Multichannel Programmable Attenuator Models 8320, 8321 & 8331

Ethernet, USB, Serial & GPIB Control Modes*

up to 40GHz

RoHS

Spectrum Control's Model 8320, 8321, and 8331 Series Programmable Attenuator Units represent a new streamlined approach in programmable attenuation for bench test and subsystem applications. 8320 series provide up to 4 independent channels of attenuation housed in half rack enclosures for benchtop use. 8321/8331 series are multi-channel configurations of independent attenuation housed in 19 inch enclosures and can be configured for up to 16 attenuation channels. The 8321 series includes local front panel control and can be equipped with GPIB* control. All model series can be configured for front, rear or through connector options.

Note - Spectrum Control also provides custom subsystems where a variety of test configurations can be incorporated within a single unit. Contact us with your specialized needs.

Part Number Structure

8320 - XX - XX - X X X

- **Basic Model Number**
- **Attenuator Designator**
- **Number of Channels**
- **Connector Location**
- **Connector Type**
- **GPIB Option***
  - Blank = Not Installed
  - G = Installed



Benchtop Unit (Model 8320 Series)

8321 - A1 - 09 - T S G

- **Basic Model Number**
- **Attenuator Designator** (1)
- **Number of Channels 01 to 16**(1)
- **Connector Location** (1)
  - F = Front
  - R = Rear
  - T = Front to Rear
- **Connector Type**(1)
  - N = N
  - S = SMA
  - K = 2.92mm
  - F = F-Type
- **GPIB Option***
  - Blank = Not Installed
  - G = Installed



19" Rack with Front-panel control (Model 8321 Series)

8331 - XX - XX - X X

- **Basic Model Number**
- **Attenuator Designator**
- **Number of Channels**
- **Connector Location**
- **Connector Type**



Standard 19" Rack Unit (Model 8331 Series)

(1) Check Table for Attenuator designator, Maximum number of channels, Connector locations and Connector type. *GPIB option not recommended for new designs

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Control Software Included

Spectrum Control's LabView Control Software can also be used in the operation of this series of Multichannel Programmable Attenuator. The control software will allow the user to set up, control, and perform test and measurements over standard communication interfaces such as Ethernet, USB, Serial, and GPIB*.

Additional Specifications

AC Voltage	100 – 240 V. 50/60 Hz
AC Power	30 Watt Max (8320) 100 Watt Max (8321/8331)
Operating Temperature	0° C to +50° C
Storage Temperature	-40° C to +75° C
Humidity	20-90% (Non-Condensing)
Operating Altitude	10,000 ft.
Non- operating Altitude	40,000 ft.
Control Connectors	• 9-PIN D (Male) • Mini-B USB • Standard RJ45
CE & UL Compliant	MET E113609 Complies with UL61010-1 CSA C22.2 N0. 61010-1, CE CAN ICES-3 (B)
Test Data	Test data available upon request

GPIB option not recommended for new designs

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Multichannel Programmable Attenuator Models 8320, 8321 & 8331

Attenuator Choices: Electromechanical[1]

Frequency Range	Attenuator Designation		Model	Attenuation Range (dB)	Step Size (dB)	Connector Options				Max. # of Attenuators/ Channels Per Unit			
						N	S (SMA)	K (2.92mm)	F	8320 T(front to rear)	8320 F(ront) or R(ear)	8321/8331 T(front to rear)	8321/8331 F(ront) or R(ear)
DC-3 GHz	A	1	3205-1E	70	10	X	X	X		4	2	12	8
		2	3205-2E	55	5	X	X	X		4	2	12	8
		3	3205-3E	1.5	0.1	X	X	X		4	2	12	8
		4	3201-1E	31	1	X	X	X		4	2	12	8
		5	3206-1E	63	1	X	X	X		4	2	12	8
		6	3200-1E	127	1	X	X	X		4	2	12	8
		7	3200-2E	63.75	0.25	X	X	X		4	2	12	8
		8	3209-1E	64.5	0.1	X	X	X		4	2	12	8
		9	3209-2E	83.1	0.1	X	X	X		4	2	12	8
DC-6 GHz	B	1	3404-31	31	1	X	X	X		4	2	12	8
		2	3404-55	55	5	X	X	X		4	2	12	8
		3	3404-70	70	10	X	X	X		4	2	12	8
		4	3406-55	55	1	X	X	X		4	2	12	8
		5	3408-55.75	55.75	0.25	X	X	X		4	2	12	8
		6	3408-103	103	1	X	X	X		4	2	12	8
		7	3409-127	127	1	X	X	X		4	2	12	8
DC-18 GHz	C	1	150T-70	70	10	X	X	X		1	2	10	8
		2	150T-15	15	1	X	X	X		2	2	10	8
		3	150T-75	75	5	X	X	X		2	2	10	8
		4	150T-110	110	10	X	X	X		2	2	10	8
		5	150T-31	31	1	X	X	X		2	2	10	8
		6	150T-62	62	2	X	X	X		2	2	10	8
		7	150T-15 & 150T-110	125	1	X	X	X		1	1	5	5
DC-26.5 GHz	D	1	152AT-70	70	10		X	X		2	2	10	8
		2	152T-15	15	1		X	X		2	2	10	8
		3	152T-75	75	5		X	X		2	2	10	8
		4	152T-90	90	10		X	X		2	2	10	8
		5	152T-90 & 152T-15	105	1		X	X		1	1	5	5
DC-3 GHz (75Ω)	F	1	3456-63	63	1				X	4	2	12	8

