Original BMW Accessories.
Installation Instructions.

USB/Audio Interface Retrofit
BMW 5 Series (E60, E61)

These installation instructions apply to cars from 03/07 only.

Retrofit kit No.   65 41 0 444 936   USB/audio interface retrofit kit

Installation time
The installation time is **approx. 2.5 hours**. The installation time will increase by **approx. 0.40 hours** for cars without SA 644. This may vary depending on the condition of the car and the equipment in it.

Important information
These installation instructions are primarily designed for use within the BMW dealership organisation and by authorised BMW service companies.

In any event, the target group for these installation instructions is specialist personnel trained on BMW cars with the appropriate specialist knowledge.

All work must be completed using the latest BMW repair manuals, circuit diagrams, servicing manuals and work instructions, in a rational order, using the prescribed tools (special tools) and observing current health and safety regulations.

If you experience installation or function problems, limit troubleshooting to approx. 0.5 hours for mechanical or 1.0 hour for electrical work.
In order to reduce costs and avoid any additional expense, send a query immediately to the Technical Parts Support via the Aftersales Assistance Portal (ASAP).
Specify the following information:
- Chassis number,
- Part number of the retrofit kit,
- A precise description of the problem,
- Work steps already carried out.

Do not archive the hard copy of these installation instructions since daily updates are made by ASAP!

Pictograms

⚠️   Denotes instructions that draw your attention to dangers.

▷   Denotes instructions that draw your attention to special features.

◄   Denotes the end of the instruction or other text.

Installation information

In cars with SA 620 without SA 609, the High charger/hands-free electronic control unit **E** is already fitted, it is only necessary to fit USB retrofit cable **A**.

On cars with AUX-IN sockets installed ex works, this remains in the car.

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. The costs thereby incurred will not be reimbursed by BMW AG.

Additional cables/lines that you install must be secured with cable ties.

If the specified PIN chambers are occupied, bridges, double crimps or twin-lead terminals must be used.

When routing fibre optic cables, make sure the bending radius is no less than 25 mm.
Refer to the instructions for handling fibre optic cables acc. to ISTA no. 61 00 ....

Ordering instructions

The High electronic charger/hands-free module **E** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

List of special equipment

The following special equipment must be taken into consideration when installing the retrofit kit:

SA 609   Professional navigation system
SA 620   Voice input system
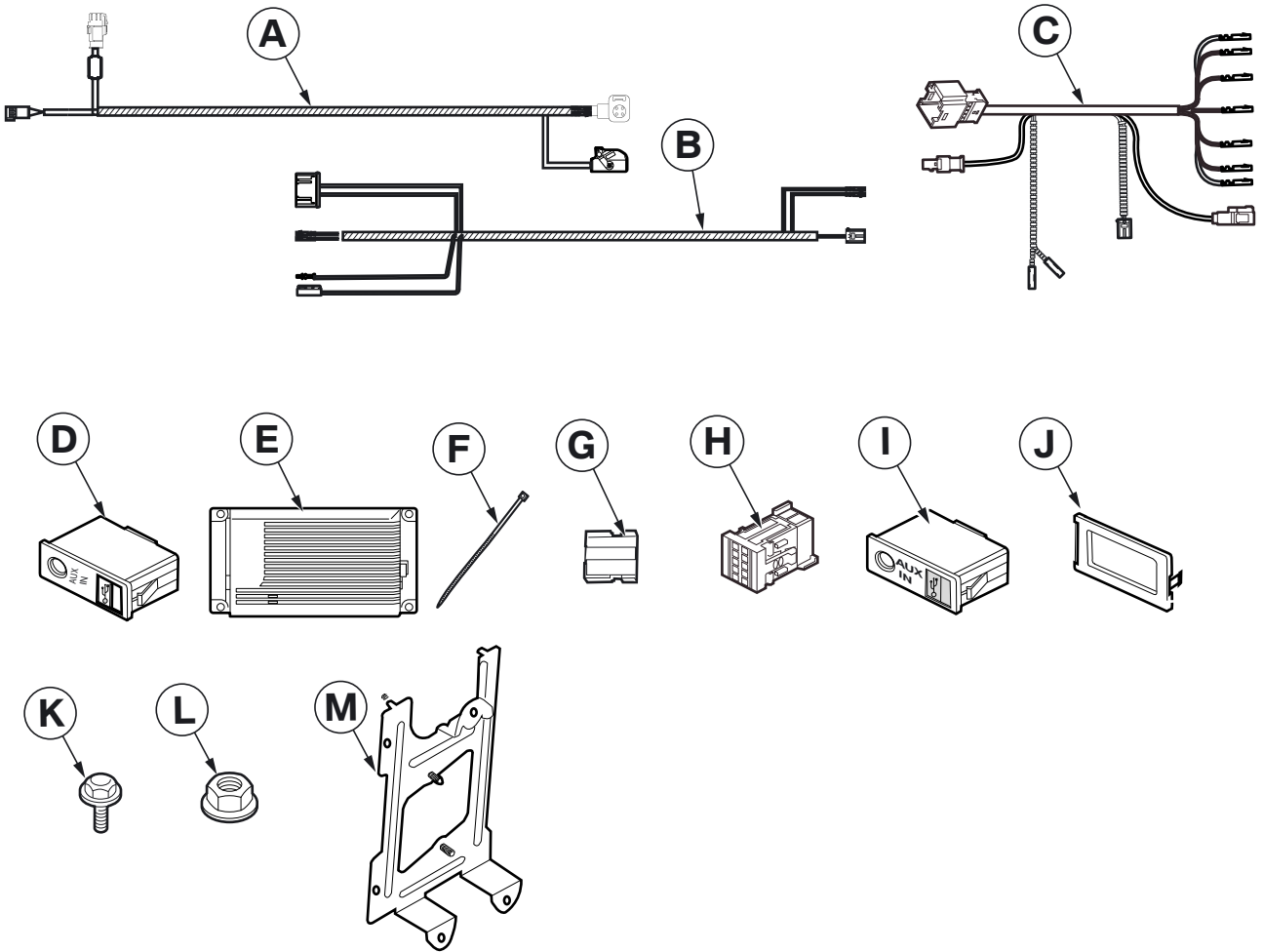**SA 644**   Mobile phone preparation with Bluetooth interface

