Parts and Accessories.
Installation Instructions.

DVD Navigation System Retrofit with On-Board Monitor
BMW 3 Series Coupé (E 46/2)
BMW 3 Series Saloon (E 46/4)

These installation instructions are only valid for cars with SA 534 (automatic air conditioning) and SA 550 (on-board computer).

Retrofit kit No.   65 90 0 391 113

Installation time
The installation time is approx. 5.5 hours, but 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.

Ensure that the cables/lines are not kinked or damaged as you install them in the car. The costs incurred as a result of this 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.

After the installation work the retrofit must be coded using DISPlus or GT-1 via the **Retrofit** path.

All the figures show LHD cars, proceed accordingly on RHD cars.

Pictograms

▷ denotes instructions that draw your attention to special features.

◀   denotes the end of the instruction or other text.

See the EBA CD or Aftersales Portal for explanations of the pictograms.

Do not archive the hard copy of these installation instructions since daily updates are made by Aftersales Portal.

Subject to technical modifications.

Ordering instructions
In cars with a BMW Business CD radio up to 09/01 and in all other cars up to 03/01, the aerial booster must be replaced by an aerial booster for cars from 09/01 or 03/01 onwards, respectively. This aerial booster is not included in the retrofit kit and must be ordered separately (see EPC for part number and documentation).

The left boot wheel arch trim must be replaced in cars without a CD changer. This boot wheel arch trim is not included in the retrofit kit and must be ordered separately (see EPC for part number and documentation).

The on-board monitor **B** and the support **E** are not included in the retrofit kit since there are different versions. It must be ordered separately (see EPC for part number and documentation).

In cars without aerial Diversity, it must be retrofitted using individual parts (see EPC for part number and documentation).
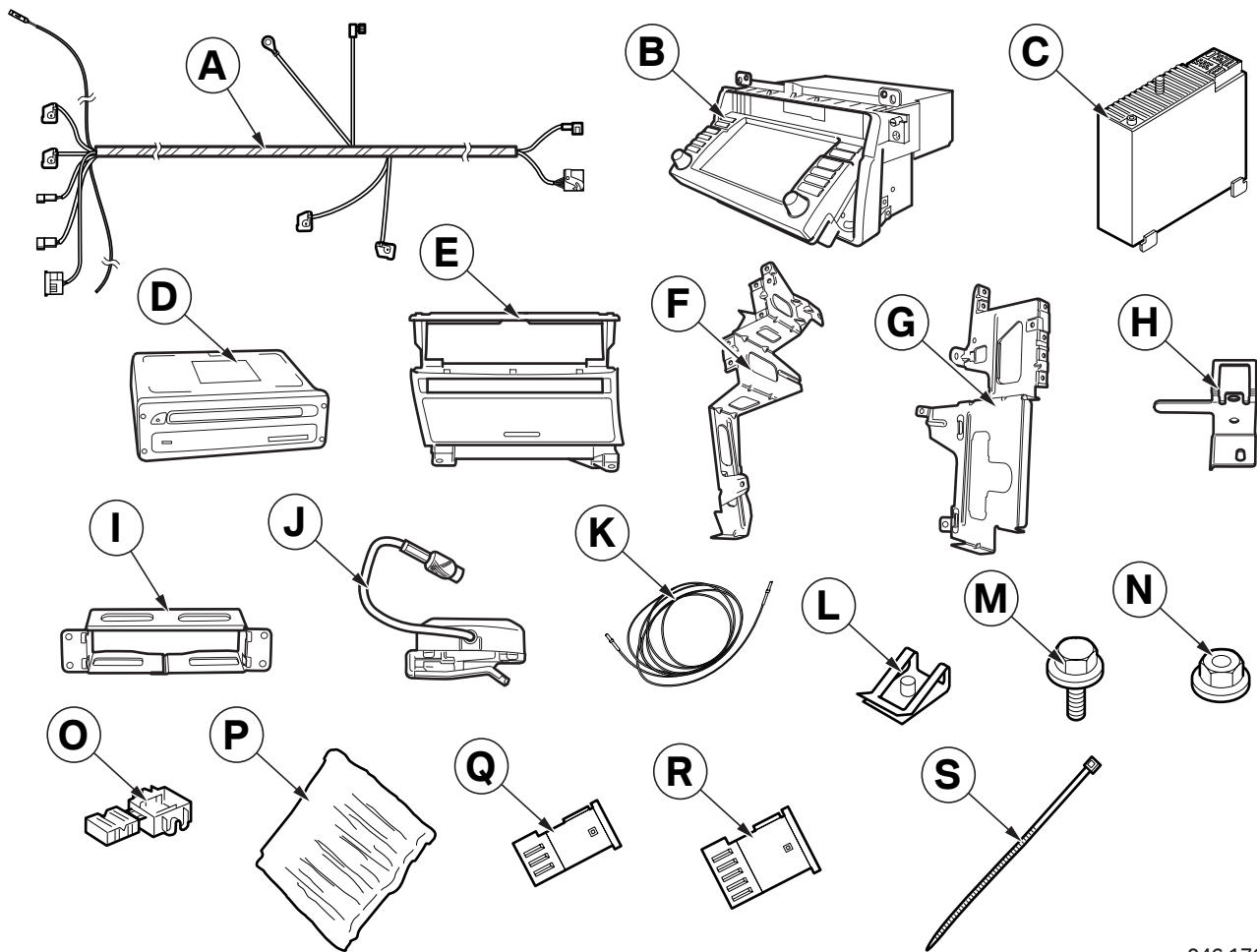
Special tools required
None

