

Coach Multimedia Solutions

bosch-professional-systems.com

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BOSCH

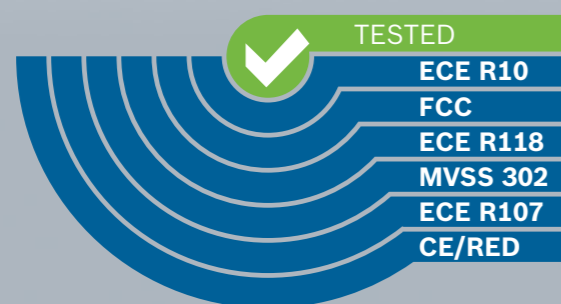
Invented for life





On tour with innovative technology from the market leader – Coach Multimedia Solutions

Mobile communication, future-proof products, and professional system solutions – Bosch Car Multimedia provides all of this for coaches, intercity buses, city buses, and minibuses too. We supply commercial vehicle OEMs with the full range of multimedia and infotainment solutions. With smart systems, we boost convenience and safety while at the same time enhancing entertainment capabilities. Technology from Bosch turns driving into an experience and makes the passenger cabin become the 3rd living space, where all the benefits of modern travel are made available for passengers to enjoy. It enhances quality of life – which is what today's customer expects.



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Enhanced functionality for the driver and passengers – Coach Audio

The user-friendly audio systems from Bosch incorporate the latest technologies and have been specially developed for the requirements in coaches and buses. Our multimedia system with its high-performance infotainment feature set, the robust radio technology, and the highly adjustable microphones, provide the driver and passengers with enhanced functionality. The technology and design complement one another perfectly and are easy to integrate into any interior.

Coach Infotainment series

The Coach Infotainment series provides top-class infotainment of the latest generation. Its perfectly matched components certified according to all the relevant OEM standards and the high-performance signal transmission afforded by Ethernet AVB turn the coach cabin into a full-featured digital network on wheels. High-resolution monitors and streaming services round off the package.

The ability to keep the Coach Infotainment series updated at all times guarantees the long-term viability of the system. Furthermore, it can be used throughout the world.



CONTROLPANEL CM-X 19

With its clearly arranged set of hard keys, the ControlPanel perfectly complements the Coach Center CM-C 19 and provides quick and easy access to the most important system functions. All media sources and settings for the various playback zones (Cockpit, Cabin 1, Cabin 2, and Cabin 1+2) can be controlled very conveniently by selecting the corresponding mode.

- ▶ Two separate volume controls for the Cockpit and Cabin
- ▶ Quick access to the most important user menus
- ▶ Visual indication of the selected mode (LED)
- ▶ Automatic switch-over to Cockpit mode
- ▶ CAN connection to the Coach Center CM-C 19



CENTER CM-C 19

The state-of-the-art head unit from Bosch paves the way to the fully connected driver workplace. Thanks to smartphone integration, a wide variety of features, like media streaming and connected services, can be made available on the head unit from the user's mobile device. The digital system architecture and technically mature user interface (HMI) turn cockpit infotainment into a whole new experience.

- ▶ NDS-based embedded navigation
- ▶ Video-out (MAP), digital
- ▶ HD Traffic
- ▶ Map updates (7+ years)
- ▶ AM/FM/DAB+ (EU)/SXM, WB (NAFTA)
- ▶ Audio via USB
- ▶ Bluetooth 4.1 (BT streaming/phoning)
- ▶ Smartphone integration (mySPIN®)
- ▶ MIC-in (announcements/phoning)
- ▶ Private mode (with CDM08 GSM)
- ▶ 7" touchscreen with full touch control
- ▶ Integrated HMI for the Cockpit and Cabin
- ▶ Apple certified (Made for iPod/iPhone)
- ▶ Software updates via USB
- ▶ CAN connectivity
- ▶ Video-in (CVBS), analog

Coach Infotainment series



AMPLIFIER CM-A 19

The new coach amplifier from Bosch features top sound performance with an optimized design that delivers crystal-clear treble and powerful bass. The new amplifier furthermore provides important coach-specific features, like microphone inputs and a private mode.

- ▶ Class-D power amplifier (6 x 40 W, adaptable to 6 x 20 W)
- ▶ 2 x MIC-in (announcements)
- ▶ Microphone priority control
- ▶ 5 x OABR with integrated switch
- ▶ Power supply for Coach Infotainment series components
- ▶ Updates via the Coach Infotainment series system
- ▶ Interface for intercom



USB CM-HUB

The USB CM-Hub is part of the Coach Infotainment series. It can be used to establish a high-quality USB connection between the Center CM-C 19 and the driver's smart devices and provides high charging currents for all connected USB devices.

- ▶ USB 2.0
- ▶ Active hub for 12 V/24 V environments
- ▶ Safe and reliable charging with up to 2.1 A
- ▶ Provides protection against power surges
- ▶ 1 x USB (HSD) to USB type A, 2.1 A, OTG
- ▶ 1 x USB (HSD) to USB type A, 2.1 A, host

Professional Line 3

Professional Line 3 is high-end infotainment from Bosch. The Coach Cabin Selector head unit is the central HMI interface for the driver. It is used for controlling all audio, video and navigation components. The concept of “independent audio zones” makes it possible to play the same or different media in the cockpit and passenger cabin.



COACH CABIN SELECTOR PROFESSIONAL PREMIUM

The Coach Cabin Selector (CCS) Professional Premium offers multiple connection options for a convenient user experience with a variety of media. The three microphone inputs, USB, AUX-IN, various connectors, and integrated DVD drive can be controlled conveniently using the remote control.

