BIAMP®

Vocia®

CI-1

Operation Manual

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

WARNING - To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install product 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.

CAUTION – Installation of the apparatus should be made by a qualified installation person and should conform to all applicable local codes.

Modifications and optional equipment information referenced in this manual is for use by qualified installation and service personnel only.

WARNING – Class I Safety Grounding
This apparatus employs Class I Safety Grounding and must be connected to a MAINS socket with a protective eathing connection.

Disconnect Device - The MAINS plug is used to disconnect MAINS power and must remain readily operable.

9) Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only when secured or supported by equipment rack, cart or table designed to provide adequate mechanical strength, heat dissipation and securement to the building structure.

When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.

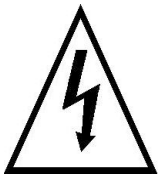
13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) 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.

Explanation of safety related symbols which appear on the outside of the apparatus.

Product labeling and the operation manual may use the internationally recognized symbols defined below to note safety messages.

Lightning Bolt: Hazardous Live voltages present when this unit is in operation. Do not touch terminals marked with this symbol while the unit is connected to live power.



Exclamation Point: Replace components (i.e. fuses) only with the values specified by the manufacturer. Failure to do so will compromise safe operation of this unit.

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CI-1 CONTROL INTERFACE

The CI-1 Control Interface is a companion product to the Vocia® LSI-16 Life Safety Interface. It facilitates the necessary connections to the LSI-16 for standards compliance.

Features

- High reliability switches for Local Sounder Silence, System Test and System Fault Reset
- High level sounder for Fault/Alarm warning
- Dual power summing with power loss fault connection
- Provides terminating resistors for Alarm and Fault Inputs
- Provides terminating resistors for any unused monitored outputs
- Current limited reference voltage output
- Rack mountable (1RU)
- CE marked and RoHS compliant
- Covered by Biamp Systems' warranty

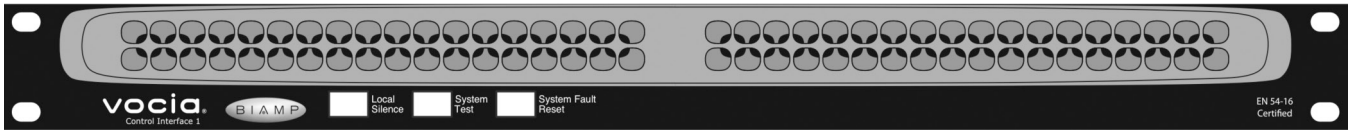
Setup and Use

A CI-1 requires an LSI-16 for operation. While the LSI-16 requires configuration in Vocia software, a CI-1 requires only an interconnection with an LSI-16 as detailed below. Once the required interconnections have been established, the CI-1 will operate with the LSI-16 to provide the necessary functionality. It is recommended that the CI-1 be mounted immediately adjacent to an LSI-16 so the CI-1 controls can be associated with indications on the LSI-16.

Vocia installations designed to comply with the requirements of EN 54-16 must be installed in accordance with Biamp recommendations detailed in this User Manual and in the Vocia VACIE Reference Guide (download from www.biamp.com).

FRONT PANEL

The CI-1 has three switches on the front panel and an internal (local) sounder, audible through the panel.



Local Sounder

The local sounder commences whenever any alarm input receives an external signal from the fire detection equipment, control and indicating equipment (CIE) or equivalent. It will also commence when any fault is detected. The sounder will continue until the alarm or fault is reset.

Local Sounder Silence Switch

If the local sounder is operating, this switch may be used to silence it. The alarm or fault condition that caused the sounder to operate is unaffected by operating this switch. If a new alarm or fault is detected, the sounder will restart. Press and hold the switch for two seconds to operate.

System Test Switch

This switch will initiate a test sequence on the LSI-16. All indicators in use on the LSI-16 will light briefly and the sounder in the CI-1 will sound briefly, thus confirming that essential annunciators are functional. Press and hold the switch for two seconds to initiate the test sequence.

