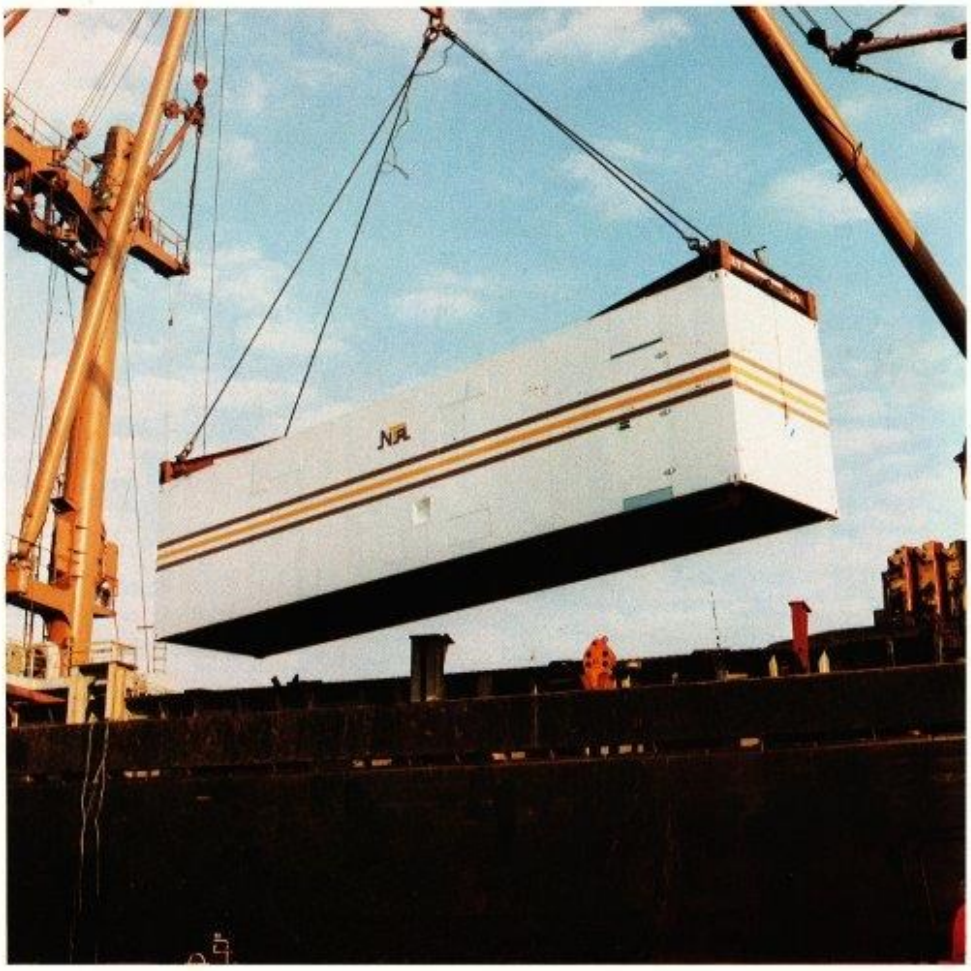
Marconi
Communication Systems

Broadcasting Division

Containerised Transmitters



Features

Design based on ISO classifications and dimensions

Suitable for housing a wide range of radio and TV transmitters

Transportable, mobile or fixed site applications

Significant cost savings in buildings and installation on fixed sites

ISO dimensions and fittings facilitate intercontinental 'container' transportation by road, rail or sea

Reduced construction time when used on fixed sites

Introduction

Marconi's have unrivalled experience in the design and supply of containerised transmitting systems of all kinds – mobile, transportable and fixed – commercial and military. This specialised knowledge allows us to offer our customers a wide range of radio and television transmitters fitted in containers of ISO standard dimensions and custom built for mobile, transportable or fixed site applications.

Containerised transmitting equipment of a mobile or transportable nature is a well known application but the competitive prices of present day containers is opening up a relatively new market for containerised transmitters for use as permanent fixed site installations.