- ▶ Display: night design switchable between green and red
- ▶ CD/DVD drive with 8 x oversampling
 - Available regional codes: RC1, RC2, RC4, RC5
 - Formats: DVD±R (not DL), DVD±RW (not DL), DVD-MP3/-WMA, SVCD, VCD, JPEG, audio CD (CCDA), CD-R, CD-RW, MP3-/WMA-CD
- ▶ Door monitoring function through automatic display of the camera images on the 7" Cockpit Display or the Videobox Monitor when the doors are opened
- ▶ Radio: FM, SW, AM/MW, LW, WB
- ▶ USB port
- ▶ Bluetooth telephony
- ▶ Connectivity/CE connectivity
- ▶ CAN connectivity
- ▶ Class-D output stage with 80 watts and 200 watts
- ▶ Button for switching the passenger monitors on/off manually
- ▶ Integrated video switch and connection option for an external video source
- ▶ Control of the DVB-T Tuner in the Professional Line 3 system
- ▶ Separate tone settings for driver and passengers
- ▶ MAP: display the navigation map on passenger monitors
- ▶ CAM: display the camera pictures on the driver monitor
- ▶ Switching between four connected cameras possible
- ▶ NAV: display the navigation function on the 7" Cockpit Display or Videobox Monitor
- ▶ Three microphone inputs with priority switching for the driver microphone
- ▶ Integrated IR receiver
- ▶ MAS output for DVD changer and other external sources
- ▶ Tuner frequency ranges (depending on region):
 - FM: 87.5 to 108 MHz
 - SW: 5,800 to 6,300 kHz
 - AM/MW: 530 to 1,710 kHz
 - LW: 153 to 279 kHz
 - WB: 162.4 to 162.55 MHz
- ▶ Operating voltage: 12 V via CPA
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Format: 1-DIN
- ▶ Weight: 1,000 g
- ▶ Standards: CE, E1, FCC, RoHS, MVSS 302, ECE R118, WEEE

Professional Line 3



COACH CONTROL DISPLAY PROFESSIONAL

The Coach Control Display (CCD) Professional is the information and display medium of the Professional Line 3 system and is equipped with an integrated CD MP3 drive. It displays the audio files and videos selected for the driver and passengers in addition to other system information.

- ▶ Display: night design switchable between green and red
- ▶ CD drive with 8 x oversampling
- ▶ Formats: audio CD (CCDA), CD-R, CD-RW, MP3-/WMA-CD
- ▶ Radio: FM, SW, AM/MW, LW, WB
 - 36 station presets in 6 memory banks
 - Digital signal processing (DigiCeiver)
 - Optimized digital channel separation (SHARX®)
 - Travelstore and Traffic Announcement

OPTIONAL FOR THE CCD PROFESSIONAL BLUETOOTH

- ▶ Bluetooth telephony
- ▶ Automatic synchronization of contacts and call lists
- ▶ Private mode via CDM 08 GSM driver microphone
- ▶ Tuner frequency ranges (depending on region):
 - FM: 87.5 to 108 MHz
 - SW: 5,800 to 6,300 kHz
 - AM/MW: 530 to 1,710 kHz
 - LW: 153 to 279 kHz
 - WB: 162.4 to 162.55 MHz
- ▶ Operating voltage: 12 V via CPA
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Format: 1-DIN
- ▶ Weight: 1,300 g
- ▶ Standards: CE, E1, FCC, MVSS 302, ECE R118, RoHS



COACH POWER AMPLIFIER CPA 811

The CPA 811 class-D coach amplifier is a strong performer with its high signal strength for audio and video frequencies and the intercom connection. The CPA 811 is integrated into the Professional Line 3 system via a CAN connection.

- ▶ Two separate output stages, each with 2 x 20 watts for the driver and the passenger cabin
- ▶ Central power supply for all system components
- ▶ Trouble-free telephone use due to automatic muting of all other sound sources when a call comes in
- ▶ Connection option for other external sources via 12 V
- ▶ Intercom connection
- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 170 x 50 x 214.2 mm
- ▶ Weight: 1,800 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE

COACH POWER AMPLIFIER CPA 2011

The CPA 2011 class-D coach amplifier provides the foundations for perfect sound quality within the Professional Line 3 system. With its three output stages and cascading function, the CPA 2011 is ideally suited to installation in double-decker coaches.

ADDITIONAL FEATURES TO THOSE OF THE CPA 811

- ▶ Three separate output stages with 2 x 20 watts of power for the driver area and 4 x 40 watts of power for the passenger cabin
- ▶ Line-out to connect an additional amplifier in a cascaded system

Coach smartInfotainment series

As a market leader for connected media functions, Bosch offers OEMs systems that make traveling more pleasant: our smartInfotainment series supports DAB+ and is Bluetooth-enabled for streaming and telephony. Media playback in the passenger cabin is taken to the next level with a wide variety of audio and video sources, individually accessible content, and first-rate picture quality. In essence, smartInfotainment is a state-of-the-art gateway to a new entertainment experience on four wheels for the driver and passengers alike.



Coach smartRadio

The Coach smartRadio provides several inputs for various media. Bluetooth audio streaming and the ability to use a hands-free function safely and conveniently make the Coach smartRadio a popular multimedia companion. With its CAN connection and smartphone integration capabilities, it fits in perfectly in the vehicle environment.

- ▶ Display color: red
- ▶ Single-line dot matrix display
- ▶ Integrated class-D amplifier with 2 x 40 watts of output power (can be optionally set to 2 x 20 watts)
- ▶ Radio: FM, AM, SW, DAB+
- ▶ USB port (type A)
- ▶ 2 x AUX-IN connections (one on the front panel and one on the rear panel)
- ▶ SD card (mini)
- ▶ Bluetooth telephony and media streaming
- ▶ Private mode function and USB charging
- ▶ 2 microphone connections
- ▶ Connection of the Coach smartPanel via tandem output
- ▶ CAN connectivity
- ▶ Software updates via USB
- ▶ Tuner frequency ranges (depending on region):
 - FM: 87.5 to 108 MHz
 - AM: 531 to 1,602 kHz
 - DAB (Band III) 174.928 to 329.200 MHz
 - SW: 3,900 to 4,000 kHz
 - 5,850 to 6,300 kHz
 - 7,095 to 7,500 kHz
 - 9,325 to 9,950 kHz
- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Standby current consumption: < 0.5 mA
- ▶ Format: 1-DIN
- ▶ Weight: 1,070 g
- ▶ Standards: CE/RED, UN ECE R10, UN ECE R118



Coach smartPanel

The Coach smartPanel is easy and intuitive to use in the driver's cockpit, thus also making it safe to operate. The understated design blends in harmoniously with the cockpit interior. Through the tandem function, the Coach smartPanel together with the Coach smartRadio create a full-fledged coach system that leaves nothing to be desired.

