

USB to LAN adapter

Operation manual

Mercedes-Benz AG, GCSP/ORE Valid from 02/2024



Mercedes-Benz

Table of contents

1	List of	f figures	3
2	Produ	ct concept	4
3	Infras	tructure requirements	5
4	USB t	o LAN adapter product information	6
	4.1	Delivery package	6
	4.2	Hardware overview	6
	4.3	Storage	7
5	Self-d	iagnosis	8
	5.1	Introduction	8
	5.2	Preparation	8
	5.3	Performance	8
6	Opera	ition	13
	6.1	Establishing a connection	13
	6.2	Control unit programming	14
	6.3	Fault messages	18
7	Servio	ce & support	19
8	Frequ	ently Asked Questions	21

1 List of figures

Fig. 1:	Methods for control unit programming	4
Fig. 2:	Possible bottlenecks in the control unit programming network	5
Fig. 3:	Delivery package	6
Fig. 4:	USB to LAN adapter interfaces	7
Fig. 5:	Network set-up, self-diagnosis for USB to LAN adapter	8
Fig. 6:	ConfigAssist icon	9
Fig. 7:	ConfigAssist: Network configuration for USB to LAN adapter (automatic)	9
Fig. 8:	ConfigAssist: Network configuration for USB to LAN adapter (manual).	10
Fig. 9:	ConfigAssist proxy configuration	10
Fig. 10:	ConfigAssist: Connect USB to LAN adapter with XENTRY Diagnosis Pad 2	11
Fig. 11:	ConfigAssist: Test Connection	11
Fig. 12:	ConfigAssist: Connection Failed	12
Fig. 13:	Network set-up with USB to LAN adapter	13
Fig. 14:	XENTRY Diagnosis Cars icon	14
Fig. 15:	XENTRY Diagnosis: Brand selection	14
Fig. 16:	XENTRY Diagnosis: FIN/VIN number entry	15
Fig. 17:	XENTRY Diagnosis: Diagnosis	15
Fig. 18:	XENTRY Diagnosis: Update of control unit software	16
Fig. 19:	XENTRY Diagnosis: Safety information before update of control unit software	16
Fig. 20:	XENTRY Diagnosis: Select connection type for control unit programming.	17
Fig. 21:	Control unit programming progress	17
Fig. 22:	USB to LAN adapter not inserted	18
Fig. 23:	Create XSF ticket in XENTRY Diagnosis.	19
Fig. 24:	XSF ticket component selection	19
Fig. 25:	XSF ticket file attachments	20

2 Product concept

The data volume of control unit software that has to be transferred to vehicles is constantly increasing as the control units and functions in vehicles become more complex. Consequently, it is becoming ever more laborious to program control units.

Currently, the control unit (head unit) of the vehicle is programmed using XENTRY Diagnosis Software and the VCI (Vehicle Communication Interface) via OBD. The data transfer rate is a maximum of 100 Mbit/s. The USB to LAN adapter is a new accessories product for XENTRY Diagnosis. Alongside the existing method of control unit programming via OBD, it provides an additional method for transferring control unit software data to the vehicle up to three times faster using a reliable network connection through the data-capable USB-C port in the center console. You will find the process for control unit programming using a USB to LAN adapter below:



Fig. 1: Methods for control unit programming

3 Infrastructure requirements

In order to be able use the USB to LAN adapter, the following requirements must be fulfilled:

- A Retail Data Storage, the LAN port and the XENTRY diagnostic device must be able to access each other within the network via IP.
- First Generation Retail Data Storage (4 TB hard drive) and Retail Data Storage+ can provide three USB to LAN adapters with up to 300 Mbit/s at the same time at their highest speed. Retail Data Storage 2 can provide this for up to seven USB to LAN adapters. A requirement for this maximum speed is that the workshop network allows for a data transfer of at least 300 Mbit/s per vehicle. The required bandwidth increases by 300 Mbit/s with every additional vehicle being programmed at the same time. For this, First Generation Retail Data Storage (4 TB hard drive) and Retail Data Storage+ must be connected to the switch at 1 Gbit/s and this is 10 Gbit/s for Retail Data Storage 2. In the event of a lower connection speed with the switch, it will not be possible for the Retail Data Storage to provide the full three, or seven, USB to LAN adapters with up to 300 Mbit/s at the same time.

It is not possible to program control units using the USB to LAN adapter if the XENTRY Update Service data provision mode is being used without Retail Data Storage. You can change this setting in ConfigAssist. Control unit software that is solely saved on the XENTRY diagnostic device cannot be transferred to the vehicle using the USB to LAN adapter. This is why Retail Data Storage is always necessary.

- Using a proxy can also cause a reduction in the data transfer.
- If a switch or hub is used in the network, this must also transfer at a speed of at least 1 Gbit/s.
- A LAN port with sufficient speed (1 Gbit/s) at the Diagnosis Workstation in the workshop near the vehicle (sufficiently long LAN cable will be necessary depending on the distance from the LAN port to the vehicle).
- Ethernet cable with at least Cat5e, so 1 Gbit/s and 100 MHz.

