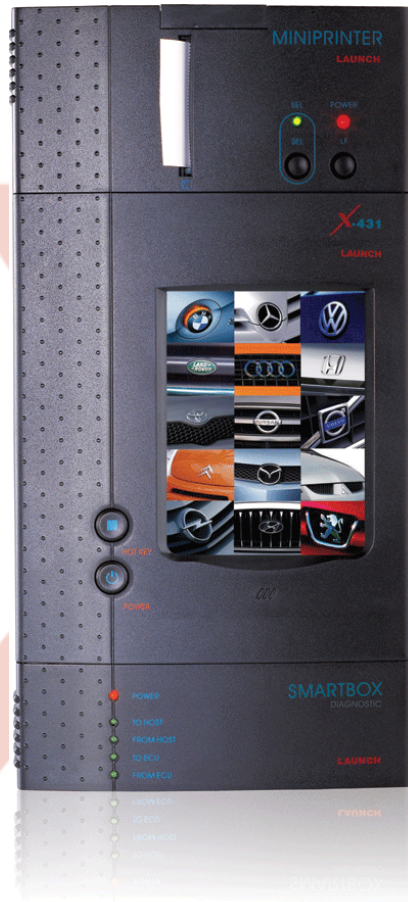

Connector Usage & CAN Bus Guide



X-431 Scanner With Open Diagnostic Platform



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A • Connectors/CAN-Bus Guide/Chassis ID

Connector Usage

- Due to the complexity of models and years, this is compiled as a *guide* only. You should refer to the manufacturer's service information for complete connector usage information.
- If the car has an OEM-style connector in conjunction with an OBD-II style connector, the OEM style will provide the most capabilities for the OEM software. If the car only has an OBD-II style connector, that connector will provide both OEM and generic (OBD-II) capabilities.

Connector Usage Guide as of June 2006

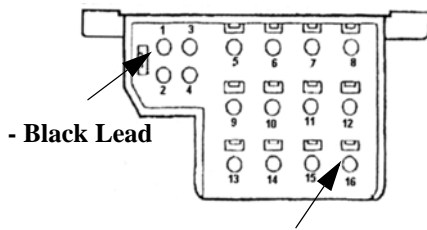
Manufacturer		Year Range	Connector
Audi	OEM	Up to 1995	Audi/VW 4
		1996 Onward	OBD II -16C
		2004 Onward (Audi A8)	CAN Connector
	OBD II	1996 Onward	OBD II -16C
BMW	OEM	UP to 2002	BMW 20
		2000 Onward	BMW 16
	OBD II	1996 Onward	OBD II -16C
Chrysler	OEM	Up to 1996	Chrysler -6
		1996 Onward	Smart OBD II -16
	OBD II	1996 Onward	OBD II -16C
Daewoo	OEM	1999 Onward (USA)	OBD II -16C
	OBD II	1999 Onward (USA)	OBD II -16C
Ford	OEM	UP to 1995	Ford 6+1
		1996-2004	OBD II -16C
		2005 Onward	CAN Connector
	OBD II	1996 Onward	OBD II -16C
GM	OEM	Up to 1996	GM/Daewoo -12
		1996 Onward	OBD II -16C
		1996 Onward	OBD II -16C
Honda / Acura	OEM	Up to 1996	Honda -3
		1996 Onward	Smart OBD II -16
	OBD II	1996-2005	Smart OBD II -16
Hyundai	OEM	Up to 1995	Mits/Hyun 12-16
		1996 Onward	Mits/Hyun 12-16 (OBD II Side)
	OBD II	1996 Onward	Mits/Hyun 12-16 (OBD II Side)
Kia	OEM	Up to 2003	Kia 20
		2003 Onward	SMART OBD II-16
	OBD II	1996 Onward	OBD II -16C
Landrover	OEM	Up to 1995	N/A
		1995 Onward	OBD II -16C
	OBD II	1996 Onward	OBD II -16C