Special tools required

00 9 310, installation wedges

Table of contents

1. Parts list

060 1354 Z

Legend

A	USB retrofit cable
B	Power supply retrofit cable
C	Adapter cable (cars with SA 644 only)
D	USB/AUX-IN jack
E	High charger/hands-free electronic control unit (not supplied in the retrofit kit)
F	Cable tie (10x)
G	Socket casing 4-pin black (cars without SA 644 only)
H	Socket casing 10-pin black (cars with SA 644 only)
I	USB/AUX-IN socket (is not required)
J	USB/AUX-IN socket holder
K	Hexagonal nut M5 x 14 (3x, not required)
L	Hexagonal nut M5 (4x, not required)
M	High charger/hands-free electronic control unit holder (not required)

2. Preparatory work

|	ISTA no.
Conduct a brief test	---
Disconnect negative pole of battery	12 00...
The following components must be removed first of all	
Luggage compartment floor trim	51 47 101
Wheel arch trim in luggage compartment on left	51 47 151
Backrest side section on the rear seat, left	52 26 008
Rear left door sill strip	51 47 030
Rear seat	52 24 005
Centre console	51 16 200
Oddments box ventilation nozzle (no longer required)	51 16 ...
In addition for cars with SA 644	
Remove Low charger/hands-free electronic control unit with holder (no longer required)	84 21 535
In addition for cars without SA 644	
M-ASK or CCC	65 83 010

3.   Connection diagram for USB retrofit cable
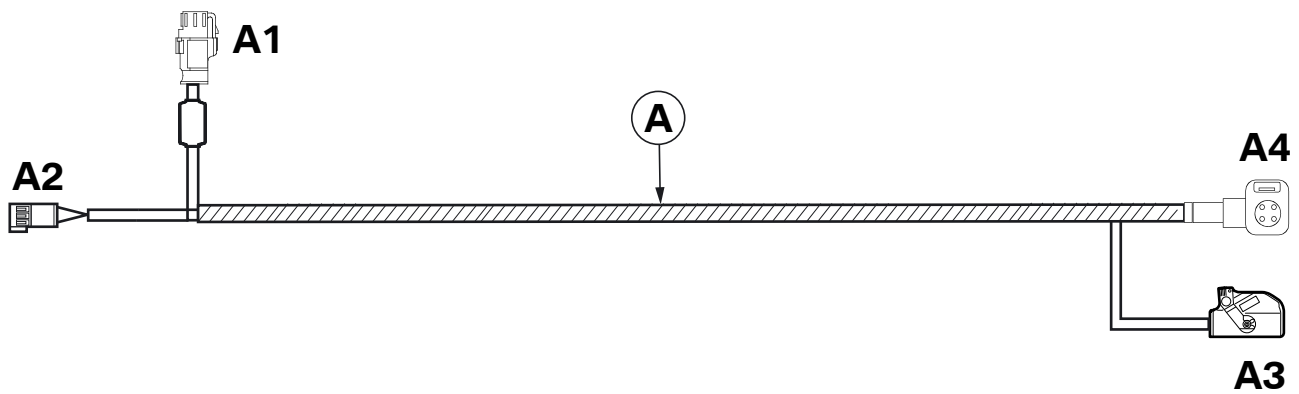
071 0065 Z

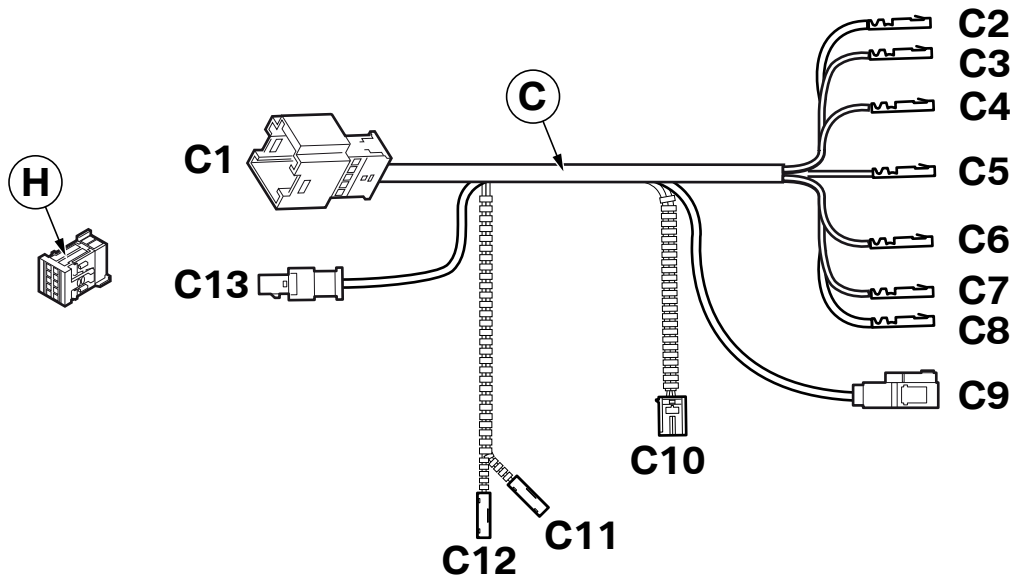| Item/ branch	Designation	Signal	Cable colour/ Cross-section	Connection/Installation site in car	Abbreviation/ Slot
A	USB retrofit cable	---	---	---	---
A1	4-pin HSD socket casing, WS	---	---	Connection to USB/AUX-IN socket **D**	X17183
A2	4-pin socket casing, SW	---	---	Connection to USB/AUX-IN socket **D**	X14118
A3	BL 54-pin socket casing	---	---	To High charger/hands-free electronic control unit **E**	X17397
A4	4-pin HSD socket casing, SW	---	---	To High charger/hands-free electronic control unit **E**	X11575

