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NISSAN

CONTENTS

APPLICATIONS

A

VEHICLE	ENG TYPE	MODEL YEAR	SYSTEM	CABLE
ALMERA	PETROL	>2000	NATS 2,3 & 4	ADC133 + ADC118-B
ALMERA	PETROL	2000>	NATS 5	ADC110-B
ALMERA	ALL	2000 MY	NATS RED CHIP (OBD)	ADC133 + ADC135
ALMERA	DIESEL	>2000	NATS 2,3 & 4	ADC133 + ADC118-B
ALMERA	DIESEL	2000>	NATS 5	ADC110-B
ALMERA TINO	PETROL	ALL MODELS	NATS 5	ADC110-B
ALMERA TINO	DIESEL	ALL MODELS	NATS 5	ADC110-B
CABSTAR	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
CABSTAR	DIESEL	ALL MODELS	NATS 2	ADC133 + ADC118-B
D22	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
D22	DIESEL	ALL MODELS	NATS 2	ADC133 + ADC118-B
MICRA	PETROL	>2000	NATS 2,3 & 4	ADC133 + ADC118-B
MICRA	PETROL	2000>	NATS 5	ADC110-B
MICRA K12	ALL	2003>	NATS 6.5 (CAN)	ADC110-B
PATROL	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
PATROL	DIESEL	ALL MODELS	NATS 2	ADC133 + ADC118-B
PRIMERA	PETROL	>2000	NATS 2,3 & 4	ADC133 + ADC118-B
PRIMERA	DIESEL	>2000	NATS 2,3 & 4	ADC133 + ADC118-B
PRIMERA	ALL	2000 MY	NATS RED CHIP (OBD)	ADC133 + ADC135
PRIMERA	PETROL	2000>	NATS 5	ADC110-B
PRIMERA	DIESEL	2000>	NATS 5	ADC110-B
SERENA	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
SERENA	DIESEL	ALL MODELS	NATS 2	ADC133 + ADC118-B
SKYLINE	PETROL	ALL MODELS	NATS 5	ADC110-B
SKYLINE	DIESEL	ALL MODELS	NATS 5	ADC110-B
TERRANO II	PETROL	>2000	NATS 2	ADC133 + ADC118-B
TERRANO II	PETROL	2001>	NATS 5	ADC110-B
TERRANO II	DIESEL	>2000	NATS 2	ADC133 + ADC118-B
TERRANO II	DIESEL	2001>	NATS 5	ADC110-B
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VANETTE	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
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X-TRAIL SPORT	PETROL	ALL MODELS	NATS 5	ADC110-B
200SX	PETROL	ALL MODELS	NATS 2	ADC133 + ADC118-B
200SX	DIESEL	ALL MODELS	NATS 2	ADC133 + ADC118-B
350Z	PETROL	ALL MODELS	NATS 5	ADC110-B

GENERAL OPERATION

B

INTRODUCTION

The Nissan Anti Theft System (NATS) was introduced initially around 1995 with a basic immobiliser, which did not use key transponders. This system was known as NATS 1. Subsequently NATS 2 was introduced which uses the transponder technology.

Further iterations of the NATS system have been introduced, up to NATS 6.5. The earlier systems use a security timed access, similar to Ford systems, which require a period of time before the keys can be programmed.

NATS 5 uses a pin code, as with GM and VAG systems. This system was fitted on vehicles from 2001 MY onwards.

A further development is the introduction of a CAN system that was first introduced on the Micra in 2003. The Micra system comes in two forms either the Intelligent System or Non-Intelligent system.

NATS IGNITION KEY

This uses standard transponder technology, and have both RED and BLUE chips to identify non crypto and crypto type transponders. The BLUE chip types are fitted on the latest NATS 5 system.

When programming keys, on NATS systems up to NATS 4, all keys stored in memory will be deleted, however on NATS 5 additional keys can be added. Up to 5 keys can be programmed into NATS 5 systems, and 4 keys into NATS 2,3 & 4 systems.

NATS IMMOBILISER UNIT

The NATS immobiliser unit, is normally mounted next to the ignition switch or behind the fascia area. The unit is sometimes also fitted with a dongle unit, and is fitted on right hand drive European vehicles for extra security.

The NATS immobiliser controls signals to the Engine Control Module (ECM) which inhibit starting.

