

RS-60 I BELTPACK

INSTRUCTION MANUAL

RS-601 Instruction Manual
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INTRODUCTION

Thank you for choosing this product. Clear-Com designed the 600 series of beltpacks to meet the needs of all beltpack users, from beginners to experienced professionals. For advanced users, the 600 series provides the most advanced level of functioning available.

RS-600 SERIES BELTPACKS

All RS-600 series beltpacks offer the following features:

- Rugged, compact design
- Full compatibility with all existing Clear-Com party-line systems
- Four setup configurations that you can activate directly from the beltpack
- Extra 2.5 mm cell-phone type headset jack
- Advanced setup options with V-Pack software

RS-601 BELTPACK

The RS-601 beltpack offers the following features:

- One intercom channel
- 3-pin female and male XLR connectors for ease of setup
- 4-pin male XLR to connect a headset

The RS-601 offers all the performance and durability of Clear-Com's world-standard beltpacks, plus TW compatibility. You can use the RS-601 on a TW line (Audio on Channel B) without loading down Channel A.

QUICK START

To start using your beltpack immediately:

1. Connect the appropriate line cables (3-pin XLR) from an active intercom line to the beltpack.
2. Turn down the beltpack's incoming volume with the volume-control knob.
3. Plug in a headset equipped with a dynamic microphone to the beltpack's main headset jack.
The headset jack is labeled on the back of the beltpack.
4. To talk on the intercom line, press and hold the talk button. Speak into the microphone in your headset.
Note: If you tap the talk button twice in quick succession, the talk button locks to the “on” setting (“latches”) for hands-free use. Press the talk button again to unlatch it.
5. Adjust the sidetone and incoming volume levels as you and others on the intercom line speak at the anticipated levels for the application.
6. To send a call signal, press the button labeled “call.”

OPERATING YOUR BELTPACK

An RS-601 beltpack works with all previous versions of Clear-Com party-line stations and beltpacks. It is the first single-channel Clear-Com beltpack that is compatible with Clear-Com TW beltpacks.

This means that you can wire several beltpacks together in a “daisy-chain” or “home-run” configuration on a TW line that includes RS-502/522 TW beltpacks as well as other RS-600 series TW beltpacks. While the audio on the RS-601 will always be from pin 3 of the XLR connector (channel B), it will still pass the channel A audio through on Pin 2.

The RS-601 is not recommended for use with RTS-TW systems as the frequency response curves and audio levels are different. Clear-Com’s RS-603 series beltpacks are compatible with RTS-TW systems.

CONTROLS AND ADJUSTMENTS

- | | |
|-----------------------|----------------------------|
| 1 Talk Button | 4 Call Button |
| 2 Talk Light | 5 Call Light |
| 3 Volume Control Knob | 6 Setup Information Window |
| | 7 Power Status Light |

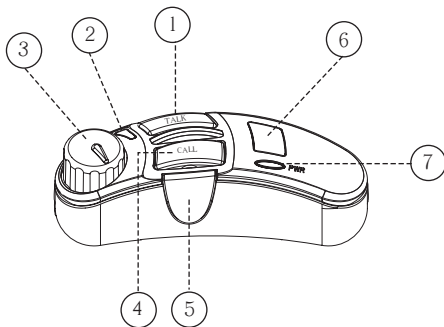


Figure 1: Control Panel of an RS-601 Beltpack

1 Talk Button

To talk on the intercom line, press and hold the beltpack's talk button while speaking into the microphone in your headset. While you hold the button, your voice transmits to the intercom line. When you

release the button, your voice no longer transmits to the intercom line.

To “latch” the talk button “on” for hands-free use, quickly tap the button twice. To unlatch the talk button, press the button again.

With the V-Pack programming software you can program the talk button to latch with a single or double tap, or not to latch at all. See “Customizing Your Beltpack” for more information.

② Talk Light

The green talk light illuminates when you press or latch the talk button.

Some onboard programming options can change the function of this light. For more information about onboard programming, refer to the chapter “Customizing Your Beltpack.”

