

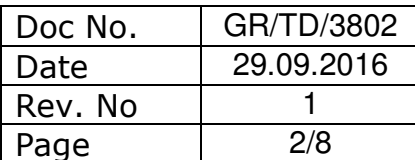


BEML LIMITED
BANGALORE
R & D CENTER

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TECHNICAL SPECIFICATION FOR
INTERCOM SYSTEM - 8W DIESEL
ELECTRIC TOWER CAR (DETC)

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INTERCOMMUNICATION SYSTEM FOR 8W DETC CAR

1. INTRODUCTION:

The Intercommunication system provided in the 8W DETC car is meant for communication between the staff in the cabins, Instrumentation/Observation Room and the Lifting and Swiveling Platform during maintenance work using the 8W DETC.

2. SERVICE CONDITIONS:

The equipments are designed to withstand the following severities without damage

Environmental conditions:

- a) Ambient Temperature: 0° to 55° C
- b) Maximum relative humidity: upto 100% during rainy season
- c) Altitude: 1000 Meters. Above mean sea level
- d) Atmosphere: Extremely dusty and desert terrain

Working conditions:

- a) Train speed: 110 Kmph
- b) Vibration & shocks: Max. Acceleration of 3.0g each in vertical, 5.0g in longitudinal and maximum Train acceleration 2.0g.

3. SYSTEM CONFIGURATION:

The system has communication capability for continuous 24 hours working condition as below

- a) To call from CAB1 to CAB2, Observation/Instrumentation room and Lifting platform
- b) To Call from CAB2 to CAB1, Observation/Instrumentation room and Lifting platform
- c) To Call from Observation/Instrumentation room to CAB1, CAB2 and Lifting platform

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- d) To Call from Lifting platform to CAB1, CAB2 and Observation room
- e) Teleconferencing facility for all the Points/Terminals is provided

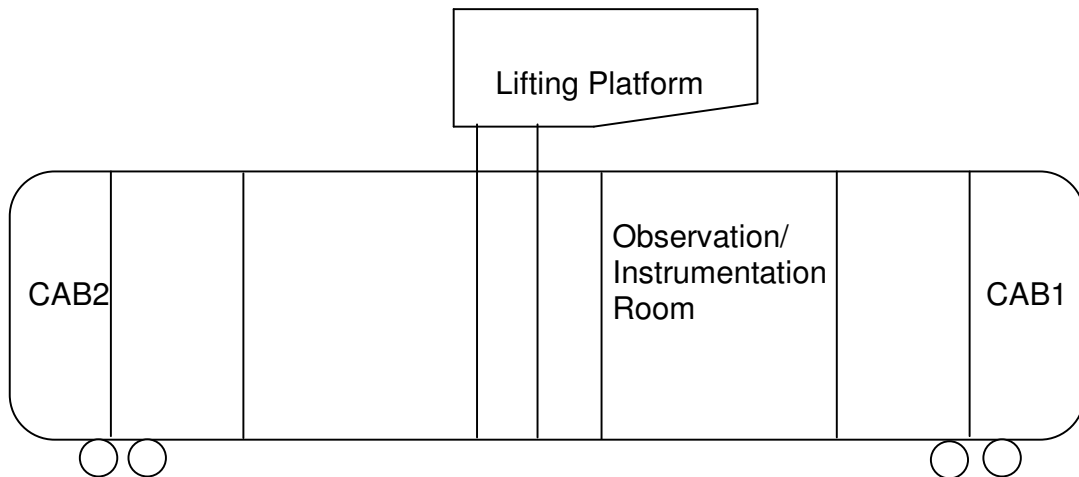


Fig.1: LOCATIONS OF COMMUNICATION POINTS IN 8W DETC:

4. DECIBLE LEVEL:

The dB level output is 80db Max.

