

4

CITROEN

CONTENTS

A
B
C
D
E

APPLICATIONS

GENERAL OPERATION

SPECIAL FUNCTIONS

TIPS & HINTS

REMOTE CONTROL PROGRAMMING

APPLICATIONS

A

4

VEHICLE	YEAR	SYSTEM	CABLE
BERLINGO	1997 > 2002	IMMO 1 IMMO 2 BSI 1 BSI 2 CPH	ADC110-B
BERLINGO	2002 ON	BSI 1	ADC110-B
DISPATCH	1997 ON	IMMO 1 IMMO 2 CPH	ADC110-B
EVASION	1997 ON	IMMO 1 IMMO 2 CPH	ADC110-B
SAXO	1997 ON	IMMO 1	ADC110-B
SYNERGIE	1997 ON	IMMO 1 IMMO 2 CPH	ADC110-B
XANTIA	1997 ON	IMMO 1 IMMO 2 CPH	ADC100 + ADC120
XSARA	1997 ON	CPH BSI 1 BSI 2 BSI 3	ADC110-B
XSARA PICASSO	1997 ON	BSI 1 BSI 2	ADC110-B
C2	2002 ON	BSI	ADC110-B
C3	2002 ON	BSI	ADC110-B
C3 PLURIEL	2002 ON	BSI	ADC110-B
C4	2005 ON	CAN	ADC148
C5	2002 ON 2005 ON	BSI CAN	ADC110-B ADC148
C8	2002 ON	BSI	ADC110-B



INTRODUCTION

The Citroen Immobiliser systems consist of 4 different types. They all perform various functions, and it is important to understand the basic configuration and the types of systems fitted.

IMM— STANDARD IMMOBILISER

This system was the first transponder system fitted to the Citroen range of vehicles, after the keypad system was phased out. The system is a basic electronic control unit which consists of immobiliser unit and transponder aerial to pick up the transponder signal code.

This system is similar to the GM immobiliser system, and is programmed and diagnosed in much the same way.

CPH—PASSENGER COMPARTMENT PROTECTION CONTROL UNIT

The next generation of Immobiliser and alarm system produced was the CPH system which controls a number of additional components which further enhances the vehicle protection system. These include central door locking, ultra-sonic sensors to name a few.

This system is programmed in much the same way, but offers additional functionality on live data and actuator functions.

Programming keys on CPH system does not erase the Plip.

BSI—BODY SYSTEMS INTERFACE

This is the latest system, the alarm and immobiliser have now been incorporated into the body control unit, which controls all body units, including wipers, indicators, lights, doors, windows, locks, boot, service interval, horn, etc.

Again because the immobiliser is part of a complicated system there are many more functions included on actuators, special functions and live data.

NOTE : The immobiliser receiver does not need reprogramming if Replaced

CAN - CONTROLLER AREA NETWORK

This is the latest system that still uses the BSI Interface as described above but in addition communicates via CAN rather than the traditional serial communications interface.

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS—IMMOBILISER & CPH

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS
SPECIAL FUNCTIONS

Select **SPECIAL FUNCTIONS** from the Diagnostic Menu using the **UP** and **DOWN** arrows.

PRESS ENTER KEY

Then press the **ENTER** key.

DIAGNOSTIC MENU

PROGRAM KEYS

Using the **UP** and **DOWN** keys select the **PROGRAM KEYS** option

PRESS ENTER KEY

SECURITY CODE

Enter the security code use the following procedure :-

— — — —

SECURITY CODE

X 4 Y T

IS THIS CORRECT
OK=ENTER CLEAR=BACK

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS—IMMOBILISER & CPH

INCORRECT ACCESS CODE

PRESS ENTER KEY

If incorrect code is entered the screen will display as shown.

NOTE : If the code is entered 3 time incorrectly, then the ECU will lock access for 15 minutes.

**SWITCH IGNITION ON
IGNITION STATUS OFF**

Follow on screen instruction for programming the keys.

**SWITCH IGNITION OFF
IGNITION STATUS ON**

After switching IGNITION OFF remove the key and repeat procedure for additional keys.

