

MI-3371 Mixer Assembly Specifications

The MI-3371 is a small, lightweight harmonic mixer for the frequency range of 2 to 20 GHz. Designed to operate with an MI-1795 microwave receiver, the mixer utilizes a single-ended design, which allows either even or odd harmonics. The LO frequency is determined by the following:

$$LO = (RF + 45 \text{ MHz}) / N$$

where LO = Local Oscillator Frequency, N = Harmonic Number, RF = Measurement Frequency

RF Frequency	2 to 20 GHz
LO Frequency	1.9 to 4.6 GHz
IF Frequency	45 MHz
RF Input Power	-20 dBm for .01 dB compression 0 dBm without damage
LO Input Power	+20 dBm max
LO/IF Connector	Type N female
RF Input Connector	Type N male
Operating Temperature	0 to 50 degrees C
Handling	Static discharge may cause damage or failure*
Mechanical Outline	See first page
Weight	9 oz.
LO Operating Power	
Fundamental	+8 dBm
2nd Harmonic	+8 dBm
3rd Harmonic	+17 dBm
4th Harmonic	+16 dBm
5th Harmonic	+17 dBm
Conversion Loss	
Fundamental	14 dB
2nd Harmonic	16 dB
3rd Harmonic	30 dB
4th Harmonic	24 dB
5th Harmonic	33 dB

* Antistatic precautions required when handling this unit



MI-3370 Family of Mixers



Replace the MI-14-11 series of mixers with the MI-3370 Family of Mixers to extend the useful life of the MI-1795 Microwave Receiver. The MI-1795 is now replaced by the MI-750 Advanced Microwave Receiver, the fastest system receiver in the industry.

- Replaces the MI-14-11 Series of Mixers to extend the life and performance of the MI-1795 Microwave Receiver
- Frequency Range: 2 - 90 GHz with 1.9 - 4.6 GHz Local Oscillator Frequencies

Description

MI Technologies' MI-3370 Family of Mixers provide RF to IF signal conversion for measurement by the MI-1795 Microwave Receiver. The MI-1795 is now replaced by the MI-750 Advanced Microwave Receiver, the fastest system receiver in the industry.

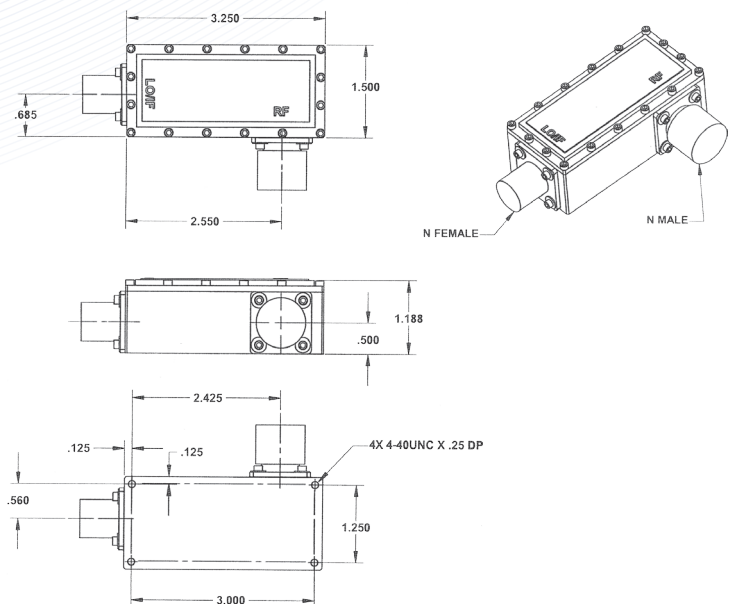
The MI-3370 Family of Mixers replaces the MI-14-11 series, effectively extending the MI-1795 Receiver's useful life and protecting your investment. The Coaxial and Waveguide Mixers provide RF to IF conversion for signals in the 2 to 90 GHz frequency range.

The RF to IF conversion is accomplished by harmonic mixing. This technique permits multi-octave frequency coverage with an octave bandwidth local oscillator. Frequency multiplexers in the receiver permit a single coaxial cable to carry the local oscillator, IF and mixer current between the mixer and receiver.

The mixer is normally mounted directly to the antenna or device under test. Several models are available; each is designed for broadband operation.

MI-3370 Conversion Chart

Model Number	Replaces
MI-3371	MI-14-11-20
MI-3372	MI-14-11-26
MI-3373	MI-14-11-40
MI-3374	MI-14-11-60
MI-3375	MI-14-11-90



Specifications

Specifications	MI-3371	MI-3372	MI-3373	MI-3374	MI-3375
RF Frequency Range	2 - 18 GHz	18 - 26 GHz	26 - 40 GHz	40 - 60 GHz	60 - 90 GHz
LO Frequency	1.9 - 4.6 GHz				
IF Frequency	20 - 50 MHz				
Max Attenuation (dB) ¹	3	3	3	3	3
Max Cable Length Ft (meters) ²	15 (4.5)	15 (4.5)	15 (4.5)	15 (4.5)	15 (4.5)
LO Power Requirements (mW)	2 - 45	1 - 25	1 - 25	1 - 25	1 - 25
RF Input Flange Type	N-Male	UG595/U	UG599/U	UG383/U	UG387/U
LO/IF Flange Type	N-Female	N-Female	N-Female	N-Female	N-Female
Length (in)	4.0	4.5	4.5	4.5	4.5
Weight (lbs)	0.8	0.5	0.5	0.5	0.5
Ship Weight (lbs)	3.0	1.0	1.0	1.0	1.0

¹ The maximum attenuation and cable length are specified at the highest LO frequency of the receiver. Losses are assumed to be lower at other LO frequencies.

² Maximum cable lengths for RG-214/U. Longer cable lengths are acceptable for low-loss cable up to the loss limit or length limit, whichever occurs first.