

# MI-3103 Synthesized Signal Source

## Features & Benefits

- Switching time approximately 1 millisecond across the complete frequency spectrum
- Low phase noise standard
- +15 dBm output power
- Phase Locked Loop (PLL) design produces a spectrally pure sine wave with a tuning resolution of 0.1 Hz
- Designed for ATE Applications



MI-3103

## Description

MI Technologies' MI-3103 Synthesized Signal Source provides a fast, accurate and economical signal generation solution for a wide range of test and measurement applications. The source is designed to be used in test and measurement situations where remote RF and microwave frequency tuning is required, making it ideal for antenna, radome and other microwave measurement applications.

By providing low phase noise, high output power across the full frequency range and fast frequency switching simultaneously, the MI-3103 synthesizer offers a tremendous value at a competitive price. The combination of features makes the MI-3103 a 'must have' for many R&D as well as manufacturing environments.

Optimized for Automated Test Equipment (ATE) applications, the MI-3103 is an ideal solution for many automated measurement systems.

The MI-3103 is a 3U rack mountable unit with rack ears and front panel RF output. Remotely programmable interfaces on the MI-3103 include GPIB, RS-232 and USB. Although perfectly suited for ATE applications, the MI-3103 also is designed with an intuitive, easy-to-use front panel interface. The number of user screens with soft keys and menu layers has been minimized to allow users to quickly set-up their synthesizer for optimum performance.

### Productivity Assured

Requirements for testing are growing more complicated as companies strive for more productivity. MI Technologies' instruments, systems and software address the need for increased productivity in test and measurement applications.

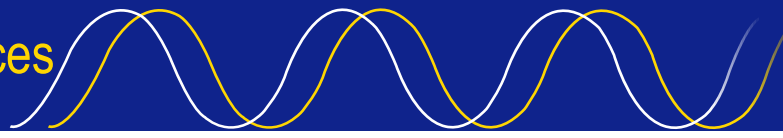
The MI-3103 integrates easily with the MI-1797 Microwave Receiver and operates with MI Technologies' Automated Systems. The MI-3103 Synthesized Signal Source speeds test and measurement processes

with its built-in ability to store multiple lists of frequencies and power levels (up to 4000 points) for later recall with a simple command to change the currently selected list number. An externally triggered interface for rapidly switching through a list of frequencies or power levels is also provided. Users can quickly download large lists to the synthesizer via a host computer over one of the provided interfaces.



1-800-854-3660

[www.mi-technologies.com](http://www.mi-technologies.com)



## Product Specifications

### RF Output

Frequency Range:	.01 - 20.0 GHz
RF Output:	+15 dBm
Frequency Switching Time:	1 millisecond typical
Frequency Resolution:	0.1 Hz
Output Accuracy:	± 1.0 dB*
Frequency Stability vs. Temperature:	< 5 x 10 <sup>-10</sup> /deg C (0° to 55° C)
Output Impedance:	50 Ω nominal
Output SWR:	< 2.0:1 Typical
External Leveling:	Output power may be externally leveled
Level Drift:	< 0.05 dB/hour Max 0.1 dB/24 hours

### Spectral Purity (at +6dBm Output Power Level)

Harmonics Frequency (GHz)	Harmonic (dBc)	Sub-Harmonics (dBc)
.01 to 0.1	≤ -30	-50
0.1 to 2.0	≤ -50	-50
2.0 to 20.0	≤ -55	-50

#### Spurious

-45 dBc Typical for offsets < 300 Hz  
-54 dBc Typical for offsets > 300 Hz

\*Specification applies between 15° to 35° C and degrades < 0.5 dB outside this range.

### General Specifications

Remote Interface:	IEEE STD 488.2, RS-232, USB
Operating Temperature:	0° C to 55° C, non-condensing humidity
Environmental:	Complies with MILPRF-28800F, Class 3
Regulatory Approvals:	CE compliant
Power:	90-253 VAC, 47-64 Hz (400 Hz optional), 250 Watts nominal
Fuse Rating:	Internal to power supply
Weight:	< 15.8 kg (35 lbs)
Dimensions:	133mmH x 425mmW x 533mmD (5.25"H x 16.75"W x 21"D)

### Frequency and Power Sweep Capabilities

- Ramp frequency sweep
- Step frequency sweep
- Ramp power sweep
- Step power sweep

### Inputs/Outputs

- SMA Female, RF connector
- External step trigger input
- Phase lock status output
- 10 MHz reference output
- External reference input

Specifications subject to change without notice.

The export of the equipment or components thereof, described herein, or export of the technical data associated with such items, may require the advance approval of the U.S. Government.



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