Manual Supplement

Manual Title:	96000 Series Remote Programmers	Supplement Issue:	**3**
Print Date:	April 2014	Issue Date:	9/17
Revision/Date:	1, 10/14	Page Count:	7

This supplement contains information necessary to ensure the accuracy of the above manual.

© 2016-2017 Fluke Corporation. All rights reserved..

FLUKE®
Calibration

Change #1, 281

On page 41, replace the ***PMETer Subsystem (96270A)*** with:

PMETer Subsystem (96270A)

Keyword	Parameter Form	*RST	Notes
:PMETer[<n>][1], [2]			Where <n> is either 1 or 2 to select power sensor 1 or 2. If there is no <n>, then power sensor 1 is used by default.
:READ?		n/a	Returns the next available reading for sensor <n>. If sensor <n> is in single-trigger mode, this command triggers the reading and returns its value when complete.
:FETCh?		n/a	Returns the last reading taken of sensor <n>. If no reading has been taken, then it returns 9.91E+37
:IDN?		Unchanged	Query to return the make, model, Serial No, FW version. If the sensor is not fitted, the return will be NONE, NONE, NONE, NONE
:FREQuency[?]	<nrf>	1E6	Frequency at which to measure power
:REFerence[?]	<nrf>	Unchanged	Reference level to use for relative measurements
:STATe[?]	<bool>	OFF	Enables/disables relative measurements
:AVERage[?]	<nrf>	AUTO	Sets the number of readings taken in the averaging calculation. AUTO,1,2,4,8,16,32,64,128,256,512, 1024,2048, 4096,8192,16384,32768
:TRIGger[?]		CONT	<SINGle | CONTinous>
:ZERO?		n/a	Perform input zero on sensor. Return '0' for successful zero operation; '1' to indicate a fail, with an error message put in the error queue.

[1] Command(s) not available on the 96040A

[2] Power sensor 1 or 2 can be read using this sub system when the instrument is operating in other modes such as Sine, Mode, Sweep, etc.

On page 65, replace Table 9 with:

Table 1. Emulation Differences

HP3335A	96xxx
Sweep timing can be changed between X mode (10 second sweep) and Y mode (50 second sweep), and the sweep continues without restart.	Does not emulate this behaviour because it needs to calculate the sweep parameters before the sweep starts.
Has a Sweep Output Connector to provide a 0 to +2 volts sweep ramp for driving external equipment.	Does not have this feature.
Has a front panel switch to select 50 Ω or 75 Ω output. There is also a bus command to do this. The instrument takes 1.76 dBm off the 50 Ω output.	Requires a different head to be manually inserted to produce correctly levelled 75 Ω signals, 6.4 dBm down from the 50 Ω output.
Provides phase continuous frequency sweep.	Provides phase continuous sweep for output frequencies below 9 MHz, but at frequencies above 9 MHz hardware ranging will cause phase discontinuities in the output waveform. , except when sweep width <0.03 % of center frequency. Note that output waveform amplitude continuity is affected by Squelch operation.
Has a manually operated rear panel Telecommunication Sweep switch (Opt 002, 003, 004). Normal setting blanks the output for 20 ms after each frequency step. Track setting blanks the output for 20 ms and extends the total step duration (including blanking) to 4sec.	Squelch (output blanking at frequency transitions) is active only at hardware range boundaries. Squelch is not active when sweep width <0.03 % of center frequency and center frequency >15.625 MHz.
Balanced 124 Ω / 135 Ω / 150 Ω output	The only outputs available are at 50 Ω and 75 Ω, from a precision N-series male connector.
Isolated from the GPIB bus by opto couplers, effectively isolating the instrument from the bus.	The GPIB ground is connected to earth ground and the RF signal common is floating.

Change #2, 334

On page 49, add the following to the ***SYSTem Subsytem*** table:

SYST:SCReen[?]	<bool>	0	Blanks the current screen information for security purposes. 1 or ON removes the normal screen, replacing it with the message 'SECURE DISPLAY MODE' 0 or OFF returns to normal.