Cat5 (10/100 Mbit/s und 100 MHz) is not sufficient and Cat6 (10 Gbit/s und 250 MHz) will not be needed for the foreseeable future.

Before you start the process for control unit programming, please check for possible bottlenecks along the data transfer path (see graphic below). This is the only way to achieve the full data transfer rate of up to 300 Mbit/s.
 The following illustration depicts the most commonly occurring bottlenecks:



Fig. 2: Possible bottlenecks in the control unit programming network



The USB to LAN adapter and the Retail Data Storage should preferably be on the same subnet (Class-C subnet). If different sub-networks are used and the head unit software is older, there may be restrictions to the use of the USB to LAN adapter. In this case observe the notes in XENTRY Diagnosis.

USB to LAN adapter product information 4

4.1 **Delivery package**

You will find the delivery package of the USB to LAN adapter below:



Fig. 3: Delivery package

- LAN cable (10 meters) 1
- 2 USB to LAN adapter

4.2 Hardware overview

In the following, you will receive an overview of the USB to LAN adapter and the specifications:





Fig. 4: USB to LAN adapter interfaces

- 1 USB-C connection
- 2 Activity LED
- 3 Link LÉD
- 4 LAN port (RJ-45 Ethernet)

USB to LAN adapter specifications:

Chipset	Realtek RTL8153B-VB-CG
Connections	1x RJ45 1 Gbit/s (10/100/1000M) 1x USB Type C
Length	16 cm
LEDs	Activity LED: Flashes orange when data is being transfered via the USB to LAN adapter. Link LED: Permanently illuminates green when a LAN cable is connected to the USB to LAN adapter, the adapter is plugged in with its USB-C end, and there is a solid connection via the adapter.
OS compatibility	macOS/Windows/Linux
LAN cable specifications:	

Connections	2x RJ45
Туре	Cat.5e
Length	10 m
Color	Black

4.3 Storage



NOTICE

Please protect the product from uncontrolled chemical pollutants and corrosive chemicals. Contact with moisture can also damage the product.

The product should not be used anymore if one of the following situations occurs:

- The product has been exposed to moisture or other corrosive chemicals.
- The product was dropped and damaged.
- The product shows obvious signs of breakage.

5 Self-diagnosis

5.1 Introduction

A self-diagnosis can be carried out in order to ensure that the USB to LAN adapter has been successfully integrated into the workshop network and is ready for use.

You can check the connection between the USB to LAN adapter and the workshop network using a XENTRY Diagnosis Pad with USB-C (currently only XENTRY Diagnosis Pad 2, which is contained within XENTRY Diagnosis Kit 4) or a diagnostic device with XENTRY Diagnosis software installed. If you have XENTRY Diagnosis Kit 3 or a computer with XENTRY Diagnosis software, it is possible to establish a connection with a USB-A to USB-C adapter. However, there is no guarantee for this connection.

5.2 **Preparation**

In order to start self-diagnosis: Do not connect the USB-C connection to the vehicle, but rather the USB-C port of the device you have with XENTRY Diagnosis software installed, as described in Fig. 5.



Fig. 5: Network set-up, self-diagnosis for USB to LAN adapter

- 1 Workshop network with Retail Data Storage
- 2 LAN port at Diagnosis Workstation
- 3 USB to LAN adapter
- 4 XENTRY diagnostic device

Please note that the adapter must be connected to the workshop network (the same network as the Retail Data Storage), as well as the XENTRY diagnostic device, via LAN cable in order to establish a complete connection. You can later check whether the Link LED is permanently illuminated green.

For self-diagnosis, please use the LAN port that you will then also use for control unit programming.

5.3 Performance

After the connection has been correctly established, start *ConfigAssist* on the XENTRY diagnostic device using the following path:

Desktop > Diagnosis Toolbox > ConfigAssist



Fig. 6: ConfigAssist icon

Your XENTRY diagnostic device should already be connected to the workshop network. You can find information about the network configuration for the XENTRY diagnostic device in the corresponding user guide.

In the Navigation Bar in ConfigAssist, click on the vehicle symbol on the bottom edge to access *Network Configuration for the Vehicle*.

Alternatively, you can also navigate to Network Configuration for the Vehicle using the Apply & Continue button.