<u>Manufacturer</u>		<u>Year Range</u>	<u>Connector</u>
Mazda	OEM	UP to 2004	Mazda -17
		2004 Onward	OBD II -16C
	OBD II	1996 Onward	OBD II -16C
Mitsubishi	OEM	Up to 2004	Mitsubishi/Hyundai -12+ 16
	OBD II	1996 Onwards	Mitsubishi/Hyundai -12+ 16
Mercedes Benz	OEM	Up to 1993	Universal -3
		1992 - 2000	Mercedes Benz -38
	(See CAN-Bus Guide)	1999 Onwards	OBD II -16C
		2003 Onwards	CAN Connector
	OBD II	1996 Onwards	OBD-II -16c
Nissan/Infiniti	OEM	Up to 1999	Nissan -14 +16
		2000 Onward	Nissan -14 +16
	OBD II	1996 Onward	Nissan -14 +16
Porsche	OBD II	911 & 996 ONLY	OBD II -16C
		1996 Onward	
Saab	OEM	1996 Onward	Smart OBD II -16
	OBD II	1996 Onward	OBD II -16C
Sprinter	OEM		OBD II -16C
	OBD II	1996 onwards	OBD II -16C
Subaru	OEM	1996 Onwards	OBD II -16C
	OBD II	1996 Onwards	OBD II -16C
Suzuki	OEM	1996 Onwards	Smart OBD II -16
	OBD II	1996 Onwards	Smart OBD II -16
Toyota/Lexus		DLC 1	Toyota -22(17f) ABS/TRACS/AB
		DLC 2	Toyota -17 All Sys./Blink Codes
		DLC3	Toyota -16 1996 UP All Sys./OBDII
Volkswagen	OEM	Up to 1995	Audi/VW 4
		1996 Onward	OBD II -16C
		2004 Onward (Audi A8)	CAN Connector
	OBD II	1996 Onward	OBD II -16C
Volvo	OEM	1996-1998	Smart OBD II -16
		1999 Onward	Volvo CAN
	OBD II	1996 Onward	OBD II -16C

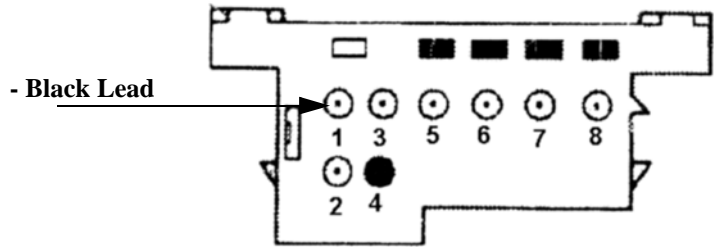
Mercedes Benz 16PIN & 8pin Diagnostic Socket

USE 3-PIN UNIVERSAL CONNECTOR

Some Mercedes-Benz models up to 1996 may have an 8 or 16 pin diagnostic connector. The diagnosis program for these models is performed through the “Flash Fault Code” option, which is at the bottom of the Mercedes-Benz chassis number selection menu. See the below graphics below to help with the proper connections.



Red Lead
(or battery clip
connector if no
power is present)



Note: Use battery clip connector for positive (red lead) connection.

Pin	Definition
1	Body ground - Black Lead
2	On-board diagnostic switch
3	CIS-E/DM
4	EDS/LED
5	ASD
6	AB
7	AC(124)/RB(129)
8	DI/HFM, SFI, MFI/DMS
9	ADS/RB(124)
10	RST(129)/Speed signal
11	ATA
12	IRCL
13	EATC
14	EA(124)/ISC(124)/ESCM(129)/CC
15	Not used
16	Positive pole of power - Red Lead (Sometimes not present- If so, then use battery clip)

Pin	Definition
1	Body ground (black lead)
2	Ignition signal/Press button
3	Diagnosis percentage
4	Engine trouble code/LED
5	ASD
6	SUS trouble code
7	A/C trouble code
8	Ignition control system

