



CAPITAL PROGRAM

Annexure-D to BBB1776 version3

Author:

N Breytenbach

Nick Breytenbach

Date:

15 July 2010

Circulation Restricted To:

Transnet Freight Rail

Transnet and Relevant Third Parties

Unrestricted

© This document as a whole is protected by copyright. The information herein is the sole property of Transnet Ltd. It may not be used, disclosed or reproduced in part or in whole in any manner whatsoever, except with the written permission of and in a manner permitted by the proprietors.

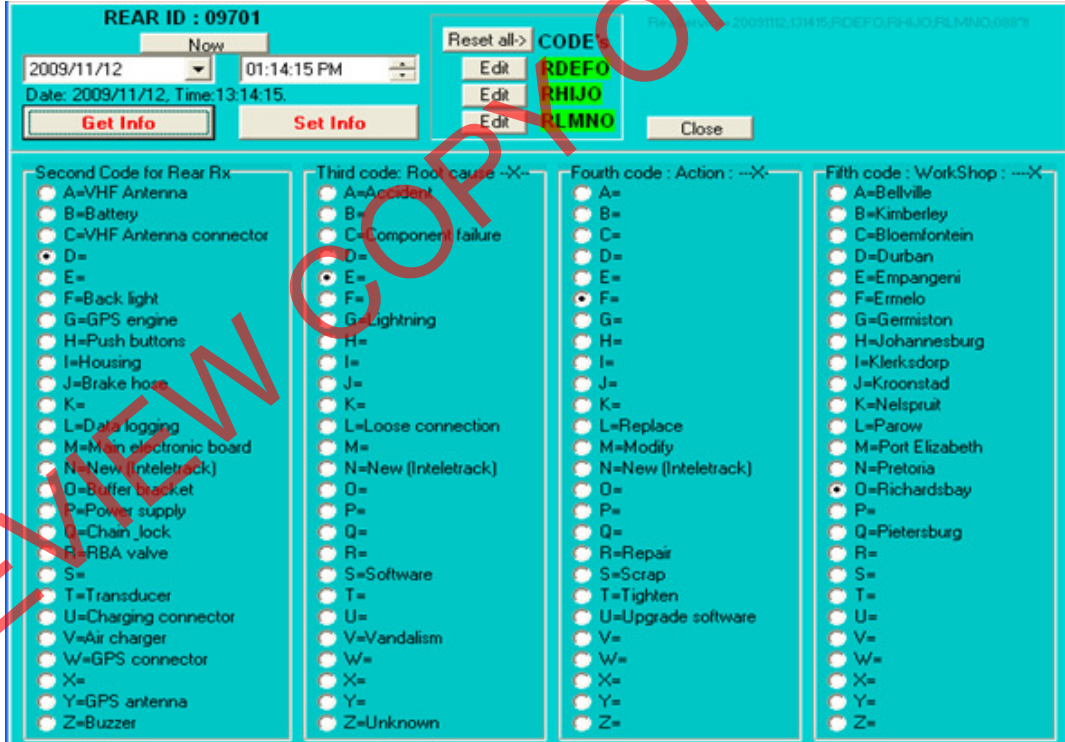
CONTENT

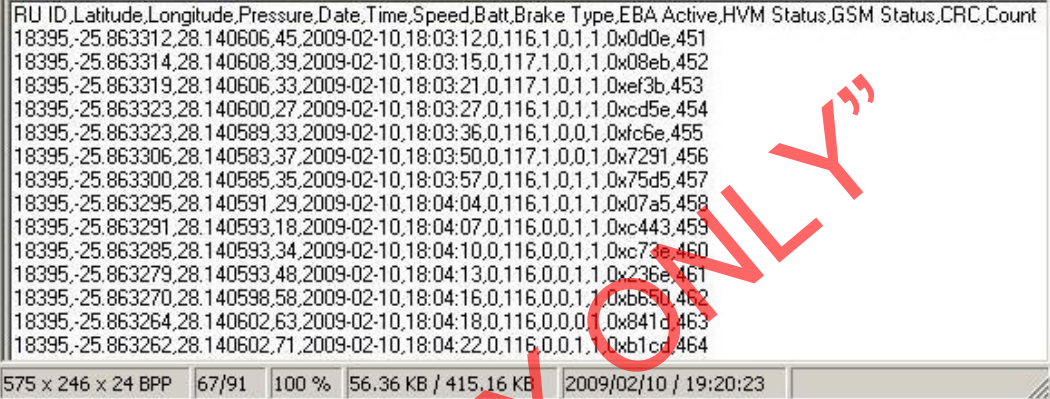
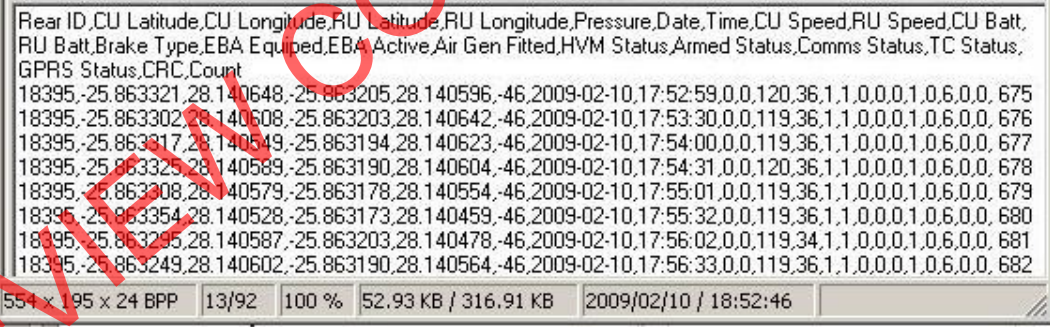
1. Scope..... 3

