

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

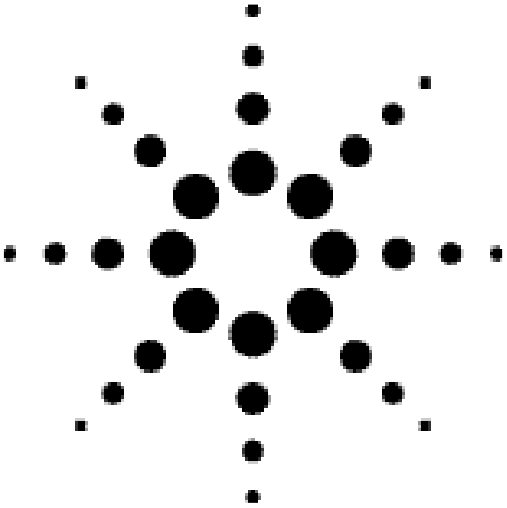
Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Keysight / Agilent 8642A* at our website: ***Click HERE***



8642A Synthesized Signal Generator, 100 kHz to 1050 MHz (Discontinued – Support Information Only)

Data Sheet

Frequency Specifications
Range: 100 kHz to 1057.5 MHz
Bands: The full range is covered in one continuous span. However, many specifications are dependent on carrier frequency. To simplify such specifications, the carrier frequency ranges are divided into bands as shown below: Band Carrier Frequency (MHz) 9 528.750001 to 1057.5 8 264.375001 to 528.75 7 132.187501 to 264.375 6 66.093751 to 132.1875 5 33.046876 to 66.09375 4 16.523438 to 33.046875 3 8.261719 to 16.523437 2 4.130860 to 8.261718 1 0.1 to 4.130859 HET 0.1 to 132.1875
Sweep Modes: Start-stop, span, and phase continuous X-Axis Output: 0 to 10 Vdc, ±10% Y-Axis Output: TTL positive true for display blanking during retrace
Resolution: 1 Hz, 0.1 Hz with special function
Stability Standard: Aging rate: ±2 ppm/year Option 001: <10e-9/day aging rate after 8 days warmup Spectral Purity Specifications
Residual FM (in CW, AM or Angle Modulation <1/3 max dev.) 500 MHz: <1.2 Hz (0.3 to 3 kHz BW), <2 Hz (0.05 to 15 kHz BW) 1000 MHz: <2 Hz (0.3 to 3 kHz BW), <5 Hz (0.05 to 15 kHz BW)
SSB Phase Noise at 20 kHz Offset (CW, AM or FM/PhiM <1/60 max dev) 125 MHz: -144 dBc/Hz 200 MHz: -141 dBc/Hz 500 MHz: -137 dBc/Hz 1000 MHz: -134 dBc/Hz
Residual AM: <0.01% AM rms, 0.3 to 3 kHz BW
Spurious Harmonics: -30 dBc at <= +10 dBm Subharmonics: None, fc <=1057.5 MHz Nonharmonics (>10 kHz offsets): -100 dBc
Third Order Intermodulation: < -50 dBc at +10 dBm, 2 generators 25 kHz apart into a resistive combiner. Typically decreases 10 dB for every 5 dB of combined level decrease.
Output Specifications
Level Range: From maximum available to -140 dBm (0.023 µV) Maximum Level Available bands 1 thru 7: +20 dBm (2.24 V) bands 8 and HET: +18 dBm (1.78 V) band 9: +16 dBm (1.41 V)
Resolution: 0.01 dB
Absolute Accuracy: ±1 dB, output level >= -127 dBm
Flatness: <= ±0.75 dB, +10 dBm output level
Impedance: 50 ohm nominal
SWR: <1.5:1, level<0 dBm; <2.0:1, level >=0 dBm
Reverse Power Protection: 50W, from a 50 ohm source 25 Vdc Modulation Specifications
Amplitude Modulation AM Depth: 0 to 99.9%, output level <= +10 dBm AM Resolution: 0.1% AM Indicator Accuracy at 1 kHz Rate and Up to 90% AM: ±(3.5% of setting + 1% AM), fc <=528.75 MHz ±(5% of setting + 1% AM), fc >528.75 MHz AM Distortion at 1 kHz Rate: Depth Distortion fc <=528.75 MHz fc >528.75 MHz 0 to 30% AM <1% <2% 30 to 70% AM <2% <4% 70 to 90% AM <4% <6% AM 3 dB Bandwidth, Depth <=90% External DC/AC Coupling:dc/20 Hz to 100 kHz, fc: 01 to 4.13 MHz, 33.04 to 2115 MHz, HET; dc/20 Hz to 20 kHz, fc: 4.13 to 33.04 MHz Internal: Same as external AC Incidental PhiM at 1 kHz Rate and 30% AM: <0.2 radians peak
Frequency Modulation Maximum FM Deviation: Carrier Maximum deviation Maximum deviation frequency dc-coupled ac-coupled or internal band (the smaller of) 9 1.5 MHz 1.5 MHz or f mod X 1080 8 750 MHz 750 kHz or f mod X 540 7 375 kHz 375 kHz or f mod X 270 6 187 kHz 187 kHz or f mod X 135 5 93.8 kHz 93.8 kHz or f mod X

Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

67.5 4 46.9 kHz 46.9 kHz or f mod X 33.75 3 23.4 kHz 23.4 kHz or f mod X 16.88 2 11.7 kHz 11.7 kHz or f mod X 8.44 1 93.8 kHz 93.8 kHz or f mod X 67.5 HET 1.5 MHz 1.5 MHz or f mod X 1080 FM Resolution: 0.7% of setting or 0.0004% of maximum deviation, whichever is larger FM Indicator Accuracy, Rates <= 100 kHz:±(5% of setting + 10 Hz) FM Distortion, Rates 20 Hz to 100 kHz: 4% for max. dev., 2% for 1/2 max. dev., 0.4% for 1/15 maximum dc-coupled deviation FM 3 dB Bandwidth (dc/ac coupling): dc/20 Hz to 200 kHz (external) Incidental AM: 0.3%, 20 kHz peak dev., 1 kHz rate, fc >400 kHz

Phase Modulation

Maximum Phase Deviation: Carrier frequency band Maximum deviation (radians) 9 100 8 50 7 25 6 12.5 5 6.25 4 3.13 3 1.56 2 0.78 1 6.25 HET 100 PhiM Accuracy: ±(5% of setting + 0.09 radians), 1 kHz rate Phi Resolution: greater of 0.7% of setting or 0.0004% of maximum deviation PhiM Distortion: <0.4%, 1 kHz rate PhiM 3 dB Bandwidth: DC/20 Hz to 15 kHz

Pulse Modulation (for output levels <= +15 dBm) Pulse On/Off Ratio: >40 dB; >80 dB, fc >1057.5 MHz Rise/Fall Time: <400 ns, 10 % to 90% Maximum Repetition Frequency: 100 kHz Minimum Pulse Width: 2 µs

Internal Modulation Oscillator Rates: 20 Hz to 100 kHz Frequency Resolution: 1% of setting Accuracy: 2% ofsetting Output Level Range: 0 to 3 V peak into 600 ohns Resolution: 4 mV Accuracy: ±(4% + 15 mV) within 1 second Distortion: <0.02%, 0.02 kHz to 15.8 kHz; <0.15%, >15.8 kHz Output Impedance: 600 ohms ±10% Remote Programming Specifications

Interface: HP-IB (IEEE-488-1978)

HP-IB Functions: Listener, talker, and controller. SH1, AH1, T5, TE0, L3, LE0, SR1, RL1, PP1, DC1, DT1, C1, C3, C28, E2

General Specifications

Operating Temperature Range: 0° to 55°C

Storage Temperature Range: -55° to +75°C

Leakage: Conducted and radiated interference is within the requirments of MIL-STD-461V method RE02. Interference is also within the standards set by FTZ-1046. Also, RF leakage of <0.5 µV is induced in a 2 turn loop 2.5 cm in diameter, held 2.5 cm away from any surface for ouptut levels <=0 dBm.

Power Requirements: 100, 120, 220, or 240 V; +5%, -10%; 48 to 440 Hz; 300 VA max **Size:** 425 mm W x 133 mm H x 617 mm D (16.75 in x 5.25 in x 24.3 in)

Agilent System II Module Size: 1 W x 5 1/4 H x 23 D

Weight: Net, 32.7 kg (71.5 lb); Shipping, 43 kg (95 lb)

Agilent Technologies

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP