

# Programmable Stimulus System



HFS Series.

**HFS9003 \* HFS9009 \* HFS9DG1 \*  
HFS9DG2**

The HFS9003 and HFS9009 are discontinued.

## Characteristics

**Level Resolution** - 0.01 V.

**HIGH Level Accuracy** -  $\pm 2\%$  of level  $\pm 50$  mV.

**LOW Level Accuracy** -  $\pm 2\%$  of HIGH level  $\pm 2\%$  of amplitude  $\pm 50$  mV.

**Output Aberrations (200 ps after 50% pt.)** - Overshoot: +15% +20 mV. Undershoot: -10% -20 mV.

## Time Base Performance

**Frequency Range** - 50 kHz to 630 MHz.

**Frequency Resolution** -  $\leq 0.1\%$  of programmed value.

**Frequency Accuracy** -  $\pm 1\%$  of programmed value.

**RMS Jitter** - 15 ps  $\pm 0.05\%$  of interval.

**PHASE LOCK IN Frequency Range** - 6 MHz to 630 MHz.

**PHASE LOCK IN Amplitude Range** - 0.8 V to 1.0 V<sub>p-p</sub>.

**Output Frequency Range** - Any 2<sup>n</sup> multiple or submultiple of PHASE LOCK IN frequency. Must remain inside the allowed frequency range for installed cards.

**FRAME SYNC IN** - Initiates a burst when using PHASE LOCK IN external frequency reference.

## Output Edge Placement Performance

**Channel Deskew Range** - Minus 60 ns to 2.0  $\mu$ s.

**Channel Deskew Resolution** - 1 ps.

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**DELAY Adjust Range** - 0 to 20  $\mu$ s.

**DELAY Adjust Resolution** - 1 ps.

**DELAY Accuracy** - 1%  $\pm$ 50 ps.

**WIDTH Adjust Range** - 0 to 65,536 x one period.

**WIDTH Adjust Resolution** - 1 ps.

**WIDTH Accuracy** - HFS9DG1: 1% of width  $\pm$ 50 ps;  
HFS9DG2: 1% of width +50 ps -250 ps.

## Output Performance

	<b>HFS9DG1</b>	<b>HFS9DG2</b>
Outputs	4 differential	4 single-ended
Maximum HIGH level	+5.00 V	+5.50 V
Minimum LOW level	-2.50 V	-2.00 V
Max p-p amplitude	3.00 V	5.50 V
Min p-p amplitude	0.01 V (10 mV)	0.01 V (10 mV)
Output transition time (20% to 80%)	< 250 p ( $\leq$ 1 V <sub>p-p</sub> )	variable (800 ps to 6 ns)

## Trigger Input Performance

**Input Resistance** - 50 Ohm.

**Input Voltage Range** -  $\pm$ 5 V maximum.

**Programmable Threshold Range** - 4.70 V to +4.70 V.

**Programmable Threshold Resolution** - 100 mV.

**Programmable Threshold Accuracy** -  $\pm$ 100 mV  $\pm$ 5% of level.

**Minimum Input Pulse Width** - 1 ns.

**Input Rise/Fall Time Requirement** -  $\leq$ 10 ns.

**Sensitivity** -  $\leq$ 500 mV.

## Power Requirements

**Line Voltage Ranges** - 90 V AC to 130 V AC RMS, and 180 V AC to 250 V AC RMS; range switched automatically for HFS9003 (factory configured for HFS9009).

**Line Frequency** - 48 Hz to 63 Hz.

### Power Consumption

	<b>HFS9003</b>	<b>HFS9009</b>
Maximum	540 W	900 W
Typical	400 W	750 W

### Environmental

**Temperature** - Operating: 0° to +50°C (HFS9003); 0° to +40°C (HFS9009). Nonoperating: -40° to +75°C.

**Humidity** - 10°C to +30°C up to 95% relative humidity. 30°C to 40°C up to 75% relative humidity.

**Altitude, Shock nonoperating, Bench Handling - C** - Meets MIL-T-28800 Type III, Class 5.

### Physical Characteristics

<b>HFS9003</b>	<b>Cabinet</b>		<b>Rackmount</b>	
<b>Dimensions</b>	<b>mm</b>	<b>in.</b>	<b>mm</b>	<b>in.</b>
Width	414	16.30	483	19.00
Height	178	7.00	178	7.00
Depth	629	24.75	629	24.75
<b>Weight*1</b>	<b>kg</b>	<b>lbs.</b>	<b>kg</b>	<b>lbs.</b>
Net	20.5	45	23.2	51
Shipping	27.3	60	30.0	66

\*1 Maximum configuration.

<b>HFS9009</b>	<b>Cabinet</b>	
<b>Dimensions</b>	<b>mm</b>	<b>in.</b>
Width	426	16.75
Height	356	14.00
Depth	610	24.00
<b>Weight</b>	<b>kg</b>	<b>lbs.</b>
Net	36.8	81
Shipping	45.5	100

<b>HFS9DG1, HFS9DG2</b>	<b>Cabinet</b>	
<b>Dimensions</b>	<b>mm</b>	<b>in.</b>
Width	51	2.0
Height	267	10.5
Depth	356	14.0
<b>Weight</b>	<b>kg</b>	<b>lbs.</b>
Shipping	1.36	3