

### Limited Warranty

DSC warrants that for a period of one year from the date of purchase, the product shall be free of defects in material and workmanship under normal use and that in fulfillment of any breach of such warranty, DSC shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in materials and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of DSC, such as lightning, excessive voltage, mechanical shock, water damage or damage arising out of abuse, alteration or improper application of the product. The foregoing warranty shall apply only to the original buyer, and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of DSC. This warranty contains the entire warranty. DSC neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf, to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product. In no event shall DSC be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

### Important!

**DSC recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to but not limited to criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.**

### FCC COMPLIANCE STATEMENT

**CAUTION: Changes or modifications not expressly approved by Digital Security Controls Ltd. could void your authority to use this equipment.**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The user may find the following booklet prepared by the FCC useful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.



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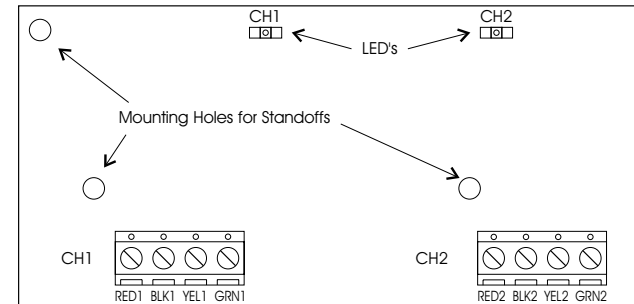
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## PC6311 v1.0 Backbone Repeater

### Installation Instructions

The PC6311 backbone repeater extends the backbone bus up to 305 meters (1000 feet) and provides isolation from downstream short circuits. A maximum of three modules may be connected in series from the signal source. The maximum distance between two communicating devices can not exceed 1220m (4000ft) in a 'Star' or 'Daisy Chain' configuration. Two LEDs located on the module are provided for diagnostics.



### Specifications

- Voltage...12Vdc ( 9-15Vdc)
- Current...10mA (nom.)
- Maximum distance between two repeaters, or repeater and control panel... 305m (1000 ft)
- Maximum capacitance...50 nF/305M
- Maximum signal path distance with repeaters ...1220m (4000ft)
- Compatible cabinets
- PC4002C/5C/6C
- PC5001CP (plastic)
- Compatible devices
- PC6010 - control panel
- PC6442 - APS interface
- PC6443 - ODS interface

### LED Diagnostics

Two LED's located on the module light when activity is detected at the input of the associated channel. This activity is normally 'data packets' from the preceding repeater or control panel, but may indicate electrical noise if levels are significant. Refer to the troubleshooting guide below.

Observed Activity	Likely Cause
LEDs are off most of the time LEDs appear to light simultaneously	Normal Operation
One LED appears to light periodically One LED remains off	Electrical interference - May affect communications. Relocate wiring if possible.
One LED lights continuously One LED remains off	Electrical interference - Communications affected. Wiring must be relocated.

### Installation

Refer to Figure 1 and Control Panel *Installation Manual* for wiring details.

1. Remove power from the system.
2. Locate cabinet not greater than 305m (1000ft) from the control panel or repeater.
3. Insert the three standoffs into the cabinet. Press firmly until standoffs click into place.
4. Align the module mounting holes over the standoffs. Press module firmly into place.
5. Route bus wire to the module in accordance with local requirements.
6. Insert required wiring into terminals and secure in place with a flatblade screwdriver.
7. Apply power to system and observe LED activity as indicated above.
8. Allow system to run for 15 minutes minimum. If a communication problem is present a 'Backbone Fault' will be generated within the time period.

## Figure1 PC6311 Typical Configuration

### NOTES

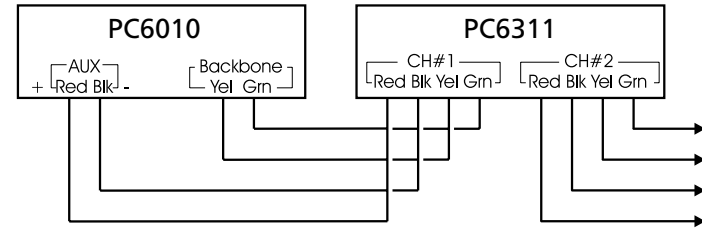
Backbone devices may be connected in any combination but must not deviate from the following guidelines:

\*The longest communication path on the backbone between any two communicating devices must not exceed 1220m (4000ft).