- ▶ Display color: red
- ▶ Single-line dot matrix display
- ▶ Integrated class-D amplifier with 4 x 40 watts of output power (can be optionally set to 4 x 20 watts)
- ▶ USB port for audio and video (type A)
- ▶ 2 x AUX-IN connections (one on the front panel and one on the rear panel) for connecting an external audio/video source to each one
- ▶ SD card (mini) for audio and video
- ▶ 2 x microphone connections for announcements
- ▶ Control of the Coach DVB-T2 Tuner via CAN
- ▶ Tandem mode with Coach smartRadio
- ▶ CAN connectivity
- ▶ Software updates via USB
- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Weight: 1,040 g
- ▶ Standards: CE/RED, UN ECE R10, UN ECE R118

Coach Radio



MINIBUS RADIO MR 12

Specially designed for use in bus systems with a 12 V electrical system, the MR 12 is equipped with an integrated tuner and all the popular connections for further external consumer electronics sources. This makes the MR 12 a solid entertainment solution that you can depend on.

- ▶ Display color: red
- ▶ Integrated amplifier with 2 x 20 watts of output power
- ▶ Radio: FM, AM/MW, LW, WB
- ▶ USB port and AUX-in connection on the front panel
- ▶ Microphone input
- ▶ The MR 12 switches on automatically when the microphone is used
- ▶ Tuner frequency ranges (depending on region):
 - FM: 87.5 to 108 MHz
 - AM/MW: 530 to 1,710 kHz
 - LW: 153 to 279 kHz
- ▶ Operating voltage: 12 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Standby current consumption: < 0.5 mA
- ▶ Format: 1-DIN
- ▶ Standards: CE, E1, FCC, RoHS, MVSS 302, ECE R118, WEEE



Coach Audio Amplifier 12.24

The Coach Audio Amplifier 12.24 microphone amp is suitable for all buses and coaches with a 12 V or 24 V electrical system. It is equipped with two inputs and produces a rich and powerful sound for microphone announcements. To adjust the output quality further, both of the connected microphones can be matched by adjusting the levels. The integrated priority circuit makes it possible to prioritize announcements.

- ▶ 2 x 20 watts of output power
- ▶ Any installation position
- ▶ Operating voltage: 12 V/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 167 x 55 x 97.5 mm
- ▶ Weight: 670 g
- ▶ Standards: CE, E1, RoHS

Microphones

All microphones from Bosch are fully tailored to the needs of the driver and tour guide. Ergonomic, user-centric design is coupled with a comprehensive range of functions and excellent audio quality.



COACH DYNAMIC MICROPHONE CDM 08/CDM 08 GSM

Making announcements during the journey is made easy thanks to the CDM 08 and CDM 08 GSM microphones. The flexible design allows the microphone to be adapted to the ergonomic needs of the driver. The innovative microphone head prevents feedback and interference. The CDM 08 GSM additionally allows phone calls to be made in private mode.

The conversation is heard only by the driver and caller and is not output over the cockpit loudspeakers.

- ▶ Dynamic microphone
- ▶ Safe and convenient due to reinforced microphone base and flexible microphone neck
- ▶ Mounting to the left or right of the driver's seat (with optional accessories)

OPTIONAL FOR THE CDM 08 GSM

- ▶ Telephone hands-free operation with conventional GSM hands-free device
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Frequency response: 100 to 12,000 Hz
- ▶ Gooseneck diameter: 6 mm
- ▶ Total length: 500 mm



BOSCH HANDHELD MICROPHONE BHM 09 S

The BHM 09 S has been specially designed for professional use in a Bosch Coach Multimedia system. The BHM 09 S enables the tour guide to easily make announcements at any time.

The extensive range of accessories ensures the microphone can be stored safely in the cockpit and provides the speaker with ample freedom of movement.

- ▶ Dynamic microphone
- ▶ Integrated wind protection
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Frequency response: 100 to 10,000 Hz
- ▶ Total length: 138 mm



BOSCH GOOSENECK MICROPHONE BGM 09

With the sturdy BGM 09 gooseneck microphone, the driver can make announcements at any time, even when the multimedia system is switched off.

- ▶ Dynamic microphone
- ▶ Integrated wind protection

OPTIONAL FOR THE SWITCH VARIANT (BGM 09 S)

- ▶ Supplied with foot switch for activating the microphone
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Frequency response: 100 to 10,000 Hz
- ▶ Gooseneck diameter: 6 mm
- ▶ Total length: 800 mm

Microphones



Coach WirelessMicrophone System E

This wireless microphone is specially designed for professional use in coaches. The microphone provides the tour guide with plenty of freedom of movement and interference-free transmission.

The microphone is compatible with the following Bosch multimedia coach systems and radios:

- ▶ Coach Professional Line 3
- ▶ Coach Infotainment series
- ▶ Coach smartInfotainment series
- ▶ CMS
- ▶ CR 24
- ▶ MR 12
- ▶ CAD 12
- ▶ Coach AudioAmplifier 12.24

- ▶ Operating voltage: 9 V to 36 V
- ▶ Operating temperature: -30 °C to +70 °C
- ▶ Frequency range EU: 863 to 865 MHz
- ▶ Audio frequency range:
 - Receiver station 150 Hz to 6.5 kHz
 - Hand microphone 50 Hz to 12 kHz
- ▶ Receiver station dimensions:
 - approx. 188 x 82 x 126 mm
- ▶ Receiver station weight: 290 g
- ▶ Hand microphone weight:
 - Without batteries 240 g
 - With batteries 282 g
- ▶ Standards: CE, E1, MVSS 302, ECE R118

The Coach ChargingStation recharges your microphone quickly and automatically. The holder at the same time ensures the microphone is stored safely during the journey.



Coach ChargingStation D

The Coach ChargingStation D (dashboard) positions the Coach WirelessMicrophone securely in the cockpit area.

This charging station has been designed for mounting in the dashboard of coaches that have a 12 V or 24 V electrical system.

SCOPE OF SUPPLY

- ▶ Charging station (2-piece, pre-assembled)
- ▶ Connecting cable (incl. connection kit)



Coach ChargingStation W

The Coach ChargingStation W (wall) is an additional option for the Coach WirelessMicrophone. This charging station has been designed for wall-mounting in coaches that have a 12 V or 24 V electrical system.

SCOPE OF SUPPLY

- ▶ Charging station (2-piece, pre-assembled)
- ▶ Baseplate
- ▶ 6 screws (for fastening the charging station to the baseplate)
- ▶ Connecting cable (incl. connection kit)

MAS – Multichannel Audio System

The Multichannel Audio System (MAS) from Bosch keeps passengers entertained with up to eight individually selectable stereo programs. Up to 100 seat modules are supplied with media content via a central component, the MAS Head Station. Passengers are therefore offered a more personalized entertainment experience.