③ Volume-Control Knob

The volume-control knob adjusts incoming volume level (“listen level”).

There is a limiter built into the beltpack circuitry to prevent incoming volume from exceeding a safe level. You can suspend this limit with the V-Pack software.

④ Call Button

When you press the call button, a call signal is sent to all other stations on the intercom line.

The call light glows red to indicate both outgoing and incoming call signals.

⑤ Call Light

The call light illuminates when the beltpack sends or receives a call signal.

Some onboard and computer programming options can change the function of this light. See the chapter “Customizing Your Beltpack” for more information.

⑥ Setup Information Window

When you press and hold the setup button for more than three seconds, the setup information window lights up and displays current beltpack programming information.

If you do not select or program a feature within five seconds, setup is cancelled, and the setup information window dims to indicate that the setup mode is no longer available. This feature prevents changes if the setup button is pressed accidentally.

For more information on programming features from your beltpack, see the chapter “Customizing Your Beltpack.”

7 Power Status Light

An illuminated power status light indicates that the beltpack is connected to a powered intercom line.

Note: The light may illuminate even if the beltpack is receiving less than the minimum 12 VDC required for beltpack operation.

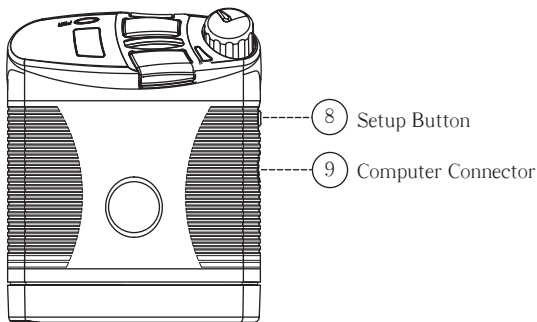


Figure 2: Side Controls for RS-601 Beltpack

8 Setup Button

When you press and hold the blue setup button for approximately three seconds, the beltpack enters “setup mode” during which you can select certain operating features for the beltpack.

Once setup mode is active, if you do not select or program a feature within five seconds, the setup mode deactivates, and the beltpack goes back to its normal state.

See the chapter “Customizing Your Beltpack” for information on programming your beltpack with this feature.

9 Computer Connector

You can program your beltpack from a computer using the V-Pack™ programming software. To use this software you must first physically connect the beltpack to a computer with Clear-Com's VPC-1 cable or its equivalent.

The VPC-1 cable has a tip-ring-sleeve 3.5 mm plug at one end for connecting to the beltpack, and a DB-9F plug at the other end for connecting to a computer's serial port.

To connect the VPC-1 cable from your beltpack to a computer:

1. Plug the 3.5 mm plug at one end of the cable into the beltpack's 3.5 mm jack located just under the setup button.
2. Plug the DB-9F plug on the other end of the cable into the DB-9M serial port socket on a computer.

If your computer only has USB connectors, you must purchase a USB-to-serial adaptor.

Contact your dealer or the Clear-Com factory for information about obtaining the beltpack programming kit, which contains the V-Pack software, VPC-1 cable, and V-Pack manual. You can also find a PDF of the V-Pack manual at www.clearcom.com.

PIN	FUNCTION
Tip	SDO to computer
Ring	SDI from computer
Sleeve	Common

Figure 3: Pinouts of RS-601 Computer Connector

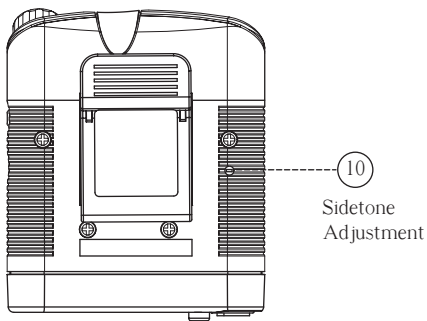


Figure 4: Back of RS-601 Beltpack

⑩ Sidetone Adjustment

To adjust the beltpack's "sidetone," or the level of one's own voice in the headset, insert a small flat-headed screwdriver into the hole labeled "sidetone" on the back of the beltpack, as shown in Figure 3. Turn the screwdriver until you can no longer hear any sidetone in the headset. This is called the "null" setting.