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS—BSi MODULE

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS
SPECIAL FUNCTIONS

PRESS ENTER KEY

Select **SPECIAL FUNCTIONS** from the Diagnostic Menu using the **UP** and **DOWN** arrows.

Then press the **ENTER** key.

DIAGNOSTIC MENU

PROGRAM KEYS

PRESS ENTER KEY

NOTE : ENSURE ALL DOORS ARE CLOSED WHEN KEY PROGRAMMING IS BEING PERFORMED.

Using the **UP** and **DOWN** keys select the **PROGRAM KEYS** option

SECURITY CODE

— — — —

Enter the security code.

SECURITY CODE

X 4 Y T

IS THIS CORRECT
OK=ENTER CLEAR=BACK

WARNING : WHEN PROGRAMMING KEYS, THE SYSTEM AUTOMATICALLY ERASES THE PLIP KEYS AT THE SAME TIME. BEFORE PROCEEDING WITH KEY PROGRAMMING, ENSURE YOU HAVE THE PLIP KEY PROGRAMMING PROCEDURE.

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS—BSi MODULE

TRYING TO COMMUNICATE

PRESS ENTER KEY

If Access code is correct, ENTER the number of keys to program.

NOTE : Max 4 keys can be added.

**SWITCH IGNITION OFF
IGNITION STATUS ON**

PRESS ENTER KEY

Follow on screen instruction for programming the keys.

SWITCH IGNITION ON

PRESS BACK TO EXIT

**PRESS ENTER TO
PROGRAM NEXT KEY**

PRESS ENTER KEY

NOTE : AFTER PROGRAMMING KEYS, THE REMOTE CONTROL RE-SYNCHRONISATION WILL BE REQUIRED WITHIN 30 SECONDS OF PROGRAMMING KEYS, OR KEY PROGRAMMING WILL BE REQUIRED AGAIN.

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS - CAN SYSTEM

VEHICLE SELECTION

CHRYSLER
> **CITROEN**
DAEWOO
FIAT
FORD
GM

PRESS ENTER KEY

VEHICLE SELECTION

XSARA
C2
C3
> **C4**
C5
C8

PRESS ENTER KEY

SWITCH IGNITION ON

PRESS ENTER KEY

ECU IDENTIFICATION
????

PRESS ENTER KEY

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS
SPECIAL FUNCTIONS

PRESS ENTER KEY

The CAN system can either be selected by selecting the vehicle model or selecting PSA CAN system.

Main Menu

Select **SPECIAL FUNCTIONS**

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS - CAN SYSTEM

DIAGNOSTIC MENU

> DISPLAY FAULT CODES
CLEAR FAULT CODES

PRESS ENTER KEY

FAULT CODES

To read and clear fault codes, select the required function and follow on screen instructions

LIVE DATA

LOCK STATE	INITIAL
LOCK REASON	UNIDF
LH LOCK	YES
RH LOCK	YES
LOCKING	INACTIVE
UNLOCKING	INACTIVE

LIVE DATA

Select **LIVE DATA** to display useful information about the state of the vehicle.

To see more items, use the UP and DOWN buttons.

ACTUATORS

LOCKING OF LOCKS
UNLOCKING OF LOCKS
DEADLOCKS
BOOT OPEN
REAR SCREEN UNLOCK
ESP LED

ACTUATORS

Select **ACTUATORS** to operate specific components on the vehicle.

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
LIVE DATA
ACTUATORS
> **SPECIAL FUNCTIONS**

PRESS ENTER KEY

SPECIAL FUNCTIONS

To Program new keys and remotes select **SPECIAL FUNCTIONS**.

DIAGNOSTIC MENU

> **PROGRAMMING KEYS**

Select **PROGRAMMING KEYS**

SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS - CAN SYSTEM

SECURITY

PLEASE SELECT CODE
ENTRY METHOD

1. UP DOWN ARROWS
2. PHONE STYLE KEYPAD

Select the method of how you wish to enter data when you are asked to enter the security code.

SECURITY CODE

Enter security code.

SECURITY CODE

LXMA

IS THIS CORRECT
OK=ENTER CLEAR=BACK

Confirm security code is correct.