MAS HEAD STATION 02

The MAS Head Station 02 can accommodate up to eight audio sources and distribute them to a maximum of four trunk lines. Up to 25 seat modules can be connected to each of these trunk lines. So, with four trunk lines, it is possible to supply 100 seats with individually selectable entertainment.

- ▶ Any installation position
- ▶ Variable design options for the MAS according to vehicle requirements
- ▶ Uniform volume level due to integrated gain setting
- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -10 °C to +55 °C
- ▶ Dimensions (W x H x D): 213 x 50 x 217.5 mm
- ▶ Weight: 1,400 g
- ▶ Standards: CE, FCC, RoHS



MAS SEAT MODULE 03

Passengers can select their preferred audio program (radio, CD, TV or video) at any time via the MAS Seat Module 03. The display shows all the channels that are available. The passenger can then make a selection and adjust the volume.

- ▶ Unrestricted installation position, click-in and screw-in
- ▶ Connection option for conventional headphones to the audio jack
- ▶ Improved water resistance for longer service life
- ▶ Operating voltage: power supplied by MAS Head Station 02
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 54.7/77 x 35.7 x 20 mm
- ▶ Standards: CE, E1, FCC, ECE R118, RoHS, WEEE

Loudspeakers

Bosch loudspeakers ensure announcements can be heard clearly and produce an impressive sound for movies and music. The various models are available in many different sizes and colors and for a wide range of installation depths to accommodate individual requirements.



AL 100

- ▶ Max. load: 25 W
- ▶ Sensitivity: 87 dB
- ▶ Frequency response: 80 to 20,000 Hz
- ▶ Installation depth: 44 mm
- ▶ Diameter: 100 mm
- ▶ Nominal impedance: 4 Ω/4 Ω
- ▶ Diameter with grille: 135 mm
- ▶ Grille color: black
- ▶ Packaging unit with grille: 2 pcs
- ▶ Packaging unit without grille: 36 pcs

AL 120

- ▶ Max. load: 30 W
- ▶ Sensitivity: 87 dB
- ▶ Frequency response: 70 to 20,000 Hz
- ▶ Installation depth: 28 mm
- ▶ Diameter: 114 mm
- ▶ Nominal impedance: 4 Ω/8 Ω
- ▶ Diameter with grille: 152 mm
- ▶ Grille color: gray
- ▶ Packaging unit with grille: 16 pcs

AL 130

- ▶ Max. load: 50 W
- ▶ Sensitivity: 88 dB
- ▶ Frequency response: 70 to 20,000 Hz
- ▶ Installation depth: 50 mm
- ▶ Diameter: 115 mm
- ▶ Nominal impedance: 4 Ω
- ▶ Diameter with grille: 165 mm
- ▶ Grille color: black
- ▶ Packaging unit with grille: 2 pcs



Excellent image quality – with Coach Video

Multimedia technologies from Bosch cater to every requirement, providing high-speed Wi-Fi connectivity and first-rate picture quality on all displays. Bosch displays have space-saving designs, are equipped with an internal temperature management system, and can be integrated into any coach interior. Our flat-panel displays set new standards in terms of technology, installation, and design.



Mobile Entertainment



Final product picture will be added at a later date



Router CM-R 19

The Coach Router provides fast internet access and wireless access to media via LTE from any device in the coach. The streaming function enables access to local content and allows passengers to share content with one another.

With its integration in the Coach Infotainment architecture, the router becomes a connected system gateway between the users' mobile devices and the vehicle's own local network.

- ▶ Wi-Fi hotspot/broadband internet access
- ▶ Media server function
- ▶ Media streaming for custom entertainment options on personal devices (media services provided by service partners)
- ▶ Connected services (tour and travel info)
- ▶ 2 x SIM slots with preference settings
- ▶ TE/HSPA+/EDGE/GPRS/GSM
- ▶ Media streaming of content from the system to passengers' smart devices
- ▶ Media streaming of content stored on the router to the infotainment system
- ▶ 2.4 GHz/5 GHz
- ▶ DRM content (digital rights management)
- ▶ Advanced cascade function
- ▶ CAN enabled
- ▶ Tour guides can use their smart devices to control cabin entertainment content



Coach MediaRouter

The MediaRouter is a mobile Wi-Fi hotspot. Passengers can access the internet on their mobile devices. In addition, a local media library provides a selection of top entertainment that passengers can choose from according to their tastes and then stream to their smartphone or tablet. This automotive media hotspot handles multiple SIM cards and includes effective bandwidth management. The Coach MediaRouter is therefore the perfect mobile entertainment center.

- ▶ Broadband internet access via LTE mobile communications LTE, HSDPA, GPRS, LTE/HSPA+ EDGE/GPRS/GSM
- ▶ Transmission of music, pictures, and video files via the Wi-Fi hotspot
- ▶ Automatic connection
- ▶ Variable setting of number of clients
- ▶ Connection of USB flash drives
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -40 °C to +85 °C
- ▶ Dimensions (W x H x D): 150 x 110 x 30 mm
- ▶ Weight: < 500 g
- ▶ Enclosure type: IP30
- ▶ Standards: CE, E1, R&TTE, MVSS 302, ECE R118
- ▶ Wavebands:
 - 800/900/1,800/2,100/2,600 MHz
 - 850/900/2,100 MHz
 - 850/900/1,800/1,900 MHz
- ▶ Wi-Fi: 802.11a/b/g/n; 2.4 GHz

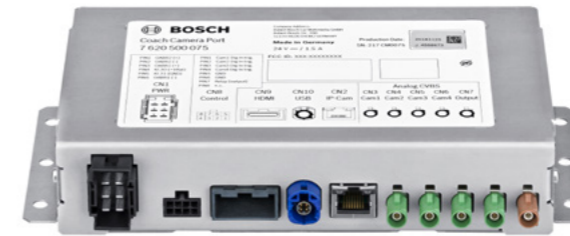
Mobile Entertainment



DVB-T2 TUNER

Nowadays we expect mobile TV to be digital and offer interference-free reception and ultra-sharp picture quality. The DVB-T2 Tuner from Bosch is one of the first to provide HD quality in coaches. It has an integrated USB port that is not only useful for updating the software but also for importing audio and video files into the coach system. In addition, further audio and video sources can be connected to the DVB-T2 Tuner and controlled using a remote control. Even on tours that go through several countries, optimal reception of encrypted TV channels is assured thanks to the integrated CI slot. The DVB-T2 Tuner is compatible with the Coach smartInfotainment system as well as earlier systems.

