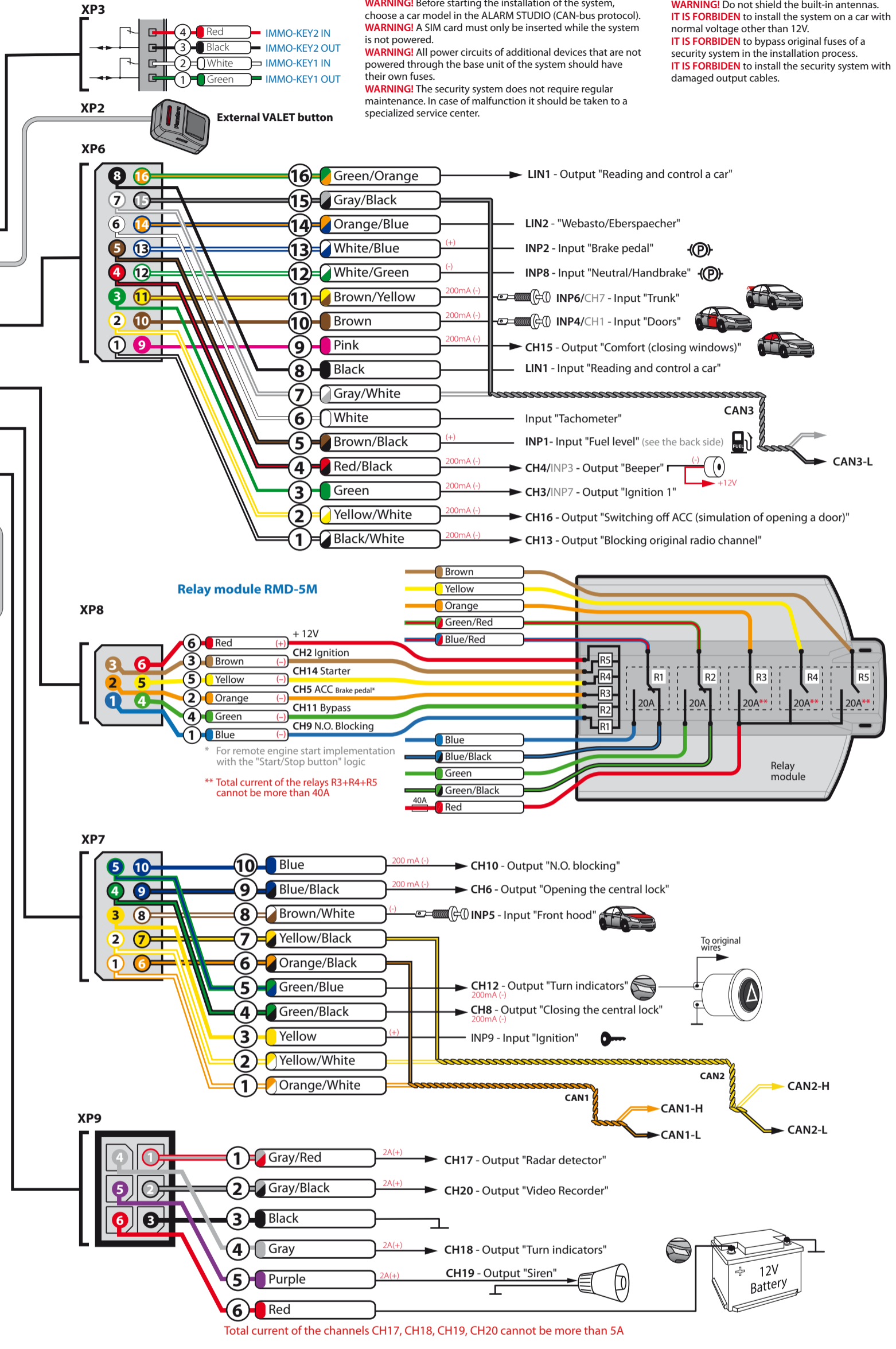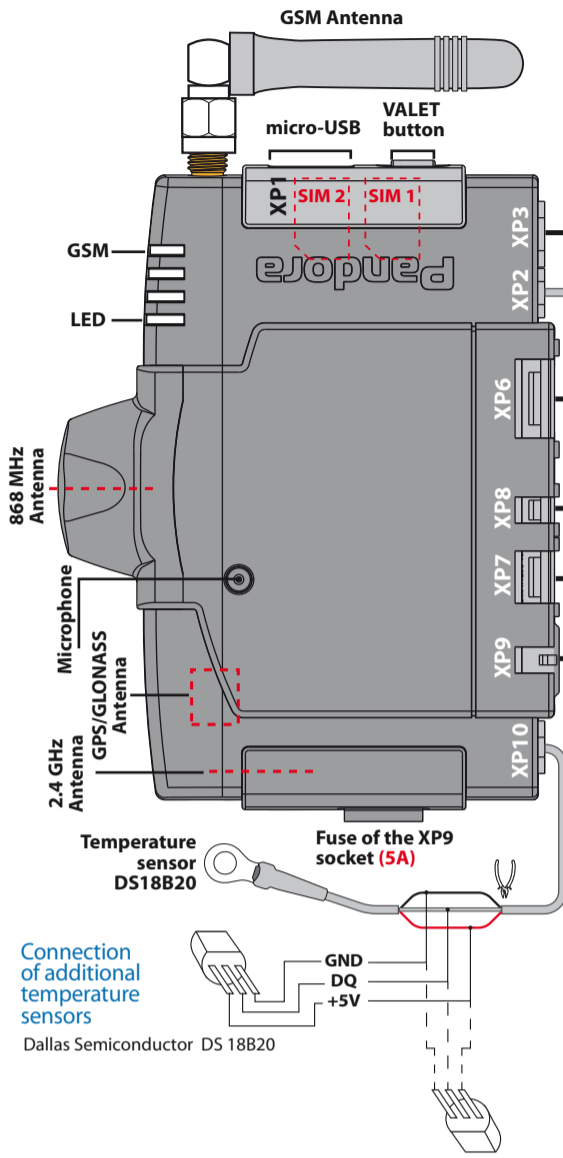# Pandora
model: PROFESSIONAL v2

