

Contents

91	Communication	1
1	Communication system	1
1.1	General notes (up to week 35/08)	1
1.2	General notes on the MMI system (from week 36/08 onwards)	2
1.3	MMI (up to week 35/08) - layout	6
1.4	MMI (from week 36/08 onwards) - layout	8
1.5	Connectors for MMI (up to model year 2007)	9
1.6	Connectors (from model year 2008 onwards, up to week 35/08)	10
1.7	Connectors for MMI (from week 36/08 onwards)	11
1.8	Connectors on multimedia system operating unit E380	14
1.9	Connector for display (from week 36/08 onwards)	14
1.10	Connectors on data bus diagnostic interface J533	15
1.11	Microphone unit in front roof module R164 - overview	16
1.12	MMI (from week 36/08 onwards) - overview of fitting locations	18
1.13	Removing and installing control unit for front display and information control panel J523 (up to week 35/08)	19
1.14	Removing and installing control unit 1 for information electronics J794 (from week 36/08 onwards)	21
1.15	Removing and installing data bus diagnostic interface J533	22
1.16	Removing and installing display	23
1.17	Removing and installing multimedia system operating unit E380	26
1.18	Removing and installing operating unit in front of centre console E461	27
2	Communication system (USA)	29
2.1	General notes	29
2.2	MMI - layout	29
2.3	Microphone unit in front roof module R164 - overview	31
3	Communication system (Japan)	34
3.1	General notes (up to week 21/09)	34
3.2	General notes (from week 22/09 onwards)	34
3.3	MMI (up to model year 2007) - layout	39
3.4	MMI (from model year 2008 onwards, up to week 21/09) - layout	41
3.5	Connectors for MMI (from model year 2008 onwards, up to week 21/09)	42
3.6	Connectors for MMI (from week 22/09 onwards)	44
3.7	Connectors on display and operating unit changeover unit J728 (up to model year 2007)	47
3.8	Connectors on MiniDisc player R153	47
3.9	Microphone unit in front roof module R164 - overview	48
3.10	MMI (from week 22/09 onwards) - overview of fitting locations	50
3.11	Removing and installing display and operating unit changeover unit J728	51
3.12	Removing and installing MiniDisc player R153	52
4	Radio system	54
4.1	General notes (up to week 35/08)	54
4.2	General notes (from week 36/08 onwards)	54
4.3	Standard radio system (up to week 35/08) - layout	56
4.4	Standard radio system (from week 36/08 onwards) - layout	57
4.5	BOSE/BOSE 6000 radio system (up to week 35/08) - layout	58
4.6	BOSE 6000 sound system (from week 36/08 onwards) - layout	59
4.7	Bang & Olufsen sound system - layout	60
4.8	Connectors on radio R (up to week 35/08)	61
4.9	Connectors on radio R (from week 36/08 onwards)	62
4.10	Connectors on digital sound package control unit J525 (Standard)	64
4.11	Connectors on digital sound package control unit J525 (BOSE)	65
4.12	Connectors on digital sound package control unit J525 (BOSE 6000)	66