You have two options here:

1. Obtain the IP address and DNS server addresses automatically:

ConfigAssist				- 0 ×
\bigotimes			ConfigAssist	Support
Network configuration for USB to LAN a	adapter for control unit progr	ramming		
	LAN	Proxy		
The USB to LAN adapter can be used during control unit programming to transfer control unit software to the vehicle. The first compatible control unit is the head unit of BR214. The USB to LAN adapter is connected to the Retail Data Storage via LAN cable and the workshop network and plugged into the data-capable USB-C port on the vehicle's center console. In the XENTRY Diagnosis application, you then have the option of selecting the USB to LAN adapter instead of OBD for control unit programming. If you are not using a Retail Data Storage, you can still program control units only via OBD. When using the USB to LAN adapter, it is still necessary to connect the XENTRY Diagnosis Pad and VCI via OBD to the wehicle for control purposes.	IP address	idresses		
The advantage of transferring the control unit software via USB to LAN adapter is the three times higher data transfer rate compared to OBD and the resulting time savings.	 Use the following DNS server addre 	55	Test connection	
Back Homepage		())	Apply & continue

Fig. 7: ConfigAssist: Network configuration for USB to LAN adapter (automatic)

2. Manually input the IP address and DNS server addresses:

\bigotimes			ConfigAssis	t Support
Network configuration for USB to LAN a	adapter for control unit progran	nming		
	LAN	Proxy		
The USB to LAN adapter can be used during control unit programming to transfer control unit software to the vehicle. The first compatible control unit is the head unit of BR214. The USB to LAN adapter is connected to the Retail Data Storage via LAN cable and the workshop network and plugged into the data-capable USB-C port on the vehicle's center console. In the XENTRY Diagnosis application, you then have the option of selecting the USB to LAN adapter	IP address Obtain automatically Configure manually IP address Subnet mask 			
instead of OBD for control unit programming. If you are not using a Retail Data Storage, you can still program control units only via OBD.	Default gateway			
When using the USB to LAN adapter, it is still necessary to connect the XENTRY Diagnosis Pad and VCI via OBD to the vehicle for control purposes.	DNS server Automatically obtain DNS server addres	ses		
The advantage of transferring the control unit software via USB to LAN adapter is the three times higher data transfer rate compared to OBD and the resulting time savings.	Use the following DNS server address Preferred DNS server		Test connec	tion



Input the appropriate data here.

(🖺)

\bigcirc	Please use the option designated by your workshop.

(🔳

(🖻)

If you are using a proxy, leave the LAN settings empty and select the Proxy field. You have the option of importing the settings of the XENTRY diagnostic system or entering the data manually. Select the appropriate variant and enter the required data.

ConfigAssist				ConfigAssist	- 🗆 X
Network configuration for USB to LAN	adapter for control unit progr	amming Pro	ху		[******]
Proxys. Use O	rver a proxy server to connect to the Retail Data Storage pply proxy server settings of the XENTRY Diagnosis Pa ionfigure proxy server Address Port User Password	id	(optional)	Important: The vehicle does not connect to the Interr connects to the Retail Data Storage in the proxy server configuration is only requirec connection is to run through a proxy serve vehicle to the Retail Data Storage in the w	het, it only workshop. A 4 when the er from the orkshop.
Back Homepage		(B) (B)		Test connection	Apply & continue

Fig. 9: ConfigAssist proxy configuration

Now click on the Test Connection button.

Read the note in the pop-up window and check whether the USB to LAN adapter is connected to the XENTRY diagnostic device (A) and the LAN port (B).



Fig. 10: ConfigAssist: Connect USB to LAN adapter with XENTRY Diagnosis Pad 2

Click on Test Connection.

Self-diagnosis can take up to 30 seconds.

A green check mark will appear if your XENTRY diagnostic device is successfully connected with your workshop network via the USB to LAN adapter.



Fig. 11: ConfigAssist: Test Connection

If the connection has failed, you will receive a fault message.

SconfigAssist		- 🗆 ×
\odot		ConfigAssist
Network configuration for LISP to LA	N adapter for control unit programming	
Network configuration for USB to LA The USB to LAN adapter can be used during control unit programming to transfer control unit software to the vehicle. The first compatible control unit software to the vehicle. The USB to LAN adapter is connected to the Retail Data Storage via LAN cable and the workshop network and plugged into the data-capable USB-C port on the vehicle's center console. In the XENTRY Diagnosis application, you then have the option of selecting the USB to LAN adapter instead of O2B for control unit programming. If you are not using a Retail Data Storage, you can still program control units only via OBD. When using the USB to LAN adapter, it is still necessary to connect the XENTRY Diagnosis Pad and VCI via OBD to the vehicle for control purposes.	N adapter for control unit programming Figure 1 (1997) Please check your Retail Data Storage connection. Please check your Retail Data Storage connection. Please check your Retail Data Storage connection. Please check your Retail Data Storage connection. Storage from the connection test, plug the USB to LAN adapter into your diagnostic device and connect the LAN cable to the USB to LAN adapter as well as to the LAN port in the vicinity of the vehicle. If your diagnostic device is not equipped with a USB-C port, you will need a USB-A to USB-C adapter.	that you ing on the a and
USB to LAN adapter is the three times higher data transfer rate compared to OBD and the resulting time savings.		Test connection
Back Homepage		

Fig. 12: ConfigAssist: Connection Failed

Please check whether the cable is correctly connected to Point A and B as shown in Fig. 10. Then repeat the step - Chapter 5.3 "Performance" on page 8.

