

---

**User's  
Manual**

**VC3300  
Wireless Communication Tester  
Please Read before Use**

---

---

Thank you for purchasing the VC3300 Wireless Communication Tester.  
This user's manual contains useful information about the instrument's functions and operating procedures and lists the handling precautions of the VC3300. To ensure correct use, please read this manual thoroughly before beginning operation. Keep this manual in a safe place for quick reference in the event a question arises.

## Revisions

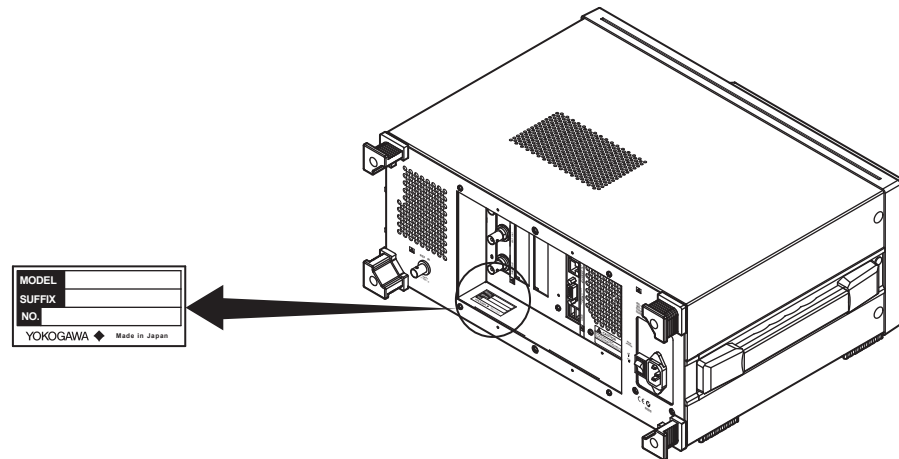
1st Edition: August 2007

# Checking the Contents of the Package

Unpack the box and check the contents before operating the instrument. If some of the contents are not correct or missing or if there is physical damage, contact the dealer from which you purchased them.

## VC3300

Check that the model name and suffix code given on the name plate on the rear panel match those on your order.



### MODEL and SUFFIX Codes

Model/Specification Item	Suffix Code	Description
733020		VC3300 Wireless Communication Tester
Power cord	-D	UL/CSA Standards Power Cord (Part No.: A1006WD) Maximum Rated Voltage: 125 V, Maximum Rated Current: 7 A
	-F	VDE Standards Power Cord (Part No.: A1009WD) Maximum Rated Voltage: 250 V, Maximum Rated Current: 10 A
	-Q	BS Standards Power Cord (Part No.: A1054WD) Maximum Rated Voltage: 250 V, Maximum Rated Current: 10 A
	-R	AS Standards Power Cord (Part No.: A1024WD) Maximum Rated Voltage: 250 V, Maximum Rated Current: 10 A
	-H	GB Standards Power Cord (Part No.: A1064WD) Maximum Rated Voltage: 250 V, Maximum Rated Current: 10 A
Options	/G	GSM Test Software Preinstalled
	/W	WCDMA Test Software Preinstalled
	/E	GSM/GPRS/EDGE Test Software Preinstalled
	/HD1	WCDMA/HSDPA Test Software Preinstalled
	/C1	GP-IB Interface

### NO. (Instrument Number)

When contacting the dealer from which you purchased the instrument, please give them this number.

**Options**

These test softwares can be added to the VC3300 afterwards.

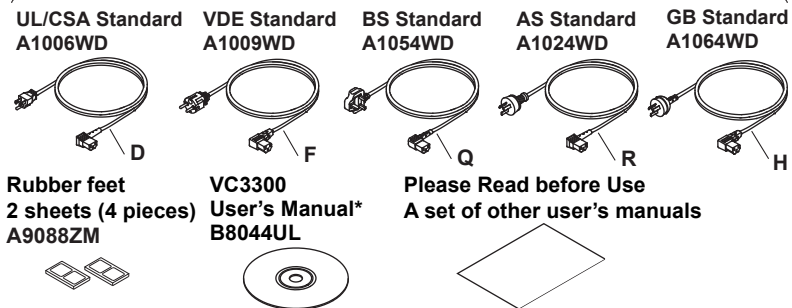
Model	Description	Standard Accessories
733021	GSM Test Software	2 CD-ROMs (part number: B8044UM, B8044UL)*
733022	WCDMA Test Software	2 CD-ROMs (part number: B8044UN, B8044UL)*
733023	GSM/GPRS/EDGE Test Software	2 CD-ROMs (part number: B8044UP, B8044UL)*
733025	WCDMA/HSDPA Test Software	2 CD-ROMs (part number: B8044UR, B8044UL)*
733026	HSDPA Test Software	2 CD-ROMs (part number: B8044US, B8044UL)*

\* Includes a CD-ROM used to add the test software to the VC3300 and a CD-ROM containing electronic data (PDF file) of the user's manual.

