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# Racal Instruments™

# 1461-14

## 14-Slot PXI Mainframe

The Racal Instruments™ 1461-14 is a 3U PXI Chassis, ideal for power-hungry, functional test, data acquisition, and control applications using standard PXI, CompactPCI (cPCI), and mezzanine plug-in cards. The 1461-14's compact benchtop or rack mount form factor optimizes system density and performance for speed-critical, space-limited applications.

### Key Features

- Exceptional forced-air cooling for high speed and RF applications
- Single bridge card design for optimal backplane throughput
- Accepts 3U PXI, 3U CompactPCI and 111.7 mm modules
- 526 W of power available to 14 slots
- Built-in power supply and fan monitoring
- Benchtop unit; available rack and receiver mounting

## Product Information

### Cost Effective System

With the insertion of a controller, signal sources and acquisition switching cards, a typical 8-slot chassis can quickly run out of space. The 1461-14 solves this problem with its 14-slot capacity. The 1461-14 is the cost-effective alternative to multiple 8-slot chassis and more expensive 16-slot chassis.

### Exceptional Cooling

The 1461-14 provides exceptional, uniform cooling that helps protect high-power modules from heat damage. You have the convenience and flexibility of three cooling options.

First, the chassis can automatically select high or low fan speed based on temperature.

Second, the user manually switches to high or low fan speed.

Third, the automatic fan speed control varies fan speed based on temperature.

The chassis' dual, 112 CFM, high-pressure impellers pull in air from the rear of the chassis and pressurize the chamber below the modules. This distributes air uniformly across the modules, and releases the air through the top and sides of the chassis.

### PXI+cPCI+Mezzanines

To expand system functionality, granularity, and improve cost-effectiveness, mezzanine card carriers can be used with the chassis. The 1461-14 allows the mounting of 111.7 mm height (Standard Eurocard) dual M-Module carriers using special low-profile card guide adapters. These adapters allow a system to be configured with up to 26 separate M- or IP-mezzanine modules with functions like isolated, analog, and digital I/O, counters, digitizers, and signal generators.

### Mechanical Options

Rack mounting runners or ears only are available for the 1461-14. In rack mount applications, the 1461-14 accommodates receiver mechanisms. For portable applications, the chassis has a flexible side handle and integral rear panel handles. For bench top applications, the chassis may sit flat or at an angle.

## Specifications

Note: The EADS North America Test and Services policy is one of continuous development and improvement. Consequently, the equipment may vary in detail from the description and specifications in this publication.

### Electrical Performance

#### Power Supply Input

- 90 to 250 VAC, 47 to 63 Hz
- 120 VAC, 47 to 440 Hz

#### Max Input Power

- 575 VA

#### Inrush Current

- Limited to 35 A

#### Power Factor

- 0.99 typ

### Interface

#### DC Current

I (A)	+3.3 V	+5 V	+12 V	-12 V
	40 A	50 A	8 A	4 A

#### DC Power

- Total Available Power: 526 W

#### Periodic and Random Deviations (PARD)

- +3.3/5 V rails: 50 mV<sub>pk-pk</sub>
- +12 V rails: 120 mV<sub>pk-pk</sub>

### Power Supply Protection

- Over Voltage
- Over Temperature
- Over Current
- Over Power
- Reverse Voltage
- Short Circuit

### System Monitoring

- Power Indicator LED
- Rear Panel voltage and fans speed monitoring via 9-pin D-sub
- Fan Speed Control: High, Low, and Automatic speed optimized for low audible noise based on outlet air temperature
- Temperature Monitoring: Two outlet air sensors

### Environmental

#### Temperature

- Operating: 0° C to +50° C
- Non-operating: -40° C to +71° C

#### EMC

- FCC 47 CFR Part 15 Class A
- EN 61326:1997+A1:1998, Class A

#### Safety

- EN61010-1:1993+A2:1995

### Mechanical

#### Mainframe Size

- PXI/cPCI Bus, 14 each 3U slots
- 3 expansion slots (left of slot 1)

### Plug-In Module Compatibility

- Standard: 3U PXI and cPCI 111.7 mm: For dual M-Module carriers (requires removal of standard card guides and replacement with low profile card guides)

### Chassis Weight

- 33 lbs (14.97 kg)

### Dimensions

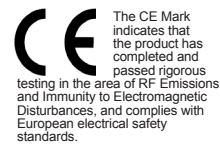
- 6.96" H X 15.06" W X 16.75" D

### Cooling

- Fans: Dual 112 cfm, impeller
- Filters: Dual, rear-accessible, washable, 30 PPI

### Standby Switch

- Recessed standby switch on front prevents accidental power cycling



## Ordering Information

### 407865-014 : Racal Instruments™ 1461-14 (Obsolete)

14-Slot PXI/CompactPCI/111.7 mm Mainframe

#### Options and Accessories:

- 407865-904 : Option 04; Rack-Mount Ears Only
- 407865-925 : Shielded Filler Panel with EMI gasket, 3U
- 407865-926 : Filler Panel, 3U
- 407865-927 : Automatic Custom Fan and Voltage Monitoring
- 407865-928 : Extendable Rackmount Ears
- 407865-929 : ASFP (Application Specific Front Panel)
- 407865-940 : ½-Slot EMI Filler Panel
- 407865-941 : ½-Slot Filler Panel
- 921394 : Chassis Rails (pair)



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