6 **Operation**

6.1 Establishing a connection

A LAN port with sufficient speed (at least 300 Mbit/s) close to the Diagnosis Workstation in the workshop and near the vehicle is required in order to use the USB to LAN adapter. You can also use a longer cable if the distance between the LAN port and the vehicle cannot be covered with the accompanying LAN cable (10 meters). This must at least have the Cat.5e standard.



WARNING

Please route the cable so that no one can trip over it and so that the cable will not be pinched or kinked.

The USB to LAN adapter acts as a data transfer interface. The updates are controlled as before using the XENTRY diagnostic device. After you have established this familiar connection, follow the steps below:

- **1.** Take the USB to LAN adapter and the accompanying LAN cable out of the packaging.
- 2. Connect the LAN cable to the LAN port at the Diagnosis Workstation.
- 3. Connect the other end of the LAN cable to the LAN port of the USB to LAN adapters.
- 4. Remove the protective cap of the USB-C connection.
- 5. Insert the USB-C connection of the USB to LAN adapters into the data-capable USB-C port of the vehicle. This is located in the center console.
 - The Link LED of the USB to LAN adapter will permanently illuminate green once a connection has been successfully established.

	\bigcirc	
	-	
_		1

Perform a self-diagnosis after initial commissioning. Self-diagnosis can take up to 30 seconds. You can find more information in
Chapter 5 "Self-diagnosis" on page 8.

The illustration below depicts how the network is set up with the USB to LAN adapter.



Fig. 13: Network set-up with USB to LAN adapter

6.2 Control unit programming

Once the connection described in - Chapter 6.1 "Establishing a connection" on page 13 has been established and self-diagnosis was successful, you can start the *XENTRY Diagnosis* program on your XENTRY diagnostic device. The icon is located directly on the desktop.



Fig. 14: XENTRY Diagnosis Cars icon

Select the brand of the vehicle whose control unit you would like to program.



Fig. 15: XENTRY Diagnosis: Brand selection

Enter the FIN/VIN number of the vehicle and click on Continue until all of the vehicle's information has been entered/selected.

		() M	lercedes-Benz [–]	
> <u>Brand</u> > Product group			📃 🔁 🖥	
Mercedes-Benz				
VIN Passenger car Super sports cars Van Special procedures				
Please enter the identification number of your vehicle or your industrial major assembly. T (VINs). If you enter the identification number of an industrial major assembly, the world matching the second se	he diagnostic system accepts both E anufacturer code is immaterial.	uropean vehicle identification numbers (FINs) and	export vehicle identification	numbers
VIN/model				
				~
				~
	XENTRY Diagnosis		Continue	

Fig. 16: XENTRY Diagnosis: FIN/VIN number entry

Navigate to the "Diagnosis" tab. Select the entry A26/17 – MBUX multimedia system + instrument cluster (head unit). You can find this either under "Information and Communication" or directly using the Search function.

	ENTRY Diagnosis	E (214) 214.050	E: 2 T: 7	254.920 725.111		🕭 Mercede	s-Benz	- 🗆	×
-	> Diagnosis			🗂 12.0V	Ignition ON	🙎 💌 🛒) 취 i		
	Search								
佡	MBUX ►								
0	NR-Charlenge steeling (21)								^
20	NAME ADDRESS AND ADDRESS ADDRES								
	A26/17 - MBUX multimedia system + Instrument cluster (Hea	ıd unit)							
e 0	WWW. down and a second state.								
	Addition of the second se								
	ABOR - Make AL BAR (BR)								
-	Addition of the second								
	ALL ADDRESS AND ADDRESS AD								
EL.	and the second se								
	NUMBER OF A DESCRIPTION								
C2	All \$10 Contractors (Sciences of States)								
20	179612913								
XED	ALL A REPORT OF A								
	which is a probably probably which is the	dente principalità							
	ettering forward when they								
	(iii) All - Realize of white sends and office statements	and the first second							
	AN ARE ADDRESS OF A REPORT OF A								
	(WHERE Any and splan unbelow (WHERE								
	Designed and the second s								
	and a fight finding of the out photon has								
	Der Erter- Deren die der der DerConet.								
	All Prof. Index of the set of the little								
									~
	Start quick test	Clear fault memory	Open TIPS results	Implement test p	orerequisites 📝 Te	sts	Continue	,	

Fig. 17: XENTRY Diagnosis: Diagnosis

Select the Update Control Unit Software from the side bar under the Adaptation tab. Click on Continue.