**Standard Accessories**

The standard accessories below are supplied with the instrument.

**Power Cord (one of the following power cords is supplied according to the instrument's suffix codes)**

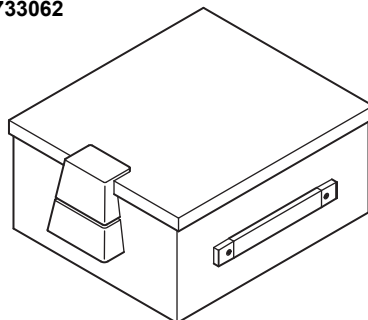


\* Contains electronic data (PDF data) of the following user's manuals.  
 VC3300 Wireless Communication Tester User's Manual  
 VC3300 GSM/GPRS/EDGE Test Software User's Manual  
 VC3300 WCDMA/HSDPA Test Software User's Manual  
 The functions of each test software can be used when the software set is preinstalled (models with the /G, /W, /E, or /HD1 option) or when the Model733021/Model733022/Model 733023/Model733025/Model733026 is purchased separately.

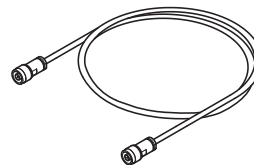
**Optional Accessories (Sold Separately)**

The optional accessories below are available for purchase separately.

**VC-SHIELD shield box**  
733062



**RF cable (type N) 1 m**  
739821



**Test USIM\***  
733065-E02



\* The test USIM is required when measuring in manual mode (signaling) or scenario mode (signaling).

# Safety Precautions

This instrument is an IEC safety class I instrument (provided with a terminal for protective earth grounding).

The general safety precautions described in this manual must be observed during all phases of operation. If the instrument is used in a manner not specified in these manuals, the protection provided by the instrument may be impaired. Yokogawa Electric Corporation assumes no liability for the customer's failure to comply with these requirements.

## The following symbols are used on this instrument.



Warning: handle with care. Refer to the user's manual or service manual. This symbol appears on dangerous locations on the instrument which require special instructions for proper handling or use. The same symbol appears in the corresponding place in the manual to identify those instructions.)



Alternating current



ON (power)



OFF (power)



(Standby)

## Waste Electrical and Electronic Equipment (WEEE), Directive 2002/96/EC

(This directive is only valid in the EU).

This product complies with the WEEE Directive (2002/96/EC) marking requirement.

The following marking indicates that you must not discard this electrical/electronic product in domestic household waste.

### Product Category

With reference to the equipment types in the WEEE directive Annex 1, this product is classified as a "Monitoring and Control instrumentation" product.

Do not dispose in domestic household waste. When disposing products in the EU, contact your local Yokogawa Europe B. V. office.



**Make sure to comply with the precautions below. Not complying might result in injury or death.**



---

**WARNING****Use the Correct Power Supply**

Before connecting the power cord, ensure that the source voltage matches the rated supply voltage of the instrument and that it is within the maximum rated voltage of the provided power cord.

**Use the Correct Power Cord and Plug**

To prevent the possibility of electric shock or fire, be sure to use the power cord supplied by YOKOGAWA. The main power plug must be plugged into an outlet with a protective earth terminal. Do not disable this protection by using an extension cord without protective earth grounding.

**Connect the Protective Grounding Terminal**

Be sure to connect the protective earth to prevent electric shock before turning ON the power. The power cord that comes with the instrument is a three-prong type power cord. Connect the power cord to a properly grounded three-prong outlet.

**Do Not Impair the Protective Grounding**

Never cut off the internal or external protective earth wire or disconnect the wiring of the protective earth terminal. Doing so poses a potential shock hazard.

**Do Not Operate with Defective Protective Grounding or Fuse**

Do not operate the instrument if the protective earth or fuse might be defective. Also, make sure to check them before operation.

**Do Not Operate in an Explosive Atmosphere**

Do not operate the instrument in the presence of flammable liquids or vapors. Operation in such an environment constitutes a safety hazard.

**Do Not Remove Covers**

The cover should be removed by YOKOGAWA's qualified personnel only. Opening the cover is dangerous, because some areas inside the instrument have high voltages.