Warning! XP3 is a multifunctional IMMO-KEY port. It is used only for bypass of an original immobilizer. It connects in accordance with an installation manual from the Pandora Alarm Studio.

WIRING DIAGRAM

WARNING! Before starting the installation of the system, choose a car model in the ALARM STUDIO (CAN-bus protocol).
WARNING! A SIM card must only be inserted while the system is not powered.
WARNING! All power circuits of additional devices that are not powered through the base unit of the system should have their own fuses.
WARNING! The security system does not require regular maintenance. In case of malfunction it should be taken to a specialized service center.

WARNING! Do not shield the built-in antennas.
IT IS FORBIDEN to install the system on a car with normal voltage other than 12V.
IT IS FORBIDEN to bypass original fuses of a security system in the installation process.
IT IS FORBIDEN to install the security system with damaged output cables.

XP3
4	Red	IMMO-KEY2 IN
3	Black	IMMO-KEY2 OUT
2	White	IMMO-KEY1 IN
1	Green	IMMO-KEY1 OUT

XP2 — External VALET button

XP6
- 16 — Green/Orange — LIN1 - Output "Reading and control a car"
- 15 — Gray/Black
- 14 — Orange/Blue — LIN2 - "Webasto/Eberspaecher"
- 13 — White/Blue (+) — INP2 - Input "Brake pedal"
- 12 — White/Green (-) — INP8 - Input "Neutral/Handbrake"
- 11 — Brown/Yellow — 200mA (-) — INP6/CH7 - Input "Trunk"
- 10 — Brown — 200mA (-) — INP4/CH1 - Input "Doors"
- 9 — Pink — 200mA (-) — CH15 - Output "Comfort (closing windows)"
- 8 — Black — LIN1 - Input "Reading and control a car"
- 7 — Gray/White — CAN3
- 6 — White — Input "Tachometer"
- 5 — Brown/Black (+) — INP1- Input "Fuel level" (see the back side) — CAN3-L
- 4 — Red/Black — 200mA (-) — CH4/INP3 - Output "Beeper" — +12V
- 3 — Green — 200mA (-) — CH3/INP7 - Output "Ignition 1"
- 2 — Yellow/White — 200mA (-) — CH16 - Output "Switching off ACC (simulation of opening a door)"
- 1 — Black/White — 200mA (-) — CH13 - Output "Blocking original radio channel"

