

R&K A3000-2H-R  
RF POWER AMPLIFIER (RACK)  
OPERATION MANUAL

26 NOV 2005

R&K Company Limited



CHECK	DRAW
	

Table of Contents

No.	Item	Page
1	Safety Notes	3
2	General Descriptions	4~5
3	Instructions	6~7
4	Performance Specifications	8
5	Outline Drawing	—

Figures

No.	Item	Page
3-1	Guide to Front Panel	6
3-2	Guide to Rear Panel	7

Lists

No.	Item	Page
2-1	List of Accessories	4
2-2	Specifications of Power Supply	4
4-1	Performance Specifications	8

## 1. Safety Notes

To ensure that you use this product correctly, read these Safety Notes and operation manual carefully beforehand.

The warnings given here provide important safety information and should be observed at all times.

R&K Company Limited accepts no liability whatsoever for any damages or loss incurred as a result of wrong or unsuitable operation of this product.

### ■ Warnings

To prevent fire, burn, personal injury, electric shock hazard, the following cautions should be observed.

- Use the supplied power cable. Should any other power cable is used, be careful of the power supply voltage of the cable. Do not allow the power cable to become damaged. Do not place heavy objects on the power cable.
- Be sure to turn off the power supply switch when plugging the power cable plug in a wall outlet.
- Be sure to turn off the power supply switch and grasp the power cable plug when unplugging it from a wall outlet. Pull the power cable out by the plug, never pull it by the cable. Never touch the power cable plug while your hands are wet.
- Make sure that supply power voltage is rated to the product beforehand.
- Plug power cable in a wall outlet with protective earth terminal. Using extension cord without protective earth terminal voids protective grounding.
- Use only the fuse suitable for the product.
- Do not use the product with its cover open.
- Observe the specified environmental conditions.
- Do not place any objects on the product.  
Keep liquid containers away from the product (such as flower vase or liquid medicine).

## 2. General Description

This chapter consists of the following sections:

- Accessories
- Operating Conditions
- Cleaning, Storage, and Transportation Method

### ■ Accessories

The product includes accessories listed below.

Every effort has been made to ensure that the product is complete. If any items are missing from the package, contact R&K Sales Dept. or our representatives from which you purchased the product.

List 2-1 List of Accessories

Name	Quantity	Remark
Power Supply Cable (AC)	1	
Fuse	1	2A/ One spare included
Adaptor (2PIN/3PIN)	1	
Test Report	1	English
Operation Manual	1	English

### ■ Operating Conditions

Environmental conditions and power supply conditions required for the operation of the product is as follows:

#### ● Environmental Conditions

The product should be used in the following environmental conditions:

- Ambient Temperature  $-10^{\circ}\text{C}\sim+45^{\circ}\text{C}$  (Operating temperature range)
- Relative Humidity  $15\sim85\%$  @  $+25^{\circ}\text{C}$  (No dew condensation)
- Places to Avoid: Do not use or store the product in the following type of locations:
  - Corrosive gas field
  - Places exposed to direct sunlight.
  - Dirty or dusty places
  - Places subject to strong vibration
  - Places subject to strong noise

The product is designed considering noise of AC power supply line, but using in the environments where noise is as low as possible is highly recommended.

If noise is unavoidable, use Noise Elimination Filter.

#### ● Power Supply Conditions

Specifications of Power Supply are as follows:

List 2-2 Specifications of Power Supply

Input Voltage Range	AC120V/1 $\phi$
Frequency	50/60Hz

※Precaution Never use a voltage or frequency that are different from those for which the product is rated.

#### ● Fuse

※Precaution 1 When fuse is melted, abnormality of the product is suspected. Contact factory for repair.

※Precaution 2 To avoid fire, use the rated fuse specified herein.

Fuse is located in fuse holder on the rear panel.

When confirming or replacing fuse, use the following procedure.

1. Turn off POWER supply switch on the front panel.
2. Unplug power cable from AC power outlet.
3. Turn fuse holder on the rear panel and remove it.
4. Confirm or replace fuse and put it back.