4. Power supply retrofit cable connection diagram (cars without SA 644 only)
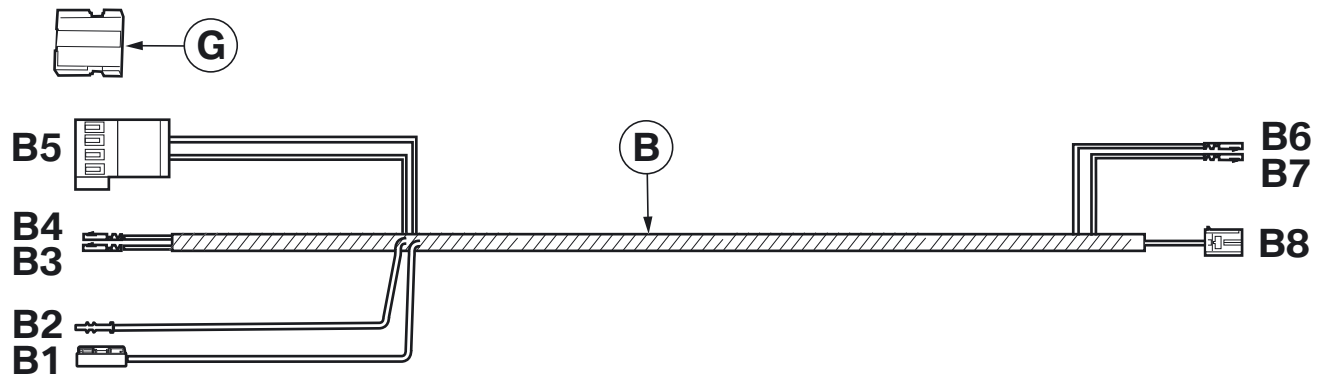
060 1355

Item/ branch	Designation	Signal	Cable colour/ Cross-section	Connection/Installation site in car	Abbreviation/ Slot
B	Power supply retrofit cable	---	---	---	---
B1	Fibre optic cable connector	MOST	GN	To disconnected fibre optic cable of CCC/M-ASK	---
B2	Fibre optic cable	MOST	OR	To CCC/M-ASK	X13815 PIN 2
B3	Socket contact	Terminal 31	Brown 2.5 mm^2	To CCC/M-ASK	X13812 PIN 12
B4	Socket contact	Terminal 30	RT 2.5 mm^2	To CCC/M-ASK	X13812 PIN 15
B5	Black 4-pin plug casing	---	---	To socket casing **G**	---
B6	Socket contact	Terminal 31	Brown 2.5 mm^2	To branch **A3**	X17397 PIN 36
B7	Socket contact	Terminal 30	RT 2.5 mm^2	To branch **A3**	X17397 PIN 17
B8	SW 2-pin fibre optic cable casing	MOST	---	To High charger/hands-free electronic control unit **E**	X14134
G	4-pin socket casing, SW	---	---	To branch **B5**	---

## 5. Adapter cable connection diagram (cars with SA 644 only)

060 1356 Z

| Item/ branch	Designation	Signal	Cable colour/ Cross-section	Connection/Installation site in car	Abbreviation/ Slot
C	Adapter cable	---	---	---	---
C1	Black 10-pin plug casing	---	---	To socket casing**H**	---
C2	Socket contact	Mic +	WS 0.35 mm²	To branch **A3**	X14133 PIN 1
C3	Socket contact	Mic -	BR/WS 0.35 mm²	To branch **A3**	X14133 PIN 19
C4	Socket contact	Shield	Shield 0.35 mm²	To branch **A3**	X14133 PIN 21
C5	Socket contact	Cradle On	BR/WS 0.35 mm²	To branch **A3**	X14133 PIN 11
C6	Socket contact	Cradle Key+	GN 0.35 mm²	To branch **A3**	X14133 PIN 32
C7	Socket contact	30	RT 0.75 mm²	To branch **A3**	X14133 PIN 17
C8	Socket contact	31	Brown 0.75 mm²	To branch **A3**	X14133 PIN 36
C9	Fakra socket casing, WS	BT Ant.	---	To High charger/hands-free electronic control unit **E**	X14081
C10	SW 2-pin fibre optic cable casing	MOST	---	To High charger/hands-free electronic control unit **E**	X14134
C11	Fibre optic cable connector	MOST	GN	To the disconnected fibre-optic cable (PIN 1) from **X14134**	---
C12	Fibre optic cable connector	MOST	OR	To the disconnected fibre-optic cable (PIN 3) from **X14134**	---
C13	Fakra plug casing WS	BT Ant.	---	To car BT antenna cable	X14018

H	10-pin socket casing, SW	---	---	Reconnect the disconnected cable from **X14133**	---

6. Installation and cabling diagram

Cars with SA 644 only
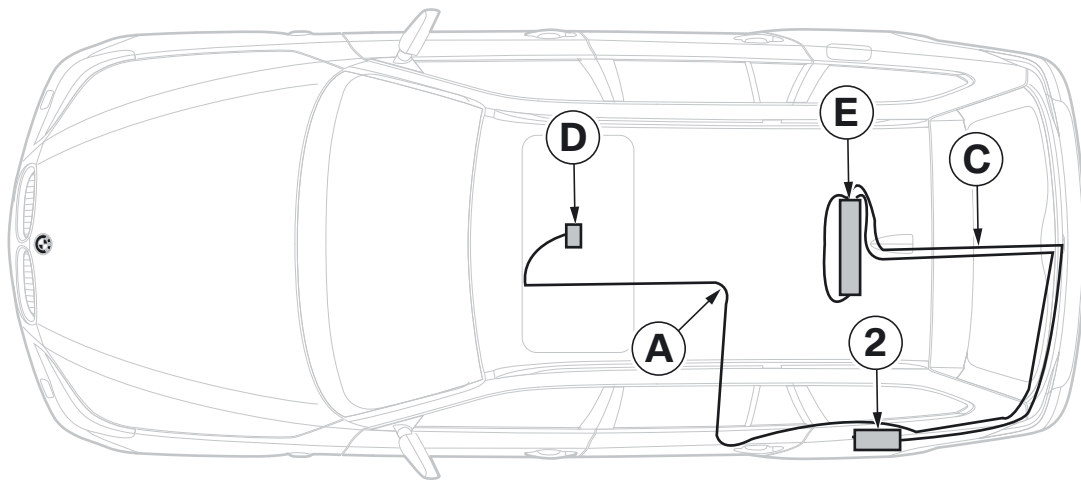
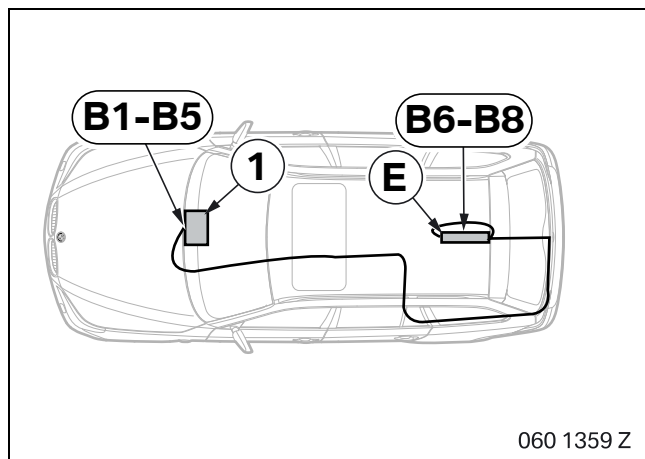060 1358 Z