On later systems there is also an input from the Audio system, which if disconnected inhibits the starting of the vehicle.

On CAN systems the immobiliser function is part of the Body Control Module (BCM), which controls signals to the Engine Control Module (ECM) which inhibit starting.

NATS SECURITY INDICATOR

The security LED is normally mounted in the dashboard area and indicates the status of the system.

When a problem is detected, the LED will indicate the fault as listed in the following table when the IGN is ON or in accessory position.

NON-INTELLIGENT SYSTEM

This system uses a key with a combined remote control in the key head.

INTELLIGENT SYSTEM

The intelligent system uses a key fob that has a folding key blade that can be used in emergencies.

This system works by proximity detection ie when the driver is within a few feet of the vehicle the door automatically unlocks. To start the vehicle the driver depresses the brake pedal and turns the butterfly ignition without putting the key in the ignition. In emergency situations the key blade can also be used to start the vehicle.

NATS LED FUNCTION TABLE

CONDITION	WITH DONGLE		WITHOUT DONGLE	
	ENGINE CHECK LIGHT	NATS LED	ENGINE CHECK LIGHT	NATS LED
NATS FAULT (NO DONGLE FAULT)		6FLASHES& ON AFTER IGN IS SWITCHED ON		LED ON
NATS FAULT (DONGLE FAULT)		REMAINS ON FOR 15 MIN-UTES AFTER IGN IS SWITCHED ON		
NATS FAULT AND ENGINE COMPONENT FAULT	LED ON	6FLASHES & ON AFTER IGN IS SWITCHED ON	LED ON	LED ON
ENGINE FAULT	LED ON		LED ON	
AFTER NATS PROGRAMMING		6 FLASHES		

IMMU	ECM received a signal from IMMU, indicating that IMMU is malfunctioning.
ECM	Control unit is faulty
CHAIN OF ECM-IMMU	Communication between ECM and IMMU
DIFFERENCE OF KEY	IMMU can receive the Key ID signal but ID verification between Key ID and IMMU is incorrect.
CHAIN OF IMMU KEY	IMMU cannot receive key ID & Dongle unit is malfunctioning (IF FITTED)
ID DISCORD, IMM-ECM	The result of ID verification between IMMU and ECM is no good. System programming is required.
ELECTRONIC NOISE	Electronic interference in NATS communication lines during communication.
DON'T ERASE BEFORE CHECKING ENG DIAG	Engine trouble code from Engine diagnostics detected.
LOCK MODE	When the starting operation is carried out 5 or more times consecutively, if an unregistered key is used or ECM or IMMU is faulty then the NATS system shifts to mode 1 to stop engine from starting.
ECM INT CIRC-IMMU	The malfunction of ECM internal circuit of IMMU communication line is detected.

KEY PROGRAMMING—NATS 2,3 & 4 (PETROL)

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
SPECIAL FUNCTIONS

PRESS ENTER KEY

Select **SPECIAL FUNCTIONS** from menu.

Select **PROGRAM KEYS**

The System takes approximately 16 minutes to clear.

DIAGNOSTIC MENU

> **PROGRAM KEYS**

PRESS ENTER KEY

After clearing, the key in the IGNITION will be registered. Remove the key from ignition and insert next key.

Turn ignition ON for 5 seconds. Then turn off and remove key.

Repeat for up to 5 keys.

After the final key been registered, use one of the keys to start the engine, this returns the system to normal operation

CLEAR NATS SYSTEM

PLEASE WAIT

Check NATS indicator to ensure the procedure is complete.

NOTE : IF ANY FAULT CODES ARE PRESENT, EVEN A FAULTY FUSE THEN KEY PROGRAMMING CANNOT BE COMPLETED.

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
SPECIAL FUNCTIONS

PRESS ENTER KEY

Select **SPECIAL FUNCTIONS** from menu.
Select **PROGRAM KEYS**

After clearing, the key in the IGNITION will be registered. Remove the key from ignition and insert next key.

DIAGNOSTIC MENU

> **PROGRAM KEYS**

PRESS ENTER KEY

Turn ignition ON for 5 seconds. Then turn off and remove key.

Repeat for up to 5 keys.

After the final key been registered, use one of the keys to start the engine, this returns the system to normal operation.
Check NATS indicator to ensure the procedure is complete.

