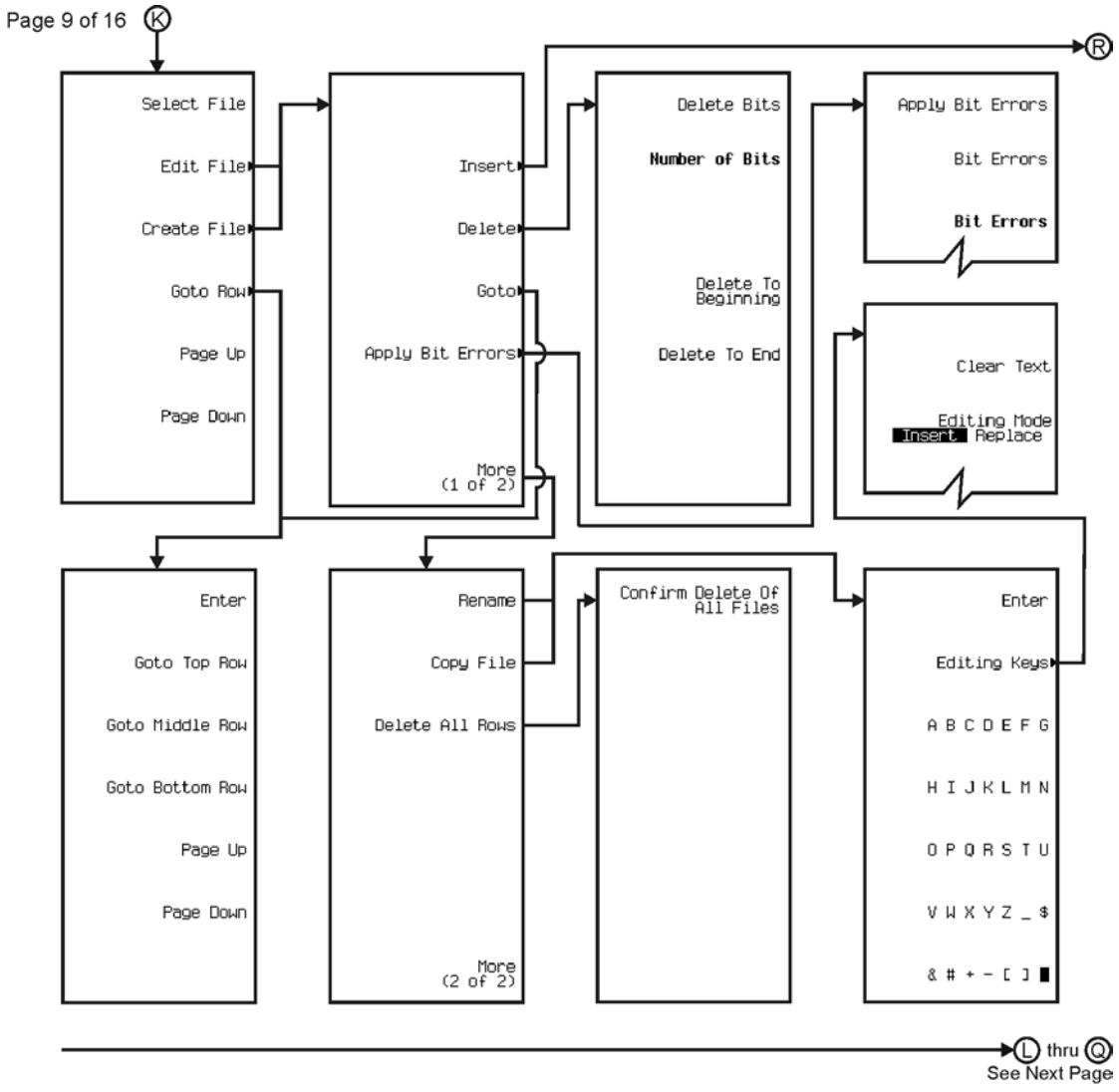

Page 6 of 16
H
Select (¶ DQPSK)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (¶ DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
¶ DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
I thru L
See Next Page

pk7145c

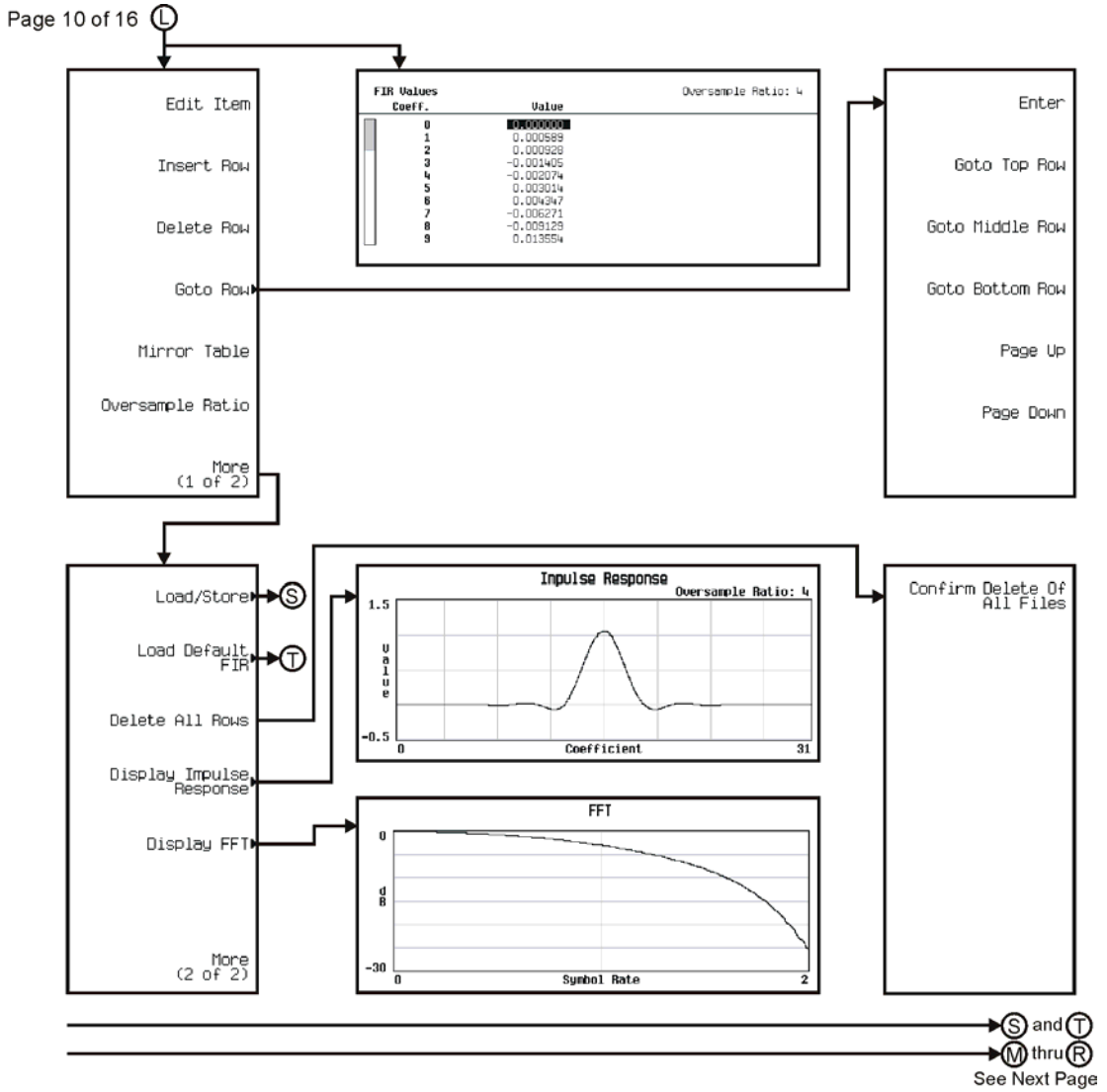

Page 7 of 16
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 0.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
J thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7146c


Page 8 of 16 J
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
K thru P
See Next Page

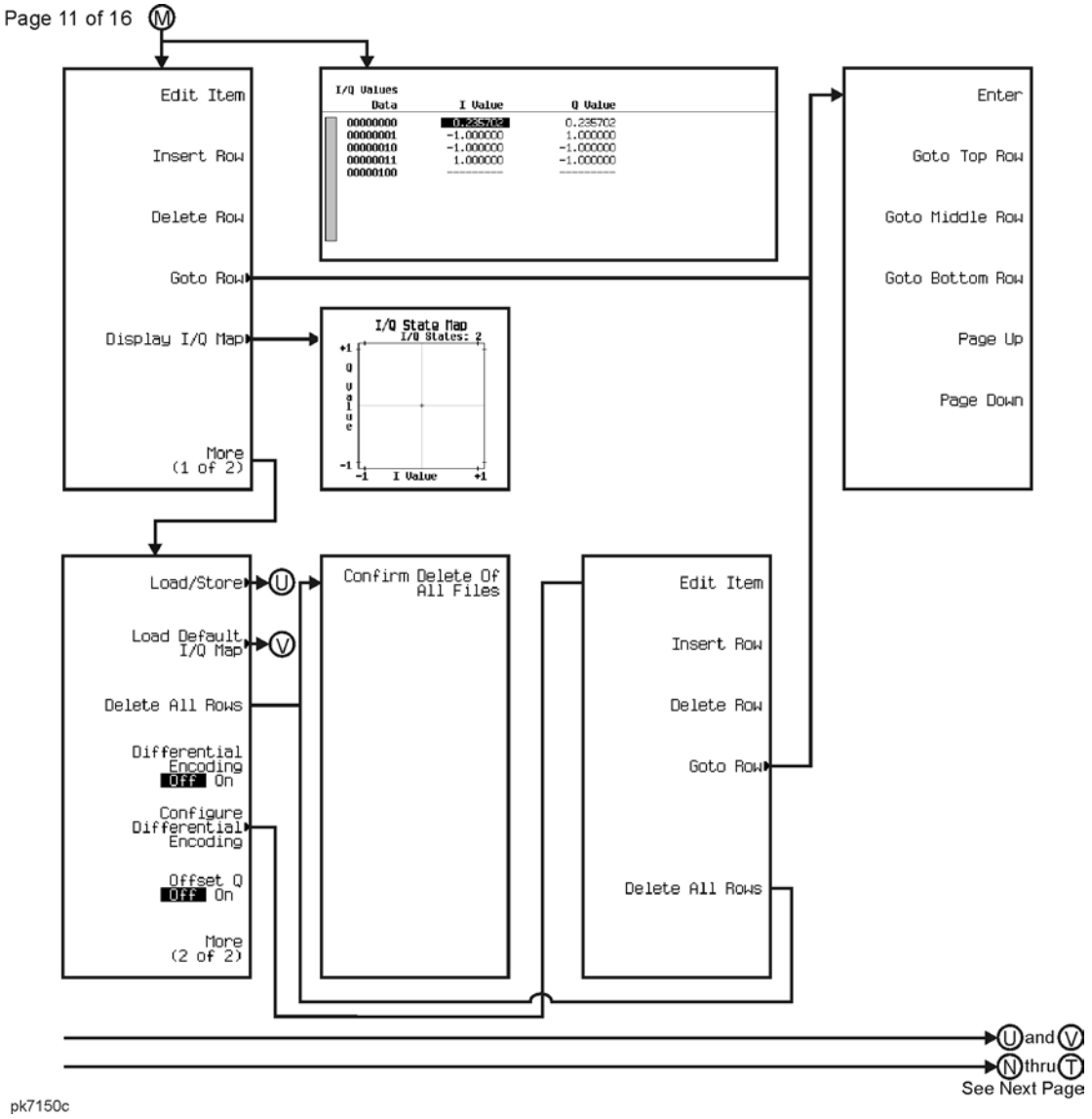
pk7147c

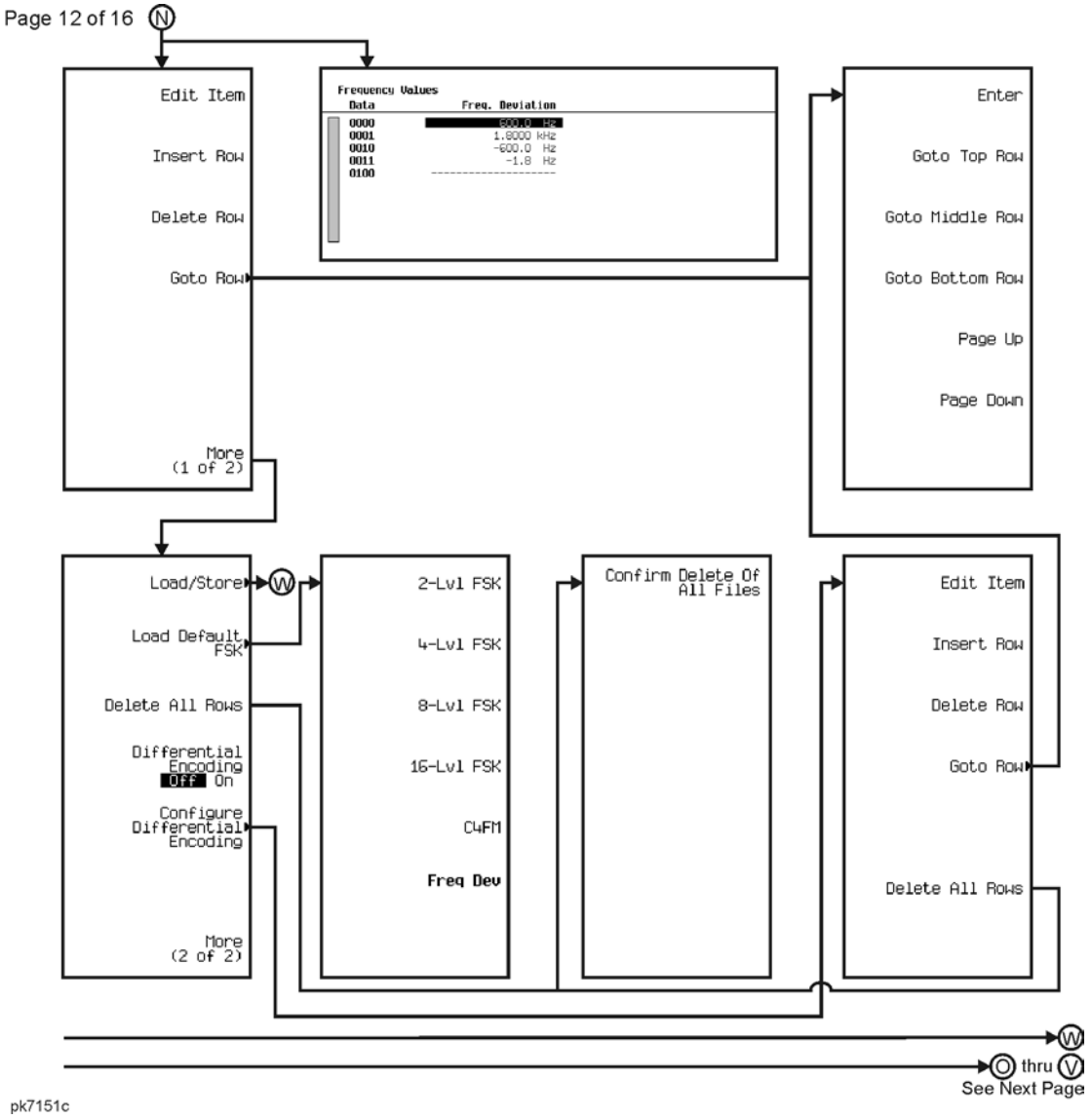

Page 9 of 16 K
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More (1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert Replace
R
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More (2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
L thru Q
See Next Page

pk7148c

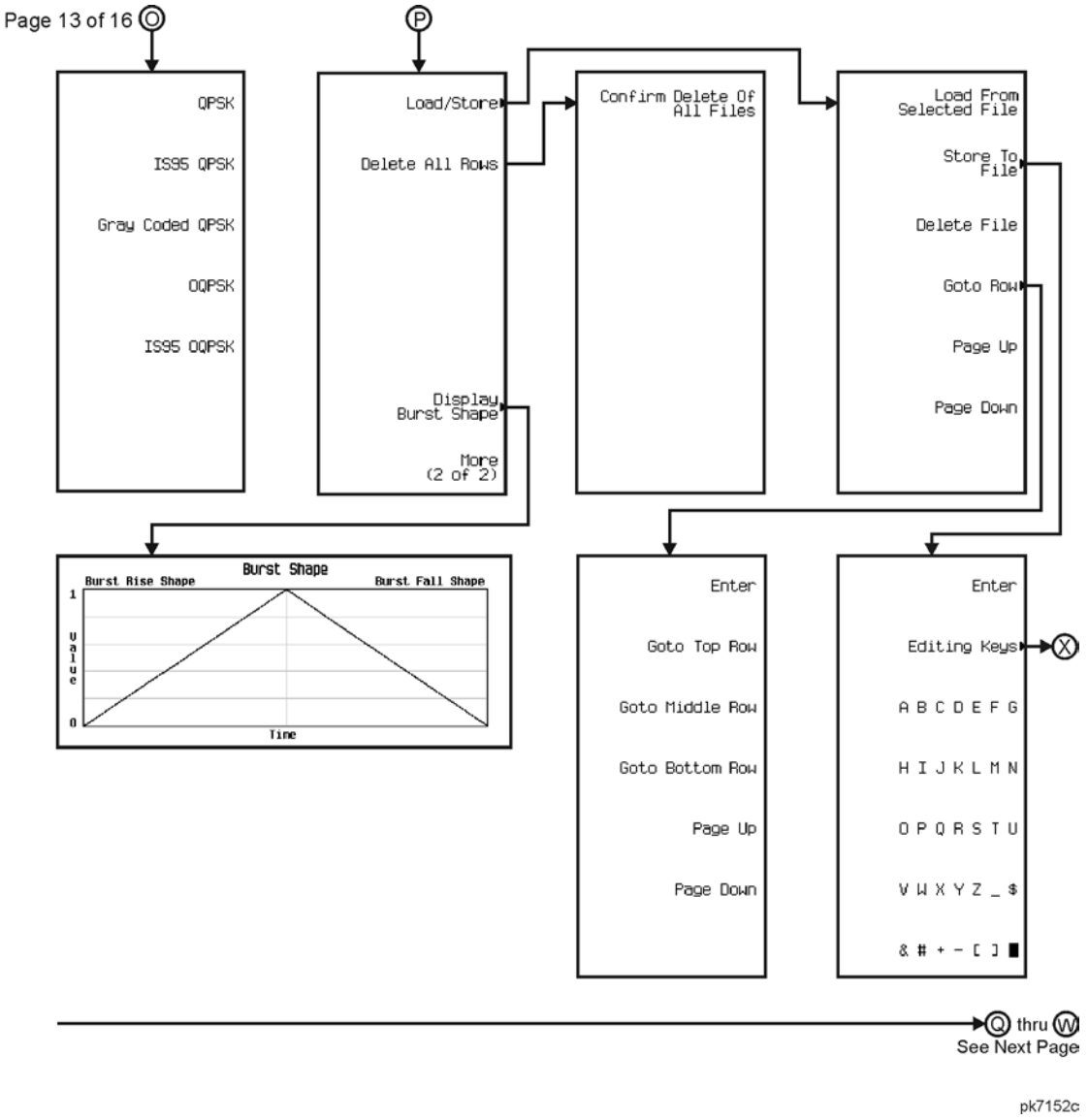

Page 10 of 16 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store S
Load Default FIR T
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Inpulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
S and T
M thru R
See Next Page

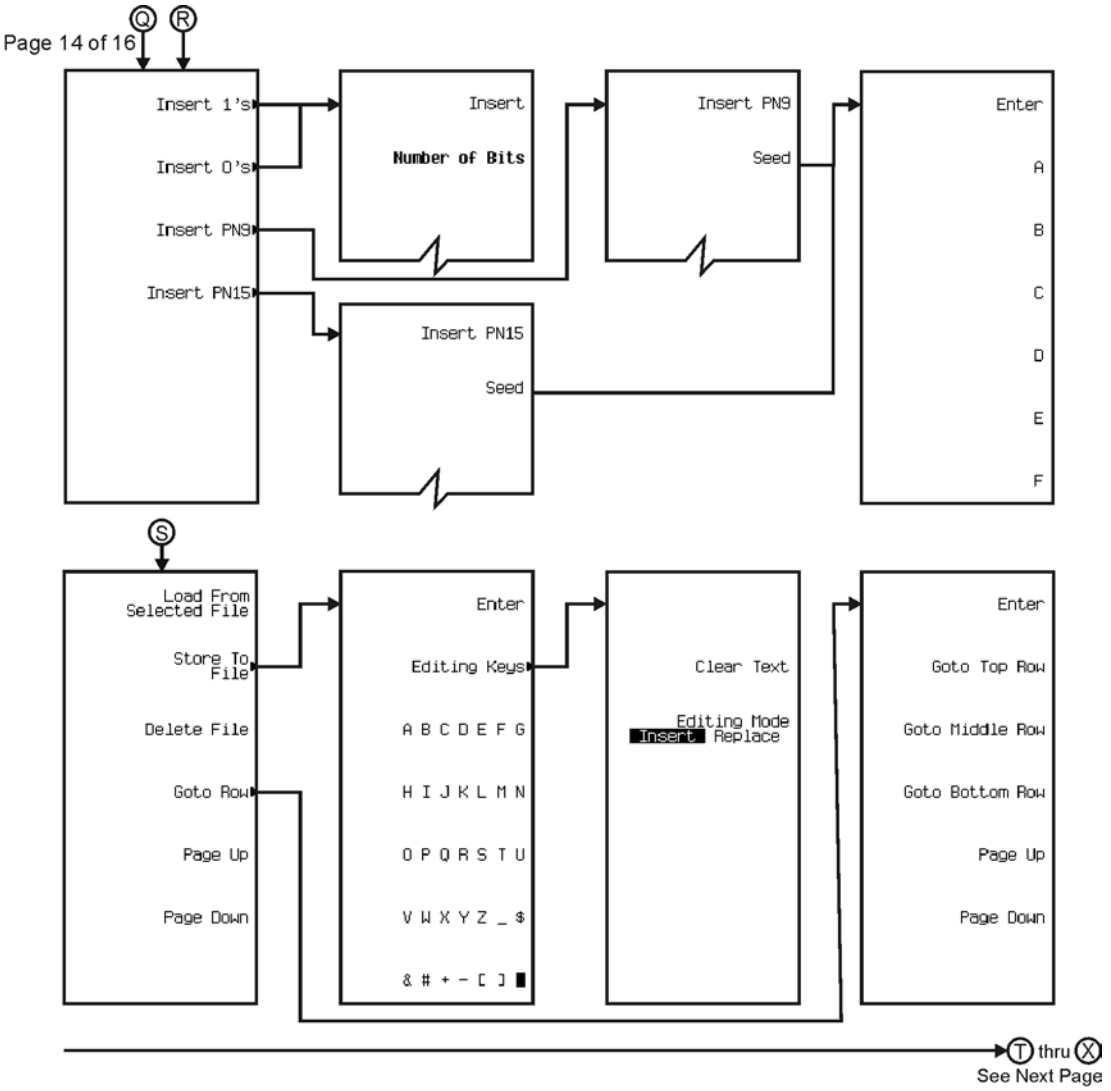
pk7149c


Page 11 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000 0.235702 0.235702
00000001 -1.000000 1.000000
00000010 -1.000000 -1.000000
00000011 1.000000 -1.000000
00000100
I/Q State Map
I/Q States: 2
+1
Q Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store U
Load Default I/Q Map V
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
U and V
N thru T
See Next Page
pk7150c

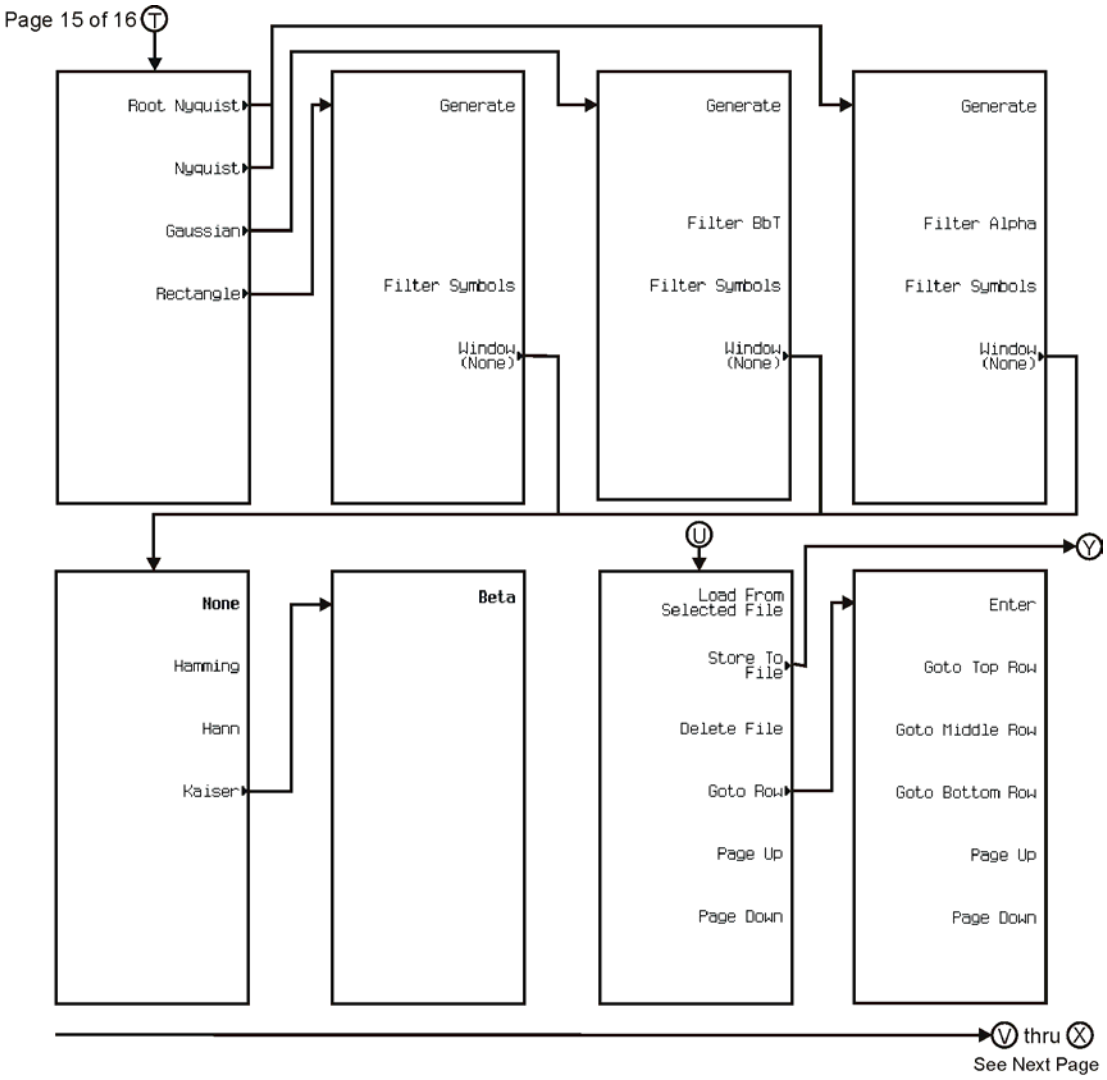

Page 12 of 16
N
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
600.0 Hz
0001
1.8000 kHz
0010
-600.0 Hz
0011
-1.8 Hz
0100
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
W
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
W
O thru V
See Next Page

pk7151c

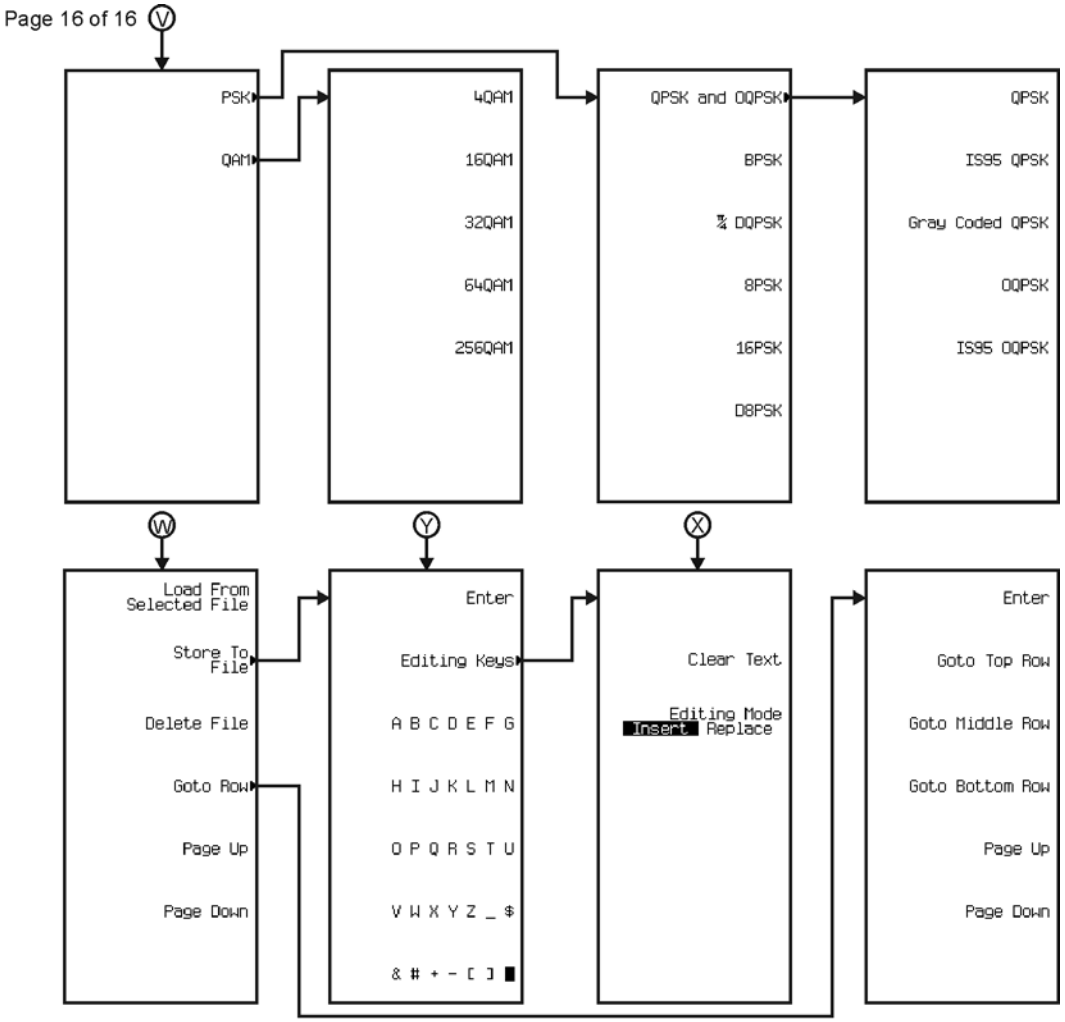

Page 13 of 16
O
P
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
X
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru W
See Next Page
pk7152c


Page 14 of 16
Q
R
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
S
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru X
See Next Page

