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NEW RADIO OB VEHICLES

Radio OBs has recently taken delivery of four new Type B and seven new Type C vehicles. The medium-sized Type Bs are destined for Birmingham, Cardiff, Glasgow and Manchester while a further four may be built in the near future to replace old Type Bs still in use at Belfast, Bristol, London and Manchester (which will then have two) . The smaller Type Cs are destined for Bangor, Cardiff, Edinburgh, Glasgow, Leeds, Norwich and Swansea.

The task of designing these replacement vehicles fell to the newly-formed Radio Capital Projects (RCP) department who used the opportunity to extend and improve the facilities on offer, bearing in mind the increasing demand for cost effectiveness.

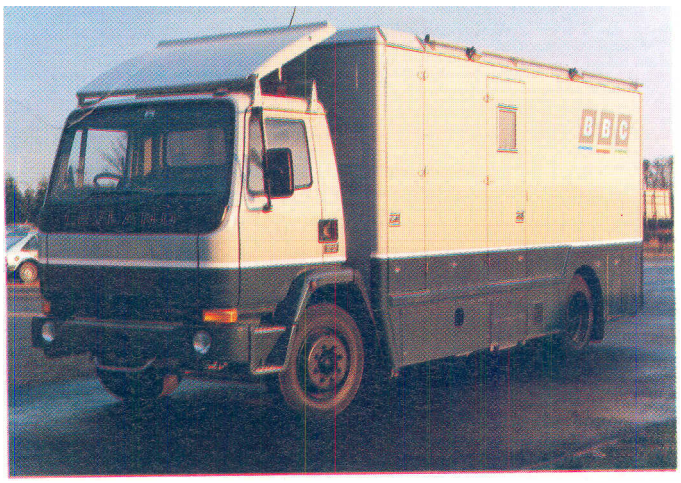
THE NEW TYPE B

Like the original vehicle, the new Type B is capable of recording prograrrme directly onto quarter-inch tape or sending it by land line, via its line-send amplifiers and tailboard panel terminals, to a studio centre for recording or transmission. It also has to fill the gap between the large Type A vehicle, with its multi-track recording facilities, articulated chassis and computer-assisted mixing desk, and the small Type C, with its de-riggable mixing desk and basic facilities, earlier versions of which were known affectionately as 'the ice-cream van'.

The new Type B is intended to be the workhorse of the three vehicle types. With its improved acoustics and equipnent, it will be used for some high quality productions which, in the past, would have required a Type Ai for example, major orchestral and choral concerts.

The vehicle will be staffed by a Sound Supervisor and supported as necessary by additional operational staff.

Several alternative chassis options were considered. RCP Project Leader, Keith Harte, chose the Leyland Freighter T45, 13. 14 chassis as the base for the new vehicle, chiefly because of the availability of five wheelbase options. The wheelbase chosen - 4. 66m - allows the mixing desk to be situated above the wheel-arches which, otherwise, would have protruded into the working area. / The chassis height - 3. 2rn - is also slightly lower than others that were considered. During the design process, BBC Cardiff requested that vehicle height should match that of the previous Type B, since some of their regular OB venues are Welsh castles whose architects had, regrettably, failed to allow for vehicles that were much higher than this when designing their arches!



The New Type B vehicle

The Mixing Desk.

The mixing desk is a CALREC 40-channel unit, wi th eight stereo groups, incorporating new facilities such as group re-mixing (which allows any group of channels to be fed to any other group input) . Thus one group fader can control

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Editorial

Alan Lafferty leaves EID on 5 April for a one year attachment as Tour Manager of the IEE 1988/9 Faraday Lectures. He will be assisted by John Pinniger, also of EID, and the first lecture is in Liverpool on 12 October. John Brooks, the Project Leader, will shortly appoint the lecturers Who will deliver the BBC's presentation, which will be called "Sound and Vision". On behalf of all readers, I would like to wish everyone concerned, a very successful and problem-free tour. Hopefully, those of you who are IEE members may get Cl chance to attend the lecture - the next edition of 'Eng Inf' will list the seventeen venues with dates.

While Alan is away, David Lees of EID will be the Acting Manager, Engineering Prcxnotions, and he will take over responsibility for organising this year's crop of exhibi tions, among other things. Those EID is involved in include: MINT (futor Industry New Technology) at G-MEX, Manchester, in June; IBC at Brighton in late September; shortly after, the BBC Radio Show at Earls Court (which will see the official launch of RDS) and the futor Show at the NEC, Birmingham, in October.