System Fault Reset Switch

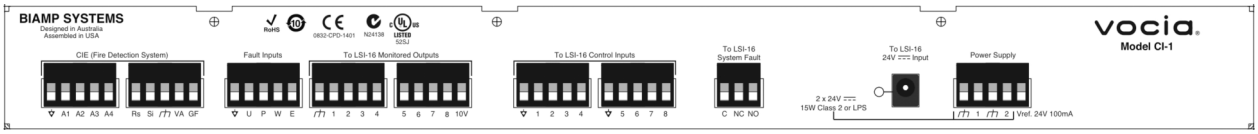
A System Fault denotes that the LSI-16 cannot guarantee correct operation of the Vocia system in an emergency mode. It is indicated on the LSI-16 and by the sounder in the CI-1. A system fault can only be cleared by operating the System Fault Reset switch. Note that when the LSI-16 is powered up, the System Fault will be operational until the System Fault Reset switch is pressed. Press and hold the switch for two seconds to reset a System Fault.

REAR PANEL

There are four main interconnection paths to the rear panel:

- Connections to the fire detection system (CIE);
- Connections from external devices for fault indications
- Connections to the LSI-16
- Power supply connections

Each of these connection paths has several circuits as detailed below.



Fire Detection System (CIE) Connections

These circuits are provided on two five-position plug-in barrier strip connectors. The Isolated Ground provides a circuit return that is not directly connected to the CI-1 and LSI-16 Ground.

Connector Label	Function
⏚	Isolated Ground
A1	Alarm 1 Input from CIE
A2	Alarm 2 Input from CIE
A3	Alarm 3 Input from CIE
A4	Alarm 4 Input from CIE
Rs	Alarm Reset Input from CIE
Si	Alarm Silence Input from CIE
⏚	Ground
VA	Voice Alarm Active Output to CIE
GF	General Fault Output to CIE

Alarm Inputs 1 through 4 are signals from the fire detection system. These signals place the Vocia system into emergency mode according to the configuration determined for the input in Vocia software. The Alarm Reset Input cancels all active alarms in the system while the Alarm Silence Input maintains all active alarms but causes emergency messages to be silenced. The CI-1 provides the necessary terminating resistors for each input. Inputs are asserted by a positive transition to 12-24V with respect to the 'Isolated Ground' connection. This transition should preferably be derived from a dry contact closure to a remote 12V-24V source, or to the CI-1 24V Reference Out (see below).

The Voice Alarm Active output is provided to signal to the fire detection system that the Vocia system has been activated in emergency mode in response to an Alarm Input. A constant output denotes that an emergency message is playing. A pulsed output (1.25Hz) indicates that an alarm is active but emergency messages have been silenced.

The General Fault Output is provided to signal to the fire detection system that there is a fault in the Vocia system that could affect delivery of an emergency message.

The Voice Alarm Active and General Fault outputs pull low (to ground) when active. The outputs are monitored by the LSI-16 for open-circuit or short-circuit to ground or power supply and for over-voltage on the output pin (>35V DC). If incorrect conditions are detected a Fault is signaled. Output monitoring facilitates compliance with voice evacuation standards. For monitoring purposes a load (maximum 22kΩ) must be connected between each output and a positive voltage source referenced to the LSI-16 Ground, at the far end of the connection to the CIE (i.e. at the CIE). An LED indicator connected through a resistor to a positive voltage at the CIE will suffice as a monitoring load.

Note that the LSI-16 provides a 10V source at the '10V Out' terminal on the LSI-16. Outputs may be pulled up to this source; however the total current drawn from the source must not exceed 100mA. If an external voltage source is used for the outputs, it must not exceed 35V DC and in addition to the output loads, must also be connected to the LSI-16 'External Supply Over-voltage Monitor' input (refer to LSI-16 User Manual) for monitoring purposes. Due to monitoring constraints, it is not possible to use both the LSI-16 internal 10V source and an external source.

Connections from External Devices for Fault Indications

These circuits are provided on a single five-position plug-in barrier strip connector. All Inputs are fully isolated from the CI-1 and LSI-16 internal circuits. The Isolated Ground provides a circuit return that is not directly connected to the CI-1 and LSI-16 Ground.