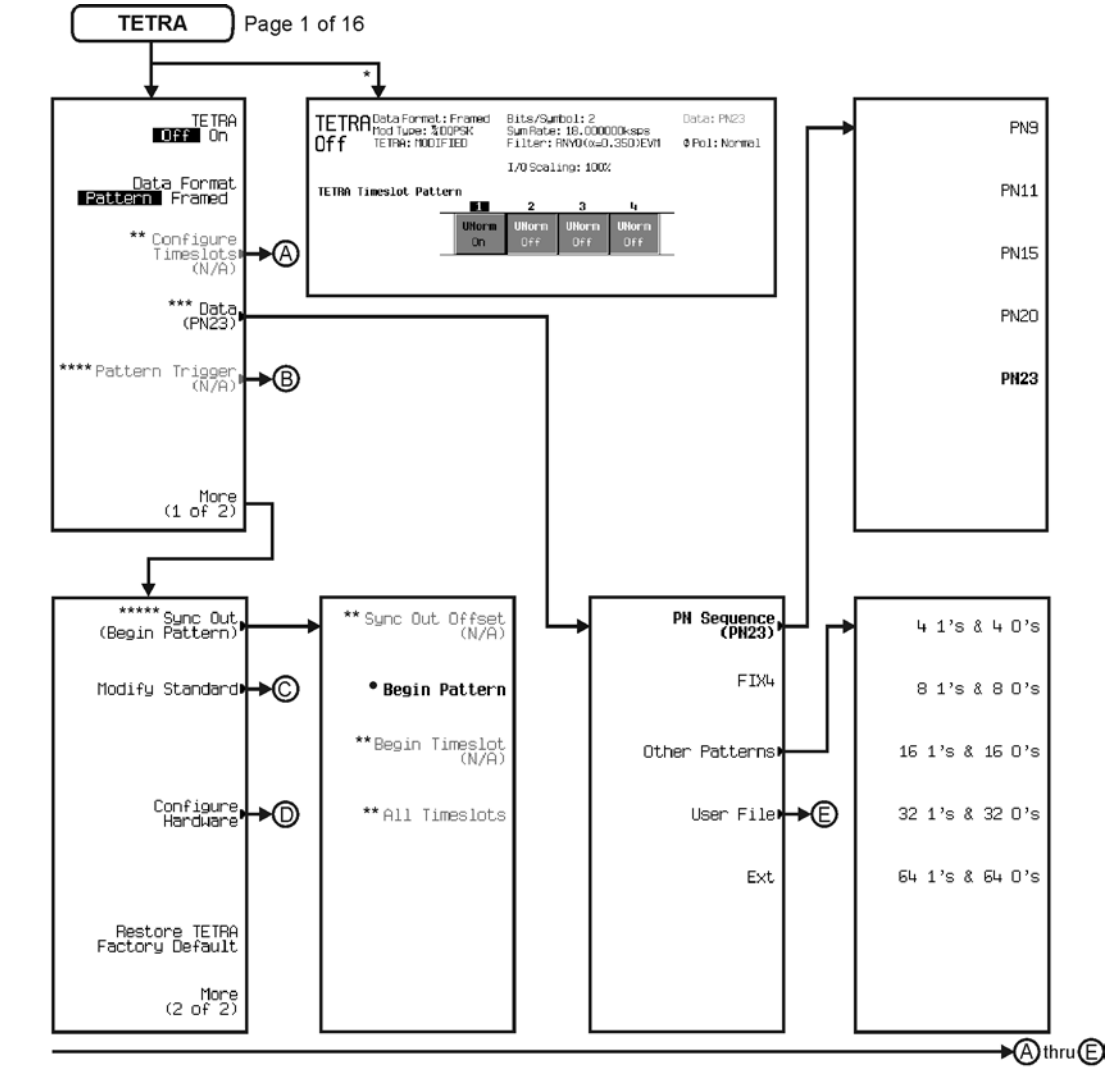
pk7153c


Page 15 of 16 T
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
U
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Y
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V thru X
See Next Page

pk7154c

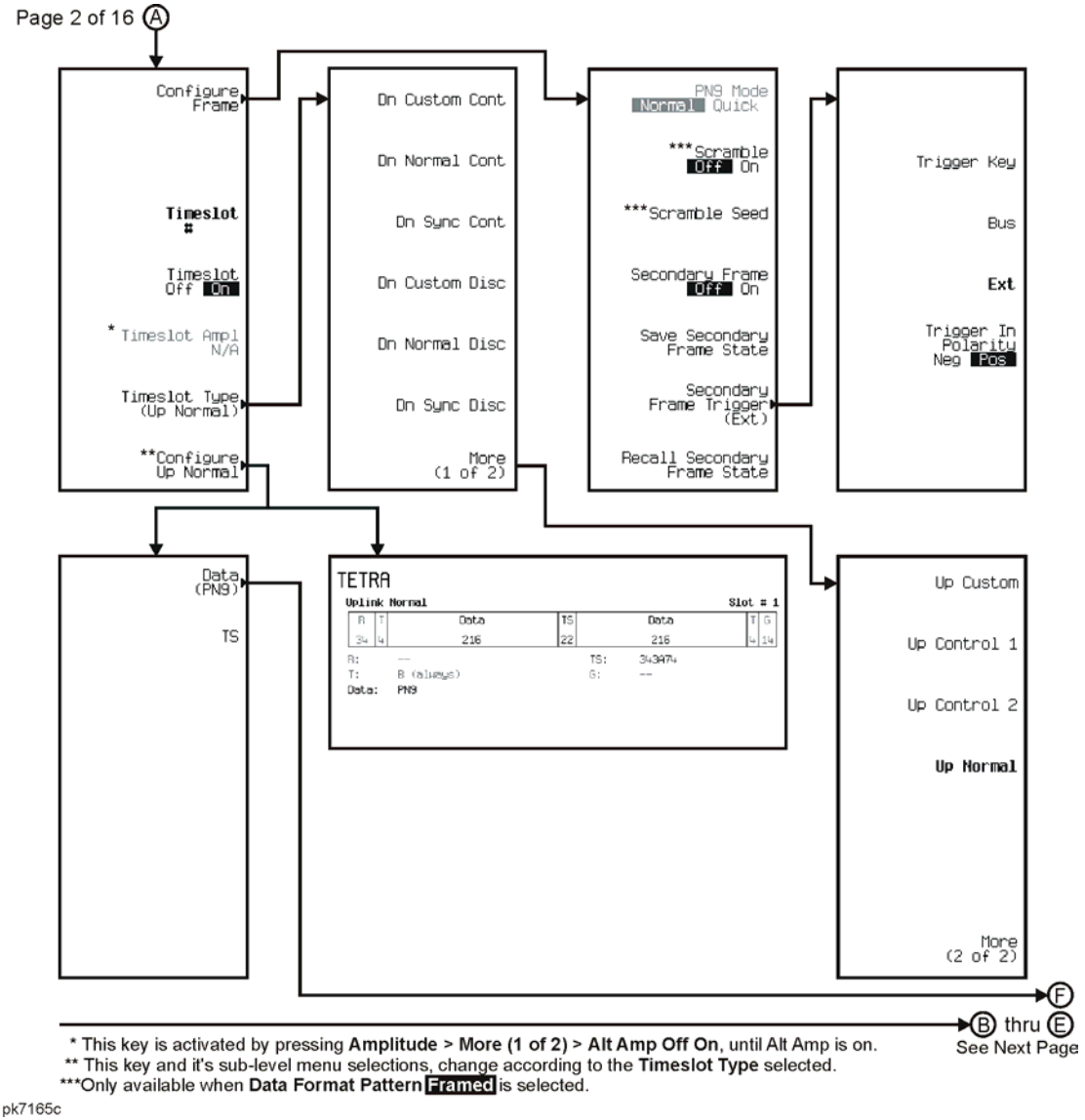

Page 16 of 16
V
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
W
Y
X
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

pk7155c



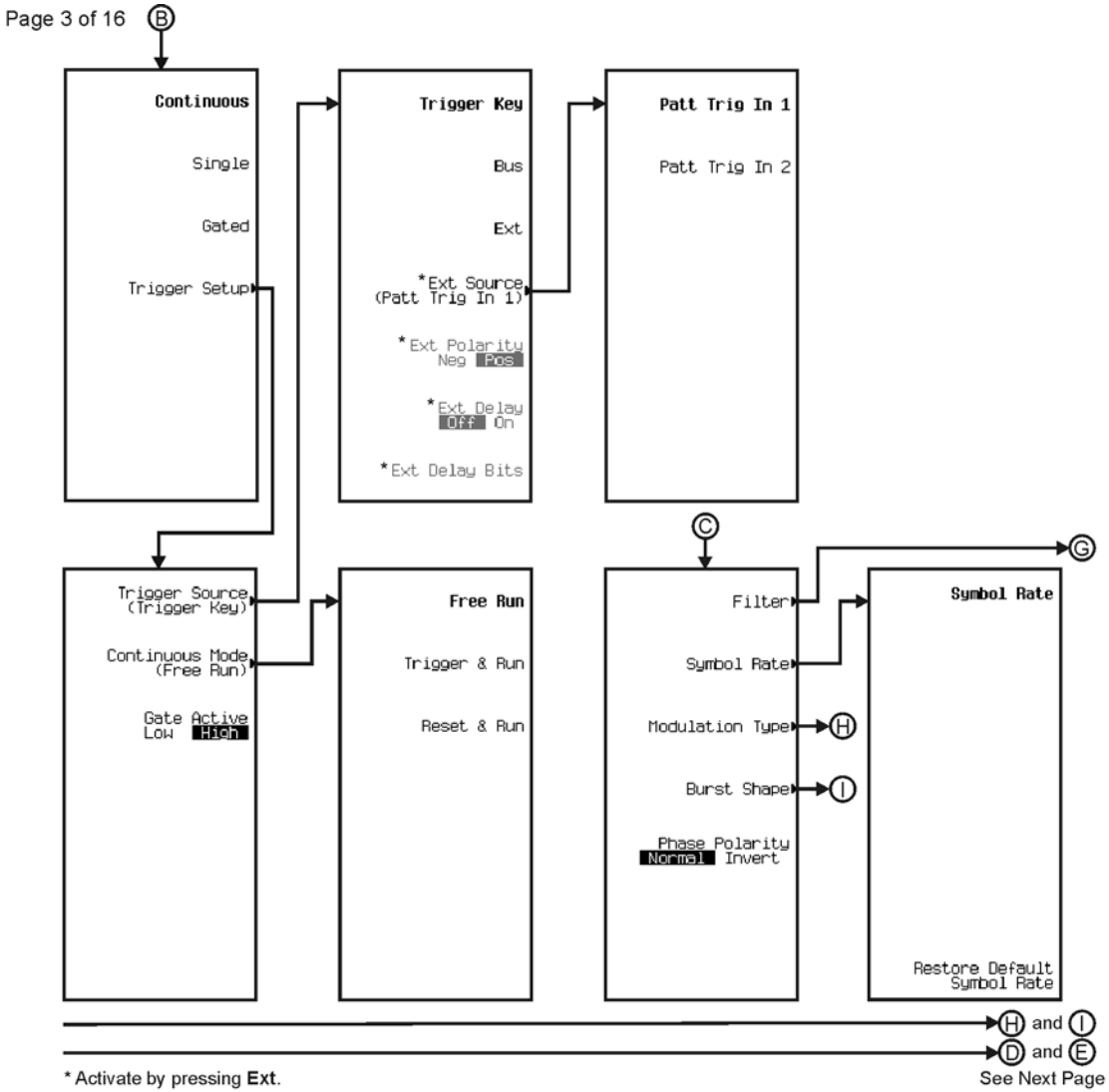
*Appears when the **Data Format Pattern Framed** softkey is set to Framed.
Active when the **Data Format Pattern Framed softkey is set to Framed.
***Inactive when the **Data Format Pattern Framed** softkey is set to Framed.
****Becomes active and changes to **Frame Trigger** when the **Data Format Pattern Framed** softkey is set to Framed.
*****Changes to **Sync Out (Begin Frame)** when the **Data Format Pattern Framed** softkey is set to Framed.
•Changes to Begin Frame when the **Data Format Pattern Framed** softkey is set to Framed.

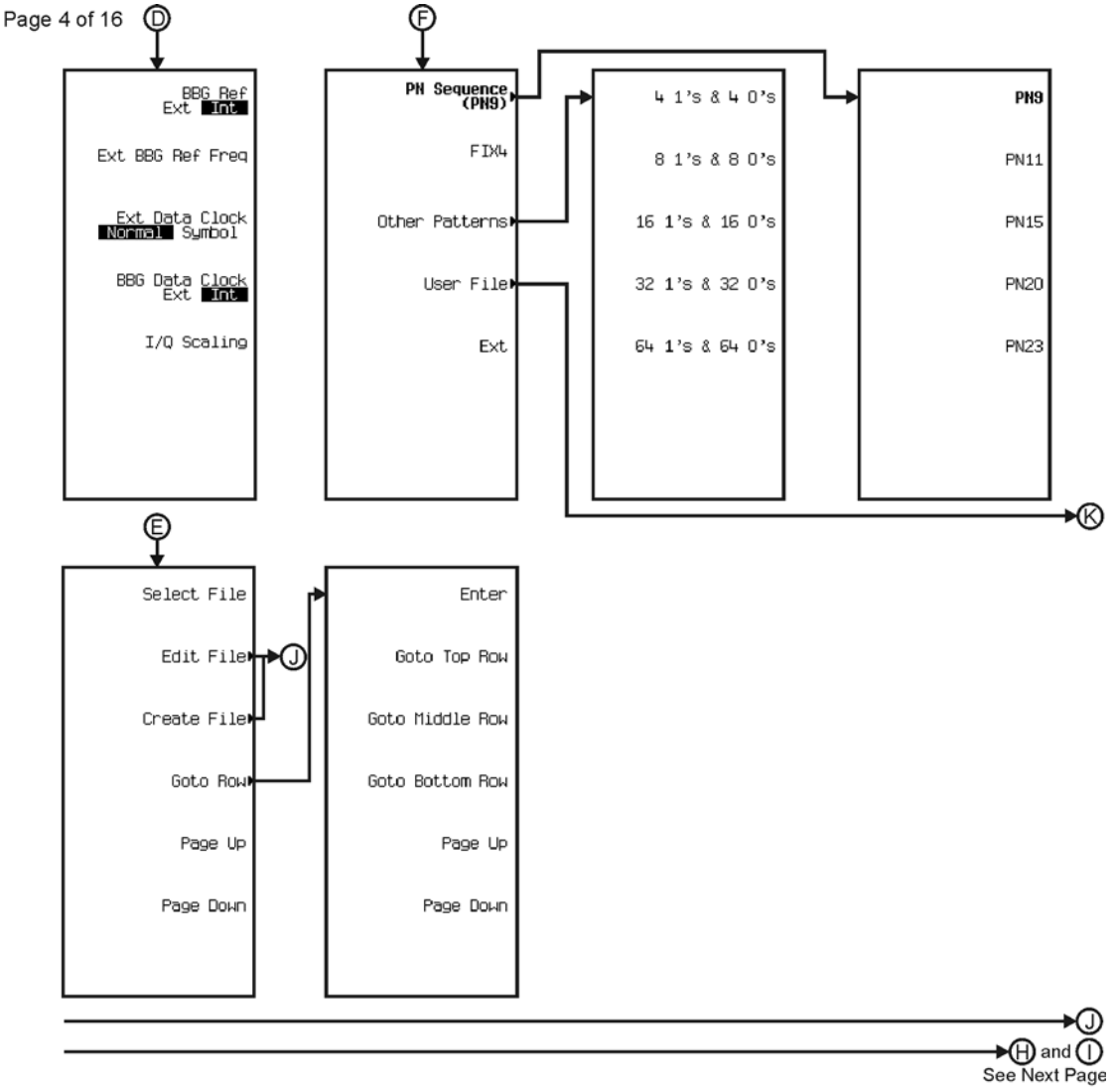
pk7164c



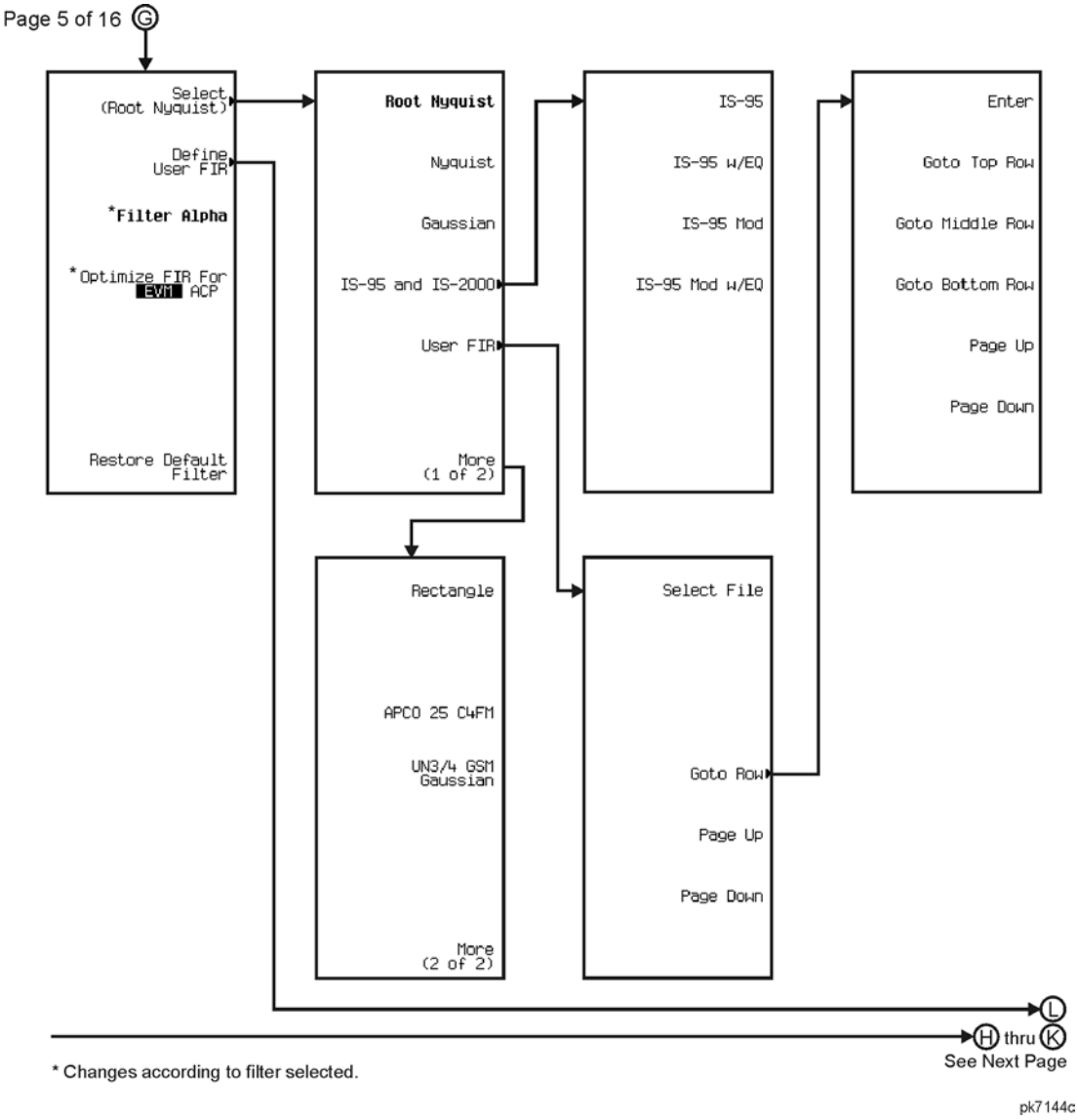
* This key is activated by pressing **Amplitude > More (1 of 2) > Alt Amp Off On**, until Alt Amp is on.
** This key and it's sub-level menu selections, change according to the **Timeslot Type** selected.
***Only available when **Data Format Pattern** **Framed** is selected.

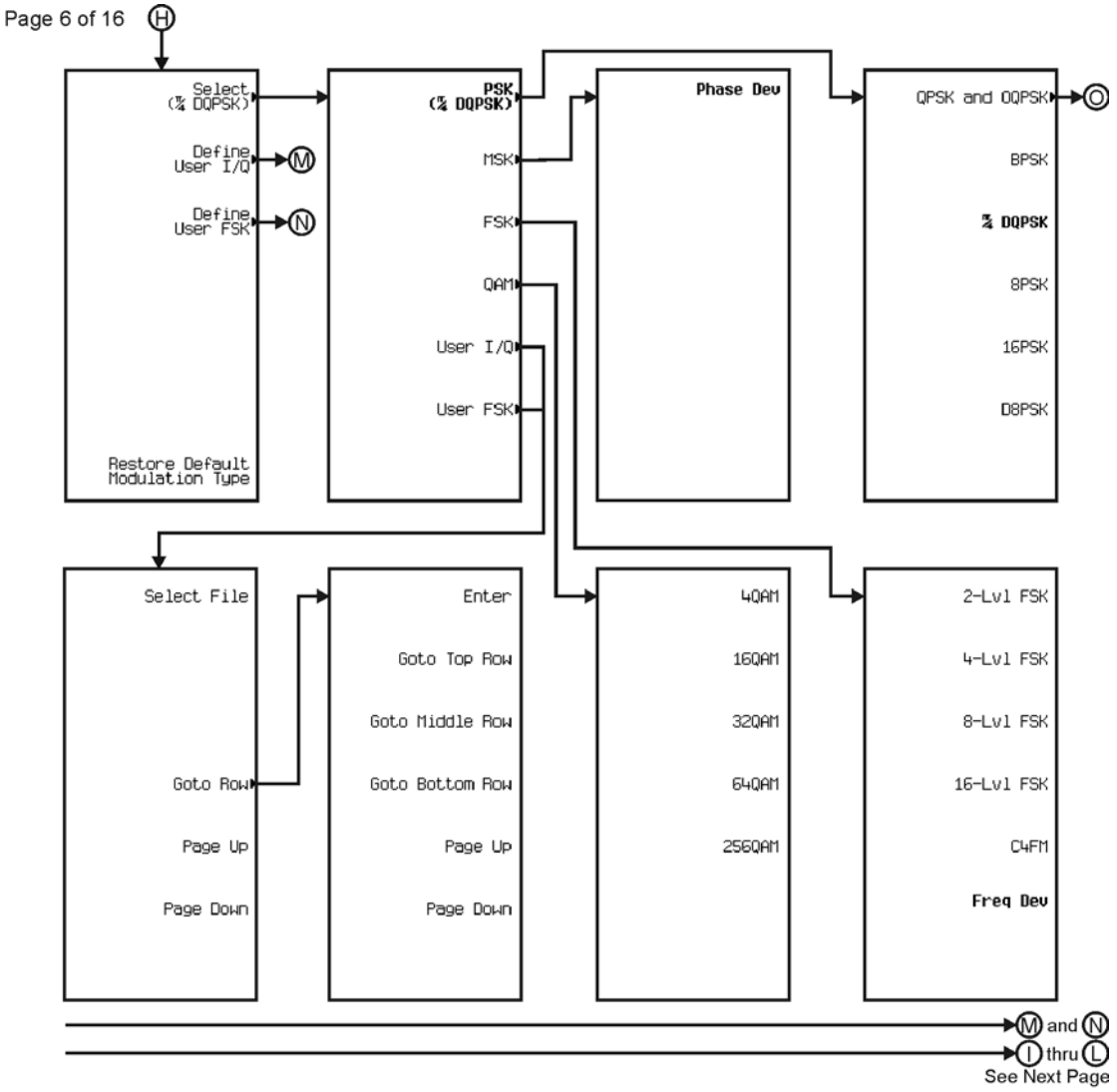
pk7165c


Page 3 of 16
B
Continuous
Single
Gated
Trigger Setup
Trigger Key
Bus
Ext
*Ext Source (Patt Trig In 1)
*Ext Polarity Neg Pos
*Ext Delay Off On
*Ext Delay Bits
Patt Trig In 1
Patt Trig In 2
C
Trigger Source (Trigger Key)
Continuous Mode (Free Run)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Filter
Symbol Rate
Modulation Type
Burst Shape
Phase Polarity Normal Invert
G
Symbol Rate
Restore Default Symbol Rate
H and I
D and E
* Activate by pressing Ext.
See Next Page
pk7142c

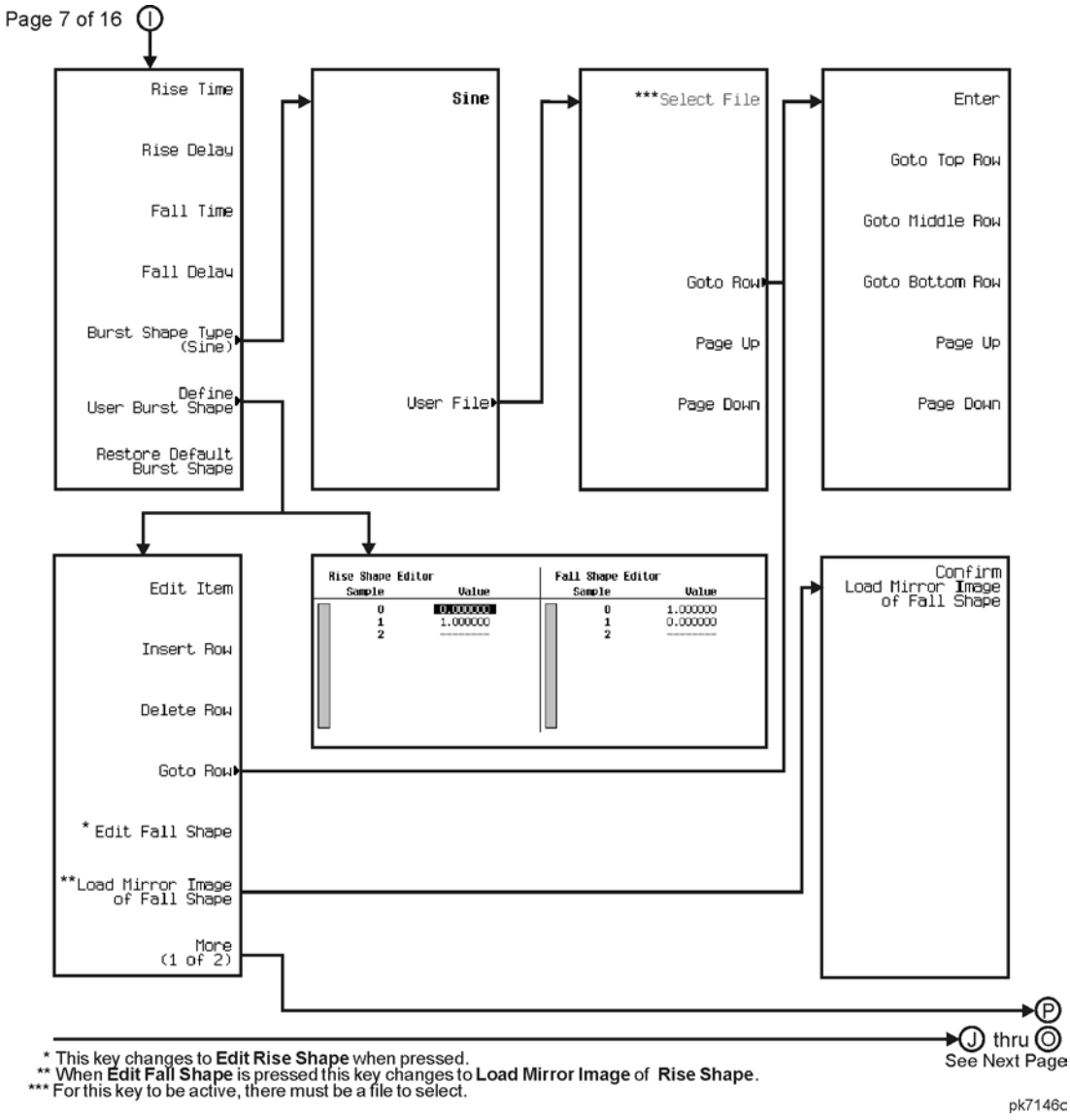

Page 4 of 16
D
BBG Ref
Ext Int
Ext BBG Ref Freq
Ext Data Clock
Normal Symbol
BBG Data Clock
Ext Int
I/Q Scaling
F
PN Sequence
(PN9)
FIX4
Other Patterns
User File
Ext
4 1's & 4 0's
8 1's & 8 0's
16 1's & 16 0's
32 1's & 32 0's
64 1's & 64 0's
PN9
PN11
PN15
PN20
PN23
K
E
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
J
H and I
See Next Page

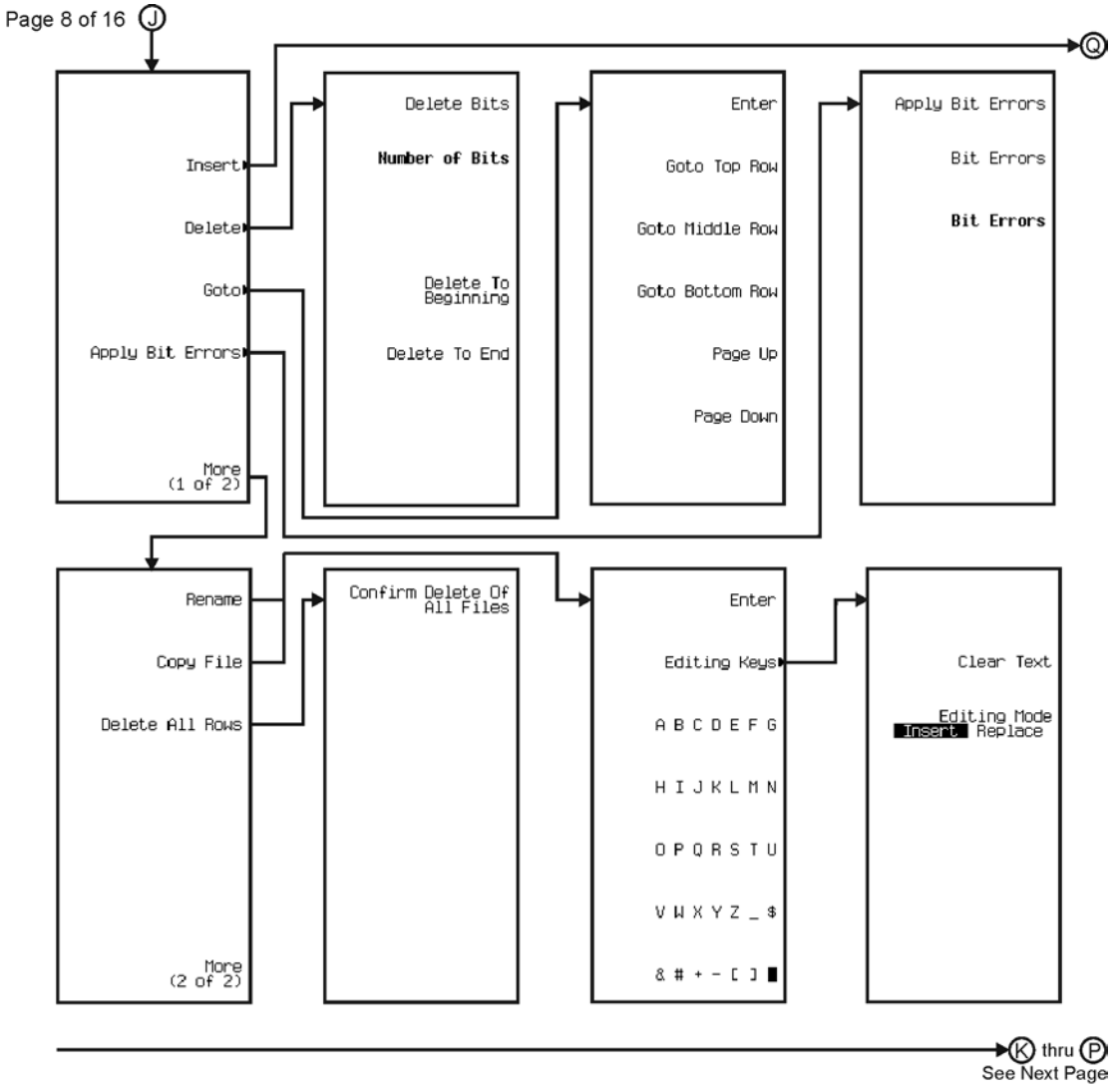
pk7143c


Page 5 of 16 G
Select (Root Nyquist)
Define User FIR
*Filter Alpha
*Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
Select File
Goto Row
Page Up
Page Down
L
H thru K
See Next Page
* Changes according to filter selected.
pk7144c

