CARRIER SYSTEM WB 400

Installation of Equipment at a Carrier Control Point

(This Instruction has been RENUMBERED from A8 D2051 without significant change).

1 GENERAL This Instruction describes the siting, installation and cabling of the Carrier System WB 400 equipment for a carrier control point.

1.1 A general description of the carrier system is given in A8 J1051 formerly A8 C2051 and the equipment is described in E9 E2080. Insertion of plug-in units in the carrier equipment and alignment of the carrier system is described in E9 E2094. The equipment to be installed at a carrier control point consists of the following items:-

(a) Equipment, Carrier, WB No. 404A with a Box, Battery, WB No. 401A.

(b) Equipment, Signalling, WB No. 400A with a Box, Battery, WB No. 401A.

(c) Operating-unit WB No. 400A with a Jack-unit WB No. 400A.

(d) Operating-unit WB No. 401A.

(e) Receiver, Carrier, WB No. 400A with, if required, a Bracket, Mounting, WB No. 400A.

1.2 The dimensions of the carrier and signalling equipment cabinets are: height 812 mm, width 572 mm and depth 318 mm. When fully equipped the carrier equipment weighs 102 kg and the signalling equipment weighs 95 kg.

1.3 The dimensions of the battery boxes upon which the equipment cabinets are mounted are: height 584 mm, width 572 mm and depth 356 mm, and when equipped with 12 Cells, Dry, WB No. 400A, each battery box weighs 102 kg.

1.4 Location of Equipment The location of the equipment in a carrier control point is decided in collaboration with the Chief Constable, bearing in mind the following factors:-

(a) The positions chosen should be as secure and as protected as possible.

(b) If possible, the carrier and signalling equipment cabinets, with their battery boxes, should be installed adjacent to each other. This arrangement is not essential for the operation of the equipment but it reduces the length of the cabling between the cabinets and may simplify the provision of mains supply socket-outlets.

(c) The two operating-units must be installed close to each other. They may be in separate rooms from the equipment cabinets but the length of the cabling between the operating-units and their cabinets should not exceed 15 m. If there is a demand for this distance to be exceeded, reference should be made to E9 E2080 para 3.3.

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(d) To avoid the likelihood of interaction between the microphone of the Operating-unit WB No. 400A and the Receiver, Carrier, WB No. 400A, the receiver should not be fitted in the same room as the operating-unit or carrier equipment.

2 **INSTALLATION OF EQUIPMENT** The battery boxes are first placed in position and screwed to the floor using either four $\frac{3}{8}$ in coach screws or four $\frac{3}{8}$ in Whitworth rag bolts, washers and nuts. The fixing holes are located in the channel irons which are welded to the base of the boxes. Clearance holes of 32 mm dia allow access to the fixing holes to be gained from the inside of the box. (NOTE: $\frac{3}{8}$ in equals 9.5 mm and $\frac{3}{4}$ in equals 19 mm.

2.1 The carrier equipment and signalling equipment cabinets are next stacked on top of their respective battery boxes. The cabinets and boxes are attached by four $\frac{3}{8}$ in x $\frac{3}{4}$ in long BSW hexagon screws and nuts. Brackets, which need to be drilled to suit the situation, are supplied for bolting the tops of the cabinets to an adjacent rack or wall. If the cabinets are placed back to wall, separate angle brackets will need to be provided locally. If the two cabinets are installed side by side, Tee-pieces, Conduit, No. 5 connected by conduit should be provided at the top of the cabinets for the routing of cables between the two equipments. The support brackets and conduit coupling assemblies are supplied packed inside the cabinets and the position and method of assembly is shown on Drg WBM 28055.

2.2 The Operating-unit WB No. 400A is housed in a steel cabinet 203 mm high x 406 mm wide x 216 mm deep. It is fitted with a plug and 1 m flexible lead and has been designed for placing on a desk. The Jack-unit WB No. 400A to which it is connected should be screwed to a desk or wall.

2.3 The Operating-unit WB No. 401A is housed in a steel cabinet 346 mm high x 406 mm wide x 121 mm deep and weighs 13.6 kg. It is provided with lugs for screwing to a wall.

2.4 The installation of the Receiver, Carrier, WB No. 400A should be carried out as described in E9 E2080 except that a Filter-unit WB No. 400A is not required.

3 **WIRING** The wiring of the equipment at a carrier control point is shown on Dgm WBW 28161.

The battery leads are passed through the left-hand sealing grommet in the base of each equipment cabinet and the cup of the grommet is packed with Mixture No. 2.

A three-core flexible mains lead is supplied coiled up inside the equipment cabinets. When fed through the right-hand sealing grommet in the base of each cabinet, a 2 m length of lead is available for connexion to a three-pin socket-outlet.

All cables, with the exception of the battery and power leads, should be fed through the conduit assembly in the top of the cabinets. The neoprene rubber seal should be cut to fit the contours of the cables and the interstices in the conduit assembly should be packed with Mixture No. 2.

Cables between the carrier and signalling equipment cabinets should be fed through the connecting conduit if the two cabinets are adjacent (see para 2.1).

Duplicate transmission paths are provided between:

(a) the distribution case and the carrier equipment cabinet

(b) the operating units and the two equipment cabinets.

Where possible the two transmission paths should be routed separately. In exposed situations the cabling should be protected by steel capping.

4 **POWER SUPPLIES** The carrier and signalling equipments require a 50 Hz 200-240 V supply for their operation. The power consumption of each equipment is approximately 15 watts. The Chief Constable should be asked to provide a three-pin socket-outlet for each equipment and a third one for the use of test equipment or a soldering iron. Before the power supply is connected, the mains transformer tapping of the Power-unit WB No. 405A of each equipment should be adjusted to the supply voltage.

5 **TESTS** When the installation is complete, the wiring should be checked for continuity and in accordance with Dgm WBW 28161.

The mains supply should be connected and the output voltage of the Power-unit WB No. 405A should be 30 ± 4 V d.c.

6 **LIST OF DIAGRAMS**

Carrier Control Point	Wiring	WBW 28161
Equipment, Carrier WB No. 404A	Wiring Assembly	WB/WBW 28055 WBM 28055
Equipment, Signalling, WB No. 400A	Wiring	WB/WBW 28181
Operating-unit WB No. 400A	Circuit Wiring	WBW 28057 WBW 28057
Operating-unit WB No. 401A	Circuit	WB 28180
Power-unit WB No. 405A	Circuit	WB 28033
Filter-unit WB No. 400A	Circuit	WB 28001
Receiver, Carrier, WB No. 400A	Circuit Wiring	WB 28013 WBW 28013

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