



# **CLEAR-COM ENCORE**

**RCU-67 REMOTE CONTROL UNIT**

**I N S T R U C T I O N M A N U A L**

RCU-67 Remote Control Unit Instruction Manual  
© 2007 Vitec Group Communications Ltd. All rights reserved.

Part Number 810498Z Rev. 1

Vitec Group Communications, LLC.  
850 Marina Village Parkway  
Alameda, CA 94501  
U.S.A

Vitec Group Communications  
7400 Beach Drive  
Cambridge Research Park  
Cambridgeshire  
United Kingdom  
CB25 9TP

Vitec Group Communications  
Room 1806, Hua Bin Building  
No. 8 Yong An Dong Li  
Jian Guo Men Wai Ave  
Chao Yang District  
Beijing, P.R. China 100022

® Clear-Com, CellCom/FreeSpeak and the Clear-Com Communication Systems logo are registered trademarks of The Vitec Group plc.

# CONTENTS

<b>OPERATION</b> . . . . .	<b>1-1</b>
Description . . . . .	1-1
Connecting the RCU-67 . . . . .	1-1
Starting Up . . . . .	1-2
Displaying the Current Preset . . . . .	1-2
Selecting a Preset . . . . .	1-2
Assigning Destinations to Sources . . . . .	1-2
Monitoring Destination Power . . . . .	1-3
Using a Second RCU-67 . . . . .	1-3
Using an RCU-67 and a PC . . . . .	1-4
<b>MAINTENANCE</b> . . . . .	<b>2-1</b>
Troubleshooting Tips. . . . .	2-1
<b>GLOSSARY</b> . . . . .	<b>3-1</b>
<b>SPECIFICATIONS.</b> . . . . .	<b>4-1</b>
RCU-67 Remote Control Unit . . . . .	4-1
<b>LIMITED WARRANTY</b> . . . . .	<b>5-1</b>
Warranty Period. . . . .	5-i
Technical Support . . . . .	5-i
Warranty Repairs and Returns . . . . .	5-ii
Non-Warranty Repairs and Returns. . . . .	5-ii
Extended Warranty . . . . .	5-ii
Service Contract . . . . .	5-iii
Liability. . . . .	5-iii

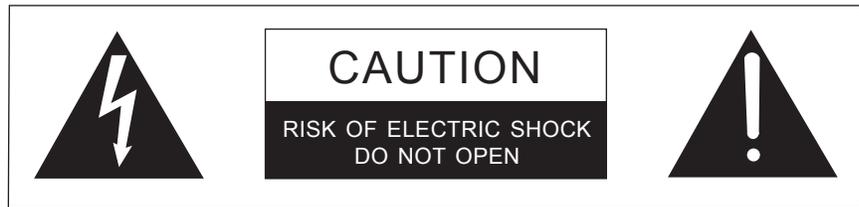


# IMPORTANT SAFETY INSTRUCTIONS

*Please read and follow these instructions before operating this product.*

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. **WARNING:** To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Please familiarize yourself with the safety symbols in Figure 1. When you see these symbols on this product, they warn you of the potential danger of electric shock if the station is used improperly. They also refer you to important operating and maintenance instructions in the manual.



This symbol alerts you to the presence of uninsulated dangerous voltage within the product's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the product's case.



This symbol informs you that important operating and maintenance instructions are included in the literature accompanying this product.

*Figure 1: Safety Symbols*

## EMC AND SAFETY

The RCU-67 Remote Control Unit meets all relevant CE and FCC specifications set out below:

EN55103-1 Electromagnetic compatibility. Product family standard for audio, video, audio-visual, and entertainment lighting control apparatus for professional use. Part 1: Emissions.

EN55103-2 Electromagnetic compatibility. Product family standard for audio, video, audio-visual, and entertainment lighting control apparatus for professional use. Part 2: Immunity.