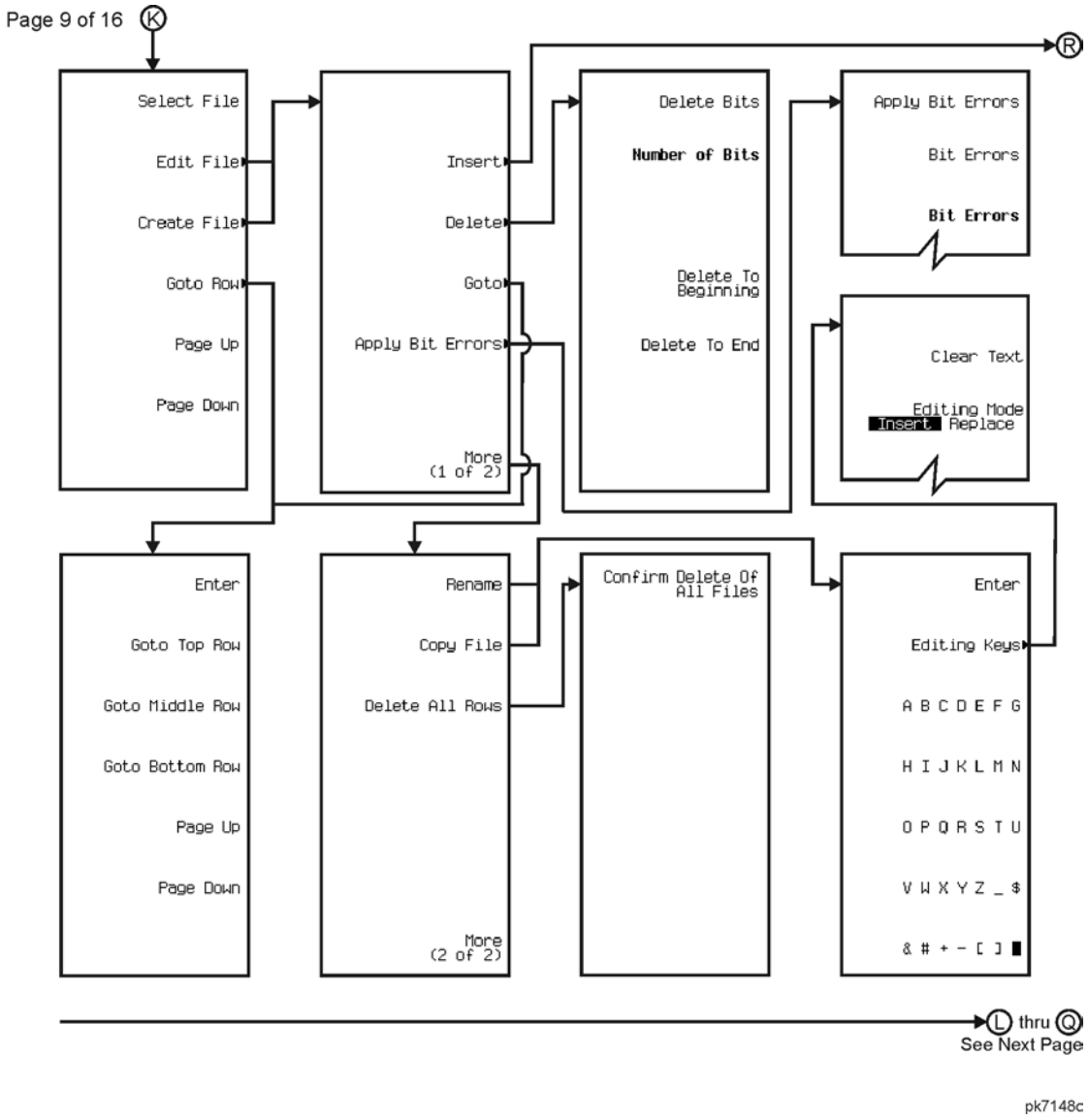

Page 6 of 16
H
Select (π/4 DQPSK)
Define User I/Q
M
Define User FSK
N
Restore Default Modulation Type
PSK (π/4 DQPSK)
MSK
FSK
QAM
User I/Q
User FSK
Phase Dev
QPSK and OQPSK
O
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
4QAM
16QAM
32QAM
64QAM
256QAM
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
M and N
I thru L
See Next Page

pk7145c

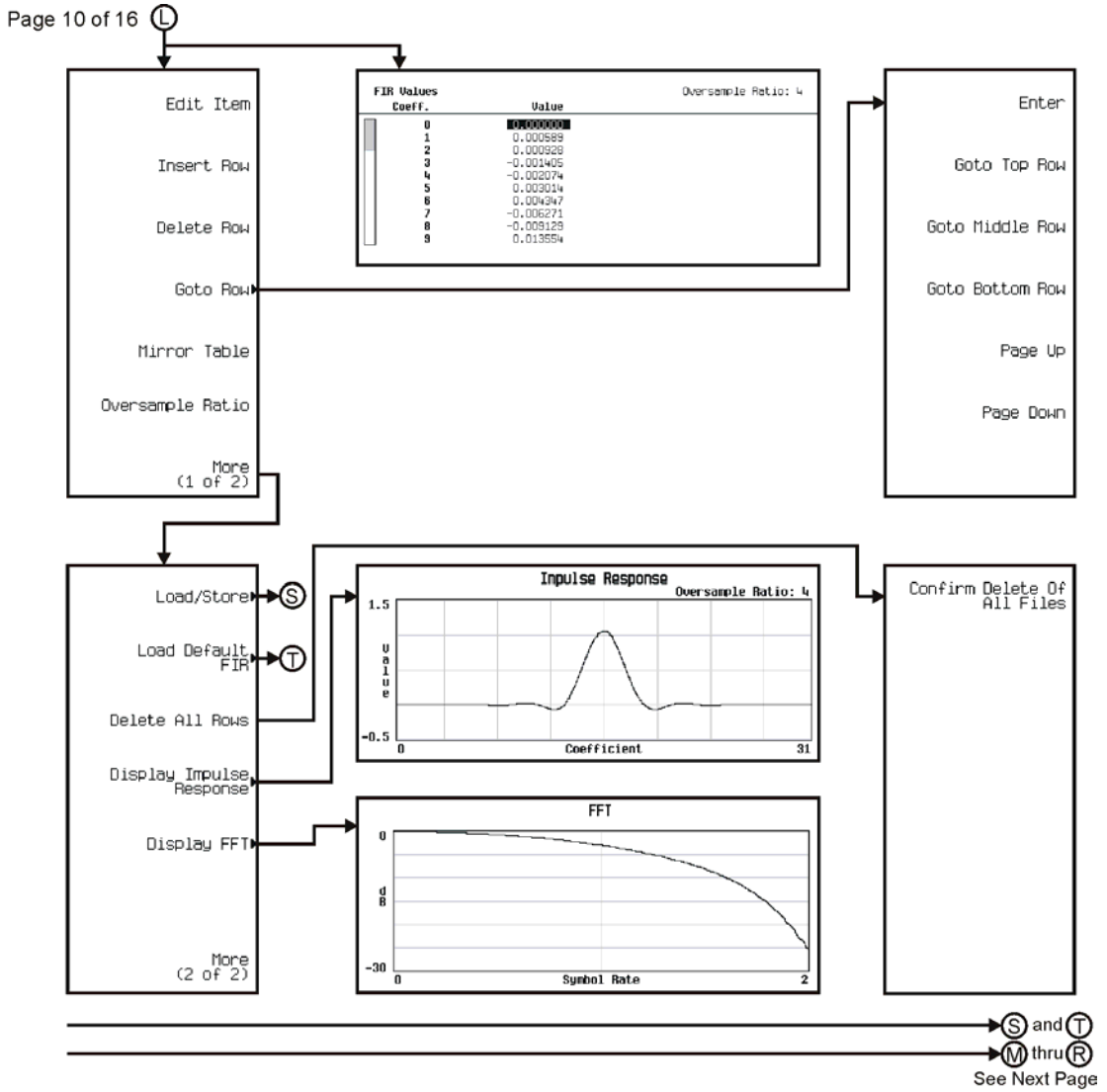

Page 7 of 16
Rise Time
Rise Delay
Fall Time
Fall Delay
Burst Shape Type (Sine)
Define User Burst Shape
Restore Default Burst Shape
Sine
User File
***Select File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
*Edit Fall Shape
**Load Mirror Image of Fall Shape
More (1 of 2)
Rise Shape Editor
Sample
Value
0 0.000000
1 1.000000
2
Fall Shape Editor
Sample
Value
0 1.000000
1 0.000000
2
Confirm Load Mirror Image of Fall Shape
P
J thru O
See Next Page
* This key changes to Edit Rise Shape when pressed.
** When Edit Fall Shape is pressed this key changes to Load Mirror Image of Rise Shape.
*** For this key to be active, there must be a file to select.
pk7146c


Page 8 of 16 J
Q
Insert
Delete
Goto
Apply Bit Errors
More
(1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Apply Bit Errors
Bit Errors
Bit Errors
Rename
Copy File
Delete All Rows
More
(2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
K thru P
See Next Page

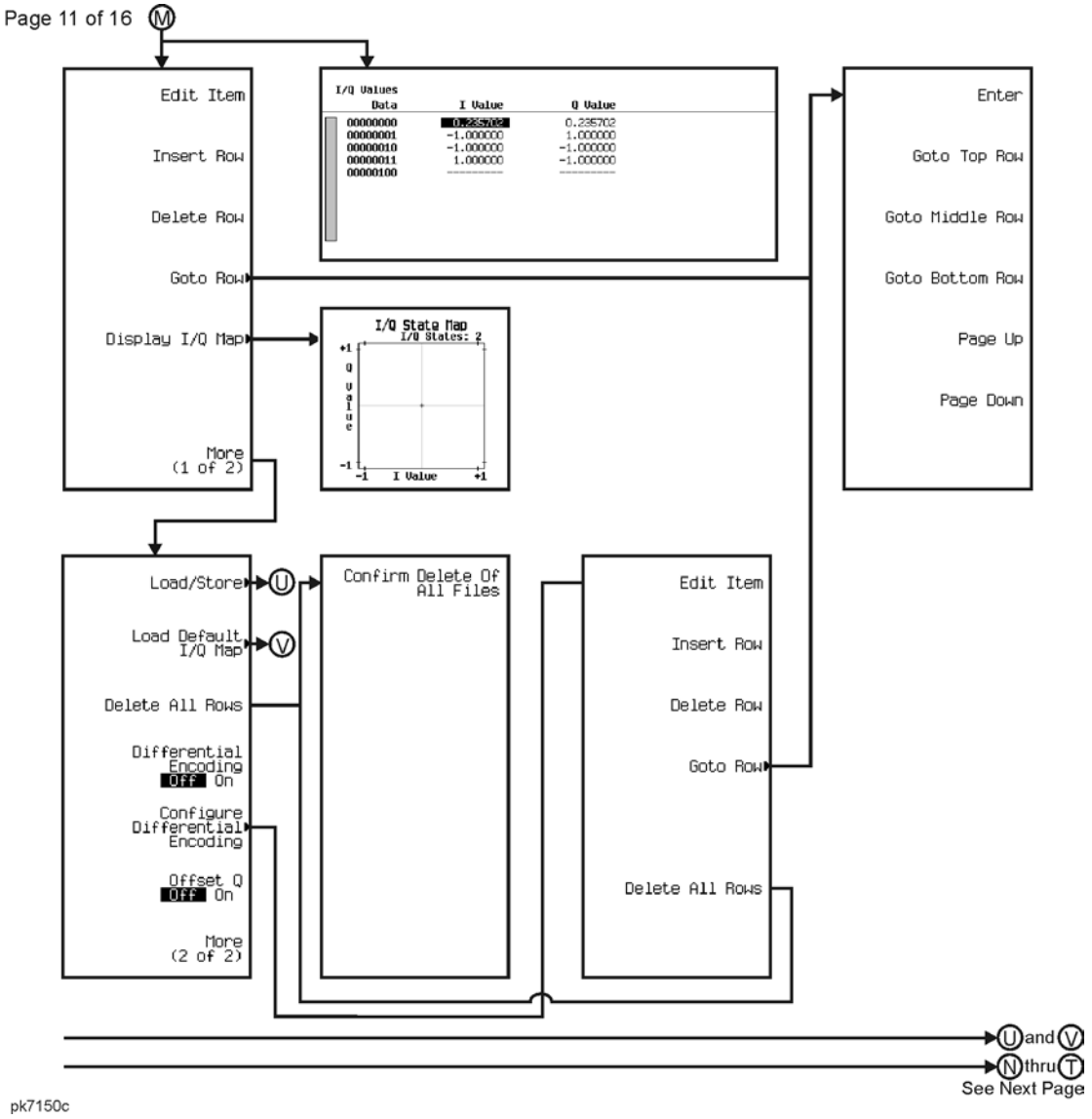
pk7147c

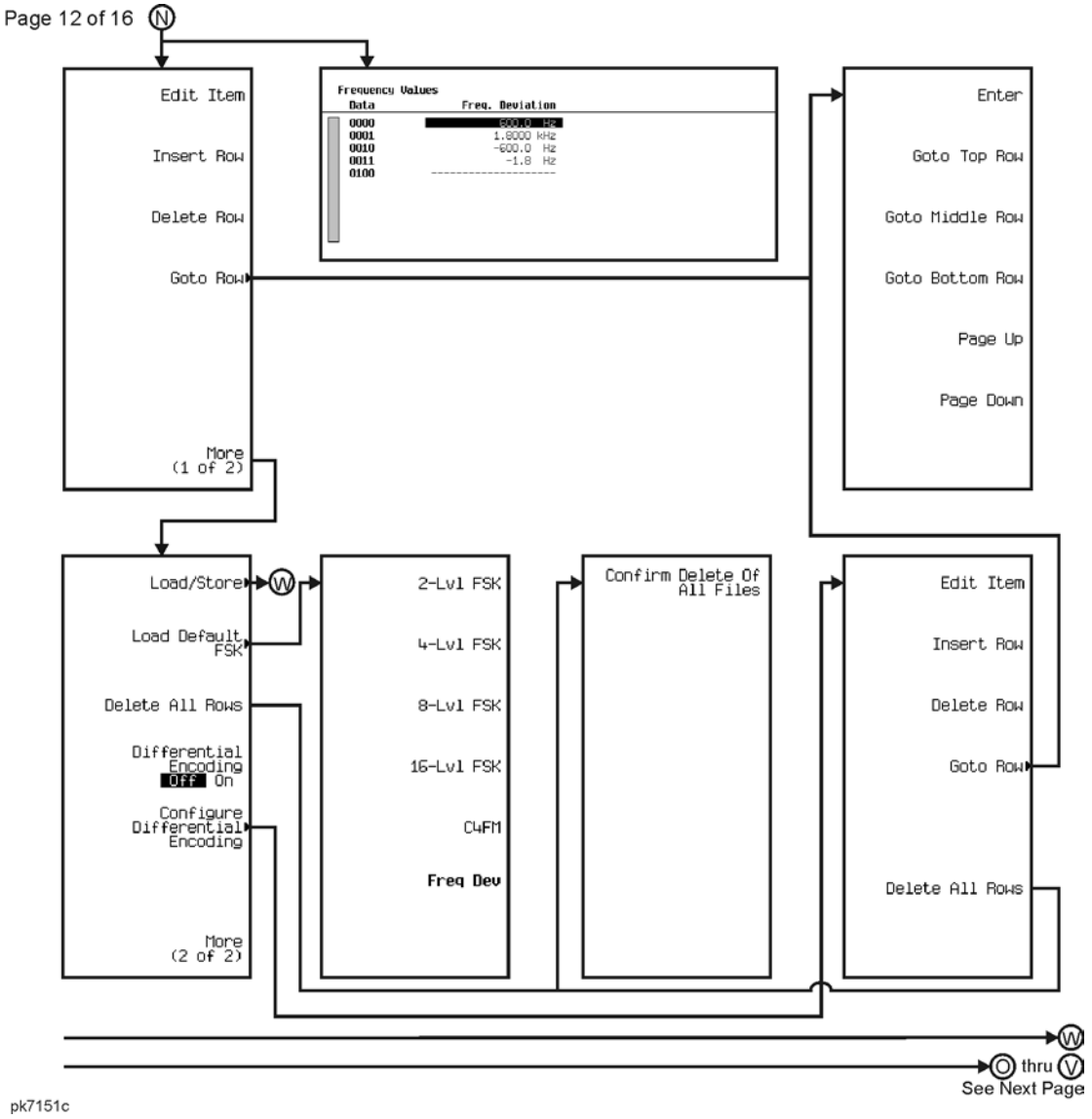

Page 9 of 16 K
Select File
Edit File
Create File
Goto Row
Page Up
Page Down
Insert
Delete
Goto
Apply Bit Errors
More (1 of 2)
Delete Bits
Number of Bits
Delete To Beginning
Delete To End
Apply Bit Errors
Bit Errors
Bit Errors
Clear Text
Editing Mode
Insert Replace
R
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename
Copy File
Delete All Rows
More (2 of 2)
Confirm Delete Of All Files
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
L thru Q
See Next Page

pk7148c

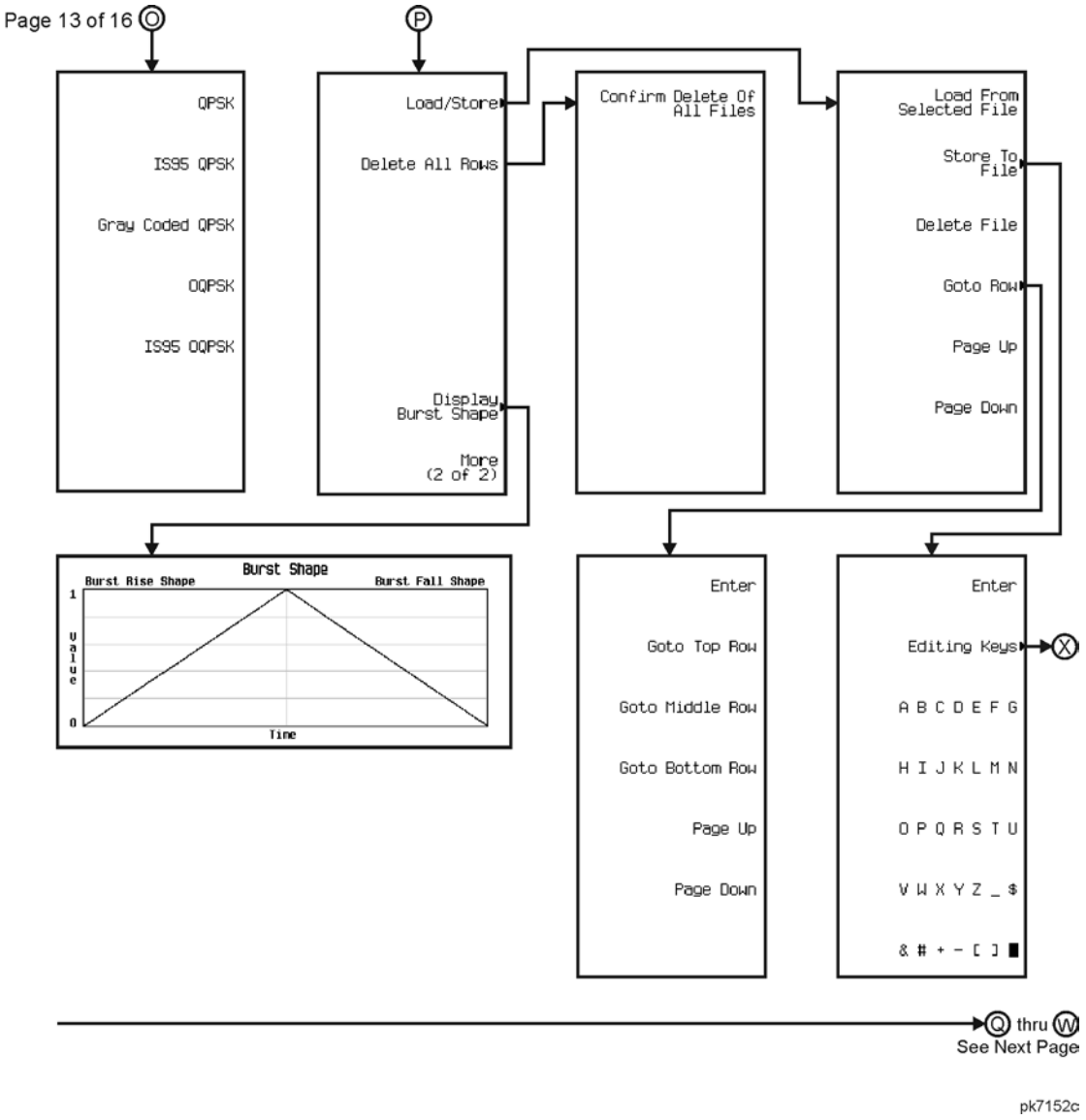

Page 10 of 16 L
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009125
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store S
Load Default FIR T
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
S and T
M thru R
See Next Page

pk7149c

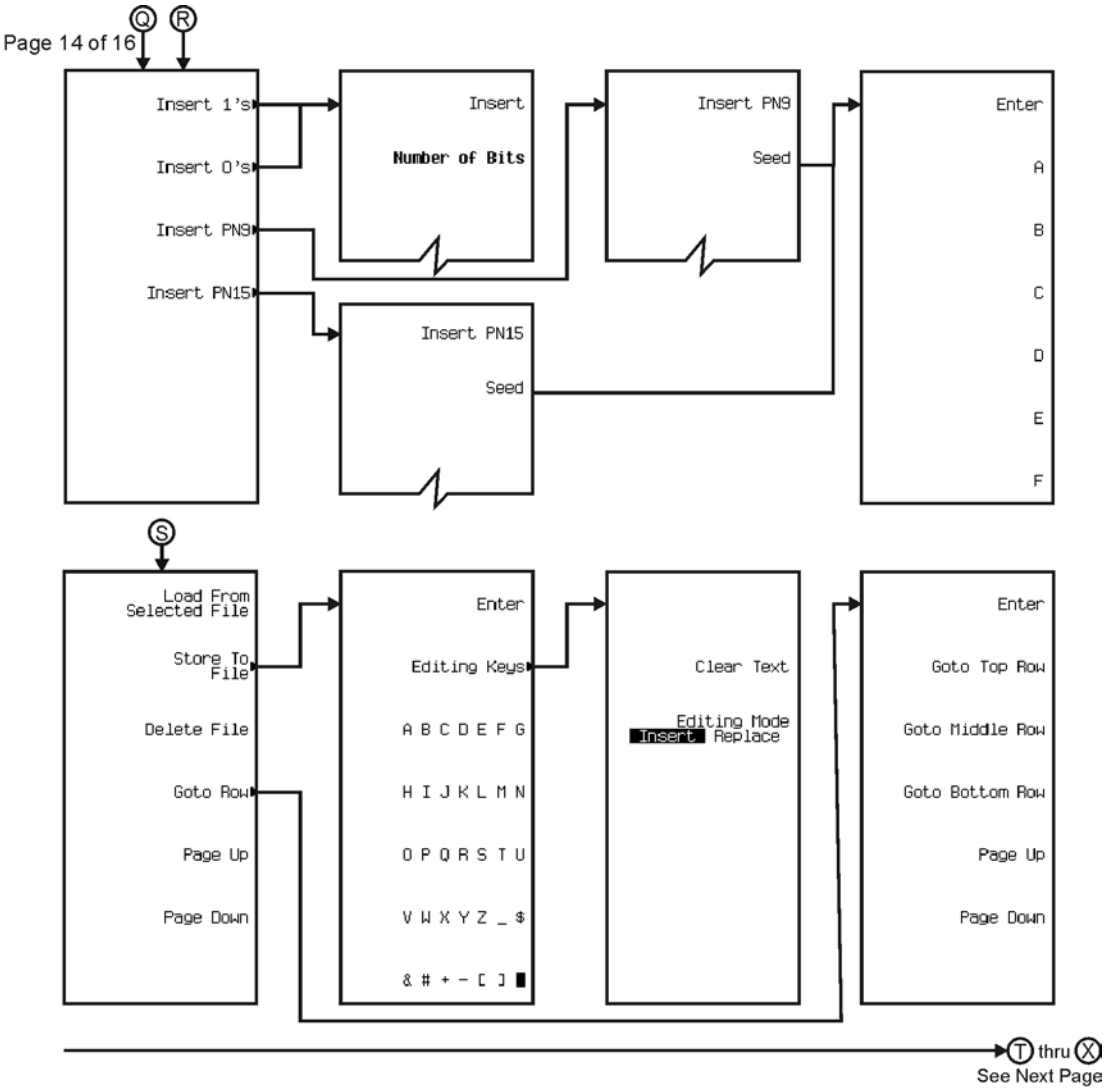

Page 11 of 16 M
Edit Item
Insert Row
Delete Row
Goto Row
Display I/Q Map
More
(1 of 2)
I/Q Values
Data
I Value
Q Value
00000000 0.235702 0.235702
00000001 -1.000000 1.000000
00000010 -1.000000 -1.000000
00000011 1.000000 -1.000000
00000100
I/Q State Map
I/Q States: 2
+1
Q Value
-1
-1
I Value
+1
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store U
Load Default I/Q Map V
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
Offset Q
Off On
More
(2 of 2)
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
U and V
N thru T
See Next Page
pk7150c


Page 12 of 16
N
Edit Item
Insert Row
Delete Row
Goto Row
More
(1 of 2)
Frequency Values
Data
Freq. Deviation
0000
600.0 Hz
0001
1.8000 kHz
0010
-600.0 Hz
0011
-1.8 Hz
0100
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
W
Load Default FSK
Delete All Rows
Differential Encoding
Off On
Configure Differential Encoding
More
(2 of 2)
2-Lvl FSK
4-Lvl FSK
8-Lvl FSK
16-Lvl FSK
C4FM
Freq Dev
Confirm Delete Of All Files
Edit Item
Insert Row
Delete Row
Goto Row
Delete All Rows
W
O thru V
See Next Page

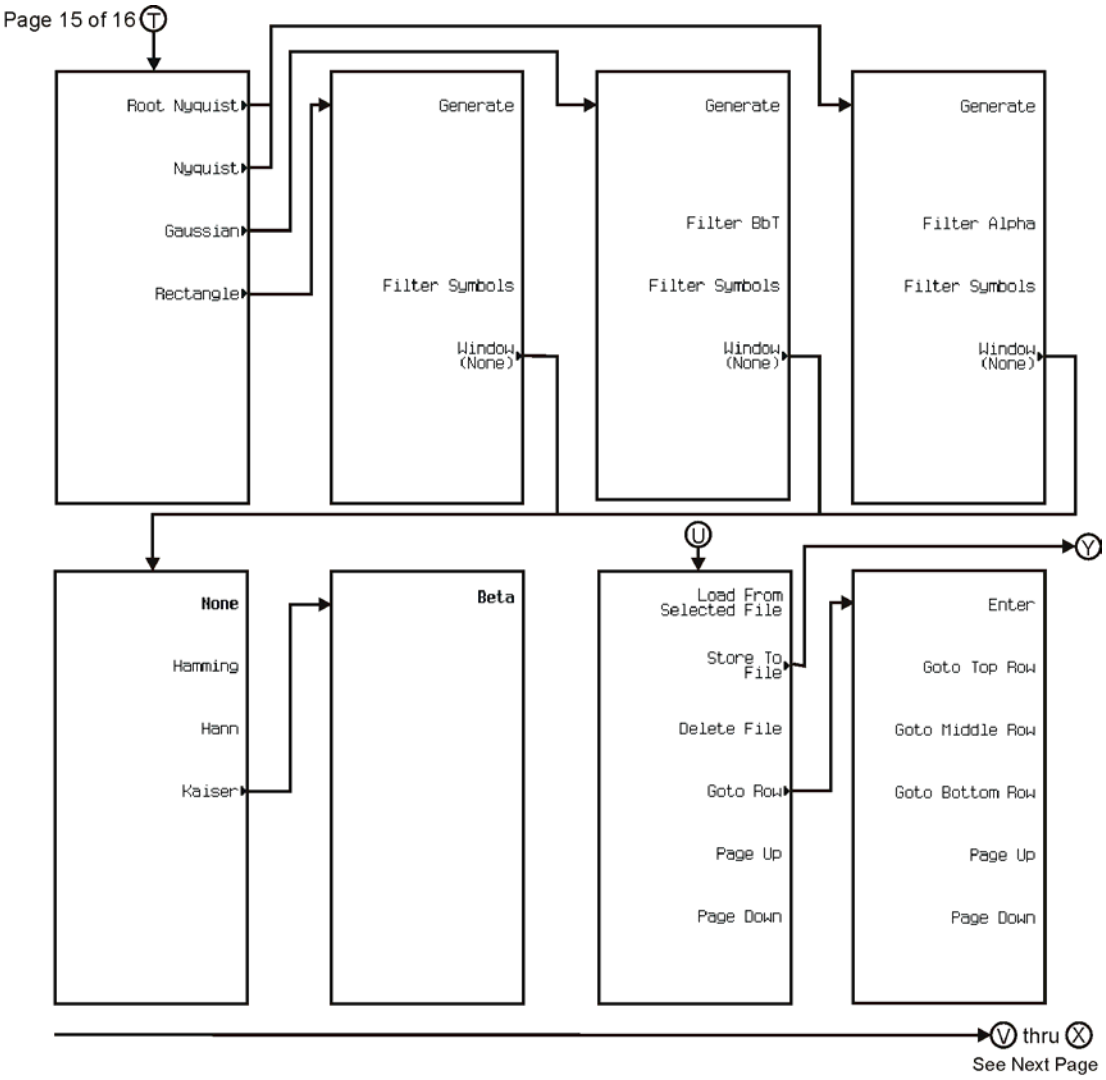
pk7151c


Page 13 of 16 O
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
P
Load/Store
Delete All Rows
Display Burst Shape
More (2 of 2)
Confirm Delete Of All Files
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Burst Shape
Burst Rise Shape
Burst Fall Shape
1
Value
0
Time
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
X
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Q thru W
See Next Page

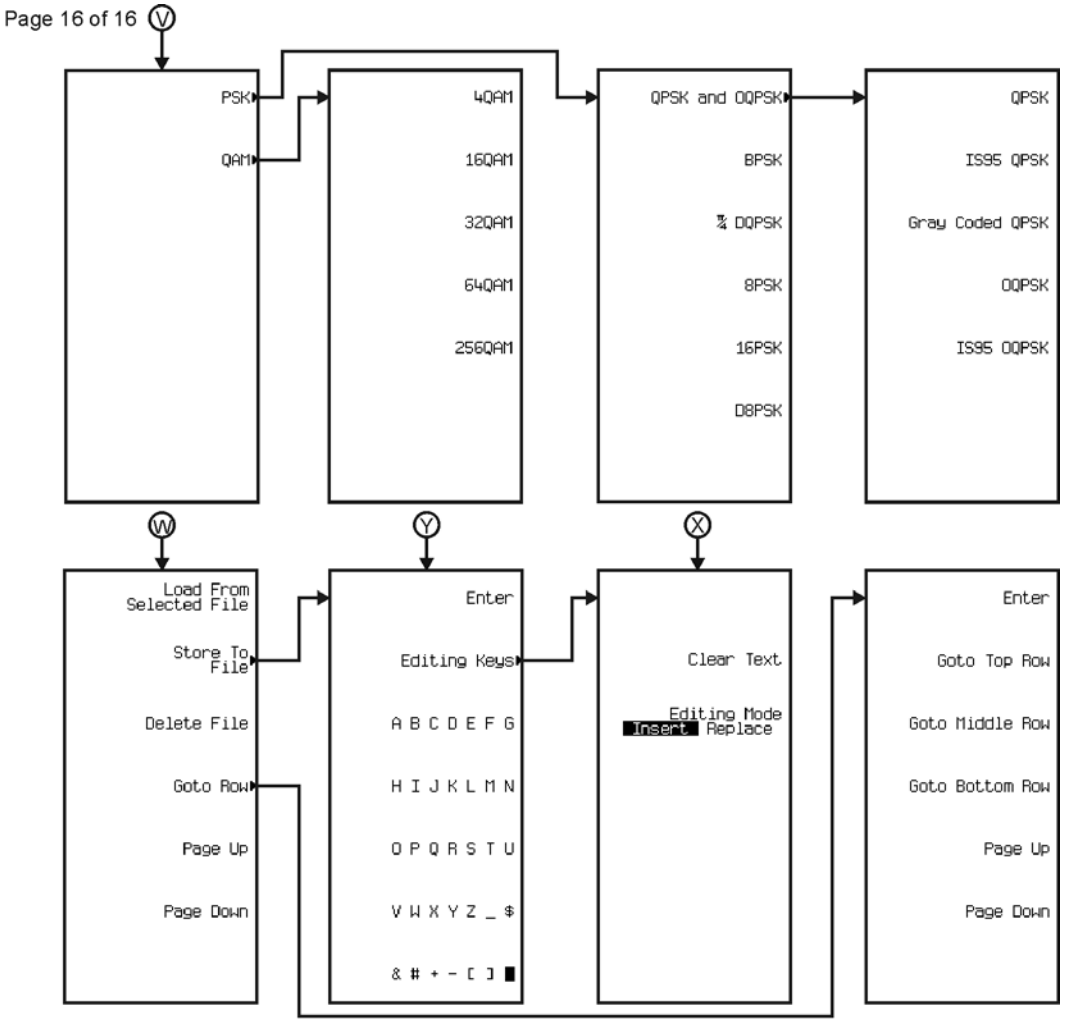
pk7152c


Page 14 of 16
Q
R
Insert 1's
Insert 0's
Insert PN9
Insert PN15
Insert
Number of Bits
Insert PN9
Seed
Insert PN15
Seed
Enter
A
B
C
D
E
F
S
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ]
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
T thru X
See Next Page

pk7153c

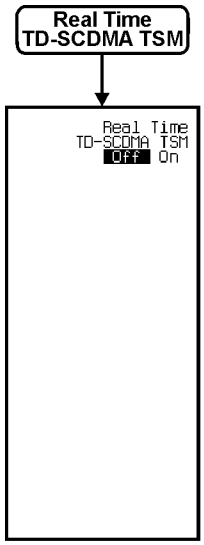

Page 15 of 16 T
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Symbols
Window (None)
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
None
Hamming
Hann
Kaiser
Beta
U
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Y
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
V thru X
See Next Page

pk7154c


Page 16 of 16 V
PSK
QAM
4QAM
16QAM
32QAM
64QAM
256QAM
QPSK and OQPSK
BPSK
π/4 DQPSK
8PSK
16PSK
D8PSK
QPSK
IS95 QPSK
Gray Coded QPSK
OQPSK
IS95 OQPSK
W
Y
X
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down