Cars without SA 644 only
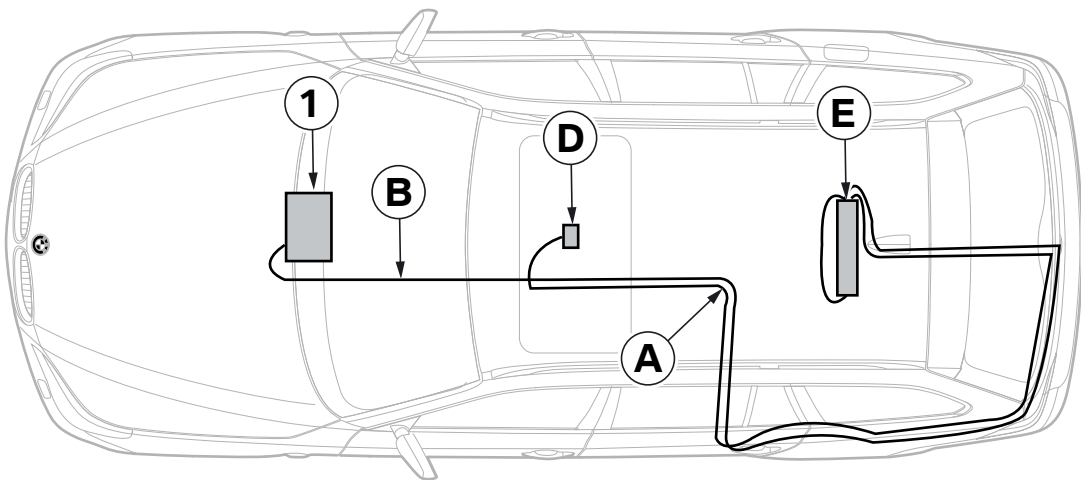
060 1357 Z

Legend

A USB retrofit cable

B Power supply retrofit cable

C Adapter cable

D USB/AUX-IN jack

**E** High charger/hands-free electronic module

1 M-ASK/CCC

2 Installation point for Low charger/hands-free electronic module

7. To install and connect the power supply retrofit cable (cars without SA 644 only)

060 1359 Z

Route branch **B1–B5** to the installation point of the CCC/M-ASK (1).

Route branch **B6–B8** to the installation point of the High charger/hands-free electronic module **E** in the spare wheel well.
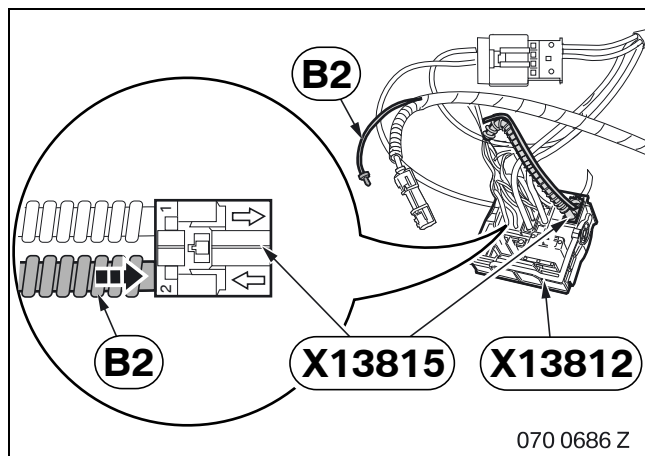

060 1360 Z
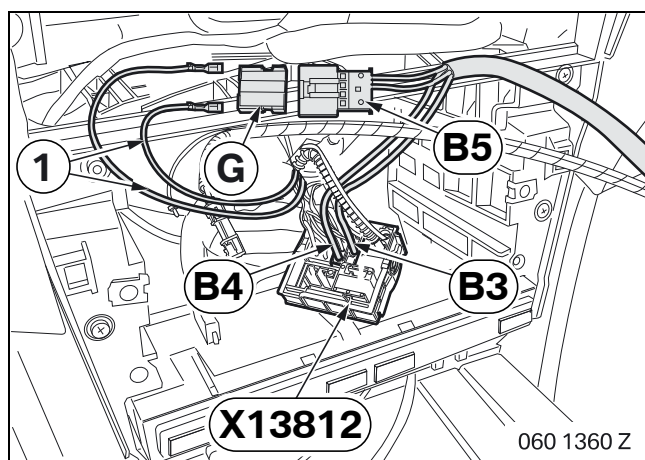
Disconnect the cable (1) from plug **X13812** (black 16-pin) and connect to socket casing **G** as follows:

- Red cable from PIN 15 to socket casing **G**, PIN 1
- Brown cable from PIN 12 to socket casing **G**, PIN 2

Connect branches **B3** and **B4** to plug **X13812** as follows:

- Branch **B3**, brown cable, to PIN 12
- Branch **B4**, RT cable, to PIN 15

Connect branch **B5** to socket casing **G**.

070 0686 Z

Unclip fibre optic cable casing **X13815** (SW 2-pin) from plug **X13182** (SW 16-pin).

Disconnect the outgoing fibre optic cable from fibre optic cable casing **X13815** PIN 2 and connect branch **B2**, OR cable.

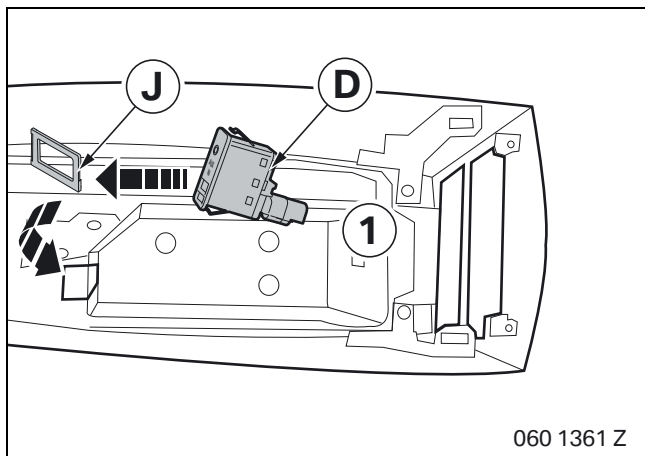Clip fibre optic cable casing **X13815** into plug **X13812**.

