



Model year 2024: MAN and NEOPLAN buses now even more comfortable, safe and efficient

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For model year 2024, MAN has significantly upgraded its entire MAN and NEOPLAN bus series with many new features. This benefits drivers, passengers and operators alike.

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- **New electrics/electronics platform with higher performance**
- **Digital cockpits set new standards**
- **Extended assistance systems for all model series**
- **Brake and air suspension system with more functionalities**
- **Update of D26 coach engines and EfficientCruise**

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High demands are placed on the mobility of tomorrow: In this way, it should be sustainable, connected, autonomous, but especially also secure. This is why there will be numerous new legal regulations at European and global level from this year onwards, and the requirements for IT security will increase enormously. In order to meet the associated technical requirements, MAN Truck & Bus has fundamentally redesigned the vehicle electronics for its buses. "In this way, with the 2024 model year, we are already meeting and exceeding all upcoming legal innovations on driving and IT security - and this across all model series," explains Heinz Kiess, Head of Product Marketing Bus at MAN Truck & Bus.

New electronics platform for all buses

The new electronics platform is fundamentally based on the tried-and-tested modular technology of the MAN truck series. The previous "Power Train Manager (PTM)" has been replaced by the "Central Vehicle Manager" (CVM), whose computing power is twice as high as before. It is thus the central control unit in the drivetrain and the hub for all control units in the vehicle. The previous MUX nodes in the CAN-controlled system were also replaced by more powerful "Extended Input/Output Modules (EIOs)". Also all

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of about 14,8 billion euros (2023). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON GROUP and employs approx. 33,000 people worldwide.



other control units for individual systems such as doors, air conditioning, etc. have been replaced with new, more efficient components.

Digital cockpit with SmartSelect sets new standards

With the new electronics platform, which is used in all MAN and NEOPLAN buses, a completely new cockpit is being introduced into the vehicles. What's the feature?

- **Absolute driver orientation:** The digital cockpit is the central location for vehicle operation. It meets the highest ergonomic standards, has a clear design and is intuitive to use.
- The **12-inch** driver display, which is fully digital, offers a crisp HD resolution display, a clear and easy-to-understand arrangement of the elements as well as modern 3D views.
- The new **MMC** Advanced infotainment system has been redesigned for use in buses. All relevant media functions are displayed on a 7-inch colour display, which is operated via a control panel, voice control, the multifunction steering wheel or MAN SmartSelect.
- **MAN** SmartSelect enables precise, ergonomic and safe operation of the infotainment system. Input is made using the rotary/push rings and touchpad. The comfortable, folding wrist rest relieves the driver.
- The **multifunction** steering wheel has individual settings, numerous adjustment positions and extensive operating options with logically functional grouping of all control buttons within a radius of the thumb. This reduces possible driver distractions to a minimum.
- Award-winning: The Busworld organisation has awarded the Digital Cockpit the **"Digital Award"** in the "Digital On-Board Comfort" category. The smart operating concept was particularly convincing.



Extended assistance systems for more safety and comfort

The portfolio of changes for model year 2024 includes a whole range of new and expanded assistance and safety systems. The state-of-the-art functionalities are based on the extended technical possibilities of the new electronics platform or new hardware options.