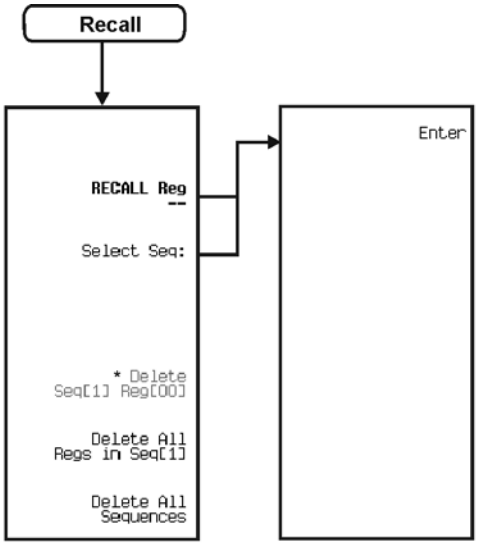
pk7155c

Real Time TD-SCDMA TSM



pk7203c

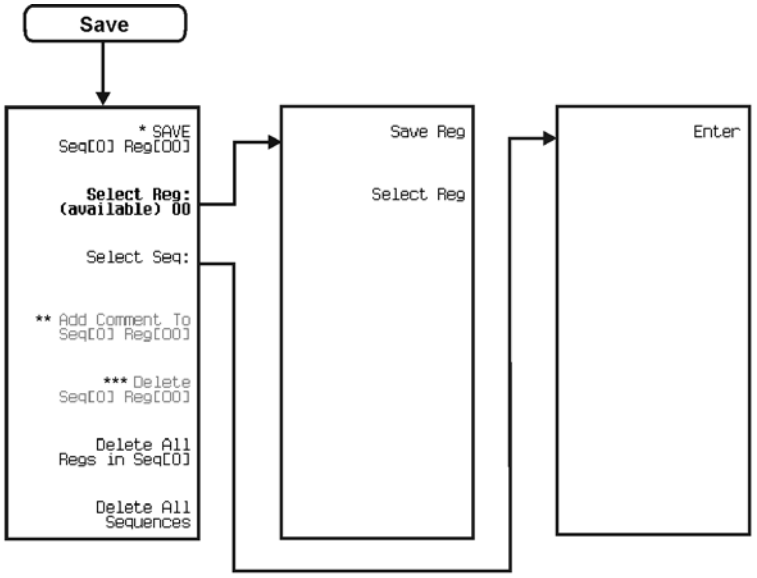
Recall



*Active only when **Save** > **Select Reg:** > enter value > **Enter** are pressed.

pe932a

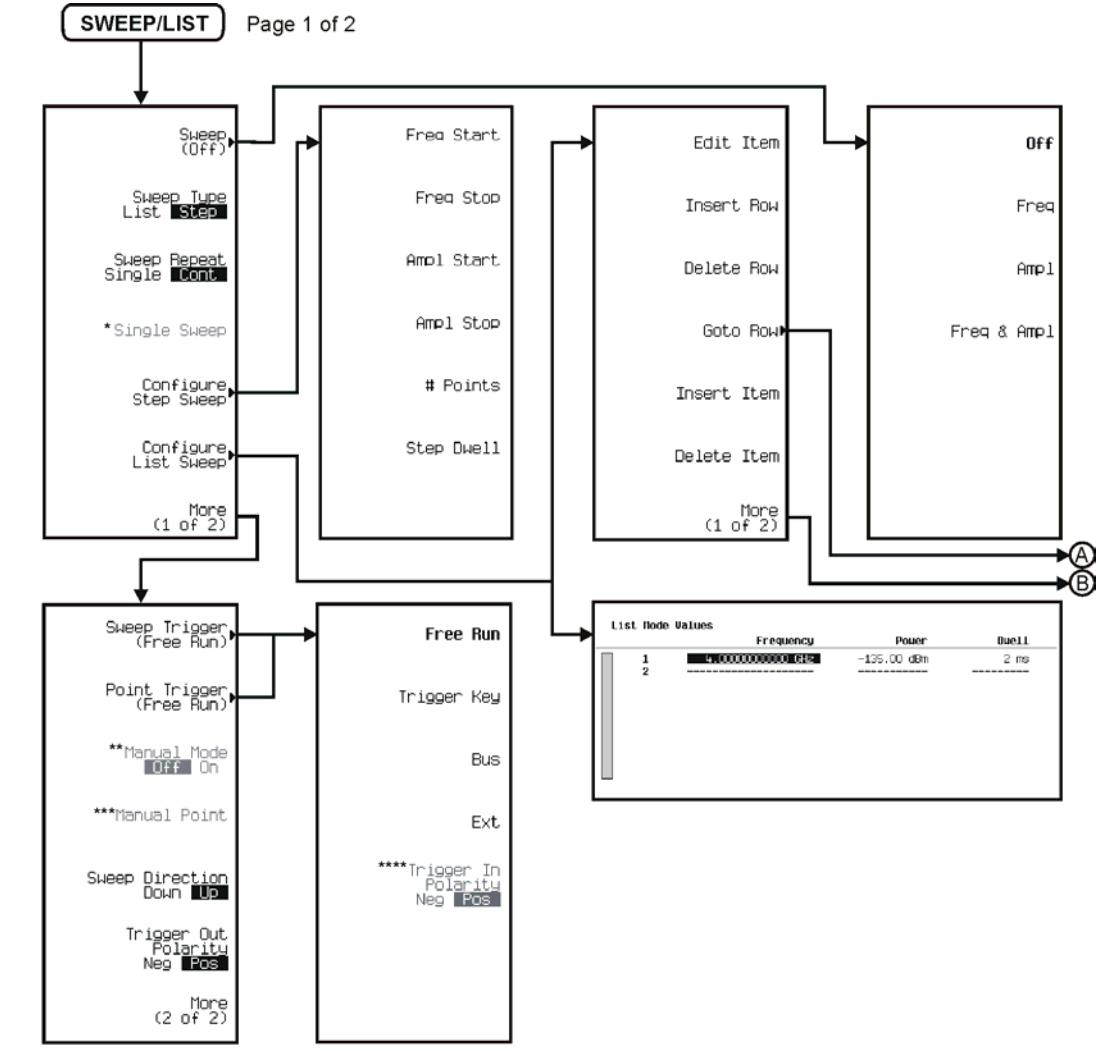
Save



* Changes to **Re-SAVE Seq[0] Reg[00]** when pressed.
** Activate by pressing **Select Reg:** > enter value > **Enter**.
Switches to **Edit Comment In Seq[n] Reg[nn]** after adding a comment to a register.
*** Activate by pressing **Select Reg:** > enter value > **Enter**.

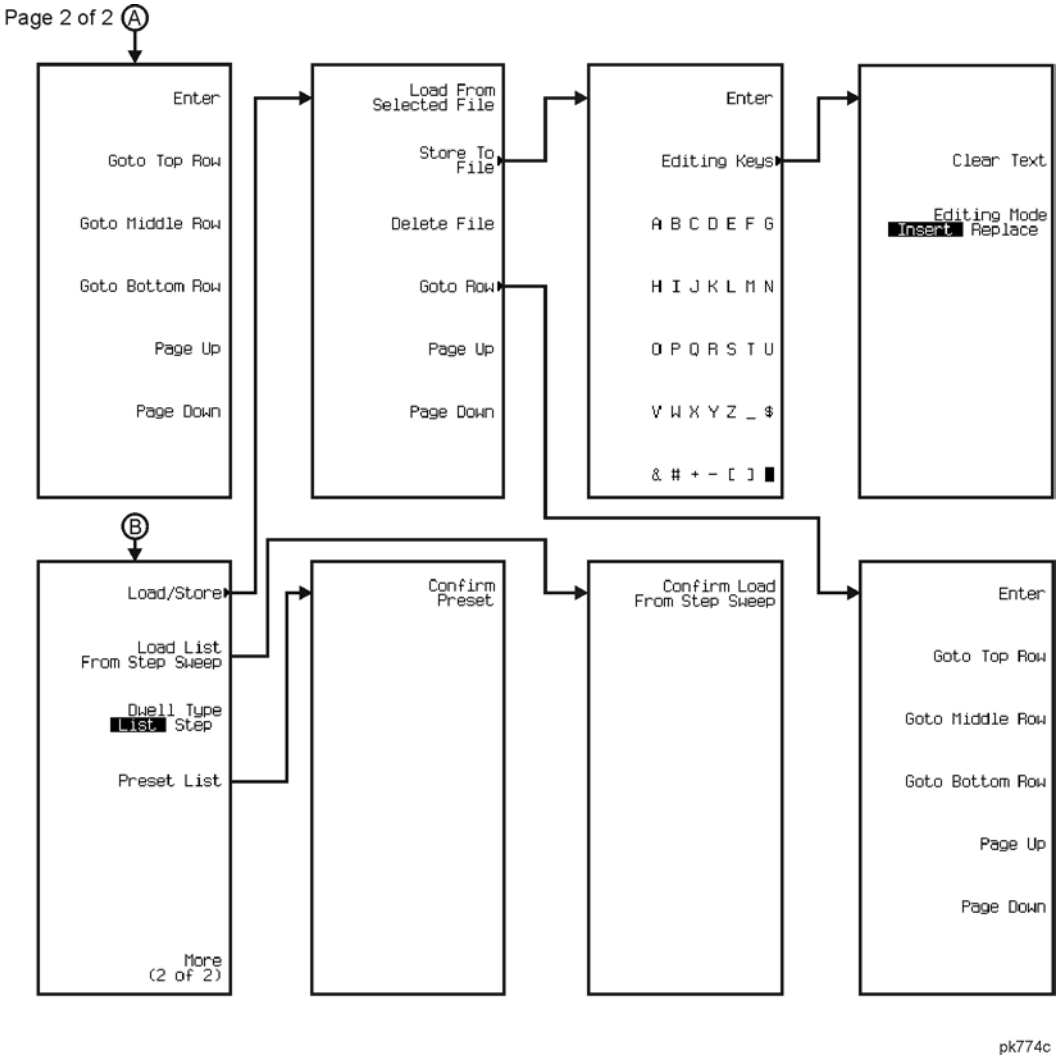
pe931a

Sweep/List

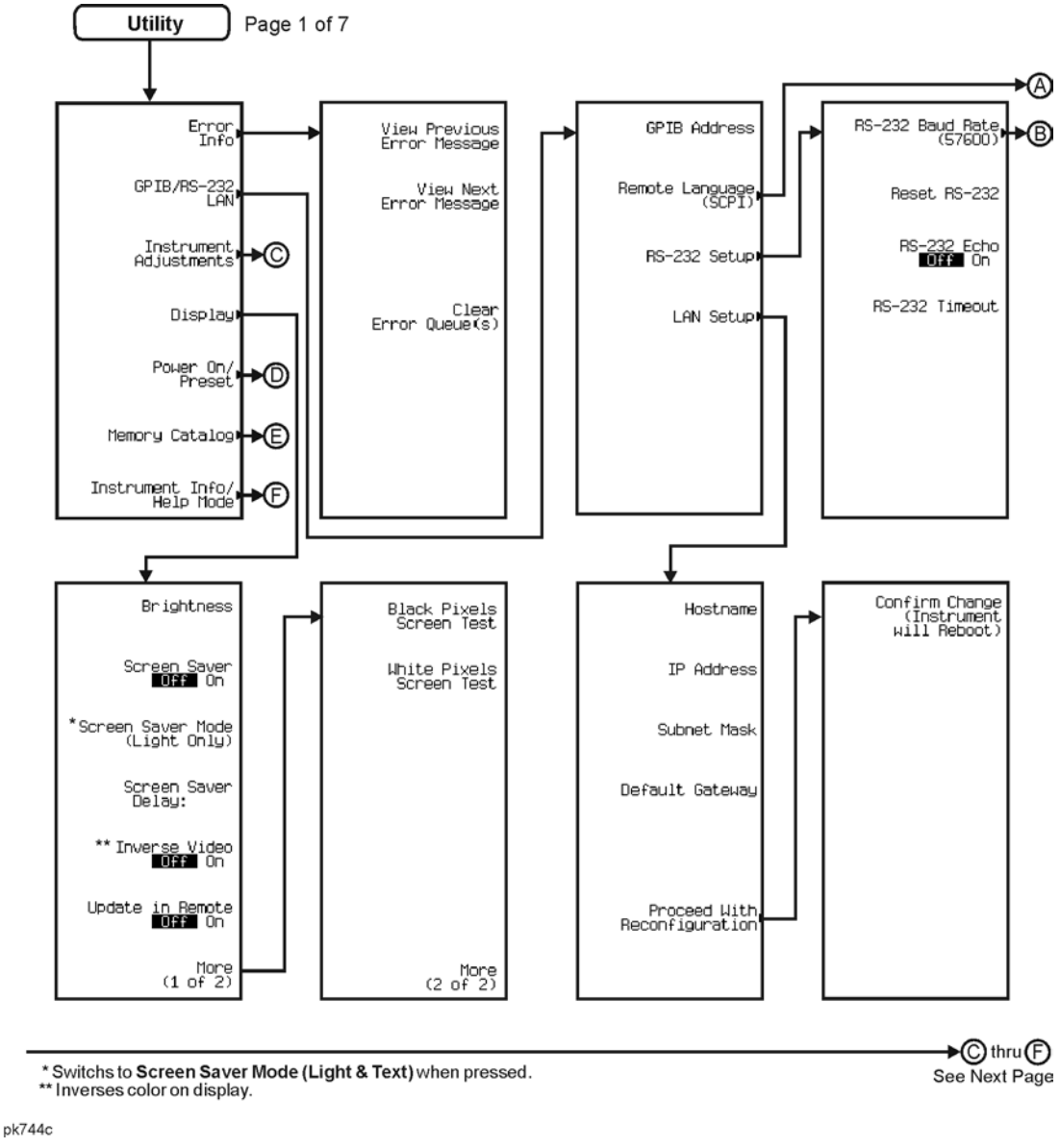


*Activate by pressing **Sweep** > **Freq** or **Ampl** or **Freq & Amp**.
** Activate by pressing **More (2 of 2)** > **Sweep** > **Freq** or **Ampl** or **Freq & Amp**.
*** Active when Manual Mode is On.
**** Active by pressing **Ext**.

pk773c

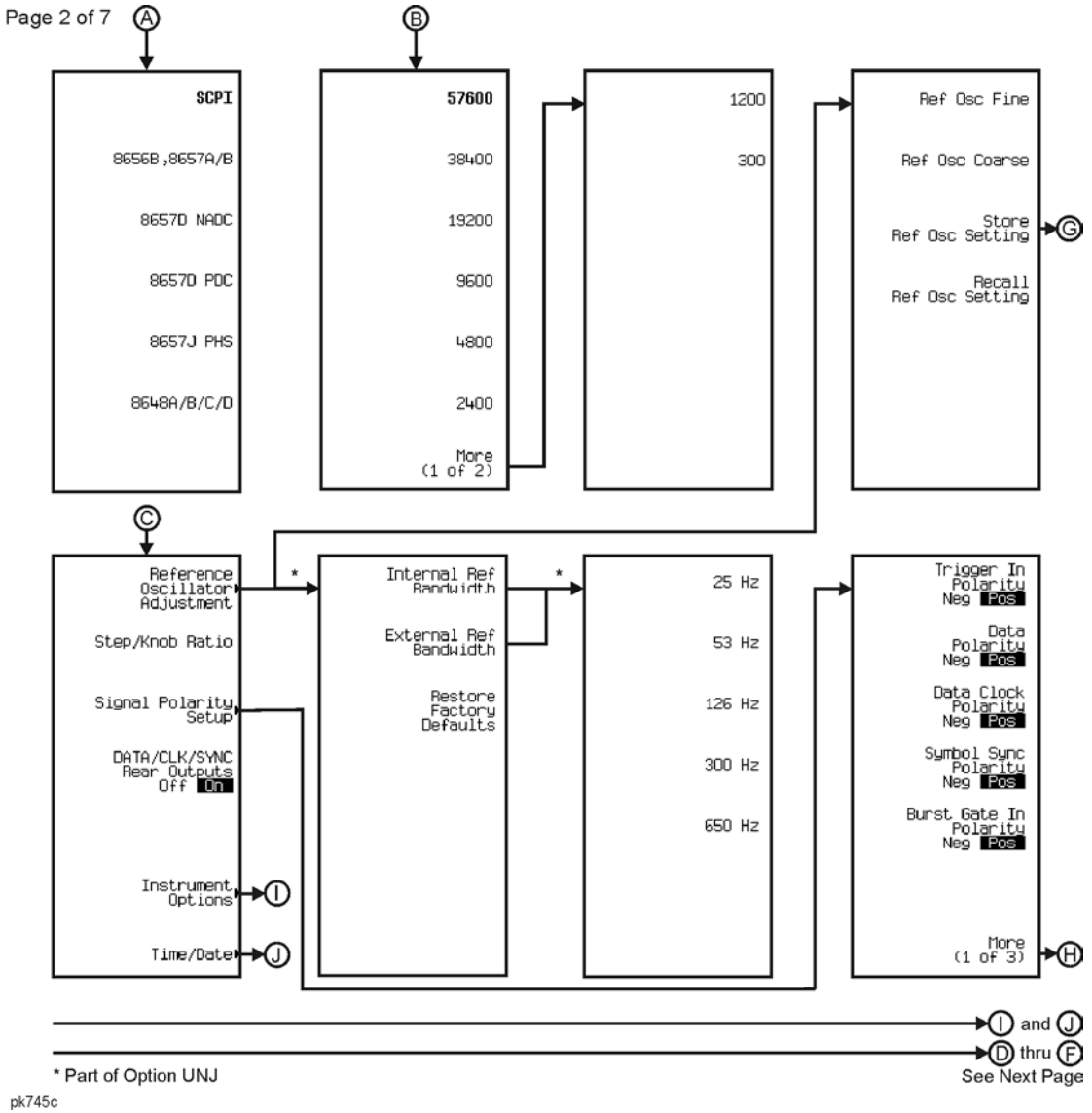

Page 2 of 2 A
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
B
Load/Store
Load List From Step Sweep
Dwell Type
List Step
Preset List
More (2 of 2)
Confirm Preset
Confirm Load From Step Sweep
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
pk774c

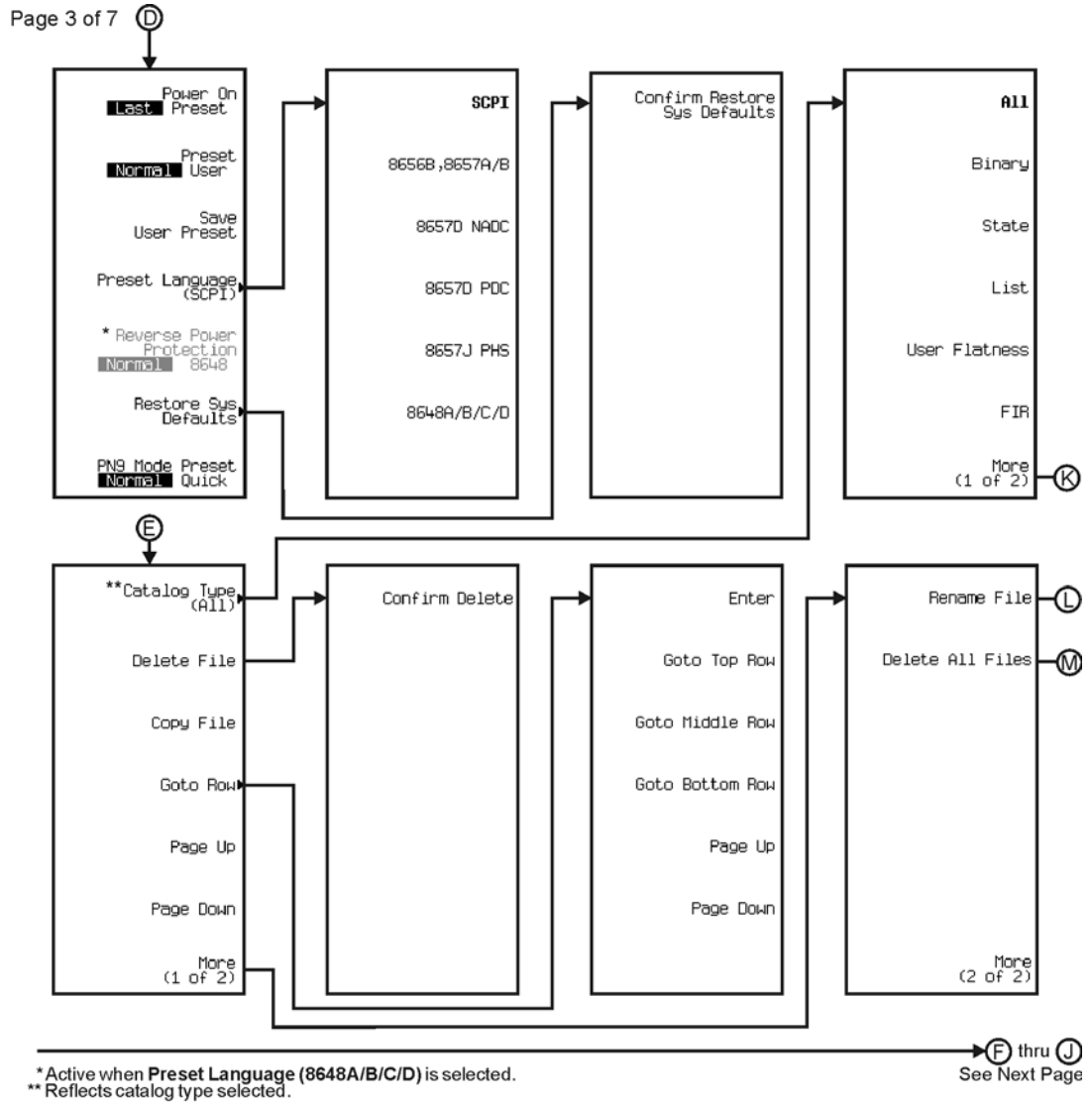
Utility



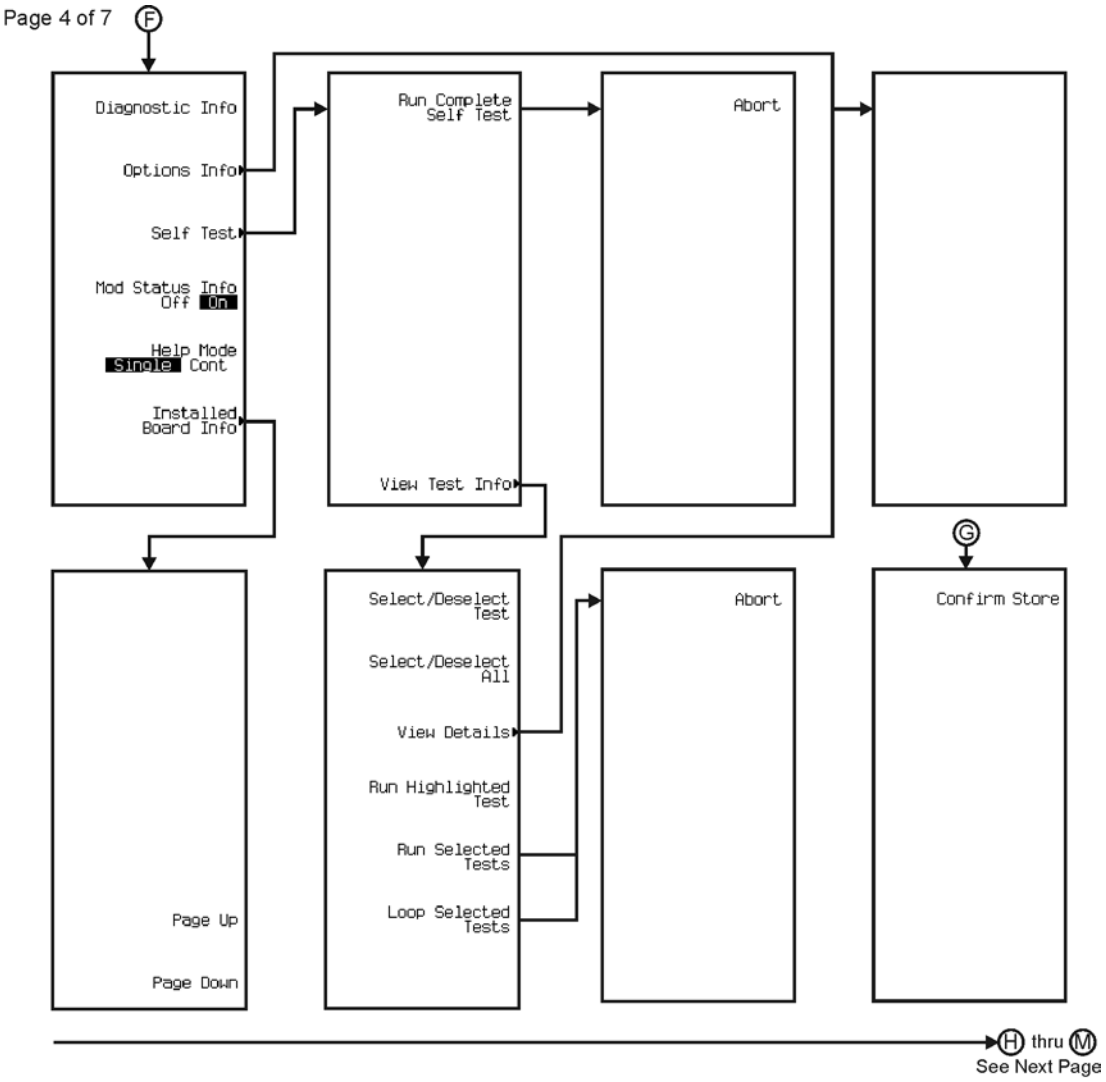
* Switchs to **Screen Saver Mode (Light & Text)** when pressed.
** Inverses color on display.

pk744c

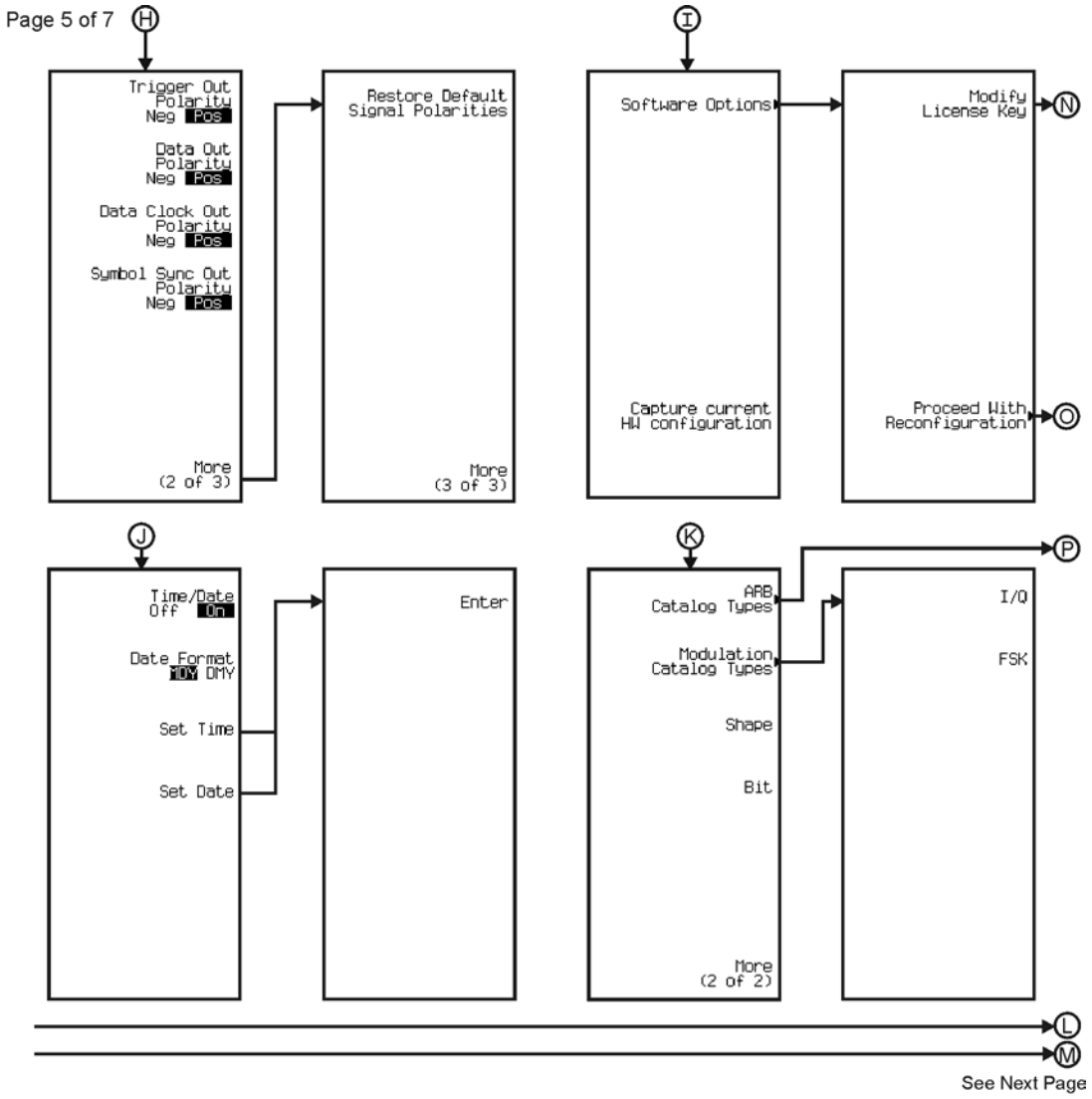

Page 2 of 7
A
B
SCPI
8656B,8657A/B
8657D NADC
8657D PDC
8657J PHS
8648A/B/C/D
57600
38400
19200
9600
4800
2400
More
(1 of 2)
1200
300
Ref Osc Fine
Ref Osc Coarse
Store
Ref Osc Setting
G
Recall
Ref Osc Setting
C
Reference
Oscillator
Adjustment
Step/Knob Ratio
Signal Polarity
Setup
DATA/CLK/SYNC
Rear Outputs
Off On
Instrument
Options
I
Time/Date
J
*
Internal Ref
Bandwidth
External Ref
Bandwidth
Restore
Factory
Defaults
*
25 Hz
53 Hz
126 Hz
300 Hz
650 Hz
Trigger In
Polarity
Neg Pos
Data
Polarity
Neg Pos
Data Clock
Polarity
Neg Pos
Symbol Sync
Polarity
Neg Pos
Burst Gate In
Polarity
Neg Pos
More
(1 of 3)
H
I and J
D thru F
* Part of Option UNJ
See Next Page
pk745c


Page 3 of 7
D
Power On
Last Preset
Preset
Normal User
Save
User Preset
Preset Language
(SCPI)
* Reverse Power
Protection
Normal 8648
Restore Sys
Defaults
PN9 Mode Preset
Normal Quick
SCPI
8656B,8657A/B
8657D NADC
8657D PDC
8657J PHS
8648A/B/C/D
Confirm Restore
Sys Defaults
All
Binary
State
List
User Flatness
FIR
More
(1 of 2)
K
E
**Catalog Type
(All)
Delete File
Copy File
Goto Row
Page Up
Page Down
More
(1 of 2)
Confirm Delete
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Rename File
L
Delete All Files
M
More
(2 of 2)
F thru J
See Next Page
* Active when **Preset Language (8648A/B/C/D)** is selected.
** Reflects catalog type selected.