7. To install and connect the power supply retrofit cable (cars without SA 644 only)

070 0687 Z
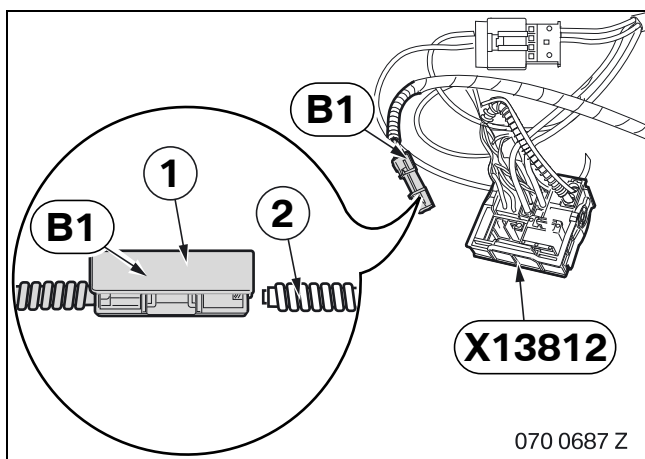
Release the fibre optic cable connector (1) of branch **B1** and connect the previously disconnected fibre optic cable (2).
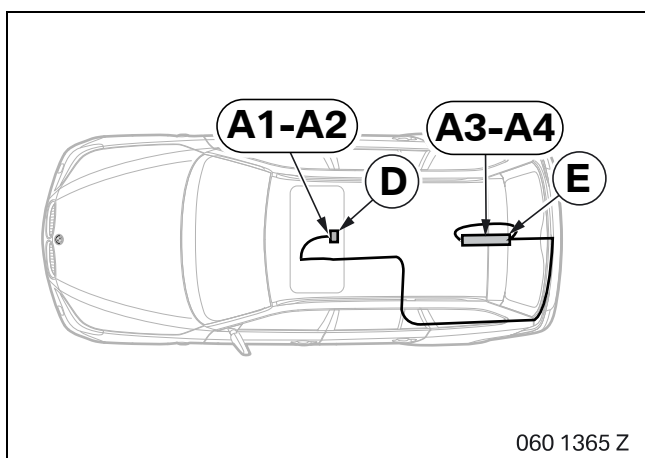
Connect plug **X13812** (black 16-pin).

8. Route the USB retrofit cable

060 1361 Z

Clip the USB/AUX-IN socket holder **J** to the location of the previously-removed ventilation nozzle in the oddments box of the centre console (1).

Clip the USB/AUX-IN socket **D** into the USB/AUX-IN socket holder **J**.


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▷ Tie back the standard AUX-IN socket plug as it is no longer required. ◀

Route branches **A1** (HSD socket casing) and **A2** (4-pin SW socket casing), to the USB/AUX-IN socket installation point **D** and connect.

Install the centre console.

Route branches **A3** (black 54-pin socket casing) and **A4** (HSD socket casing) to the installation point of the High charger/hands-free electronic module **E** in the spare wheel well.

060 1362 Z
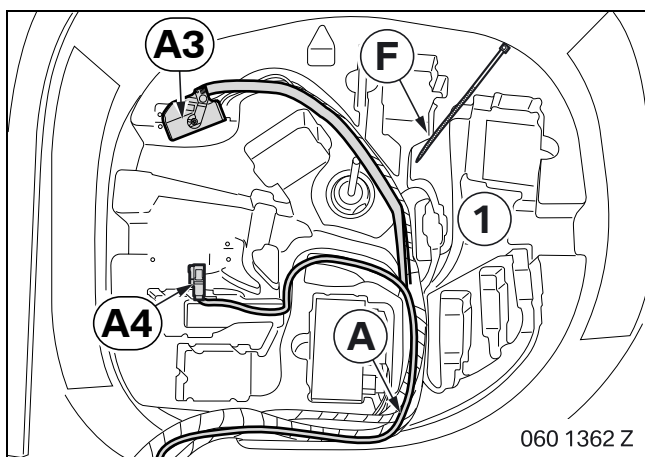
Route branches **A3** (black 54-pin socket casing) and **A4** (HSD socket casing) into the oddments box (1).

Secure retrofit cable **A** with cable tie **F**.

9. To connect the High charger/hands-free electronic module

060 1363 Z
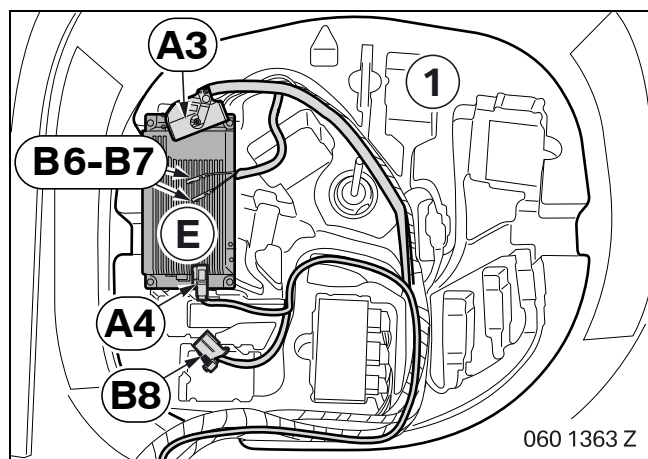
▷ On cars with **SA 620** and without **SA 609**, the High charger/hands-free electronic module is already installed. ◂

Cars without SA 644 only
Connect branches **B6** and **B7** to branch **V3** (54-pin BL) as follows:

