







OR-X DDS FUNCTION - ARBITRARY GENERATORS

MODEL	OR-X 325	OR-X 350	OR-X 630	OR-X 640	OR-X 660	OR-X 662	
							
SPECIFICATIONS							
Description	Function Direct Digital Synthesis Graphic LCD	Function and Arbitrary Direct Digital Synthesis Graphic LCD	Function and Arbitrary Direct Digital Synthesis Graphic LCD	Function and Arbitrary Direct Digital Synthesis Graphic LCD	Function and Arbitrary Direct Digital Synthesis Graphic LCD	Dual-channel Version of OR-X 660	
Frequency Characteristics							
Sine and Square	0.01Hz ÷ 15 MHz	0.01Hz ÷ 20 MHz	10 uHz ÷ 31 MHz	1 uHz ÷ 40 MHz	1 uHz ÷ 50 MHz	1 uHz ÷ 50 MHz	
Triangle and Ramp	0.01Hz ÷ 2MHz	0.01Hz ÷ 2MHz	10 uHz ÷ 500 kHz	1 uHz ÷ 5 MHz	1 uHz ÷ 5 MHz	1 uHz ÷ 5 MHz	
Pulse	-	-	0.5 mHz ÷ 10 MHz	0.5 mHz ÷ 5 MHz	0.5 mHz ÷ 25 MHz	0.5 mHz ÷ 25 MHz	
Resolution	5 digits	6 digits	10 digits	12 digits	12 digits	12 digits	
Accuracy	0.005%	0.005%	0.002%	0.001%	0.001%	0.001%	
Arbitrary Characteristics							
Waveform Length	-	2 ÷ 1,000 points	2 ÷ 500,000 points	2 ÷ 1,000,000 points	2 ÷ 4,000,000 points	2 ÷ 4,000,000 points	
Vertical Resolution	-	12 bits	12 bits	14 bits	14 bits	14 bits	
Sample Rate	-	20 ns ÷ 50 s	20 ns ÷ 50 s	12.5 ns ÷ 100 s	8 ns ÷ 100 s	8 ns ÷ 100 s	
Max. Sampling Frequency	-	50 MHz	50 MHz	80 MHz	125 MHz	125 MHz	
Operating Modes							
Continuous	Repetitive	Repetitive	Repetitive	Repetitive	Repetitive	Repetitive	
Triggered - Gated	2MHz	10MHz in ARB, 3MHz in DDS	10MHz in ARB, 5MHz in DDS	20MHz in ARB, 10MHz in DDS	20MHz in ARB, 10MHz in DDS	20MHz in ARB, 10MHz in DDS	
Burst	-	2-65,635 cycles	2-99,999 cycles	2-999,999 cycles	2-999,999 cycles	2-999,999 cycles	
Variable Phase	-	-	-360° ÷ 360°, 0.1° resolution	-360° ÷ 360°, 0.1° resolution	-360° ÷ 360°, 0.1° resolution	-360° ÷ 360°, 0.1° resolution	
Output Characteristics							
Amplitude Range (50 ohm)	10 mV - 10 V p-p	10 mV - 10 V p-p	10 mV - 10 V p-p	10 mV - 10 V p-p	10 mV - 10 V p-p	10 mV - 10 V p-p	
Units	Volts p-p	Volts p-p	Volts p-p	Vp-p, Vrms, dBm	Vp-p, Vrms, dBm	Vp-p, Vrms, dBm	
Offset Range	± 4.5 V	± 4.5 V	± 4.5 V	± 5 V	± 5 V	± 5 V	
Waveform Characteristics							
Harmonic Distortion	-50 dBc, DC ÷ 20kHz -45 dBc, 20kHz ÷ 100kHz -40dBc, 100kHz ÷ 1MHz -30dBc, 1MHz ÷ 20MHz	-55 dBc, DC ÷ 20kHz -50 dBc, 20kHz ÷ 100kHz -40dBc, 100kHz ÷ 1MHz -30dBc, 1MHz ÷ 20MHz	-60 dBc, DC ÷ 100kHz -45 dBc, 100kHz ÷ 1MHz -35dBc, 1MHz ÷ 15MHz -25dBc, 15MHz ÷ 31MHz	-65 dBc, DC ÷ 20kHz -60 dBc, 20kHz ÷ 100kHz -45dBc, 100kHz ÷ 5MHz -30dBc, 5MHz ÷ 40MHz	-65 dBc, DC ÷ 20kHz -60 dBc, 20kHz ÷ 100kHz -45dBc, 100kHz ÷ 5MHz -30dBc, 5MHz ÷ 50MHz	-65 dBc, DC ÷ 20kHz -60 dBc, 20kHz ÷ 100kHz -45dBc, 100kHz ÷ 5MHz -30dBc, 5MHz ÷ 50MHz	-65 dBc, DC ÷ 20kHz -60 dBc, 20kHz ÷ 100kHz -45dBc, 100kHz ÷ 5MHz -30dBc, 5MHz ÷ 50MHz
Spurious	<-60 dBc, DC ÷ 1 MHz	<-60 dBc, DC ÷ 1 MHz	<-60 dBc, DC ÷ 1 MHz	<-60 dBc, DC ÷ 1 MHz	<-60 dBc, DC ÷ 1 MHz	<-60 dBc, DC ÷ 1 MHz	
Square Rise/Fall times	< 25 ns	< 20 ns	< 12 ns	< 8 ns	< 6 ns	< 6 ns	
Variable Duty Cycle	20% ÷ 80%, to 2 MHz	20% ÷ 80%, to 2 MHz	20% ÷ 80%, to 5 MHz 40% ÷ 60% to 20 MHz	20% ÷ 80%, to 10 MHz 40% ÷ 60% to 30 MHz	20% ÷ 80%, to 10 MHz 40% ÷ 60% to 30 MHz	20% ÷ 80%, to 10 MHz 40% ÷ 60% to 30 MHz	

