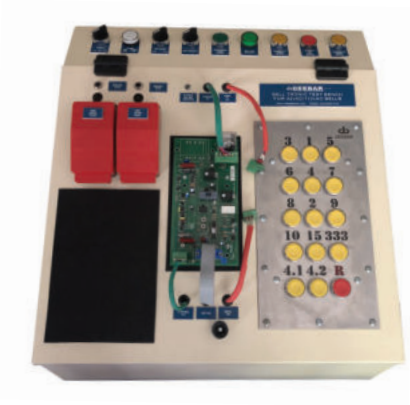
DEEBAR
ELECTRICAL & MECHANICAL ENGINEERING

BELLTRONIC TEST BENCH 32V/110V WITHOUT REDUNDANCY

User Manual

DEEBAR BELLTRONIC TEST BENCH 32V / 110V


Deebar's core business has always been Shaft Signalling Systems that the majority of the mines in Southern Africa are using as their standard products. Deebar designs and manufactures revolutionary shaft signalling and station safety products to satisfy all shaft communication requirements.

Part of Deebar's comprehensive range, we offer various Belltronic Lockbells and Callbells which are used for the interchange of coded signals between the Driver and the Banksman and the Driver and the Onsetter at the various stations.

These signalling units require regular testing to ensure effective operation as they are safety critical items on the mines.

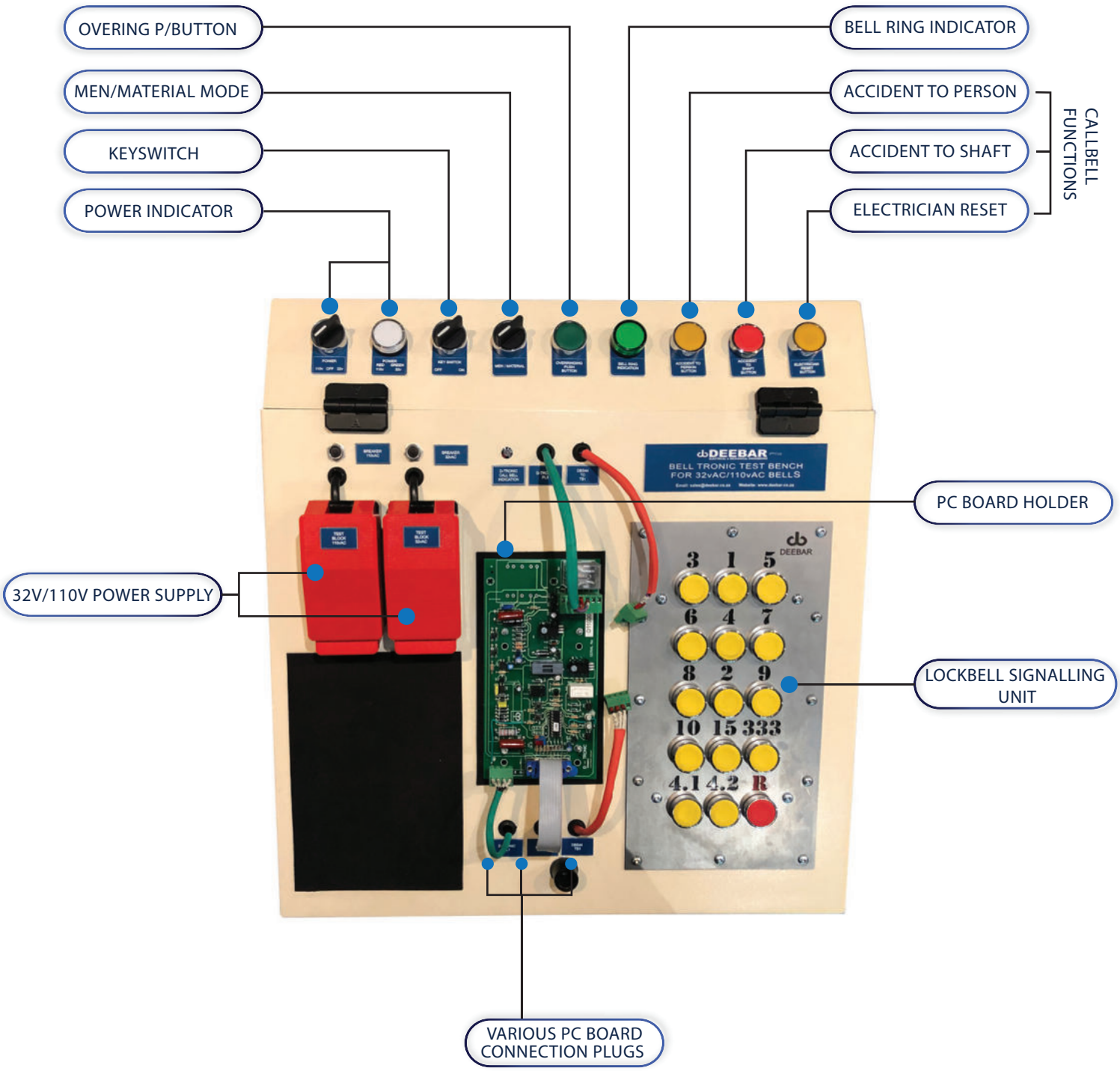
To ensure these products are in working order, Deebar has developed a Belltronic Test Bench that allows: the testing of multiple Deebar products such as but not limited to;