- ▶ OSD menu and IR remote control
- ▶ Mobile DVB-T2 TV reception
- ▶ Connection options for two additional video or audio sources
- ▶ External IR receiver (for use without CAN)
- ▶ CVBS video output
- ▶ Operating voltage: 12/24 V
- ▶ CI slot
- ▶ USB-in for audio/video sources
- ▶ HDMI-in for audio/video sources
- ▶ Video formats:
 - 352 x 240 x 30 p
 - 352 x 288 x 25 p to 1,920 x 1,088 x 60 i
 - 1,280 x 720 x 60 p/50 p
- ▶ Audio formats:
 - MPEG-1/2; Layer 1 & 2: 16 to 48 kHz, Layer 1: 32 to 448 kbps, Layer 2: 32 to 384 kbps
 - MPEG-2/4; AAC-LC, 8 to 96 kHz, 8 to 576 kbps
- ▶ OSD menu languages: German, English, French, Spanish, Italian
- ▶ Operating voltage: 12/24 V
- ▶ Standards: CE, E mark



CAMERAPORT CM-P 19

Various analog cameras can be connected to the IP network using the Coach CameraPort. The Coach CameraPort adapts the inputs to the video channels that have been assigned to it, automatically switches video signals, and merges sources for displaying in split-screen mode.

- ▶ Central unit for controlling cameras
- ▶ 4 x video-in for analog cameras
- ▶ ETH RJ45 for an IP camera
- ▶ HDMI-in for an external video source
- ▶ USB for an external audio/video source
- ▶ Cascaded mode (integrated OABR switch)
- ▶ Switching between CAM pictures
- ▶ Image processing for split-screen display, door cameras, cabin monitoring
- ▶ Feeding pictures to monitors and the router

Monitors



The new coach monitors from Bosch set a whole new standard for LCD monitors for the coach market.

Thanks to HD resolution and high-quality signal transmission via automotive Ethernet (OABR), passengers can enjoy an unprecedented movie experience. The monitors provide state-of-the-art display technology coupled with proven Bosch reliability for professional use.

GLASSES CM-G 22" GLASSES CM-G 27"

- ▶ High-definition LED TFT display
- ▶ Resolution: 1,920 x 1,080 pixels
- ▶ OABR-based signal transmission via AVB
- ▶ Cascaded mode (integrated OABR switch)
- ▶ Operating temperature from 0 °C to +65 °C/active temperature management for protecting the hardware
- ▶ Professional look and feel (monitor has a brushed aluminum effect)
- ▶ Weight-optimized design
- ▶ Universal bracket design/fixed or electronically controlled swivel mounting
 - FixedHolder CM-HR
 - FixedHolder CM-HW
 - SwivelHolder CM-HS (only 22" monitor)



19" FLIPDOWN MONITOR

This Flipdown Monitor with a VGA interface and capture logo function produces an ultra-sharp, high-contrast picture. The 16:9 format provides a true cinematic experience. The passenger-optimized viewing angle ensures a great view from any seat.

19" LCD COACH DESIGN

Thanks to its patented safety clutch, the 19" LCD Coach Design monitor is the ideal legal solution for installation in the aisle (ECE R107). The mechanism allows the monitor to be easily swiveled forwards or backwards in the event of an emergency. This monitor is likewise equipped with a VGA interface and has a passenger-optimized viewing angle. The customer's own logo can, if desired, be imported into the monitor and used as the start-up screen.

- ▶ Screen aspect ratio: 16:10
- ▶ Viewing angle (H/V): $\pm 80^\circ/\pm 80^\circ$
- ▶ Resolution: 1,440 x 900 pixels
- ▶ LCD brightness: $\geq 250 \text{ cd/m}^2$
- ▶ System: PAL, SECAM, NTSC
- ▶ Settings: start-up logo, brightness, contrast, color saturation, color tone, activation of terminating resistor, four aspect ratio settings
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: 0 °C to +50 °C (incl. temperature management function)
- ▶ Dimensions (W x H x D): 440.5 x 282 x 40.9 mm
- ▶ Weight: 4,700 g
- ▶ Standards: CE, E1, FCC, MVSS 302, ECE R118, RoHS, WEEE

- ▶ VGA interface
- ▶ Screen size: 475 mm
- ▶ Screen aspect ratio: 16:10
- ▶ Viewing angle (H/V): $\pm 80^\circ/\pm 80^\circ$
- ▶ Resolution: 1,440 x 900 pixels
- ▶ LCD brightness: $\geq 250 \text{ cd/m}^2$
- ▶ System: PAL, SECAM, NTSC
- ▶ Settings: start-up logo, brightness, contrast, color saturation, color tone, activation of terminating resistor, four aspect ratio settings
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: 0 °C to +50 °C (incl. temperature management function)
- ▶ Dimensions (W x H x D): 489 x 347 x 47 mm
- ▶ Weight: 7,000 g
- ▶ Standards: CE, E1, FCC, MVSS 302, ECE R118, RoHS, WEEE

Monitors



15" LCD BASIC

Sturdily built, but nevertheless incorporating state-of-the-art technology, this functionally optimized 15" LCD Basic Monitor with a widescreen format offers first-rate performance for great movie entertainment.

- ▶ Screen size: 397 mm
- ▶ Screen aspect ratio: 16:9
- ▶ Viewing angle (H/V): $\pm 80^\circ/\pm 80^\circ$
- ▶ Resolution: 1,366 x 768 pixels
- ▶ LCD brightness: ≥ 250 cd/m²
- ▶ System: PAL, SECAM, NTSC
- ▶ Settings: brightness, contrast, color saturation, color tone, two aspect ratio settings
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: 0 °C to +50 °C
- ▶ Dimensions (W x H x D): 346 x 230 x 41 mm
- ▶ Weight: 2,600 g
- ▶ Standards: CE, E1, FCC, MVSS 302, ECE R118, RoHS, WEEE



7" COCKPIT DISPLAY

The 7" Cockpit Display is an LCD monitor designed for installation in the driver's workplace. In combination with the Professional Line 3 system, the 7" Cockpit Display can also be used for door surveillance in the coach.