**Ground the Instrument before Making External Connections**

Securely connect the protective grounding before connecting to the item under measurement or to an external control unit. If you are going to touch the circuit, make sure to turn OFF the circuit and check that no voltage is present.

---

**Be sure to comply with the precautions below. There are limitations to the operating environment.**

---

**CAUTION**

This product is a Class A (for industrial environment) product. Operation of this product in a residential area may cause radio interference in which case the user is required to correct the interference.

---

---

# Handling Precautions

## Read the Safety Precautions

### **Safety Precautions**

When using the VC3300 for the first time, make sure to read “Safety Precautions” on pages v and vi.

### **Do Not Remove the Case**

Do not remove the case from the instrument. Some sections inside the instrument have high voltages that are extremely dangerous. For internal inspection and adjustment, contact your nearest YOKOGAWA dealer.

### **Unplug If Abnormal Behavior Occurs**

Stop using the instrument if there are any symptoms of trouble such as strange odors or smoke coming from the instrument. If these symptoms occur, immediately turn OFF the power and unplug the power cord. If these symptoms occur, contact your nearest YOKOGAWA dealer.

### **If the Cooling Fan Stops**

If a message “Fan stopped” appears on the display, the cooling fan is stopped. Immediately turn OFF the power switch. If the same message appears when you turn ON the power switch again, it is probably a malfunction. Contact your nearest YOKOGAWA dealer.

### **Do Not Damage the Power Cord**

Nothing should be placed on top of the power cord. The power cord should also be kept away from any heat sources. When unplugging the power cord from the outlet, never pull by the cord itself. Always hold and pull by the plug. If the power cord is damaged, check the part number indicated on page iii and purchase a replacement.

## General Handling Precautions

### **Do Not Place Objects on Top of the Instrument**

Never place objects containing water on top of the instrument, otherwise a breakdown may occur.

### **Do Not Apply Shock or Vibration**

Do not apply shock or vibration. If you do, the VC3300 may malfunction. Exercise extra caution because the internal hard disk is sensitive to vibration and shock. In addition, applying shock to the input/output terminal or the connected cable can cause electrical noise to enter or output from the instrument.

### **Do Not Damage the LCD**

The LCD is very vulnerable to scratches. Be careful not to damage the surface with sharp objects. Also, do not apply vibration or shock to it.

### **Keep Electrically Charged Objects Away from the Instrument**

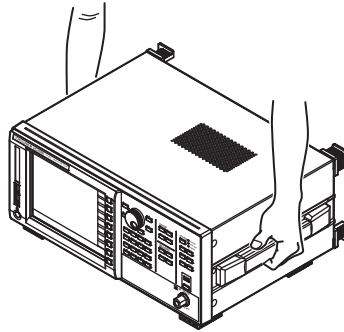
Keep electrically charged objects away from the input connectors. They may damage the internal circuitry.

### **Unplug during Extended Non-Use**

Turn OFF the power switch and remove the power cord from the outlet.

**Carry the Instrument Properly**

First, remove the power cord and connection cables. The instrument weighs approximately 10 kg. To carry the instrument, hold the handle with both hands as shown in the figure below, and move it with care.

**When Wiping off Dirt**

When wiping off dirt from the case or operation panel, turn OFF the power switch and remove the power cord from the outlet. Then, gently wipe with a soft dry clean cloth. Do not use chemicals such as benzine or thinner since these may cause discoloring and deformation.



# Installation

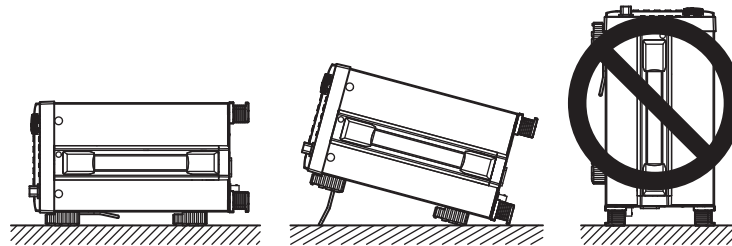
## Installation Position



### WARNING

To prevent fire, never use the instrument with the rear panel facing down. There are vent holes for the cooling fan on the rear panel. Placing the instrument with the rear panel down can cause a fire when the instrument malfunctions. If you must use the instrument with the rear panel down, place a metal plate or a flame-resistive barrier (grade UL94V-1 or higher) beneath the instrument.

- As shown in the figure below, place the instrument in a horizontal position or by using the stand.
- When using the stand, pull the stand forward until it locks (perpendicular to the bottom surface of the instrument). If you are not using the stand, return it to the original position while pressing the leg section of the stand inward.
- If you are installing the instrument on a slippery surface, attach the rubber feet (four pieces) to the feet on the bottom panel.