When you turn the screwdriver again, either clockwise or counterclockwise, the sidetone increases. Adjust the sidetone so that it is somewhere in the mid-range of possible settings, at a level that feels comfortable to you.

The inability to null or set the sidetone level could indicate a problem with the overall intercom system, such as lack of terminations or multiple terminations. A malfunctioning headset could also be the cause.

NOTE: Do not force the sidetone adjustment control past its stop points as this will damage it.

CONNECTING YOUR BELTPACK

An RS-601 beltpack works with all previous versions of Clear-Com party-line stations and beltpacks. It is the first single-channel Clear-Com beltpack that is compatible with Clear-Com TW beltpacks.

This means that you can wire several beltpacks together in a “daisy-chain” or “home-run” configuration on a TW line that includes RS-502/522 TW beltpacks as well as other RS-600 series TW beltpacks. While the audio on the RS-601 will always be from pin 3 of the XLR connector (channel B), it will still pass the channel A audio through on Pin 2.

- 11 Intercom Connector (3-pin female XLR)
- 12 Loop-Through Connector (3-pin male XLR)
- 13 Auxiliary Headset Connector (2.5 mm jack)
- 14 Headset Connector (4-pin male XLR)

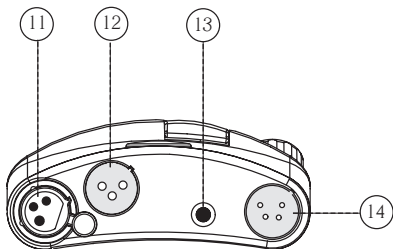


Figure 1: Control Panel of an RS-601 Beltpack

The RS-601 is not recommended for use with RTS-TW systems as the frequency response curves and audio levels are different. Clear-Com's RS-603 series beltpacks are compatible with RTS-TW systems.

⑪ Intercom Connector

The beltpack connects to a main station, power supply, or to other beltpacks through the connector labeled “intercom.” When you press the blue button next to this connector, the attached cable releases.

PIN	FUNCTION
1	Ground
2	+ 30 VDC
3	Intercom

Table 1: Pinouts for RS-601 Intercom and Loop-Through Connectors

⑫ Loop-Through Connector

The “loop-through” socket can be used to connect the beltpack to another beltpack. It can also connect to an intercom station if necessary.

Table 1 shows the pin assignments for this connector.

13 Auxiliary (“AUX”) Headphone

Clear-Com designed the auxiliary headset connector, labeled “AUX,” for use with the CC-25 Ultra-Light headset. The beltpack’s circuitry is designed to work with the CC-25 headset to produce excellent quality sound.

While certain types of mobile-phone style headsets will fit the 2.5 mm AUX jack, using these headsets may degrade system performance. You can use such mobile-phone style headsets more reliably with listen-only applications.

By default, the AUX connector provides bias voltage for electret microphones. With V-Pack, you can also program this connector for use with dynamic microphones.

Note: Using multiple mobile-phone style headsets in a system could adversely affect nulling, crosstalk, and overall system performance.

PIN	FUNCTION
Tip	Mic
Ring	Earphone
Sleeve	Common

Table 2: Pinouts for RS-601 Auxiliary Headset Connector

14 Headset Connector

You connect a headset to the backpack at the 4-pin male XLR connector labeled “headset.” The headset connector is always active and has priority if a second headset is connected to the auxiliary (“AUX”) connector. Generally you should connect only one headset at a time to a backpack.

With the onboard programming options or with V-Pack, you can program the backpack to provide power to an electret microphone. The microphone’s gain automatically adjusts to the electret microphone. See “Specifications” for impedance requirements.