The display is versatile and can be installed in many different locations in the vehicle. Thanks to the integrated infrared sensor, it is possible to control the Professional Line 3 system using a separate remote control.

- ▶ Screen size: 180 mm
- ▶ Screen aspect ratio: 5:3
- ▶ Viewing angle: (H/V): $\pm 65^\circ/\pm 55^\circ$
- ▶ Resolution at 60 Hz: 88 x 480 pixels
- ▶ LCD brightness: 350 cd/m²
- ▶ System: PAL, NTSC, SECAM
- ▶ Settings: brightness, contrast, color saturation, color tone, aspect ratio
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +66 °C
- ▶ Dimensions (W x H x D): 188 x 120 x 50 mm
- ▶ Weight: 720 g
- ▶ Standards: E1, FCC, CE, ECE R118, RoHS, EG 95/28



VIDEOBOX MONITOR

The Videobox Monitor displays video and door surveillance views on a 7" 16:9-format LCD screen. It is installed in clear view in the coach dashboard and connected to the Videobox.

- ▶ Screen size: 475 mm
- ▶ Screen aspect ratio: 16:10
- ▶ Viewing angle (H/V): $+80^\circ/+80^\circ$
- ▶ Resolution: 1,440 x 900 pixels
- ▶ LCD brightness: ≥ 250 cd/m²
- ▶ System: PAL, NTSC, SECAM
- ▶ Settings: brightness, contrast, color saturation, color tone, aspect ratio
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: 0 °C to +50 °C
- ▶ Dimensions (W x H x D): 188 x 120 x 50 mm
- ▶ Weight: 500 g
- ▶ Standards: CE, E1, FCC, ECE R118, RoHS, WEEE



VIDEOBOX

The Videobox is the central signal-distribution interface. It is used for displaying door surveillance video and other video signals on the monitors. The Videobox operates on a 12/24 V operating voltage.

- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 212 x 139 x 43 mm
- ▶ Weight: 400 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE

Video Sources

We ensure your passengers enjoy an uninterrupted movie experience. All Bosch video components are perfectly matched to one another, intuitive to use, and are therefore a popular addition in any coach.



DVD VIDEO PLAYER DVP 08 C

Intuitive technology and sturdy components make this automotive DVD video player a durable and popular addition in any coach. The drive is equipped with a last-memory function, and subtitles can be enabled for all supported languages at the press of a button.

- ▶ Display color: red
- ▶ DVD/CD/MP3 drive with available regional codes: RC1, RC2, RC4, RC5
- ▶ Subtitle function
- ▶ Line-in for second video source (Sat TV, DVB-T)
- ▶ Easy control via separate IR receiver (optionally available)
- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Format: 1-DIN
- ▶ Weight: 1,300 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE



CAMERA SWITCH

The camera switch can be integrated directly into the 12 V or 24 V vehicle electrical system. It supplies up to four connected cameras and an optional monitor with a constant voltage of 12 V. The camera selector switch can be operated manually.

- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 180 x 26 x 108 mm
- ▶ Weight: 414 g
- ▶ Standards: CE, E1, RoHS, WEEE



VGA SPLITTER

The VGA splitter can be used to connect several monitors equipped with a VGA interface to a single computer.

- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 139 x 29 x 67 mm
- ▶ Weight: 225 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE



AUDIO/VIDEO SWITCH

The audio/video selector switch makes it possible to connect two video sources to the coach multimedia system.

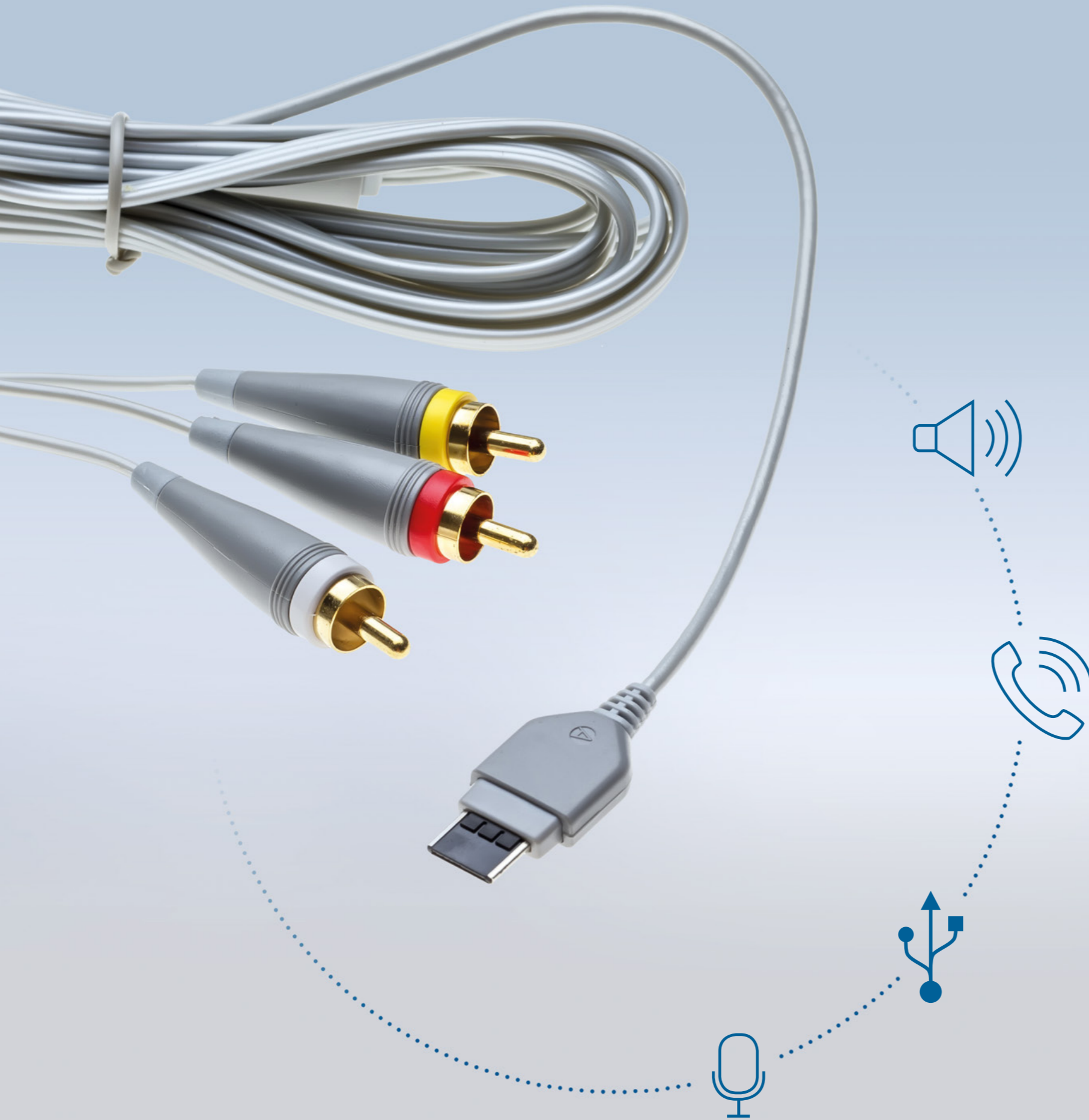
- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 157.5 x 35.5 x 87 mm
- ▶ Weight: 350 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE



VIDEO AMPLIFIER

This amplifier ensures a consistently excellent picture quality even when operating multiple monitors.

- ▶ Operating voltage: 24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 140.5 x 29.3 x 82.5 mm
- ▶ Weight: 250 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE



Enhance as required – with coach accessories

As a system supplier with many years of experience, Bosch always provides an excellent range of suitable accessories. Whether you are looking for a camera switch, CVBS/RGB converter, or simply a new cable, you will find exactly what your system needs. Loudspeakers and amplifiers specially designed for commercial vehicles complete the range.



CVBS/RGB CONVERTER

This converter makes it possible to display video signals (e.g. from the rear-view camera) on the Bosch cockpit monitors.

- ▶ Operating voltage: 12/24 V
- ▶ Operating temperature: -20 °C to +70 °C
- ▶ Dimensions (W x H x D): 170 x 39 x 109.1 mm
- ▶ Weight: 470 g
- ▶ Standards: CE, E1, FCC, RoHS, WEEE

Product Overview

COACH AUDIO

COACH INFOTAINMENT SERIES	PART NUMBER	PAGE
ControlPanel CM-X 19	7 620 200 071	6
Center CM-C 19 EU	7 620 350 070	7
Center CM-C 19 NAFTA	7 620 350 071	7
Center CM-C 19 Mexico	7 620 350 076	7
Mounting Frame for Center CM-C 19	7 620 270 013	
Amplifier CM-A 19	7 620 200 072	8
USB CM-Hub	7 620 200 073	9
PROFESSIONAL LINE 3		
CCS Professional Premium (RC2)	7 620 200 062	10
CCS Professional Premium (RC1)	7 620 200 061	10
CCS Professional Premium (RC4)	7 620 200 064	10
CCS Professional Premium (RC5)	7 620 200 065	10
CCD Professional Bluetooth	7 620 200 052	12
CCD Professional	7 620 200 051	12
CPA 811	7 620 200 057	13
CPA 2011	7 620 200 058	13
Videobox	7 620 200 059	33
Coach smartInfotainment series		
Coach smartRadio	7 620 210 042	14
Coach smartPanel	7 620 210 041	15
Coach smartPanel NAFTA	7 620 210 046	15
Coach smartRadio w/o BT	7 620 210 044	15
Coach smartRadio NAFTA	7 620 210 043	15
COACH RADIO		
Minibus Radio MR 12	7 620 210 017	16
VERSTÄRKER		
Coach AudioAmplifier 12.24	7 620 220 012	17

MICROPHONES	PART NUMBER	PAGE
Coach Dynamic Microphone CDM 08 GSM	7 620 230 018	18
Coach Dynamic Microphone CDM 08	7 620 230 019	18
Bosch Gooseneck Microphone BGM 09 S	7 620 230 025	19
Bosch Gooseneck Microphone BGM 09	7 620 230 024	19
Coach WirelessMicrophone System E	7 620 230 020	20
Coach ChargingStation D	7 620 270 011	21
Coach ChargingStation W	7 620 270 012	21
Mounting bracket for BGM 09/BGM 09 S	7 607 022 001	
Foot switch for BGM 09/BGM 09 S	7 607 005 710	
Bosch Handheld Microphone BHM 09 S	7 620 230 012	19
Mounting clip for BHM 09 S	7 620 270 000	
Mounting sleeve for BHM 09 S	7 620 270 001	
Microphone Priority Switch	7 620 230 022	
MAS – MULTICHANNEL AUDIO SYSTEM		
MAS Head Station 02	7 620 240 004	22
MAS Seat Module 03 (Grid Version)	7 620 240 016	22
MAS Seat Module 03 (Screw Version)	7 620 240 017	22
MAS distributor	7 607 006 318	
MAS Load	7 607 006 029	
LOUDSPEAKERS		
AL 100 with grille (4 Ω)	7 620 250 014	23
AL 100 without grille (4 Ω)	7 620 250 016	23
AL 120 with grille (4 Ω)	7 620 250 011	23
AL 120 with grille (8 Ω)	7 620 250 012	23
AL 130 with grille (4 Ω)	7 620 250 015	23

COACH VIDEO

MOBILE ENTERTAINMENT		
Router CM-R 19 NAFTA	7 620 320 034	26
Router CM-R 19 EU	7 620 320 032	26
Coach MediaRouter	7 620 320 029	27
DVB-T2 Tuner	7 620 320 031	28
4 antennas for the DVB-T Tuner	7 620 340 025	
CameraPort CM-P 19	7 620 500 075	
Tuner CM-HDTV 19	7 620 320 033	29