- Branch **B6**, (brown cable), to PIN 36
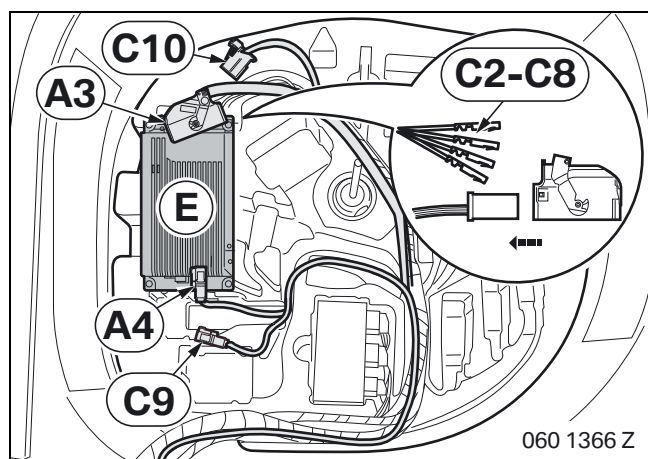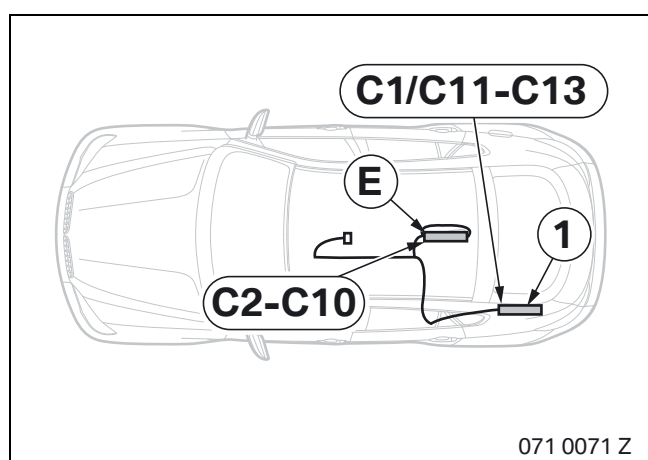- Branch **B7**, (RT cable), to PIN 17

Connect branches **A3**, **A4** and **B8** to High charger/hands-free electronic module **E** and push the High charger/hands-free control module into the oddments box (1).

Cars with SA 644 only
Route adapter cable **C** to the luggage compartment.

Route branches **C1** and **C11–C13** to the installation point of the Low charger/hands-free electronic module (1) on the left-hand wheel arch.

Route branch **C2–C10** to the installation point of the High charger/hands-free electronic module **E** in the spare wheel well.

071 0071 Z

Connect branches **C2–C8** to branch **A3** (54-pin BL) as follows:

- Branch **C2**, WS cable, to PIN 1
- Branch **C3**, BR/WS cable, to PIN 19
- Branch **C4**, shield, to PIN 21
- Branch **C5**, BR/WS cable, to PIN 11
- Branch **C6**, GN cable, to PIN 32
- Branch **C7**, RT cable, to PIN 17
- Branch **C8**, BR cable, to PIN 36

Connect branch **C9** (Fakra socket casing) and branch **C10** (fibre-optic cable plug casing, 2-pin black) to the High charger/hands-free electronic module **E**.

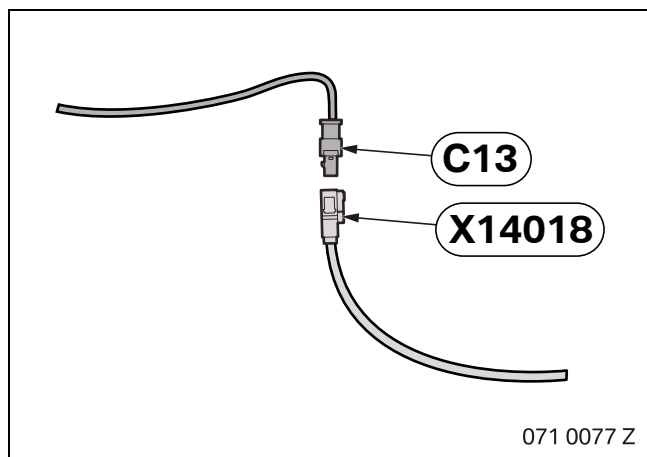Connect branch **A4** (HSD socket casing) to High charger/hands-free electronic module **E**.

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9. To connect the High charger/hands-free electronic module

060 1367 Z
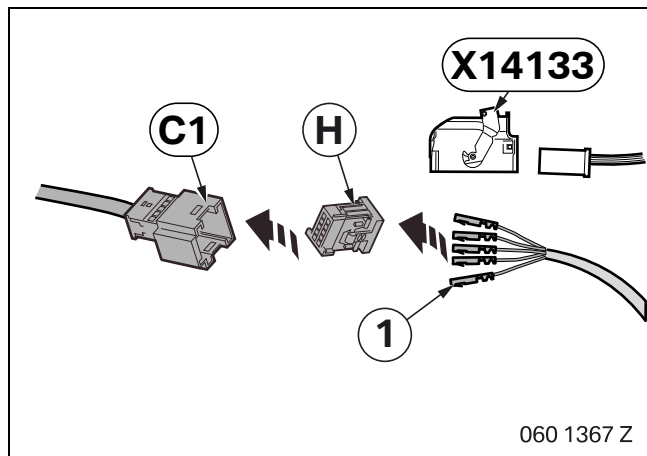
Disconnect the following cables (1) from plug **X14133** 54-pin WS and connect to socket casing **H**.

- RT cable from PIN 17 to PIN 6
- BR cable from PIN 36 to PIN 7
- BL cable from PIN 11 to PIN 5
- GN cable from PIN 32 to PIN 4
- Screen cable from PIN 21 to PIN 3
- WS cable from PIN 1 to PIN 2
- GE cable from PIN 19 to PIN 1

Connect socket casing **H** to branch **C1**.

Connect the standard Fakra socket casing **X14081** to branch **C13** (Fakra plug casing SW).

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071 0075 Z
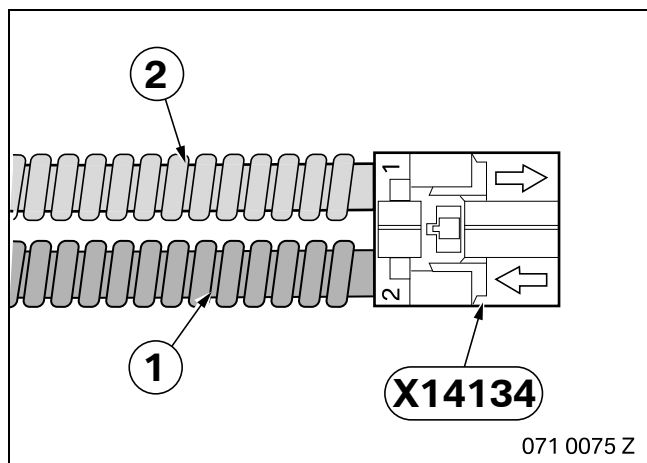
Release the fibre-optic cable connector on branches **C11** and **C12**.

Remove the outgoing fibre-optic cable (2) from plug **X14134** PIN 2 and connect to branch **C12** (fibre-optic cable connector, OR).