PIN	FUNCTION
1	Mic (Low)
2	Mic (High)
3	Headphone (Low)
4	Headphone (High)

Table 3: Pinouts for RS-601 Headset Connector

CUSTOMIZING YOUR BELTPACK

You can customize an RS-600 series beltpack for quick adaptation to the needs of any working environment. There are two methods for customizing your beltpack's settings:

- Using a beltpack's onboard controls
- Using the V-Pack programming software

This manual briefly describes the V-Pack programming software, and then thoroughly describes the onboard controls. The V-Pack programming software has its own manual, which you can view and download at www.clearcom.com.

Note: Refer to the printed guide on the back of the beltpack for quick instructions on setting up the beltpack with the onboard controls.

V-PACK SOFTWARE

The V-Pack programming software gives you access to the full range of options for customizing your beltpack. For example, you can program a call signal to appear as a steady or flashing light, a bright or dim light, or a tone.

A unique V-Pack feature is that you can create one custom setup and quickly transfer it to several beltpacks with the “beltpack cloning” feature. This feature is useful for programming many beltpacks with

the same settings. And V-Pack includes many more features you can program for your beltpack.

To operate the V-Pack software, you must first install it on a computer, then connect the VPC-1 cable to both a beltpack and to your computer.

For more detailed instructions on using the software, see the V-Pack manual. You can access the manual from the Clear-Com Web site. A V-Pack installation kit, which includes a CD containing the V-Pack software, a cable to connect to a computer, and a printed V-Pack manual is available for purchase through your dealer or directly from Clear-Com.

ONBOARD PROGRAMMING

With onboard programming, you customize the operation of your beltpack using the controls on the beltpack itself.

When you receive your beltpack, it already contains the default settings that will meet the needs of most users. You do not need to program the beltpack unless you want to.

However, if you wish to change the settings to better meet your needs, you can do so with onboard programming. The beltpack remembers your new settings until you change them again.

SETTINGS YOU CAN CUSTOMIZE

Table 1 shows the beltpack functions you can customize with onboard controls. Note that each function is assigned a number, which you will refer to for programming.

FUNCTION #	NAME	STATUS
Function 1	Mode Select	1,2,3,4
Function 2	Latch disable	on or off
Function 3	Talk disable	on or off
Function 4	Call-on-talk	on or off
Function 5	Electret mic (headset)	on or off
Function 6	Call tone (in earphone)	on or off
Function 7	Electret Mic Hi-Lo	hi or lo
Function L	Locks out onboard access	on or off

Table 1: Functions You Can Edit With Onboard Controls

Before you program the beltpack with the onboard controls, the beltpack must be connected to an intercom line and receiving power, and must not be connected to a computer.

Mode Select, Function 1

A “mode” is one complete “package” of settings for a beltpack. Each beltpack’s memory holds four modes. You can easily select and activate any one of the four modes directly from the beltpack.

When you receive your beltpack, each of the four modes is preprogrammed with the Clear-Com default settings. Each mode is similar to the others, with only minor variations.

With onboard setup, you can select any one of the four modes and change specific settings to your requirements. Editing a mode’s settings automatically saves them in the beltpack’s nonvolatile memory.

To select a mode:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Press and release the talk button. A winking number appears in the display. This is the currently selected mode.

Note: A “winking” light flashes three times per second.

3. To select a new mode, press the talk button to scroll through the four possible modes, 1 through 4.
4. When the desired mode appears in the display, press the setup button to select the mode and to exit setup.

The selected mode becomes the active mode for the beltpack. If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

Latch Disable, Function 2

A beltpack's talk button normally latches when you tap it twice. If you select to disable this function, the talk button does not latch.

This setting is recommended if you use the call-on-talk feature, which causes the beltpack to send a call signal each time you press the talk button.

To select “latch disable” for a channel:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “2” appears in the display.
3. Press the talk button to toggle “latch disable” either on or off.

The beltpack's talk light reveals whether “latch disable” is on or off. If the talk light is on, “latch disable” is on; if the talk light is off, “latch disable” is off.

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

Talk Disable, Function 3

This function turns the talk button on or off. When off, the talk button does not function.