- The testing of Lockbell and Callbell PC Boards 32V and 110V.
- This includes our range of D-Tronic, Evolution and DBS44 Bell Signalling cards.
- Easy platform for the setting up of the cards e.g. the Stations ID's with Programmers supplied separately, depending on the cards used on your site.
- A supply to test the complete Lockbell and Callbell Units.
- A supply to test Robot Indication Lights 32V and 110V.

THE STANDARD FEATURES ON THE BELLTRONIC TEST BENCH INCLUDE:

- For Lockbell Testing:
  - Deebar 15 Way Matrix Unit to allow testing of the signals.
  - Key Switch Functionality
  - Men and Material Selection Mode
  - Overring Button to test that the overring inhibit circuit is functional.
- For Callbell testing:
  - Accident to Shaft, Accident to Person and Electrician Test Buttons.
  - Callbell Indication for D-Tronic (Evolution and DBS44 is on board).
- 32V and 110V Supply to test:
  - Complete Lockbell Units.
  - Complete Callbell Units.
  - Robot Indication Lights.
  - Sounders.
  - Any other 32V/110V supply electrical units.

BELLTRONIC TEST BENCH SCHEMATIC



OPERATIONAL INSTRUCTIONS

BEFORE TESTING COMMENCES

a. As there is a possibility of electrical shock, the test bench must be used by an authorised and competent person.

b. Ensure the equipment is clean and dry before use.

c. Handle PC Boards on the edge of the board and do not touch the components, tracks or wiring.

d. Observe electrical safety. While testing the operator may be exposed to open wiring or components. Do not touch the card or equipment being tested while the supply is on.

e. The colour coding of the wiring in the panel is the same as in the Deebar signalling equipment. The c**olour coding does not indicate the potential on the wires** in the panel.

f. Ensure the supply is off and it is safe before inserting or removing plugs or equipment to be tested.

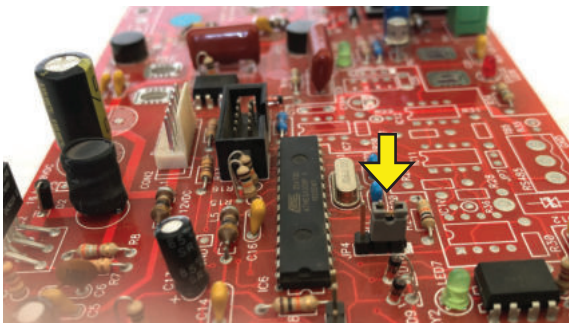
g. Ensure the supply is off and it is safe before leaving the test bench.

h. Ensure the correct voltage is selected for the equipment to be tested.

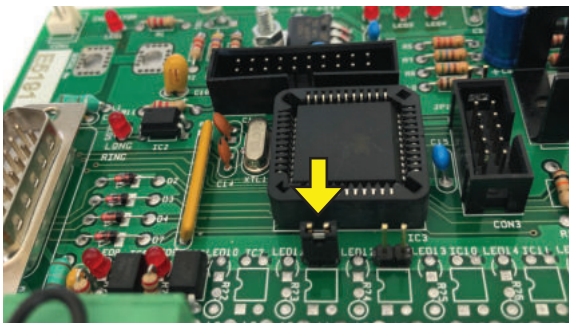
TESTING BELL SIGNALLING CARD

1. Lock Bell Tests:

a. Fit Link to Lock Bell Mode (DBS44 JP4 and Evolution PC Boards)



DBS44 Card



Evolution Card

b. Ensure supply is OFF.

c. Ensure Key Switch is OFF.

d. Confirm PC Board voltage and plug the card in on the test bench.

e. Switch supply on to 32V or 110V as per PC Board.

f. With Key Switch in OFF position, ensure no buttons are active.

g. With Key Switch in ON position:

- Ensure all Buttons are operational and ring the correct signal. If the signal is not correct, an external Programmer may be used to set the correct signal (DBS44 and Evolution PC Boards).
- Confirm Station ID on Long Ring.
- While a signal is being rung, activate the Long Ring, the Long Ring should start immediately followed by the Station ID.

h. Select Material Mode and ensure that only 1, 2, 4, 4-1, 4-2 and the Long Ring is available. (If the card is programmed for **Impala group**, only 1, 2, 4, **5**, 4-1, 4-2 and the Long Ring is available.)

i. Press and keep the Over Ring Button in. Press any other button, no Button except the Long Ring must be active.

j. Select Men Mode.