Remove the incoming fibre-optic cable (1) from plug **X14134** PIN 1 and connect to branch **C11** (fibre-optic cable connector, GN).

060 1370 Z
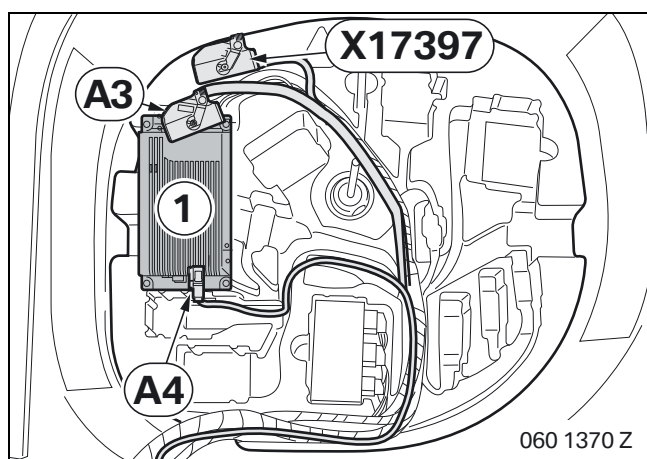
Cars with SA 620 without SA 609 only
Connect the cable from branch **A3** to the same pin configuration of plug **X17397** (54-pin BL) and connect to the High charger/hands-free electronic module.

Connect branch **A4** (HSD socket casing) to High charger/hands-free electronic module (1).

The BL cover cap of branch **A3** is no longer required.

10.   Concluding work and coding

This retrofit system requires coding.

- Connect the battery
- Encode the retrofit with SSS (software service station) via the **CIP** path
- Conduct a brief test
- Re-assemble the car

