CLEAR-COM ECLIPSE

BAL-8 TRANSFORMER
GROUND ISOLATION INTERFACE

INSTRUCTION MANUAL

BAL-8 Ground Isolation Interface Instruction Manual

Part Number 810403Z Rev. 1

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IMPORTANT SAFETY INSTRUCTIONS

Please read and follow these instructions before operating a BAL-8 Ground Isolation Interface.

For your safety, it is important to read and follow these instructions before operating a BAL-8 Ground Isolation Interface.

(1) **WARNING:** To reduce the risk of fire or electric shock, do not expose a BAL-8 Ground Isolation Interface to rain or moisture. Do not operate a BAL-8 Ground Isolation Interface near water, or place objects containing liquid on it. Do not expose a BAL-8 Ground Isolation Interface to splashing or dripping water.

(2) For proper ventilation, make sure ventilation openings are not blocked. Install the BAL-8 according to the directions in the Installation chapter of this manual.

(3) Do not install a BAL-8 Ground Isolation Interface near a heat source such as a radiator, heat register, stove, or other apparatus (including amplifiers) that produces heat. Do not place naked flame sources such as candles on or near a panel.

(4) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades, with one blade wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or 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.

(5) Protect the power plug from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the panel chassis.

(6) Only use attachments/accessories specified by Clear-Com Communication Systems.

(7) Unplug the BAL-8 Ground Isolation Interface during lightning storms or when unused for long periods of time.

(8) Refer all servicing to qualified service personnel. Servicing is required when:

- The BAL-8 Ground Isolation Interface has been damaged in any way, such as when a power-supply cord or plug is damaged.
- Liquid has been spilled or objects have fallen into the BAL-8 Ground Isolation Interface chassis.
- The BAL-8 Ground Isolation Interface has been exposed to rain or moisture.
- The BAL-8 Ground Isolation Interface does not operate normally.
- The BAL-8 Ground Isolation Interface has been dropped.

Please familiarize yourself with the safety symbols in Figure 1. When you see these symbols on a BAL-8 Ground Isolation Interface, 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

OPERATION

This chapter describes the BAL-8 Interface and how to operate it.

DESCRIPTION

The BAL-8 provides eight channels of transformer isolation for up to 8 direct interface ports to the Eclipse matrix. The transformer isolation eliminates the hum and noise caused by ground or earth loops. Each channel handles four signals (two bi-directional audio and two RS-422 data lines). Only the bi-directional audio lines are transformer isolated; the RS-422 lines are not isolated.

With the easy-to-operate slide switch, located to the right of each Input/Output connector pair, you can place each channel in Normal or Interface mode. In normal mode (Figure 1-1), the data pairs are not affected. In Interface mode (Figure 1-2), each data pair (i.e., call receive and call send) is connected, indicating to the Eclipse status software that the port is in “direct” mode.

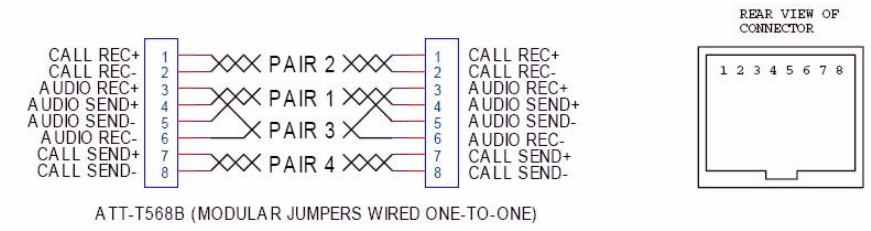

Figure 1-1: BAL-8 in Normal Mode (equivalent schematic)

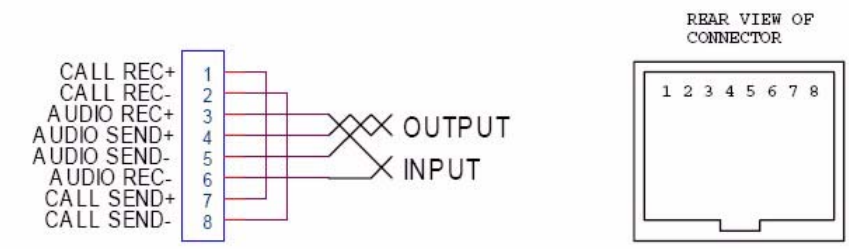

Figure 1-2: BAL-8 in Interface Mode (equivalent schematic)

CONTROL, INDICATORS AND CONNECTORS

The only controls on the unit are the slide switches to select between Normal and Interface modes.