Contents

1. Parts list
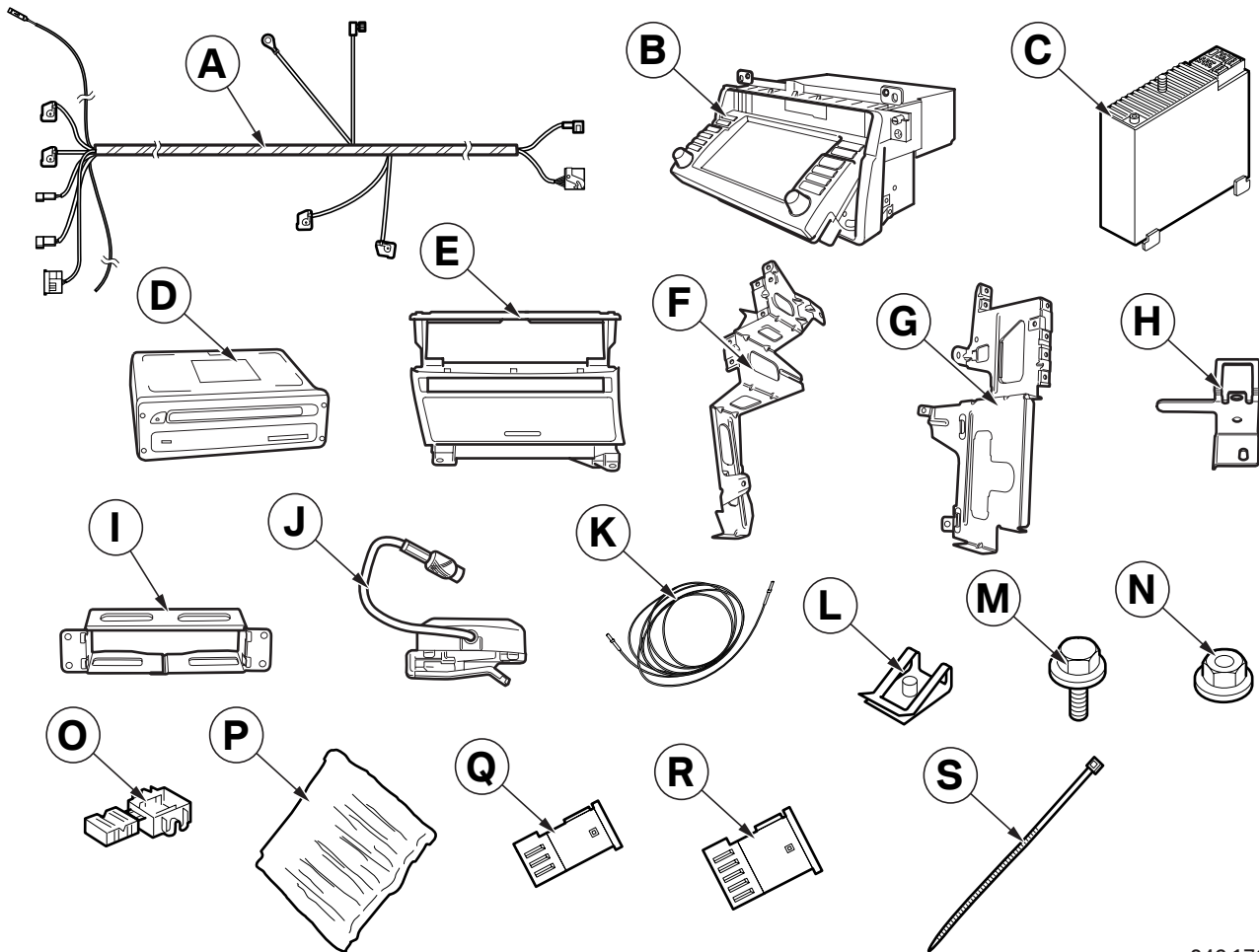

046 1766 Z

Legend

A   Retrofit cable set
B   On-board monitor (not supplied with the retrofit kit)
C   Radio receiver
D   Navigation computer
E   Holder (not supplied with the retrofit kit)
F   Front base support system
G   Rear base support system
H   Radio receiver holder
I   Navigation computer holder
J   GPS aerial
K   GPS aerial cable

1. Parts list

046 1766 Z

Legend

L   Speed nut M5 (13x)

M   Hexagonal screw M5 x 14 mm (13x)

N   Hexagonal nut M5

O   Miniature connector (2x)

P   Protective strip

Q   Black 3-pin socket casing

R   Black 6-pin socket casing

S   Cable tie (10x)

2. Preparations

|	TIS No.
Conduct a brief test	---
Disconnect the negative pole of the battery	12 00 ...
The following components must be removed first of all	
Centre fresh air grille	64 22 162
Radio receiver (no longer required)	65 11 030
Air conditioning control	64 11 749
Replace the holder in the oddments box by holder **E**	51 16 ...
Instrument carrier	62 21 000
Glove compartment	51 16 366
Driver's seat	52 13 000
Inside door sill strip, left	51 47 000
Door pillar trim bottom left	51 43 150
Rear seat	52 26 005
Rear left side trim	51 43 002
Side backrest section rear left	52 26 008
Roof pillar trim (C pillar), rear left	51 43 251
Trim for rear window shelf	51 46 000
Boot floor trim	51 47 101
Left boot wheel arch trim	51 47 151