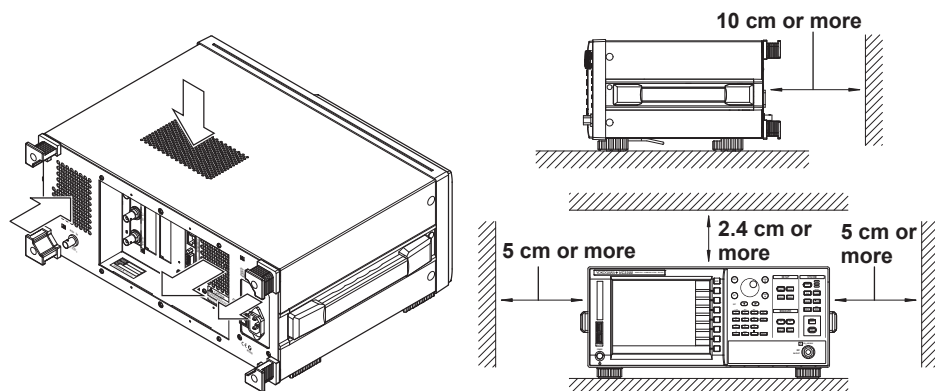


## Installation Conditions

Install the instrument in a place that meets the following conditions:

### Well-Ventilated Location

Inlet/Vent holes are located on the top and rear of the instrument. In addition, there are vent holes for the cooling fan on the rear panel. To prevent internal overheating, allow for enough space around the instrument (see the figure below) and do not block the inlet and vent holes.



### Ambient Temperature and Humidity

Use the instrument in the following environment:

- Ambient temperature: 5 to 40°C
  - Ambient humidity: 20 to 80%RH
- No condensation should be present.

### **Note**

- To generate/measure signals accurately, operate the instrument in the  $23 \pm 5^\circ\text{C}$  temperature range and  $55 \pm 20\%RH$ .
- Condensation may occur if the instrument is moved to another place where the ambient temperature is higher, or if the temperature changes rapidly. If this happens, let the VC3300 adjust to the new environment for at least one hour before using it.

### Do not install the instrument in the following places.

- In direct sunlight or near heat sources.
- Where an excessive amount of soot, steam, dust, or corrosive gas is present.
- Near strong magnetic field sources.
- Near high voltage equipment or power lines.
- Where the level of mechanical vibration is high.
- On an unstable surface.

### Storage Location

- We strongly recommend you store the VC3300 in an environment with a temperature between 5 and 40°C and a relative humidity between 20 to 80%RH.
- When storing the VC3300, avoid the following types of locations:
  - In direct sunlight.
  - Where the temperature is 60°C or higher.
  - A place with a relative humidity of 80% or more.
  - Near heat sources
  - Where the level of mechanical vibration is high.
  - Where corrosive or explosive gas is present.
  - Where an excessive amount of soot, dust, salt, and iron are present.
  - Where water, oil, or chemicals may splash.

---

## Recommended Replacement Parts

The one-year warranty applies only to the main unit of the instrument (starting from the day of delivery) and does not cover any other items or expendable items (items which wear out). The replacement period for expendable items varies depending on the conditions of use. Refer to the table below as a general guideline. Contact your nearest YOKOGAWA dealer to have parts replaced.

---

<b>Parts Name</b>	<b>Service Life</b>
LCD backlight	Approx. 25,000 hours

---

---

<b>Parts Name</b>	<b>Warranty Period</b>
Internal hard disk	1 year after purchase (However, the data saved on the internal hard disk is not covered.)

---

The parts below are expendable. It is recommended that the parts be replaced according to the period indicated below. Contact your nearest YOKOGAWA dealer to have parts replaced.

---

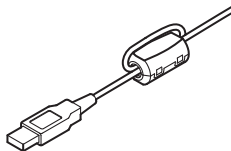
<b>Parts Name</b>	<b>Recommended Replacement Period</b>
Cooling fan	Approx. 40,000 hours
CPU fan	Approx. 30,000 hours

