

# Agilent 11713B/C Attenuator/Switch Driver

## Technical Overview

**Automate ATE systems  
with Agilent 11713B/C  
attenuator/switch driver**

**Add in a stand-alone driver  
for easy integration into new  
and existing ATE systems**

### Key Features

- User-friendly interface provides quick set up, switching, and remote control of small-scale automated test equipment (ATE)
- Controls up to 20 SPDT switches concurrently, or a combination of 4 programmable attenuators and 4 SPDT switches
- Multiple connectivity options: GPIB, USB or LAN for easy remote integration
- An integrated, tri-voltage power supply saves rack space (11713C only)
- External VDC port connects any type of switch and provides forward compatibility for switches
- Full backward compatibility with the Agilent 11713A
- Built-in counter monitors the life cycle of attenuators and switches



## Description

The Agilent 11713B/C attenuator/switch drivers provide remote or front panel drive control for programmable attenuators and electromechanical or solid state switches. Designed with both benchtop and ATE environments in mind, these attenuator/switch drivers provide an intuitive user interface, a variety of switching options, software programmability and remote control features for quick, easy design validation and automated testing. Front panel push-buttons and an easy-to-read LCD display simplify setup of functions such as voltage, TTL functions, IP address, etc.

The 11713B/C is a LXI Class C compliant instrument, so it can be easily controlled and triggered remotely using a full-featured graphical web interface. This feature is used in high-volume production environments. Software instrument drivers such as IVI-COM provide programming compatibility with popular application development environments and support PC industry standards such as Component Object Model (COM). Standard GPIB connectivity supports automated programmed scripting and ensures backward compatibility to Agilent 11713A attenuator/switch drivers.

These portable instruments come in a half-rack, 2U design with self-contained current limiting power supplies. The 11713C model also includes integrated tri-voltage supplies of 5, 15 & 24V and a user-defined external input voltage capability to ensure 100% biasing compatibility to most relays in the market. The 11713C has two individual banks of outputs each with an independent voltage drive. Fast TTL drive is also available on the 11713C, with either via the Viking connector ports or the S0/S9 ports.



Figure 1. Software drivers provide compatibility with most common programming environments.

### 11713B/C Comparison Chart

Model number	11713B	11713C
Drives up to:	Two programmable attenuators and two electromechanical/solid state switches	Four programmable attenuators and four electromechanical/solid state switches
Drives up to:	10 SPDT switches <sup>1</sup>	20 SPDT switches <sup>1</sup>
Voltage:	24 V	5, 15, & 24V
Voltage drive:	1	2 independent banks of outputs
Attenuators types:	Any, e.g.: Agilent 8494/5/6/7, Agilent 84904/6/7K/L/M	Any attenuator or switch <sup>2</sup>
Switch types:	Any, e.g.: Agilent 8761, 8762, 8765 series, or U9397A/C	Any attenuator or switch <sup>2</sup>
Connectivity	GPIB with options for USB, LAN (LXI Class C)	GPIB, USB, LAN (LXI Class C)
Backwards compatibility with 11713A	Yes	Yes

1. The amount of switches and attenuators that can be driven will depend on the type of switch configurations and the attenuator sections.
2. Accepts most attenuators and switches available today.

## 11713B/C System Specifications

Specifications describe warranted performance over the temperature range 0 to +55 °C after one hour of continuous operation, unless otherwise noted.

Drive Power Supply	11713B/C
Voltage	+ 24 ±5% +5 ±5% (11713C only) +15 ±8% (11713C only)
Current	1.7 A maximum continuous current Contact pairs 1 through 8, 9, and 0, maximum current of 0.7 A per contact

## 11713B/C Remote Programming

Interface	GPIB interface operates to IEEE 488.2 and IEC65 10/100BaseT LAN interface USB 2.0 interface
Command Language	SCPI standard interface commands, 11713A backward compatible
GPIB compatibility	SH0, AH1, T0, TE0, L2, LE0, SR0, RL1, PPO, DCO, DTO, CO

## 11713B/C Supplemental Specifications and Characteristics

Supplemental characteristics are intended to provide useful information. They are typical but non-warranted performance parameters

Line Power	85 to 264 Vac, automatic selection, 47 to 63 Hz 100 VA maximum
Response Time	100 µs maximum for contact pairs 1 through 8 20 ms maximum for contact pairs 9 and 0
Driver Life	> 2,000,000 switchings at 0.7 A for contact pairs 9 and 0
Maximum Load Inductance	500 mH
Maximum Load Capacitance	< 0.01 µF for contact pairs 9 and 0

## Physical Specifications

Net Weight	3.2 kg (7.1 lbs)
Dimensions (H x W x D) with handle and rubber bumper	130 mm x 250 mm x 462 mm (5.1 inches x 9.8 inches x 18.2 inches)
Dimensions (H x W x D) without handle and rubber bumper	88 mm x 212 mm x 346 mm (3.5 inches x 8.5 inches x 13.7 inches)