3. Connection diagram
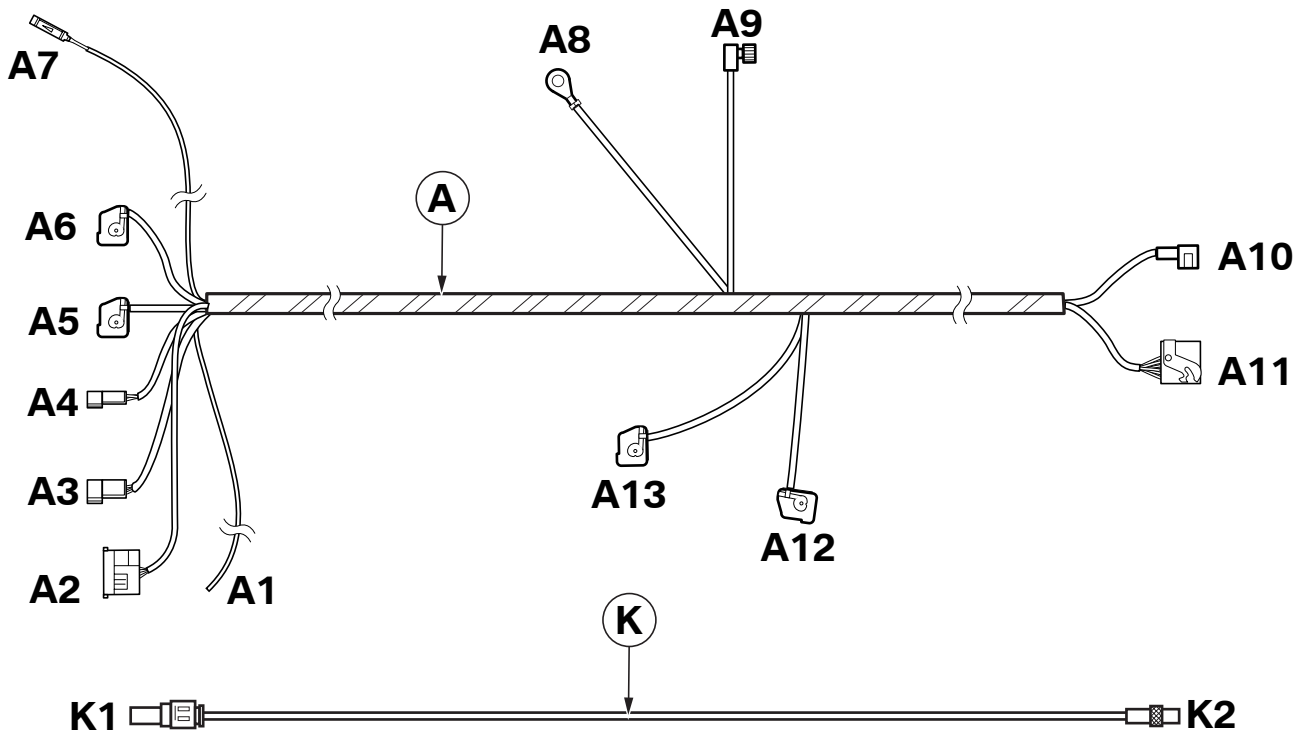
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| Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Retrofit cable set	---	---	---	---
A1	Joint connector contact	TAA	BR/RT 0.35 mm^2	With miniature connector **R** to black/white cable of black 26-pin plug **X11175** on instrument cluster	X11175 PIN 8
A2	Black 17-pin plug casing	---	---	On radio plug	X18126
A3	Black 6-pin plug casing	---		For optional CD changer retrofit and/or hands-free telephone device	X13321
A4	Black 3-pin socket casing	---	---	For optional AUX connection retrofit	X14118
A5	Blue 12-pin socket casing	---	---	On on-board monitor **B**	X18801
A6	White 12-pin socket casing	---	---	On on-board monitor **B**	X18802
A7	Joint connector contact	Reversing signal	BL/GE 0.35 mm^2	To joint connector above the fuse holder	X428
A8	Cable eyelet	Terminal 31	BR 2.5 mm^2	On earth post above the left rear wheel arch	X13016
A9	Coaxial plug casing	---	---	On aerial amplifier on the left C pillar	X13344
A10	Fakra socket casing	---	---	On radio receiver **C**	X13342
A11	Black 16-pin socket casing	---	---	On radio receiver **C**	X18126
A12	Violet 18-pin socket casing	---	---	On navigation computer **D**	X1312
A13	Blue 18-pin socket casing	---	---	On navigation computer **D**	X1313
K	GPS aerial cable	---	---	---	---
K1	Coaxial socket casing	---	---	On navigation computer **D**	---
K2	Coaxial plug casing	---	---	On GPS aerial **J** below rear window shelf	---

4. Installation and cabling diagram
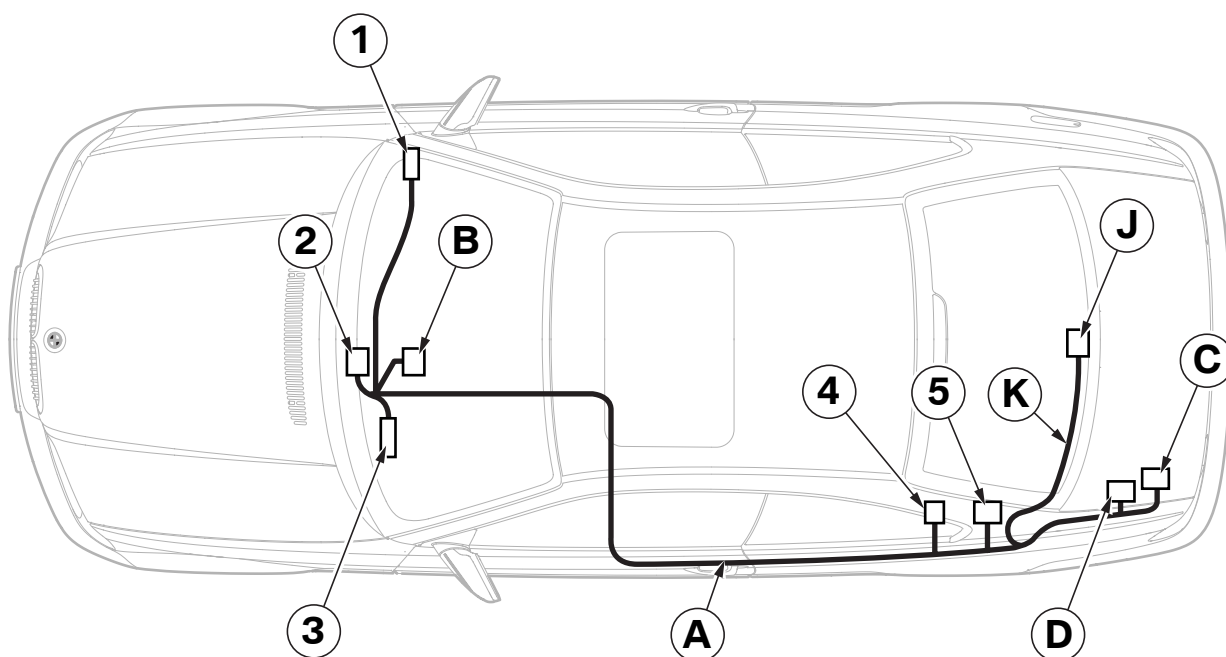
046 1684 Z

Legend

A   Retrofit cable set
B   On-board monitor
C   Radio receiver
D   Navigation computer
J   GPS aerial
K   GPS aerial cable

1   Joint connector **X428**
2   Radio plug **X18126**
3   Instrument cluster, plug **X11175**
4   Earth post **X13016**
5   Aerial booster