And thereby compliance with the requirement of Electromagnetic Compatibility Directive 2004/108/EC and Low Voltage Directive 2006/95/EC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# OPERATION

## DESCRIPTION

With a handheld RCU-67 Remote Control Unit, you can quickly assign destinations to sources, create and apply presets, and monitor power to remote destinations. The RCU-67 connects to an RCS-2700 Source Assignment Panel with up to 300 feet (91 meters) of cable, allowing for flexible placement of the RCS-2700 unit away from the control room.

The RCU-67 is compact and easy to operate. You can use it by itself to program the RCS-2700 or as an accessory to the RCS-WIN software in a Windows-based PC. If you primarily use a PC to program assignments for the RCS-2700, the RCU-67 Remote Control Unit is ideal for making minor, occasional changes to the preset configurations.

## CONNECTING THE RCU-67

The RCU-67 Remote Control Unit connects to the RCS-2700 main unit through up to 300 feet (91 meters) of 8-wire modular RJ-45 type connector cable. This cable serves as both a data and power connection to the RCU-67. Category-5 cable is recommended.

- “Sources” are typically the channels from a main or master station.
- “Destinations” are remote stations, beltpacks, or other devices that are assigned to channels of the source station.

- You can program source/destination assignments from the RCU-67 Remote Control Unit or from a Windows-based PC.

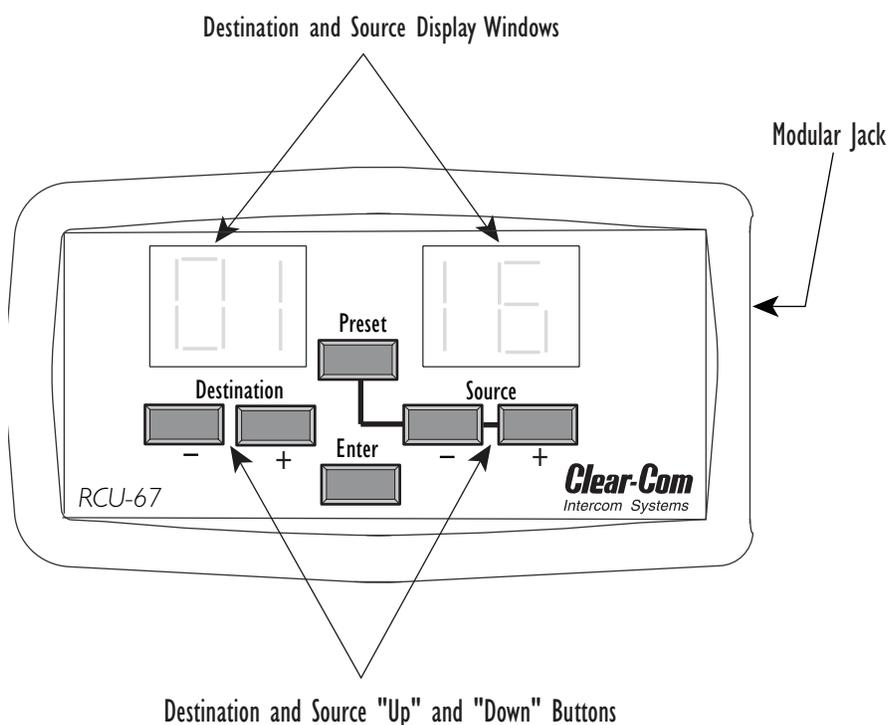


Figure 1-1: Front Panel of an RCU-67 Remote Control Unit

- “Presets” are pre-programmed sets of source-to-destination assignments that are stored in the RCS-2700’s memory.

- You can change the preset by using the front panel controls of the RCS-2700, with an RCU-67 Remote Control Unit, or with a Windows-based PC.

- You can change presets with the RCU-67 even if the preset button on the RCS-2700 is locked.