Turn the talk button off when you wish to operate the backpack as a listen-only device.

To select “talk disable” for a channel:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “3” appears in the display.
3. Press the talk button to toggle “talk disable” either on or off.
The backpack’s talk light reveals whether “talk disable” is on or off. If the talk light is on, “talk disable” is on; if the talk light is off, is off.
4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the backpack exits the setup program without making any changes.

Call-on-Talk, Function 4

This function causes a beltpack to send a call signal each time you press or latch the talk button. You can toggle this function on or off.

When using “call-on-talk,” it is recommended that you set the talk button for non-latching operation. Call-on-talk is useful when operating call-signal based components such as the Clear-Com TW-40 two-way radio interface and the Clear-Com KB-212 speaker station.

To select “call-on-talk”:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “4” appears in the display.
3. Press the talk button to toggle “call-on-talk” either on or off.

The beltpack’s talk light reveals whether “call-on-talk” is on or off. If the talk light is on, “call-on-talk” is on; if the talk light is off, “call-on-talk” is off.

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

Electret Microphone, Function 5

This function allows a beltpack to operate with an electret-microphone equipped headset. It only affects a headset connected to the main headset jack. Turning this function off reverts the beltpack to dynamic microphone operation.

To select “electret microphone” for a channel:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “5” appears in the display.
3. Press the talk button to toggle “electret microphone” to either on or off.

If the talk light is on, the “electret microphone” option is on; if the talk light is off, the “electret microphone” option is off.

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

Call Signal Tone (in Earphone), Function 6

When this function is on, the beltpack produces an audible call signal in the headset when a call signal is received. When this function is off, it does not.

The audible call signal's volume level is preset. (Volume may vary slightly, depending on headset.) This function is useful for unspoken cues when a visual call signal is not practical or effective.

To select an “audible call signal”:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “6” appears in the display.
3. Press the talk button to toggle “audible call signal” to either on or off.

The talk light reveals whether “audible call signal” is on or off. If the talk light is on, “audible call signal” is on; if the talk light is off, “audible call signal” is off.

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

Electret Microphone, Hi-Lo, Function 7

This function selects high or low gain for an electret microphone. The “on” setting selects high gain. The “off” setting selects low gain. Low gain is useful for high-noise environments.

To select an high or low gain for an electret microphone:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “7” appears in the display.
3. Press the talk button to toggle to either “on” for high gain or “off” for low gain.

The talk light reveals whether the function is “on” or “off.” If the talk light is on, the electret microphone is set to “high gain”; if the talk light is off, the electret microphone is set to “low gain.”

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the backpack exits the setup program without making any changes.

Lockout, Function L

“Lockout” allows you to prevent all editing of beltpack functions with onboard controls.

When you select “lockout,” you can access the on-off status of functions with the onboard controls, but you cannot edit them. You cannot access information about which mode is active.

To regain access to editing, you can either restore the factory default settings from the beltpack itself, or use the V-Pack software to restore them.

To select “lockout”:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Repeatedly press the call button until “L” appears in the display.
3. Press the talk button to toggle “lockout” either on or off.

The beltpack’s talk lights reveals whether “lockout” is on or off. If the talk light is on, “lockout” is on; if the talk lights is off, “lockout” is off.

4. When you have made your selection, press the setup button to save it and to exit setup, or press the call button to select other functions to program.

If you do not press a button within five seconds, the beltpack exits the setup program without making any changes.

RESTORING THE FACTORY DEFAULT SETTINGS

To restore the factory default settings for all four modes:

1. Press and hold the setup button until the setup information window displays a “P” and then release the button.
2. Press and hold the call button. The display changes from “1” to “2.”
3. While still holding the call button down, press the setup button. The display momentarily shows an “F” to indicate that the beltpack is now programmed with the factory default settings.
4. Release the setup button and the call button.
The beltpack resumes operation with the factory default settings.