CAN BUS GUIDE

Use Specification of SMART OBD-II-16/OBD-II-16C & OBD-Can Connector

- 1. SMART OBD-II-16** connector is used for testing the vehicle model without a CAN Bus system (if the 6 and 1-pin positions of 16-pin diagnostic socket doesn't have sheet metal, it indicates that the vehicle doesn't have a CAN-Bus system).
- 2. OBD-II-16C** connector is used for testing the non-CAN-Bus systems of the vehicle model with CAN-Bus system (if the 6 and 14 pin positions of 16 pin diagnostic socket has sheet metal, it indicates that the vehicle is a CAN-Bus system).
- 3. OBD CAN** connector is used for testing CAN-Bus system (if the 6 and 14- pin positions of 16-PIN diagnostic socket has sheet metal, it indicates that the vehicle is a CAN-Bus system).

When is the CAN-Bus connector used?

1. Must use CAN-Bus connector when using diagnostic software OBD CAN.
2. Must use CAN-Bus connector when testing certain CAN-Bus systems of BENZ, VW, RENAULT, and MAZDA.

CAN-Bus function table (each vehicle)

Available models and systems tested by X-431 at present are as follows:

1. Mercedes-Benz

Table A-1

Chassis	Model	System	Version	Read Codes	Clear Codes	Data Stream	Actuation
220	S350	AB	✓	✓	✓		
		CGW	✓	✓	✓		
		SDS	✓	✓	✓		
211	All Model	AB	✓	✓	✓		
		ESM	✓	✓	✓		
		ABC	✓	✓	✓		
		CGW	✓	✓	✓		
		SDS	✓	✓	✓		
		BCM	✓	✓	✓		
		EIS	✓	✓	✓		
		HRA	✓	✓	✓		
		OCP	✓	✓	✓		
		UCP	✓	✓	✓		
		LCP	✓	✓	✓		
		SCM	✓	✓	✓		
		ICM	✓	✓	✓		
		PTS	✓	✓	✓		
		PASS-SAM	✓	✓	✓		
		DR-SAM	✓	✓	✓		
		REAR-SAM	✓	✓	✓		
		DCM-FR	✓	✓	✓	✓	
		DCM-RL	✓	✓	✓	✓	
		DCM-RR	✓	✓	✓	✓	
		DCM-RL	✓	✓	✓	✓	
ESA-DR	✓	✓	✓	✓			
ESA-PASS	✓	✓	✓	✓			
HS	✓	✓	✓				
AAC	✓	✓	✓				

2. Renault

Table A-2

Model	System	Version	Read Codes	Clear Codes	Read Data	Actuation
MEGANE II	Petrol Injection	✓	✓	✓	✓	✓
	A.B.S.	✓	✓	✓	✓	✓
	Variable P.A.S.	✓	✓	✓	✓	
	Instrument Panel	✓	✓	✓	✓	✓
	Airbag/Pretensioners	✓	✓	✓	✓	
	Passenger Compartment Unit	✓	✓	✓	✓	✓
	Upc	✓	✓	✓	✓	✓
	Diesel Injection	✓	✓	✓	✓	✓

3. VW (Golf 5, Audio A8 4.2L)

Table A-3

Model	System	Version	Read Codes	Clear Codes	Read Data	Actuation
GOLF 5, Audio A8 4.2L	Engine System	✓	✓	✓	✓	✓
	Auto Transmission System	✓	✓	✓	✓	✓
	Parking Brake	✓	✓	✓	✓	
	Electronic Control Drive Door	✓	✓	✓	✓	✓
	Head Light Range Control	✓	✓	✓	✓	
	Seat/Mirror Adjustment	✓	✓	✓	✓	✓
	Central Module	✓	✓	✓	✓	✓
	Parking	✓	✓	✓	✓	✓

4. Mazda

Table A-4

Model	Year	System	Read Codes	Clear Codes	Read Data	Actuation
Mazda 6	2003-2004	Engine System	✓	✓	✓	
		Auto Transmission System	✓	✓	✓	
		Instrument Panel System	✓	✓	✓	

5. OBD-CAN

OBD-CAN can test engine systems according OBD-II and EOBD2 ISO15765-4(CAN) Standard, and the functions are: read trouble code, clear trouble code, read dynamic data stream, read freezing frame and readiness test.