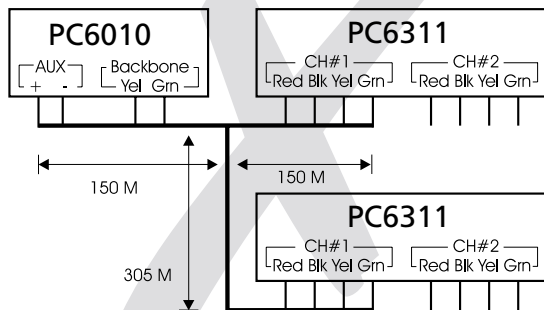
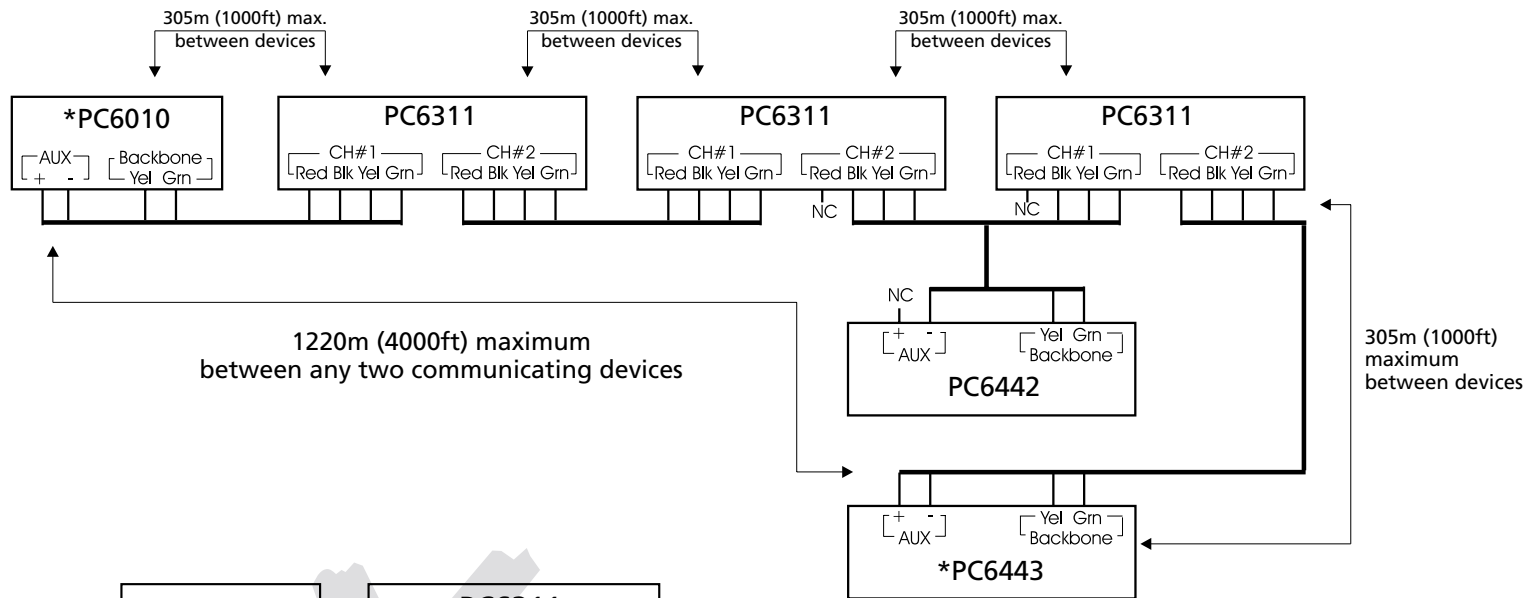
The maximum distance between two series-connected communicating devices must not exceed 305m (1000ft).

The communication path must not have more than three PC6311 repeaters in a series.

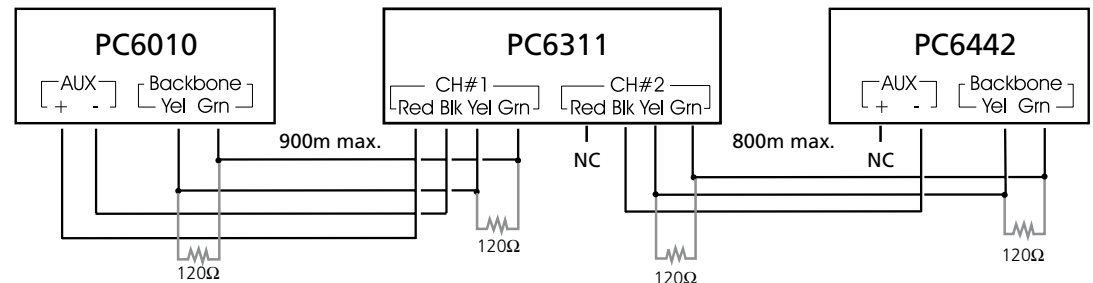
### PC6311 Interconnect Diagram



Interconnections must be wired using 0.6439mm (22AWG) copper wire. Capacitance must not exceed 50nF/305m. **DO NOT** use shielded wire.



### PC6311 Extended Range (Termination)



For installations where a great distance is required between two devices, 120Ω (1/4W, 5%) terminating resistors can be connected between the YEL and GRN terminals of each device as shown above.

**Note:** For each distance indicated above, no other device can be added to the backbone.