INCORRECT ACCESS CODE

PRESS ENTER KEY

If incorrect code is entered the screen will display as shown.

SWITCH IGNITION OFF

PRESS ENTER KEY

INSERT KEY TO PROGRAM
IGN ON WITHIN 15 SEC

Insert the ignition key into the ignition and turn the ignition on within 15 sec.

BACK' TO EXIT
ENTER' TO PROGRAM
NEXT KEY

If you have no more keys to program press BACK.
If you want to program more keys press ENTER



SPECIAL FUNCTIONS

C

4

PROGRAMMING KEYS - CAN SYSTEM

REMOVE KEY FROM IGN.
THEN INSERT NEXT KEY

PRESS ENTER KEY

Insert next key to be programmed.

BACK' TO EXIT
ENTER' TO PROGRAM
NEXT KEY

Press back to EXIT when all keys programmed.

PROCEDURE COMPLETE
PRESS AND HOLD LOCK
BUTTON FOR 5 SECOND
WITH KEY IN IGNITION
TO SYNC REMOTE

PRESS ENTER KEY

Key Programming procedure is now complete.

Remote Programming

Remotes are programmed manually by inserting the key into the ignition, turning on and holding the 'Lock' button for 5 seconds.

Repeat this for each remote that requires Programming.

Note: The remotes need to be left for 30 seconds after programming before they will operate.

PEUGEOT & CITROEN

VEHICLE	KEY TYPE	IDENT COLOUR	PART NO
SAXO	STANDARD	GREY	9926GY
XSARA	STANDARD GREY SERVICE KEY PLIP BLADE STANDARD KEY (MULTIPLEX)	BLACK BLACK BLACK	9926FF 9926JZ 9926FG 9926LE
XSARA PICASSO	STANDARD		9926LE
XANTIA	STANDARD PLIP BLADE	GREEN GREEN	9926HC 9926HA
C5	STANDARD		9926LE
SYNERGIE	STANDARD PLIP BLADE	BLACK BLACK	9926FF 9926FG
BERLINGO	STANDARD STANDARD (MULTIPLEX)	GREY	9926GY 9926LH
DISPATCH	STANDARD	BLACK	9926FF
RELAY	STANDARD		9926CF

TRANSPONDER KEYS

1. After Programming Keys on all vehicles, clear fault codes before trying each key. This enables the key programming system, and saves having to wait for 5 minutes for system to reset.
2. When programming keys on all Citroen and Peugeot vehicles ensure all doors and hatchback doors are closed.
3. If the battery is disconnected on a C5 vehicle, you must wait at least 2 minutes after re-connection before trying anything, as the immobiliser enters lockout for 2 minutes after battery disconnection.

PEUGEOT & CITROEN

When programming keys on Peugeot 206 with MUX (Multiplex and a comm's 2000 unit)- it is important to note that there are two different types of remote. Although both the keys look exactly the same (2 button- one large, one small) if you use the wrong remote you will be able to program the transponder but the remote will not work. The remotes are identified by whether the vehicle has front fog lights or not. With front fog lights part number 6554.K2
Without front fog lights part number 6554.K1

NOTE : The immobiliser receiver does not need reprogramming if replaced

SYSTEM IDENTIFICATION

106=CPH

206=Had BSI from the start but only had MUX from 51 Reg on (build code 9064 on) the design of the stalks gives it away, plip keys also different as it has a square appearance.

306=Never had MUX but late ones from approx V reg had HF plips and a CPH under the dash (passenger compartment protection unit) which worked locking and plips in one unit.

307=all BSI + MUX

406=had BSI + MUX from facelift (honey comb grill & boot and rear lights)

806=same as 306

807=All BSI + MUX

607=All BSI + MUX

Partner=Up to 2001 CPH, BSI from approx 2001 and has MUX like 406

Expert =All CPH

Boxer =All code1/2 (Fiat system)

Programming keys on BSI 2 may result in a vehicle that subsequently loses all electrical device operation (lights, wipers etc)- this is caused by the BSI unit waking up incorrectly after programming causing it to switch off all actuator outputs. Therefore once keys have been programmed on BSI2 equipped vehicles the system must be set to sleep (open drivers window, remove keys from ignition, shut drivers door and leave for 30 mins) and then woken using the sidelight switch only (lean in through the open drivers window and turn on sidelights.) All CPH systems, and some Imm 1/2, have connections to doors, boot and bonnet. Key programming may not be allowed if a door is open or "thought" to be open- therefore a faulty bonnet switch will cause a failed key programming session.