The cost saving, particularly on remote sites, resulting from the elimination of a permanent building of traditional construction and the reduction in installation and commissioning costs is very significant and the overall station construction time can be greatly reduced.

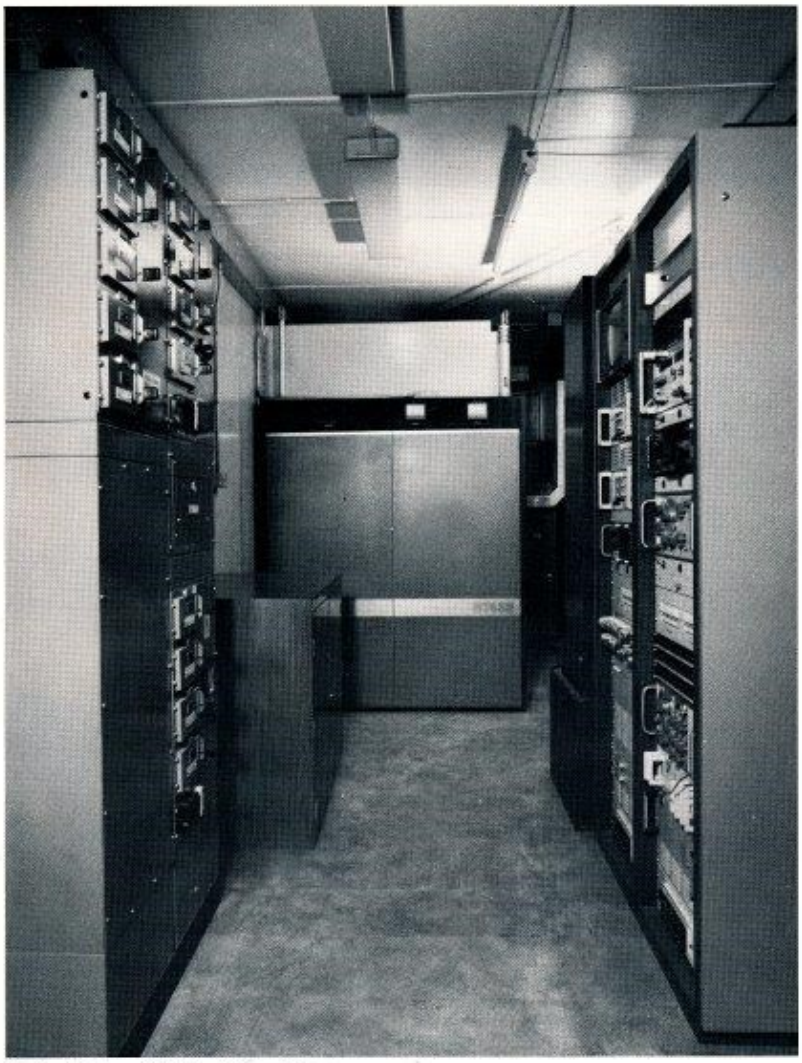


Fig. 1. Interior of 10kW v.h.f container

Range of Containerised Transmitters

Most medium power air cooled transmitters whether medium wave (a.m), v.h.f (f.m) or TV can be accommodated in standard containers and some examples of typical radio and TV layouts are shown in this document.

Transmitters which can conveniently be fitted in containers include medium-wave transmitter from 1 to 100kW, v.h.f/f.m transmitter from 150 watts to 20kW, and v.h.f/u.h.f TV transmitters up to 15kW.

Dual systems can also be provided, arranged for either active or passive reserve configuration. Ancillary equipment can be provided as required e.g test loads, p.i.e and monitoring test equipment, STL links etc. Other manufacturers' equipment can be fitted if required. Equipment is fixed rigidly to the floor and walls of the container and cooling air for the transmitters is ducted directly from the outside and after passing through the equipment, is returned to the outside of the container. In this way the air conditioning (or heating) requirements inside the container are restricted to a relatively small volume of air.

Containers are completely fitted out and factory tested as a working unit ready for use on arrival on site.