	ENTRY Diagnosis	E (214) 214.050	E: 254.920 T: 725.111	\odot Mercedes-Benz $ \square$ \times
4	> <u>Di</u> > A26/17 - MBUX multimedia system	+ Instrument cluster (Head unit)	12.0V Ignition ON	🔹 💌 💭 🐴 🚰 🛸
	Version Error codes / Events Actual values Ac	tuations Adaptations Control unit lo	og List of fault codes Tests	
谕	Selection	Updating of control unit softwa	ire	
	 Control unit initial startup Control unit update Updating of control unit software Updating of SCN coding Configuration Teach-in processes 	Updating of control unit s Notes: • Connect charger for battery with You will be guided through the fol • Control unit programming • SCN coding • Teach-in processes Possible remedies if a fault occurs • Remove any media from all inte • Repeat procedure several times • Close XENTRY Diagnosis and supply of control unit 'A26/17 - control unit reset. Restore powe • Further information on program Programming, Type of connection	oftware h a current of at least 30 A. lowing steps: a during control unit programming perfaces in the vehicle. s. restart the diagnostic device. Rest MBUX multimedia system + Instru- er supply. Perform commissioning ming the control unit can be foun h: Selection-Display	and no other instructions are displayed: tart XENTRY Diagnosis VCI. Interrupt power iment cluster (Head unit)' in order to perform a lagain. d in TIPS documents in design group 82.85.
	~			Continue

Fig. 18: XENTRY Diagnosis: Update of control unit software

If new control unit software is available, the control unit software version, safety information and further information will be displayed.

$\equiv X_{L_{c}}$	ENTF ogged in:	CY Diagnosis	4) 50	E: 254.920 T: 725.111	\bigotimes Mercedes-Benz $ \square$ \times
-	> <u>Di</u>	> A26/17 - MBUX multimedia system + Instrument cluster (Head u	nit) 🗂 12.0V Ignition ON	🙏 💌 🖳 🐴 🛸
	Version	Error codes / Events Actual values Actuations Adaptations Control	uni	t log List of fault codes Tests	
佡	A newe	r control unit software version was found for the control unit.	^	MBUX multimedia system + Instrum	nent cluster
8 m	VIN: W	1K2140501A001217		MB object number for hardware	2149014102
80	flashda	ta version: 2023.09.000		Current control unit software version:	2149040200, 2149025200, 2149022301, 2149025501, 2149034300, 2149032900,
F	Safe	ty information			2149024401, 2149033000, 2149025800, 2149025900
	1	Connect a charger for the 12 V on-board electrical system to the vehicle.		New control unit software version:	2149047400, 2149025305, 2149022704, 2149036702, 2149034602, 2149033402, 2149024305, 2149037902, 2149024206
	2	Switch off all current consumers.		Estimated programming duration:	52,00 min
e	3	The diagnostic connector must remain plugged into the vehicle.			
	4	If possible, do not perform any procedures on the vehicle during control unit programming unless instructed otherwise.			
.to	5	Secure area with moving vehicle parts against unauthorized access.			
XRD	6	Make sure that there are no objects in the movement range.			
	Do you	want to continue the process?			
			~		
		*			🔀 No 🛛 🗸 Yes

Fig. 19: XENTRY Diagnosis: Safety information before update of control unit software

Click on Yes to initiate the process.

The following window opens and allows you to select the connection type: A connection via the USB to LAN adapter or via OBD. The faster connection using the USB to LAN adapter will be selected in advance as a recommendation.

$\equiv X_{L_{c}}$	ENTR ogged in:	Y	Diagnosis		Q140501	A001247	E (214) 214.050	E: T:	254.920 725.111		\bigotimes Mercedes-Benz $ \square$ \times	¢
4	> <u>Di</u>	> A20	6/17 - MBUX mu	ltimedia syste	m + Instrur	nent cluster	(Head unit)	🟥 12.0°	V Ignit	tion ON	🔹 👫 💌 🖳 🚰 🛸	
	Version	Erro	r codes / Events	Actual values	Actuations	Adaptations	Control unit log	List of faul	t codes	Tests		
佡	Reduc	tior	n of progran	nming time	e via alte	rnative o	onnection	RECOM	MEND	ED		^
£	1 Req	quiren	nents, Further inf	ormation								
A	Selectio	n	Type of connect	ction					Estimat	ted prog	gramming duration:	
	V		Recommendati USB to LAN ad (Current status:	on: apter USB to LAN a	dapter CON	NECTED)					Head unit: 52 min	
⊞ ∳			Alternative pro OBD (Current status: PassthruOderSi	cedure: Status UNDER imulation Noch	FINED (Mult _nicht_gele	iplexer-Mode sen))	d:				Copy to diagnostic device: 18 min <u>Head unit: 72 min</u> Total time: 90 min	
£	Further	selec	tion (NOT RECO	MMENDED)								
XRD												
	Requir	eme	ents, Further	informatior	r							
	• USB to • OBD:	f con o LAN <mark>Requ</mark>	nection Vadapter: <u>Requir</u> Virements, Furthe	ements, Furth	er informatio	n						
		🕽 Sele	ection Update	Requirements, I information	Further	Abort process.					Continue	

Fig. 20: XENTRY Diagnosis: Select connection type for control unit programming

Now click on Continue and the process for control unit programming will begin. The LEDs on the USB to LAN adapter will illuminate or flash depending on the status, as described in
Chapter 4.2 "Hardware overview" on page 6.