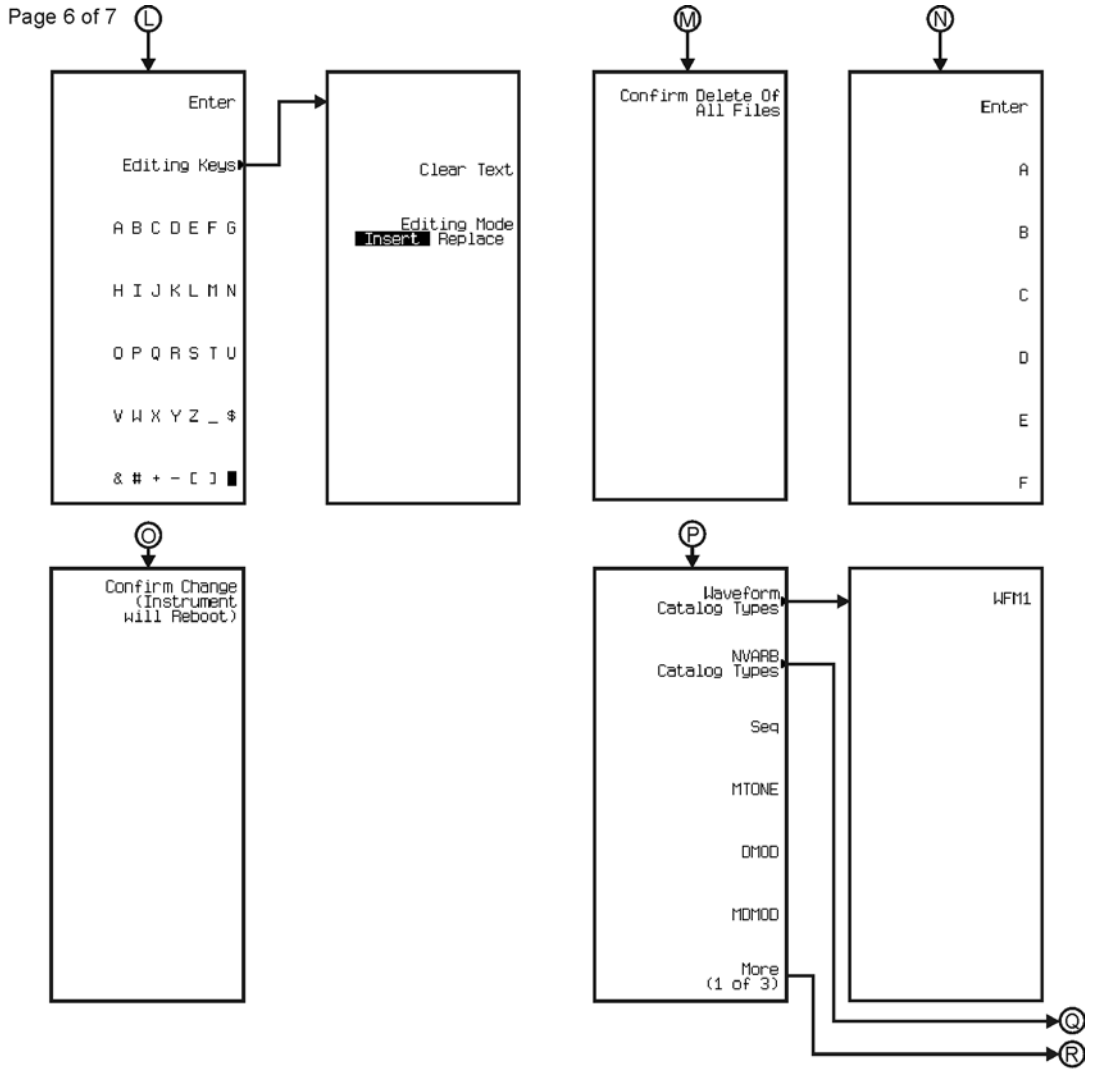
pk746c


Page 4 of 7
F
Diagnostic Info
Options Info
Self Test
Mod Status Info
Off On
Help Mode
Single Cont
Installed
Board Info
Run Complete
Self Test
View Test Info
Abort
G
Confirm Store
Page Up
Page Down
Select/Deselect
Test
Select/Deselect
All
View Details
Run Highlighted
Test
Run Selected
Tests
Loop Selected
Tests
Abort
H thru M
See Next Page

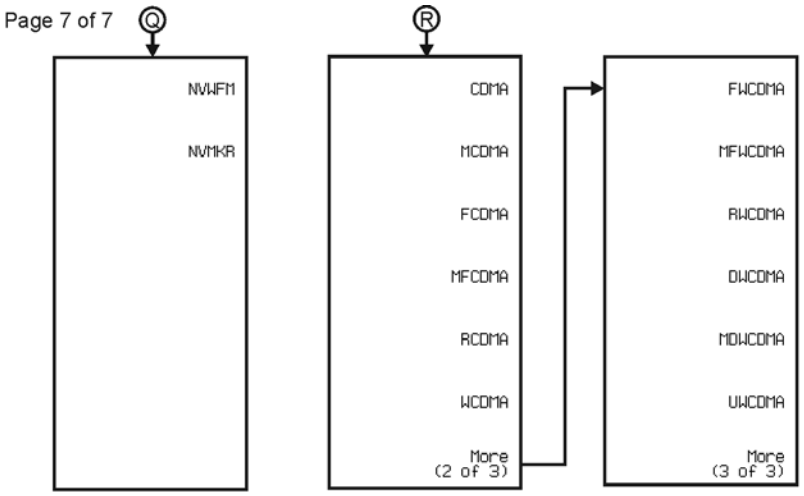
pk747c


Page 5 of 7
H
Trigger Out Polarity
Neg Pos
Data Out Polarity
Neg Pos
Data Clock Out Polarity
Neg Pos
Symbol Sync Out Polarity
Neg Pos
More (2 of 3)
Restore Default Signal Polarities
More (3 of 3)
I
Software Options
Capture current HW configuration
Modify License Key
N
Proceed With Reconfiguration
O
J
Time/Date Off On
Date Format MDY DMY
Set Time
Set Date
Enter
K
ARB Catalog Types
Modulation Catalog Types
Shape
Bit
More (2 of 2)
P
I/Q
FSK
L
M
See Next Page

pk748c

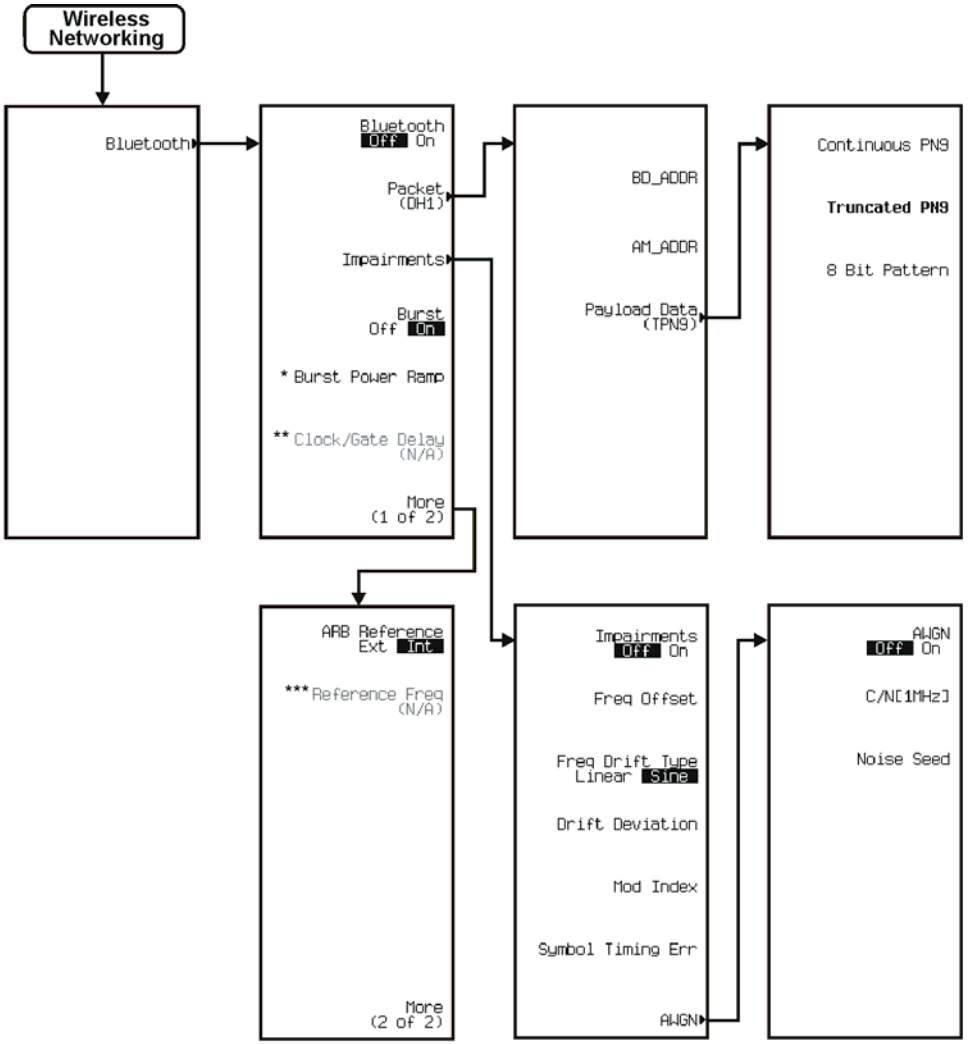

Page 6 of 7
L
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
M
Confirm Delete Of
All Files
N
Enter
A
B
C
D
E
F
O
Confirm Change
(Instrument
will Reboot)
P
Waveform
Catalog Types
NVARB
Catalog Types
Seq
MTONE
DMOD
MDMOD
More
(1 of 3)
WFM1
Q
R

pk749c


Page 7 of 7
Q
NVWFM
NVMKR
R
CDMA
MCDMA
FCDMA
MFCDMA
RCDMA
WCDMA
More
(2 of 3)
FWCDMA
MFWCDMA
RWCDMA
DWCDMA
MDWCDMA
UWCDMA
More
(3 of 3)

pk750c

Wireless Networking



* Inactive when Burst is off.
** Activate by pressing **Packet (DH1) > Payload Data > Continuous PN9**.
*** Active when **ARB Reference Ext Int** is selected.

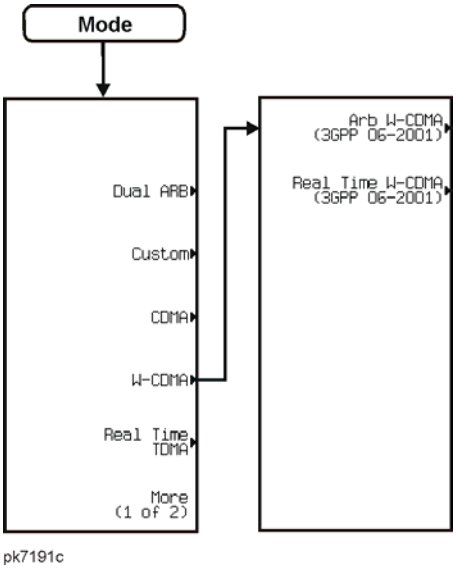
pk743c

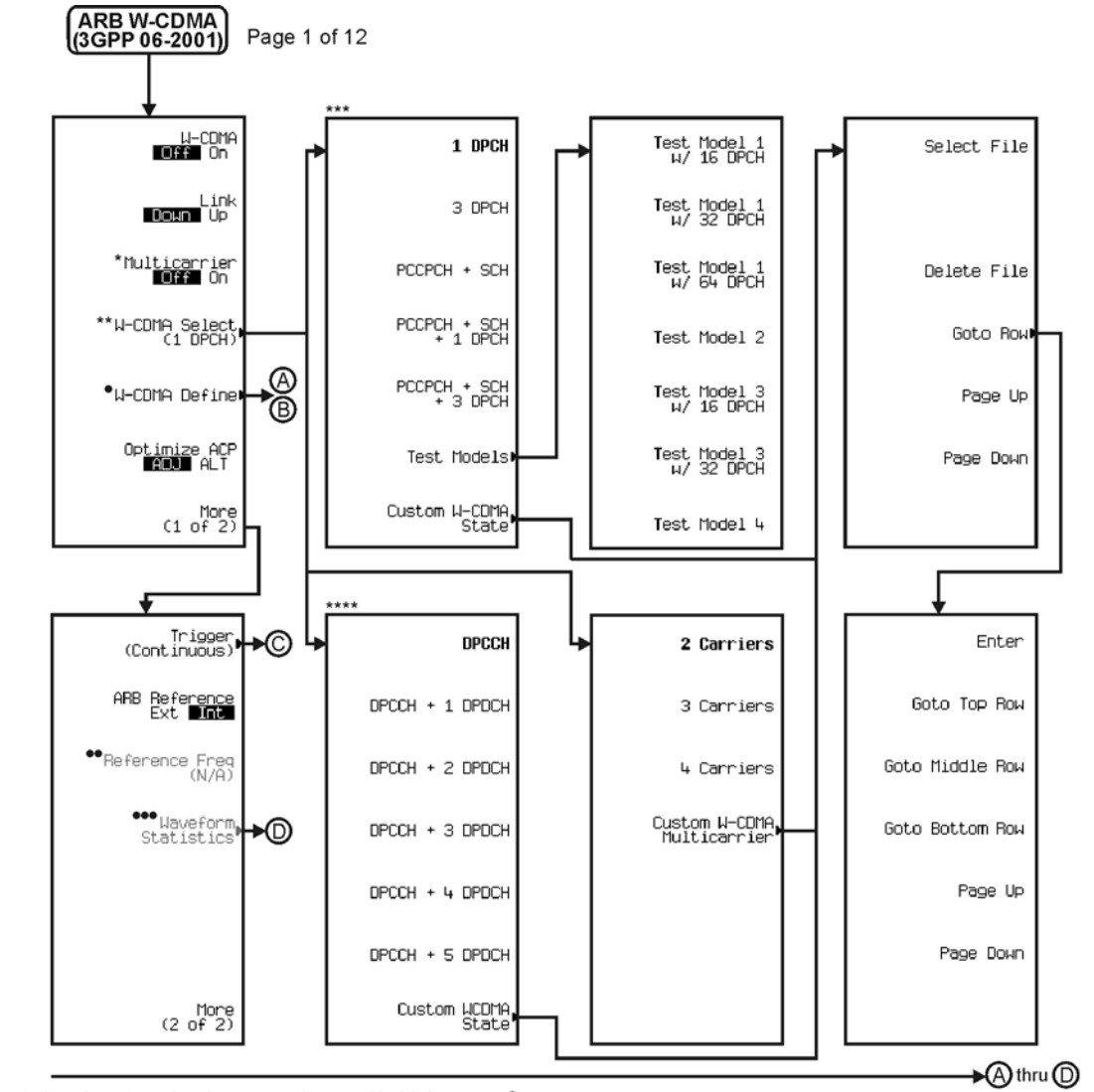
W-CDMA

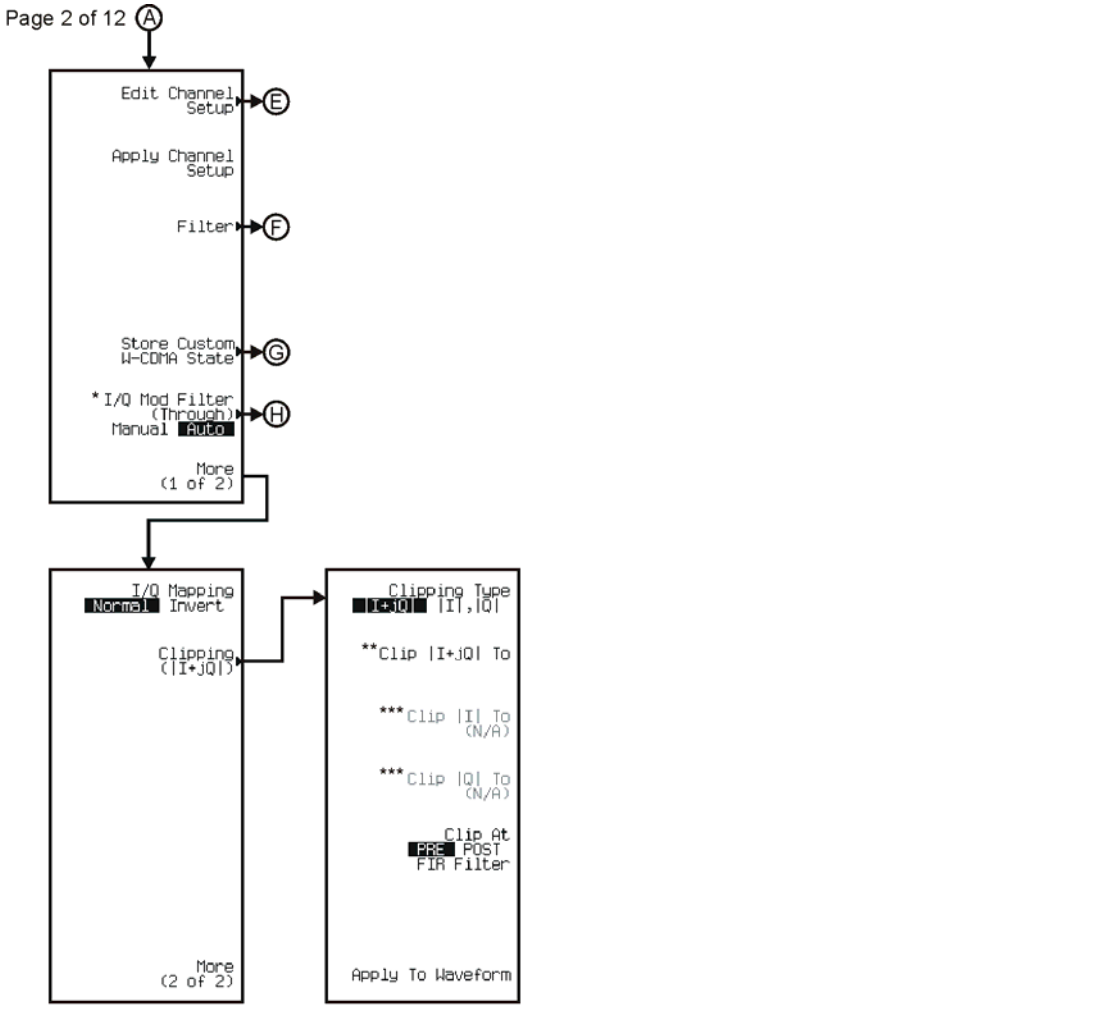
The W-CDMA personality is accessed by pressing the **Mode** hardkey.

The W-CDMA menu maps are split into three sections:

- for Arb W-CDMA (3GPP 06-2001) go to page M-228
- for Real-Time W-CDMA (3GPP 06-2001) Down Link go to page M-240
- for Real-Time W-CDMA (3GPP 06-2001) Up Link go to page M-245

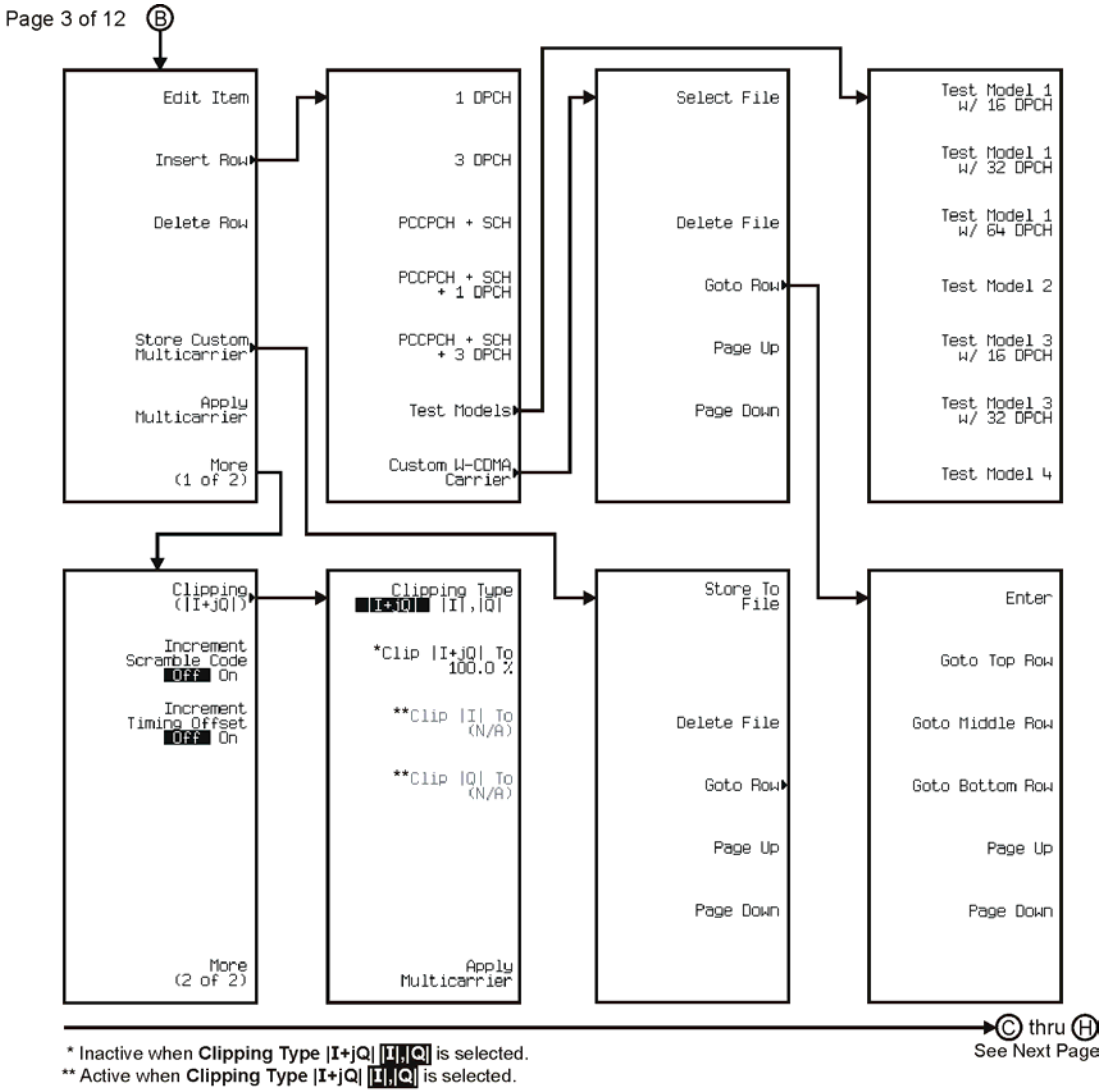



ARB W-CDMA (3GPP 06-2001)
Page 1 of 12
W-CDMA Off On
Link Down Up
*Multicarrier Off On
**W-CDMA Select (1 DPCH)
•W-CDMA Define
Optimize ACP ADJ ALT
More (1 of 2)
***
1 DPCH
3 DPCH
PCCPCH + SCH
PCCPCH + SCH + 1 DPCH
PCCPCH + SCH + 3 DPCH
Test Models
Custom W-CDMA State
Test Model 1 w/ 16 DPCH
Test Model 1 w/ 32 DPCH
Test Model 1 w/ 64 DPCH
Test Model 2
Test Model 3 w/ 16 DPCH
Test Model 3 w/ 32 DPCH
Test Model 4
Select File
Delete File
Goto Row
Page Up
Page Down
Trigger (Continuous)
ARB Reference Ext Int
••Reference Freq (N/A)
•••Waveform Statistics
More (2 of 2)
****
DPCCH
DPCCH + 1 DPDCH
DPCCH + 2 DPDCH
DPCCH + 3 DPDCH
DPCCH + 4 DPDCH
DPCCH + 5 DPDCH
Custom WCDMA State
2 Carriers
3 Carriers
4 Carriers
Custom W-CDMA Multicarrier
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
A B C D
A thru D
* Inactive when signal generator is set to Up Link.
** Changes depending on if W-CDMA is on or off and if Multicarrier is on or off.
*** Available when signal generator is set to Down Link.
**** Available when signal generator is set to Up Link.
•Changes to Multicarrier Define when Multicarrier is on. Follow Ⓒ when Multicarrier is off. Follow Ⓓ when Multicarrier is on.
••Active when ARB Reference EXT Int is selected.
•••Active when W-CDMA is on.
pk761c

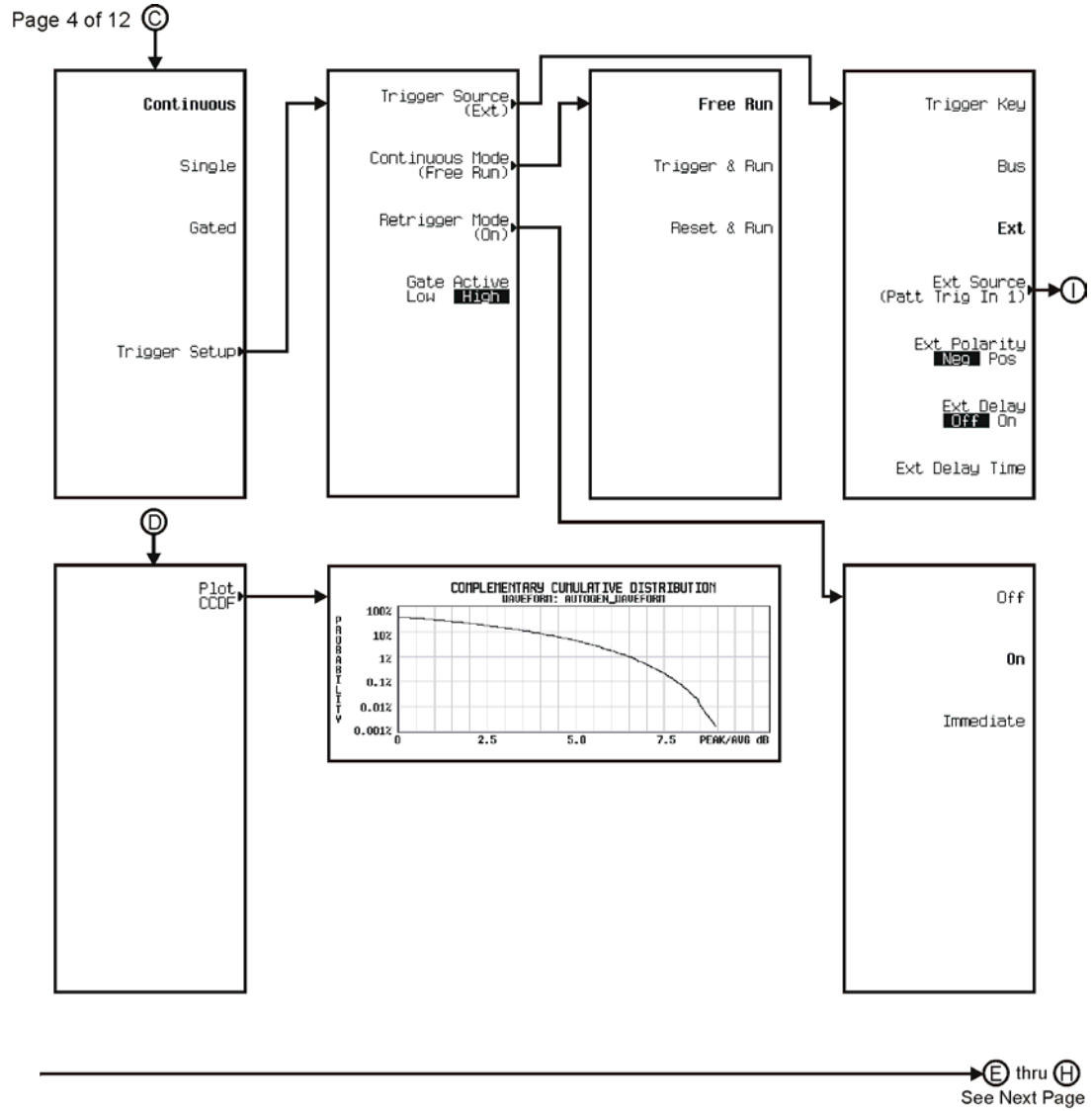


* Changes to **I/Q Modulator Pre Filter (2.100 MHz) Manual** **Auto** when W-CMDA is on.
** Inactive when **Clipping Type |I+jQ| |I|,|Q|** is selected.
*** Active when **Clipping Type |I+jQ| |I|,|Q|** is selected.

