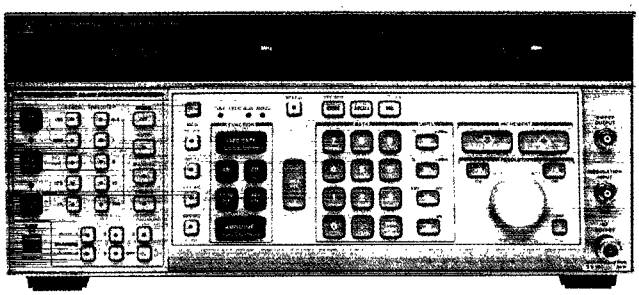
SIGNAL GENERATORS
High-Performance RF
HP 8662A, 8663A

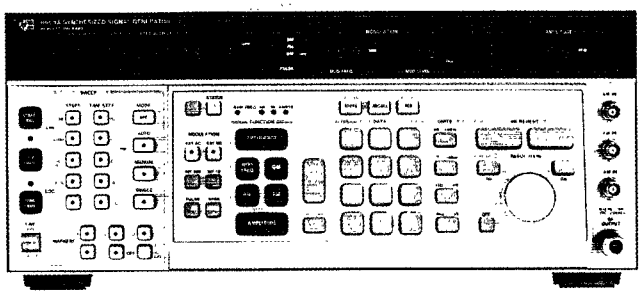
- 10 kHz to 1280 MHz frequency range
- < −147 dBc/Hz SSB phase noise at 10 kHz offset
- 0.1 Hz frequency resolution



HP 8662A

DESIGNED FOR HP-IB SYSTEMS

- 100 kHz to 2560 MHz frequency range
- AM/FM/ØM/pulse in one generator
- Internal variable modulation oscillator



HP 8663A

DESIGNED FOR HP-IB SYSTEMS

HP 8662A/HP 8663A Synthesized Signal Generators

Spectral purity is the key contribution of both the HP 8662A and HP 8663A, making them ideal for many radar, satellite communication, and phase noise measurement applications. Typical absolute phase noise performance of these generators at a 1 kHz offset is as low as −135 dBc/Hz, depending on the band of operation.

The frequency range of the HP 8662A is 10 kHz to 1280 MHz. It offers versatile AM/FM, using either internal 400 Hz and 1 kHz rates or externally applied modulating signals which can be either ac- or dc-coupled. It also has simultaneous modulation capability.

The HP 8663A and the HP 8662A provide the U.S. Air Force MATE (Modular Automatic Test Equipment) capability, Option 700. This option is an external translator that allows the HP 8663A to be controlled by the MATE language CIIL (Control Interface Intermediate Language).

HP 8662A Specifications

Frequency

Range: 10 kHz to 1280 MHz (1279.9999998 MHz)
Resolution: 0.1 Hz (0.2 Hz above 640 MHz)
Accuracy and stability: Same as reference oscillator
Internal reference oscillator: 10 MHz quartz oscillator. Aging rate < 5×10^{-10}/day after 10-day warmup (typically 24 hrs in normal operating environment).

Spectral Purity

Front-panel absolute SSB phase noise (dBc/Hz):

	Frequency Range (MHz)					
	0.01 to 119.9[1]		120 to 159.9[2]		160 to 319.9[2]	
	spec	typ	spec	typ	spec	typ
1 Hz	−68	−78	−66	−76	−60	−70
10 Hz	−98	−108	−96	−106	−90	−100
100 Hz	−116	−126	−115	−125	−109	−119
1 kHz	−126	−132	−129	−135	−124	−130
3 kHz	−126	−135	−129	−138	−124	−133
5 kHz	−128	−138	−131	−141	−126	−136
10 kHz	−132	−138	−142	−148	−136	−142
100 kHz	−132	−139	−142	−148	−136	−142

	Frequency Range (MHz)					
	320 to 639.9[2]		640 to 1279.9[3]		1280 to 2559.9[4]	
	spec	typ	spec	typ	spec	typ
1 Hz	−54	−64	−48	−58	−42	−52
10 Hz	−84	−94	−78	−88	−72	−82
100 Hz	−103	−114	−97	−108	−92	−102
1 kHz	−118	−125	−112	−119	−106	−113
3 kHz	−118	−127	−112	−121	−106	−115
5 kHz	−120	−130	−114	−124	−108	−118
10 kHz	−131	−136	−124	−130	−118	−124
100 kHz	−131	−136	−124	−130	−118	−124

Residual SSB phase noise (dBc/Hz):

	Frequency Range (MHz)					
	0.01 to 119.9[1]		120 to 159.9[2]		160 to 319.9[2]	
	spec	typ	spec	typ	spec	typ
10 Hz	−108	−114	−112	−119	−106	−113
100 Hz	−121	−126	−122	−129	−118	−124
1 kHz	−128	−133	−131	−138	−127	−134
3 kHz	−128	−136	−131	−139	−127	−135
5 kHz	−129	−138	−133	−141	−129	−136
10 kHz	−132	−137	−142	−147	−136	−142
100 kHz	−132	−137	−142	−147	−136	−142

	Frequency Range (MHz)					
	320 to 639.9[2]		640 to 1279.9[3]		1.28 to 2559.9[4]	
	spec	typ	spec	typ	spec	typ
10 Hz	−100	−107	−93	−101	−88	−95
100 Hz	−112	−119	−105	−112	−100	−106
1 kHz	−121	−128	−115	−122	−109	−116
3 kHz	−121	−129	−115	−123	−109	−117
5 kHz	−123	−130	−117	−124	−111	−118
10 kHz	−131	−136	−124	−130	−118	−124
100 kHz	−131	−136	−124	−130	−118	−124

[1] HP 8663A band begins at 0.1 MHz; specifications extend up to and including 119.9999999 MHz.
[2] Specifications extend up to and including 0.1 Hz less than the starting frequency of the next band.
[3] Specifications extend up to and including 1279.9999998 MHz.
[4] This band available on HP 8663A only; specifications extend up to and including 2559.9999996 MHz.

Option 003 specified SSB phase noise for rear-panel 640 MHz output:

	spec	typ
1 Hz	−54	−64
10 Hz	−84	−94
100 Hz	−104	−114
1 kHz	−121	−126
3 kHz	−121	−127
5 kHz	−129	−138
10 kHz	−145	−149
100 kHz	−157	−159