The Activity LED will flash orange when control unit software is being transferred.

You will be informed about the progress and successful completion of the programming process by the progress bar. The progress displayed in the progress bar during programming may remain static for up to 30 minutes (and up to 60 minutes in unfavorable cases), particularly once it hits 50 %. Control unit programming is, however, continuing in the background (internal installation scopes are being carried out within the control unit) and should therefore not be canceled.

	ENTRY Diagnosis	III162140501A0E1217	E (214) 214.050	E: 254.920 T: 725.111		(Merc	edes-Benz	-	
-	> <u>Di</u> > A26/17 - MBUX multi	imedia system + Instrument cluster	(Head unit)	🟥 12.0V Igni	tion ON	2	R 🔁		
	Version Error codes / Events A	Actual values Actuations Adaptations	Control unit log	List of fault codes	Tests				
心	Searching for the required contr	ol unit software in the data sources	ç.						
8	This process can take some time	е.							
	Please wait								
F									
1									
₽									
<u></u>									
XRD									
									2

Fig. 21: Control unit programming progress

6.3 Fault messages

If faults occur before or during control unit programming, these will be displayed on your diagnostic device. You will see a fault message if the adapter is not inserted, for example.

In the fault messages, the possible causes are described and how you can resolve the fault is detailed.

	> <u>Diagnose</u> > A26/17 - MBUX Multimediasystem + Kombiinstrument (Head	adunit) 🖆 14.1V Zündung EIN 🛛 💦 📝 🖳 🚰 💕 🍋	t
	Version Fehlercodes / Ereignisse Istwerte Ansteuerungen Anpassungen Steue	euergeräteprotokoll Liste der Fehlercodes Prüfungen	
	USB to LAN Adapter Achtung! Folgende Voraussetzungen sind nicht erfüllt: Das Bauteil 'USB to LAN Adapter' wird nicht erkannt. Anweisung Bauteil 'USB to LAN Adapter' an Bauteil 'USB-Anschluss: Ablagefach in der Mittelkonsole' korrekt anschließen	× Einbauert USB-Anschluss × Einb	^
	Woraussetzung: USB-Anschluss, Datenübertragung: MÖGLICH Ethernet-Leitung: Verbindung zum Server herstellen. (USB to LAN Adapter > Werkstatt-Netzwerk > Retail Data Storage) Prüfmöglichkeiten Prüfung Voraussetzungen 'Empfohlener Übertragungsweg: USB to LAN Adapter' Frage Coll der Test wiederheit worden?	Beisjehafte Dar stelkro	
(00)13	Soll der Test wiedernolt werden? • Taste 'Nein': Zurück zur Auswahl Interne Daten zur Befundung	USB to LAN Adapter	~

Fig. 22: USB to LAN adapter not inserted

If all of the instructions and testing options continue to result in a fault message, please perform a self-diagnosis as described in
Chapter 5 "Self-diagnosis" on page 8.

If fault messages also occur here, please contact Support as explained in Chapter – Chapter 7 "Service & support" on page 19.

7 Service & support

• To create an XSF ticket, we recommend using a tool for ticket generation. You can start this directly within the XENTRY Diagnosis Software. To do so, click on the speech bubble symbol at top right.

Nercedes-Benz	= XENTRY			\bigotimes Mercedes-Benz $ \square$ \times
Maybach Mercedes-Benz	► >			
Maybach Mercedes-Benz				
Maybach Mercedes-Benz				
Waybach Mercedes-Benz				
Maybach Mercedes-Benz				
Wayback Mayback Mercedes-Benz				
Mercedes-Benz		Osmort	MAYBACH	
	Mercedes-Benz	C Silicit	(F)	
	Merecuesbeil			
XENTRY Diagnosis		XENTRY Diagnosis		

Fig. 23: Create XSF ticket in XENTRY Diagnosis

If necessary, log on in the following window and then select the component for which you would like to create the XSF ticket.

Ticket creation	- a ×
\bigotimes	Ticket creation
Which component is being used when the error occurs?	
XENTRY Diagnosis DAS HHTWin TIPS VeDoc	

Fig. 24: XSF ticket component selection

Please answer all of the questions that you are asked during the process.

 Attach screenshots or videos. When sending the XSF ticket, the appropriate support package is created and attached automatically.