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Attenuator Choices: Solid State

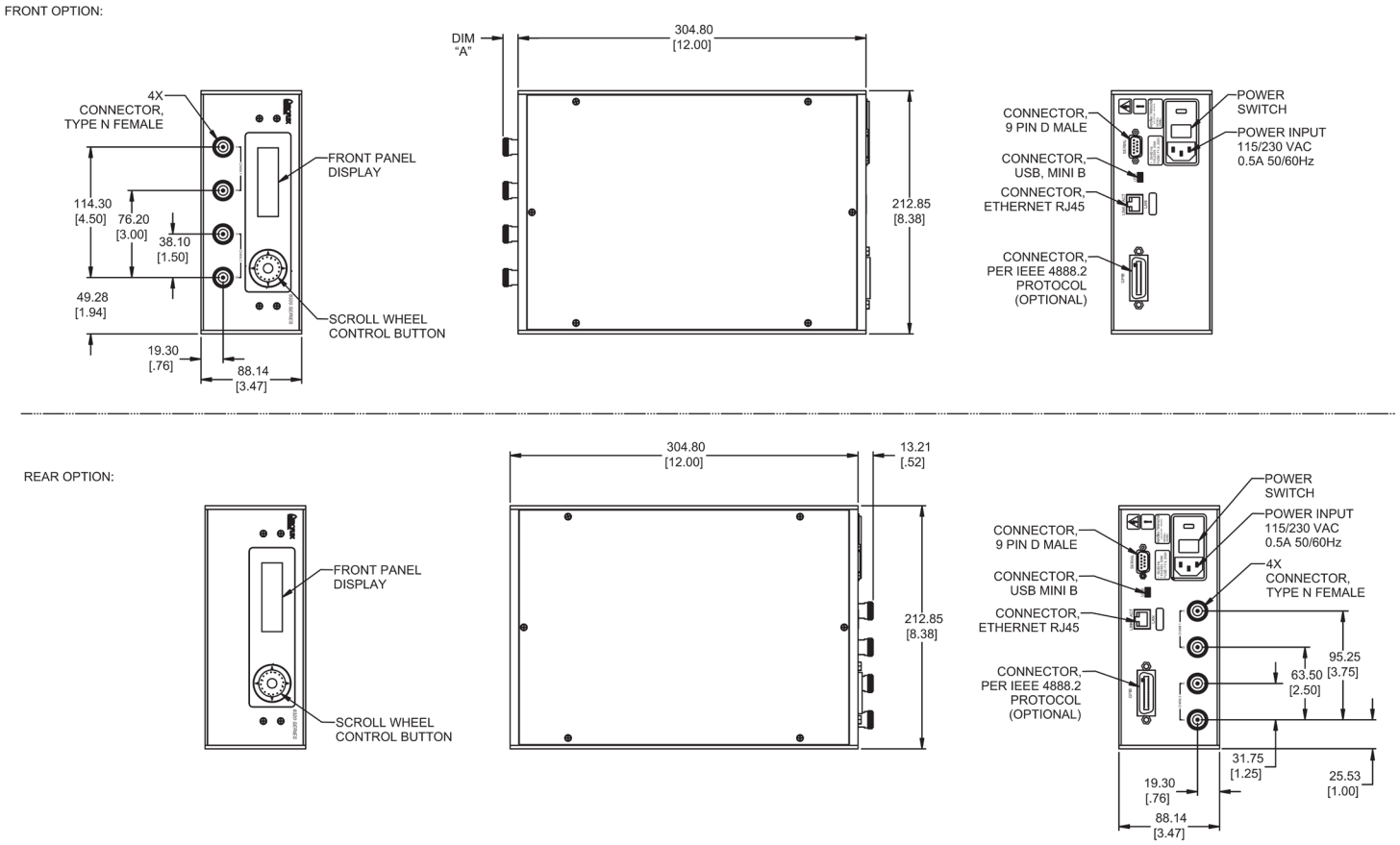
Frequency Range	Attenuator Designation		Model	Attenuation Range (dB)	Step Size (dB)	Connector Options				Max. # of Attenuators/ Channels Per Unit			
						N	S (SMA)	K (2.92mm)	F	8320 T(front to rear)	8320 F(front) or R(ear)	8321/8331 T(front to rear)	8321/8331 F(front) or R(ear)
0.3 to 6000 MHz	M	4	4205A-31.5	31.75	0.25	X	X	X		4	2	16	8
		5	4205A-63.5	63.75	0.25	X	X	X		4	2	16	8
		6	4205A-95.5	95.75	0.25	X	X	X		4	2	16	8
		7	4205A-127	127.75	0.25	X	X	X		4	2	16	8
0.3 to 8000 MHz		10	4205B-95.5	95.5	0.25	X	X	X		4	2	16	8
0.1 to 18 GHz	P	1	4209-18-31.5	31.5	0.5	X	X	X		4	2	12	8
		2	4209-18-63	63	0.5	X	X	X		4	2	12	8
0.1 to 30 GHz		4	4209-30-31.5	31.5	0.5			X		4	2	12	8
		5	4209-30-63	63	0.5			X		4	2	12	8
0.1 to 40 GHz		7	4209-40-31.5	31.5	0.5			X		4	2	12	8
		8	4209-40-63	63	0.5			X		4	2	12	8
0.035 to 3 GHz (75Ω)	N	1	4204-95.5	95.5	0.5				X	4	2	12	8