To minimise the possibility of the BSI unit corrupting it's own software after download/programming or disconnection a certain procedure must be adopted to sleep and wake the BSI in the cleanest possible way. This will prevent the possibility of a complete dashboard or BSI derived electrical failure and also a current draw problem caused by failure to enter power save or sleep mode.

Switch off all electrical devices and put drivers window down. Make sure the tester is disconnected (a diagnostic session will keep the BSI unit awake) and make sure the bonnet is up, the key is out of the ignition and all of the doors are shut. Wait for 3 minutes. Disconnect the battery and wait for 30 seconds

Re-connect the battery, wait 10 seconds and without opening any doors turn on the sidelights through the drivers open window. (the "lights on" chime should sound)

Start the engine and check all systems are functioning.

Sudden voltage spikes (as with jump starting) can also corrupt the BSI unit.

Some 607 vehicles have two batteries (other one is in the boot under the R/H trim)

406 Interior fuse box Fuse 25 (immobiliser, gearbox, engine, interior light, clock) blows intermittently. This fuse covers immobiliser function so you will find that if it is blown the car will not start but once started the fuse can blow (or be removed) without the car stopping. Fault is caused by a water leak in through the aerial onto the interior light assembly.

BOXER EMERGENCY START

This emergency procedure enables you to start the engine only if the engine doesn't start because of an immobiliser problem.

If the procedure is interrupted, you must do it again. That's why it is important to read and understand properly the procedure before practising it.

This procedure must be done for each starting.

Procedure

1. Read the security code on the card
2. Switch off the ignition. Switch on the ignition
3. Press the accelerator pedal till the diagnostic light switch off (around 8 secs)
4. Release the accelerator pedal
5. Press the accelerator pedal as soon as the number of diagnostic light flashing equals the first number of the security code
6. Press the accelerator pedal till the diagnostic light switch off (around 4 secs)
7. Do stages 6 and 7 for each number of the security code
8. Once you have released the pedal accelerator for the last number if the light switch off or flash for 4 seconds, the procedure is a success and the engine can be started.

If the diagnostic light stays on , the procedure has failed and must be done again after a delay of 10 minutes. Start the procedure stage 2. If the procedure succeeds and the engine starts, it means that the problem is an immobiliser one.

PEUGEOT 607—BSI

To minimise the possibility of the BSI unit corrupting it's own software after download/programming or disconnection a certain procedure must be adopted to sleep and wake the BSI in the cleanest possible way. This will prevent the possibility of a complete dashboard or BSI derived electrical failure and also a current draw problem caused by failure to enter power save or sleep mode. Switch off all electrical devices and put drivers window down. Make sure the tester is disconnected (a diagnostic session will keep the BSI unit awake) and make sure the bonnet is up, the key is out of the ignition and all of the doors are shut. Wait for 3 minutes. Disconnect the battery and wait for 30 seconds Re-connect the battery, wait 10 seconds and without opening any doors turn on the sidelights through the drivers open window. (the "lights on" chime should sound). Start the engine and check all systems are functioning. Sudden voltage spikes (as with jump starting) can also corrupt the BSI unit. Some 607 vehicles have two batteries (other one is in the boot under the R/H rim)

GENERAL

Failure to program keys on CPH systems can be caused by corrosion to the large brown loom connector on the O/S inner wing or a melted pin in the large round connector situated on the n/s inner wing (below battery or air filter)

Saxo on CPH systems have a very slow learn time, after successfully programming keys, remove the tester, turn the ignition off and leave the vehicle alone for 30 mins.

C5- if the battery has been disconnected or gone flat, after replacing/re-connecting the battery it will be necessary to leave the vehicle for approx 2 minutes before it can be started- during this time do not switch the ignition on.

All Saxo and Dispatch vehicles are CPH, remotes and keys are therefore programmed separately.