4.13	Connectors on digital sound package control unit J525 (Bang & Olufsen)	68
4.14	Connectors on digital sound package control unit 2 J787 (Bang & Olufsen)	69
4.15	Connectors on CD changer R41	71
4.16	Connectors on CD player R89	71
4.17	Connectors on MiniDisc player R153	72
4.18	Connectors on connection for external audio sources R199 (AMI) (up to week 35/08)	73
4.19	Connectors on connection for external audio sources R199 (interface)	74
4.20	Connectors on digital radio R147 (up to week 35/08)	74
4.21	Aerials	75
4.22	Overview of fitting locations	81
4.23	Removing and installing loudspeakers in doors	83
4.24	Removing and installing loudspeakers in dash panel	86
4.25	Removing and installing loudspeakers in rear shelf	87
4.26	Removing and installing digital sound package control unit J525 (Standard) (up to model year 2005)	90
4.27	Removing and installing digital sound package control unit J525 (Standard) (from model year 2006 onwards, up to week 35/08)	92
4.28	Removing and installing digital sound package control unit J525 (BOSE) (up to model year 2005)	93
4.29	Removing and installing digital sound package control unit J525 (BOSE) (from model year 2006 onwards)	95
4.30	Removing and installing digital sound package control unit J525 (BOSE 6000)	96
4.31	Removing and installing digital sound package control unit J525 (Bang & Olufsen)	97
4.32	Removing and installing digital sound package control unit 2 J787 (Bang & Olufsen)	99
4.33	Removing and installing radio R	100
4.34	Removing and installing digital radio R147 (up to week 35/08)	105
4.35	Removing and installing CD changer R41 / CD player R89	107
4.36	Removing and installing connection for external audio sources R199 (up to week 35/08)	108
4.37	Removing and installing aerial amplifier R24 (up to week 35/08)	110
4.38	Removing and installing aerial amplifier R24 (from week 36/08 onwards)	110
4.39	Removing and installing auxiliary heater aerial R182	111
4.40	Removing and installing roof aerial R216	111
4.41	Removing and installing roof aerial R216 (USA)	112
4.42	Removing and installing GPS aerial R50	113
5	Radio system (USA)	115
5.1	General notes	115
5.2	BOSE/BOSE 6000 radio system - layout	115
5.3	Bang & Olufsen sound system	117
5.4	Connectors on satellite radio R146	118
5.5	Overview of fitting locations	118
5.6	Removing and installing satellite radio R146 (up to model year 2005)	120
5.7	Removing and installing satellite radio R146 from model year 2006 onwards	121
5.8	Removing and installing satellite radio R146 on vehicles with RSE "light"	123
6	Telephone system	125
6.1	General notes (up to week 35/08)	125
6.2	General notes (from week 36/08 onwards)	126
6.3	Permanently installed telephone system (up to week 35/08) - layout	127
6.4	Mobile phone pre-installation (up to week 35/08) - layout	129
6.5	Mobile phone pre-installation (from week 36/08 onwards) - layout	130
6.6	Bluetooth car phone (up to week 35/08) - layout	131
6.7	Bluetooth car phone (from week 36/08 onwards) - layout	132
6.8	Pre-fitted components for mobile phone installation - layout	132
6.9	Bluetooth hands-free system - layout	133
6.10	Microphone unit in front roof module R164 - overview	133
6.11	Connectors for permanently installed telephone system (up to week 35/08)	135
6.12	Connectors for mobile phone pre-installation (up to week 35/08)	136

6.13	Connectors for mobile phone pre-installation (from week 36/08 onwards)	138
6.14	Connectors for Bluetooth car phone (up to week 35/08)	140
6.15	Connectors for Bluetooth car phone (from week 36/08 onwards)	141
6.16	Connectors for aerial amplifier for mobile telephone R86 (up to model year 2008)	143
6.17	Connectors for aerial amplifier for mobile telephone R86 (from model year 2009 onwards)	143
6.18	Connector for pre-fitted components for mobile phone installation	144
6.19	Connectors for Bluetooth hands-free system	144
6.20	Overview of fitting locations (up to week 35/08)	145
6.21	Overview of fitting locations (from week 36/08 onwards)	147
6.22	Removing and installing telephone bracket R126 (centre console)	147
6.23	Removing and installing telephone bracket R126 (front centre armrest)	149
6.24	Removing and installing telephone bracket R126 (rear centre armrest)	150
6.25	Adapting telephone handset R37 (permanently installed telephone)	151
6.26	Removing and installing aerial for Bluetooth R152 (centre console)	152
6.27	Removing and installing telephone transmitter and receiver unit R36	153
6.28	Removing and installing aerial amplifier for mobile telephone R86	154
6.29	Removing and installing microphone unit in front roof module R164	155
7	Telephone system (USA)	156
7.1	General notes	156
7.2	Mobile phone pre-installation with telematics - layout	156
7.3	Mobile phone pre-installation without telematics - layout	158
7.4	Connectors for mobile phone pre-installation with telematics	159
7.5	Connectors for mobile phone pre-installation	161
7.6	Overview of fitting locations	161
7.7	Removing and installing telephone and telematics control unit J526	163
7.8	Removing and installing mobile telephone operating electronics control unit J412	164
8	Telephone system (Japan)	166
8.1	General notes (up to week 21/09)	166
8.2	General notes (from week 22/09 onwards)	166
8.3	Mobile phone pre-installation (up to model year 2007) - layout	166
8.4	Mobile phone pre-installation (from model year 2008 onwards, up to week 21/09) - layout	168
8.5	Bluetooth hands-free system (from week 22/09 onwards) - layout	169
8.6	Connectors (up to week 21/09)	170
8.7	Connectors for Bluetooth hands-free system (from week 22/09 onwards)	171
8.8	Overview of fitting locations (up to week 21/09)	172
8.9	Overview of fitting locations (from week 22/09 onwards)	174
8.10	Removing and installing telephone transmitter and receiver unit R36	174
9	Navigation system	176
9.1	General notes (up to week 35/08)	176
9.2	General notes (from week 36/08 onwards)	176
9.3	Navigation system (up to week 35/08) - layout	176
9.4	Navigation system (from week 36/08 onwards) - layout	178
9.5	Connectors for navigation system (up to week 35/08)	178
9.6	Connectors for navigation system (from week 36/08 onwards)	179
9.7	Overview of fitting locations (up to week 35/08)	181
9.8	Overview of fitting locations (from week 36/08 onwards)	182
9.9	Removing and installing navigation system with CD drive control unit J401	182
10	Navigation system (Japan)	185
10.1	General notes (up to week 21/09)	185
10.2	General notes (from week 22/09 onwards)	185
10.3	Navigation system (up to model year 2007) - layout	185
10.4	Navigation system (from model year 2008 onwards, up to week 21/09) - layout	187
10.5	Navigation system (from week 22/09 onwards) - layout	188
10.6	Connectors for navigation system (up to model year 2007)	189