“PREVIEW COPY ONLY”

1. SCOPE.

This serve as additional information to **BBB1776 Version 3.**

Function	Information
1. ICASA approval radio	The supplier must submit the ICASA approval certificate for his radio before TFR will accept any deliveries.
2. Setting the parameters.	All parameter settings in the CAB and REAR unit must be via the serial port in standard AT commands or with supplier specific software.
3. Service record rear unit.	<p>The service date and time and fault code are generated as follows. The first code = R.</p> <ul style="list-style-type: none"> ➤ The supplier can supply software to easy the code generation and updating the REAR unit or. ➤ An AT command set can be used which must be documented clearly in the documentation. ➤ The service date and time and three fault codes must be stored and retrieved at any time. ➤ This information is send via the GPRS. 
4. REAR GPS & GPRS indication.	The supplier must implement a display method to determine at any time if the REAR GPS has satellite lock and if the GPRS successfully send data to the server.
5. REAR matching status.	It is desirable that the REAR unit indicated when matched to the CAB unit and if the Valve is ARMED. Suppliers must look into methods to provide such information.
6. Rear brake valve in Vacuum mode.	No arming and no brake valve activation must be possible in Vacuum mode.
7. Disable of CAB units.	The CAB unit must shut down after 30 "COMMS FAIL" tries. The CAB unit will disable the RBA "ARMING" and stop RF transmission. To re-activate, a new CAB unit start up sequence must be initiated.