If a pin code has been entered incorrectly three times the ignition must be left ON for 20 minutes and then OFF for 5 minutes before you try to program the keys again.

TRANSPONDER KEYS

If using non original transponders or keys on BSI systems, it is possible for the following problems :-

1. No communication
2. Incorrect PIN CODE

CABLE CONNECTION

On the Citroen Xantia / Peugeot 406 early OBD connection is very loose, and the ADC120 cable needs to be held and pushed into the vehicle OBD connector to make sure a good connection is made.



BSI INFORMATION

Introduction

Currently there is a different BSA for each model that Citroen produces. although the boxes are different, in general they use the same connectors and a large number of the connector pins have the same function.

The BSI is a computer much like the PCs we have at home. Like a PC, when working on any vehicle fitted with a BSI there are certain procedures that must be followed to avoid corruption of the software and loss of pre-programmed settings or memories.

Failure to adhere to the correct procedures can result in a non-start, a loss of configuration or a burnt out BSI. All of which are time consuming to rectify.

BSI activation

The BSI can be woken up by activating certain functions i.e key plip, opening a door or switching on the radio. When woken, it switches to full operating mode instantly.

On switching the ignition off it continues working for up to 2 minutes and then shuts itself down progressively taking a further 1 minute to do so. At this point its power consumption is approximately 0.02 of an Amp and is referred to as being asleep or in 'Standby'/'Power Save' mode. If however the driver switched on a consumer with the engine not running, the BSI stays awake for thirty minutes (Economy Mode).

Anything which interrupts the BSI's shut down operation can cause the problems mentioned in the above introduction. This is the reason for the 3-minute rule.

Procedure for Battery Disconnection (The 3 minute rule)

1. Whenever a vehicle battery has to be disconnected, switch off all equipment interior lights etc. close the doors leaving the driver's window down.
2. Switch off the ignition and remove the key and DIAG if connected.
3. **Wait a full 3-minutes** before disconnecting the battery.

The BSI must be allowed to go to sleep i.e into 'Power Save' mode. Do not operate any equipment on the vehicle during this time. Remember, even opening the bonnet will wake up the BSI on the vehicle fitted with an alarm.

If the battery is under the bonnet open the bonnet first and leave it up. 807 batteries can be disconnected through the driver's window, remove floor cover first.

Always disconnect the DIAG, as the BSI does not go to sleep when connected. Ensure that a plip from the same Peugeot model type is not operated within range of your vehicle as this will also wake up the BSI.

Procedure for Battery Reconnection

Unless instructed otherwise by Peugeot or Product Service, you must always carry out the following procedure, often referred to as a 'Soft Re-boot', to minimise the possibility of the BSI corrupting its own software when reconnecting the vehicle's battery supply.

Ensure that the procedure for battery disconnection has been adhered to and importantly all BSI functions were switched off with the driver's window left down.

1. Close all doors on the vehicle.
2. Remove the ignition key if left in the ignition.
3. Reconnect the battery.
4. Wait 10 seconds.
5. Switch on the headlights through the driver's window. You will hear a 'Bong'.
6. Switch on the ignition then start the vehicle and check systems are functioning.

Upon reconnection of the battery: If any vehicle function controlled by the BSI i.e. interior light is switched on, the internal operation of the BSI has the potential to spike or corrupt its configuration and software program.

BSI INFORMATION

Procedure for Jump Starting a Vehicle fitted with BSI

Certain precautions must be observed when jump starting vehicles fitted with a BSI. Failure to do so can result in spiking ECUs including the BSI and engine management. Remember, when connecting the leads always fit the earth lead clamp last when completing the jump circuit and disconnect it first on removal.

1. Having connected the jump leads, start the donor vehicle, then start the vehicle with the flat battery.
2. Wait a few minutes for its tick-over to stabilise. **Do not rev the engine.**
3. Switch on its headlights, heated rear window and heater fan.
4. Remove the jump leads from the vehicles.
5. Switch off all loads one by one.
6. Allow vehicle to idle and recharge battery.
- 7.