The BAL-8 does not have any indicators.

All 16 of the unit's RJ-45 connectors are on the back panel. Each channel has one Input and one Output connector.

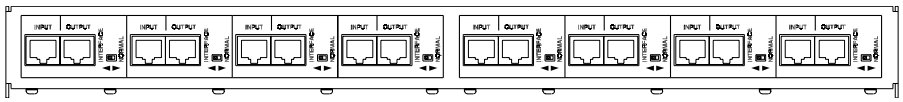

Figure 1-3: BAL-8 Rear Panel

2 INSTALLATION

This chapter describes how to install the BAL-8 ground isolation interface.

Description

The BAL-8 provides eight channels of transformer isolation for direct interface ports on the Eclipse matrix. The transformer isolation eliminates the hum and noise caused by ground loops. Each channel handles four signals (two bi-directional audio and two RS-422 data lines).

With the easy-to-operate slide switch, located to the right of each Input/Output connector pair, you can place each channel in Normal or Interface mode. In normal mode (Figure 2-1), the data pairs are not affected. In Interface mode (Figure 2-2), each data pair (i*.e.* call receive and call and call send) is connected, indicating to the Eclipse status software that the port is in “direct” mode.

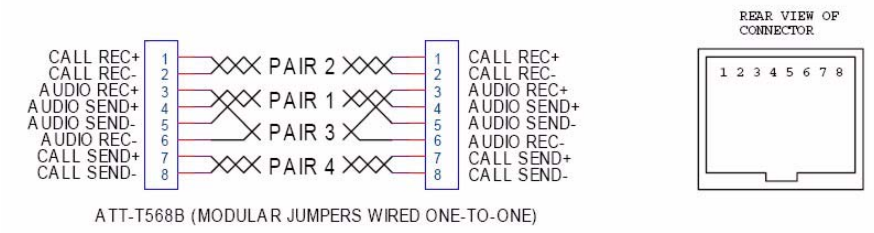

Figure 2-1: BAL-8 in Normal Mode (equivalent schematic)

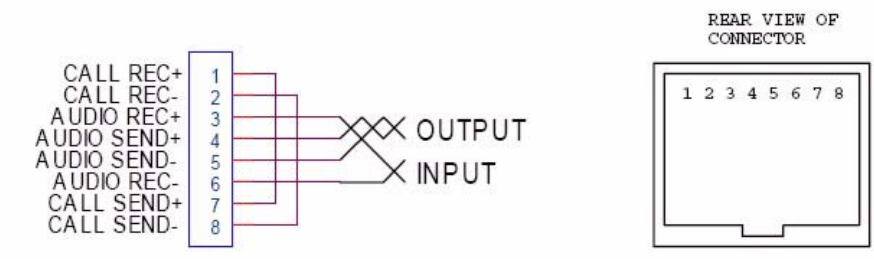

Figure 2-2: BAL-8 in Interface Mode (equivalent schematic)

INSTALLATION IN A MATRIX

Once the BAL-8 is mounted, all connections are made between the source, the Eclipse frame, and destinations, public-address systems, radio receivers, etc., via RJ-45 jumpers. A complete connection includes two RJ-45 jumpers—one connecting a Eclipse port to an

Output port in one of the BAL-8's channels and the other connecting the same channel's Input port to the intended destination equipment.

One linking option is to connect the last eight ports of a Clear-Com matrix to the eight Output ports on the BAL-8 as shown in Figure 2-3. Each of the BAL-8's Input ports can then be connected to destination equipment.

Each channel can operate in either Normal or Interface mode. Although the BAL-8 is shipped in Interface mode, you can slide the switch to the right to select the Normal mode.

Use the Normal mode if the channel is directly connected to a Eclipse panel or other RS-422 data device.