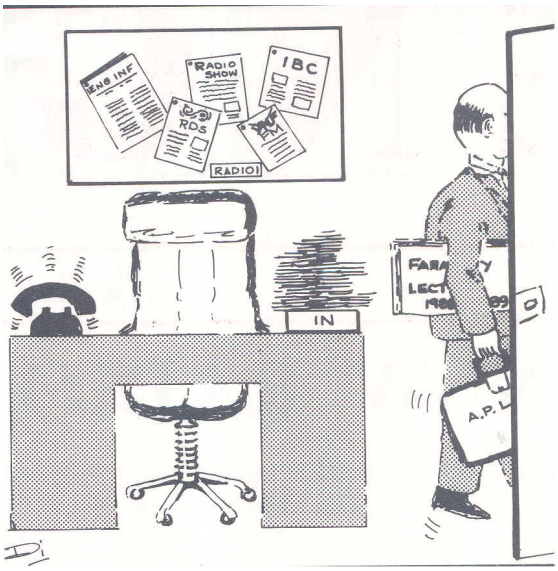
Without going on too much about EID, I would like to welcome Mick Gleave to the fold. Mick recently joined us frcm Design Group, D&ED, as assistant head of department (AHEID). He has kindly offered to write an article on the different types of MAC, for a future edition of 'Eng Inf'.

I was very grateful to receive a healthy number of articles for this edition. However, I would have appreciated some more stories frcm the regions. So, if any readers outside London have an interesting story to tell about new developments or facilities in their area, please let us know. The deadline for the next edition is 3 June and all contributions will be gratefully received.

Mike Meyer, 25 March 88

Licence Agreement

There have been no new manufacturing licences issued since the last edition of 'Eng Inf' but discussions are in hand with a number of ccmpanies, concerning items frcm both D&ED and Research Department.



Design and Equipment Department

Design Group and its support services will be rroving frcm Western House to Avenue House in early June and will thereby ccmplete the amalgamation of the old Design and Equipnent Department into the new D&ED.

The transfer of all the staff and facilities to Chiswick is likely to take three to four weeks during which some disruption of normal service is inevitable. Every effort will be made to keep this to a minimum.

The next edition of 'Eng Inf' will carry a feature on Design Group and the services it provides.

Transmitter News

The following stations have opened since 1 January:

Televisioo.

Balrnullo	Tayside
Broneirion	Powys
Newchurch	Lancashire
Port Isaac	Cornwall

EMRadio

High Wyccmbe	Bucks
Kirkton Mailer	perthshire
Ridge Hill	Herefordshire
Stanton Moor	Derbyshire

Kirkton Mailer has replaced the Perth relay, using the same frequencies.

several other groups and can be used, for example, when a soloist or small group of artists is being backed by a large orchestra. The orchestral backing, while comprising several groups such as strings, brass, etc, can be adj usted in level relative to the soloist by a single fader.

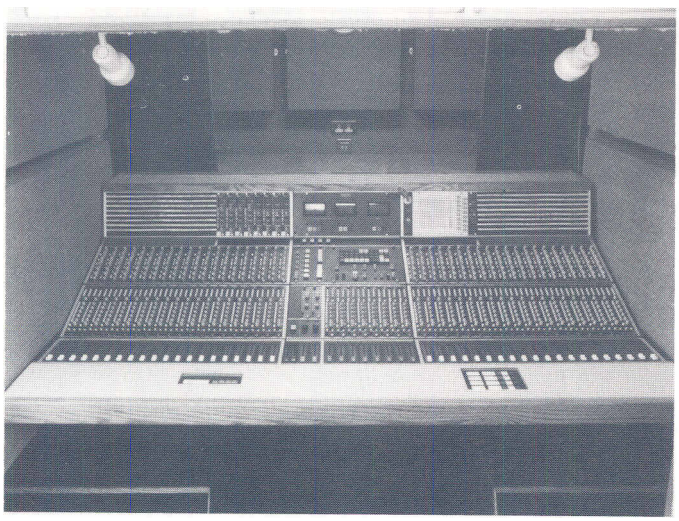
Five auxiliary outputs are provided from the desk, one of which is stereo, and each of the forty input channels and eight groups may be routed to any of these outputs, or to the PA output.

Tape Machines

The complement of tape machines in the new Type B has been increased to five, with one Studer A721 cassette unit and four Studer AS10 open-reel machines. The start/ stop/ spool functions of the open-reel machines are controllable from a desk remote panel and all machines may be monitored either on the panel in the tape area or on the desk.

l'-bnitoring

A selector on the desk gives the operator both PPM and loudsPeaker monitoring of thirty-eight points in the system. The loudsPeakers supplied are the large BBC LS5/SA professional units while a pair of Foster 6301XT domestic quality speakers allows him to empathise to some extent with the listener, by simulating the sound from the average home stereo system.



The Type B's Calrec sound desk

r-bnitoring and Output Unit.

A Glensound l'-bnitoring and Output Unit (r-DPU) directs control-line traffic into and out of the vehicle, using a simple two busoor system. It is also largely responsible for the origination and routeing of talkback, having its own front panel microphone and an input socket for a Producer's talkback box. (Talkback may also be originated from the mixing desk microphone) • The r-DPU also adds to the monitoring facilities, providing four headphone outputs that can be selected individually to anyone of fourteen points and which are also on the talkback system.

The IDPU acts as the interface between the desk and the tailboard land-line terminals. It was originally designed for portable use but its comprehensive facilities and compact size make it very suitable for use in the Type B.

Cueing.