CLEAR NATS SYSTEM

PLEASE WAIT

KEY PROGRAMMING—NATS 5

DIAGNOSTIC MENU

ECU IDENTIFICATION
FAULT CODES
SPECIAL FUNCTIONS

PRESS ENTER KEY

Select **SPECIAL FUNCTIONS** from menu.

DIAGNOSTIC MENU

PROGRAM KEYS

PRESS ENTER KEY

Select **PROGRAM KEYS** from selection.

Enter the 4 digit security code. Then follow on screen instructions. The key in the ignition will be registered first, then program additional keys as follows :-

SECURITY CODE

1 2 3 4

IS THIS CORRECT
OK=ENTER CLEAR=BACK

Turn ignition ON for 5 seconds. Then turn off and remove key.

Repeat for up to 5 keys.

After the final key been registered, use one of the keys to start the engine, this returns the system to normal operation

Check NATS indicator to ensure the procedure is complete.

KEY PROGRAMMING—NATS 6.5 (Intelligent & Non-Intelligent Sys)

VEHICLE SELECTION MENU **NISSAN** **PRESS ENTER KEY**	At the VEHICLE SELECTION menu select the required vehicle manufacturer and press the **ENTER** key.
VEHICLE SELECTION MENU **MICRA** **PRESS ENTER KEY**	Select the required vehicle and press the **ENTER** key.
VEHICLE SELECTION MENU **> 2000** **2000 TO 2003** **2003 >** **PRESS ENTER KEY**	Select the required vehicle and press the **ENTER** key.
SWITCH IGNITION OFF **PRESS ENTER KEY**	Ensure Ignition is OFF and press **ENTER** **Note: When Programming the Intelligent System the key blade must be used to turn the ignition on & off as instructed by tester. The key will not be programmed otherwise**
ECU IDENTIFICATION ECU No. AX?? **PRESS ENTER KEY**	ECU identification displayed
DIANGNOSTIC MENU ECU IDENTIFICATION **SPECIAL FUNCTIONS** **PRESS ENTER KEY**	Select **SPECIAL FUNCTIONS** from menu.
DIAGNOSTIC MENU > **PROGRAM KEYS** **KEYS PROGRAMMED** **PROGRAM REMOTES** **ERASE REMOTES** **CHECK REMOTES** **PRESS ENTER KEY**	Select **PROGRAM KEYS** **Note: When programming the Non-Intelligent key the remote will be programmed at the same time.**

SWITCH IGNITION OFF **REMOVE KEY** **PRESS ENTER KEY**	**Important: Ensure Ignition is switched off & ignition key is REMOVED.**
SECURITY CODE **- - - - - - - - - -**	Enter Nissan security Code
SECURITY CODE **- - - - - - - - - -** **IS CODE CORRECT** **OK=ENTER CLEAR=BACK**	Confirm Nissan Security Code is correct.
PROGRAM KEYS SWITCH IGNITION ON **PRESS ENTER KEY**	
PROGRAM KEYS IS SECURITY LED ON OR FLASHING YES=ENTER NO=BACK	If the Security LED is on or flashing then one of the possible causes is an incorrect transponder fitted.
PLEASE WAIT **.....**	
PROGRAM KEYS SWITCH IGNITION OFF **PRESS ENTER KEY**	Switch Ignition OFF but leave Ignition key in.
PLEASE WAIT **.....**	
PROGRAM KEYS ENTER=PROG MORE KEYS BACK=END PROCEDURE **PRESS ENTER KEY**	If more keys are to be programmed then follow the on screen instructions. If **BACK** is pressed then the programming procedure will be ended.

PROGRAM KEYS

INSERT KEY
CYCLE IGNITION

PRESS ENTER KEY

Ignition must be cycled to close the ECU programming mode.

If a key is inserted in the ignition and the security symbol flashes quickly this indicates an un-programmed key.

PROCEDURE COMPLETE

PROGRAM REMOTES-CAN

DIAGNOSTIC MENU

PROGRAM KEYS
KEYS PROGRAMMED
> PROGRAM REMOTES
ERASE REMOTES
CHECK REMOTES

PRESS ENTER KEY

Select **PROGRAM REMOTES.**

Note: This procedure only needs to be followed for the Intelligent system. When programming the Non-Intelligent key the remote will be programmed at the same time as the keys.