Containers

The size of container used depends on the equipment to be accommodated. ISO containers come in four standard lengths namely:
12,190mm (40′ 0″), 9,125mm (29′ 11¼″)
6,058mm (19′ 10½″) and 2,990mm (9′ 9¾″)
The height can be either 2,438mm (8′ 0″), 2,590mm (8′ 6″) or 2,895mm (9′ 6″), but the width is fixed at 2,430mm (8′ 0″).

The main framework is of rigid steel construction and includes standard corner fittings for lifting purposes. The wall, floor and roof panelling is usually of aluminium alloy and reinforcing is designed to suit the particular equipment to be installed.

An inner skin of panelling which can be either metal or laminated plastic wallboard provides a wall cavity which canb be filled with polyurethane foam for thermal insulation. This material is treated to have fire retarding properties. Doors and apertures are carefully sealed so that the container is weatherproof and particular care is taken to ensure that the centre of gravity and balance of the equipped unit is controlled to ensure safe transportation.

An important feature of our containers is that they are supplied with a Lloyds number which certifies that they can be handled by standard container lifting equipment and can be safely stacked with other ISO containers.

Transportable and mobile units

The term 'transportable' covers a wide range of applications and requires careful definition to ensure that the unit is suitably purpose designed. At one extreme 'transportable' may apply to an emergency unit which is held at headquarters and only very occasionally transported to site to provide an emergency service. At the other extreme it may apply to a unit which is frequently moved from site to site and may have its own prime mover as illustrated in Fig.2. This application is more appropriately termed 'mobile' and it will be necessary to modify the transmitting equipment to 'ruggedise' it for the more arduous and prolonged duty involved.

Transportable and mobile units can be supplied with special transportable or mobile antennas and generating sets.

Fixed Site Units

A different approach applies to the design of containers which are intended to be used as a permanent installation. In this case no 'ruggedisation' of the equipment is required and for transportation loose or heavy sub units may be taken out and packed individually.

The antenna in this case may consit of a permanent structure which would be scheduled to have been completed by the time the containerised transmitter arrived on site.

Enquiries

Customers are invited to write to Broadcasting Division stating the particular application of containerised transmitter they are interested in, either in general or as a technical specification.

Complete systems can be offered including antennas and separate containerised generating equipment.