**●Power Cable**

- ※Precaution 1 Use power cable applicable to the rated power supply voltage. When using the product overseas, use power cable applicable to the safety standard of each country.
- ※Precaution 2 Plug power cable in a wall outlet with protective earth terminal. Using extension cord without protective earth terminal voids protective grounding.
- ※Precaution 3 Be sure to turn off POWER supply switch when connecting power cable.

**■Cleaning, Storage, and Transportation Method****●Cleaning**

Use a soft cloth properly to clean the product.

You may use a soft cloth (soaked in diluted mild detergent) to clean the product.

- ※Precaution 1 Do not allow the water fall into the product.
- ※Precaution 2 Do not use any other chemicals (benzene, toluene, xylene, acetone, etc.).
- ※Precaution 3 Do not use cleanser.

**●Storage**

Store the product at temperature range of  $-15^{\circ}\text{C}\sim+65^{\circ}\text{C}$ .

When not using the product for a long time (over 90 days), store the product with drying agents in humidity-proof bag. Do not store the product in dusty places or in locations exposed to direct sunlight.

**●Transportation**

Please note the following when packing the product for transportation.

1. Prepare a corrugated carton, internal dimensions of which are larger than external dimensions of the product by 15cm (min).
2. Wrap the product by using bubble wrapping.
3. Put cushioning materials inside of a corrugated carton and ensure that the product is protected from mechanical stresses of any direction.
4. Seal the carton by packing tape or industrial stapler.

### 3. Instructions

This paragraph consists of the following sections:

- Guide to Front Panel
- Guide to Rear Panel

#### ■ Front Panel

Below is the explanation of the front panel.