8. TCS Interface software.	Must be standard in all CAB units. See Annexure-B
9. Interface to remote head.	Must be standard in all CAB units. See Annexure-B
10. Manual switched of off REAR unit	The REAR button must be hold in for at least 30 sec before the unit switched off.
11. Logging of REAR unit data.	<p>Typical data logged.</p> <p>The supplier must provide an AT command set where by the REAR unit must output the data in a comma delimiter file format via the serial port. At least 5 days of info must be stored.</p> <pre> RU ID, Latitude, Longitude, Pressure, Date, Time, Speed, Batt, Brake Type, EBA Active, HVM Status, GSM Status, CRC, Count 18395,-25.863312,28.140606,45,2009-02-10,18:03:12,0,116,1,0,1,1,0x0d0e,451 18395,-25.863314,28.140608,39,2009-02-10,18:03:15,0,117,1,0,1,1,0x08eb,452 18395,-25.863319,28.140606,33,2009-02-10,18:03:21,0,117,1,0,1,1,0x0ef3b,453 18395,-25.863323,28.140600,27,2009-02-10,18:03:27,0,116,1,0,1,1,0xcd5e,454 18395,-25.863323,28.140589,33,2009-02-10,18:03:36,0,116,1,0,0,1,0xfc6e,455 18395,-25.863306,28.140583,37,2009-02-10,18:03:50,0,117,1,0,0,1,0x7291,456 18395,-25.863300,28.140585,35,2009-02-10,18:03:57,0,116,1,0,1,1,0x75d5,457 18395,-25.863295,28.140591,29,2009-02-10,18:04:04,0,116,1,0,1,1,0x07a5,458 18395,-25.863291,28.140593,18,2009-02-10,18:04:07,0,116,0,0,1,1,0xc443,459 18395,-25.863285,28.140593,34,2009-02-10,18:04:10,0,116,0,0,1,1,0xc73e,460 18395,-25.863279,28.140593,48,2009-02-10,18:04:13,0,116,0,0,1,1,0x236e,461 18395,-25.863270,28.140598,58,2009-02-10,18:04:16,0,116,0,0,1,1,0xb550,462 18395,-25.863264,28.140602,63,2009-02-10,18:04:18,0,116,0,0,1,1,0x841a,463 18395,-25.863262,28.140602,71,2009-02-10,18:04:22,0,116,0,0,1,1,0xb1cd,464 </pre> 
12. Logging of CAB unit data.	<p>Typical data logged.</p> <p>The supplier must provide an AT command set where by the CAB unit must output the data in a comma delimiter file format via the serial port. At least 5 days of info must be stored.</p> <pre> Rear ID, CU Latitude, CU Longitude, RU Latitude, RU Longitude, Pressure, Date, Time, CU Speed, RU Speed, CU Batt, RU Batt, Brake Type, EBA Equiped, EBA Active, Air Gen Fitted, HVM Status, Armed Status, Comms Status, TC Status, GPRS Status, CRC, Count 18395,-25.863321,28.140648,-25.863205,28.140596,-46,2009-02-10,17:52:59,0,0,120,36,1,1,0,0,0,1,0,6,0,0, 675 18395,-25.863302,28.140608,-25.863203,28.140642,-46,2009-02-10,17:53:30,0,0,119,36,1,1,0,0,0,1,0,6,0,0, 676 18395,-25.863317,28.140549,-25.863194,28.140623,-46,2009-02-10,17:54:00,0,0,119,36,1,1,0,0,0,1,0,6,0,0, 677 18395,-25.863325,28.140589,-25.863190,28.140604,-46,2009-02-10,17:54:31,0,0,120,36,1,1,0,0,0,1,0,6,0,0, 678 18395,-25.863308,28.140579,-25.863178,28.140554,-46,2009-02-10,17:55:01,0,0,119,36,1,1,0,0,0,1,0,6,0,0, 679 18395,-25.863354,28.140528,-25.863173,28.140459,-46,2009-02-10,17:55:32,0,0,119,36,1,1,0,0,0,1,0,6,0,0, 680 18395,-25.863295,28.140587,-25.863203,28.140478,-46,2009-02-10,17:56:02,0,0,119,34,1,1,0,0,0,1,0,6,0,0, 681 18395,-25.863249,28.140602,-25.863190,28.140564,-46,2009-02-10,17:56:33,0,0,119,36,1,1,0,0,0,1,0,6,0,0, 682 </pre> 
13. Fix repeater GPRS connection.	<p>The supplier must provide server software to connect, decode and insert the message information in an Oracle database. TFR only define the table.</p> <p>The server software must support at least the following.</p> <ol style="list-style-type: none"> 1. Changing the repeater server IP remotely. 2. Accommodate and changing two APN names on the repeater remotely 3. Changing the repeater port connection remotely. 4. Request and repeater update remotely. 5. Revert back to the previous settings if remote changes fail. <p>The proposed table look like this which will be finalised with the successful tenderer.</p> <p>Datetime: Reporting date & time Charging: Are the unit charging UnitSerNo: Unit serial number. Vswr: Unit vswr status Longitude: GPS Longitude</p>

	<p>Latitude: GPS latitude</p> <p>RearRepIDI: Rear idi of unit repeated.</p> <p>Direction: Was it a front to back or rear to front repeating</p> <p>Triggers:</p> <ol style="list-style-type: none"> 1. When request remote update. 2. Send one message when any Eot enters the repeater area and trigger a repeater function. 3. When the charging fails. 4. Once every hour. <p>Notes:</p> <p>The unit can send back the last repeated IDI if another EoT was not causing the trigger. TFR only define the table structure. The supplier must implement a suitable and reliable protocol using the least data over the air via his server software with above functions. The server must support up to 100 connections and run on Window XP.</p>
14. Accelerometer. (For RFI)	<p>The fine tuning of the accelerometer alarm levels will be determined by experiment.</p> <ol style="list-style-type: none"> 1. Ruff handling:(Kpa=0 & Tilt = horizontal. <ul style="list-style-type: none"> ➤ Drop > 500mm (Scale 01h-ffh with 500mm level at 80h) ➤ Or what ever the supplier recommend as practical and save for his equipment. ➤ Measure any of the three axes. 2. On the Buffer:(Kpa > 50 or Kpa > -10 & Tilt = upright. Moving >) <ul style="list-style-type: none"> ➤ Vertical : With a vertical variation of 1-50mm over 1.5m distance. (scale 01h – ffh with 50mm at AAh) ➤ Side ways: With a sideway variation of 1-100mm over 3m distance. (scale 01h – ffh with 100mm at AAh) ➤ Horizontal front to back: None

End of document.