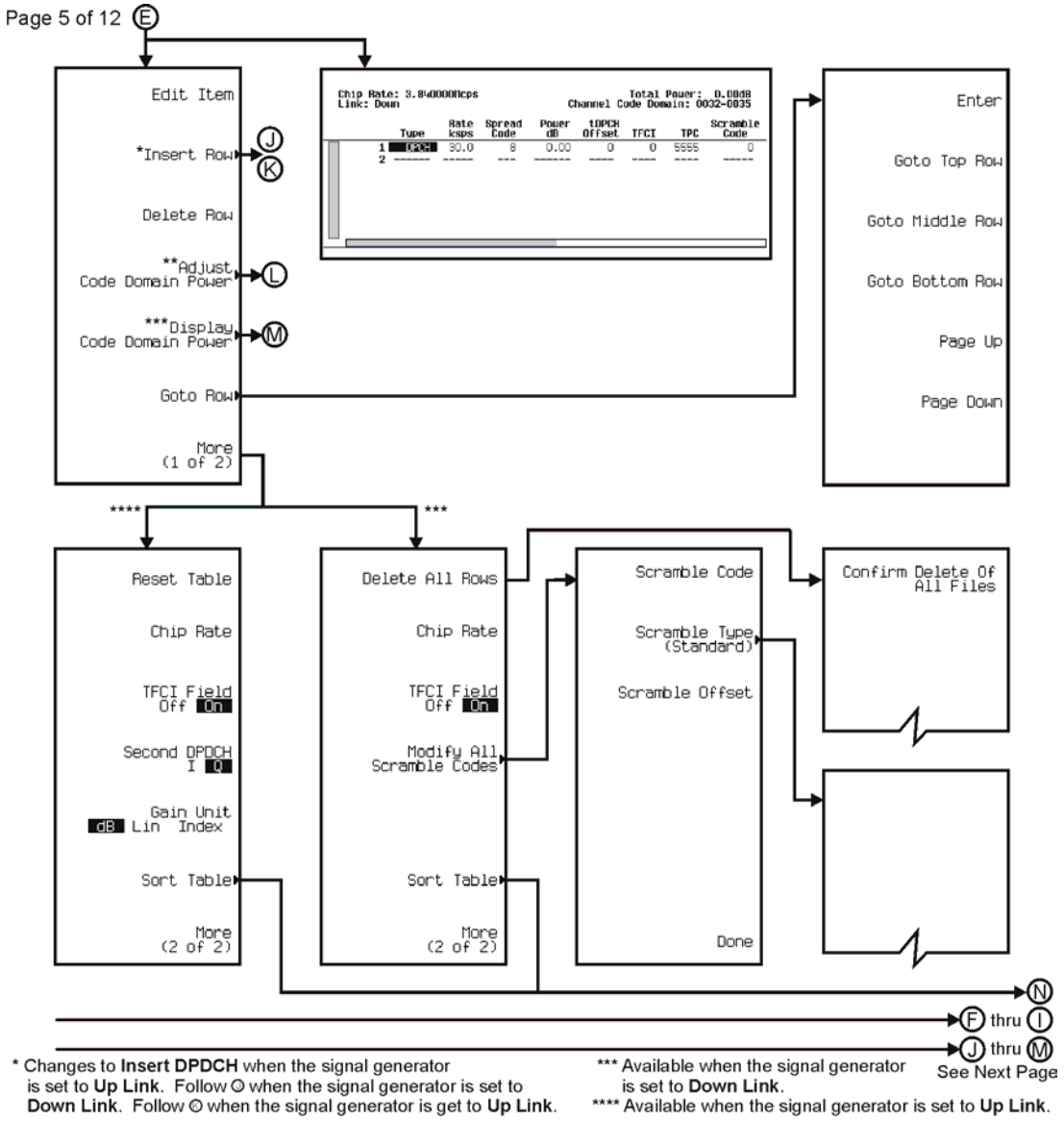
pk762c


Page 3 of 12 B
Edit Item
Insert Row
Delete Row
Store Custom Multicarrier
Apply Multicarrier
More (1 of 2)
1 DPCH
3 DPCH
PCCPCH + SCH
PCCPCH + SCH + 1 DPCH
PCCPCH + SCH + 3 DPCH
Test Models
Custom W-CDMA Carrier
Select File
Delete File
Goto Row
Page Up
Page Down
Test Model 1 w/ 16 DPCH
Test Model 1 w/ 32 DPCH
Test Model 1 w/ 64 DPCH
Test Model 2
Test Model 3 w/ 16 DPCH
Test Model 3 w/ 32 DPCH
Test Model 4
Clipping (|I+jQ|)
Increment Scramble Code Off On
Increment Timing Offset Off On
More (2 of 2)
Clipping Type |I+jQ| |I|,|Q|
*Clip |I+jQ| To 100.0 %
**Clip |I| To (N/A)
**Clip |Q| To (N/A)
Apply Multicarrier
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
C thru H
See Next Page
* Inactive when Clipping Type |I+jQ| |I|,|Q| is selected.
** Active when Clipping Type |I+jQ| |I|,|Q| is selected.

pk7190c


Page 4 of 12 C
Continuous
Single
Gated
Trigger Setup
Trigger Source (Ext)
Continuous Mode (Free Run)
Retrigger Mode (On)
Gate Active Low High
Free Run
Trigger & Run
Reset & Run
Trigger Key
Bus
Ext
Ext Source (Patt Trig In 1)
I
Ext Polarity Neg Pos
Ext Delay Off On
Ext Delay Time
D
Plot CCDF
COMPLEMENTARY CUMULATIVE DISTRIBUTION
WAVEFORM: AUTOGEN_WAVEFORM
PROBABILITY
100%
10%
1%
0.1%
0.01%
0.001%
0
2.5
5.0
7.5
PEAK/AVG dB
Off
On
Immediate
E thru H
See Next Page

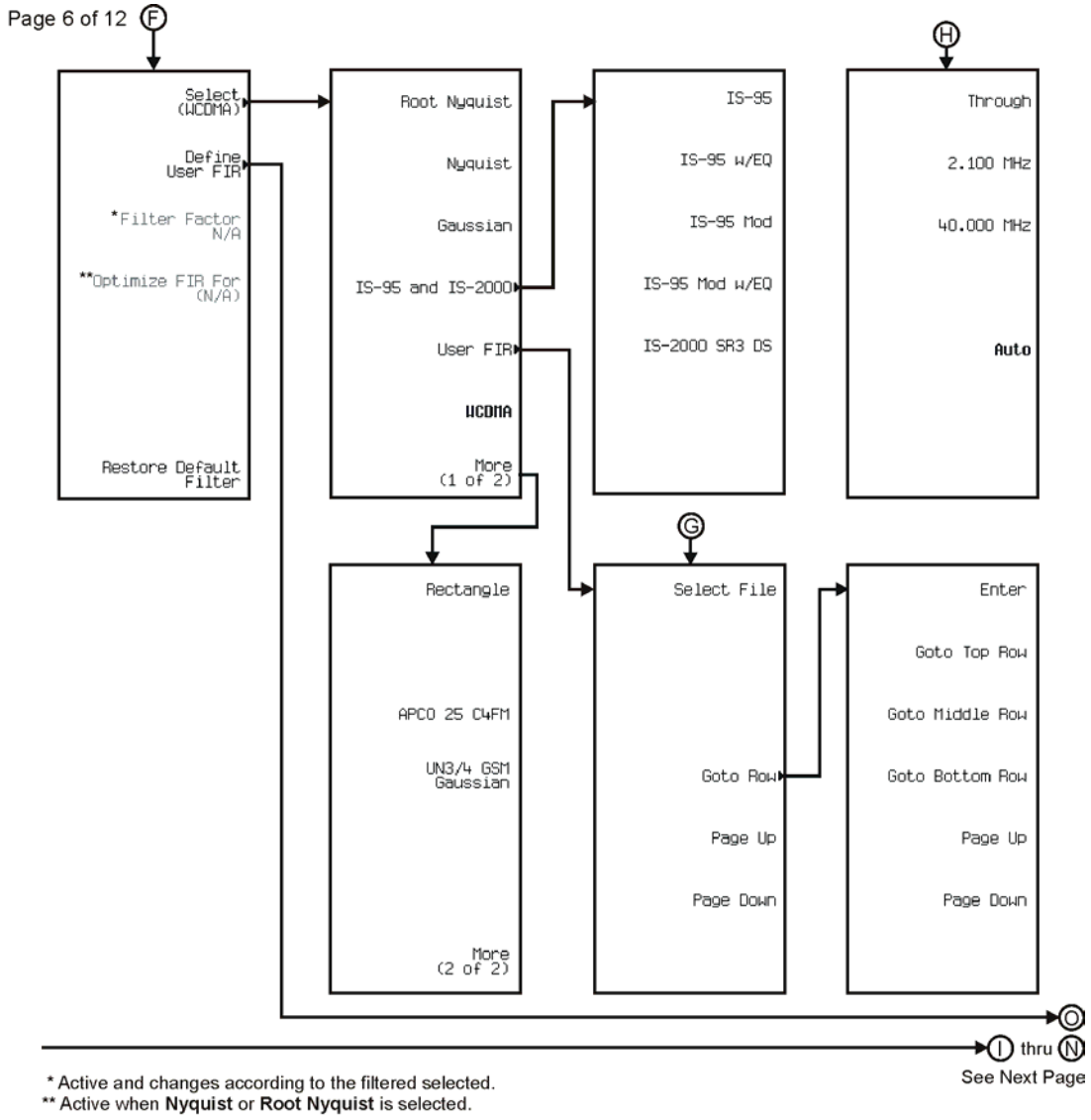
pk763c



* Changes to **Insert DPDCH** when the signal generator is set to **Up Link**. Follow Ⓞ when the signal generator is set to **Down Link**. Follow Ⓘ when the signal generator is get to **Up Link**.

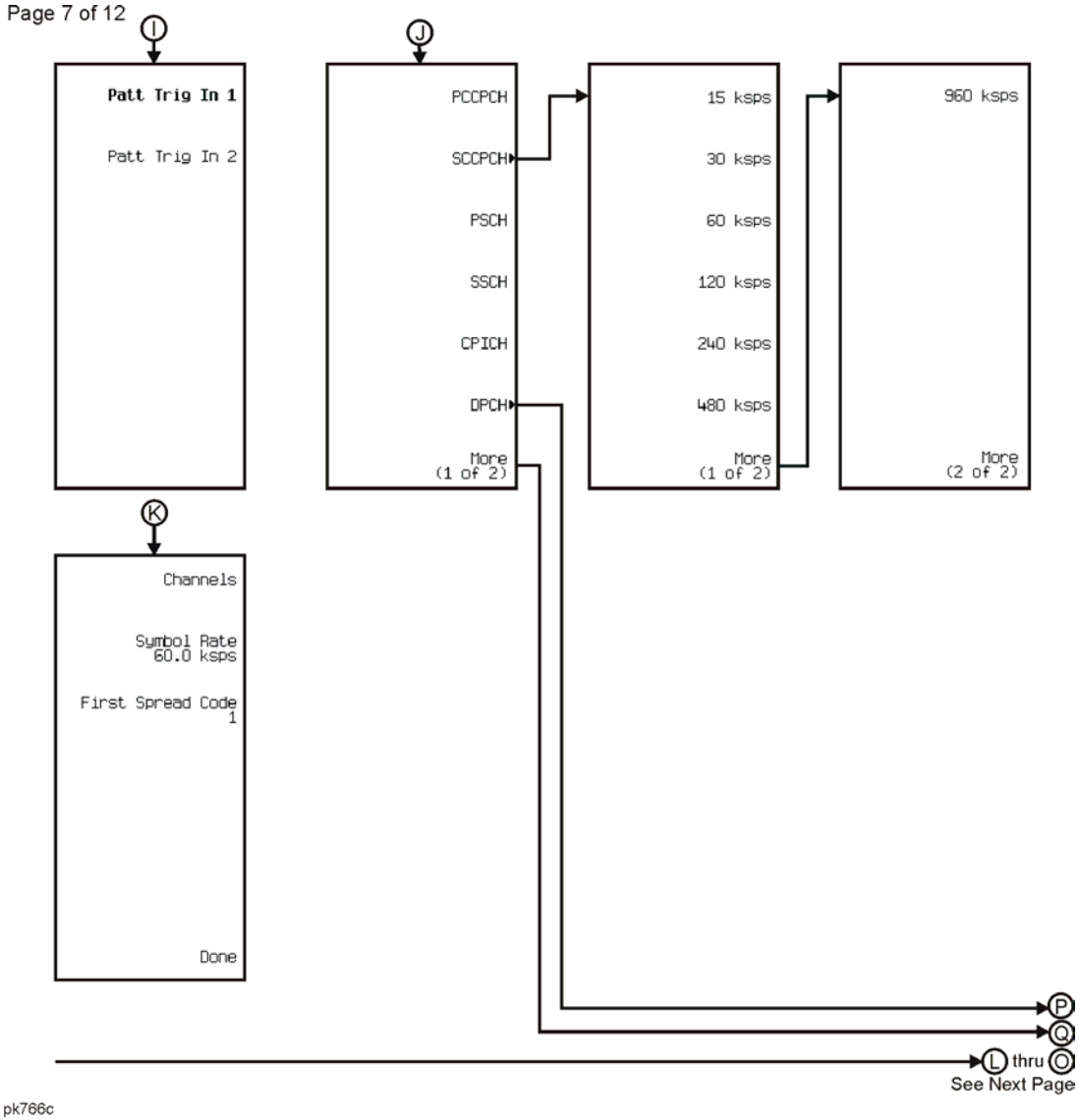
*** Available when the signal generator is set to **Down Link**.

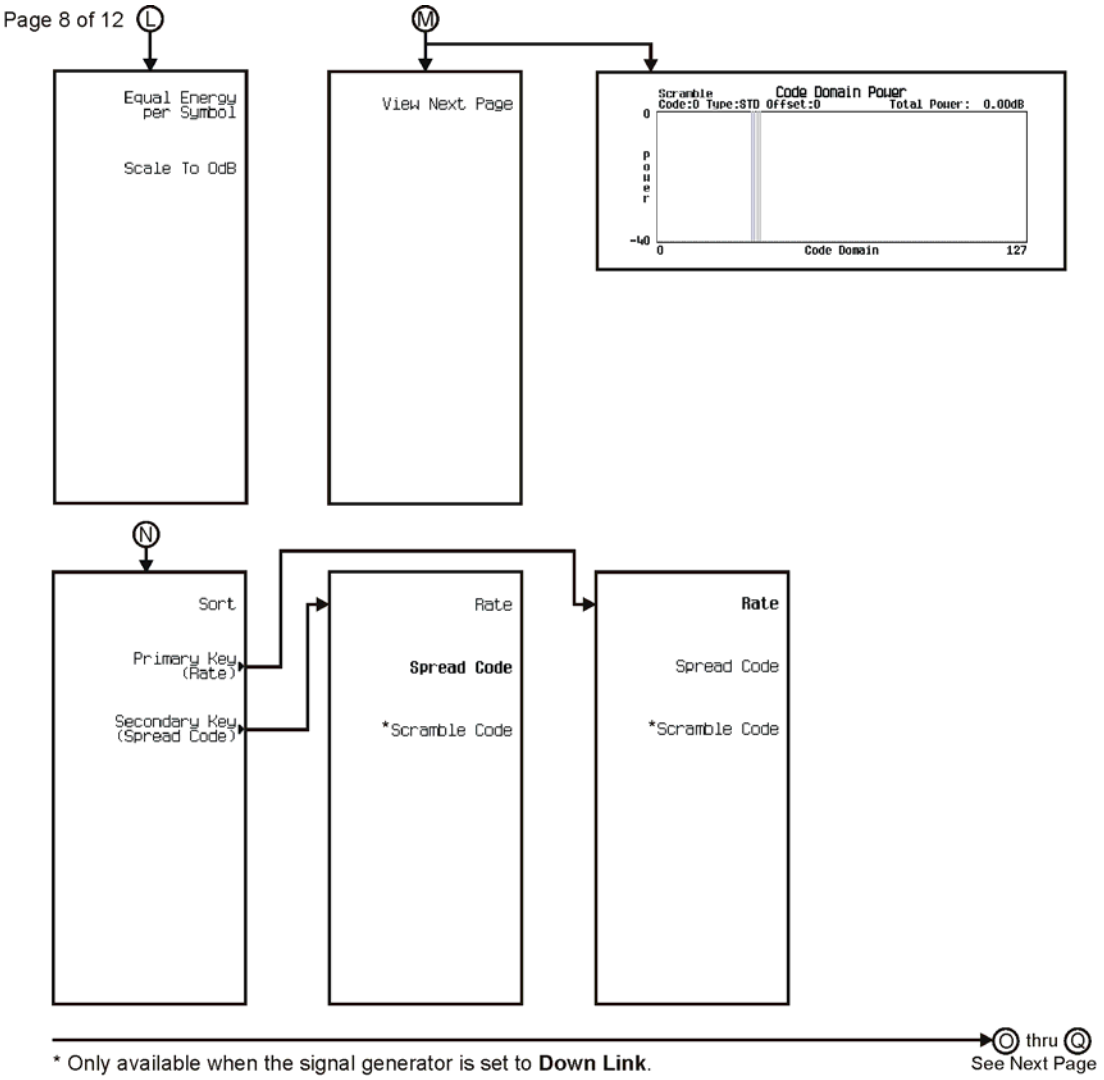
**** Available when the signal generator is set to **Up Link**.



* Active and changes according to the filtered selected.
** Active when **Nyquist** or **Root Nyquist** is selected.

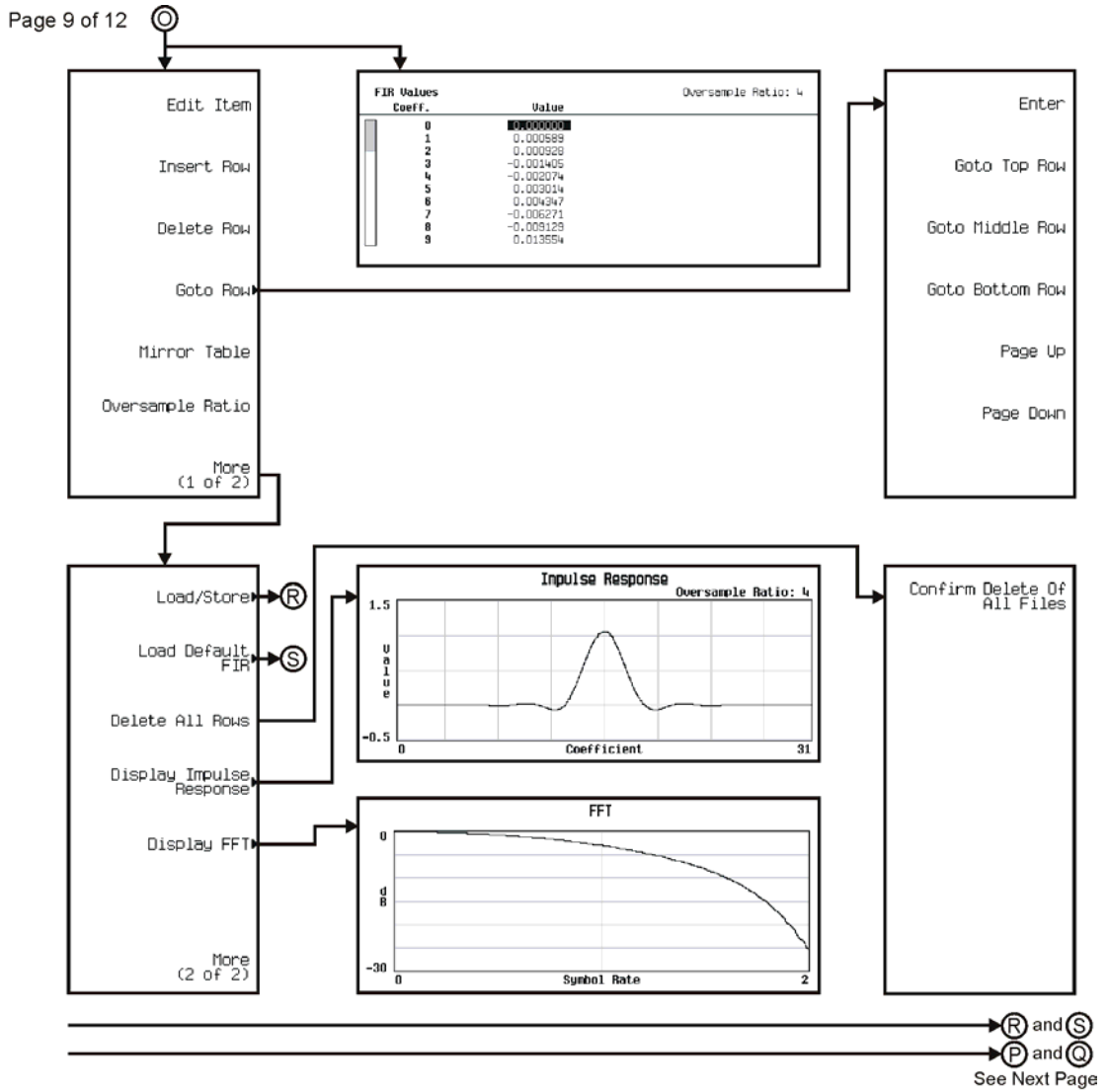
pk765c


Page 7 of 12
I
Patt Trig In 1
Patt Trig In 2
J
PCCPCH
SCCPCH
PSCH
SSCH
CPICH
DPCH
More
(1 of 2)
15 ksps
30 ksps
60 ksps
120 ksps
240 ksps
480 ksps
More
(1 of 2)
960 ksps
More
(2 of 2)
K
Channels
Symbol Rate
60.0 ksps
First Spread Code
1
Done
P
Q
L thru O
See Next Page
pk766c

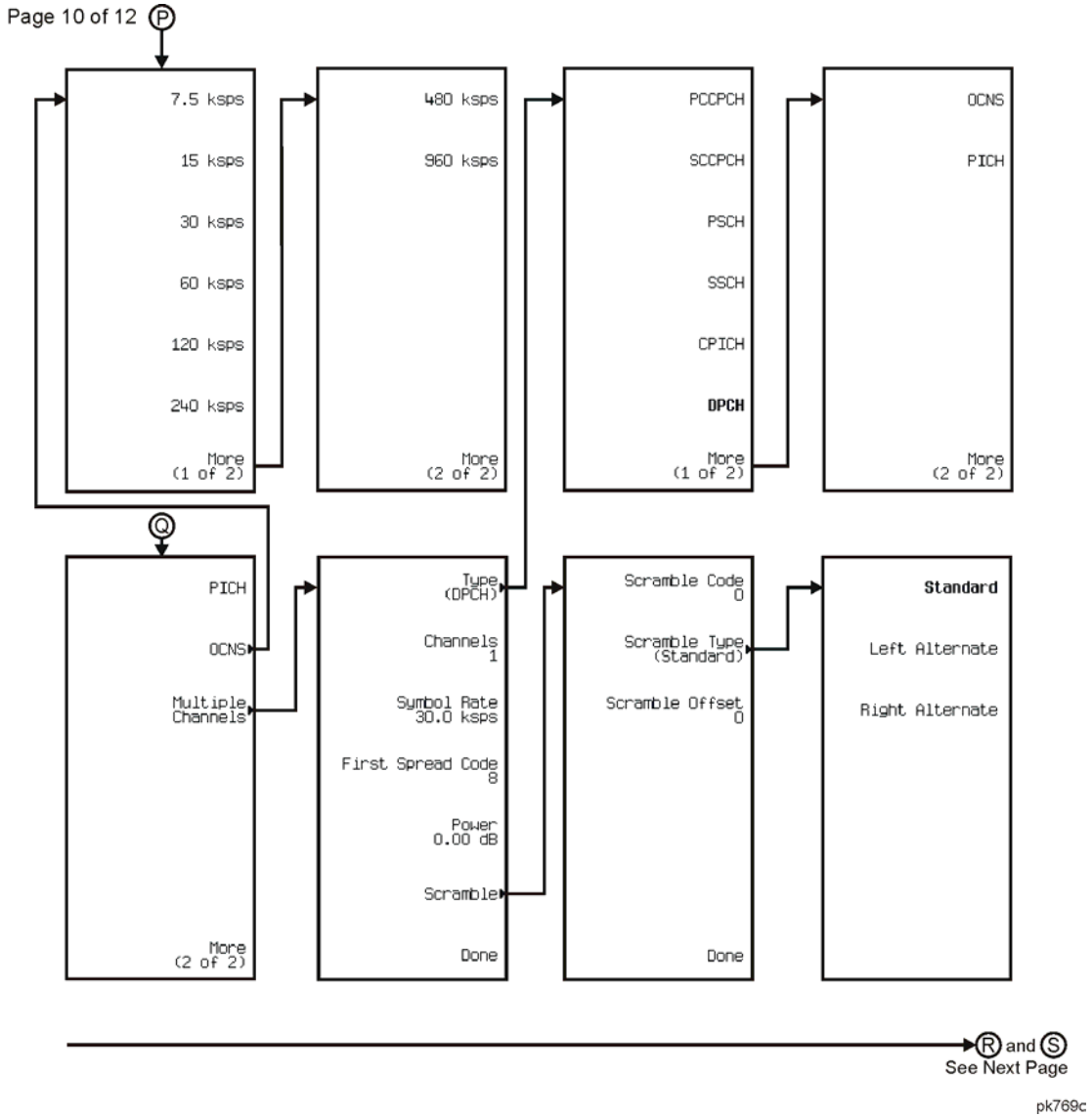


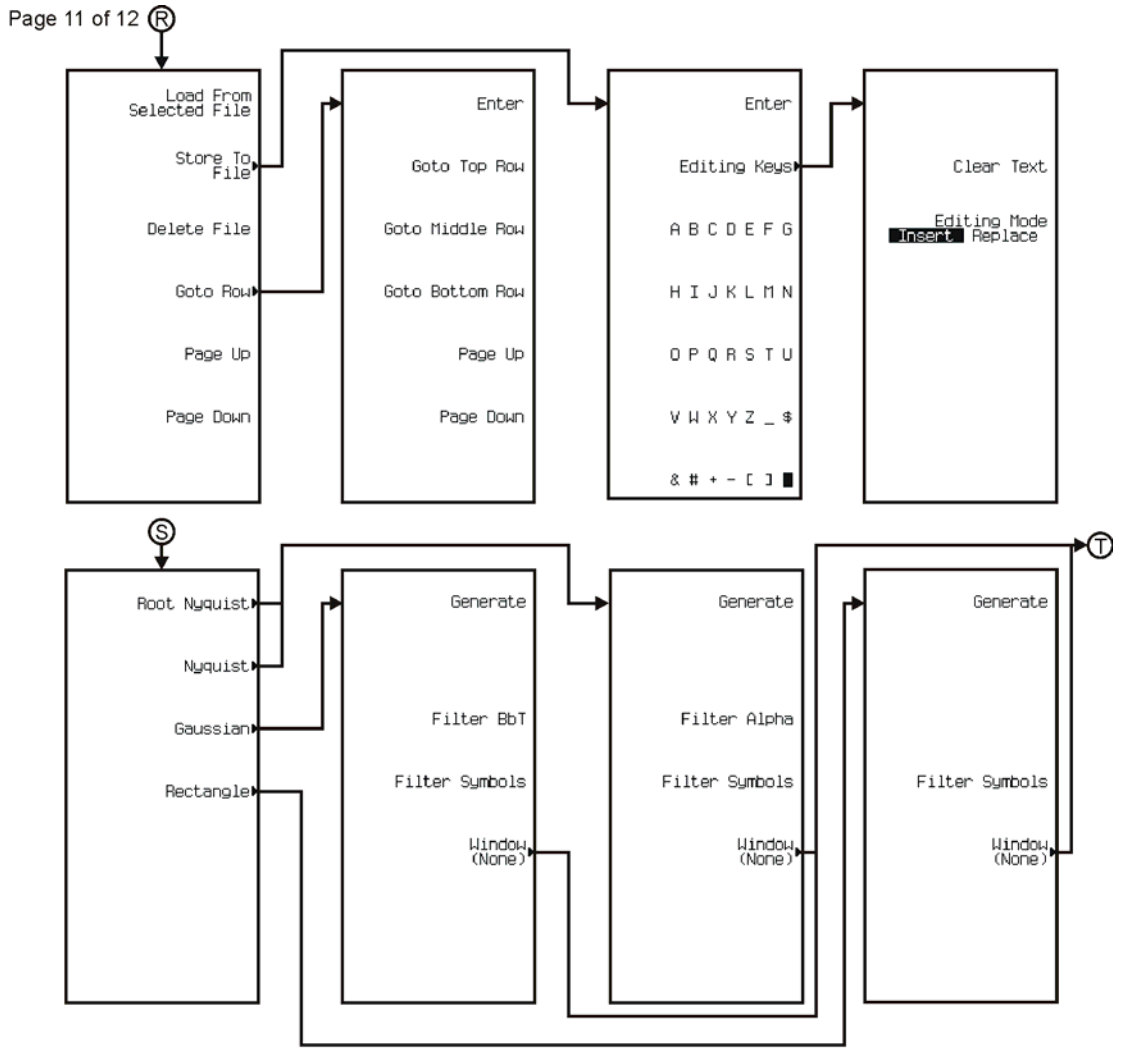
* Only available when the signal generator is set to **Down Link**.

pk767c

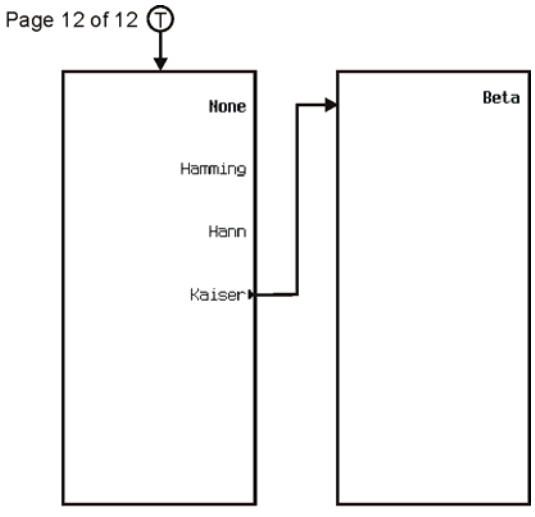

Page 9 of 12
O
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.0000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004947
7 -0.006271
8 -0.009128
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
R
Load Default FIR
S
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
R and S
P and Q
See Next Page

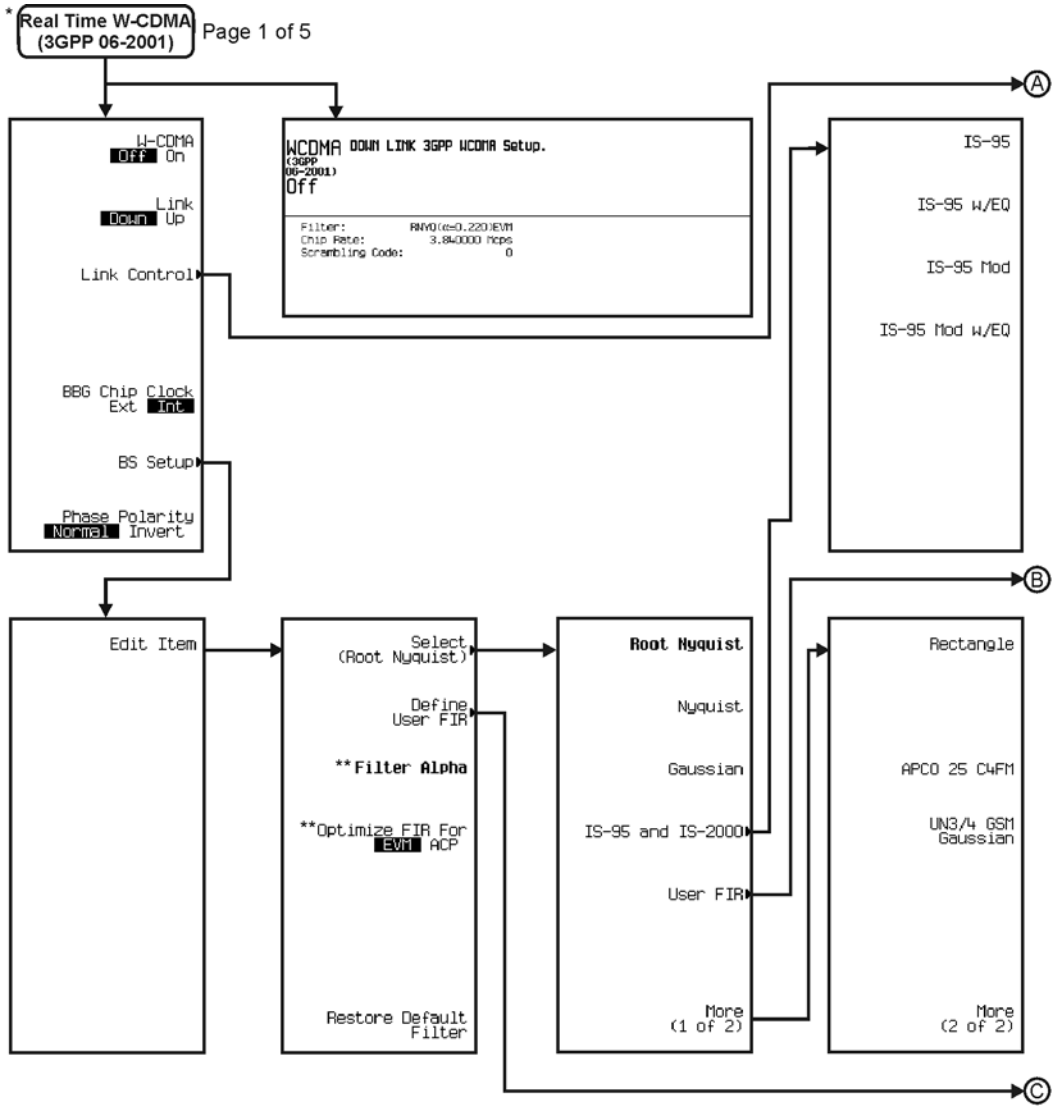
pk768c


Page 10 of 12 Ⓟ
7.5 ksps
15 ksps
30 ksps
60 ksps
120 ksps
240 ksps
More (1 of 2)
480 ksps
960 ksps
More (2 of 2)
PCCPCH
SCCPCH
PSCH
SSCH
CPICH
DPCH
More (1 of 2)
OCNS
PICH
More (2 of 2)
Ⓠ
PICH
OCNS
Multiple Channels
More (2 of 2)
Type (DPCH)
Channels 1
Symbol Rate 30.0 ksps
First Spread Code 8
Power 0.00 dB
Scramble
Done
Scramble Code 0
Scramble Type (Standard)
Scramble Offset 0
Done
Standard
Left Alternate
Right Alternate
Ⓡ and Ⓢ See Next Page
pk769c