SPECIFICATIONS

0 dBv is referenced to 0.775 V RMS

General

Amplifier Design: I.C. amplifiers, including solid-state digital switching and signaling circuits. Current-limited and short-circuit protected.

Signal to Noise: >75 dB

Bridging Impedance: >15k

Line Level: -14 dB, +5 dB max.

Sidetone Adjust: >35 dB

EMI and RFI rejection: >60 dB

Microphone Pre-Amplifier

Headset Mic Impedance: 200 ohms

Gain, mic to line: 41 dB (dynamic)

Limiter Range: 26 dB

Frequency Response: 200 Hz – 12 kHz contoured for intelligibility

Headphone Amplifier

Load Impedance:	50 - 2,000 ohms
Output Level:	+17 dBv before clipping
Distortion:	<0.1% THD @ 1 kHz
Gain, line to output:	+34 dB
Frequency Response:	100 Hz - 18 kHz, ± 2 dB

Connectors

Intercom Line:	(2) 3-pin XLR-M-F
Headset:	4-pin XLR-M

Power Requirements

RS-601	26mA quiescent
	30mA average talk
	50mA talk with signaling

DC Voltage Range:	12-32 volts
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Environmental

Operating Temp. Range:	0°C - 70°C (32°F - 158° F)
Humidity:	0 - 90% relative humidity

Dimensions

4.58"H x 3.73"W x 1.34"D (116 x 95 x 34 mm)

Weight

7.3 oz. (0.20 kg)

Specifications subject to change.

MAINTENANCE

GENERAL USAGE NOTES

Cabling choices can greatly impact the performance of an intercom system. Length, gauge, and shield quality, as well as routing, must all be considered. For two-pair cable, crosstalk performance is affected both by length and DC resistance of the shield (the lower the better). The quality of the headset cable can affect crosstalk, particularly in large systems.

Note: For more information on installing a party-line system, see the *Party-Line Installation Manual*.

The headphone amplifier accommodates impedances from 50 to 2000 ohms. The mic preamplifier accommodates impedances from 50 to 1000 ohms. The output level is more critical to optimal performance than the impedance. Higher impedances may require more mic gain, thereby raising the noise floor.

MAINTENANCE

BELTCLIP

In some applications, you may want to wear the beltpack “upside down” or “sideways.”

To rotate the beltclip to a new position:

1. Remove the setup help label and the two retaining screws.
2. Rotate the beltclip 90° or 180° as desired.
3. Replace the screws.

The label on the beltclip is not reusable and must be replaced. You can order a replacement label from your distributor or from the factory.

Use the same procedure for replacing a broken or damaged beltclip.

CLEANING

To clean the surface of your beltpack, use a damp cloth and mild soap. Remove all soap residue and excess moisture before returning to service.

TROUBLESHOOTING

PROBLEM	Low audio level.
CAUSE	Multiple terminations on the line. Excessive capacitance and/or resistance due to cable length and/or gauge.
SOLUTION	If connected to more than one main station or power supply, check that there is only one termination per channel.

PROBLEM	Call light stays on.
CAUSE	DC voltage present on audio line pin 3.
SOLUTION	Check cables for shorts and cross-wiring. Make sure there is a termination on the channel.

PROBLEM	Mic level too low or too high.
CAUSE	Mic distance from mouth too far or too close; mic gain set incorrectly; sidetone set incorrectly; no terminations or more than one termination.
SOLUTION	Reposition mic and/or change headset mic gain.

PROBLEM	Headset level too low or too high.
CAUSE	Unterminated channel; improper impedance; shorted line.
SOLUTION	Adjust sidetone and volume controls; check wiring; use compatible headset.

PROBLEM	Can't change configuration on beltpack.
CAUSE	Disabled access to functions.
SOLUTION	Restore access by resetting to factory default settings or with V-Pack.

WARRANTY

Vitec Group Communications (VGC) guarantees this product to be free of manufacturing defects in material and workmanship under normal use for a period of two years from the date of purchase.