## STARTING UP

When the RCU-67 is first connected to the RCS-2700 main unit, it displays the current preset number for about three seconds. For example, if the RCS-2700 is set to preset 1, the RCU-67 will display “P 01.” After displaying the preset number, the destination number “01” appears in the destination window and the source currently associated with destination “01” appears in the source window.

When the RCS-2700 main unit is first powered with an RCU-67 connected, the RCU-67 will delay displaying the preset number until the RCS-2700 main unit has completed its start-up sequence. This takes about five seconds.

## DISPLAYING THE CURRENT PRESET

**To display the current preset:**

- Press the “preset” button on the front panel of the RCU-67.  
A “P” will appear in the *destination* window, and the number of the current preset will appear in the *source* window.

The display will show the preset number for about two seconds, and then will show a destination in the destination window and the source number currently assigned to that destination in the source window. See Figure 1-1 for an example.

## SELECTING A PRESET

You can select a new preset by using the controls on the RCU-67.

**To select a new preset with the RCU-67:**

1. Press the preset button.  
The current preset number appears in the display windows of the RCU-67: a “P” appears in the destination window and the number of the current preset appears in the source window.
2. Press either the source up (+) or source down (-) button to scroll forward or backward through the preset numbers until the desired number appears in the source window.
3. Press the enter button.
  - The preset will change and the new preset number will appear in the “preset/code” window on the RCS-2700 unit.
  - Note that if three seconds pass without any button presses, the change is cancelled.

## ASSIGNING DESTINATIONS TO SOURCES

With the RCU-67 you can quickly and easily assign destinations to sources within a chosen preset.

When you first connect an RCU-67, it displays the current preset. Destination and source assignments are always made within one of the 14 available presets. The current preset number is displayed in the “preset/code” window on the RCS-2700 unit.

- *With an RCU-67 Remote Control Unit you can create and change assignments up to 300 feet (91 meters) of cable away from the main RCS-2700 unit*

**To assign a destination to a new source:**

1. Choose the preset within which you want to make the changes.  
For instructions on changing presets, see the previous section entitled “Changing Presets.”
2. Press the destination up (+) or down (-) buttons to scroll through the destination numbers until the desired number appears in the destination window.
  - Holding the buttons down results in more rapid scrolling.
  - The sequence is always to select a destination first and then select the source you want to assign it to.
3. Press the source up (+) or down (-) buttons to scroll through the source numbers until the desired number appears in the source window.
4. Press the enter button.

The RCS-2700 will assign the selected destination to the selected source. Note that if three seconds pass without any button presses, the change is cancelled.

## MONITORING DESTINATION POWER

With an RCU-67, you can monitor whether remote destinations are receiving power. This feature is especially useful if the power to each destination is connected through individual fuses or circuit breakers.

**To monitor power with the RCU-67:**

- *Category-5 cable is recommended for connecting the RCU-67 to the main RCS-2700 unit.*

1. Press and release both of the source buttons (+ and -) simultaneously.
  - If all destinations are receiving power, the RCU-67 display will show “PF-.”
  - If only one destination has a power fault, the display will show “PF xx” where xx is the number of the destination with the fault.
  - If more than one destination has a power fault, only the lowest-numbered destination is displayed. As power is restored to that destination, the next lowest-numbered destination with a power fault is displayed, and so on.
  - To see all of the destinations with power faults at once, you need to use the optional RCS-WIN software on a PC connected to the RCS-2700 main unit.
2. Press any button on the RCU-67 to stop monitoring destination power.  
The display will show the current preset for three seconds, followed by the usual destination and source display.

The RCU-67 updates destination power status every two seconds. Destination power monitoring will stop if the RCU-67 is unplugged or loses power and will not begin again when power returns. To restore power monitoring, repeat step 1.

## USING A SECOND RCU-67

You can place one RCU-67 Remote Control Unit at a remote location up to 300 feet (91 meters) away from the RCS-2700 main unit if it is used frequently there, but have the option of temporarily using another RCU-67 at the RCS-2700 location as well. In this scenario, the remote RCU-67 should be plugged into the

jack on the back panel of the RCS-2700. It can then be used from as far away as 300 feet (91 meters) from the RCS-2700 unit.