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Multichannel Programmable Attenuator
Models 8320, 8321 & 8331

Physical Dimensions

Model 8320 Series



Notes:

1. ***All dimensions are given in mm (inches).***
2. ***Connectors and hole plugs are installed as required and determined by number of channels in unit. 2 channel unit shown .***
3. ***Connector location (Front/Rear) may vary depending on model ordered.***

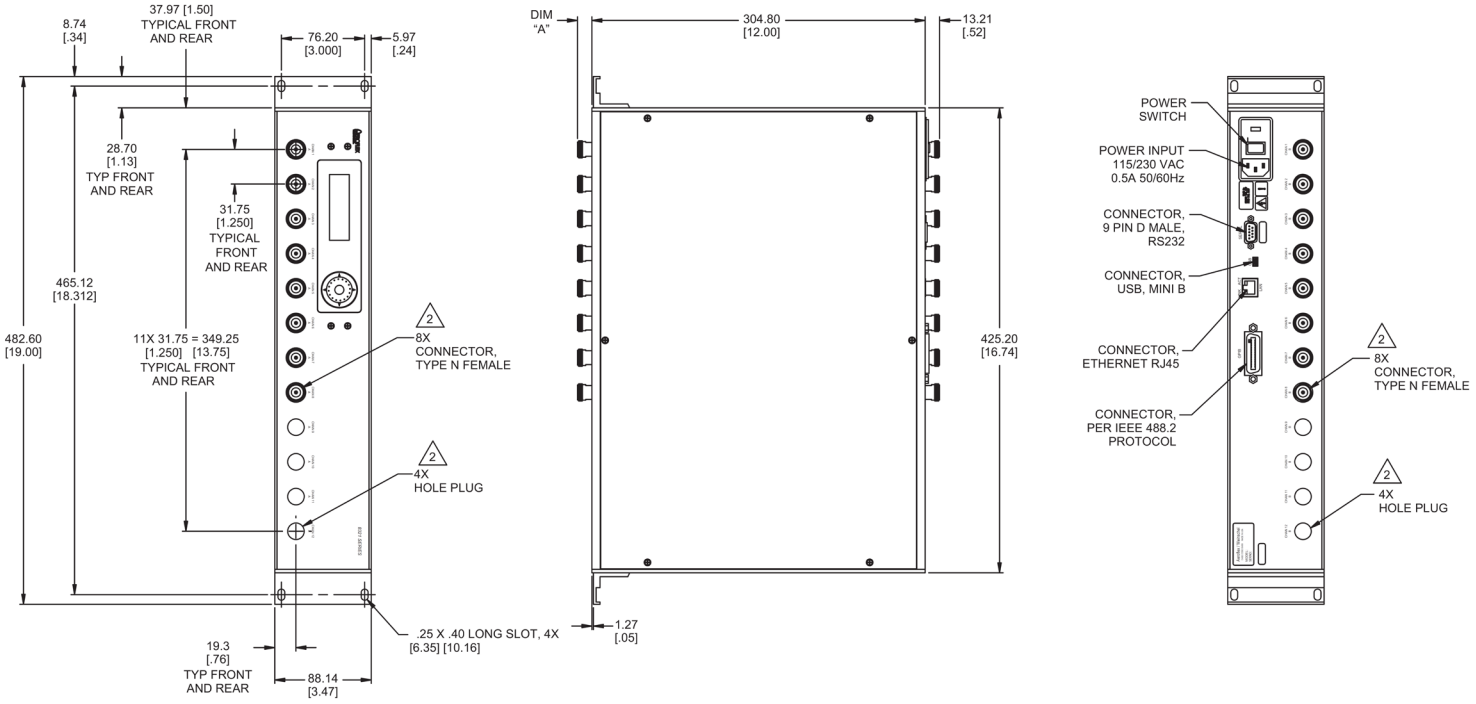
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Multichannel Programmable Attenuator
Models 8320, 8321& 8331