Other CAN-Bus Systems

- 1. VW Vehicles:** Diagnostic functions of all systems are being expanded. The Golf 5, Audi A8 4.2L use the CAN-Bus system and all systems of these models can be used with CAN-Bus diagnostic communications mode.
- 2. Volvo Vehicles:** Systems of almost all model years use the CAN-Bus diagnostic system, especially the S80, S60, and XC90. CAN-Bus diagnosis of these models are different then general OBD-CAN diagnosis and requires the use of special Volvo CAN connectors.
- 3. Nissan Vehicles:** BCM and IPDM are being developed.

Chassis Identification Charts

The following pages show the chassis identification charts for Mercedex-Benz and BMW from 1988 through MY 2005.

Mercedes-Benz Chassis Chart 1988-2005

MERCEDES-BENZ	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
190D	201	201																
190E	201	201	201	201	201	201												
260E	124	124																
300CE	124	124	124	124	124													
300CE CABRIOLET						124												
300D			124															
300D TURBO				124	124	124												
300E	124	124	124	124	124	124												
300E 4MATIC			124	124	124	124												
300SD TURBO						140	140											
300SE	126	126	126	126	140	140												
300SEL	126	126	126	126														
300SL			129	129	129	129												
300TE	124	124	124	124	124	124												
300TE 4MATIC			124	124	124	124												
350SD TURBO				126														
350SDL			126															
350SDL TURBO				126														
400E					124	124												
400SE					140													
400SEL						140												
420SEL	126	126	126	126														
500E					124	124												
500SEC						140												
500SEL					140	140												
500SL			129	129	129	129												
560SEC	126	126	126	126														
560SEL	126	126	126	126														
560SL	107	107																
600SEC						140												
600SEL					140	140												
600SL						129												
C220							202	202	202									
C230										202	202					203.040	203.040	203.040
C230CL																203.740	203.740	203.740
C230K												202	202	202	203.7			
C240 SEDAN 4MATIC																203.081	203.081	203.081
C240 4MATIC WAGON																203.281	203.281	203.281

MERCEDES-BENZ	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
C240 SEDAN														203.061	203.061	203.061	203.061	203.061
C240 WAGON																203.261	203.261	203.261
C280							202	202	202	202	202	202	202.029					
C320 4MATIC SEDAN																203.084	203.084	203.084
C320 4MATIC WAGON																203.284	203.284	203.284
C320 SEDAN														203.064	203.064	203.064	203.064	203.064
C320 WAGON															203.264	203.264	203.264	203.264
C320CL																	203.764	203.764
C32 AMG															203.065	203.065	203.065	
C36									202	202								
C43											202	202						
C43 AMG														202.033				
C55 AMG																		203.076
C86								202										
CL55 AMG														215.373	215.373	215.373	215.374	215.374
CL500													215.375	215.375	215.375	215.375	215.375	215.375
CL500 COUPE											140	140						
CL600														215.378	215.378	215.376	215.376	215.376
CL65 AMG																		215.379
CL600 COUPE											140	140						
CLK320											208.365	208.365	208.365	208.365	208.365	209.365	209.365	209.365
CLK320 CABRIOLET												208.465	208.465	208.465	208.465	209.465	209.465	209.465
CLK430												208.37	208.370	208.370	208.370			
CLK430 CABRIOLET													208.470	208.470	208.470	208.470		
CLK500																	209.375	209.375
CLK500 CABRIOLET																	209.475	209.475
CLK55 AMG														208.374	208.374	209.376	209.376	209.376
CLK55 AMG CABRIOLET															208.474		209.476	209.476
E300D									210	210		210						
E300DT											210							
E320										210	210							
E320 4MATIC SEDAN											210.082	210.082	210.082	210.082	210.082		211.082	211.082
E320 4MATIC WAGON											210.282	210.282	210.282	210.282	210.282	211.282	211.282	211.282
E320 CABRIOLET								124	124									
E320 COUPE								124	124									
E320 SEDAN								124	124		210.065	210.065	210.065	210.065	210.065	211.065	211.065	211.065