## 5. To install and connect the retrofit wiring harness
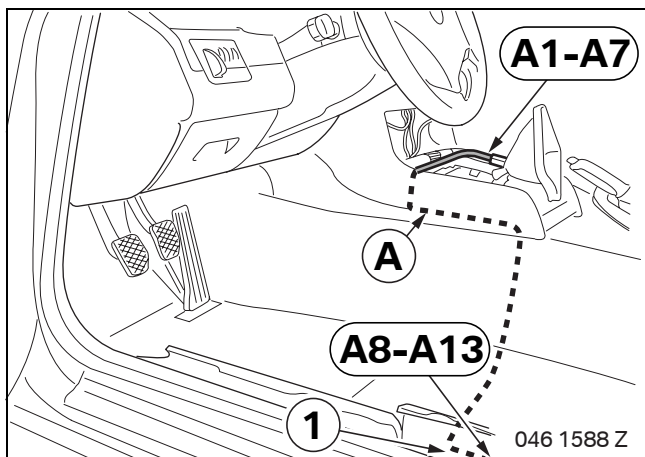
Route retrofit wiring harness **A** from the side skirt (1) as follows along the standard wiring harness:

- Branches **A1 – A7** to the centre console
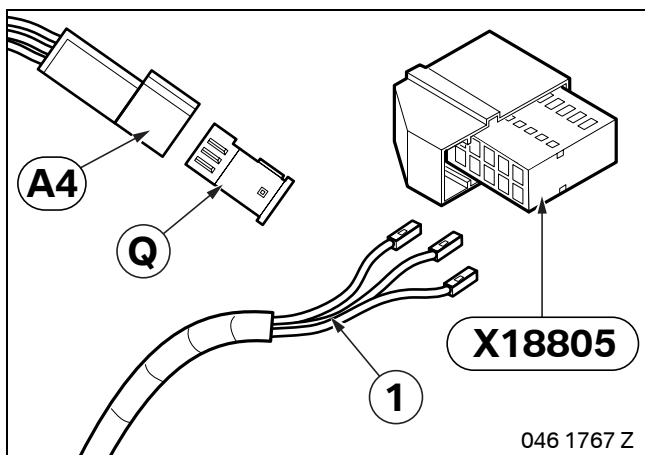- Branches **A8 – A13** into the boot on the left
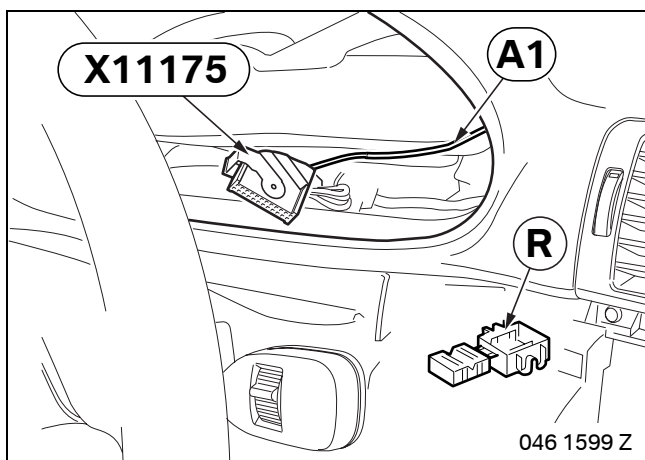
Route branch **A1** along the standard wiring harness to the instrument cluster and use miniature connector **R** to connect it to the black/white cable of PIN 8 of plug **X11175**.
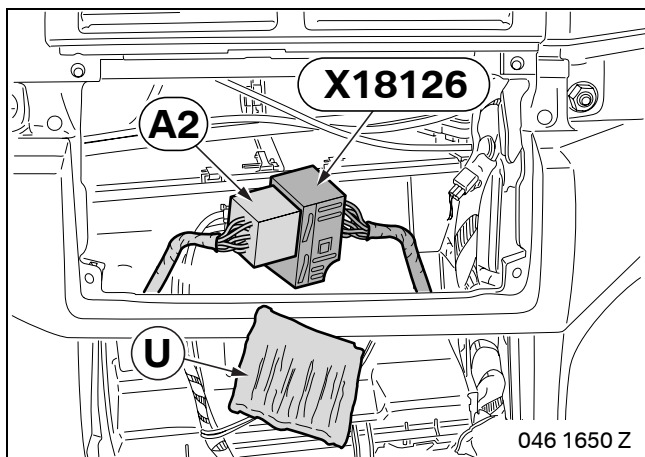
Connect branch **A2** to radio plug **X18126**.

Wrap the plug connector in protective strip **U**.

Only for cars with retrofitted auxiliary connection for external audio sources

Disconnect cables (1) from plug **X18805** and connect them to socket casing **Q** as follows:

- White/blue cable to PIN 1 (AUX R+)
- White/yellow cable to PIN 2 (AUX L+)
- White/brown cable to PIN 3 (AUX -)

Connect branch **A4** to socket casing **Q**.

5. To install and connect the retrofit wiring harness

046 1768 Z
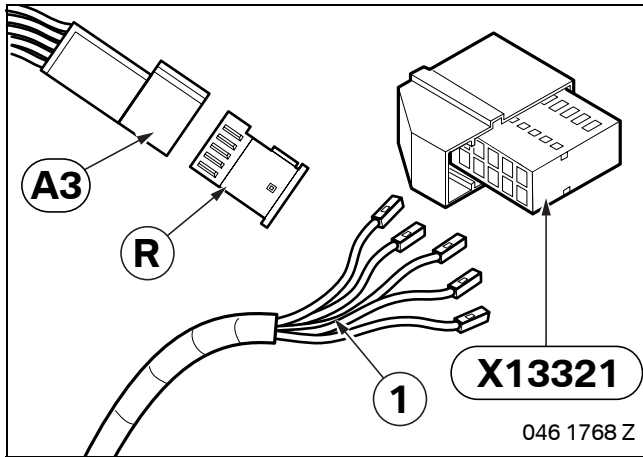
Only for cars with CD changer or hands-free telephone device

Disconnect cables (1) from plug **X13321** and connect them to socket casing **R** as follows:

- Black cable to PIN 1 (Tel NF+)
- Yellow cable to PIN 2 (Tel NF-)
- White/blue cable to PIN 4 (CD NF RE+)
- White/red cable to PIN 5 (CD NF LI+)
- White/brown cable to PIN 6 (CD NF -)

Connect branch **A3** to socket casing **R**.

All cars

Route branch **A7** along the standard wiring harness to the glove compartment and connect to joint connector **X428**.

