REPORT ON ROLLING STOCK DESIGN PANEL VISIT TO HITACHI MOCK UP DISPLAY OF AT100 METRO & AT200 REGIONAL TRAINS ON 14/11/14.

Railfuture were represented on this visit by Keith Dyall & Norman Bradbury who were made very welcome by Simon Bolton from Hitachi. Both these trains will incorporate a number of innovative ideas and promise to be excellent trains, notably the AT200. Both mock ups were fitted with large windows which are sadly unlikely to be fitted in the production trains as weight saving measures will take precedence (glass is heavy).

In both cases, seating layouts were only examples for possible adoption in production trains and these layouts were flexible, allowing for other alternatives for incorporation in accordance with individual operators needs.

In all cases, the seats were noticeably more comfortable than those being fitted to the class 700 Thameslink trains and we gained the impression that even in second class there was more room for large persons to sit next to each other.

No toilets were displayed in the mock ups and

AT100 seating

AT 100 door entrance

neither were refuse bins. There was some doubt about where, if at all, refuse bins should be located but there was general agreement among those present that the best location would be near the doors as can be seen in Chiltern Railways “Clubman” trains for example.

AT100: The most obvious new feature apparent in the AT100 was the design of the wide gangway connections which, from the inside, did not appear to be gangways at first glance. The gangway floor consisted of flat interlaced horizontal flaps which could slide over each other as the gangway flexed through curves. The sides were smooth and flexed in similar fashion to the floors and the bellows were only apparent from the outside.

AT 100 interior with 2 + 1 seating

AT 100 vestibule with Bum Pole

Doors were provided at one third/two thirds distance as normal but the vestibules contained a central grab pole with three “bum” perches arranged in a triangle around it, each with a further grab handle. This seemed a good idea but we were a little concerned that this feature could restrict free movement through the doors when all three perches were occupied.

The seating area was set back a little from the doors, allowing more standing space near the doors. A passenger counting system was incorporated and all seats were cantilevered out from the walls, thereby providing more space for luggage below the seats and making it easier for cleaning staff to access the floors.

Three types of seating were displayed, longitudinal bench (Metro) type, two plus one airline style and two plus two in bays. We note that a substantial majority of passengers prefer bay seating to airline type and that airline seats could inflate station dwell times as it is more difficult to get out of a window side airline seat if someone is sitting in the aisle seat than is the case with bay seating.

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AT200: A notable and welcome departure for Hitachi was the use of Plug doors in place of sliding doors. This made it possible to fit windows along the full length of the vehicle and to maximise internal width for passenger use (unlike the IEP which uses internal sliding doors). Like the AT100, doors were fitted at one third/two thirds spacing.

The British designed First class seats included a novel feature in the form of an attachment mounted on one corner of the seat back. This contained the seat number and reservation information. It also contained a reading light which threw its beam directly over the shoulder onto the table. Using smart phone technology with this attachment, it was also possible to reserve a seat if it was free and to access entertainment and information. An easy to use seat reclining mechanism was incorporated. These seats were covered in leather and were very comfortable. A red/green light system was also displayed on the top of each seat back to indicate which seats were free.

The tables were wide and sockets for power and USB were provided in the edge of the tables

adjacent to each seat. An advanced WI FI system will be used that promises to be very reliable.

The doors included red/green illuminated strips down the edge to indicate which side the doors would open at the next stop.

In common with other new trains, the Standard class seats were hard but not as hard as the Class 700.. We feel the rail industry will need to rethink this before mass production gets into full swing. We acknowledge that this is a feature of the fire resistant padding now in use but complaints from passengers could become commonplace if this issue is not addressed. Fold down seat back tables with retractable flaps were provided where airline seating is fitted. We felt that the seats needed D shaped grab handles but were assured these would almost certainly appear on production trains. All seats and tables were again cantilevered from the walls.

Once again, it seems airline seating will prevail in order to fit in as many seats as possible, ignoring passengers` preferences. Designing for maximum capacity for peak hour comutters (Class 700)produces a train that is unattractive to leisure travellers, but leisure travellers help generate profits. Reducing seat size does not provide more standing space unless you reduce passenger size as well.

Evaluation of under floor heating is being studied as this would more evenly distribute heat and avoid the need to provide ducting along the vehicle sides which tends to encroach on foot space. It is a pity that heating/air conditioning cannot be individually controlled by passengers and in most cases on board train staff cannot control it either. From experience, air conditioning is frequently set too cold and this wastes energy apart from making passengers uncomfortable.

A novel luggage security system will be used, again relying on smart phone technology, whereby luggage placed on luggage racks near the doors can alert passengers if their suitcase is being moved.

The Passenger Information System (PIS) above the doors did not use dot matrix displays and was very clear, showing the line of route and the next stop alongside.

This promises to be an excellent train and we looklook forward to its introduction.

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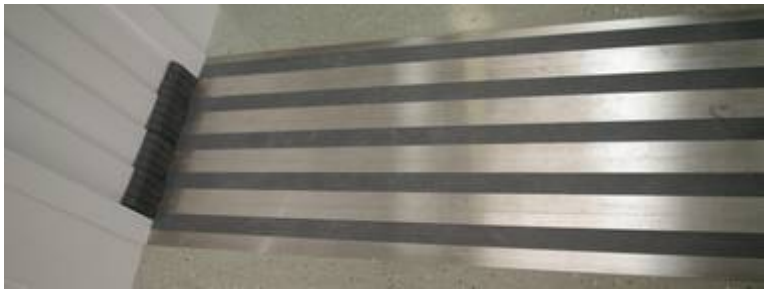
AT 200 single 1st Class seat

AT100 Body shell

AT200 Body shell

AT200 1st Class

AT200 Standard class



Upper Top illuminated signage

Top corridor floor
Left corridor wall interior
Right corridor exterior

Bottom left luggage rack
Bottom centre door control panel
Bottom right emergency seat