Use Interface mode if the channel is directly connected to an external device, such as a public-address system or a radio receiver.

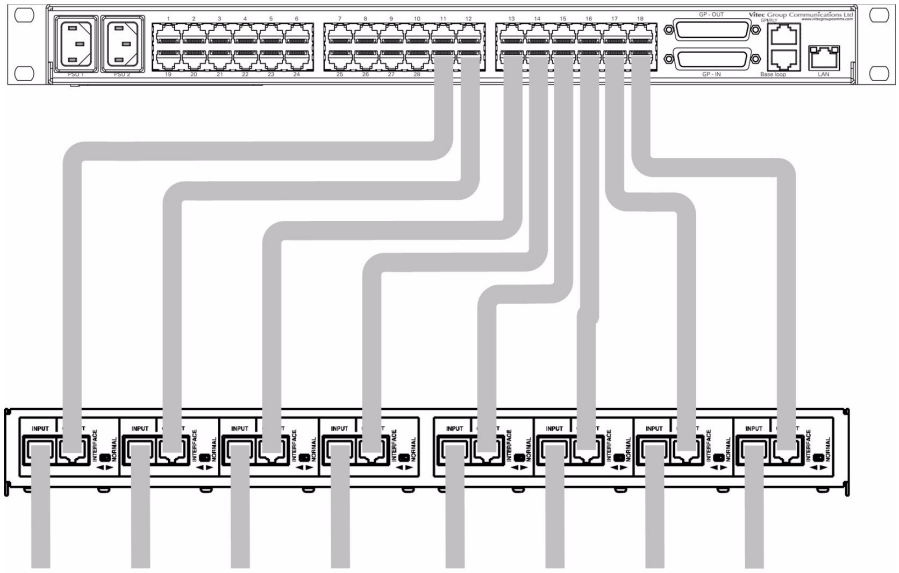

Figure 2-3: BAL-8 Connections

3 MAINTENANCE

This chapter provides maintenance information for the BAL-8 and how to install it.

DESCRIPTION

The BAL-8 provides eight channels of transformer isolation for direct port interfaces to the Eclipse matrix. The transformer isolation eliminates the hum and noise caused by ground loops. Each channel handles four signals (two bi-directional audio and two RS-422 data lines).

With the easy-to-operate slide switch, located to the right of each Input/Output connector pair, you can place each channel in Normal or Interface mode. In normal mode (Figure I7-1), the data pairs are not affected. In Interface mode (Figure I7-2), each data pair (*i.e.,* call receive and call send) is connected, indicating to the Eclipse status software that the port is in “direct” mode.

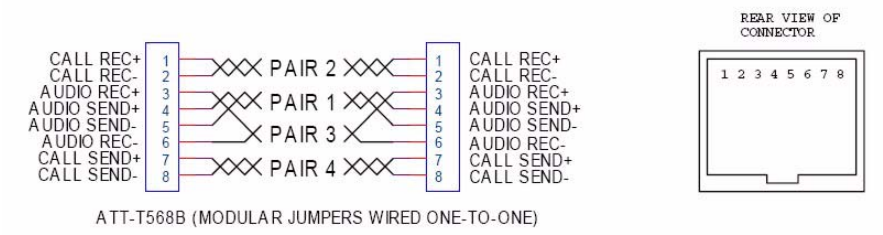

Figure 3-1: BAL-8 in Normal Mode (equivalent schematic)

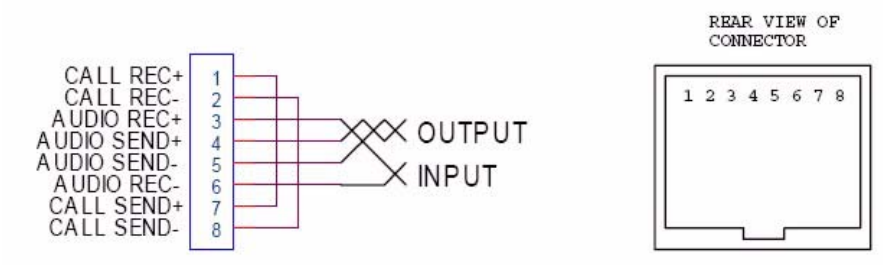

Figure 3-2: BAL-8 in Interface Mode (equivalent schematic)