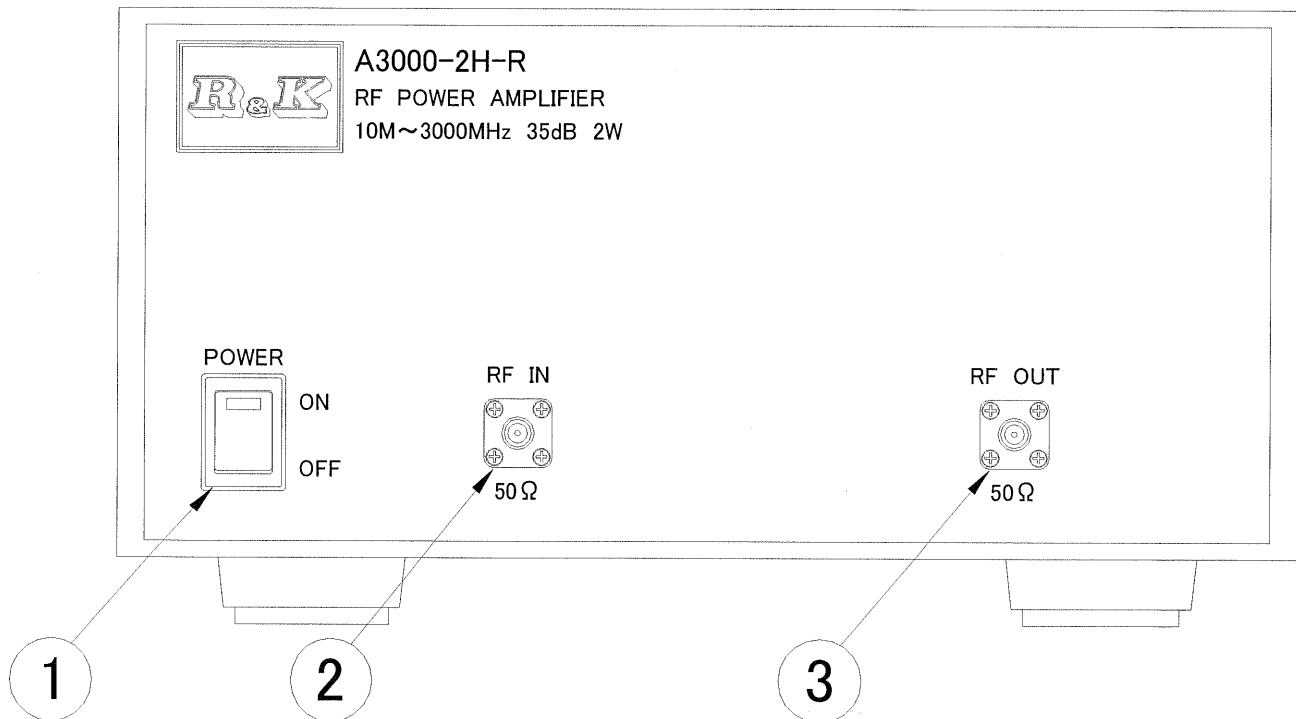


Figure 3-1 Guide to Front Panel

① Power Supply Switch

This switch is to turn on and off power supply.

For protection of the unit, this switch is automatically turned off when excessive current or temperature abnormality is detected.

When temperature protection circuit activates and power supply switch is turned off, leave the unit for about 30 minutes, and then turn on the power supply switch again to recover.

⑧ RF IN Connector

This connector is to input RF signal

※Precaution: The product is designed to output rated 2W with about 0dBm input. Do not input higher than 0dBm. Never apply DC voltage.

⑨ RF OUT Connector

This connector is to output RF signal

※Precaution: Impedance is 50Ω. Do not apply any load other than 50Ω. Doing so can create degradation in output power or abnormal oscillation.

## ■Rear Panel

Below is the explanation of the rear panel.

