

**Evolving with your measurement needs** The enhanced HP ESG series RF signal generators provide additional performance and features at the same affordable price



Special Offer



## **Special Offer...**

Buy now and receive a 10% discount on HP's 3 GHz digital signal generator (HP ESG-D3000A<sup>1</sup>) with high stability timebase (Option 1E5) and a choice of baseband I/Q generators (Option UN3, 1 MBits or UN4, 8 MBits). This offer is available through August 31, 1997.

## Now even more powerful, the enhanced HP ESG-D3000A includes the following key features:

- DECT and TETRA, in addition to GSM, NADC, PDC and PHS
- I/Q adjustment capabilities for internally and externally generated signals
- Adjustable data rates
- Adjustable burst shaping set rise and fall times, and delay
- Adjustable filter factors ( $\alpha$  and B<sub>b</sub>T) for Nyquist and Gaussian filters
- Spectrally correct bursts for ACP (adjacent channel power) measurements
- A choice of low EVM or ACP modes, to optimize in-channel and out-of-channel tests respectively
- External frame triggering and delay features for basestation synchronization
- Faster generation of pseudo-random bit sequences continuous PN9 and PN15
- Additional burst types for GSM frequency correction, sync, access, and dummy bursts
- Customize frames (or create multiframes) by directly loading pattern RAM; 1 Mbits (Option UN3), 8 Mbits (Option UN4)
- Dual-tone sinewaves with the low-frequency generator

## **Specifications Summary**

	NADC		PDC		PHS		TETRA		DECT	DECT GSM (DCS,	
Modulation Format	π/4 DQPSK								GFSK	GMSK	
Data Rate (default, kbits/sec) Adjustment Range (kbits/sec)	48.6 40 to 75.5		42 40 to 75		384 320 to 605		36 31 to 37.8		1,152 922 to 1209.6	270.83 163 to 300	
Filter	Root Raised Co				e or Rais	ed Cosine	!		Gaussian		
Default Value	α = 0.35		α = 0.5		α = 0.5		α = 0.35		B <sub>b</sub> T= 0.5	B <sub>b</sub> T= 0.3	
Range ( $\alpha$ or B <sub>b</sub> T)	0.3, 0.35, (				0.4, 0.5, 0.6			0.2 to 0.7 in 0.05 steps			
Error Vector Magnitude1 (% rms)	Cont.	Burst	Cont.	Burst	Cont.	Burst	Cont.	Burst	N/A	N	/A
Low EVM Mode	1.4	1.9	1.9	1.8	1.5	1.5	1.5	1.9			
Low EVM Mode (typical)	0.8	1.4	0.9	1.4	0.9	0.9	0.8	1.5			
Low ACP Mode (typical)	1.4	1.8	1.0	1.2	1.2	1.2	3.1	3.2			
Global Phase Error <sup>1</sup> (rms / pk)	N/A		N/A		N/A		N/A		N/A	0.8° / 2.8° 0.25° / 1.5° (typ)	
Deviation Accuracy <sup>1</sup> (kHz)	N/A		N/A		N/A		N/A		6.1 (2.5, typ)	N/A	
Channel Spacing (kHz)	30		25		300		25		1,728	200	
Adjacent Channel Power <sup>1</sup> (ACP)	Cont.	Burst	Cont.	Burst	Cont.	Burst	Cont.	Burst	N/A	Cont.	Burst
(Low ACP Mode, dBc, typical)											
at Adjacent Channel <sup>3</sup>	35	-34	-	-	-	-	68	65		38	-37
at 1st Alternate Channel <sup>3</sup>	-75	-73	_71	-69	—76	—75	_77	-76		71	69
at 2nd Alternate Channel <sup>3</sup>	-78	-77	-	-	78	-77	-79	-79		81	-79
at 3rd Alternate Channel <sup>3</sup>	-78	_78	-78		-	-	-79	-79		83	81
Supported Burst Types	Custom, Up/Down TCH		Custom, Up/Do wn TCH, Up Vox		Custom, TCH, Sync		Custom, Up Control 1 & 2 Up Normal, Down Normal, Down Sync		Custom, Dummy B 1 & 2, Traffic B, Low Capacity	Custom, Normal, FCorr, Sync, Dummy Access	
Scramble Capabilities					Yes		Yes				

1. Specifications apply for the frequency range, data rates, root raised cosine filter and filter factors (α or B<sub>b</sub>T) specified for each standard and at power levels [+ 7 dBm ([+ 4 dBm for TETRA). 2. ACP for TETRA is measured over a 25 kHz bandwidth, with an 18 kHz root raised cosine filter applied.

3. The "channel spacing" determines the offset size of the adjacent and alternate channels: Adjacent Chan. offset = 1 x channel spacing, 1st Alt. Chan. = 2 x channel spacing , 2nd Alt. Chan. = 3 x channel spacing, etc.

1 When ordering, please use product number E4432A with Options UN3 or UN4 (internal baseband I/Q generator) and 1E5 (high stability timebase). Offer valid only on these specified configurations.

## For more information please call 1-800-452-4844 extension 1957