Page 11 of 12 Ⓡ
Load From Selected File
Store To File
Delete File
Goto Row
Page Up
Page Down
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Enter
Editing Keys
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z _ $
& # + - [ ] ■
Clear Text
Editing Mode
Insert Replace
Ⓢ
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter BbT
Filter Symbols
Window (None)
Generate
Filter Alpha
Filter Symbols
Window (None)
Generate
Filter Symbols
Window (None)
Ⓣ

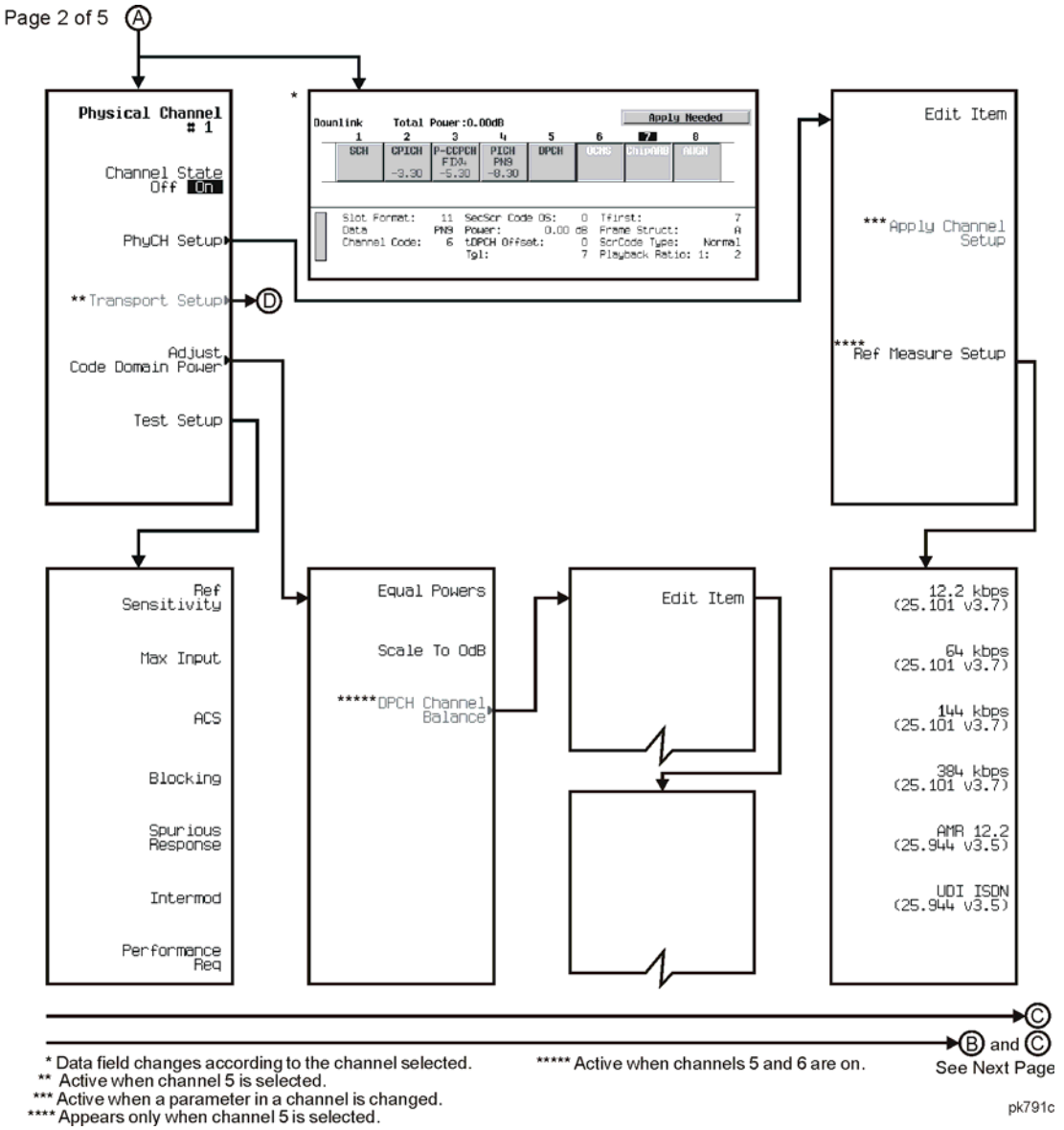
pk770c

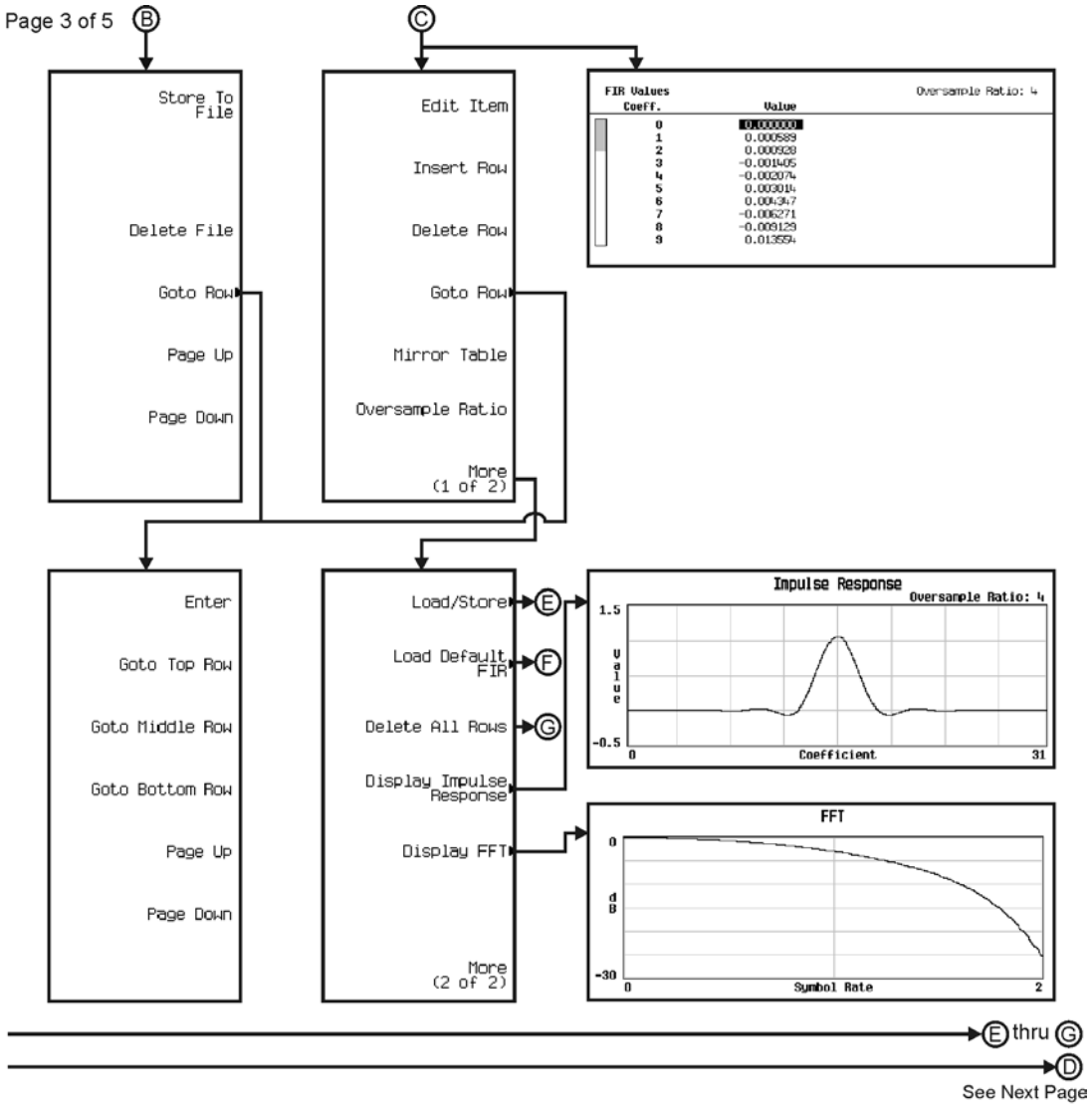

Page 12 of 12
None
Hamming
Hann
Kaiser
Beta
pk771c



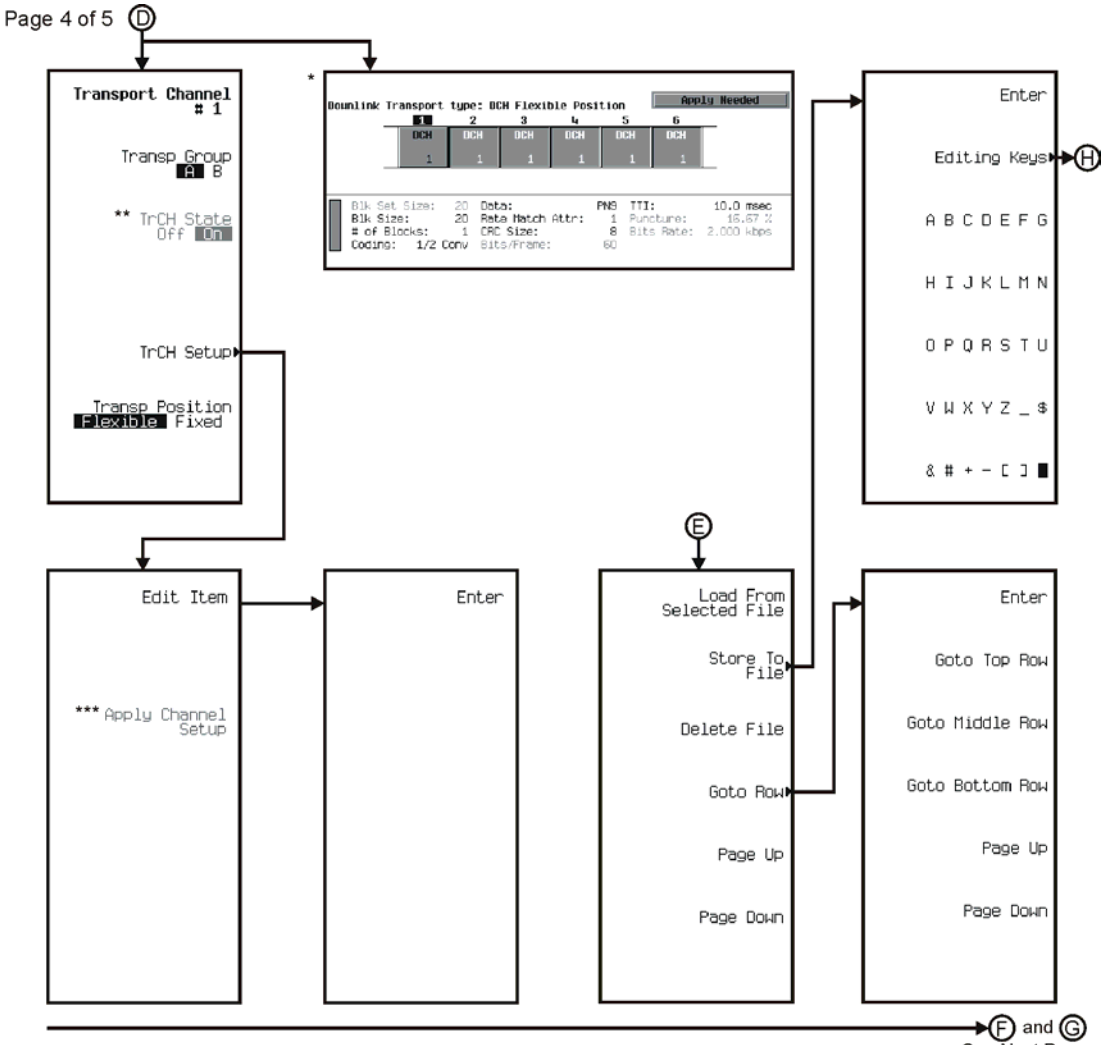
* This menu covers **Real Time W-CDMA (3GPP 06-2001) Down Link** only.
** Changes according to the filter selected.

pk790c


Page 2 of 5 A
Physical Channel # 1
Channel State Off On
PhyCH Setup
**Transport Setup
Adjust Code Domain Power
Test Setup
*
Downlink Total Power:0.00dB
Apply Needed
1 2 3 4 5 6 7 8
SCH CPICH P-CCPCH TSTD PICH DPCH OCNS Unused AICH
-9.30 -5.30 -8.30
Slot Format: 11 SecScr Code OS: 0 Tfirst: 7
Data PN9 Power: 0.00 dB Frame Struct: A
Channel Code: 6 tDPCH Offset: 0 ScrCode Type: Normal
Tgl: 7 Playback Ratio: 1: 2
Edit Item
***Apply Channel Setup
****Ref Measure Setup
Ref Sensitivity
Max Input
ACS
Blocking
Spurious Response
Intermod
Performance Req
Equal Powers
Scale To 0dB
*****DPCH Channel Balance
Edit Item
12.2 kbps (25.101 v3.7)
64 kbps (25.101 v3.7)
144 kbps (25.101 v3.7)
384 kbps (25.101 v3.7)
AMR 12.2 (25.944 v3.5)
UDI ISDN (25.944 v3.5)
C
B and C
See Next Page
* Data field changes according to the channel selected.
** Active when channel 5 is selected.
*** Active when a parameter in a channel is changed.
**** Appears only when channel 5 is selected.
***** Active when channels 5 and 6 are on.
pk791c

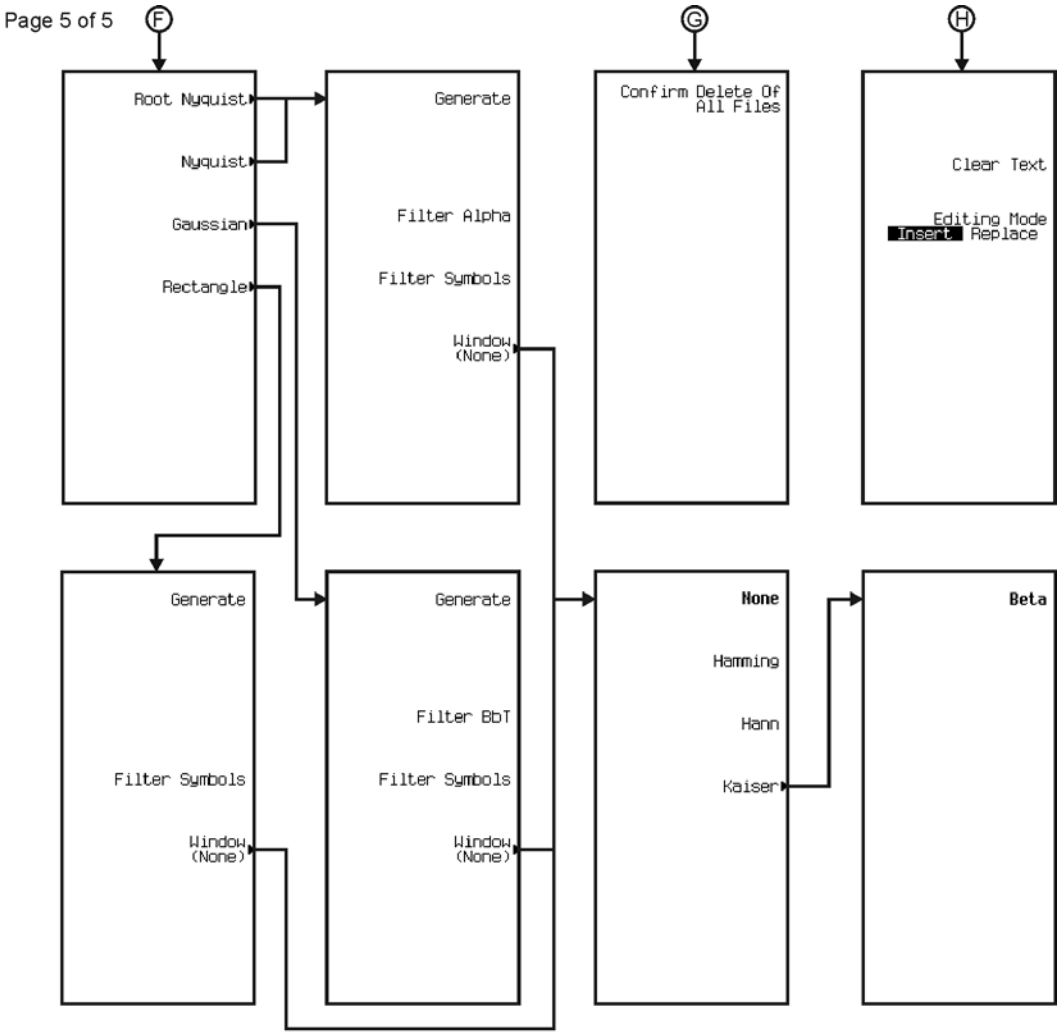

Page 3 of 5
B
C
Store To File
Delete File
Goto Row
Page Up
Page Down
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More (1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 0.000000
1 0.000589
2 0.000920
3 -0.001405
4 -0.002074
5 0.003014
6 0.004367
7 -0.006271
8 -0.009129
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store
E
Load Default FIR
F
Delete All Rows
G
Display Impulse Response
Display FFT
More (2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
E thru G
D
See Next Page

pk798c

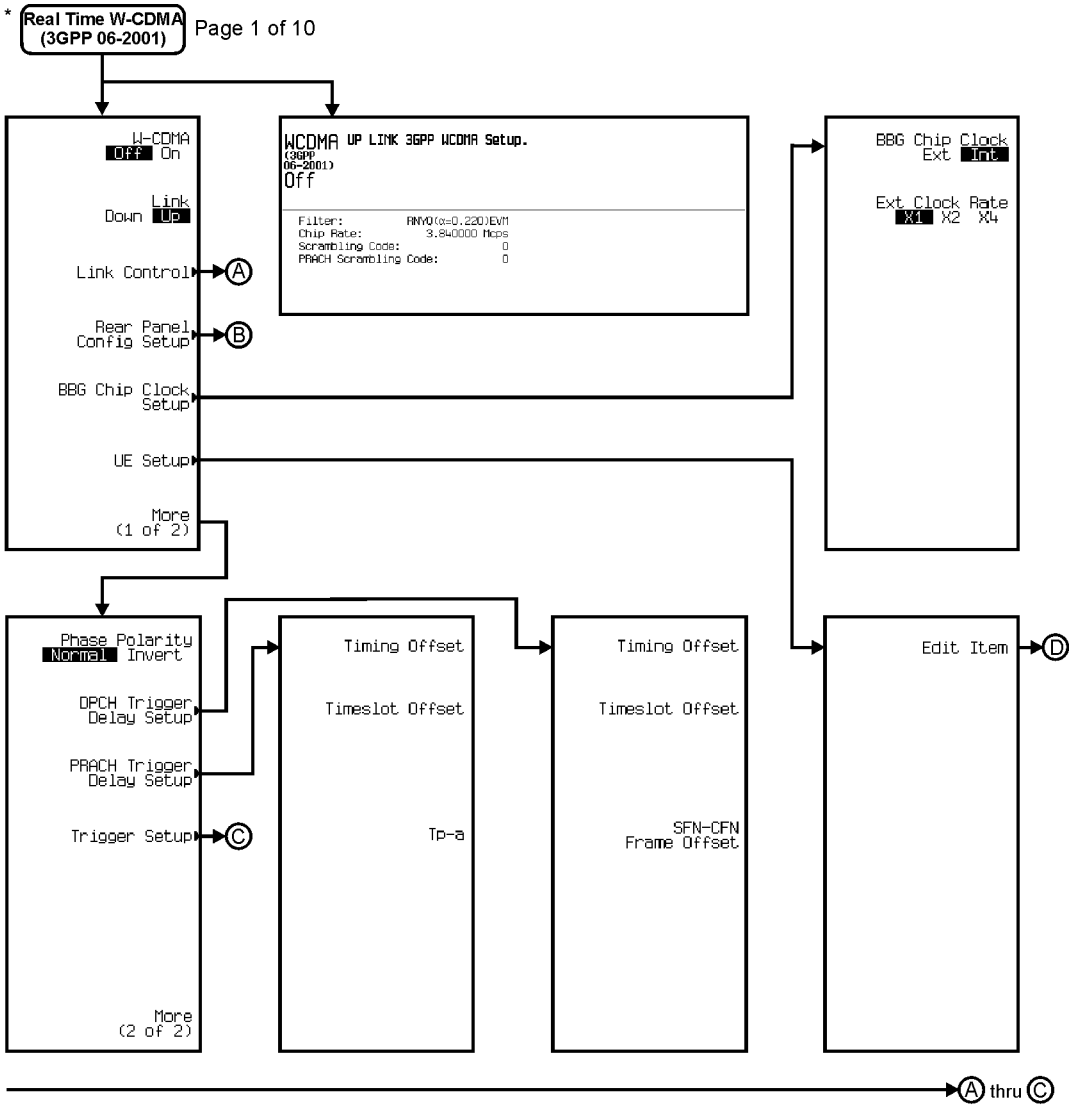


* Data field changes according to channel selected.
** Active when channel 2 is selected. Once the **TrCH State** for channel 2 is turned on, this key is activated for channels 3 thru 6.
*** Active when a parameter in a channel is changed.

pk799c

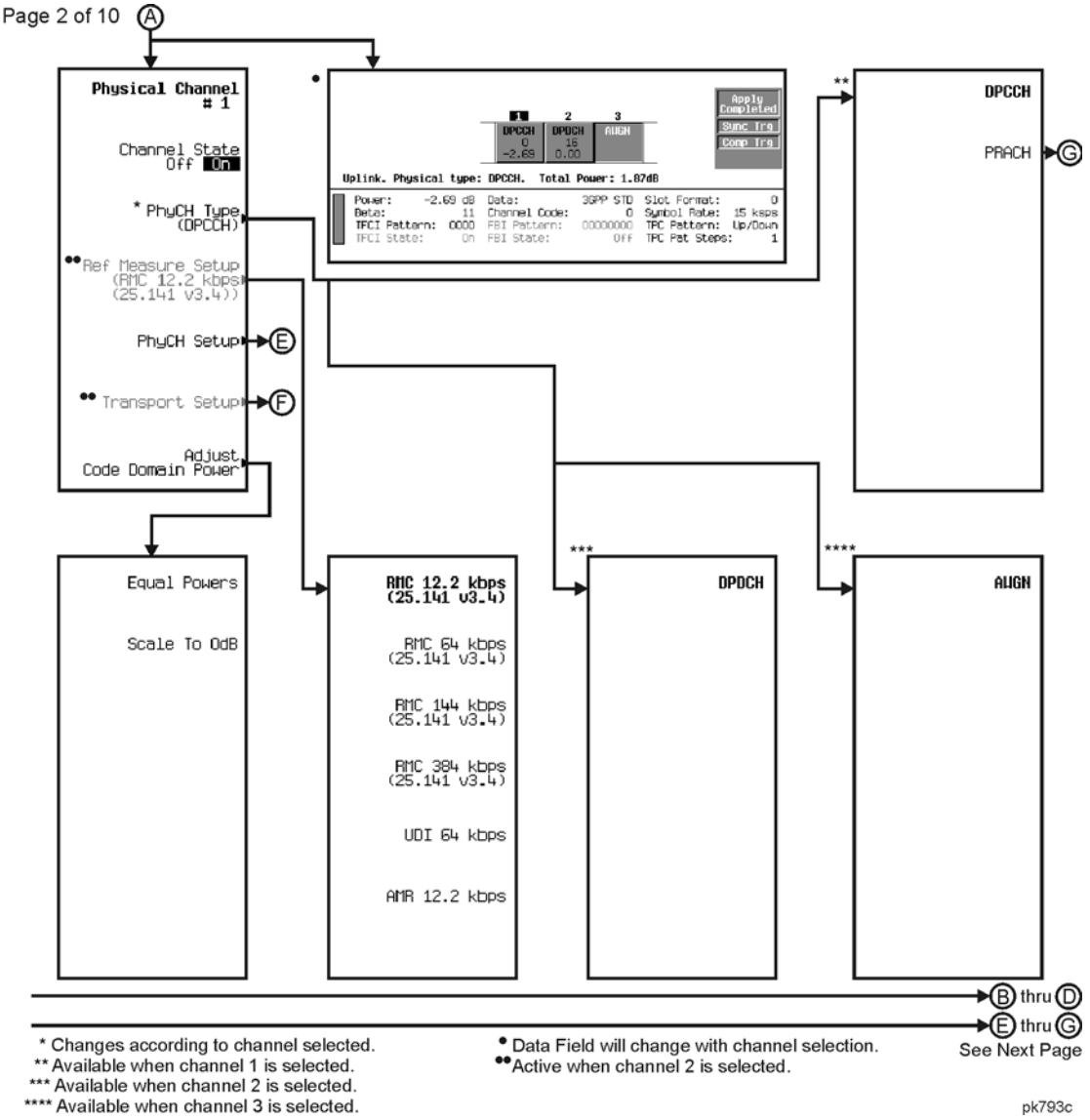

Page 5 of 5
F
G
H
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Alpha
Filter Symbols
Window
(None)
Confirm Delete Of
All Files
Clear Text
Editing Mode
Insert Replace
Generate
Filter Symbols
Window
(None)
Generate
Filter BbT
Filter Symbols
Window
(None)
None
Hamming
Hann
Kaiser
Beta

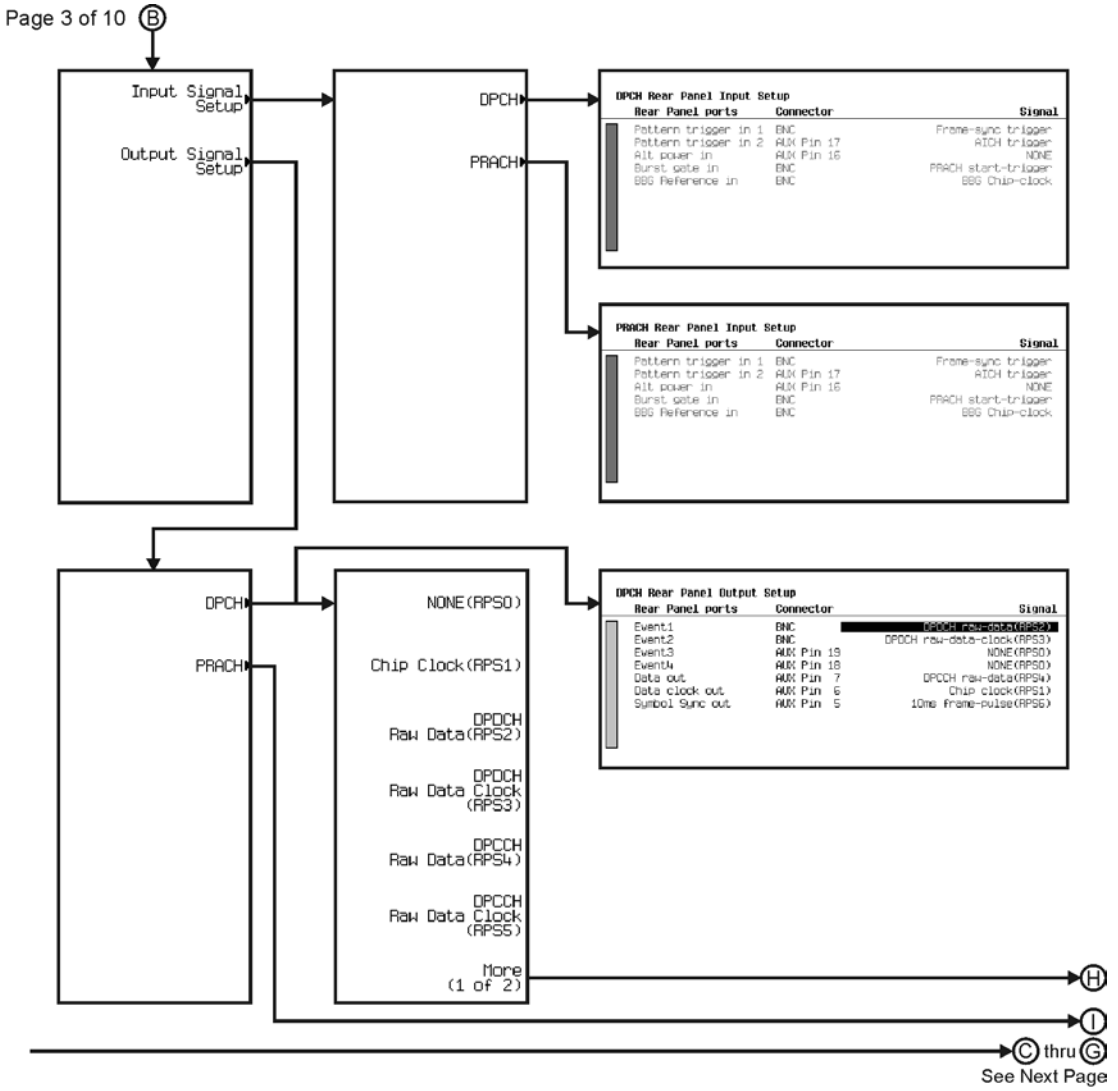
pk7100c



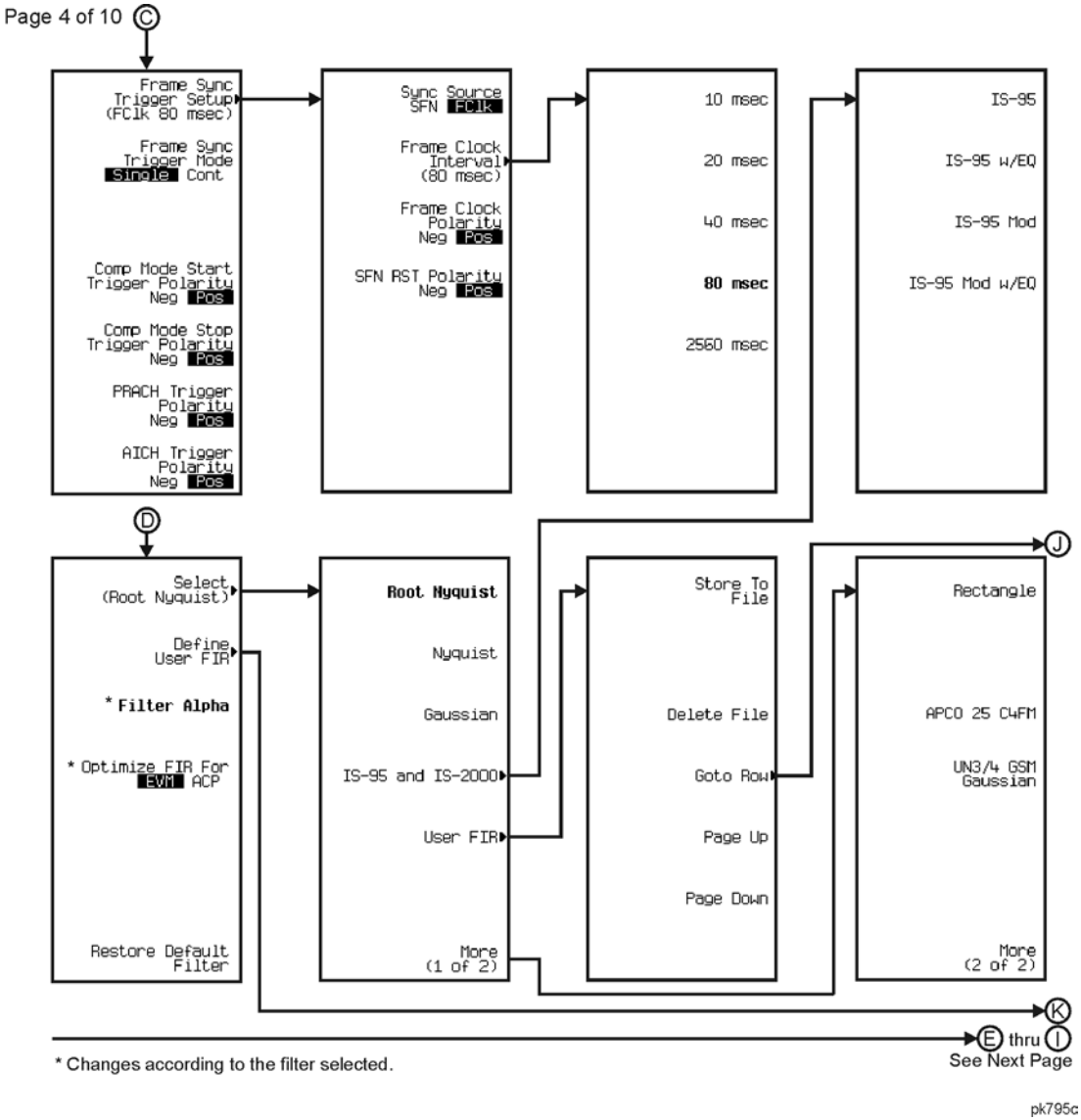
* This menu covers **Real Time W-CDMA (3GPP 06-2001) Up Link** only .