**⚠ WARNING:** Do not connect an RCU-67 to the rear-panel jack on the RCS-2700 unit while a PC is also connected to the unit. Doing so will connect multiple serial ports on the rear panel which are not designed to be connected. One or both of the ports will not work.

- You can connect an RCU-67 to the front panel jack of an RCS-2700 unit while a PC is also connected.

If you need to program source/destination assignments from a location closer to the RCS-2700 unit, such as the control room, you can then connect an RCU-67 to the front-panel jack of the RCS-2700 and create, edit, or apply source/destinations assignments and presets from there.

While the front-panel RCU-67 is plugged in, the back-panel RCU-67 will be temporarily suspended. The display on the rear-panel RCU-67 will appear as normal, unless you attempt to press one of the buttons to make a programming change. Then the display will go blank and begin flashing dashes every ten seconds.

When the front-panel RCU-67 is unplugged, the back-panel RCU-67 will resume normal operation. The uninterrupted use of the front-panel RCU-67 always takes precedence over the use of the back-panel RCU-67.

## USING AN RCU-67 AND A PC

You can connect a Windows-based PC and an RCU-67 Remote Control Unit to the RCS-2700 unit at the same time. You can then alternate using one or the other. You cannot use the PC and the RCU-67 at the same time.

While the RCU-67 is plugged in, the operation of the RCS-WIN computer program is suspended. When the RCU-67 is unplugged, the RCS-WIN computer program will resume normal operation.

*Warning: In this scenario, the RCU-67 must be connected to the front-panel jack of the RCS-2700. Connecting an RCU-67 to the rear-panel jack will connect multiple serial ports (since the PC is also connected to the back panel) and one or both of the ports will not work.*

# 2

## MAINTENANCE

### TROUBLESHOOTING TIPS

Listed below are some of the more common problems you may experience in using the RCU-67, their possible causes, and suggested solutions.

<b>SYMPTOM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
An RCU-67 connected to the front panel of the RCS-2700 does not display destinations or sources.	Problems with connections or power.	1. Check wiring connections to the RCS-2700 unit. 2. Check that RCS-2700 unit is powered.
An RCU-67 connected to the rear panel of the RCS-2700 blinks every 10 seconds but does not display destinations or sources.	An RCU-67 is also connected at the front panel. The operation of the front-panel RCU-67 always takes precedence over the operation of the rear-panel RCU-67.	Disconnect the front-panel RCU-67.
LED displays are dim.	1. Low power to the RCU-67. 2. Excessive cable length or capacitance.	1. Check power and wiring. 2. Use shorter or different cable.



# 3

## GLOSSARY

**Channel:** A two-way talk path.

**Destination:** An intercom station, beltpack, or interface (or group of such devices connected together) which is assigned to a source channel of a central intercom station. Destination stations do not have their own power supply, and are typically powered by the central intercom station.

**ISO:** The ISO function allows a member on a party line to speak privately to another member on the party line.

**Main Station:** A multi-channel intercom station with an internal power supply which can provide power both to itself and to all of the remote stations connected to it.

**Master Station:** A multi-channel intercom station with an internal power supply which can provide power to itself but not to any of the remote stations connected to it.

**Null:** (noun) 1. Adjustment that controls the amount of sidetone heard by the user. 2. The degree of sidetone adjustment. (verb) To adjust the amount of sidetone heard by the user.

**Party Line:** Intercom channel on which each member can both listen and speak to every other member on the channel. Analogous to a telephone conference call with its two-way, full duplex communication.

**Preset:** A preset is a group of source/destination assignments that you create for current or future use. The RCS-2700 Source Assignment Panel can store up to 14 presets. All source/destination assignments are made within a preset.