Change #3, 492

On page 21, add the following under Table 5:

-300 Series Message Qualifiers – Device Specific

Number Group	Type	Message Qualifier
-300	Device specific error	"Internal error"
		"Feature not supported"
		"NV stores corrupt - bad data handle detected"
		"The entered span is zero"
		"The entered span is too big"
		"The sweep duration is invalid"
		"Start request invalid in this context"
		"Arm request invalid in this context"
		"Stop request invalid in this context"
		"Pause request invalid in this context"
		"Continue request invalid in this context"
		"Step request invalid in this context"
		"Too many points generated"
		"Point count outside direct translation range"
		"Cannot convert units. Check the step, and span (start and stop) settings"
		"Outside the frequency or amplitude envelope"
		"Outside the carrier frequency or depth envelope"
		"Numeric Units selection not available"
		"Password unrecognized"
		"Rear input voltage out of range"
		"The head unit has not been connected"
		"Top of calibration point range"
		"Bottom of calibration point range"
		"Cannot change mode - calibration mode still active"
		"Cannot change mode - Selftest mode still active"
		"Head required to calibrate point"
		"Point calibration not possible with head fitted"
		"Calibration target point not set"
		"Calibration target not found"
		"UUT error > +/- 1,000%. Outside direct translation range"
		"UUT error > +/- 10,000 ppm. Outside direct translation range"
		"UUT error > +/- 10,000 ppb. Outside direct translation range"
		"Cannot turn output on - invalid context"
		"Test point not found, or not run yet"
		"Outside the carrier frequency/deviation envelope. Max deviation = 300 kHz"
		"Outside the carrier frequency/deviation envelope. Max deviation = 750 kHz"
		"Outside the carrier frequency/deviation envelope. Max deviation = 0.12 % fc"

-300	Device specific error	"Step size invalid"
		"UUT error is out of range"
		"Adjustment cannot proceed - base model or serial number undefined"
		"Adjustment cannot proceed - head model or serial number undefined"
		"Outside the carrier frequency/deviation/rate envelope"
		"No more items - at the top of the list"
		"No more items - at the bottom of the list"
		"Outside the carrier frequency/deviation envelope. Max deviation = 1.2 MHz/V"
		"Outside the carrier frequency/deviation envelope. Max deviation = 3.0 MHz/V"
		"Outside the carrier frequency/deviation envelope. Max deviation = 0.48 % fc"
		"Outside external level clamp frequency or amplitude envelope"
		"At a frequency between 125.75 MHz and 1.4084 GHz, the maximum level is 20 dBm"
		"At a frequency greater than 1.4084 GHz, the maximum level is 14 dBm"
		"At a frequency greater than 1.4084 GHz, the maximum level is 8 dBm"
		"At a frequency up to 1.4084 GHz, the maximum level is 14 dBm"
		"At a frequency up to 1.4084 GHz, the maximum level is 8 dBm"
		"External level value is greater than the FSP value in preferences"
		"Sweeping with the output off"
		"At a frequency greater than 1.4084 GHz, the maximum level is 2 dBm"
		"At a frequency up to 1.4084 GHz, the maximum level is 8 dBm"
		"At a frequency between 125.75 MHz, and 1.4084 GHz, the maximum level is 14 dBm"
		"At a frequency greater than 1.4084 GHz, the maximum level is 8 dBm"
		"8662: Level exceeds maximum output"
		"8663: Level exceeds maximum output"
		"Ext. wide not valid"
		"Dwell under 20ms requires Centre above 15.71875 MHz, Span under 0.03 %, and no Profile"
		"Span must be less than 0.03 % of center for dwell less than 20 ms"
		"Center must be greater than 15.71875 MHz for dwell less than 20 ms"
		"The applied profile takes the value out of range"
		"Profile selection cannot be changed when output is on"
		"The addition or removal of a profile has has caused output to be re-adjusted to within limits"
		"Flash driver initialization failed"
		"Calibration stores header corrupted. Defaults in use. Re-calibration required"