These inputs allow the signaling of faults from external devices to the Vocia system so it may indicate and log faults that could affect emergency operation. These fault signals are typically derived from contact closures on external devices. For multiple devices (e.g. Multiple UPS units), fault contacts from each device may be 'wired-OR' connected (connected in parallel) to the fault input. UPS fault inputs are typically derived from UPS units used in the system (e.g. for backup powering of VA-8600 units). PSU fault inputs are typically derived from battery-backed power supplies used to power parts of a Vocia system. EWS PSU fault inputs are derived from optional emergency microphones (EWS-x) to indicate loss of power supply. Ethernet fault inputs are derived from fault contacts of industrial Ethernet switches used in critical parts of a Vocia system.

Connector Label	Function
⏚	Isolated Ground
U	UPS Fault
P	PSU Fault
W	EWS PSU Fault
E	Ethernet Fault

All fault inputs are asserted by connecting the relevant pin to Isolated Ground. The UPS Fault, PSU Fault and EWS PSU Faults must be connected to 24V when non-asserted either by direct connection or through pull-up resistor (maximum 2.2kΩ). The 24V reference voltage output on the power supply connector may be used for this purpose. The Ethernet Fault input is pulled-up internally and does not need an external pull-up.

Connections to LSI-16

These circuits are provided on four (4) five-position and one (1) three-position plug-in barrier strip connectors plus a DC barrel jack. Each connector label is prefixed by "To LSI-16…" Connectors are located so that with the CI-1 mounted directly above or below the LSI-16, circuit connections may be made by directly connecting pin-for-pin to the vertically adjacent connector. Short interlinking cables are provided with the CI-1 for this purpose. Refer to the LSI-16 Operation Manual for the circuit functions of these connectors.

Note that the LSI-16 PSU Fault, Protection Fault and Path Fault outputs are connected to the CI-1 purely for the purpose of providing required monitoring resistors (these outputs are not otherwise used by the CI-1). If these outputs are required for remote fault indications, the relevant connections should be removed from the Monitored Outputs connector of the LSI-16. As described in the LSI-16 Operation Manual, and external monitoring resistor will be required if these circuits are so used.

Power Supply Connections

These circuits are provided on a single five-position plug-in barrier strip. Inputs are provided for two 24V power supply circuits to drive the LSI-16. This facilitates standards compliance by providing a means of redundant connections.

Each power supply must be capable of 24V DC at 15Watts. The Ground 1 and Ground 2 connections are internally connected together and to system ground. The VRef connection may be used as a voltage source for pull-ups on required fault inputs. This output is current limited at 100mA.

Loss of power to either power supply input will result in the LSI-16 detecting a fault. If standards compliance is not required for an installation, a single power supply connection must be paralleled to the two power supply inputs to avoid generating a fault signal.

Connector Label	Function
⏚	Ground 1
1	24 Volts DC Input 1
⏚	Ground 2
2	24 Volts DC Input 2
VRef	24 Volts Reference Out

INSTALLATION

The CI-1 requires one rack space 1.75 inches (44.45mm) high and 19 inches (483mm) wide with 10 inches (254mm) depth. Mounting the unit using four screws with washers will prevent marring of the front panel. PVC or nylon washers are appropriate.

Please install the unit away from heat sources, such as vents and radiators, and in rooms with adequate ventilation. Ensure that air can circulate freely behind, beside, and above the unit. Do not exceed the maximum ambient operating temperature of 32-113 degrees F (0-45°C).Beware of conditions in an enclosed rack that may cause the temperature to exceed ambient room conditions.

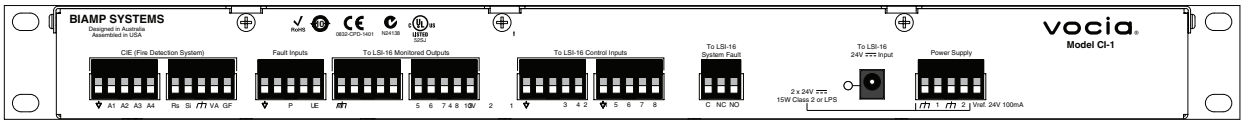
Note: To operate correctly, the CI-1 requires an accompanying LSI-16 plus connections to external components and devices as described in this manual.The CI-1 should be mounted in close proximity to the accompanying LSI-16.

For EN 54-16 compliance, refer to the Vocia VACIE Reference Guide which details mandatory installation requirements.