\bigotimes	Ticket creation
Attachments – Screenshots • Videos • Data Add existing files or create a screenshot or a video	
When sending the ticket, the appropriate support package is created and attached automatically. Create screenshot or video	
Select existing file	



Fig. 25: XSF ticket file attachments

8 Frequently Asked Questions

In the following, you will find answers to Frequently Asked Questions regarding the USB to LAN adapter:

1. What is this about?

 Mercedes-Benz will in future sell a USB to LAN adapter as an accessory product that can be used during control unit programming to transfer control unit software to vehicles.

2. What are the advantages of transferring control unit software using the USB to LAN adapter rather than via the VCI and OBD?

The USB to LAN adapter provides a data transfer rate up to three times higher (300 Mbit/s instead of 100 Mbit/s) and so can save time, particularly when transferring large control unit software. The data transfer aspect (but not the set-up time or installation time) of control unit programming when using the USB to LAN adapter is three times faster than OBD. This is provided that the local network involved is capable of 300 Mbit/s. As an example: It will take around 50 minutes (plus download time for the diagnostic device and installation routines taking place internally within the control unit) instead of around 1 hour and 15 minutes to program all software modules.

This is advantageous because the volume of data of the control unit software that has to be transferred to the head unit of the vehicle will continue to grow with future model series and vehicle architectures. For small control unit software, using the USB to LAN adapter may not result in any time save when compared to OBD because of the set-up time for the USB to LAN adapter (as well as the time needed to insert the USB to LAN adapter into the center console). Use of the USB to LAN adapter for control unit programming is only recommended to workshop employees in the XENTRY Diagnosis application when the control unit software to be transferred is sufficiently large and it is consequently possible to save time when using it instead of OBD.

It is a very stable connection because the data transfer path from Retail Data Storage to the vehicle via the USB to LAN adapter is entirely wired (not wireless).

3. Which control units can benefit from control unit programming via the USB to LAN adapter?

Initially, it will only be possible to transfer control unit software to the head unit using the USB to LAN adapter. It will not be possible to transfer to other control units in the vehicle in this way. The objective is to expand the list of compatible control units further over time.

4. Which model series can take advantage of control unit programming via the USB to LAN adapter?

- Due to the control unit, the first compatible model series are BR214 (new E-Class) and BR236 (new CLE-Class).
- In future, additional model series will also support control unit programming via USB to LAN adapter.

5. Is control unit programming via the USB to LAN adapter relevant for both cars and vans?

If the CIVIC head unit is also introduced to the Van segment (which is not yet a certainty), then control unit programming via the USB to LAN adapter will be possible in Vans as well. Which exact van model series will be compatible is not yet known. The workshop infrastructure requirements mentioned in another FAQ answer will likely become relevant for Vans at a later point. If the van uses different software for the head unit than that used in the Cars segment, then control unit programming via the USB to LAN adapter may not be possible in the Vans segment.

6. Can the USB to LAN adapter also be used to transfer other data types to the vehicle, in addition to control unit software transfers?

The USB to LAN adapter is essentially a generic tool that can also be used to transfer other types of data into the vehicle. Primarily, the USB to LAN adapter is only intended to transfer control unit software and should not replace connection of the XENTRY diagnostic device to the vehicle via the VCI and OBD.

7. Does the XENTRY diagnostic device have to be connected with the vehicle via the VCI and OBD for control unit programming via the USB to LAN adapter?

 Yes because communication of the programming commands go from the XENTRY diagnostic device to the head unit of the vehicle via OBD.

8. What are the infrastructure requirements in the workshop for control unit programming via the USB to LAN adapter and for the full data transfer rate of 300 Mbit/s?

- The USB to LAN adapter can be used with the XENTRY Diagnosis Pad and with an open computer that has XENTRY software installed on it.
- A Retail Data Storage located in the same network as the LAN port and the XENTRY diagnostic device (the XENTRY diagnostic device, Retail Data Storage and USB to LAN adapter must be able to access each other within the network via IP).
- The USB to LAN adapter and the Retail Data Storage must be on the same subnet (Class-C subnet).

First Generation Retail Data Storage (4 TB hard drive) and Retail Data Storage+ can provide three USB to LAN adapters with up to 300 Mbit/s at the same time at their highest speed. Retail Data Storage 2 can provide this for up to seven USB to LAN adapters. A prerequisite for this maximum speed is that the workshop network allows for data transfer of 300 Mbit/s per vehicle (the required bandwidth increases by 300 Mbit/s with every additional vehicle being programmed at the same time). For this, First Generation Retail Data Storage (4 TB hard drive) and Retail Data Storage+ must be connected to the

switch at 1 Gbit/s and this is 10 Gbit/s for Retail Data Storage 2. In the event of a lower connection speed with the switch, it will not be possible for the Retail Data Storage to provide the full three, or seven, USB to LAN adapters with up to 300 Mbit/s at the same time. It is not possible to program control units using the USB to LAN adapter if the XENTRY Update Service data provision mode is being used without Retail Data Storage. Control unit software that is solely saved on the XENTRY diagnostic device cannot be transferred to the vehicle using the USB to LAN adapter. Retail Data Storage is always necessary.

