

## Racal Instruments Inc. Signal Source Selection Guide

Model No.	Channels	Sample Rate	Memory (pts.)	Output	Comment
3151A+	1	100 MS/s	64 k/512 k	16 Vpk-pk	Low-Cost Version!
3152A	1	100 MS/s	64 k/512 k	16Vpk-pk	Phase Lock Feature/Frequency Sweep to 10 MHz
3153	3	100/50/50 MS/s	1/4/8 Meg	10 Vpk-pk	High Speed, High Density
3155	1	100 MS/s	1 Meg		PXI Arb
3161	1	300 MS/s	256 k/1/4/8 Meg	5 Vpk-pk	LF IF Simulation
3162A	1	500 MS/s	1/4/8 Meg	5 Vpk-pk	HF IF Simulation
3162B	2	500 MS/s	1/4/8 Meg	5 Vpk-pk	I-Q Simulation
3171	3	80 MS/s	128 k	22 Vpk-pk	1 Arb + 2 Pulse Generators
3271	1	2.4 GHz RF	N/A	25 dBm	2 Internal Modulation Oscillators
6062B	4/8	0.5 or 2.5 MS/s	64 k/channel	20 Vpk-pk	4-8 Independent Channels
6062B/6	4	0.5 or 2.5 MS/s	64 k/channel	50 Vpk-pk	Isolated Outputs

### **NEW 3151A+ 100 MS/s Waveform Generator**

This new, improved 12-bit Arbitrary Waveform Generator is backward compatible with the popular 3151A and the 3151. The new 3151A+ comes standard with 64 k of memory and configures with greater speed than before! The 3151A+ is used to simulate long, complex signals like tape and disk drive read heads, video, radar pulses, Electronic Warfare (EW), noise, jitter and power dropouts or basic functions like sine, square and sawtooth waveforms.

### **NEW 3152A 100 MS/s Phase-Locking Waveform Generator**

The 3152A has the 3151A+'s functionality PLUS DDS-based, high resolution frequency synthesis, a programmable trigger level and the ability to phase-lock its output to external signals or other 3152As! The phase-lock feature has fine offset adjustment allowing better than 2° shifts at 50MHz! The 3152A is used extensively in military programs because of its versatility and for telecom applications because of its low noise floor.

### **3153 Triple Channel Waveform Generator**

High-density waveform generator packs three high-performance 12-bit arbs into one single-slot VXIbus module. Racal's new 3153 has one 100 MS/s and two 50 MS/s independent waveform synthesizers that are synchronizable. The product is perfect for driving the AM, FM and pulse inputs or I-Q inputs of an RF or microwave signal generator for sophisticated, high-speed RF/Microwave Test Systems. It is also great for saving card slots in high-density test systems or wherever multiple complex stimuli with low phase noise are required.

### **NEW 3155 100 MS/s PXI Waveform Generator**

The new Model 3155, 100 MS/s, 14-bit, PXI Arbitrary Waveform Generator provides users with high dynamic range (up to 84 dB), high-speed operation, and arbitrary sweep capabilities. It outputs standard functions (sine, square, triangle, etc.) at frequencies up to 50 MHz, with a generator output rate of up to 100 million samples per second. The 3155 breaks previous industry performance barriers by coupling fast data transfer with simple high-level commands for instrument control. Designed with frequency agility in mind, the 3155 easily performs complete arbitrary sweep and custom chirp profiles.

### **3161 300 MS/s Waveform Synthesizer**

This high-performance 12-bit Arbitrary Waveform Generator outputs signals at frequencies up to 150 MHz. The 3161 has a sequence generator that is externally controllable by a digital signal from the front panel which allows real-time waveform control. The 300 MS/s sample rate and up to 4Meg of sample memory is ideal for the simulation of IF signals for RF up-conversion and is also great for simulation of video, transducer, disk drive read heads and radar pulse waveforms.

### **3162A 500 MS/s Waveform Synthesizer**

This single-slot high-speed 12-bit Arbitrary Waveform Generator has the same features as the 3161 but with increased horizontal resolution and sample memory up to 8 Meg. This makes it ideal for the direct simulation of wideband IF signals for RF up-conversion.

### **3162B 500 MS/s Dual-Channel Waveform Synthesizer**

This two-slot high-speed 12-bit Arbitrary Waveform Generator has two tightly synchronized channels and up to 8 Meg/channel of sample memory. This makes it ideal for the simulation of wideband I-Q signals. For example, using a 3271 Signal Generator and an external I-Q modulator, wideband CDMA or multi-channel QPSK waveforms can be simulated.

### **3171 80 MS/s Arb and Dual 50 MHz Pulse Generator**

This high-density module includes one 80 MS/s 12-bit Arbitrary Waveform Generator and two 50 MHz Pulse Generators in a single-slot VXIbus module. The arbitrary waveform generator has both a 12-bit digital and an analog output allowing the production of arbitrary digital words or analog signals. The 3171 is great for military test system upgrades where systems with multiple pulse and function generators are being modernized.

### **3271 2.4 GHz Signal Generator**

The 3271 is a high-performance signal source providing RF up to 2.4 GHz at levels up to 25 dBm. The 3271 also has two built-in oscillators which can be used to modulate the RF output signal to create complex avionics waveforms. AM, FM, PM, FSK, 4FSK and Pulse modulation are built into the 3271, and I-Q modulation capability can be added using an external I-Q modulator module which enables the 3271 to simulate QPSK or CDMA signals for telecom applications. The standard 3271 can be used to test pagers, RF modems and RF security devices and systems.

### **6062B 4-8 Channel Signal Source**

This model provides four or eight 16-bit arb channels that operate at up to 2.5 MS/s in one C-sized module. Option 6 provides four isolated channels with 50 Vpk-pk output and 12-bit gain control. Channels operate independently or can be locked together. Each channel's 64 k of channel memory can be updated in real time. The 6062B can be used to simulate transducers, automotive timing signals, pacemaker or defibrillator signals, or as a multi-channel function generator. The four-channel 6062B can be combined with four 64 k, digitizer channels that sample at rates up to 250 kS/s to form the core of a stimulus-response test system.