046 1600 Z

▷ If joint connector **X428** is fully occupied, disconnect the contact and connect branch **A7** using miniature connector **O**. ◀
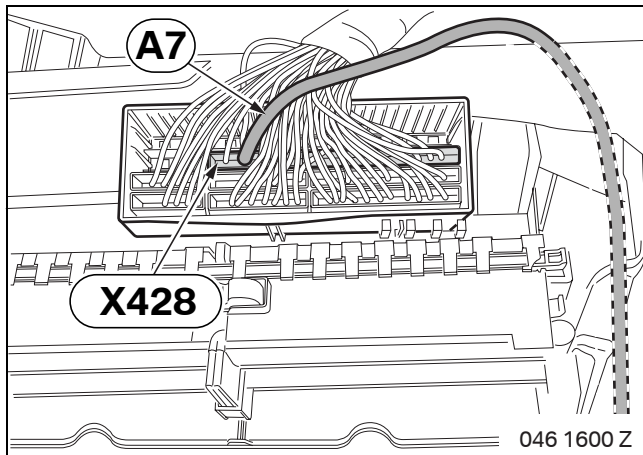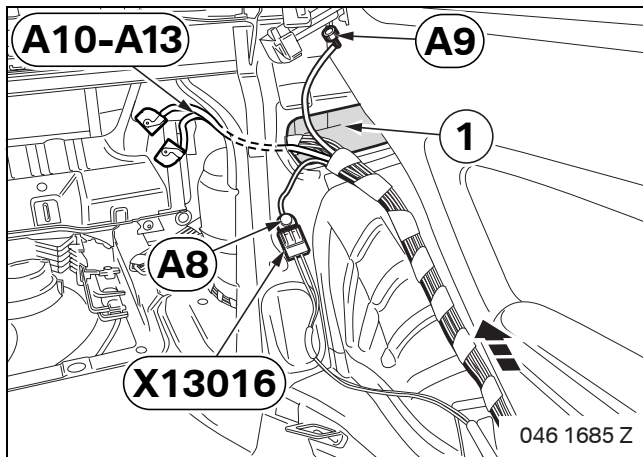
Route branches **A8 – A13** along the standard wiring harness to the left C pillar.

Route branch **A8** to earth post connection **X13016** and screw it on.

Route branch **A9** to the aerial booster.

Route branches **A10 – A13** through the passage grommet (1) into the boot.


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▷ In cars with a BMW Business CD radio up to 09/01 and in all other cars up to 03/01, the aerial booster (1) must be replaced by an aerial booster (1) for cars from 09/01 or 03/01 onwards, respectively. ◀

Unfasten the aerial plug (2) from the aerial amplifier (1) and tie it back.

Screw branch **A9** onto the aerial amplifier (1).

046 1686 Z
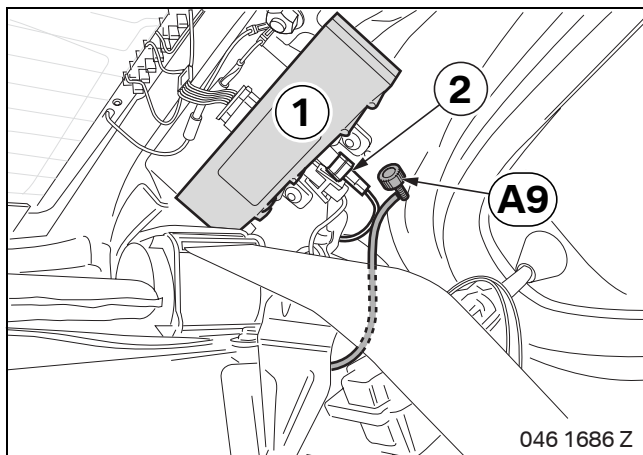
6. To install and connect the on-board monitor and GPS aerial

046 1597 Z
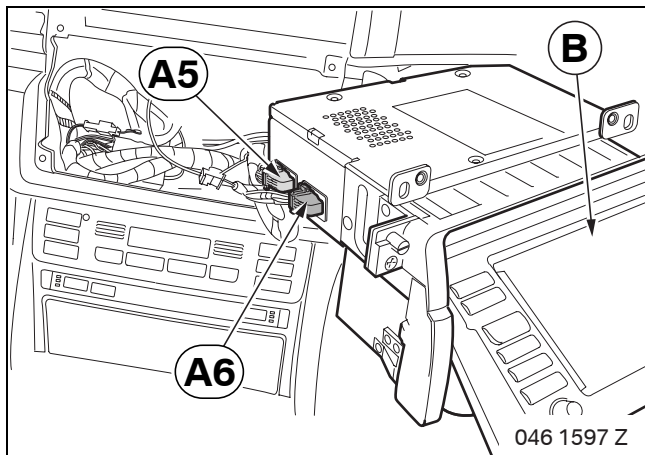
Connect branch **A5** and branch **A6** to on-board monitor **B**.

046 1586 Z
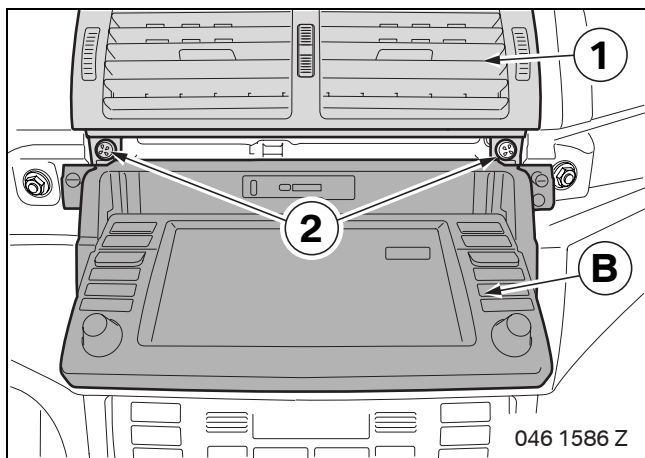
Insert on-board monitor **B** in the instrument panel.

Clip in the centre fresh air grille (1) and use screws (2) to screw it on.

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Push GPS aerial **J** onto the existing lug.

Connect branch **K2** to line (1) of GPS aerial **J**.

Route branch **K1** to the left side of the boot.