11. Circuit diagram of USB retrofit cable/power supply

X17183/A1*

X17182/A4*

1	0,14 BL		0,14 BL	4
2	0,14 OR		0,14 OR	3
3	0,14 GN		0,14 GN	2
4	0,14 BR		0,14 BR	1

D*

X14118/A2*

X17397/A3*

E*

4		0,35 VI		4
3		0,35 WS/RT		5
2		0,35 WS/GN		22
1				23

X17397

B3*

X13812

| 12 | 31 | 2,5 BR | 0,75 BR | 36 | **B6*** |
| 15 | 30 | | 0,75 RT | 17 | **B7*** |

B4* 2,5 RT

G* **B5***

| 2,5 RT | 1 | 1 | 2,5 RT |
| 2,5 BR | 2 | 2 | 2,5 BR |

X14134/B8*

| GN | | GN | | 2 |

B1 *

X13815/B2* | 2 | OR | | 1 |
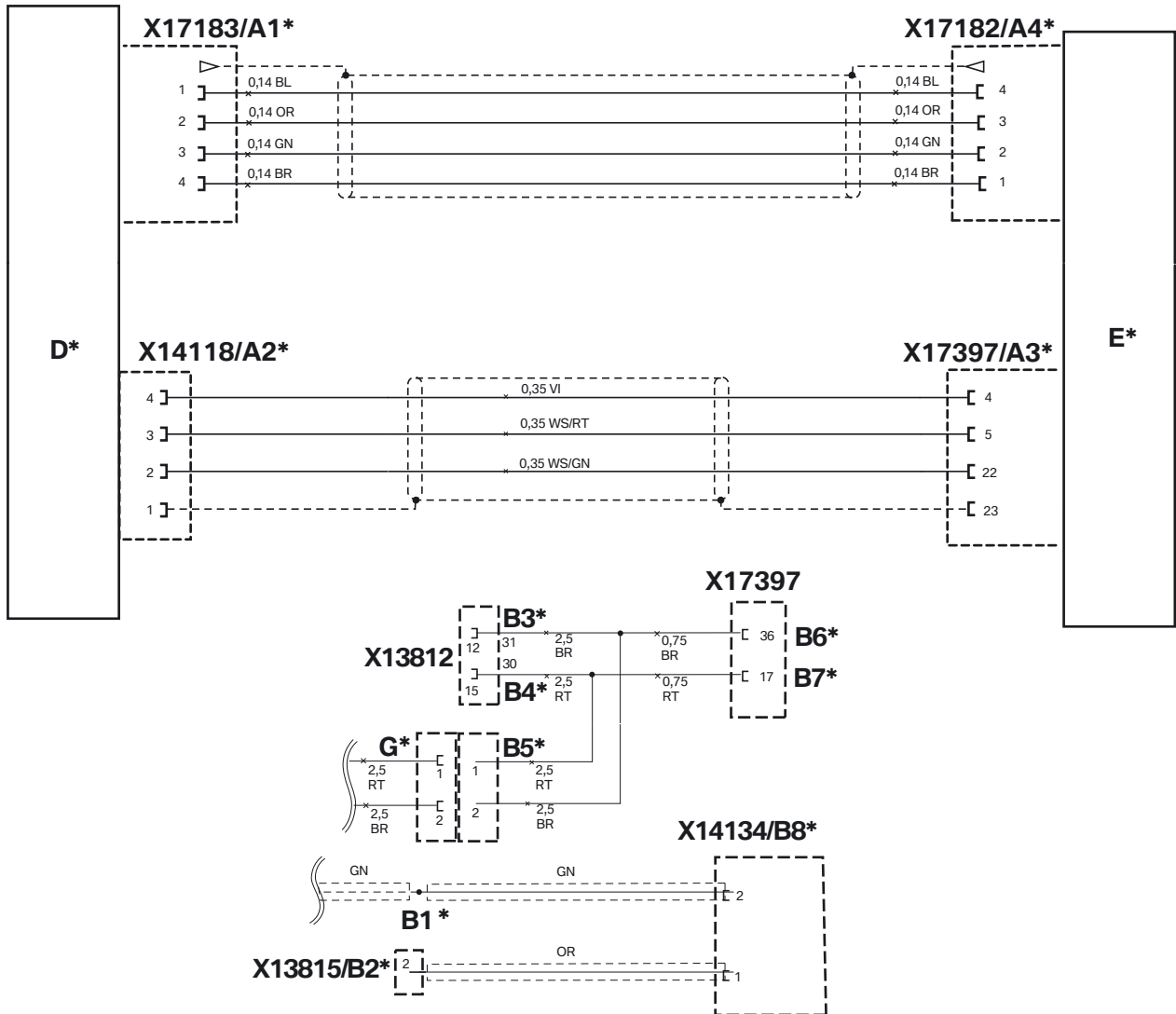
060 1369 Z

11. Circuit diagram of USB retrofit cable/power supply

Legend

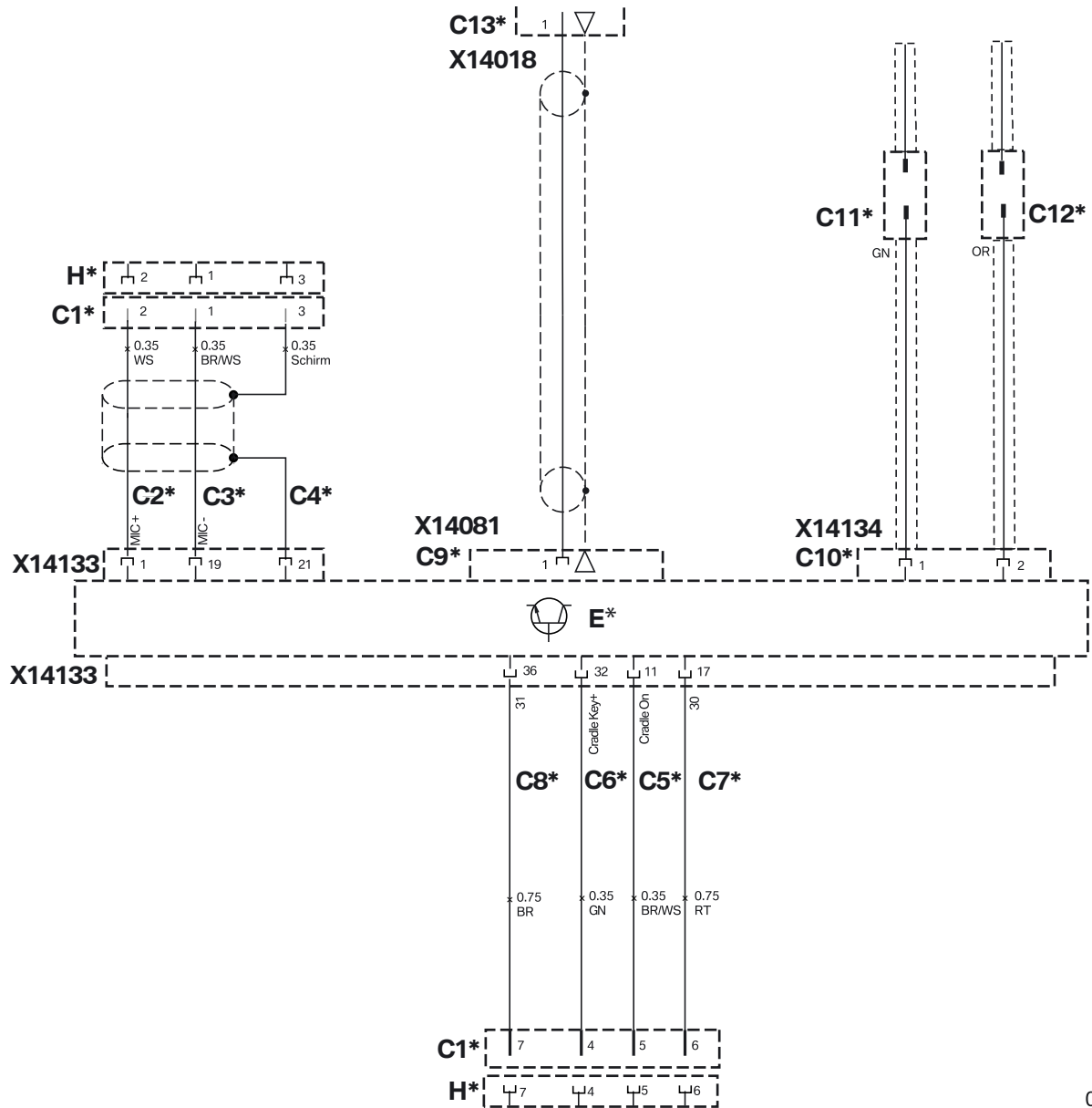|	
A1*	HSD socket casing 4-pin WS, **X17183**, USB/AUX-IN socket **D***
A2*	4-pin SW socket casing, **X14118**, USB/AUX-IN socket **D***
A3*	54-pin BL socket casing, **X17397**, High charger/hands-free electronic module **E***
A4*	WS 4-pin HSD socket casing **X17182**, High charger/hands-free electronic module **E***
B1*	GN fibre-optic cable, connector
B2*	OR fibre optic cable, in SW 2-pin fibre-optic cable casing **X13815**
B3*	Socket contact **X13812**
B4*	Socket contact **X13812**
B5*	Black 4-pin plug casing
B6*	Socket contact, **X17397**
B7*	Socket contact, **X17397**
B8*	SW 2-pin fibre optic cable casing **X14134**
G*	4-pin SW socket casing (cars without SA 644 only)

All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colours

BL	Blue
BR	Brown
GN	Green
OR	Orange
RT	Red
WS	White
VI	Violet

12. Adapter cable circuit diagram

C13* 1 ▽

X14018

C11* GN

C12* OR

H* 2 1 3

C1* 2 1 3

0.35 WS   0.35 BR/WS   0.35 Schirm

C2* **C3*** **C4***

MIC+   MIC-

X14133 1 19 21

X14081

C9* 1 ▽

E*

X14134

C10* 1 2

X14133 36 32 11 17

31   Cradle Key+ / 32   Cradle On / 11   30

C8* **C6*** **C5*** **C7***

0.75 BR   0.35 GN   0.35 BR/WS   0.75 RT

C1* 7 4 5 6

H* 7 4 5 6

060 1368 Z

12. Adapter cable circuit diagram

Legend

C1*	Black 10-pin plug casing
C2*	Socket contact, **X14133**
C3*	Socket contact, **X14133**
C4*	Socket contact, **X14133**
C5*	Socket contact, **X14133**
C6*	Socket contact, **X14133**
C7*	Socket contact, **X14133**
C8*	Socket contact, **X14133**
C9*	Fakra socket casing **X14081**
C10*	SW 2-pin fibre optic cable casing **X14134**
C11*	GN fibre-optic cable, connector
C12*	OR fibre-optic cable, connector
C13*	WS Fakra plug casing, **X14018**
E*	High charger/hands-free electronic module
H*	10-pin socket casing, SW

All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colours

BR	Brown
GN	Green
OR	Orange
RT	Red
WS	White