MERCEDES-BENZ	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
E320 WAGON							124	124			210.265	210.265	210.265	210.265	210.265	211.265	211.265	211.265
E320 CDI																		211.026
E420							124	124		210								
E430											210.070	210.070	210.070	210.070	210.070			
E430 4MATIC													210.083	210.083	210.083			
E500							124									211.070	211.070	211.070
E500 4MATIC																	211.083	211.083
SEDAN																		
E500 4MATIC																	211.283	211.283
WAGON																		
E55 AMG											210.074	210.074	210.074	210.074	210.074	211.076	211.076	211.076
G500															463.249	463.249	463.249	463.249
G55 AMG																463.246	463.246	463.246
ML320											163.154	163.154	163.154	163.154	163.154			
ML350																163.157	163.157	163.157
ML430												163.172		163.172				
ML500															163.175	163.175	163.175	163.175
ML55 AMG													163.174	163.174	163.174	163.174		
S320							140	140	140	140		140						
S320 LWB												140						
S320 SEDAN											140							
S320 SEDAN											140							
LWB																		
S350							140	140										
S420							140	140	140	140	140	140						
S430													220.170	220.170	220.170	220.170	220.170	220.170
S430 4MATIC																220.183	221.183	221.183
S500											140	220.175	220.175	220.175	220.175	220.175	220.175	220.175
S500 4MATIC																220.184	220.184	220.184
S55 AMG													220.173	220.173	220.173	220.174	220.174	220.174
S600											140		220.178	220.178	220.178	220.176	220.176	220.176
S500 COUPE							140	140	140	140								
S500 SEDAN							140	140	140	140	140							
S600 COUPE							140	140	140	140								
S600 SEDAN							140	140	140	140	140							
SL320							129	129	129	129								
SL500							129	129	129	129	129	129	129.068	129.068	129.068	230.475	230.475	230.475
SL55 AMG																230.474	230.474	230.474
SL600							129	129	129	129	129	129	129.076	129.076	129.076		230.476	230.476
SL65 AMG																		230.479
SLK230											170.447	170.447	170.447	170.449	170.449	170.449	170.449	
SLK32 AMG															170.466	170.466	170.466	
SLK320													170.465	170.465	170.465	170.465		
SLK350																		171.456
SLK55 AMG																		171.473

BMW Chassis Chart 1988-2005

BMW	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
318i				E30	E36	E36	E36	E36	E36	E36								
318i Conv.				E30	E30			E36	E36	E36								
318is				E36		E36	E36	E36	E36	E36	E36							
318ti								E36/5	E36/5	E36/5	E36/5	E36/5						
323Ci													E46	E46				
323Ci Conv													E46	E46				
323i												E46	E46					
323i Conv.											E46	E46						
323is											E46	E46						
325	E30	E30																
325																	E46	E46
325Ci Conv															E46	E46		
325Ci															E46	E46		
325i	E30		E30	E30	E36	E36	E36	E36						E46	E46	E46		
325i Conv.	E30	E30	E30	E30	E30	E30	E36	E36										
325i SPORT WAGON														E46	E46	E46		
325is	E30	E30	E30	E30	E36	E36	E36	E36										
325ix	E30																	
325iX AWD	E30	E30	E30	E30														
325xi SEDAN														E46	E46	E46		
325Xi SPORT WAGON														E46	E46	E46		
328Ci													E46					
328i									E36	E36	E36	E46	E46					
328i Conv.									E36	E36	E36	E36						
328is									E36	E36	E36	E36						
330																	E46	E46
330Ci CONV														E46	E46	E46		
330Ci COUPE														E46	E46	E46		
330i														E46	E46	E46		
330xi AWD SEDAN														E46	E46	E46		
525																	E60	E60
525i		E34	E34	E34	E34	E34	E34	E34										
525i sedan														E39	E39	E39		
525i sport wagon														E39	E39	E39		
525i touring wagon						E34/2	E34/2	E34/2										
528e	E28																	
528i										E39	E39	E39						
528i sport wagon												E39	E39					
530																	E60	E60