10.7	Connectors for navigation system (from model year 2008 onwards, up to week 21/09) . . .	190
10.8	Connectors for navigation system (from week 22/09 onwards)	192
10.9	Connector on chip card reader control unit J676 (up to week 21/09)	195
10.10	Connector on chip card reader control unit J676 (from week 22/09 onwards)	195
10.11	Overview of fitting locations (up to week 21/09)	196
10.12	Overview of fitting locations (from week 22/09 onwards)	197
10.13	Removing and installing traffic data aerial R173	197
10.14	Removing and installing chip card reader control unit J676	198
11	TV system	200
11.1	General notes (up to week 35/08)	200
11.2	General notes (from week 36/08 onwards)	200
11.3	TV system (up to week 35/08) - layout	201
11.4	TV system (from week 36/08 onwards) - layout	202
11.5	Connectors on TV tuner R78 (analogue)	202
11.6	Connectors on digital TV tuner R171	204
11.7	Connectors on TV tuner R78 (up to week 35/08)	205
11.8	Connectors on TV tuner R78 (from week 36/08 onwards)	207
11.9	Connectors on DVD player R7	208
11.10	Overview of fitting locations (up to week 35/08)	208
11.11	Overview of fitting locations (from week 36/08 onwards)	210
11.12	Removing and installing TV tuner R78 (analogue/hybrid)	210
11.13	Removing and installing digital TV tuner R171	214
11.14	Removing and installing DVD player R7	219
12	TV system (Japan)	221
12.1	General notes	221
12.2	TV system, MMI (up to week 21/09) - layout	221
12.3	TV system, MMI (from week 22/09 onwards) - layout	223
12.4	Connectors on TV tuner R78 (up to week 21/09)	224
12.5	Connectors on TV tuner R78 (from week 22/09 onwards)	225
12.6	Overview of fitting locations (up to week 21/09)	226
12.7	Overview of fitting locations (from week 22/09 onwards)	228
12.8	Removing and installing TV card reader R204	228
13	TV system (China)	230
13.1	General notes	230
13.2	TV system, MMI - layout	230
13.3	Connectors on TV tuner R78	231
13.4	Overview of fitting locations	232
14	Multi-function steering wheel	234
14.1	General notes	234
14.2	Multi-function steering wheel - layout	234
14.3	Removing and installing multifunction buttons	236
14.4	Removing and installing tiptronic switches	236
14.5	Removing and installing steering wheel heater button E522	237
15	Multi-function steering wheel (USA)	239
15.1	General notes	239
15.2	Multi-function steering wheel - layout	239
16	Telematics (USA)	241
16.1	General notes	241
16.2	Telematics system - layout	241
16.3	Connectors on telephone/telematics control unit J526	243
16.4	Overview of fitting locations	244
16.5	Removing and installing telephone and telematics control unit J526	246
16.6	Removing and installing additional loudspeaker for telematics R91	246
16.7	Removing and installing telematics operating unit E264	247
17	Speech dialogue system	248