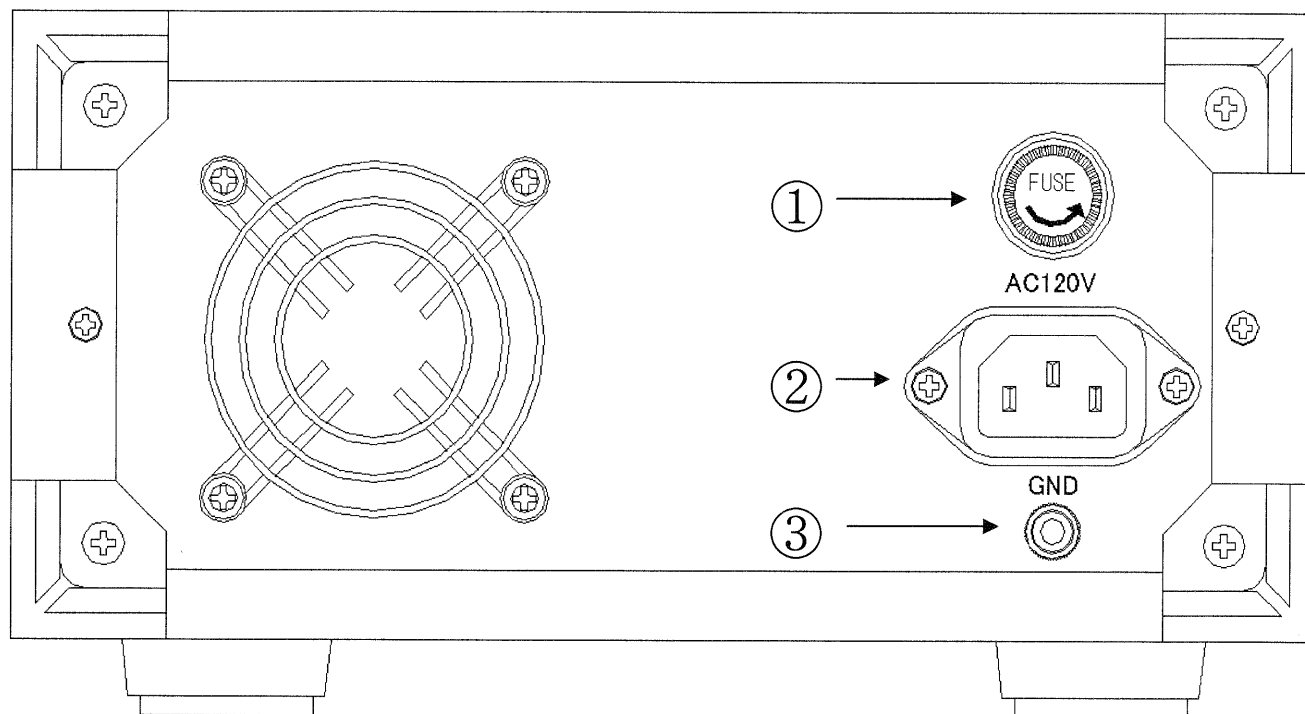


Figure 3-2 Guide to Rear Panel

- |                             |   |
|-----------------------------|---|
| ① FUSE Holder               | This holder stores fuse that protects the product from over current.                        |
| ② AC Power Supply Connector | This connector is to provide AC power voltage to the product by using supplied power cable. |
| ③ GND Terminal              | This is earth terminal.   |

## 4. Performance Specifications

Figure 4-1 Performance Specifications

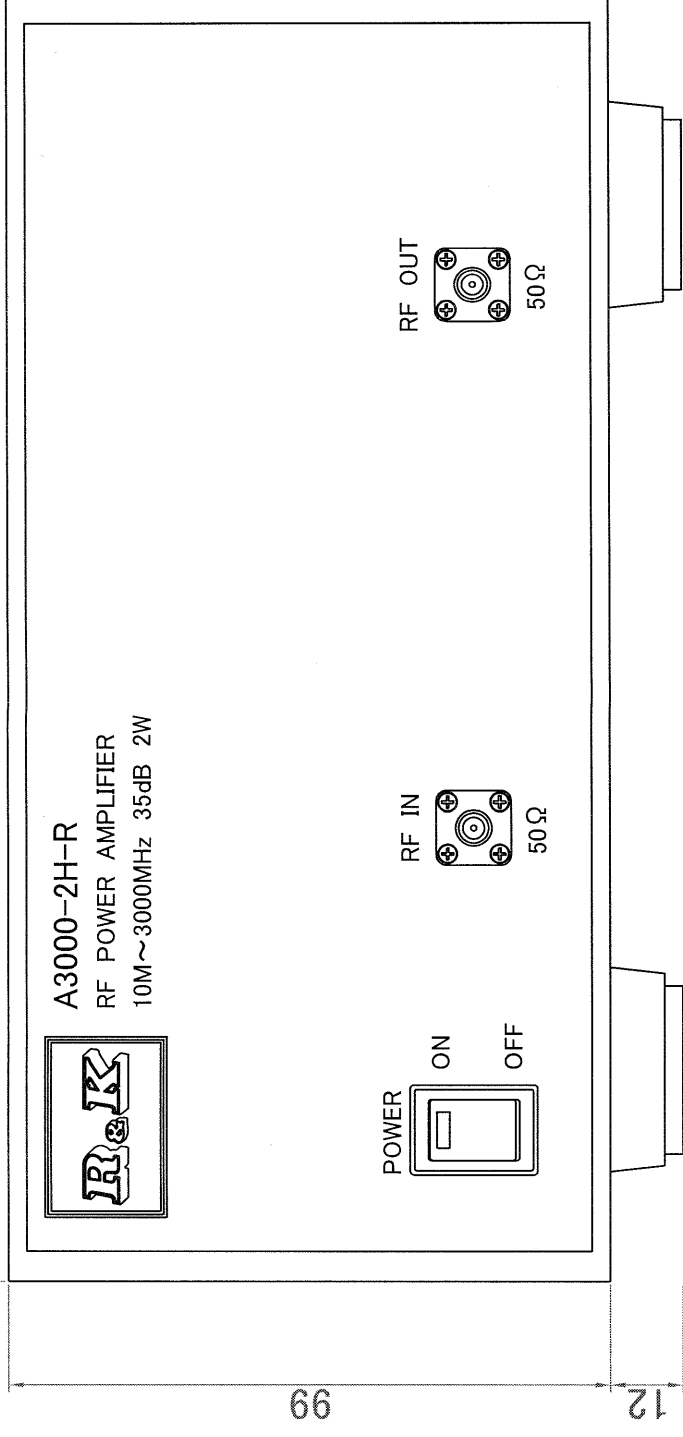
Frequency Range	10MHz~3000MHz
Input/Output Impedance	50Ω Nominal
-1dB Compression Output Level	2W(min)@P-1dB
In-band Gain	+35.0dB (min)
In-band Deviation	±2.0dB (max)
Operation Mode	Class A
Harmonics	-30dBc(max)@Po=1W
Spurious	-65dBc(max)@Po=2W
VSWR	
RF IN	2.0 (typ)
RF OUT	3.0 (typ)
Noise Figure	12dB (typ)
2 tone 3 <sup>rd</sup> order ICP <sub>3</sub>	+46dBm (typ)
RF Connector	
RF IN	SMA-Female
RF OUT	SMA-Female
Temperature	
Operation Temperature	-10°C~+45°C
Storage Temperature	-15°C~+65°C
Humidity	15~85% @+25°C (No dew condensation)
AC Power Supply Input	
Input Voltage Range	AC120V ±10%/1φ
Frequency	50/60Hz
Consumption Current	1.7A (max)
Cooling Method	Forced Air cooling
Weight	5.0kg (max)
Dimensions	213(W)×300(D)×99(H)mm (not including handles, connectors)
Protection Circuit	Temperature Protection Circuit