BMW	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
530i							E34	E34										
530i sedan														E39	E39	E39		
530i touring wagon							E34/3	E34/3										
535i	E28	E34	E34	E34	E34	E34												
535is	E28																	
540i							E34	E34										
540i sedan														E39	E39	E39		
540i sport wagon												E39		E39	E39	E39		
540i									E39	E39	E39	E39						
545																	E60	E60
635csi	E24	E24																
645																	E63/64	E63/64
735i	E32	E32	E32	E32	E32													
735iL			E32/2	E32/2	E32/2													
740i						E32	E32	E38		E38	E38	E38	E38	E38				
740iL						E32/2	E32/2	E38	E38	E38	E38	E38	E38	E38				
745i															E65	E65	E65	E65
745Li															E66	E66	E66	
750iL	E32/2	E32/2	E32/2	E32/2	E32/2	E32/2	E32/2	E38	E38	E38	E38	E38	E38	E38				
760i																		E65
760Li																E66	E66	E66
840Ci							E31	E31	E31	E31								
850i				E31	E31													
850Ci						E31	E31	E31	E31	E31								
850CSi							E31											
L6	E24	E24																
M Coupe											E36/7	E36/7	E36/7	E36/7	E36/7			
M Roadster											E36/7	E36/7	E36/7	E36/7	E36/7			
M3	E30	E30	E30	E30					E36	E36							E46	E46
M3 CONV											E36	E36		E46	E46	E46		
M3 COUPE											E36	E36		E46	E46	E46		
M3 SEDAN											E36							
M5	E28			E34	E34	E34							E39					
M5 SEDAN														E39	E39	E39		
M6	E24																	
X3																	E83	E83
X5													E53				E53	E53
X5 3.0i														E53	E53	E53		
X5 4.4i														E53	E53	E53		
X5 4.6iS															E53	E53		
Z3 COUPE												E36/7	E36/7					
Z3 COUPE 3.0i														E36/7	E36/7			
Z3 Roadster 2.5												E36/7	E36/7					
Z3 Roadster 2.5i														E36/7	E36/7			
Z3 Roadster 3.0i														E36/7	E36/7			
Z3 Roadster 2.8									E36/7	E36/7	E36/7	E36/7	E36/7					
Z4																	E85	E85
Z4 Roadster															E85	E85		
Z8 Roadster														E52	E52			

CAN BUS GUIDE

Specification of SMART OBDII-16, OBDII—16C and OBDCAN connector

1. SMART OBDII-16 connector is used for testing the vehicle without CAN BUS system (the 6 and 14 pin of 16PIN diagnostic socket is without sheet metal).
2. OBDII-16C connector is used for testing the non CAN BUS systems of the vehicle with CANBUS system (the 6 and 14 pin of 16PIN diagnostic socket is with sheet metal).
3. OBD CAN connector is used for testing CAN BUS system (the 6 and 14 pin of 16PINdiagnostic socket is with sheet metal).

When is CANBUS connector used?

1. CANBUS connector must be used when scan with OBD CAN.
2. CANBUS connector must be used when testing CAN BUS systems of BENZ, VW, RENAULT, and MAZDA.

