

# HIGH-GAMMA AUTOMATED TUNERS (HGT™)

## 800 MHz TO 8 GHz

### Features

- Sub 1Ω In-Fixture and On-Wafer Load-Pull for GSM/EDGE, WCDMA, WiFi, and WiMax
- Ultra-High Matching Range for GaN, GaAs, LDMOS, and Deep Submicron CMOS Characterization
- Simultaneous Ultra-High Matching and Low Vibration for On-Wafer Applications
- USB Interface for Simple, Fast, and Reliable Control
- DLL Environment for Automated Applications
- Industry's Highest Accuracy Means Your Designs Work Right the First Time
- Industry's Best Calibration Frees Your Time for Design



MT981HU13  
7mm High-Gamma Tuner™

### Applications and Benefits Overview

The HGT™ series automated tuners are optimized for high power in-fixture and on-wafer applications requiring sub 1Ω impedance and low vibration simultaneously. Based on Maury's HGT™ technology (US and international patents pending), these high-performance tuners evolve beyond obsolete and outdated multi-probe pre-matching technology to deliver ultra-high VSWR with superb accuracy and reliability. An integral component of Maury Device Characterization Solutions, these PC-based USB-interface automated tuners are controlled using either Maury's Device Characterization Software suite (ATS Version 5 or later) or Maury's DLL environment. ATS software is an integrated device characterization suite providing front-end and back-end device characterization tools for power and noise characterization. The DLL environment enables direct interface with common programming tools such as Agilent VEE™, NI Labview™, MS Visual Basic & C/C++, and Mathworks MATLAB™. With a tuning resolution in excess of a million impedance

points and accuracy better than -40 dB over the entire Smith Chart, Maury automated tuners give you the device characterization answers you need with the accuracy necessary to make engineering decisions with confidence. Typical applications include load-pull using CW, GSM/EDGE, CDMA, WCDMA, WiMax, and WiFi stimulus for mobile and infrastructure terminal design, RADAR design, and Sat-Com design, and source-pull for deep sub-micron CMOS low noise characterization. Custom Semiflex cable and Cascade-Microtech probe kits are available for optimized low loss on-wafer applications.

### Controller

For optimum performance, the MT1020B ATS Power Distribution Hub can be used to control up to four (4) MT981HU series tuners. Additionally, the MT1020D Desktop Switching Power Supply can be used to provide power to a single MT981HU series tuner.

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## Specifications

Frequency Range ..... See **Available Models Table**  
 VSWR Matching Range... See **Available Models Table**  
 Step Size (Probes)..... 62.5 microinches<sup>1</sup>  
 Step Size (Carriage) ..... 786 microinches<sup>1</sup>  
 Connectors ..... 7mm<sup>2</sup>, 14mm<sup>3</sup> or 7-16<sup>4</sup>

## Recommended Accessories

2698C2 7mm (3/4-in. hex) torque wrench  
 2498T1 14mm (1-in. hex) torque wrench  
 2698K1 7-16 (1-1/16-in. hex) torque wrench  
 8022S 3.5mm (f) to 7mm ultra-low-loss adapter  
 8022T 3.5mm (m) to 7mm ultra-low-loss adapter  
 A028D 7mm connector gage kit  
 A024 14mm connector gage kit  
 A041A 7-16 connector gage kit

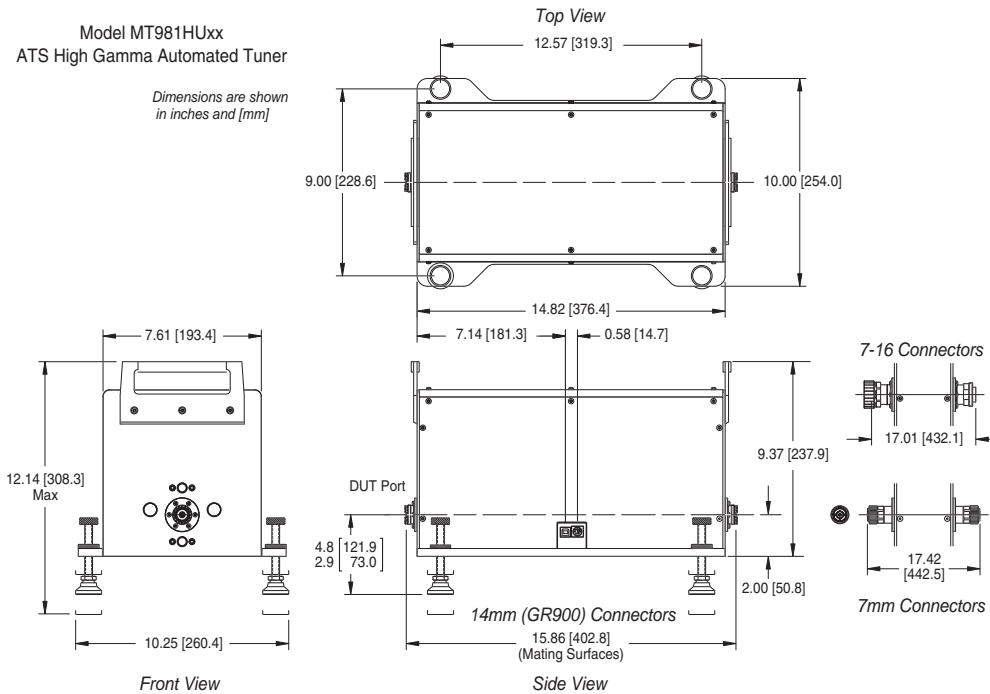
## Accessories Provided

One MT1020D controller, one USB cable and one operating manual.

## Available Models

Model	Frequency Range (GHz)	Matching Range		Power Capability <sup>6</sup>	Vector Repeatability (Minimum)	ΔGt (Typical)	VSWR <sup>7</sup> (Maximum)	Insertion Loss <sup>7</sup> (Maximum)	Dimensions	
		Minimum	Typical <sup>5</sup>						12.0" (30.5cm) x 10.0" (25.4cm) x	
MT981HU13	0.8 — 6.5 6.5 — 8.0	100:1 —	200:1 60:1	250 W CW 2.5 kW PEP	-40 dB	±0.3 dB	1.05:1	0.3 dB	17.4" (44.3cm)	
MT981HU23	0.8 — 6.5 6.5 — 8.0	100:1 —	200:1 60:1						15.9" (40.3cm)	
MT981HU33	0.8 — 6.5 6.5 — 8.0	100:1 —	200:1 60:1						17.0" (43.2cm)	

## Dimensions – Inches (mm)



<sup>1</sup> Based on 1/2 stepping the drive motors.  
<sup>2</sup> Precision 7mm per Maury data sheet 5E-060.  
<sup>3</sup> Precision 14mm (GR900 equivalent).  
<sup>4</sup> Precision 7-16 per Maury data sheet 5E-066.

<sup>5</sup> Defined as the minimum VSWR 20% of the peak VSWR.  
<sup>6</sup> Power at maximum VSWR.  
<sup>7</sup> With probes fully retracted