Modulation Characteristics

AM	0 ± 100%	0 ± 100%	0 ± 100%	0 ± 100%	0 ± 100%	0 ± 100%
FM	< 100% deviation	< 100% deviation	< 100% deviation	< 100% deviation	< 100% deviation	< 100% deviation
FSK	-	-	0.02 Hz ± 1 MHz	0.01 Hz ± 1 MHz	0.01 Hz ± 1 MHz	0.01 Hz ± 1 MHz
Modulating Waveform	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle
Internal Modulation Frequency	400, 800, 1000, 3000 Hz	0.1 Hz ± 20 kHz	0.01 Hz ± 20 kHz	0.01 Hz ± 20 kHz	0.01 Hz ± 20 kHz	0.01 Hz ± 20 kHz
External Frequency	DC ± 20 kHz	DC ± 20 kHz	DC ± 20 kHz	DC ± 20 kHz	DC ± 20 kHz	DC ± 20 kHz

Sweep Characteristics

Sweep Shape	Linear and Logarithmic	Linear and Logarithmic	Linear and Logarithmic	Linear and Logarithmic	Linear and Logarithmic	Linear and Logarithmic
Sweep Time	10 ms ± 50 s	20 ms ± 100 s	20 ms ± 500 s	10 ms ± 500 s	10 ms ± 500 s	10 ms ± 500 s
Sweep Trigger	-	Int, Ext, Cont or Burst	Int, Ext, Cont or Burst	Int, Ext, Cont or Burst	Int, Ext, Cont or Burst	Int, Ext, Cont or Burst

Inputs and Outputs

Sync Outout	TTL pulse, 50 Ω	TTL pulse, 50 Ω	TTL pulse, 50 Ω	TTL pulse, 50 Ω	TTL pulse, 50 Ω	TTL pulse, 50 Ω
Trigger Input	TTL, 1kΩ	TTL, 1kΩ	TTL, 1kΩ	TTL, 10kΩ	TTL, 10kΩ	TTL, 10kΩ
Modulation Input	5Vp-p for 100% modulation	5Vp-p for 100% modulation	5Vp-p for 100% modulation	5Vp-p for 100% modulation	5Vp-p for 100% modulation	5Vp-p for 100% modulation
Reference Input-Output	-	-	10 MHz, TTL levels	10 MHz, TTL levels	10 MHz, TTL levels	10 MHz, TTL levels
ARB Marker Output	-	-	-	TTL Levels	TTL Levels	TTL Levels
External Summing Input	-	-	-	5Vp-p for full output	5Vp-p for full output	5Vp-p for full output

General

Interface	RS-232	RS-232	GPIB and RS-232	GPIB and RS-232	GPIB and RS-232	GPIB and RS-232
Power-off Store Memory	20 full instrument settings	20 full instrument settings	50 full instrument settings	50 full instrument settings	50 full instrument settings	50 full instrument settings
Power-off Arbitrary Memory	-	1,000 points	500 k points	1M points	1 M points	1 M points

**Metrix Electronics Limited**

Precision Enterprise House, Rankine Road, Daneshill, BASINGSTOKE, RG24 8PP, U.K.

Tel: +44 (0)1256 864150, Fax: +44 (0)1256 864154

E-mail: sales@metrix-electronics.com, Web: www.metrix-electronics.com