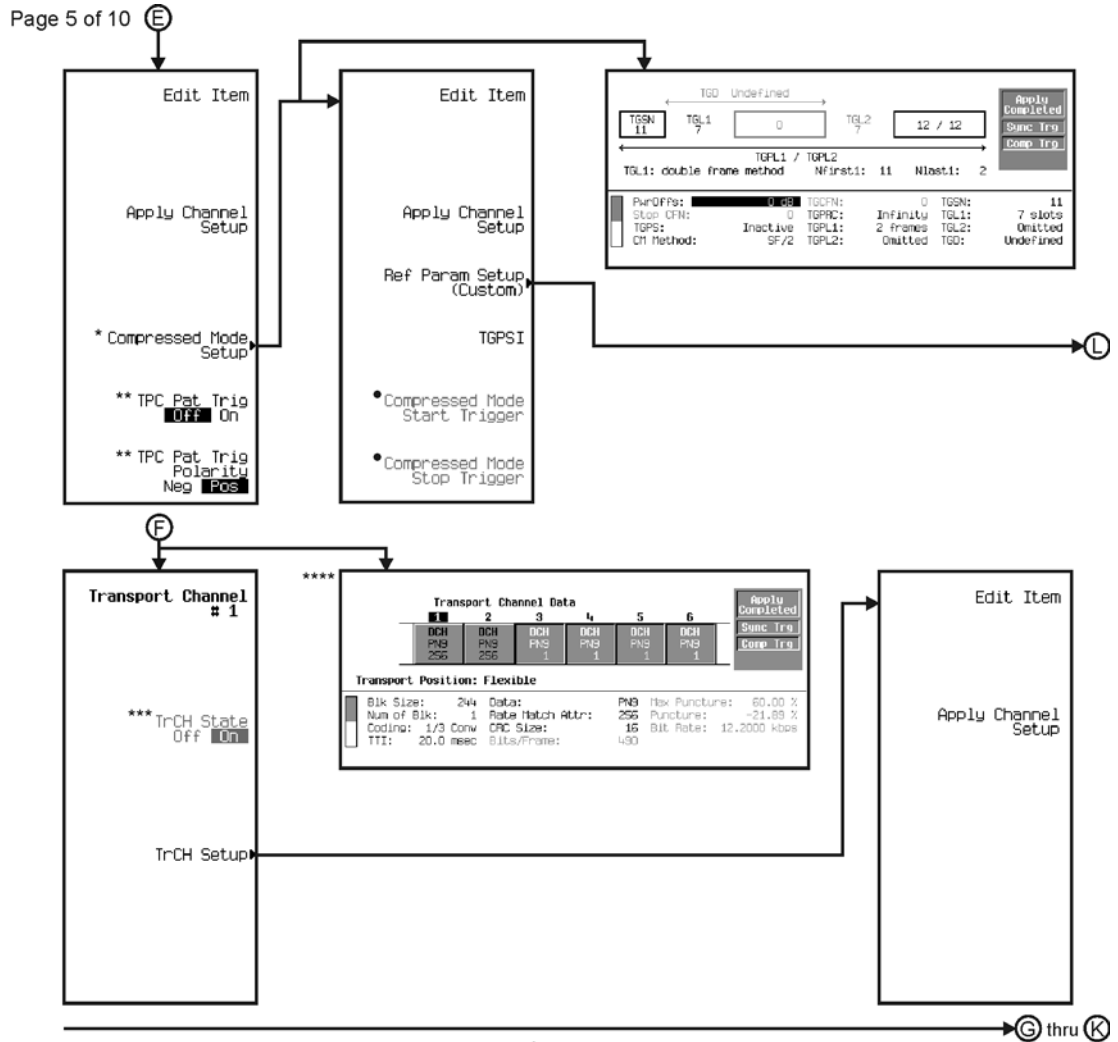
pk792c


Page 2 of 10 A
Physical Channel # 1
Channel State Off On
* PhyCH Type (DPCCH)
** Ref Measure Setup (RMC 12.2 kbps (25.141 v3.4))
PhyCH Setup E
** Transport Setup F
Adjust Code Domain Power
Equal Powers
Scale To 0dB
RMC 12.2 kbps (25.141 v3.4)
RMC 64 kbps (25.141 v3.4)
RMC 144 kbps (25.141 v3.4)
RMC 384 kbps (25.141 v3.4)
UDI 64 kbps
AMR 12.2 kbps
DPDCH
ALIGN
DPCCH
PRACH G
Apply Completed
Sync Trg
Comp Trg
Uplink. Physical type: DPCCH. Total Power: 1.87dB
B thru D
E thru G
See Next Page
* Changes according to channel selected.
** Available when channel 1 is selected.
*** Available when channel 2 is selected.
**** Available when channel 3 is selected.
• Data Field will change with channel selection.
•• Active when channel 2 is selected.
pk793c


Page 3 of 10 B
Input Signal Setup
Output Signal Setup
DPCH
PRACH
DPCH Rear Panel Input Setup
Rear Panel ports
Connector
Signal
Pattern trigger in 1 BNC Frame-sync trigger
Pattern trigger in 2 AUX Pin 17 AICH trigger
Alt power in AUX Pin 16 NONE
Burst gate in BNC PRACH start-trigger
BBG Reference in BNC BBG Chip-clock
PRACH Rear Panel Input Setup
Rear Panel ports
Connector
Signal
Pattern trigger in 1 BNC Frame-sync trigger
Pattern trigger in 2 AUX Pin 17 AICH trigger
Alt power in AUX Pin 16 NONE
Burst gate in BNC PRACH start-trigger
BBG Reference in BNC BBG Chip-clock
DPCH
PRACH
NONE(RPS0)
Chip Clock(RPS1)
DPDCH Raw Data(RPS2)
DPDCH Raw Data Clock (RPS3)
DPCCH Raw Data(RPS4)
DPCCH Raw Data Clock (RPS5)
More (1 of 2)
DPCH Rear Panel Output Setup
Rear Panel ports
Connector
Signal
Event1 BNC DPDCH raw-data(RPS2)
Event2 BNC DPDCH raw-data-clock(RPS3)
Event3 AUX Pin 19 NONE(RPS0)
Event4 AUX Pin 18 NONE(RPS0)
Data out AUX Pin 7 DPCCH raw-data(RPS4)
Data clock out AUX Pin 6 Chip clock(RPS1)
Symbol Sync out AUX Pin 5 10ms frame-pulse(RPS6)
H
I
C thru G
See Next Page

pk794c

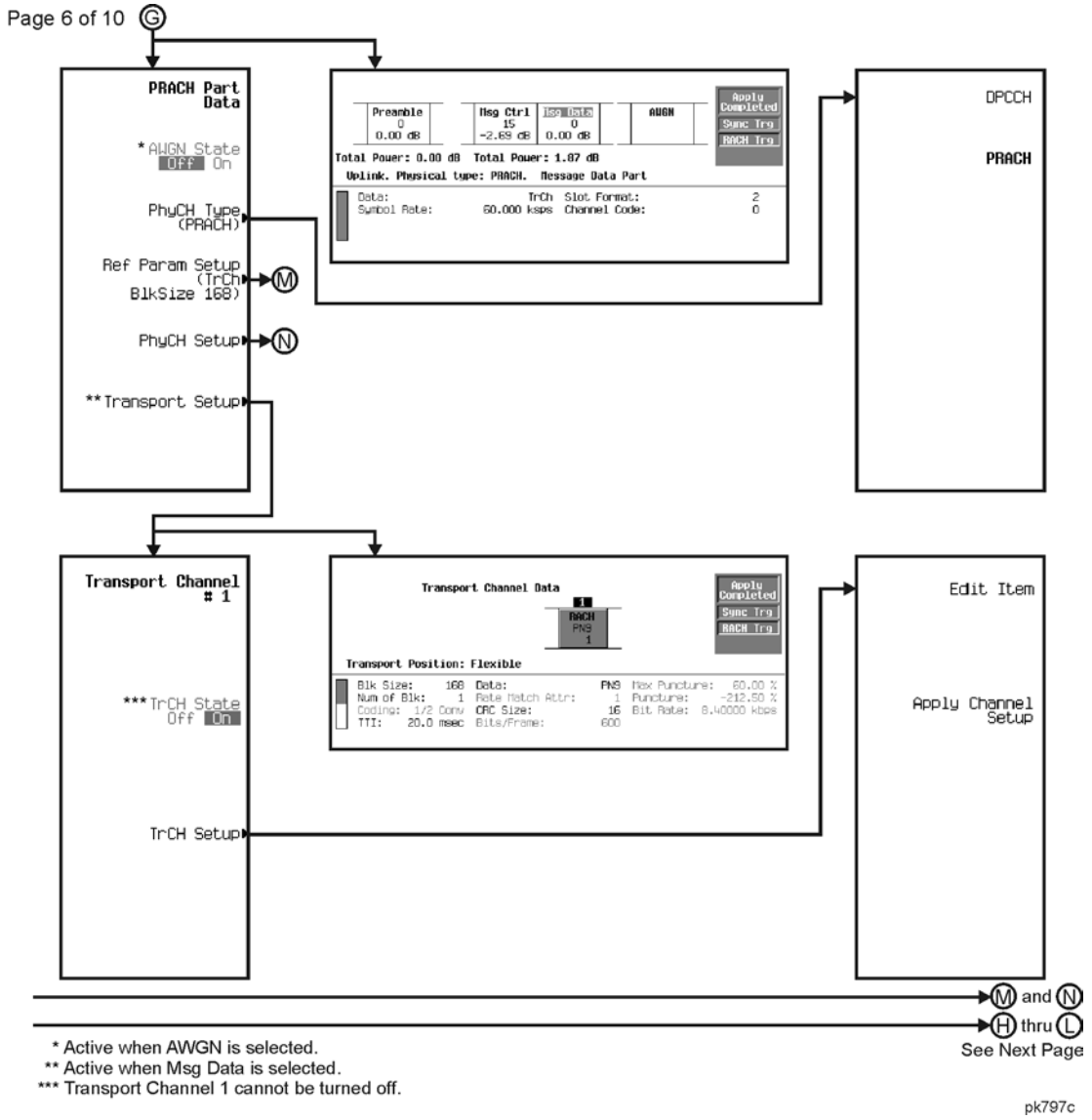

Page 4 of 10 C
Frame Sync Trigger Setup (FClk 80 msec)
Frame Sync Trigger Mode Single Cont
Comp Mode Start Trigger Polarity Neg Pos
Comp Mode Stop Trigger Polarity Neg Pos
PRACH Trigger Polarity Neg Pos
AICH Trigger Polarity Neg Pos
Sync Source SFN FClk
Frame Clock Interval (80 msec)
Frame Clock Polarity Neg Pos
SFN RST Polarity Neg Pos
10 msec
20 msec
40 msec
80 msec
2560 msec
IS-95
IS-95 w/EQ
IS-95 Mod
IS-95 Mod w/EQ
D
Select (Root Nyquist)
Define User FIR
* Filter Alpha
* Optimize FIR For EVM ACP
Restore Default Filter
Root Nyquist
Nyquist
Gaussian
IS-95 and IS-2000
User FIR
More (1 of 2)
Store To File
Delete File
Goto Row
Page Up
Page Down
Rectangle
APCO 25 C4FM
UN3/4 GSM Gaussian
More (2 of 2)
J
K
E thru I
See Next Page
* Changes according to the filter selected.
pk795c

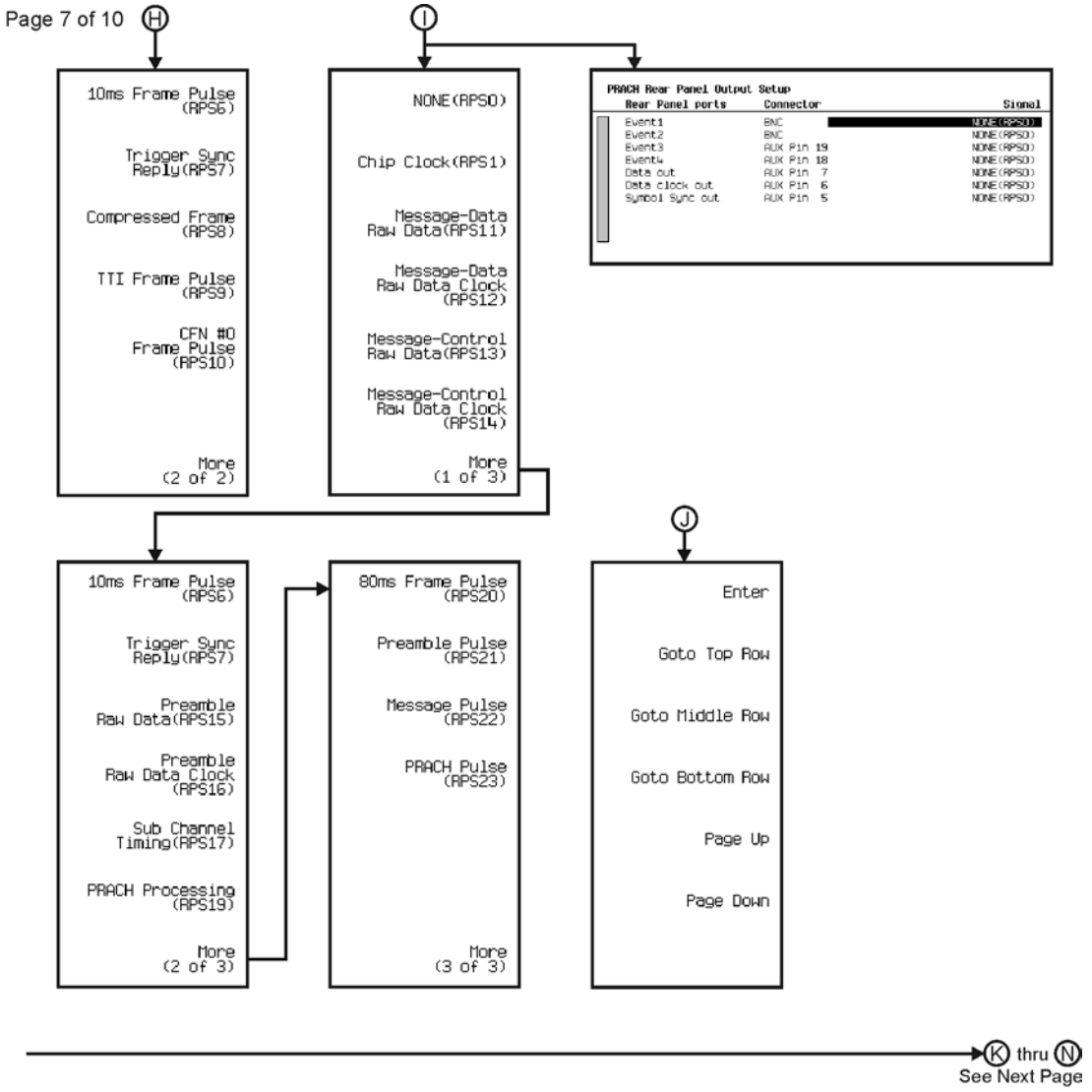


* Not present when channel 3 is selected.
** Only present when channel 1 is selected.
*** Active when channel 2 is selected. Once the TrCh State for channel 2 is turned on, this key is activated for channel 3, and so on.
**** Data field changes according to channel selected.

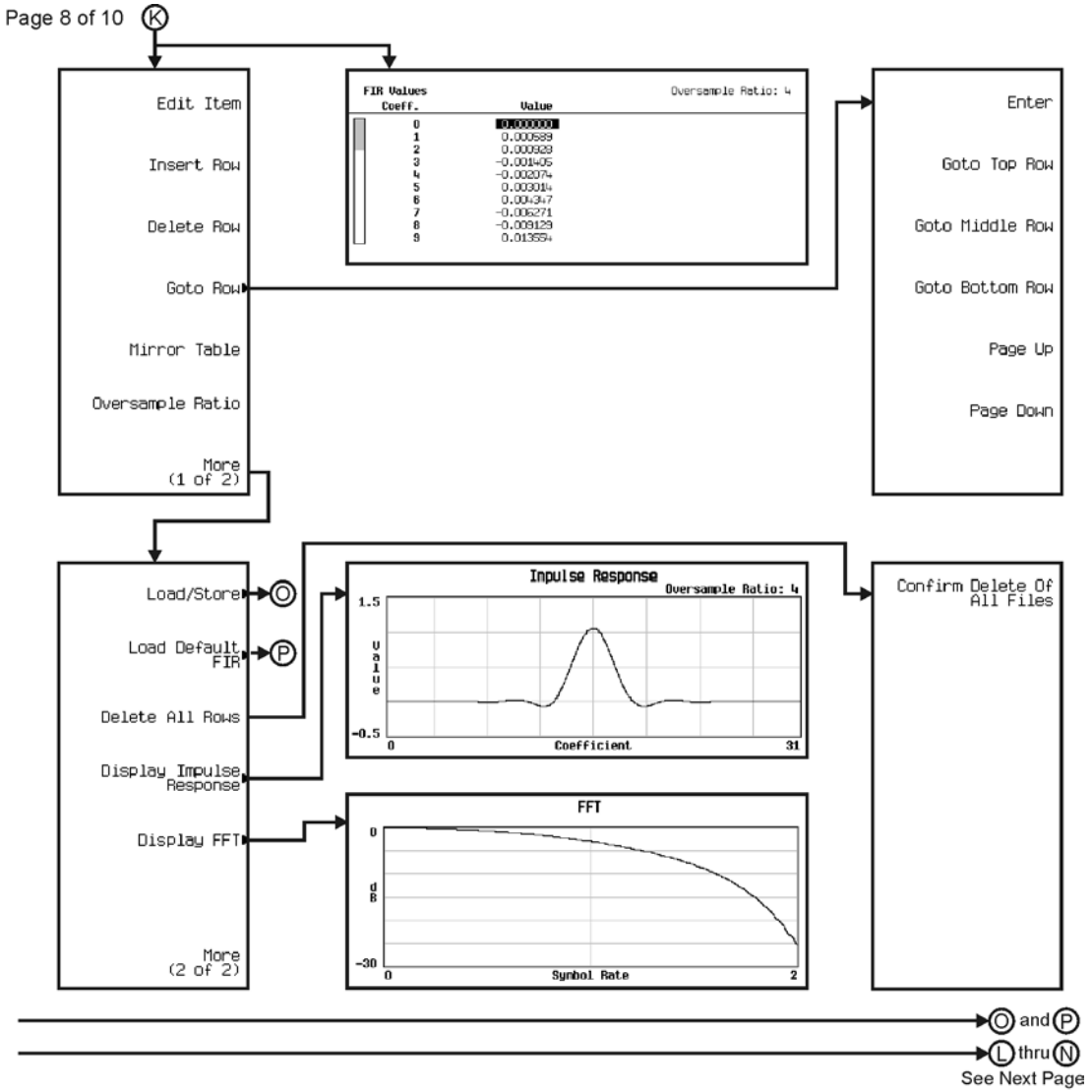
•Activate by pressing **Ref Param Setup (Custom)** and selecting any of the keys on the following menu.

pk796c

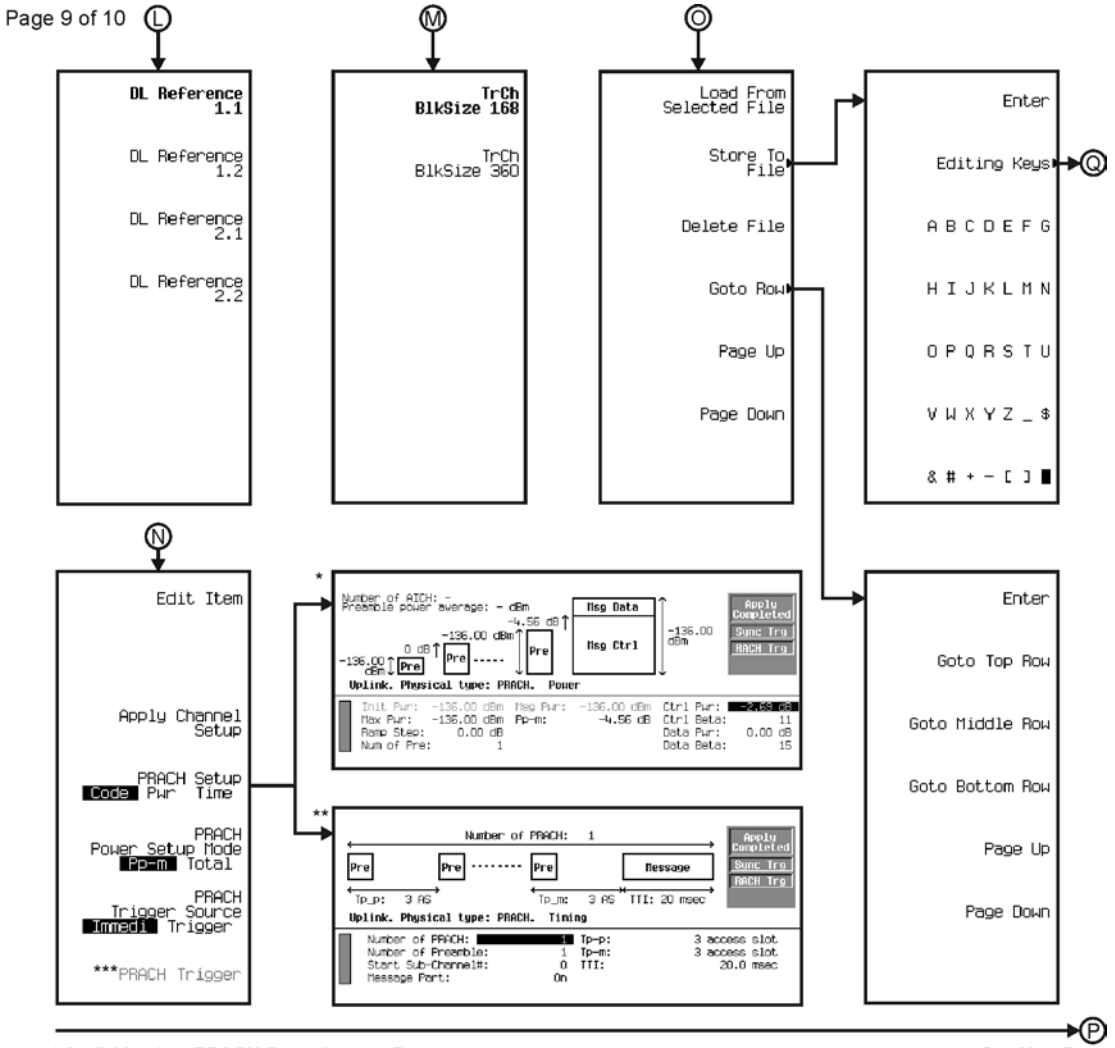

Page 6 of 10
G
PRACH Part Data
*AWGN State
Off On
PhyCH Type (PRACH)
Ref Param Setup (TrCh BlkSize 168)
M
PhyCH Setup
N
**Transport Setup
Preamble
0
0.00 dB
Msg Ctrl
15
-2.69 dB
Msg Data
0
0.00 dB
AWGN
Apply Completed
Sync Trg
RACH Trg
Total Power: 0.00 dB
Total Power: 1.07 dB
Uplink. Physical type: PRACH. Message Data Part
Data:
Symbol Rate:
TrCh
60.000 ksps
Slot Format:
Channel Code:
2
0
DPCCH
PRACH
Transport Channel # 1
***TrCH State
Off On
TrCH Setup
Transport Channel Data
1
RACH
PN9
1
Apply Completed
Sync Trg
RACH Trg
Transport Position: Flexible
Blk Size: 168
Num of Blk: 1
Coding: 1/2 Conv
TTI: 20.0 msec
Data: PN9
Rate Match Attr: 1
CRC Size: 16
Bits/Frame: 600
Max Puncture: 60.00 %
Puncture: -212.50 %
Bit Rate: 8.40000 kbps
Edit Item
Apply Channel Setup
M and N
H thru L
See Next Page
* Active when AWGN is selected.
** Active when Msg Data is selected.
*** Transport Channel 1 cannot be turned off.
pk797c


Page 7 of 10
H
10ms Frame Pulse (RPS6)
Trigger Sync Reply(RPS7)
Compressed Frame (RPS8)
TTI Frame Pulse (RPS9)
CFN #0 Frame Pulse (RPS10)
More (2 of 2)
I
NONE(RPS0)
Chip Clock(RPS1)
Message-Data Raw Data(RPS11)
Message-Data Raw Data Clock (RPS12)
Message-Control Raw Data(RPS13)
Message-Control Raw Data Clock (RPS14)
More (1 of 3)
PRACH Rear Panel Output Setup
Rear Panel ports
Connector
Signal
Event1 BNC NONE(RPS0)
Event2 BNC NONE(RPS0)
Event3 AUX Pin 19 NONE(RPS0)
Event4 AUX Pin 18 NONE(RPS0)
Data out AUX Pin 7 NONE(RPS0)
Data clock out AUX Pin 6 NONE(RPS0)
Symbol Sync out AUX Pin 5 NONE(RPS0)
10ms Frame Pulse (RPS6)
Trigger Sync Reply(RPS7)
Preamble Raw Data(RPS15)
Preamble Raw Data Clock (RPS16)
Sub Channel Timing(RPS17)
PRACH Processing (RPS19)
More (2 of 3)
80ms Frame Pulse (RPS20)
Preamble Pulse (RPS21)
Message Pulse (RPS22)
PRACH Pulse (RPS23)
More (3 of 3)
J
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
K thru N
See Next Page

pk7101c

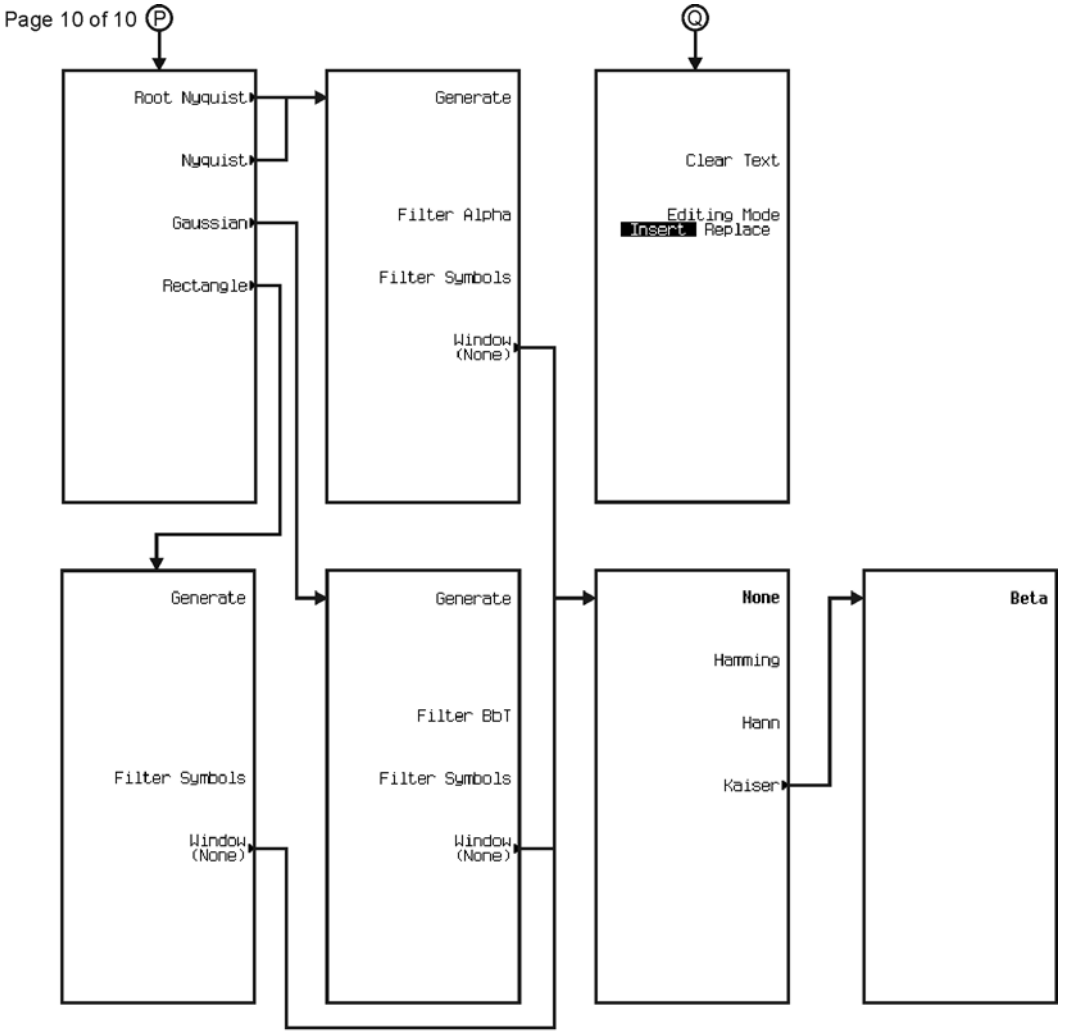

Page 8 of 10 K
Edit Item
Insert Row
Delete Row
Goto Row
Mirror Table
Oversample Ratio
More
(1 of 2)
FIR Values
Oversample Ratio: 4
Coeff.
Value
0 1.000000
1 0.000589
2 0.000928
3 -0.001405
4 -0.002074
5 0.003014
6 0.004347
7 -0.006271
8 -0.009129
9 0.013554
Enter
Goto Top Row
Goto Middle Row
Goto Bottom Row
Page Up
Page Down
Load/Store O
Load Default FIR P
Delete All Rows
Display Impulse Response
Display FFT
More
(2 of 2)
Impulse Response
Oversample Ratio: 4
1.5
Value
-0.5
0
Coefficient
31
FFT
0
dB
-30
0
Symbol Rate
2
Confirm Delete Of All Files
O and P
L thru N
See Next Page

pk7102c



* Available when **PRACH Setup** is set to **Pwr**.
** Available when **PRACH Setup** is set to **Time**.
*** Active when **PRACH Power Setup Mode** is set to **Total** and **PRACH Trigger Setup** is set to **Trigger**.

pk7103c


Page 10 of 10
P
Q
Root Nyquist
Nyquist
Gaussian
Rectangle
Generate
Filter Alpha
Filter Symbols
Window
(None)
Clear Text
Editing Mode
Insert
Replace
Generate
Filter Symbols
Window
(None)
Generate
Filter BbT
Filter Symbols
Window
(None)
None
Hamming
Hann
Kaiser
Beta

pk7104c