- A LAN port with sufficient speed (1 Gbit/s) at the Diagnosis Workstation in the workshop near the vehicle (sufficiently long LAN cable will be necessary depending on the distance from the LAN port to the vehicle).
- Ethernet cable with at least Cat5e, so 1 Gbit/s and 100 MHz.

Cat5 (10/100 Mbit/s und 100 MHz) is not sufficient and Cat6 (10 Gbit/s und 250 MHz) or a greater standard will not be needed for the foreseeable future.

9. Does the USB to LAN adapter work even if it is on a different subnet to the Retail Data Storage?

The USB to LAN adapter and the Retail Data Storage should preferably be on the same subnet (Class-C subnet). If different sub-networks are used and the head unit software is older, there may be restrictions to the use of the USB to LAN adapter. In this case observe the notes in XENTRY Diagnosis.

10. What hardware is still necessary alongside the USB to LAN adapter for control unit programming via adapter?

- In addition to the adapter, a LAN cable is needed to connect the LAN port at the Diagnosis Workstation with the USB to LAN adapter. A 10 meter Cat5e LAN cable is contained in the delivery package of the USB to LAN adapter.
- A compatible VCI with up-to-date firmware is also required. This is why the transfer of control unit software via the USB to LAN adapter may not be possible using OpenShell devices.

11. What does the control unit software transmission path using a USB to LAN adapter look like?

Retail Data Storage (control unit software storage) -> Workshop network -> LAN port at diagnosis workstation -> LAN cable
 -> USB to LAN adapter -> Data-enabled USB-C port of center console of BR214 vehicle -> Head unit of vehicle

12. How is the control unit programming process via the USB to LAN adapter started?

In the XENTRY Diagnosis application on the XENTRY diagnostic device, the user will be presented with the option to choose to transfer the control unit software via the USB to LAN adapter rather than via OBD. If there is already a connection to the vehicle via the USB to LAN adapter when accessing control unit programming in the XENTRY Diagnosis, data will automatically be transferred via this connection and not via OBD.

13. How does the user know whether control unit software is being transferred via the USB to LAN adapter?

- If data is being transferred via the USB to LAN adapter, the green LED on the USB to LAN adapter will illuminate permanently (this indicates that there is a solid connection via the adapter) and the orange LED on the adapter will flash. The data transfer rate is not indicated by the LEDs.
- A progress bar in the XENTRY Diagnosis application on the XENTRY diagnostic device also informs the user about the progress and successful completion of the programming process. The progress displayed in the progress bar during programming may remain static for up to 30 minutes (and up to 60 minutes in unfavorable cases), particularly once it hits 50 %. Control unit programming is, however, continuing in the background (internal installation scopes are being carried out within the control unit) and should therefore not be canceled.

14. What do the two LEDs on the USB to LAN adapter indicate?

- The green LED on the USB to LAN adapter illuminates permanently when a LAN cable is connected to the USB to LAN adapter, the adapter is plugged in with its USB-C end, and there is a solid connection via the adapter.
- The orange LED on the USB to LAN adapter flashes when data is being transferred.
- The data transfer rate is not indicated by the LEDs.

15. What options does the user have if control unit software transfer via the USB to LAN adapter does not work?

- Observe the notifications and notes in the XENTRY Diagnosis application on the XENTRY Diagnosis Pad in the event of a fault.
- The user can also program using OBD as usual at any time. There is also a self-diagnosis function for the USB to LAN adapter that can be used by connecting the adapter to the XENTRY diagnostic device. This allows the user to check whether the adapter is working properly.
- If you are using a diagnostic device that does not have a USB-C connection (such as the XENTRY Diagnosis Pad (Panasonic) of XENTRY Diagnosis Kit 3), you will need a USB-A to USB-C adapter in order to be able to use the self-diagnosis function of the USB to LAN adapters.

16. How does the self-diagnosis function of the USB to LAN adapter work?

In order to perform self-diagnosis, the USB to LAN adapter must be plugged into the XENTRY diagnostic device. The LAN cable must also be inserted into the USB to LAN adapter on one side and into a LAN port that will also be used for control unit programming near to the vehicle on the other end. Self-diagnosis can then be started using ConfigAssist on the XENTRY diagnostic device. After completing the test, ConfigAssist will display whether there is a solid connection to the USB to LAN adapter or not.

17. Will control unit programming via the USB to LAN adapter be the only option for control unit programming in the future?

 No. Control unit programming via the USB to LAN adapter is simply an optional alternative to OBD for compatible model series.

18. Can workshops also use a commercially available USB to LAN adapter?

A commercially available USB to LAN adapter may work, but it may also not work. The adapter that will in future be available from Mercedes-Benz has been comprehensively tested and approved and is compatible with the head unit of the vehicle. Other adapters are used at your own risk. Mercedes-Benz can only provide support for the adapter that it sells.