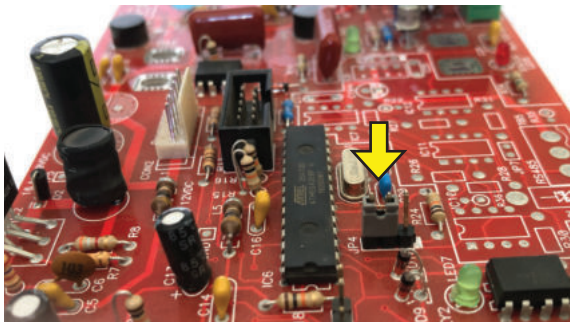
k. Turn Key Switch OFF.

l. Turn Supply OFF.

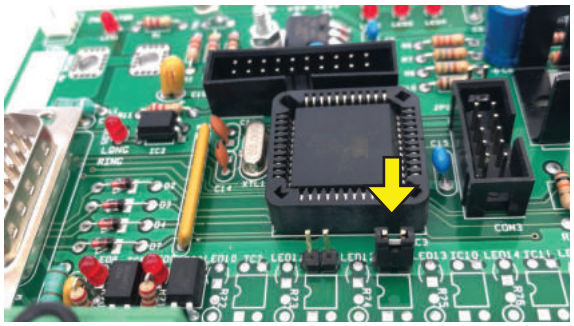
OPERATIONAL INSTRUCTIONS

2. *Call Bell Tests:*

a. Fit Link to Call Bell Mode (DBS44 JP4 and Evolution PC Boards)



DBS44 Card



Evolution Card

b. Ensure supply is OFF.

c. Ensure Key Switch is OFF.

d. Confirm PC Board voltage and plug the card in on the test bench.

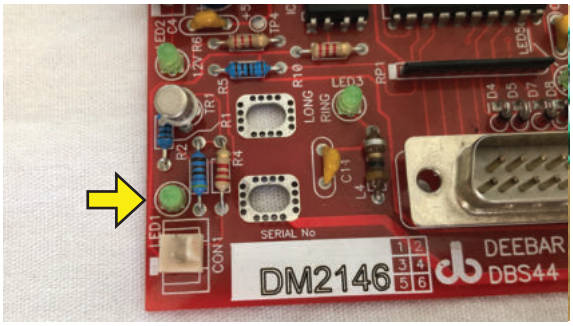
e. Switch supply on to 32V or 110V as per PC Board.

f. The Key Switch must remain in the OFF position while these tests are done on DBS44 and Evolution PC Boards. When testing D-Tronic Boards, the Key Switch must remain in the ON position.

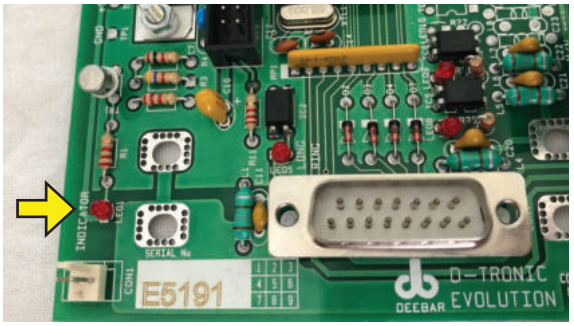
g. Activate the Accident to Person Button. The card should ring 10 times and repeat the Station ID 2 times. The Call Bell Indication should turn ON.

I. The D-Tronic Call Bell Indication is on the Test Bench above the PC Board

II. DBS44 and Evolution indication LED is on the PC Board in the bottom left corner (LED1).



DBS44 Card



Evolution Card

h. Activate the Electrician Test Button. The card should ring 15 times and repeat the Station ID 2 times. The Call Bell Indication should turn OFF.

i. Activate the Accident to Shaft Button. The card should ring a Long / Continuous ring for 6 Seconds and repeat the Station ID 2 times. The Call Bell Indication should turn ON.

j. Activate the Electrician Test Button. The card should ring 15 times and repeat the Station ID 2 times. The Call Bell Indication should turn OFF.

k. Turn Key Switch OFF

l. Turn Supply OFF

CONTACT

011 873 4332

www.deebar.co.za

JOHANNESBURG

15 Main Reef Road
Primrose Ext.1
Germiston 1401

sales@deebar.co.za

NORTH WEST

25 Neethling Street
Stilfontein 2551

northwest@deebar.co.za

RUSTENBURG

11 ACBO Industrial Park
Rustenburg 0299

rust@deebar.co.za

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