PROGRAM REMOTES

CHECK REMOTES
IS IT PROGRAMMED

YES=ENTER NO=BACK

PROGRAM REMOTES

SWITCH IGNITION ON

PRESS ENTER KEY

PROGRAM REMOTES

PRESS & RELEASE
REMOTE

YES=ENTER NO=BACK

Press and Release either the ‘Lock or Unlock‘ button.

PROGRAM REMOTES

REMOTE STORED

PRESS ENTER KEY

ERASE REMOTES-NATS 6.5

DIAGNOSTIC MENU
PROGRAM KEYS
KEYS PROGRAMMED
PROGRAM REMOTES
> ERASE REMOTES
CHECK REMOTES
PRESS ENTER KEY

Select **ERASE REMOTES.**

Note: This procedure only needs to be followed for the Intelligent system. When programming the Non-Intelligent key the remote will be erased at the same time as the keys.

ERASE REMOTES
SWITCH IGNITION ON
PRESS ENTER KEY

Warning: All remotes will be erased in this procedure

ERASE REMOTES
PLEASE WAIT

ERASE REMOTES
PLEASE WAIT PROCEDURE COMPLETE
PRESS ENTER KEY

CHECK REMOTES-CAN

DIAGNOSTIC MENU
PROGRAM KEYS
KEYS PROGRAMMED
PROGRAM REMOTES
ERASE REMOTES
>CHECK REMOTES
PRESS ENTER KEY

ERASE REMOTES
PRESS REMOTE REMOTE ? ? ? ?
BACK=END PROCEDURE

When a remote is pressed, confirmation is given in the third line by indicating which memory location of the BCM the remote is stored in. Each remote should be checked

TIPS & HINTS

D

NISSAN K12

Key will not rotate until Brake Pedal Pressed (Only on Automatic vehicles)

GENERAL TIPS & HINTS

5 keys can be programmed on NATS 5, all other system allow 4 keys. NATS 5 requires a PIN code, if the large letter on the antenna label is an A then the PIN code is 5523, however if the letter is a B the PIN code is random and will need to be sought from the dealer. On early systems the programming procedure on the AD100 requires that you observe the engine warning light for confirmation of key programming complete. When programming a key, wait for the engine warning light to stop flashing- this indicates a successfully programmed key, insert the next key to be programmed at that point. There are different colour transponders for various signal frequencies.

Fault code for "Lock out mode" (when an incorrect key has been used) can be removed with a coded key by turning the ignition on for one minute or, when no coded keys are available, by coding keys.

Nissan Petrol NATS2, Fault code 225 read and fuse for headlights and engine management system faulty. Replaced and keys programmed successfully.

On petrol Nissan vehicles, if a problem exists within the Engine Management system, then key programming will be blocked. The clear time will continue, with PLEASE WAIT until the fault is cleared.

Some vehicles, check the vehicle fuse, as some can be missing and will prevent key programming.

If ERROR is received when programming keys, check the transponder that is being used for correct type.

Nissan Navara NATS 2/5—use ADC133 & ADC135.

Nissan Terrano. If communication problems are experienced try using ADC129.

REMOTE CONTROL PROGRAMMING

D

NISSAN

SYSTEM DESCRIPTION

The Central Door locking is controlled by the Multi-Remote Control system which controls the door locking, door super locking and hazard reminder. When the doors are locked and unlocked the unit flashes the hazard lights once for lock and twice for unlock.

A maximum of four remote controls are allowed to be programmed.

ALMERA
ALMERA TINO
PRIMERA
MAXIMA
MICRA
SERENA
VANETTE CARGO
TERANO II

Ensure all the doors have been unlocked, either by using a good transponder key or remote control plip key.

Procedure

1. Turn the ignition switch from Position 0 to ON 6 times within 10 seconds.
2. Then turn ignition switch to OFF position. Leave key in ignition switch.
3. After 2 seconds, the system will enter programming mode and will flash the warning lights twice.
4. Press and HOLD the unlock button on the Plip.
5. While pressing the unlock button, press the lock button 3 times.
6. Release the unlock button.
7. The warning lights will flash once to indicate successful programming.
8. Repeat procedure 4 to 7 for up to 4 plip key's.
9. When completed turn ignition ON, and the warning lights will flash 2 times.
10. Remove key, and check all plip key's for operation.

NOTE : The programming mode will stop when either the ignition is switch ON, 4 plip keys have been programmed or no input signal either from the switch or plip keys has been received for 120 seconds.