This procedure prevents the alternator, suddenly loaded by the removal of the jump leads, from creating a high voltage spike before the alternator's regulator can stabilise the voltage

Procedure for BSI Disconnection & Reconnection

1. If the BSI is being removed, print off or note down the BSI configuration first.
2. Follow the 'Battery Disconnection' procedure (remembering the 3 minute rule).
3. Remove the BSI.
4. After all repairs are complete, refit the BSI.
5. Follow the 'Battery Reconnection' procedure.
- 6.

The battery is disconnected to prevent accidental spiking of the BSI on removing the connectors.

Procedure for BSI Replacement

1. Carry out the 'BSI removal' procedure, points 1,2 & 3, important, **remember** the 3-minute rule.
2. For the replacement BSI.
3. Reconnect the battery, open the door and switch on the ignition.
4. Connect DIAG and download the latest BSI software version, via the 'Replacement Parts' menu, (except 406 BSI, which should be supplied programmed with the latest version).
5. Complete a Configuration/Initialisation of the BSI, following the 'Procedure for Initialising the BSI after a Download' on the next page.
- 6.

Please not the following:

Replacement BSIs can be supplied with very early software versions.

You must download the latest software version before starting the initialisation and configuration of the replacement BSI, with the exception of 406 which cannot be downloaded.

You must also adhere to the 3-minute rule. Failure to do so may result in the new BSI being unable to communicate with the original engine management ECU and the vehicle not starting. Remember you only have three attempts to initialise the engine management ECU to the BSI.

Finally always check the battery is fully charged otherwise initialisation and configuration may fail.



XSARA—XANTIA—SYNERGIE— EVASION

CENTRAL DOOR LOCK (1 BUTTON PLIP KEY)

Procedure

1. Ensure all doors are unlocked using the key.
2. Press and hold plip key button until LED stops flashing.
3. After releasing button, LED will light constantly.
4. Press the Plip Button once, and LED will extinguish.
5. Open the door and hold the Plip key near the Ignition switch, and press the plip button one time.
6. Now turn the ignition ON, and wait 10 seconds then turn ignition OFF.
7. After 5 seconds, Plip should now operate.

CENTRAL DOOR LOCK with DEADLOCKING (2 BUTTON PLIP KEY)

Procedure

1. Ensure all doors are unlocked using the key.
2. Press and HOLD the large plip key button while the LED flashes continuously for 20 seconds. After 20 seconds press the small deadlock button once while still holding the large button.
3. The LED will stop flashing.
4. Release the large button and the LED will light constantly.
5. Press the large button one time, and the LED will go out.
6. Open the door and hold the Plip key near the Ignition switch, and press the large plip button one time.
7. Now turn the ignition ON, and wait 10 seconds then turn ignition OFF.
8. After 5 seconds, Plip should now operate.



REMOTE CONTROL PROGRAMMING



BERLINGO—98 >

Procedure

1. Turn the Ignition switch to accessory position using the key, without the remote plip attached.
2. Hold the Plip key towards the receiver at the front of the vehicle.
3. Press the large plip button, then the small plip button on the remote.
4. Repeat for second Plip key if required.
5. Turn ignition OFF.
6. After 5 seconds, Plip should now operate.

SAXO 99 >

Procedure

1. Unlock the vehicle using Key.
2. Press the LOCK button 2 times within 20 seconds of unlocking the vehicle.

XSARA PICASSO

Procedure

1. Turn Ignition ON.
2. Press and HOLD the LOCK button for 5 seconds.
3. Turn Ignition OFF.
4. After 5 seconds test Plip key.

DISPATCH

Procedure

1. Turn Ignition ON, and wait for LED to go out. (If fitted)
2. Press the LOCK or UNLOCK button with 20 seconds.
3. Press the LOCK or UNLOCK on other PLIPS within 10 seconds.
4. LED should light for 1 second.
5. Check PLIPS for operation.

C4 & C5 CAN PLIP PROGRAMMING

Procedure

1. Turn the Ignition switch to ON position using the first key.
2. Press the LOCK button for 5 seconds.
3. Remove key and wait for 30 seconds.
4. Check Plip key operation.
5. Repeat for second Plip key if required.
6. Turn ignition OFF