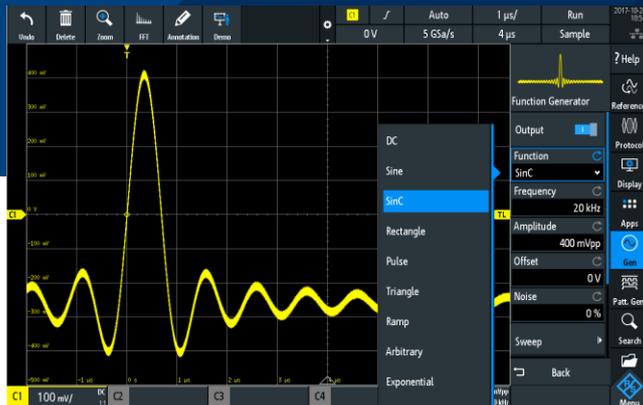




# R&S®RTx-B6 <sup>1)</sup>: ARBITRARY WAVEFORM AND 4 BIT PATTERN GENERATOR



## Customize your oscilloscope with the arbitrary waveform generator option

The integrated R&S®RTx-B6 waveform and pattern generator (up to 50 Mbit/s) is useful for implementing prototype hardware and for educational purposes.

### Integrated arbitrary waveform generator

Produce signals for device stimulus up to 25 MHz. High sample rate (250 Msample/s) and resolution (14 bit) allow accurate signal reproduction. In addition, the R&S®RTx-B6 offers a variety of modulation and swept mode capabilities.

Key specifications	R&S®RTB2000	R&S®RTM3000 / R&S®RTA4000
Resolution, sample rate	14 bit, 250 Msample/s	14 bit, 250 Msample/s
Amplitude, high Z; 50 Ω	20 mV to 5 V (Vpp); 10 mV to 2.5 V (Vpp)	20 mV to 10 V (Vpp); 10 mV to 5 V (Vpp)
DC offset, high Z; 50 Ω	±5 V; ±2.5 V	±5 V; ±2.5 V
Signal forms frequency ranges (sine)	0.1 Hz to 25 MHz	0.1 Hz to 25 MHz
Signal forms frequency ranges (pulse/rectangle)	0.1 Hz to 10 MHz	0.1 Hz to 10 MHz
Signal forms frequency ranges (ramp/triangle)	0.1 Hz to 1 MHz	0.1 Hz to 1 MHz
Signal forms frequency ranges (noise)	max. 25 MHz	max. 25 MHz
Signal forms frequency ranges (arbitrary)	max. 10 Msample/s; 32k points	max. 10 Msample/s; 32k points

Your benefit	Features
X-in-one instrument	The integrated generator saves space on the test bench and provides both standard and arbitrary stimulus to the DUT
Choose from a wide range of waveforms to be generated	The integrated arbitrary waveform generator provides stimulus output of sine, cardinal sine, rectangle, pulse, triangle, ramp, arbitrary and exponential rise/fall and noise waveforms to your device under test. For all waveforms, you can set the frequency, amplitude, offset and noise
Variety of modulation types	The modulation feature supports AM, FM, ASK and FSK modulations with modulation shapes of sine, rectangle, triangle and ramp
Support of different pattern types	The integrated 4 bit pattern generator provides output of square wave, counter, arbitrary, manual and bus specific patterns as well as PWM signals (for R&S®RTM3000 / R&S®RTA4000)

### 4 bit pattern generator with predefined patterns

Waveforms and patterns can be imported as CSV files or copied from oscilloscope waveforms. Before playing signals back, the user can preview them to quickly check signal correctness. Predefined patterns for e.g. I<sup>2</sup>C, SPI, UART and CAN/LIN can be used.

<sup>1)</sup> For R&S®RTB2000, R&S®RTM3000 and R&S®RTA4000 oscilloscopes

### Test your device with native signals



Testing your device with real-world signals opens up a new method to test the margins of your design. The R&S®RTx-B6 arbitrary waveform generator lets you cut waveforms (move the purple lines on the display to set the start and stop) and load them into the arbitrary waveform generator. This allows you to select a portion of a captured oscilloscope waveform in the arbitrary setup.

### Easy configuration and fast response



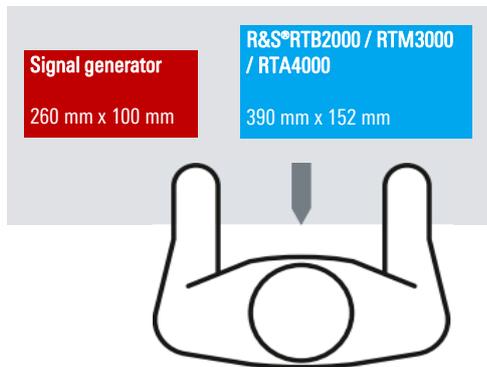
The R&S®RTx-B6 arbitrary waveform generator offers various user options, providing more flexibility for your applications. Besides different types of waveforms, the frequency, amplitude or offset can be set. For each waveform, you can configure the sweep and modulation type and add different burst signals.

### Display complex customized waveforms

```
R&S ARB Generator File
// --- Waveform description ---
//
// This file describes a sine wave:
//   Frequency: 1kHz
//
// There is a high frequency sine wave on to
//
// -----
//
// Rate=5e6
//
// 0
// 0.0020027
// 0.0039585
// 0.0058235
// 0.0075595
```

The R&S®RTx-B6 arbitrary waveform generator displays complex custom waveforms via the generator output. With 14 bit resolution and a sampling rate of 10 Msample/s, the R&S®RTx-B6 gives you the flexibility to display and measure the waveforms you need. Easily create and edit waveforms via MATLAB® and Excel and load them into the generator output of the oscilloscope to display them.

### Save space on the test bench



With a depth of less than 16 cm and a weight of only 2.5 kg to 3.3 kg, the R&S®RTB2000, R&S®RTM3000 and R&S®RTA4000 have a compact and handy format. With the R&S®RTx-B1 arbitrary waveform and 4 bit pattern generator option installed, even more space is saved as the instrument offers the functionality of an entry level signal generator in a single instrument. The small footprint leaves plenty of space on the workbench.

Model configuration information	
Base model	Order No.
R&S®RTB2002 oscilloscope, 70 MHz, 2 channels	1333.1005.02
R&S®RTB2004 oscilloscope, 70 MHz, 4 channels	1333.1005.04
R&S®RTM3002 oscilloscope, 100 MHz, 2 channels	1335.8794.02
R&S®RTM3004 oscilloscope, 100 MHz, 4 channels	1335.8794.04
R&S®RTA4004 oscilloscope, 200 MHz, 4 channels	1335.7700.04
Software option	Order No.
R&S®RTB-B6 arbitrary waveform and 4 bit pattern generator	1333.1111.02
R&S®RTM-B6 arbitrary waveform and 4 bit pattern generator	1335.8994.02
R&S®RTA-B6 arbitrary waveform and 4 bit pattern generator	1335.7830.02
Application bundle	Order No.
R&S®RTB-PK1 consists of the following options: -K1, -K2, -K3, -K15, -K36, -B6	1333.1092.02
R&S®RTM-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K18, -K31, -K36, -B6	1335.8942.02
R&S®RTM-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K31, -K36, -B6	1335.9190.02
R&S®RTA-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K18, -K31, -K36, -B6	1335.7775.02
R&S®RTA-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K31, -K36, -B6	1335.7998.02

All options can be retrofitted

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