Fig.2. 10kW mobile

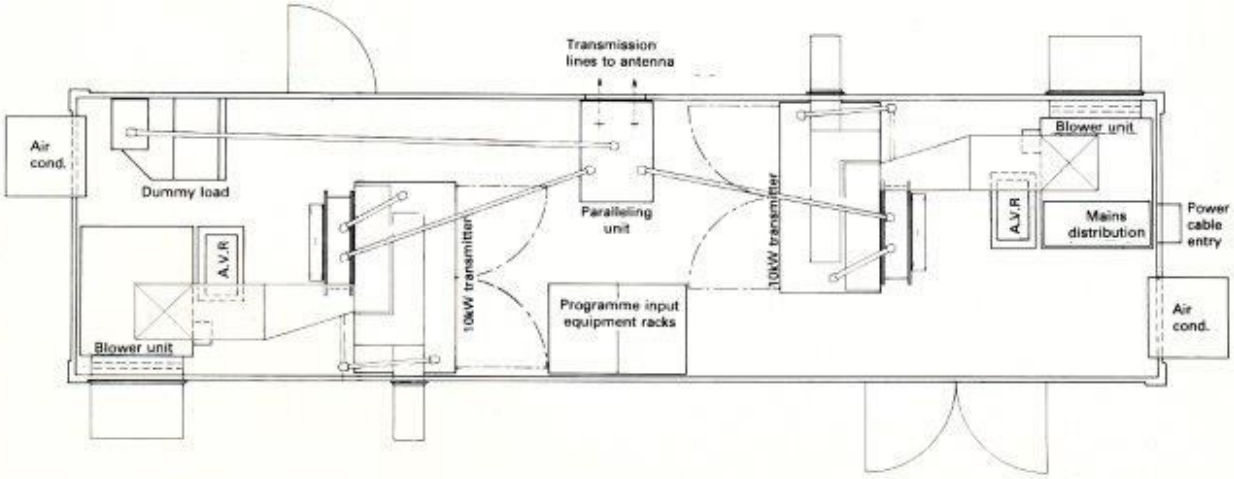


Fig.3 Layout of 2 × 10kW v.h.f TV in container

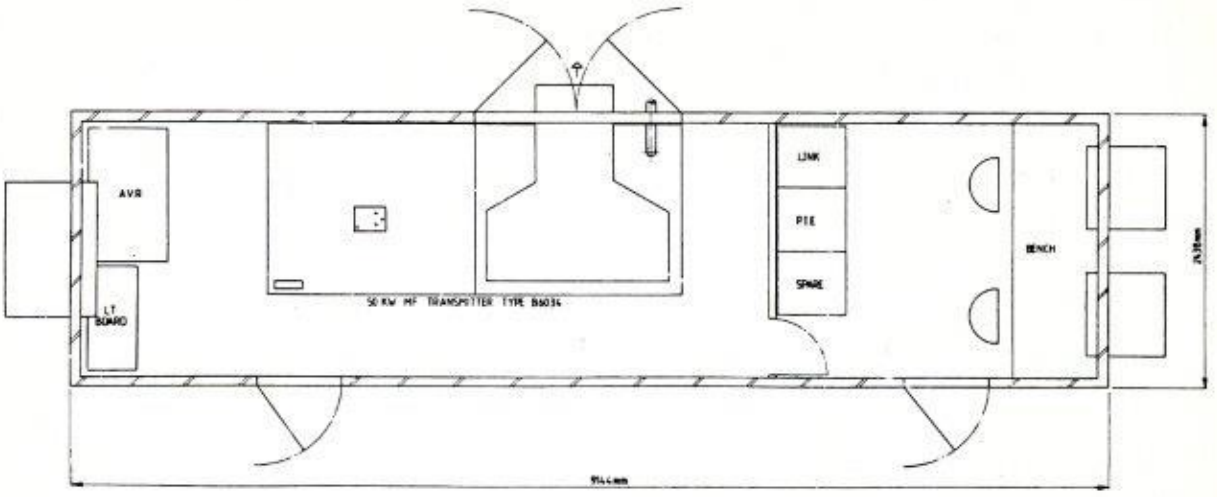


Fig.4 Layout of 50kW m.w in container

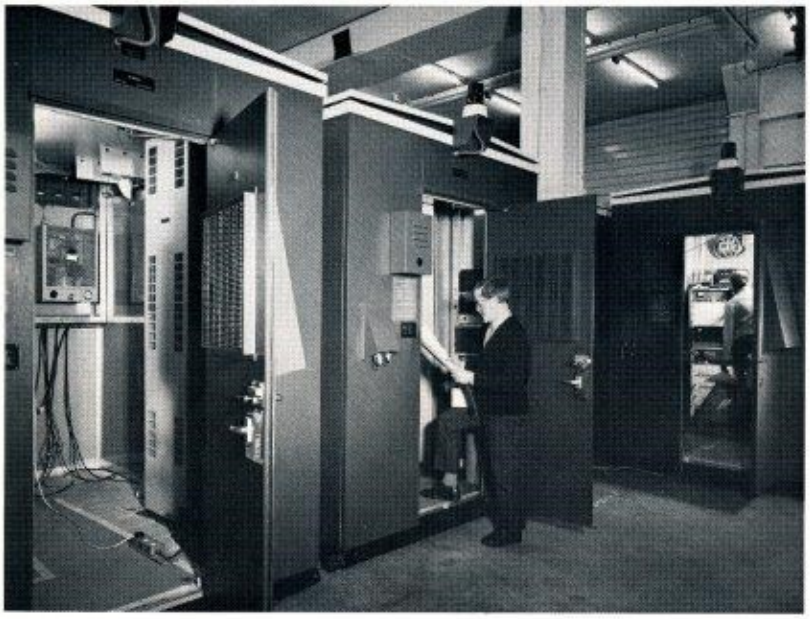


Fig.5 BAOR u.h.f shelter

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