---

# General Specifications

Item	Specifications
Standard operating conditions	Ambient temperature: $23 \pm 5^{\circ}\text{C}$ Ambient humidity: $55 \pm 20\% \text{ RH}$ Supply voltage/frequency error: Within 1% of rating
Warm-up time	At least 30 minutes
Storage conditions	Temperature: $-20$ to $60^{\circ}\text{C}$ Humidity: 20 to 80%RH (no condensation)
Operating conditions	Temperature: 5 to $40^{\circ}\text{C}$ Humidity: 20 to 80%RH (no condensation)
Recommended calibration period	1 year
Storage altitude	3000 m or less
Operating altitude	2000 m or less
Rated supply voltage	100 to 120 VAC/200 to 240 VAC (automatic switching between 100-V/200-V systems)
Permitted supply voltage range	90 to 132 VAC/180 to 264 VAC
Rated power supply frequency	50/60 Hz
Allowable supply voltage frequency range	47 to 63 Hz
Maximum power consumption	250 VA or less
Withstanding voltage (between power supply and case)	1.5 kVAC, 10 mA or less for one minute
Insulation resistance (between power supply and case)	500 VDC, 10 M $\Omega$ or more
External dimensions	426 (W) $\times$ 177 (H) $\times$ 300 (D) [mm], excluding the handle and projections
Weight	Approx. 10 kg
Installation position	Horizontal (however, the stand can be used)
Standard accessories	<ul style="list-style-type: none"> <li>• Power cord 1 pc.</li> <li>• Rubber feet 1 set (4 pieces)</li> <li>• CD-ROM 1 piece, electronic data of the user's manual(B8044UL)</li> <li>• Please Read before Use 1 piece (IM733020-03E)</li> <li>• Other user's manuals 1 set</li> </ul>

## General Specifications

Item	Specifications	
Safety standards	Complying standard	EN61010-1 Overvoltage category II <sup>*1</sup> Pollution degree 2 <sup>*2</sup>
Emission	Complying standard	EN61326 Class A, C-Tick AS/NZS CISPR 11 • EN61000-3-2 • EN61000-3-3 This product is a Class A (for industrial environment) product. Operation of this product in a residential area may cause radio interference in which case the user is required to correct the interference.
	Cable condition	<ul style="list-style-type: none"> <li>• <b>RF IN/OUT</b> Use coaxial cables of length 3 m or less.</li> <li>• <b>REF IN, TIMING OUT</b> Use coaxial cables of length 3 m or less.</li> <li>• <b>SERIAL (RS232)</b> Use a shielded cable. Use cables of length 3 m or less. Attach a ferrite core (TDK: ZCAT1325-0530A, YOKOGAWA part number: A1181MN) on the VC3300 end.</li> <li>• <b>VIDEO OUT (XGA)</b> Use a shielded cable. Use cables of length 3 m or less.</li> <li>• <b>USB</b> Use a shielded cable. Use cables of length 3 m or less. Attach a ferrite core (TDK: ZCAT2035-0930A, YOKOGAWA part number: A1190MN) on the VC3300 end. However, when connecting a cable to the USB connector on the rear panel, pass the cable through the ferrite core twice as shown in the figure below.</li> </ul>  <ul style="list-style-type: none"> <li>• <b>ETHERNET (10BASE-T/100BASE-TX)</b> Use cables of length 30 m or less. Attach a ferrite core (TDK: ZCAT2035-0930A, YOKOGAWA part number: A1190MN) on the VC3300 end.</li> </ul>
Immunity	Complying standard	EN61326 industrial environment
	Cable condition	Same as the cable condition for emission. However, use a shielded cable for the Ethernet connection.

\*1 Overvoltage Categories define transient overvoltage levels, including impulse withstand voltage levels. II applies to electrical equipment that is powered by a fixed installation such as a distribution board.

\*2 Pollution Degree applies to the degree of adhesion of a solid, liquid, or gas which deteriorates withstand voltage or surface resistivity. Pollution Degree 2 applies to normal indoor atmospheres (with only non-conductive pollution).

---

# Using the CD-ROM

## Contents

The CD-ROM contains the following electronic manuals in PDF format.

---

**English**

IM733020-01E	VC3300 Wireless Communication Tester User's Manual
IM733021-01E	VC3300 Wireless Communication Tester GSM/GPRS/EDGE Test Software User's Manual
IM733022-01E	VC3300 Wireless Communication Tester WCDMA/HSDPA Test Software User's Manual

---

Adobe Acrobat Reader version 3.0 or later is required to open .pdf files. Acrobat Reader can be downloaded from the following URL.

<http://www.adobe.com/products/acrobat/readstep.html>

## Notes

- The contents of the CD-ROM are subject to change without prior notice as a result of improvements in instrument's performance and functions.
- Every effort has been made in the preparation of the CD-ROM to ensure the accuracy of its contents.  
However, should you have any questions or find any errors, please contact your nearest YOKOGAWA representative.
- Copying or reproduction of all or any part of the contents of the CD-ROM without YOKOGAWA's permission is strictly prohibited.