CANBUS function list of make and system X-431 can scan

1、VW

		01 Engine electronics	✓	✓	✓	✓
		11 Engine electronics 2	✓	✓	✓	✓
		44 Steering assistance	✓	✓	✓	✓
		05 ACCESS & PERMISSI.	✓	✓	✓	✓
		21 Engine electronics 3	✓	✓	✓	✓
		31 Engine Electronics Conju.	✓	✓	✓	✓
		61 Battery control	✓	✓	✓	✓
		02 Transmission Electronics	✓	✓	✓	✓
		22 4WD Electronics	✓	✓	✓	✓
		42 DRIVER-DOOR ELECT.	✓	✓	✓	✓
		52 PASSE.-DOOR ELECT.	✓	✓	✓	✓
		62 LR-DOOR ELECTRONI.	✓	✓	✓	✓
		72 RR-DOOR ELECTRONI.	✓	✓	✓	✓
		03 Brake Electronics	✓	✓	✓	✓
		13 Distance control	✓	✓	✓	✓
		53 Parking Brake	✓	✓	✓	✓
		34 Self leveling suspension	✓	✓	✓	✓
		15 Airbags	✓	✓	✓	✓
		25 Immobilizer	✓	✓	✓	✓
		55 Headlight range control	✓	✓	✓	✓
		65 Type pressure monitoring	✓	✓	✓	✓
		75 Emergency call module	✓	✓	✓	✓
		06 PASSENE. SEAT ADJ.	✓	✓	✓	✓
		16 Steering Wheel Electronics	✓	✓	✓	✓
		26 Electric roof control	✓	✓	✓	✓
		36 Driver`s side seat adj.	✓	✓	✓	✓
		46 Central Control Module	✓	✓	✓	✓

	56 Radio	✓	✓	✓	✓
	66 Seat-/mirror adjust.	✓	✓	✓	✓
	76 Parking aid	✓	✓	✓	✓
	1D Driver identify	✓	✓	✓	✓
	3D Special Function	✓	✓	✓	✓
	07 DISPLAY-/CNTL UNIT	✓	✓	✓	✓
	17 Instrument Cluster	✓	✓	✓	✓
	37 Navigation	✓	✓	✓	✓
	47 Soundsystem	✓	✓	✓	✓
	57 TV-TUNER	✓	✓	✓	✓
	67 VOICE CONTROL	✓	✓	✓	✓
	77 TELEPHONE	✓	✓	✓	✓
	0E Media Player 1	✓	✓	✓	✓
	1E Media Player 2	✓	✓	✓	✓
	2E Media Player 3	✓	✓	✓	✓
	3E Media Player 4	✓	✓	✓	✓
	4E RR Control Unit	✓	✓	✓	✓
	5E LR Control Unit	✓	✓	✓	✓
	7E Instrument Cluster Display Unit	✓	✓	✓	✓
	08 AC/Heating electronics	✓	✓	✓	✓
	18 Aux heating	✓	✓	✓	✓
	28 Climate Control Unit Rear	✓	✓	✓	✓
	38 ROOF ELECTRONICS	✓	✓	✓	✓
	7D Auxiliary Heater	✓	✓	✓	✓
	09 Electronic Ctrl Electronics	✓	✓	✓	✓
	19 Gateway data bus	✓	✓	✓	✓
	69 TRAILER FUNCTION	✓	✓	✓	✓
	0F Radio Tuner-Digital	✓	✓	✓	✓
	1F Radio Satellite	✓	✓	✓	✓
	2F TV Tuner-Digital	✓	✓	✓	✓
	4F Central Electronics II	✓	✓	✓	✓

2、NISSAN

			✓	✓		✓		
		✓	✓	✓	✓			
		✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓	✓			
						✓	✓	

3、MAZDA

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		✓	✓	
		✓	✓	✓
		✓	✓	✓

4. RENAULT

		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓

5. BENZ

			✓	✓	✓	✓	
			✓	✓	✓		
			✓	✓	✓		
			✓	✓	✓		
			✓	✓	✓	✓	
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			✓	✓	✓		
			✓	✓	✓		