-300	Device specific error	"Calibration stores data corrupted. Defaults in use. Re-calibration required"
		"Calibration header unknown. Defaults in use. Re-calibration required"
		"NV stores - data size not set"
		"Unable to access item, NV stores protected"
		"NV storage data error. Defaults in use"
		"Failed to read/write to NV store. Defaults in use"
		"Calibration switch is disabled"
		"Serial number too long"
		"Calibration mode is disabled"
		"Cannot access calibration stores. Defaults in use. Re-calibration required"
		"Cannot access head unit calibration stores. Defaults in use. Re-calibration required"
		"Cannot access base unit calibration stores. Defaults in use. Re-calibration required"
		"Internal hardware failure (SPI). Contact service center"
		"Internal hardware failure (SPI). Contact service center"
		"Internal hardware failure. Synth board not detected. Contact service center"
		"Internal hardware failure. FPGA read/write error. Contact service center"
		"Internal hardware failure. Output board not detected. Contact service center"
		"NV storage error. Failed to store new values"
		"Characterization of clamps failed. Previously stored values used"
		"NV Storage error. Defaults in use. Internal alignment required"
		"WARNING: Instrument is above the characterization temperature"
		"Internal hardware failure (ADC overflow error). Contact service center"
		"Internal hardware failure (ADC conversion error). Contact service center"
		"Internal hardware failure (inguard power supply). Contact service center"
		"Calibration store version mismatch. Clear stores to permit adjustment"
		"External AM overload error. Reduce input signal level"
		"Ext. FM overload error. Reduce input signal level"
		"NV Storage (User prefs) error. Defaults in use. Re-establish user prefs"
		"NV Storage (User prefs) error. User prefs have not been saved"
		"Outside the frequency/rate envelope. Maximum rate = 1% fc"
		"Units conversion not possible"
		"VCO measurements out of range. Previously stored VCO values used"
		"VCO gradient out of range. Previously stored VCO values used"
		"WARNING: Instrument below the characterization temperature"

-300	Device specific error	"Outside the frequency/rate envelope. Maximum rate = 100 kHz when fc > 125.75 MHz"
		"Warning: The head was not calibrated with this base unit"
		"Internal hardware failure (ADC zero error). Contact service center"
		"Switching protection activated. Output has been turned off"
		"Internal hardware failure (ADC zero error). Contact service center"
		"Internal hardware failure (ref. counter overflow). Contact service center"
		"Input frequency too high for this gate time"
		"The fitted head is incompatible with this base unit"
		"Profile catalog entry not found"
		"Profile catalog entry already exits"
		"The profile catalog is full"
		"The profile catalog is empty"
		"A profile name must be 1 to 8 characters long"
		"A profile comment cannot be longer than 200 characters long"
		"The profile cannot contain more than 5000 points"
		"The profile must contain at least three points"
		"Save not possible - non-volatile memory has reached the end of its life"
		"Power sensor 1 not fitted"
		"Power sensor 2 not fitted"
		"Cannot proceed - both power sensors must be fitted"
		"Measurements already in progress"
		"No measurements were completed - please check signal routing and cabling"
		"Measurements outside limits - some points have not been measured successfully"
		"At a frequency up to 1.4084 GHz, the maximum level is 24 dBm"
		"At a frequency greater than 1.4084 GHz, the maximum level is 20 dBm"
		"At a frequency greater than 1.4084 GHz, the maximum level is 20 dBm"
		"At a frequency between 1.4084 GHz and 20.12 GHz, the maximum level is 20 dBm"
		"At a frequency greater than 20.12 GHz, the maximum level is 18 dBm"
		"Import error - values outside +/- 154 dB amplitude range"
		"Import error - values outside 27.0 GHz frequency range"
		"Cannot set operating point with active profile and function - profile forced off"
		"The active power sensor 'zero' operation failed to complete successfully"
		"Profile self-measurement aborted"
		"Warning: Power sensor operating outside specified frequency range"
		"WARNING: Microwave flatness characterization has not been performed"

-300	Device specific error	"Profile self-measurement cannot proceed - step interval too small"
		"Progress bar units unavailable when fast sweep active"
		"Profile self-measurement aborted - reference clock unlock detected"
		"Profile self-measurement aborted - leveling unlock detected"
		"Invalid model identifier, default value restored"
		"Points/Hz units conversion outside limits - last valid value used instead"
		"The entered key is invalid"
		"Characterization cannot proceed - sensor frequency bandwidth too small"
		"Characterization cannot proceed - power sensor not fitted to connector S1"
		"Characterization cannot proceed - power sensor not fitted to connector S1"
		"Internal hardware failure. Output board control loop. Contact service center"
		"Internal hardware failure. Head control loop. Contact service center"
-310	System error	"State invalid"
-311	Memory error	"Invalid FLASH Memory - Defaults in-use"