Off-air aural cueing is provided by an fm/ITM/lw radio and a uhf tv tuner, which also provides visual cueing via a 20" colour rronitor. The vehicle is fitted with a 15 metre Clark PT15 pump-up mast which can be rigged with vhf or uhf receiving aerials, as required. An Avitel vision switching system, operated from a desk panel, can connect the tv rronitor to one of four sources, including a domestic type video camera and the off-air signal from the tuner. An incoming and outgoing cue-light system is provided on the r-DPU.

Supply Considerations.

An OB vehicle may have to operate to full caPability in locations where no sPecialized POWer supply arrangements are available. Hence, RCP and the coachbuilders, A. Smith (Great Bentley) Ltd of Colchester, have made special efforts to ensure that the overall power consumption of the vehicle is as low as possible: the equipnent can be powered in its entirety from two domestic 13A sockets. It may also be powered from a BS4343 60A socket or from a generator if no mains supply is available.

In the event of mains failure, al though most programme facilities will be lost, a standby battery will power all external and some internal lights, the vehicle alarm system, the mast compressor and the r-DPU, which will maintain ccxnmunications and talkback.

Alarm System.

The alarm system for the Type B has to fulfil two requirements. Its first purpose is to prevent unauthorised access to technical equipnent but it also has to warn the driver of any unsecured areas, before the vehic18 is driven. Unauthorised entry is announced by a

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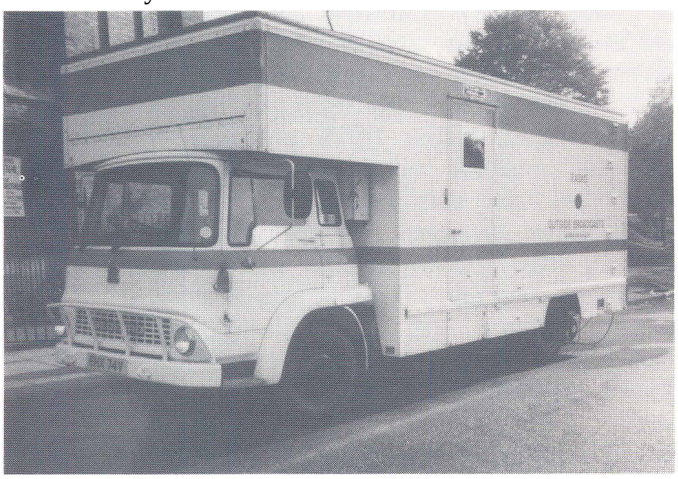
113dBA klaxon while a considerably less disturbing, but equally effective, alarm and mimic panel informs the driver if a locker d<x>r remains open, as he switches on the ignition.

Improved Environment.

Anyone who has worked on the site of an OB will know the importance of a technical area that is comfortable to work in, as well as being operationally efficient. However the OB vehicle that is well insulated and soundpr<x>fed, and which remains pleasantly warm with little heating in winter, can becane uncanfortably hot in surrmer.



An old Type B vehicle

For this reason, the coachbuilder was asked to fit an efficient air-conditioning unit, providing heating and ventilation as well as c<x>ling - a considerable advance on the old vehicle in which ventilation and c<x>ling were achieved simultaneously, by swi tching on the ventilator fan. Heating was sometimes catered for by a diesel-burning heater but, because of the fumes that often aCcomPanied its use, staff quickly develoPed a preference for a small electric fan heater.

In designing the new air-conditioning unit, considerable attention has been given to preventing induced swi tching pulses, which could cause clicks and plops to apPear on progranune sound. A diversity system is employed, whereby the compressor runs continuously: on achieving the required temperature, it does not switch off but instead, the c<x>lant flow is pumPed round an alternative circuit which does not include the evaporator in the working area. A similar degree of care is taken with the heater element supply, which employs zero crosspoint switching.

In very cold weather, extra heating is available fran a diesel oil burning vehicle heater. This has the added facility of a timer and can be set to warm the vehicle on a cold morning before staff arrive.

The interior of the vehicle is well lit, with both dimmer-controlled tungsten light tracks and fluorescent fittings, while external lighting illuminates both the access steps and the ground around the vehicle.

In the Type B, RCP has aimed at producing a vehicle of such versatility that only those who operate it will discover its full potential. It is hoPed that the first custaner, Cardiff, and indeed all the BBC regions that are to receive the new vehicle, will agree that this aim has been achieved.

THE NEJi TYPE C

The Type C is an operator-driver OB vehicle which is used at small venues such as church services, conferences, quizzes, Gardener's Question Time and simple sports events. The twenty-channel Glensound MX6C stereo mixer is de-riggable and can be carried into a hall, for example. There is provision for connecting three portable tape machines, such as the Nagra IVs, and monitoring is via a pair of LS5/9s.

Like the Type B, it has been designed to run fran two 13 amp power points *i* one providing the technical supply, the other for general use including heating (a 1kW fan heater is available at fl<x>r level). An economic ventilation system is fitted, where warm air going out heats colder air caning in, wi thout consuming much power. If no mains supply is available, there is

The New Type G's de-riggable mixer