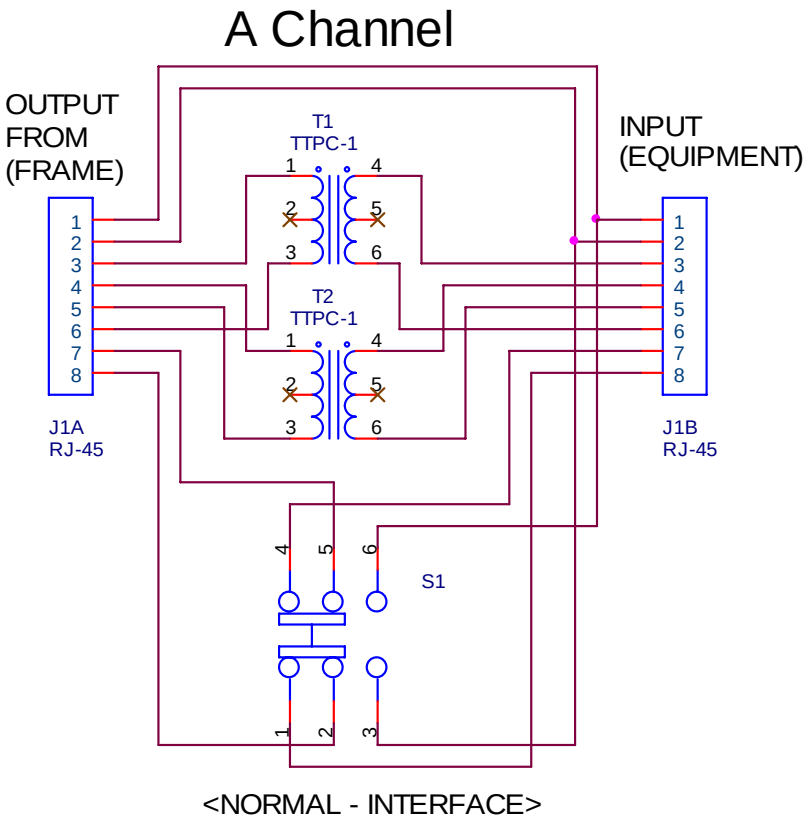

Figure 3-3: One Channel in a BAL-8 Circuit Board

SPARES FOR BAL-8 MAIN PCB

DEVICE	DESCRIPTION	PART NO.	DESIGNATOR
Transformer	600CT/600CT	560018	T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16

WARRANTY

Clear-Com 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

Clear-Com offers 24/7 customer support.

Return authorization numbers are required for all returns.

Both warranty and non-warranty repairs are available.

To ensure complete and timely support to its customers, Clear-Com 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 Clear-Com. A TSC is fully available to Clear-Com'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

For technical support from the Americas and Asia

Call: +1 510 337 6600

Web site: www.clearcom.com

Email: customerservicesUS@vitecgroup.com

FAX: +1 510 337 6699

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 Clear-Com, and shipping damage. Products with their serial numbers removed or defaced are not covered by this warranty.

WARRANTY REPAIRS

While Clear-Com 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 Clear-Com 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 Clear-Com is covered under the warranty.

This warranty does not include defects arising from installation (when not performed by Clear-Com), 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 Clear-Com provided product.

NON-WARRANTY REPAIRS

Equipment that is not under warranty must be sent prepaid to Clear-Com. 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 Clear-Com determine, in its reasonable discretion, that any part of a product is defective due to faulty materials or workmanship, Clear-Com 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

Clear-Com 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. Clear-Com has the qualified technical staff to support any and all emergency site activities should they occur.

LIABILITY

The foregoing warranty is Clear-Com’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 Clear-Com 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 Clear-Com's liability to customer hereunder shall not under any circumstances exceed the cost of repairing or replacing any part(s) fount 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 site 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

For returns from the Americas and Asia

Call: +1 510 337 6600

Web site: www.clearcom.com

Email: customerservicesUS@vitecgroup.com

FAX: +1 510 337 6699