7. To install and connect the navigation computer and radio receiver
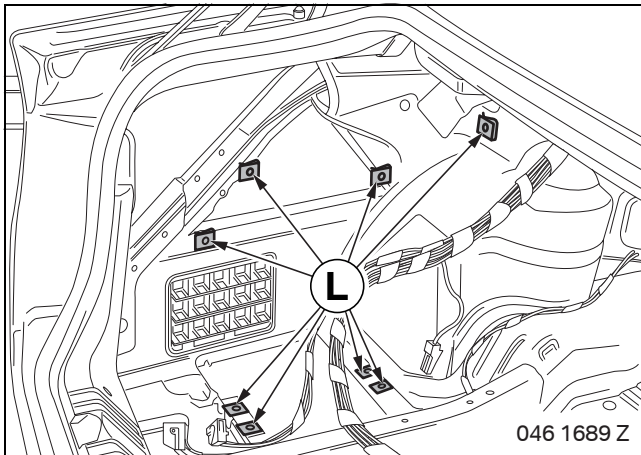
Clip speed nuts **L** into the body.

046 1689 Z

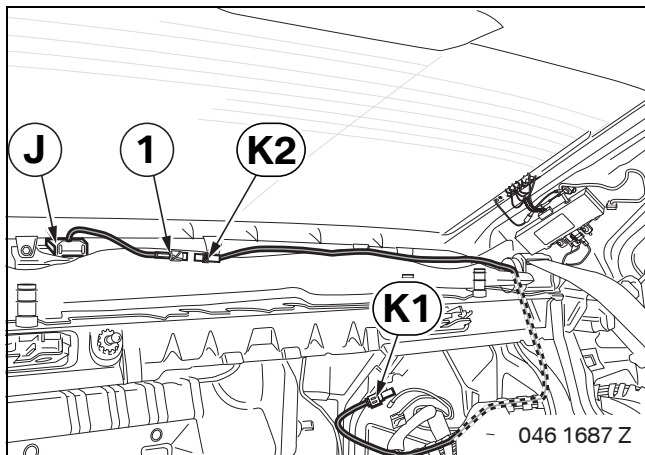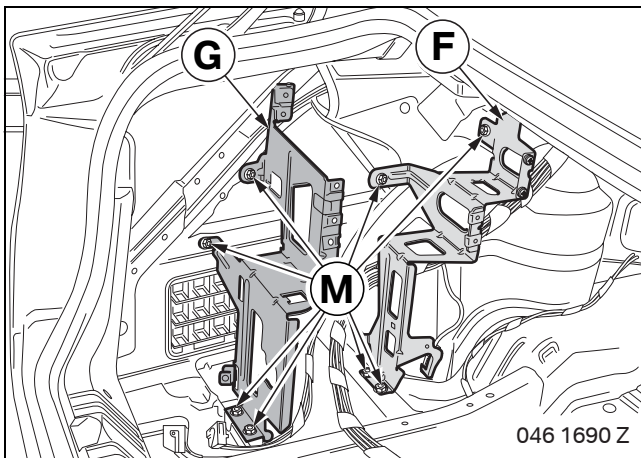Use hexagonal screws **M** to screw on front base support system **F** and rear base support system **G**.

046 1690 Z
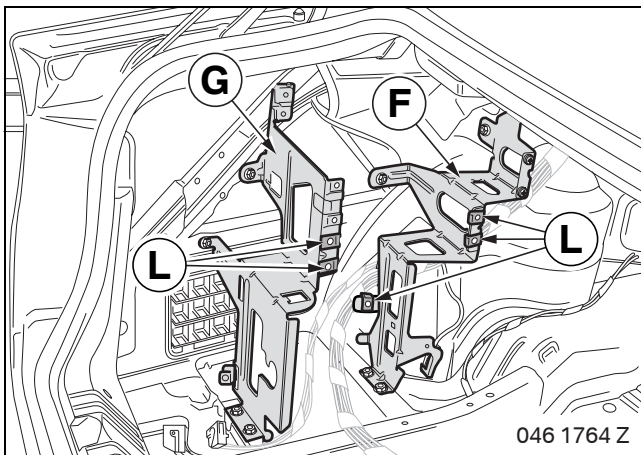
Push speed nuts **L** onto front base support system **F** and rear base support system **G**.

046 1764 Z
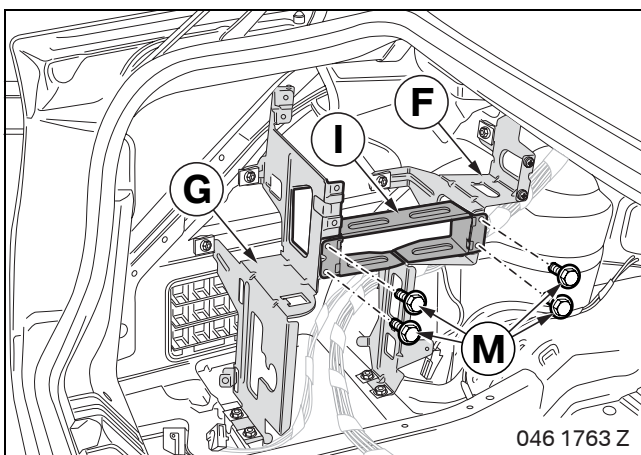
Use hexagonal screws **M** to screw navigation computer holder **I** onto front base support system **F** and rear base support system **G**.

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7. To install and connect the navigation computer and radio receiver

046 1692 Z
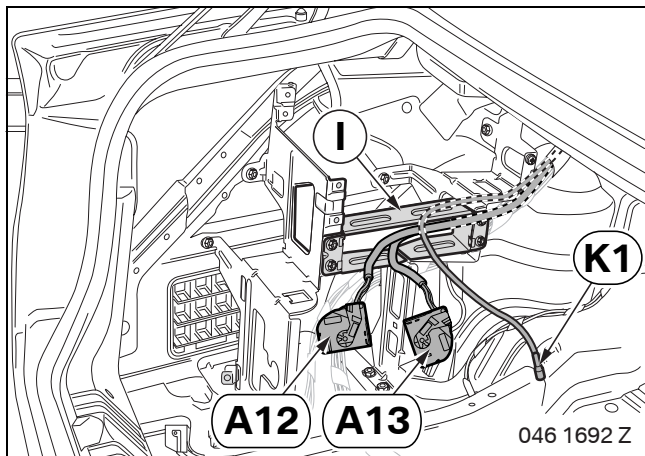
Route branches **A12**, **A13** and **K1** through navigation computer holder **I**.