- **MAN SafeStop Assist** detects when the driver is no longer able to actively steer the bus. In such an emergency, it can brake the vehicle automatically and in a controlled manner to a standstill within the limits of the system.
- A new feature of **the tyre pressure monitoring system (TPMS)** is the temperature **display**, which is shown on the 12-inch display in addition to the measured air pressure for all wheels. This means that a heated tyre that could catch fire is already detected at the outset.
- The legally required "alcohol interlock" for starting the engine will be mandatory throughout Europe from 2024 as a technical preparation in the vehicle. As an alcohol preparation, all MAN buses are equipped with the cabling and fixed installation locations as standard. Alcohol testers can thus be integrated at MAN service outlets with little effort.
- From a speed of 60 km/h, **MAN AttentionGuard** continuously analyses relevant driving parameters such as steering behaviour, lane keeping, daytime and driving time. Based on this data, the system draws conclusions about the driver's fitness to drive. This is automatically warned visually and acoustically in the event of abnormalities.
- One of the most relevant further developments is the **radar-based** turning aid for the confusing right-hand side of the bus, which can be combined with an optional **lane** change aid on both sides. The new turn assist detects static objects in the lateral area up to 4.5 metres away and also calculates potential movement paths in advance. This allows the system to assess the situation in advance and, if necessary, issue a visual and audible warning in three stages.
- **The collision warning system** with pedestrian detection detects the area in front of the vehicle when the vehicle is stationary and at low



speeds and can thus detect possible obstacles and risks. If this is the case, the driver is warned.

- **Traffic** sign recognition is standard in all MAN and NEOPLAN buses. The camera on the windscreen detects and classifies traffic signs on the route and outputs them on the 12-inch digital driver display.
- The **automatic** driving light control knows exactly when how much light is required and thus ensures even greater visibility and safety from model year 2024. A new feature in the bus is **the** high-beam assistant, which analyses oncoming vehicles using the new front camera.
- The Lane Departure Warning warns the driver from a speed of 60 km/h if the vehicle unintentionally touches or drives over the lane markings.
- **Lane Keeping and Lane** Return Assist helps the driver to stay in lane by actively steering the vehicle back into the lane if the lane markings are crossed unintentionally.
- **The extended Emergency Brake Assist EBA+ with** pedestrian detection now reliably detects even more data from the close range and even vulnerable road users up to 50 km/h. As before, the driver can interrupt the system-based emergency braking at any time with his/her own actions.
- **Adaptive Cruise Control ACC and Traffic Jam Assist:** The new long-range radar monitors the lane in front of the bus and automatically maintains the distance. With its additional **Stop & Go** function, the system has recently been able to brake the vehicle to a standstill and then drive off again automatically within a short period of two seconds - without the driver having to intervene.

New brake and air suspension system increases functionality

Another innovation that comes with model year 2024 and the new electronics platform is the new "**Vehicle Air Suspension Control**" (VASC) air suspension system. Compared to the previous ECAS system, the VASC air suspension uses fewer components and enables simpler wiring. This is mainly due to the optimised individual parts and their intelligent combination. A solenoid valve block with integrated pressure sensor, the so-called "Smart Pneumatic Actuator" (SPA) module, communicates directly with the control



software installed on its own control unit via a high-performance CAN bus. This eliminates the need for an external control unit. This allows signals to be exchanged more quickly and shortens lifting and lowering times. The VASC air suspension system also enables more precise and stepless kneeling.

Update for coach engines and MAN EfficientCruise

Another new feature is the MAN D26 coach engine in Euro 6e exhaust gas quality. Despite an increase of ten hp and around 50 newton metres more torque at the top, the highly developed 12.4-litre engine now consumes up to 2.5 percent less fuel overall. The topographical EfficientCruise 3 gearshift program has also been further developed. It is available exclusively with the MAN TipMatic 12-speed automated gearbox as an option for all MAN and NEOPLAN coaches. With the third generation of this intelligent, GPS-based gearshift program, fuel consumption is reduced by up to one percent compared to the predecessor system. It takes the topography of the route into account even more proactively and now also takes into account infrastructural influences such as accidents, exits or roundabouts up to three kilometres in advance in the sophisticated algorithm. Based on this, the system automatically determines the most economical driving style with regard to speed, traffic situation and gearshift strategy. The extent to which the system may intervene in the topographically optimised vehicle speed and engine torque is still up to the driver. This specifies the desired speed and selects one of the four possible tolerance levels (ECO level I - IV) on the multifunction steering wheel. The higher the level selected, the greater the deviation of the speed adjusted by the system from the set value. The higher the ECO level, the greater the energy-saving potential.