**Preset Button:** A button on the Source Assignment Screen that you click to select a particular preset.

**Remote Station:** See Destination.

**Sidetone:** The sound of your own voice transmitted through an earphone as you speak.

**Source:** One of the channels of a main or master station to which remote stations or beltpacks (generally one or two-channel devices) are assigned. Once a remote station is assigned to a source channel, that station's operator can both talk and listen to all other stations on the channel.

**Source/Destination Assignment:** The assignment of a destination to a particular source channel.



# 4 SPECIFICATIONS

## RCU-67 REMOTE CONTROL UNIT

### RS232 Data

Baud Rate	19.2 Kbps
Start Bits	1 start bit
Stop Bits	1 stop bit
Parity	no parity

### Connector

RJ-45

### Power Requirement

<=100 mA  
Powered by RCS-2700

### Front Panel Controls

Forward and back buttons for each source and destination  
Preset button  
Enter button

### Front Panel Indicators

2 double-digit, 7-segment LED readouts

### Environmental

32° to 122° F (0° to 50° C)

### Dimensions

4.94 in. x .94 in. x 2.11 in.  
(12.55 cm x 2.39 cm x 5.36 cm)

### Weight

0.26 lb. (0.12 kg)

### Notice About Specifications

While Clear-Com makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.



# LIMITED WARRANTY

Vitec Group Communications (VGC) warrants that at the time of purchase, the equipment supplied complies with any specification in the order confirmation when used under normal conditions, and is free from defects in workmanship and materials during the warranty period.

During the warranty period VGC, or any service company authorized by VGC, will in a commercially reasonable time remedy defects in materials, design, and workmanship free of charge by repairing, or should VGC in its discretion deem it necessary, replacing the product in accordance with this limited warranty. In no event will VGC be responsible for incidental, consequential, or special loss or damage, however caused.

*VGC offers 24 x 7 customer support if you have an Extended Warranty or Service Contract.*

*Return Material Authorization (RMA) numbers are required for all returns.*

*Both warranty and non-warranty repairs are available.*

## WARRANTY PERIOD

The product may consist of several parts, each covered by a different warranty period. The warranty periods are:

- Cables, accessories, components, and consumable items have a limited warranty of 90 days.
- Headsets, handsets, microphones, and spare parts have a limited warranty of one year.
- UHF wireless IFB products have a limited warranty of one year.
- UHF wireless intercom systems have a limited warranty of three years.
- All other Clear-Com and Drake brand systems and products, including belt packs, have a limited warranty of two years.

The warranty starts at the time of the product's original purchase. The warranty start date for contracts which include installation and commissioning will commence from the earlier of date of the Site Acceptance Test or three months from purchase.

## TECHNICAL SUPPORT

To ensure complete and timely support to its customers, VGC's User Support Center is staffed by qualified technical personnel. Telephone and email technical support is offered worldwide by the User Support Center.

The User Support Center is available to VGC's customers during the full course of their warranty period. Telephone support during the warranty period will be offered at no charge between 09:00 and 17:00 according to the customer's local time zone.

In addition, for customers who purchase an Extended Warranty or Service Contract, 24-hour customer support is offered immediately upon purchase of

such agreement. For more information, contact your authorized dealer, distributor, or sales representative.

Instructions for reaching VGC's User Support Centers are given below.

**Telephone for Europe, Middle East and Africa:** +49 40 6688 4040

**Telephone for the Americas and Asia:** +1 510 337 6600

**Email:** [vitec.support@AVC.de](mailto:vitec.support@AVC.de)

Once the standard warranty period has expired, the User Support Center will continue to provide telephone support if you have purchased an Extended Warranty or Service Contract. In these cases, you will have access to telephone support 24 hours per day, 7 days per week.

## **WARRANTY REPAIRS AND RETURNS**

Before returning equipment for repair, contact a User Support Center to obtain a Return Material Authorization (RMA). VGC representatives will give you instructions and addresses for returning your equipment. You must ship the equipment at your expense, and the support center will return the equipment at VGC's expense.