Physical Dimensions

Model 8321 Series

Standard 19 in Rack Unit up to 16 channels



Notes:

1. ***All dimensions are given in mm (inches).***
2. ***Connectors and hole plugs are installed as required and determined by number of channels in unit. 8 channel unit shown.***
3. ***Connector location (Front/Rear) may vary depending on model ordered.***

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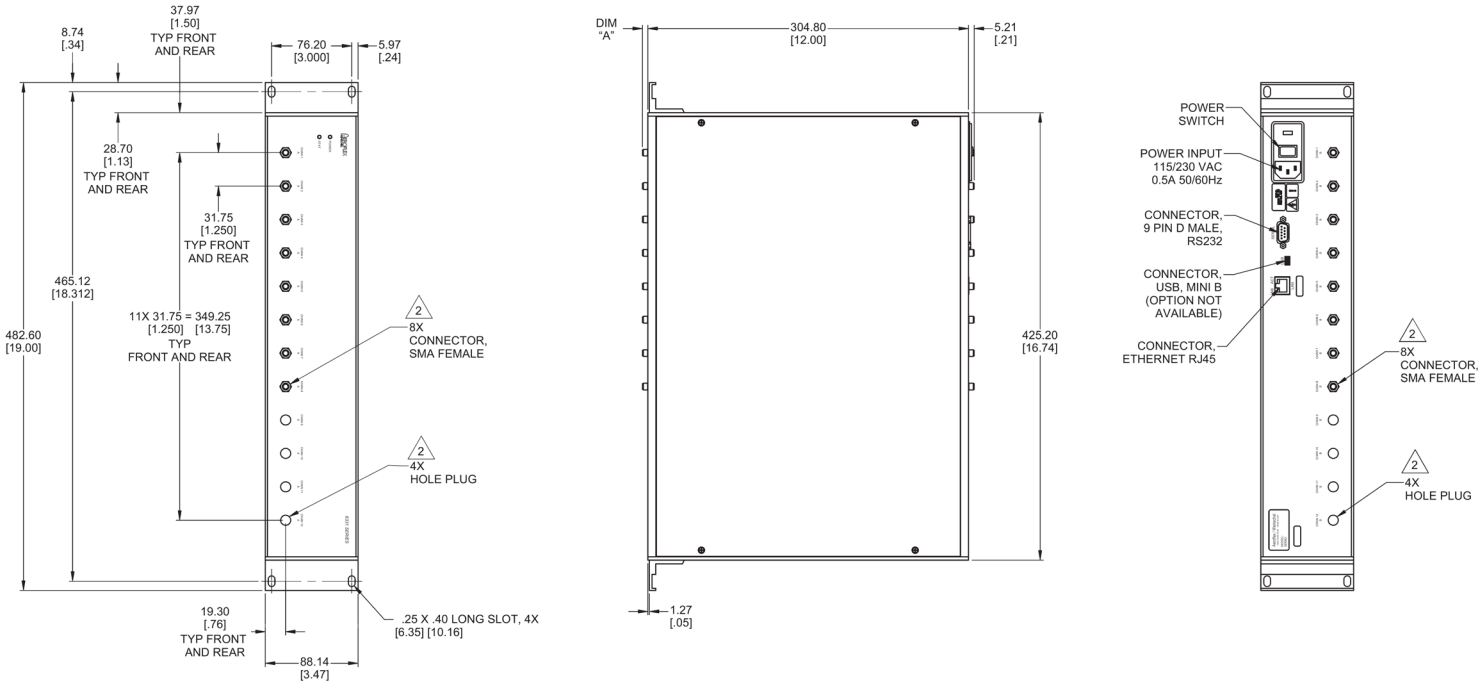
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Ethernet, USB, Serial & GPIB Control Modes

Physical Dimensions
Model 8331 Series



Notes:

1. ***All dimensions are given in mm (inches).***
2. ***Connectors and hole plugs are installed as required and determined by number of channel in unit. 8 channel unit shown.***
3. ***Connector location (Front/Rear) may vary depending on model ordered.***