17.1	General notes (up to week 35/08)	248
17.2	General notes (from week 36/08 onwards)	248
17.3	Speech dialogue system (up to week 35/08) - layout	248
17.4	Layout in MMI (from week 36/08 onwards)	250
17.5	Connector on speech input control unit J507 (up to week 35/08)	251
17.6	Removing and installing speech input control unit J507 (up to week 35/08)	251
17.7	Removing and installing speech dialogue system (from week 36/08 onwards)	252
18	RSE (Rear Seat Entertainment system) - high ALPINE	254
18.1	General notes	254
18.2	Fault messages	254
18.3	RSE system - high ALPINE - layout	256
18.4	Connectors on rear DVD changer R162 - ALPINE	257
18.5	Connectors on control units for display units	257
18.6	Connectors on multimedia system signal splitter R181	258
18.7	Overview of fitting locations	258
18.8	Removing and installing multimedia system display unit 1 control unit J744	260
18.9	Removing and installing multimedia system signal splitter R181	260
18.10	Removing and installing rear DVD changer R162	261
18.11	Removing and installing additional connections unit for video and audio R176	261
18.12	Removing and installing display units in head restraints	263
18.13	Removing and installing storage tray for remote controls	265
19	RSE plus (Rear Seat Entertainment system) - Blaupunkt (from model year 2007 onwards)	267
19.1	General notes	267
19.2	RSE plus system - Blaupunkt - layout	267
19.3	Connectors on rear DVD changer R162 (DVC 03)	269
19.4	Connectors on rear DVD changer R162 (DVC 06)	269
19.5	Connectors on multimedia system control unit J650	270
19.6	Wiring for multimedia system control unit J650 /display units/DVD	272
19.7	Wiring for multimedia system control unit/video connection/supply	275
19.8	Wiring for multimedia system control unit J650 / TV tuner R78 (hybrid)	278
19.9	Connectors on TV tuner R78 (hybrid)	280
19.10	Wiring for multimedia system control unit J650 / TV tuner R78 (analogue)	281
19.11	Connectors on TV tuner R78 (analogue)	283
19.12	Pin assignment on wiring for display unit underneath seat	284
19.13	Overview of fitting locations	284
19.14	Removing and installing multimedia system control unit J650	285
19.15	Removing and installing rear DVD changer R162	286
19.16	Removing and installing retainer for rear DVD changer R162	287
19.17	Removing and installing additional connections unit for video and audio R176	287
19.18	Removing and installing display units in head restraints	288
19.19	Removing and installing storage tray for remote controls	291
20	RSE "light" (Rear Seat Entertainment system) - (up to model year 2006)	293
20.1	General notes	293
20.2	RSE system "light" - layout	293
20.3	Connectors on rear DVD changer R162	294
20.4	Connectors on multimedia system signal splitter R181	294
20.5	Pin assignment on voltage supply wiring	295
20.6	Pin assignment on wiring for display unit underneath seat	295
20.7	Overview of fitting locations	295
20.8	Removing and installing rear DVD changer R162	296
20.9	Removing and installing multimedia system signal splitter R181	297
20.10	Removing and installing driver side volume button E374	297
20.11	Removing and installing display units in head restraints (up to 10/05)	298
20.12	Removing and installing display units in head restraints (from 11/05 onwards)	302
20.13	Removing and installing storage tray for remote controls	305

21	RSE (Rear Seat Entertainment system) - Blaupunkt (from model year 2007 onwards) ..	307
21.1	General notes	307
21.2	RSE system - Blaupunkt - layout	307
21.3	Connectors on rear DVD changer R162 (DVC 03)	309
21.4	Connectors on rear DVD changer R162 (DVC 06)	309
21.5	Connectors on multimedia system control unit J650	310
21.6	Wiring for multimedia system control unit J650 /display units/DVD	312
21.7	Wiring for multimedia system control unit/video connection/supply	315
21.8	Pin assignment of display unit wiring beneath seat	318
21.9	Overview of fitting locations	318
21.10	Removing and installing multimedia system control unit J650	319
21.11	Removing and installing rear DVD changer R162	320
21.12	Removing and installing retainer for rear DVD changer R162	321
21.13	Removing and installing additional connections unit for video and audio R176	321
21.14	Removing and installing display units in head restraints	322
21.15	Removing and installing storage tray for remote controls	325
22	MFCU (Multi-Function Communication Unit)	327
22.1	General notes	327
22.2	MFCU - layout	327
22.3	Connectors on fax unit control unit	328
22.4	Overview of fitting locations	330
22.5	Removing and installing aerial R11	331
22.6	Removing and installing rear right microphone R145	331
22.7	Removing and installing telephone and navigation system loudspeaker R39	331
22.8	Removing and installing fax unit control unit	332
22.9	Removing and installing rear charger unit for telephone R151 (rear centre armrest)	332
22.10	Removing and installing mounting for handset for fax unit	333
22.11	Removing and installing fax unit R73	333
22.12	Removing and installing fax unit contact switch F86	335
23	Reversing camera system	337
23.1	General notes	337
23.2	Reversing camera system (up to week 35/08) - layout	337
23.3	Reversing camera system (from week 36/08 onwards) - layout	339
23.4	Connectors on reversing camera system control unit J772	340
23.5	Overview of fitting locations	340
23.6	Removing and installing reversing camera system control unit J772	341
23.7	Removing and installing reversing camera R189	342
23.8	Calibrating reversing camera system	343