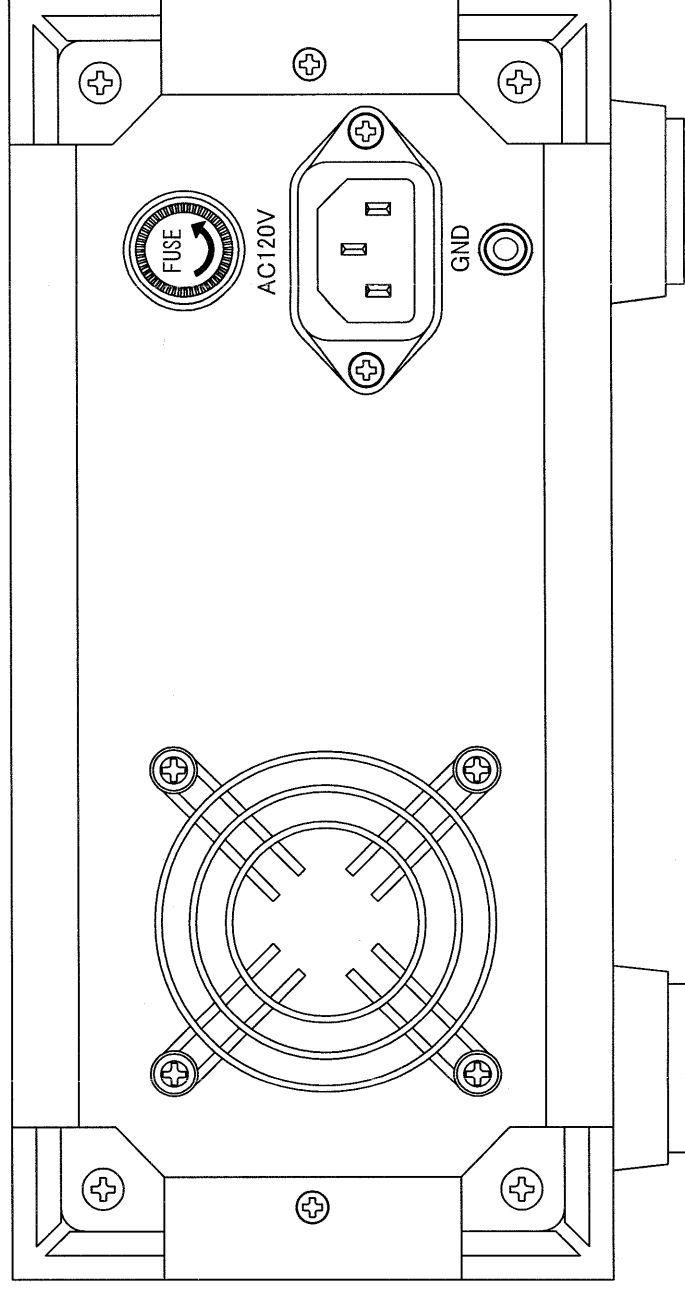
Z13

a b c d e

FRONT



REAR



標準品増幅器

A3000-2H-R

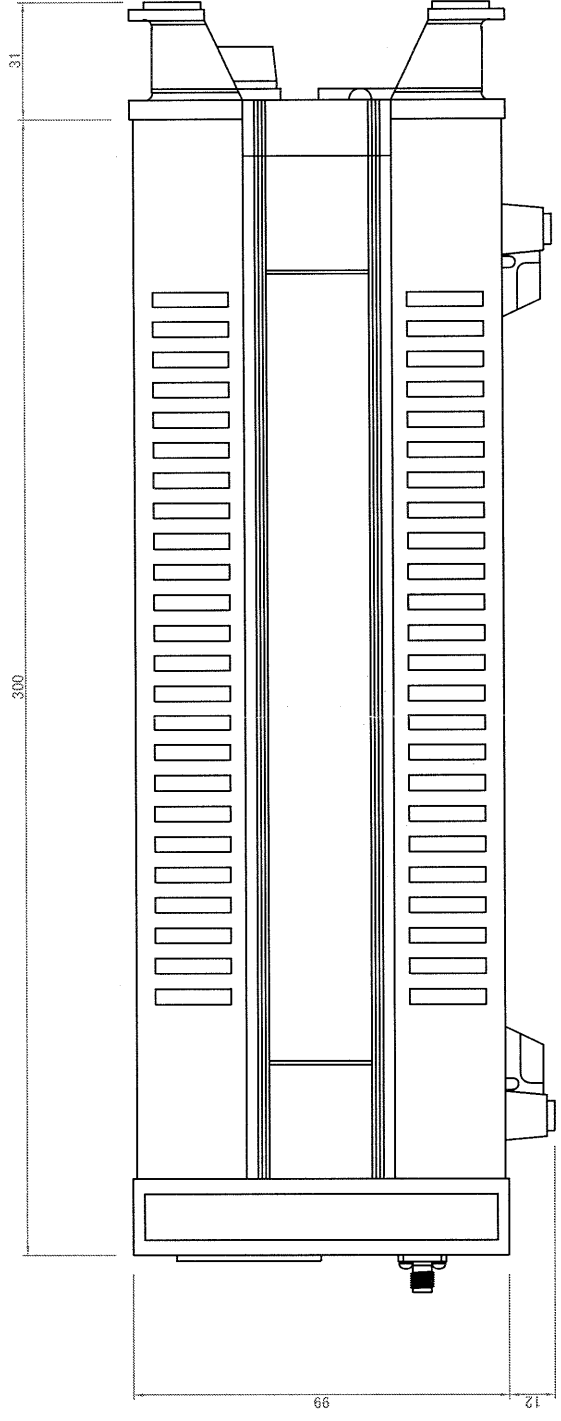
FRONT & REAR

VIEW

1012C650

株式会社 アルアンドケー		作成年月日 DRAWN	設計 DESIGNED	作成 DRAWN
縮尺 SCALE	単位 UNIT	2003年12月5日		日
三角法	4 / 5 inch	検査 CHECKED	渡辺	高
承認 APPROVED		設計 DESIGNED	日	秋
		検査 CHECKED	渡辺	山

012



A3000-2H-R(メーター付)

RACK TYPE

SIDE

VIEW

1012C540

株式会社 アールアンドケー		作成年月日 DRAWN	作成 DRAWN
縮尺 SCALE	単位 UNIT	2004年2月9日	設計 DESIGNED
1/1	mm inch		日高
三角法 APPROVED	検査 CHECKED		秋山