Relay module RMD-5M

XP8
- 6 — Red (+) — +12V
- 3 — Brown (-) — CH2 Ignition
- 5 — Yellow (-) — CH14 Starter
- 2 — Orange (-) — CH5 ACC Brake pedal*
- 4 — Green (-) — CH11 Bypass
- 1 — Blue (-) — CH9 N.O. Blocking

* For remote engine start implementation with the "Start/Stop button" logic
** Total current of the relays R3+R4+R5 cannot be more than 40A

Relay module colors: Brown, Yellow, Orange, Green/Red, Blue/Red, Blue, Blue/Black, Green, Green/Black, Red
R1 R2 R3 R4 R5 — 20A, 20A, 20A**, 20A**, 20A**
40A

XP7
- 10 — Blue — 200 mA (-) — CH10 - Output "N.O. blocking"
- 9 — Blue/Black — 200 mA (-) — CH6 - Output "Opening the central lock"
- 8 — Brown/White (-) — INP5 - Input "Front hood"
- 7 — Yellow/Black
- 6 — Orange/Black
- 5 — Green/Blue — 200mA (-) — CH12 - Output "Turn indicators"
- 4 — Green/Black — 200mA (-) — CH8 - Output "Closing the central lock"
- 3 — Yellow (+) — INP9 - Input "Ignition"
- 2 — Yellow/White
- 1 — Orange/White — CAN1, CAN2

To original wires
CAN1 — CAN1-H / CAN1-L
CAN2 — CAN2-H / CAN2-L

XP9
- 1 — Gray/Red — 2A(+) — CH17 - Output "Radar detector"
- 2 — Gray/Black — 2A(+) — CH20 - Output "Video Recorder"
- 3 — Black
- 4 — Gray — 2A(+) — CH18 - Output "Turn indicators"
- 5 — Purple — 2A(+) — CH19 - Output "Siren"
- 6 — Red

Total current of the channels CH17, CH18, CH19, CH20 cannot be more than 5A

12V Battery

GSM Antenna
micro-USB — VALET button
XP1 — SIM 2 — SIM 1
XP2 XP3
XP6
XP8
XP7
XP9
XP10
GSM
LED
868 MHz Antenna
Microphone
GPS/GLONASS Antenna
2.4 GHz Antenna
Temperature sensor DS18B20
Fuse of the XP9 socket (5A)

Connection of additional temperature sensors
Dallas Semiconductor DS 18B20
GND / DQ / +5V

Programming menu

Level 1	Recording remote controls (D800/D670/D030/R465)/radio tags (BT760)
Level 2	Changing the factory preset of the service PIN-code
Level 3	Recording the idle speed (rpm) to the system memory
Level 4	Resetting to the factory settings
Level 5	Recording a Bluetooth engine compartment module (RHM-03BT)
Level 6, 7	Recording Bluetooth radio relays №1, №2 (BTR-101)
Level 8	Recording a Bluetooth GPS/GLONASS receiver (NAV-035BT)
Level 11	Programming and configuring an "Immobilizer PIN-code"
Level 15	Emergency deactivating immobilizer radio tags
Level 16	Updating firmware of the built-in Bluetooth modem
Level 17	Programming bypass of an original immobilizer
Level 18	Pairing and unpairing a mobile device
Level 19, 20	Updating firmware of radio relays №1, №2 (BTR-101)
Level 21	Updating firmware of an engine compartment module (RHM-03BT)
Level 22	Updating firmware of a GPS/GLONASS receiver (NAV-035BT)
Level 23, 24	Recording door sensors №1, №2 (DMS-100BT)
Level 25, 26	Updating firmware of door sensors №1, №2 (DMS-100BT)
Level 27	Recording additional modules (DI-04, BT-01)
Level 28	Updating firmware of additional modules (DI-04/BT-01)

EXAMPLES OF RECORDING ADDITIONAL DEVICES

WARNING! The additional devices that are included in the system set have been already recorded in the system memory (see the "System set" section of the user manual).

To record additional devices, enter a required level of the programming menu. Perform a recording procedure in accordance with a device manual. To save the recorded device, press the VALET button once. The series of red and green flashes of the LED indicator will confirm saving.

Level 1 – Recording remote controls and radio tags

Recording remote controls (D800/D670/D030/R465):
Press and hold three buttons of a remote control (arm/disarm/F) simultaneously for 1 second (until a short beep from the main remote control or until fading a LED of an additional remote control), then release the buttons. If recording was successful, the main remote control will emit 2 short beeps and a siren of the base unit will emit 1 beep. After this you can move to recording the next remote control or radio tag.