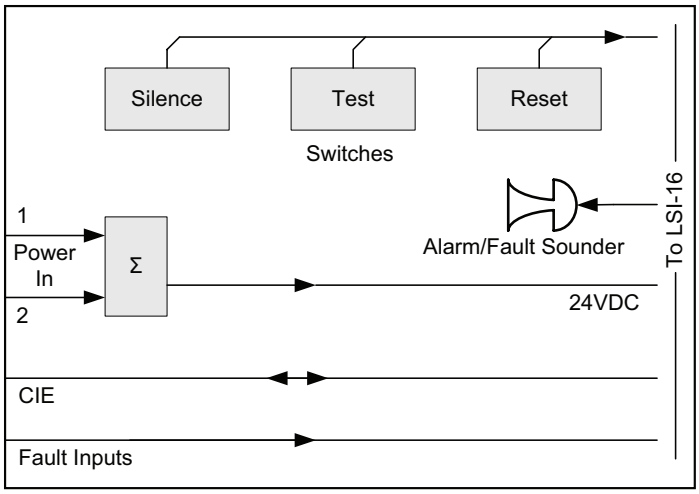
Control Interface 1 SPECIFICATIONS

Alarm Inputs:		**Dimensions:**	
Assertion:	Transition from 0V to 12-24V	Height:	1.75 inches (44.45mm)
Fault Inputs:		Width:	19 inches (483mm)
Assertion:	Transition from +V to 0V	Depth:	10 inches (254mm)
Maximum pull-up resistor:	2.2k	Weight:	Approx 6.4lbs (2.8kg)
Outputs:		Ambient Operating Temperature:	32-113°F (0-32°C)
Assertion:	Low	**Compliance:**	
Pull-up Load:	max 22k		FCC Part 15, class B
Max. external supply:	35V		CE marked
Max. continuous current:	350mA		EN 54-16 certified
Current Limit:	800mA		RoHS Directive
Power:	2 x 24V, 15Watts each		UL 60065 Listed, E215636
			C-UL Listed, E215636
			C-Tick, N24138 (Australia)

Control Interface 1 BACK PANEL



Control Interface 1 BLOCK DIAGRAM



CI-1 WARRANTY

BIAMP SYSTEMS IS PLEASED TO EXTEND THE FOLLOWING 5-YEAR LIMITED WARRANTY TO THE ORIGINAL PURCHASER OF THE PROFESSIONAL SOUND EQUIPMENT DESCRIBED IN THIS MANUAL

1. BIAMP Systems warrants to the original purchaser of new products that the product will be free from defects in material and workmanship for a period of 5 YEARS from the date of purchase from an authorized BIAMP Systems dealer, subject to the terms and conditions set forth below.

2 If you notify BIAMP during the warranty period that a BIAMP Systems product fails to comply with the warranty, BIAMP Systems will repair or replace, at BIAMP Systems' option, the nonconforming product. As a condition to receiving the benefits of this warranty, you must provide BIAMP Systems with documentation that establishes that you were the original purchaser of the products. Such evidence may consist of your sales receipt from an authorized BIAMP Systems dealer. Transportation and insurance charges to and from the BIAMP Systems factory for warranty service shall be your responsibility.

3. This warranty will be VOID if the serial number has been removed or defaced; or if the product has been altered, subjected to damage, abuse or rental usage, repaired by any person not authorized by BIAMP Systems to make repairs; or installed in any manner that does not comply with BIAMP Systems' recommendations.

4. Electro-mechanical fans, electrolytic capacitors, gooseneck microphones, cords connecting handheld microphones, hard-drives, displays, and normal wear and tear of items such as paint, knobs, handles, keypads and covers are not covered under this warranty. All server-based devices are warranted for 3 years only.

5. This warranty is in lieu of all other warranties, expressed or implied. Biamp Systems disclaims all other warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.

6. The remedies set forth herein shall be the purchaser's sole and exclusive remedies with respect to any defective product.

7. No agent, employee, distributor or dealer of Biamp Systems is authorized to modify this warranty or to make additional warranties on behalf of Biamp Systems. Statements, representations or warranties made by any dealer do not constitute warranties by Biamp Systems. Biamp Systems shall not be responsible or liable for any statement, representation or warranty made by any dealer or other person.