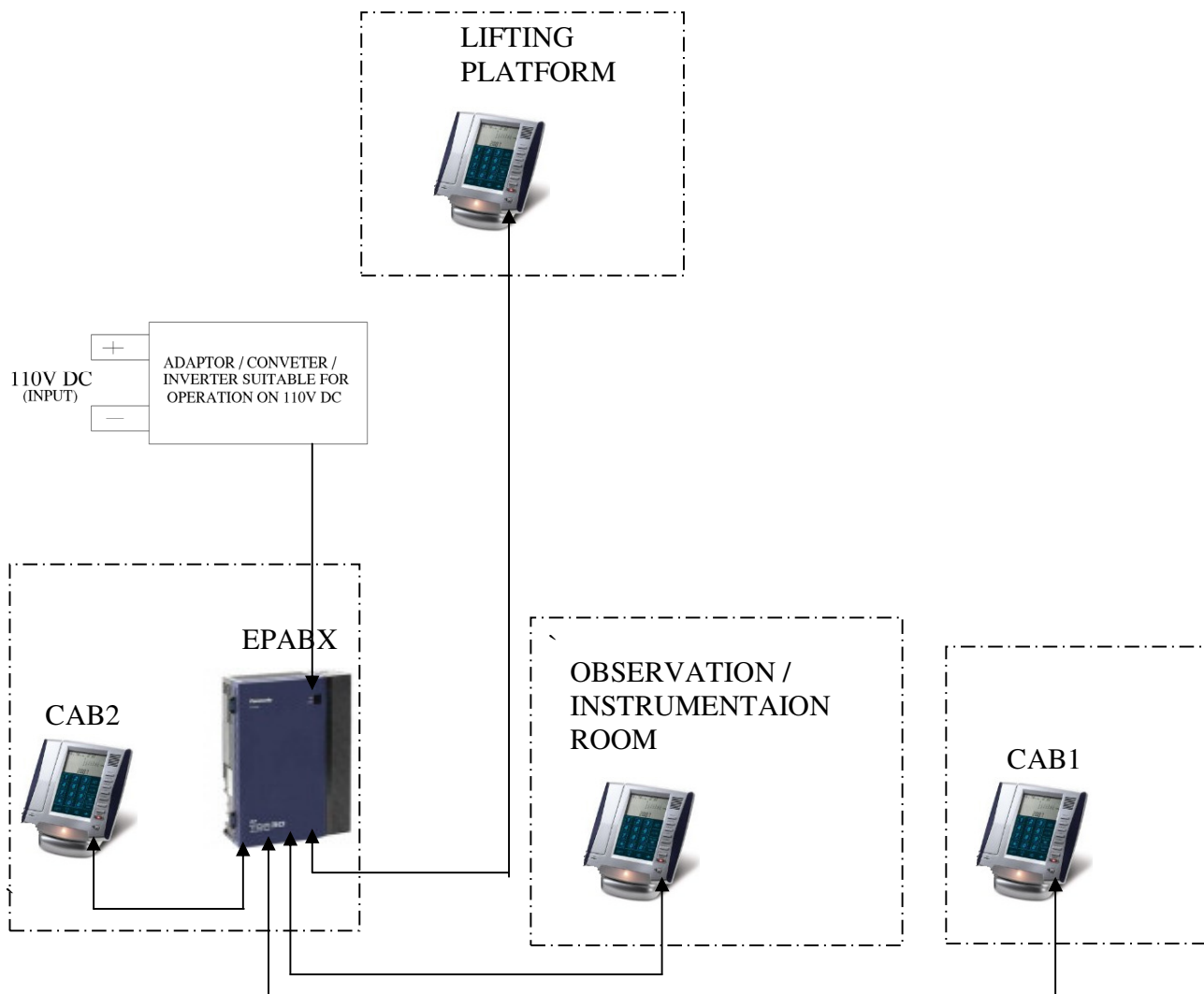
5. OPERATION OF INTERCOM SYSTEM:

The General arrangement for the Intercommunication system is as shown in the Block diagram Fig.2. The system provides duplex mode of intercommunication with hands free operation

In this arrangement, a call can be made from one point to another point with a ringing tone at the call receiving end. Hand sets are provided in Observation/Instrumentation room and Lifting platform. All the handsets have the facility of hands free operation.

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- EPABX- Electronic Private Automatic Branch Exchange

Fig. 2: BLOCK DIAGRAM OF INTERCOM SYSTEM

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6. SYSTEM SUPPLY & PROTECTION:

The system works on 110 VDC supply with the provision of battery backup for operation during power failure. The system is provided with EMI suppression circuits and protection against short circuit, over/under voltage and over temperature.

7. SCOPE OF SUPPLY OF ITEMS:

- a) Electronic Private Automatic Branch Exchange (EPABX) :
with main junction box, junction box for four Extensions - 1 Set
- b) Adaptor / converter / inverter suitable for operation of EPABX
on 110VDC, available in the DETC - 1 No.
- c) Hands free Telephone Instrument: - 4 Nos.
- d) Interconnecting cables: Telephone armoured cable 2pair
(4core), 0.5mm Φ conforming to BS: 5608 Part 1, Type - 90 Mtrs.
- e) Enclosure to accommodate EPABX & adaptor unit - 1 No
- f) Parts catalogues - 3 sets
- g) Service manuals - 3 sets

8. TESTING:

The subcontractor shall be responsible for performance tests of the intercom system. BEML and/or Railway board representative have the right to witness any of these tests at the any stage of test progress.

The subcontractor shall carry out the type test and routine test of equipment and assembly. The commissioning test of the complete vehicle at BEML, and the commissioning test at depot & Mainline will be performed by subcontractor for the intercom system.

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In the event that any test for the intercom system is failed, the subcontractor shall, at his own expense, take whatever action is deemed such as, rectification, readjustment or design changes to the satisfaction of BEML, in order to meet the testing requirements.

9. WARRANTY

The Supplier shall provide warranty period of at least 5 years. During the warranty period if in any case there is problem in the system, the supplier at his own expense shall correct the same whatever correction deemed necessary.