TECHNICAL SUPPORT

To ensure complete and timely support to its customers, VGC maintains Technical Service Centers (TSC) staffed by qualified technical personnel. A Technical Service Center is staffed to respond to all technical inquiries and to troubleshoot technical problems regarding all products supplied by VGC. A TSC is fully available to VGC's customers *during the full course of their warranty period*.

Instructions for reaching our Technical Service Centers are given below.

For technical support from Europe, the Middle East, and Africa

Call: +49 40 66 88 40 40 Monday through Friday 09:00 – 17:00 (GMT)

+49 40 66 88 40 41 24hrs, any day (But you must have your PIN number ready.)

Web site: www.clearcom.com (Click the 24 X 7 User Support symbol on the Web site.)

For technical support from the Americas and Asia

Call: +1 510 496 6666 or 800 VITEC USA

Web site: www.clearcom.com (Click the 24 X 7 User Support symbol on the Web site.)

Email: support@clearcom.com

FAX: +1 510 496 6610

EXCEPTIONS

This warranty does not include 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.

WARRANTY REPAIRS

While VGC will ensure complete system integrity by providing whatever support is necessary to resolve any failure covered under the

terms of the warranty, the normal procedure will be to repair or replace any defective Line Replaceable Unit (LRU) that is returned to VGC during the warranty period.

A Line Replaceable Unit (LRU) is defined as: an assembly that can be safely removed from the system and readily replaced by plugging in a new unit. In the case of ancillary items such as power supplies, the entire power supply would be returned. Whereas, in the case of circuit cards, control panels, etc., only these assemblies would be returned for repair. All equipment provided by VGC is covered under the 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.

NON-WARRANTY REPAIRS

Equipment that is not under warranty must be sent prepaid to VGC. If requested, an estimate of repair costs will be issued prior to service. Once repair is approved and completed, the equipment will be shipped freight collect from the TSC.

REPLACEMENT UNITS

Should VGC determine, in its reasonable discretion, that any part of a product is defective due to faulty materials or workmanship, VGC shall at its expense, repair or replace such part and return the repaired/replacement part to the customer. The provisions of this warranty shall apply to the repaired/replacement part for the unexpired portion, if any, of the warranty period.

EMERGENCY ON-SITE ASSISTANCE

VGC can provide emergency on-site technical assistance in support of warranty activities. The level of support effort required will be decided on a case-by-case basis. VGC has the qualified technical staff to support any and all emergency site activities should they occur.

LIABILITY

The foregoing warranty is VGC's sole and exclusive warranty. There are no other warranties (including without limitation warranties for consumables and other supplies), or guarantees, expressed or implied (including, without limitation, any warranties of merchantability or fitness for a particular purpose), 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 and/or with respect to any non-conformance or defect in any such product and/or part thereof delivered hereunder and/or with

respect to any non-conformance or defect in any such product and/or part thereof delivered hereunder, or any other warranties or guarantees, including but not limited to any liability of VGC for any consequential and/or incidental damages and/or losses (including loss of use, revenue, and/or profits). In any event, the maximum extent of 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.

RETURNING EQUIPMENT FOR REPAIR

All equipment returned for repair must be accompanied by:

- Documentation stating the return address, telephone number, date of purchase, and a description of the problem.
- A repair reference number.

To obtain a repair reference number, contact the appropriate Technical Service Center at the phone numbers or Web sites listed below. Our representatives will give you instructions and addresses for returning your equipment. By talking with our representatives, many problems can be resolved on the phone.

For returns from Europe, the Middle East, and Africa

Call: +49 40 66 88 40 40 Monday through Friday 09:00 – 17:00 (GMT)

+49 40 66 88 40 41 anytime, any day

(But you must have your PIN number ready)

Web site: www.clearcom.com (Click the 24 X 7 User Support symbol on the Web site.)

For returns from the Americas and Asia

Call: +1 510 496 6666 or 800 VITEC USA

Web site: www.clearcom.com (Click the 24 X 7 User Support symbol on the Web site.)

Email: support@clearcom.com

FAX: +1 510 496 6610