Product Overview

MONITORS	PART NUMBER	
Glasses CM-G 22"	7 620 310 073	30
Glasses CM-G 27"	7 620 310 074	30
FixedHolder CM-HR (Roof)	7 620 340 031	30
FixedHolder CM-HW (Wall)	7 620 340 033	30
SwivelHolder CM-HS	7 620 340 032	30
19" LCD Coach Design	7 620 310 077	31
19" Flipdown Monitor	7 620 310 087	31
Bracket for 19" LCD-LED Premium Flipdown Monitor	7 620 340 001	
Magnet-Set 19" 27.5 mm	7 620 270 002	
Magnet-Set 19" 20.0 mm	7 620 270 003	
15" LCD Basic	7 620 310 085	32
7" Cockpit Display	7 620 310 071	32
Videobox Monitor	7 620 310 041	33
VIDEO SOURCES		
DVD video player DVP 08 C (RC2)	7 620 320 024	34
DVD video player DVP 08 C (RC5)	7 620 320 028	34
IR eye 5 m cable for DVP 08 C	7 607 005 726	
Audio/video switch	7 620 330 002	35
VGA Splitter	7 620 330 005	35
Video Amplifier	7 620 330 007	35

COACH ACCESSORIES

COACH ACCESSORIES		
Camera switch for up to 4 camera connections	7 620 500 004	35
CVBS/RGB Converter	7 620 500 025	37

COACH ACCESSORY CABLES

COACH INFOTAINMENT SERIES	PART NUMBER
CM-C – CM-X CAN Cable – 2 m	7 620 280 111
CM-C – USB Device USB Cable – 1.5 m	7 620 280 112
CM-C – CM-A Audio Power Cable – 1.7 m	7 620 280 113
CM-C – CM-A Audio Power Cable – 5 m	7 620 280 114
CM-C – CM-A Audio Power Cable – 8 m	7 620 280 115
CM-C – CM-P Video Cable – 1.7 m	7 620 280 116
CM-C – CM-P Video Cable – 5 m	7 620 280 117
CM-C – CM-P Video Cable – 8 m	7 620 280 118
CM-C – CM-P Video Cable – 0.5 m	7 620 280 119
CM-C – CM-Hub Cable	7 620 280 127
CM-P – Analog Camera CAN Cable – 0.25 m	7 620 280 120
CM-P – User Device HDMI Cable – 2 m	7 620 280 121
CM-P – User Device HDMI Cable – 4 m	7 620 280 122
CM-P – USB Device USB Cable	7 620 280 126
Molex-MCP Adapter Cable	7 620 280 125
USB Blind Cover	7 620 280 150
PROFESSIONAL LINE 3	
Connection CCS-CPA – 1.7 m	7 620 280 021
Connection CCS-CPA – 5 m	7 620 280 023
Connection CCS-CPA – 8 m	7 620 280 024
Connection CCS-USB, snap on	7 620 280 042
Connection CCD-jack plug (USB + AUX)	7 620 280 057
Connection CCS-Videobox – 5 m	7 620 280 047
Connection CCS-Videobox – 6 m	7 620 280 068
Connection Videobox Monitor – 5 m	7 620 280 108
Connection CPA-Videobox – 5 m	7 620 280 044
Connection CPA-Videobox – 7 m	7 620 280 067
Connection Videobox-Videobox Monitor – 1.5 m	7 620 280 045
Connection Videobox-Videobox Monitor – 6 m	7 620 280 061
Connection Videobox-Videobox Monitor – 7.5 m	7 620 280 070
DVB-T Tuner cable (Professional Line 3) – 3.5 m	7 620 280 062
C2-Y-adapter – 0.25 m	7 620 280 065
Extension CCS-DVB-T-CAN – 6 m	7 620 280 066
Coach smartInfotainment series	
Connection Video	7 620 280 109
Connection Media-CAN – 0.5 m	7 620 280 110
Connection Media-CAN – 1.8 m	7 620 280 124

Product Overview

ADDITIONAL AUDIO EQUIPMENT	PART NUMBER
Extension CDC/IDC-CPA – 1.3 m	7 620 280 039
Extension CDC/IDC-CPA – 6 m	7 620 280 040
Connection CCS-USB	7 620 280 033
Connection CCS-USB, snap on	7 620 280 042
MAS – MULTICHANNEL AUDIO SYSTEM	
Cable set for Professional Line 3	7 620 280 030
Preamp cabel – 5 m	7 607 006 327
MICROPHONES	
Extension with switch for CDM 04 – 1.3 m	7 620 280 089
Adapter cable CM-C 19 – CDM 08	7 620 280 144
Adapter cable CM-C 19 – CGM 09	7 620 280 145
Extension for CDM 04 CCU driver's seat – 6 m	7 620 280 090
Extension for CDM 04 – 1.25 m	7 620 280 092
Extension for CCS – 6 m	7 620 280 091
Adapter cable CCS – CDM 08	7 620 280 094
Adapter cable CCS – BHM 09 S	7 620 280 093
Adapter cable CCS – BGM 09	7 620 280 095
Connection cable for foot switch – 0.2 m	7 607 181 001
Spiral cable for hand-held microphone, DIN plug – 6 m	7 620 230 113
Extension cable, DIN plug – 3 m	7 620 280 107
Spiral cable for hand-held microphone, XLR plug – 6 m	7 620 230 115
VIDEO SOURCES	
Connection MVP 01, MVP 08 NTSC-CPA – 2.5 m	7 607 006 416
Remote cable MVP 01, MVP 08 NTSC – 2.5 m	7 607 006 437
Adapter cable CPA-Video	7 620 280 035
Connection CCS-Video+IR eye	7 620 270 007
Connection CCS-DVP/DVB-T Tuner	7 620 280 041
Connection standalone DVB-T Tuner – 3.5 m	7 620 280 069

NAVIGATION	PART NUMBER
Connection CPA-PX-V	7 620 280 036
Connection CPA-PX-V (KL30-12 V)	7 620 280 071
Connection CLX-CCU/CCX – 1.5 m	7 607 006 429
Connection CCU-Converter – 6 m	7 607 006 430
Connection Coach Navigation-CLX – 6 m	7 607 006 434
Extension Widescreen Monitor – 1.5 m	7 607 006 411
Connection Coach Navigation Converter – 6.5 m	7 620 280 410
Connection Coach Navigation Converter – 4 m	7 607 006 410
Connection Coach Navigation Converter – 1.5 m	7 607 006 414
MOBILE ENTERTAINMENT	
Connection MediaRouter USB	7 620 280 086
Connection MediaRouter ETH	7 620 280 087
MONITORS	
Video cable monitor-monitor – 10 m	7 607 263 000
Video cable monitor-player – 10 m	7 607 263 001
COLOR CAMERA	
Adapter cable camera/converter – 0.17 m	4 998 101 884



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