8. No action for breach of this warranty may be commenced more than one year after the expiration of this warranty.

9. Biamp systems shall not be liable for special, indirect, incidental, or consequential damages, including lost profits or loss of use arising out of the purchase, sale, or use of the products, even if BIAMP Systems was advised of the possibility of such damages.

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BIAMP®

DoC VCI201006

CE

EC Declaration of Conformity

Biamp Systems Corporation, as manufacturer having sole responsibility, hereby declares that the following described product complies with the applicable provisions of the DIRECTIVES below except as noted herein. Any alterations to the product not agreed upon and directed by Biamp Systems Corporation will invalidate this declaration.

Product Model:	Vocia® CI-1	
Product Description:	Control Interface	
Applicable EC Directives:	Applicable Harmonized Standards:	
LVD Directive (2006/95/EC)	Safety	EN 60065:2002
EMC Directive (2004/108/EC)	Emissions	EN 55103-1:1996, Environment E2
	Immunity	EN 55103-2:1996

Special Considerations for Product Environment or Compliance:

Use only CE and “LPS” marked 24 VDC External Power Adaptor.

Shielded cabling must be used for system connections.

Technical Construction File, Location and Contact:

Biamp Systems Corporation	phone:	(503) 641.7287
9300 S.W. Gemini Drive	fax:	(503) 626.0281
Beaverton, OR USA 97008	e-mail:	biamp@biamp.com

Authorized Representative: Larry Copley, Compliance Engineer

Authorized Signature: 

Issued: June 2010

EU RoHS COMPLIANT

This Biamp product, including all attendant cables and accessories supplied by Biamp, meets all requirements of EU Directives 2002/95/EC of January 27, 2003, and 2005/618/EC of August 18, 2005, the EU RoHS Directives. An EU RoHS Materials Content Declaration document may be obtained at www.biamp.com

(This information is presented to comply with the requirements of Chinese law SJ/T11363-2006)"

有害物质表

Biamp Systems Corporation

远程控制设备 (Remote Control Device)

Vocia CI-1

部件名称	有毒有害物质或元素					
	Pb 铅	Hg 汞	Cd 镉	Cr+6 六价铬	PBB	PBDE
设备机箱 (Equipment Chassis)	X	O	X	O	O	O
插拔式接线端子 (Plug-in Terminal Blocks)	O	O	O	O	O	O
光盘(CD ROM)	O	O	O	O	O	O
手册和其他书面文档 (Manual and Paper Documents)	O	O	O	O	O	O
包装箱和所有包装材料 (Box and Packing Materials)	O	O	O	O	O	O

0：表示该部件所有均质材料中的这种有毒有害物质低于 SJ/T11363-2006 的限制要求.

X：表示该部件中至少有一种均质材料所含的这种有毒有害物质高于 SJ/T11363-2006 的限制要求.

在电触头和（或）镀镉所含的均质材料中，镉及其化合物的含量可以超过 0.01%，但欧盟指令 91/338/EEC（根据欧盟指令 76/769/EEC）限制销售和使用某些危险物质和制剂部分中所禁止的用途除外

在以下一种或多种物质所含的均质材料中，铅及其化合物的含量可以超过 0.1%:

1) 电子元器件中玻璃内所含的铅
2) 铅在钢材中是作为一种合金元素，含量可达 0.35%
3) 铅在铝材中是作为一种合金元素，含量可达 0.4%
4) 铅在铜材中是作为一种合金元素，含量可达 4%
5) 高熔点类焊料中的铅（即铅料合金，铅含量超过 85%）
6) 电子陶瓷部件内的铅
7) 由两种以上元素组成的焊料中所含的铅，用于连接针脚和微处理器包装，其中铅的含量超过 80% 但低于 85%
8) 顺应针连接系统内的铅
9) 倒装芯片封装中半导体芯片及载体之间形成可靠连接所用焊料中的

在正常使用情况下，中国环保使用期限为 10 年，条件是：

- 环境温度为 0-40C (32-104°F)
- 湿度为 0-95%，无凝结
- 海拔高度为 0-10,000 英尺
- 气流不受阻碍
- 没有水或其他液体进入任何部件
- 电源为 24 Vdc LPS
- 部件没有损坏（损坏部件应立即修理）
- 由工厂授权人员使用批准的材料进行所有维修