For out-of-box failures, use the following contact information:

### **Europe, Middle East and Africa**

Tel: +44 1223 815000 Email: [customerservicesEMEA@vitecgroup.com](mailto:customerservicesEMEA@vitecgroup.com)

### **North America, Canada, Mexico, Caribbean & US Military**

Tel: +1 510 337 6600 Email: [customerservicesUS@vitecgroup.com](mailto:customerservicesUS@vitecgroup.com)

### **Asia Pacific & South America**

Tel: +1 510 337 6600 Email: [customerservicesAPAC@vitecgroup.com](mailto:customerservicesAPAC@vitecgroup.com)

VGC has the right to inspect the equipment and/or installation or relevant packaging.

## **NON-WARRANTY REPAIRS AND RETURNS**

For items not under warranty, you must obtain an RMA by contacting the User Support Center. VGC representatives will give you instructions and addresses for returning your equipment.

You must pay all charges to have the equipment shipped to the support center and returned to you, in addition to the costs of the repair.

## **EXTENDED WARRANTY**

If you purchase an Extended Warranty, you are also given access free of charge to the User Support Center 24 hours a day, 7 days a week.

You can purchase an extended warranty at any time during the first two years of ownership of the product. The purchase of an extended warranty extends to five

years the warranty of any product offered with a standard two-year warranty. The total warranty period will not extend beyond five years. Any purchase of an extended warranty provides 24 x 7 customer support in addition to the warranty immediately upon purchase of the warranty extension.

**Note:** VGC does not offer warranty extensions on UHF wireless intercom systems, or on any product with a 1-year or 90-day warranty.

## **SERVICE CONTRACT**

VGC also offers service contracts that provide 24 x 7 telephone support, advance replacements, training, proactive maintenance, on-site visits, and no charge for repair or replacement of equipment. For more information, contact your authorized dealer, distributor, or sales representative.

## **LIABILITY**

THE FOREGOING WARRANTY IS VGC'S SOLE AND EXCLUSIVE WARRANTY. THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ANY OTHER REQUIRED IMPLIED WARRANTY SHALL EXPIRE AT THE END OF THE WARRANTY PERIOD. THERE ARE NO OTHER WARRANTIES (INCLUDING WITHOUT LIMITATION WARRANTIES FOR CONSUMABLES AND OTHER SUPPLIES) OF ANY NATURE WHATSOEVER, WHETHER ARISING IN CONTRACT, TORT, NEGLIGENCE OF ANY DEGREE, STRICT LIABILITY OR OTHERWISE, WITH RESPECT TO THE PRODUCTS OR ANY PART THEREOF DELIVERED HEREUNDER, OR FOR ANY DAMAGES AND/OR LOSSES (INCLUDING LOSS OF USE, REVENUE, AND/OR PROFITS). SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR THE LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. IN ANY EVENT, TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW, VGC'S LIABILITY TO CUSTOMER HEREUNDER SHALL NOT UNDER ANY CIRCUMSTANCES EXCEED THE COST OF REPAIRING OR REPLACING ANY PART(S) FOUND TO BE DEFECTIVE WITHIN THE WARRANTY PERIOD AS AFORESAID.

This warranty does not cover any damage to a product resulting from cause other than part defect and malfunction. The VGC warranty does not cover any defect, malfunction, or failure caused beyond the control of VGC, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the manual, defective or improperly associated equipment, attempts at modification and repair not approved by VGC, and shipping damage. Products with their serial numbers removed or defaced are not covered by this warranty.

This warranty does not include defects arising from installation (when not performed by VGC), lightning, power outages and fluctuations, air conditioning failure, improper integration with non-approved components, defects or failures

of customer furnished components resulting in damage to VGC provided product.

This limited warranty is not transferable and cannot be enforced by anyone other than the original consumer purchaser.

This warranty gives you specific legal rights and you may have other rights which vary from country to country.