046 1590 Z
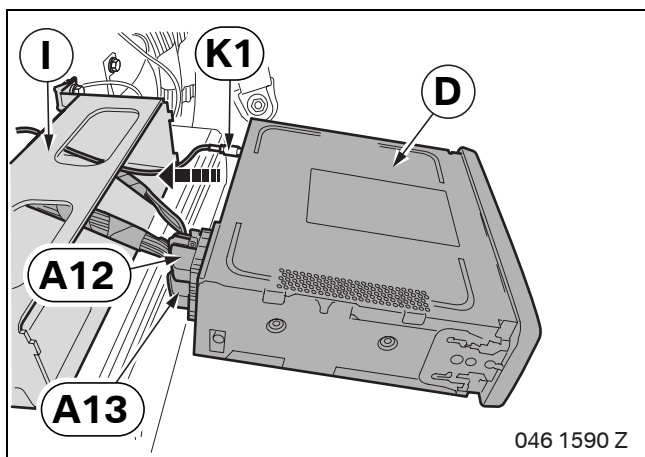
Connect branches **A12**, **A13** and **K1** to navigation computer **D**.

Push navigation computer **D** into navigation computer holder **I** until it clips in.

046 1765 Z
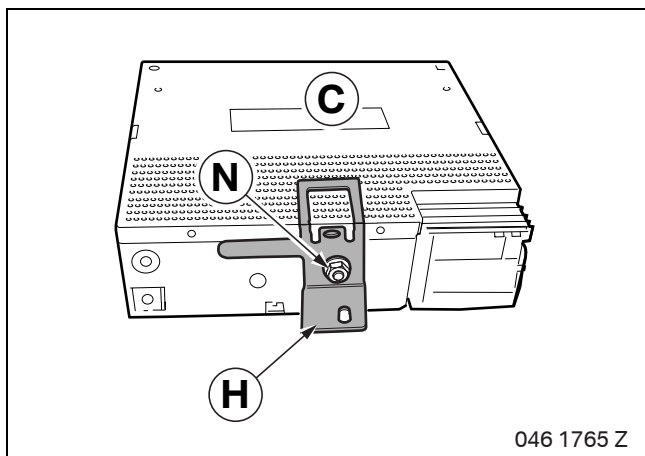
Push radio receiver holder **H** onto radio receiver **C** and use hexagonal nut **N** to screw it on.

046 1718 Z
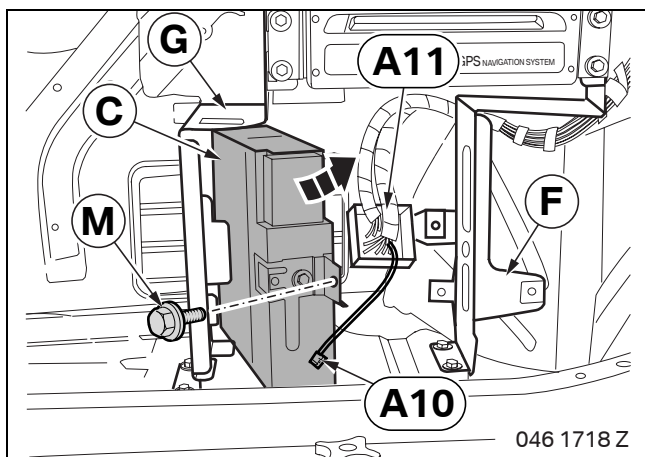
Connect branch **A10** and branch **A11** to radio receiver **C**.

Insert radio receiver **C** into rear base support system **G** and use hexagonal screw **M** to screw it onto front base support system **F**.

8. Concluding work and coding

▷ Do not insert the software CD into the navigation computer until prompted to do so during the coding procedure (risk of damaging the navigation computer). ◀

- Connect the battery
- Code the retrofit using DISPlus or GT-1 via path **Retrofit**
- Conduct a brief test
- Conduct a function test
- Re-assemble the car

9. Circuit diagram

X428 RS

X11175 LEITUNG OFFEN

X229 VB R

X18344 VB I-BUS

X1312

A112

046 1653 Z

0,35 BR RT TAA 10
0,35 BL GE RS 1
0,35 VI WS R 3

X18802

0,5 WS GR GE I-BUS 3
30 8 0,75 RT GN 30 1
VMLC31 7 0,5 BR RT VMLC31 12
SE 9 6 0,35 SCHIRM SCHIRM 15
SE 9 5 0,35 SW VMG 6
SE 29 3 0,35 SCHIRM SCHIRM 14
SE 30 4 0,35 SW VMB 5
SE 3 2 0,35 SCHIRM SCHIRM 16
SE 9 1 0,35 SW VMR 7
PL 2

X1543 VB 30

0,5 GE BR NAV_NF+ 9
0,5 GE RT NAV_NF- 18

PL 12 0,5 SW
R 11 0,5 VI WS
58g 1 0,5 GR RT
TA_LI+ 3 0,5 BL BR
TA_LI- 4 0,5 BL SW
TA_RE+ 10 0,5 GE SW
TA_RE- 9 0,5 GE BR
31 2 0,5 BR
30 7 0,37 RT GN
I-BUS 6 0,5 WS GR GE