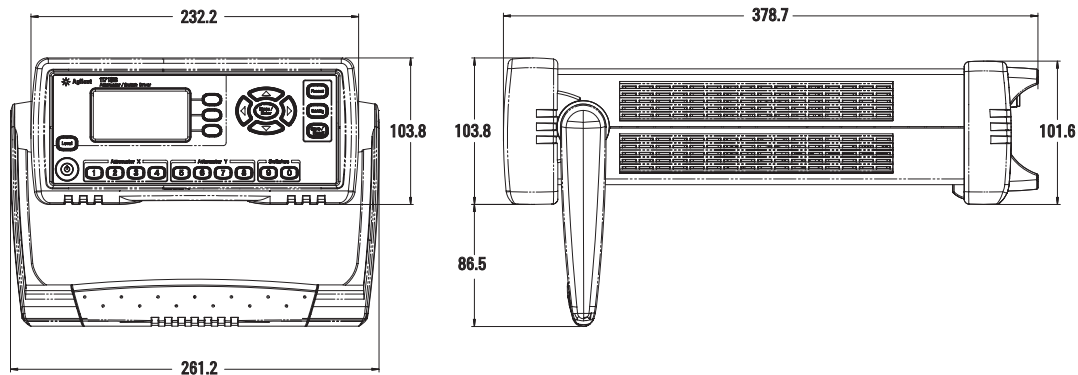


Figure 2. 11713B product outline.

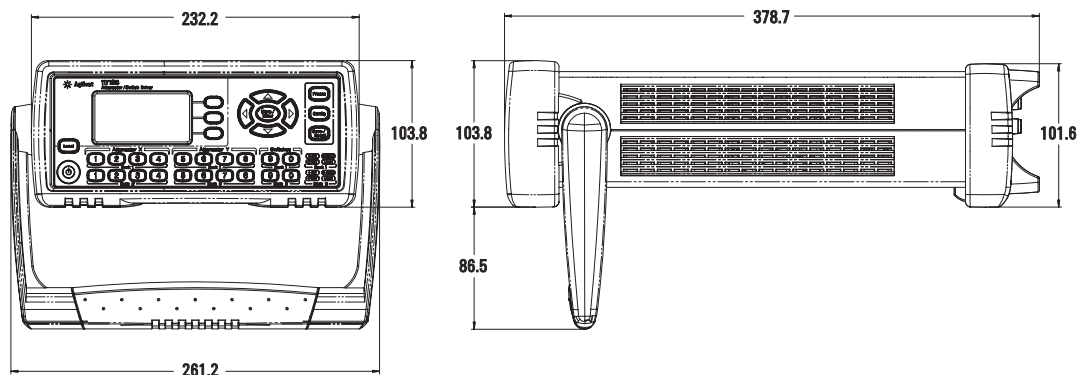


Figure 3. 1171C product outline.

## Environmental Specifications

Agilent 11713B/C attenuator/switch drivers are designed to fully comply with Agilent Technologies' product operating environmental specifications shown in table below.

Temperature	
Operating	0 °C to +50 °C
Storage	-40 °C to +70 °C
Humidity	
Operating	95% RH at 40 °C, 5 days cyclic
Storage	90% RH at 65 °C, 24 hours
Condensing	95% RH at 40 °C, 5 hours (condensation 15 minutes)
Shock	
End-user handling	Half-sine: 2 to 3 ms duration, 60 in/s (1.6 ms) delta-V
Bench Handling	Half-sine: 11 ms duration, 30 grms
Functional	Trapezoidal: 18-22 ms duration, 337 in/s (8.56 ms) delta-V
Transportation	Per MIL-PRF-28800F
Vibration	
Operating	Random: 0.21G rms, 5 to 500 Hz, 10 min/axis
Survival	Random: 2.09G rms, 5 to 500 Hz, 10 min/axis Swept-sine: 0.5 G rms, 5 to 500 Hz, 10 min/axis
Altitude	
Operating	< 2,000 meters (6,600 feet)
Non-operating	< 15,300 meters (50,000 feet)

## Ordering Information

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### 11713B

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#### Connectivity options

Option STD	Standard configuration, full compatibility to 11713A
Option LXI	LXI class-C configuration, additional USB/LAN connectivity

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#### Cable options

Option 001	Viking connector to 10-pin DIP connector
Option 101	Viking connector to viking connector
Option 201	Viking connector to 12-pin conductor cable, bare wire
Option 301	Viking connector to (4) ribbon cables
Option 401	Dual-viking connector to 16-pin DIP connector
Option 501	Viking connector to (4) 9-pin Dsub connectors
Option 601	Viking connector to 16-pin DIP connector
Option 701	Viking connector to 14-pin DIP connector
Option 801	Viking connector to (4) 4-pin DIP connectors

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#### Rack mount kit options (optional)

Option 908	Rack mount kit for one instrument
Option 909	Rack mount kit for two instruments

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### 11713C

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## Related Literature

Agilent 11713B/C Attenuator/Switch Driver Configuration Guide, literature number: 5959-7277EN

Agilent 7061A and 87130A Switch Attenuator Drivers Configuration Guide, literature number: 5963-2038E

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 **LXI**

[www.lxistandard.org](http://www.lxistandard.org)  
LXI is the LAN-based successor to GPIB, providing faster, more efficient connectivity. Agilent is a founding member of the LXI consortium.

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