X229 VB R
X1362 VB 58g

X3279 VB 31
0,5 BR 31 11
0,5 BR 31 10
2,5 BR X13016 31E=RAD

X1313

N9

NAV_NF- 11
NAV_NF+ 15
TA_LI+ 1
TA_LI- 2
TA_RE+ 7
TA_RE- 8

X18801

A196

X18344 VB I-BUS
X1543 VB 30
X3279 VB 31

W601 SCHIRM OFFEN

0,35 SCHIRM

X14118
AUX_RE+ 1 0,35 SW 0,35 BR AUX_GND 10
AUX_LI+ 2 0,35 GE 0,35 GE AUX_LI+ 3
AUX_GND 3 0,35 BR 0,35 SW AUX_RE+ 4

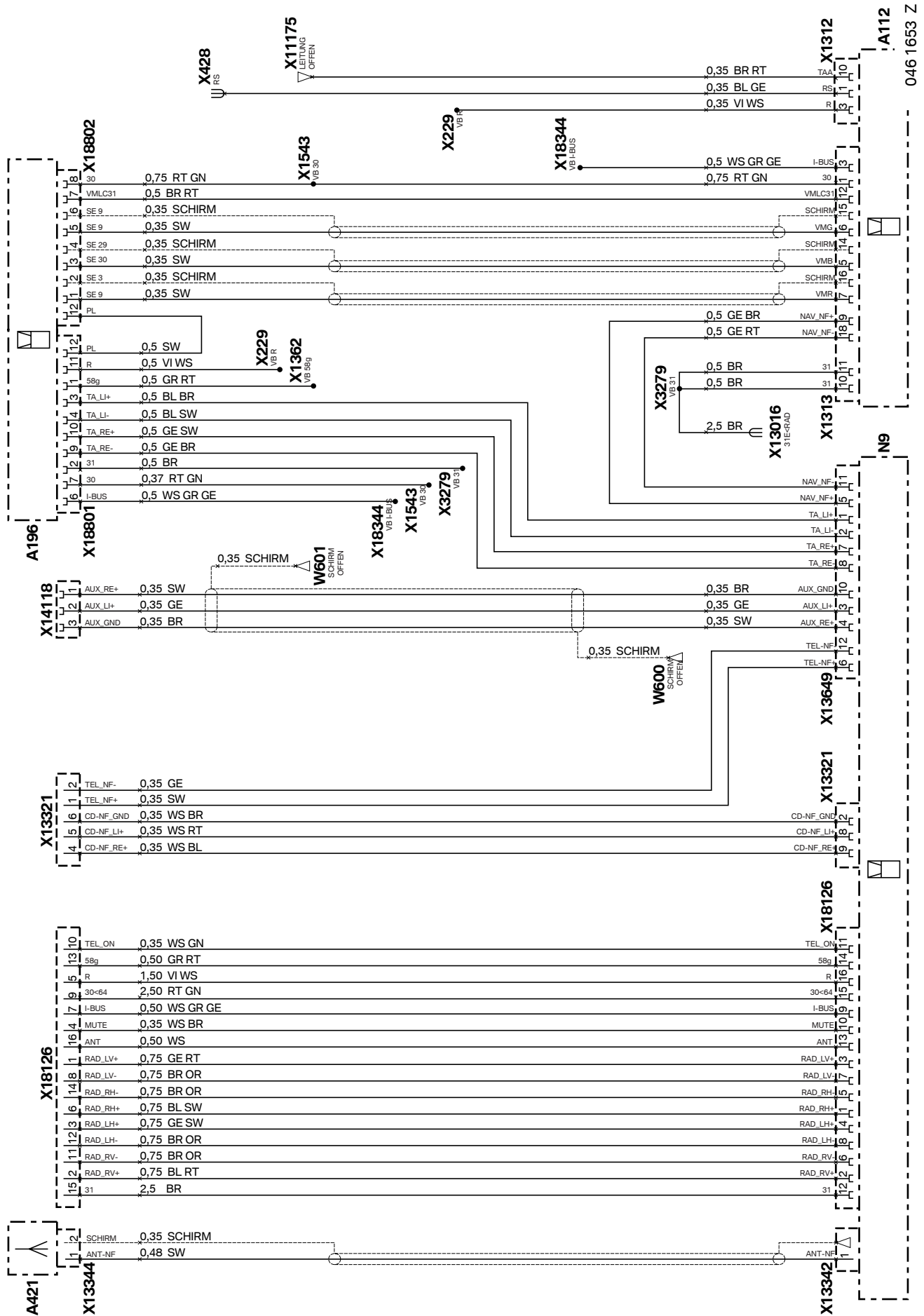W600 SCHIRM OFFEN
0,35 SCHIRM

TEL-NF 12
TEL-NF 6

X13649

X13321
TEL_NF- 2 0,35 GE
TEL_NF+ 1 0,35 SW
CD-NF_GND 6 0,35 WS BR CD-NF_GND 2
CD-NF_LI+ 5 0,35 WS RT CD-NF_LI+ 8
CD-NF_RE+ 4 0,35 WS BL CD-NF_RE 9

X13321

X18126

X18126
TEL_ON 10 0,35 WS GN TEL_ON 11
58g 13 0,50 GR RT 58g 14
R 5 1,50 VI WS R 16
30<64 9 2,50 RT GN 30<64 15
I-BUS 7 0,50 WS GR GE I-BUS 9
MUTE 4 0,35 WS BR MUTE 10
ANT 16 0,50 WS ANT 13
RAD_LV+ 1 0,75 GE RT RAD_LV+ 3
RAD_LV- 8 0,75 BR OR RAD_LV- 7
RAD_RH- 14 0,75 BR OR RAD_RH- 5
RAD_RH+ 6 0,75 BL SW RAD_RH+ 1
RAD_LH+ 3 0,75 GE SW RAD_LH+ 4
RAD_LH- 12 0,75 BR OR RAD_LH- 8
RAD_RV- 11 0,75 BR OR RAD_RV- 6
RAD_RV+ 2 0,75 BL RT RAD_RV+ 2
31 15 2,5 BR 31 12

A421

X13344
SCHIRM 2 0,35 SCHIRM
ANT-NF 1 0,48 SW ANT-NF 1

X13342

9. Circuit diagram

Legend

A112   Navigation computer
A196   On-board monitor
A421   Aerial booster

N9   Radio receiver

W600   Screen open
W601   Screen open

X229   Terminal R connector
X428   Joint connector contact, reversing signal
X1312   Violet 18-pin plug, navigation computer
X1313   Blue 18-pin plug, navigation computer
X1362   58g connector
X1543   Terminal 30 connector
X3279   Terminal 31 connector

X11175 Black 26-pin plug, instrument cluster
X13016 Earth, stereo/Hi Fi
X13321 Radio III
X13342 Aerial Radio LF
X13344 Aerial Diversity LF
X13649 Radio IV
X14118 Black 3-pin plug, AUX preparation
X18126 Radio plug
X18344 I bus connector
X18801 Blue 12-pin plug, on-board monitor
X18802 White 12-pin plug, on-board monitor

Cable colours

BL	Blue	OR	Orange
BR	Brown	RT	Red
GE	Yellow	SW	Black
GN	Green	VI	Violet
GR	Grey	WS	White