Recording a radio tag (BT760):
Press the control button on a tag and hold it for 6 seconds (6 flashes of the tag status indicator), release the button after the sixth flash. If

the recording was successful, a siren will emit 1 beep, after this you can move to recording the next tag.

Level 5 – Recording a Bluetooth engine compartment module (RHM-03 BT)

• Connect the wire 4 ("LIN output/Programming") and wire 5 ("Ground"). Connect them to a grounded spot of a car.
• Apply +12V to the wire 7 ("+12V Power supply of the module").
• The system will confirm recording of the module to the system memory with 1 beep of the siren.
• Disconnect the wire 4 ("LIN output/Programming") from the wire 5 and insulate it.

Level 6, 7 – Recording Bluetooth radio relays №1, №2 (BTR-101)

• Connect the wire 1 ("Ground") to a grounded spot of a car.
• Connect the wire 3 ("Programming") and wire 4 ("+12V supply of the radio relay"). Connect them to +12V.
• The system will confirm recording of the radio relay to the system memory with 1 beep of the siren.
• Disconnect the wire 3 ("LIN output/Programming") from the wire 4 and insulate it.

Level 8 – Recording a Bluetooth GPS/GLONASS receiver (NAV-035BT)

• Connect the wire 2 ("Ground") to a grounded spot of a car.
• Apply +12V to the wire 1 ("+12V Power supply of the receiver").
• The system will confirm recording of the receiver to the system memory with 1 beep of the siren.

Level 18 – Pairing and unpairing a mobile device

Pairing mobile device:
The LED indicator will light green after entering the level. Open the mobile application, press the "Search device" button. The application will search for the system via Bluetooth connection. Select the found system, the system and the mobile device will be automatically paired. The system will confirm pairing with a sound signal of the siren and a red light of the LED indicator.

Unpairing mobile device:
The LED indicator will light red after entering the level. Press the VALET button and hold it for more than 4 seconds, release the button. The system will confirm deleting with the series of sound signals of the siren and the system will return to mobile device registration mode (the LED indicator will light green).

Level 23,24 – Recording door sensors №1, №2 (DMS-100BT)

• Insert a battery in the sensor.
• The system will confirm recording of the sensor to the system memory with 1 beep of the siren.

Level 27 – Recording additional modules (DI-04, BT-01)

Recording a radio module (DI-04):
• Connect power supply of the module.
• Press and hold the "VALET DI" button for 6 seconds. Release the button after the sixth flash of the "LED DI".
• The system will confirm recording of the module to the system memory with 1 beep of the siren.

Recording a radio relay (BT-01):
• Connect the wire 5 ("Ground") to a grounded spot of a car.
• Apply +12V to the wire 1 ("+12V Power supply of the relay").
• The system will confirm recording of the module to the system memory with 1 beep of the siren.

PROGRAMMING THE SYSTEM

Entering the programming menu, entering the PIN-code

To change the system settings and program the system using a computer or the VALET button, the system must be in the programming mode. Enter the programming mode by entering the 'Service PIN-code' (factory preset is 1-1-1-1).The PIN-code should be entered using an external or located on the base unit VALET button. The input is indicated by flashes of an external or located on the base unit LED indicator. You can enter the code only if the base unit is powered form USB socket or from an external power supply, the ignition is switched off, the system is disarmed and the service mode is switched off.

WARNING! If there is no 'Service PIN-code', you can enter the programming mode using the 'Secret PIN-code' written on the owner's card.

Entering the PIN-code
• Enter the first digit of the code using the VALET button. Press the button a number of times, equals to the first digit. Pauses between presses should not exceed 1 second. Each pressing will be confirmed with an orange LED indicator flash. A pause for more than 1 second and a red LED indicator flash confirm the input of the first digit. Then you can enter the next digit.
• Enter the second digit of the code using the VALET button. Press the button a number of times, equals to the second digit. Pauses between presses should not exceed 1 second. Each pressing will be confirmed with an orange LED indicator flash. A pause for more than 1 second and a red LED indicator flash confirm the input of the second digit. Then you can enter the next digit.
• Enter the third digit of the code using the VALET button. Press the button a number of times, equals to the third digit. Pauses between presses should not exceed 1 second. Each pressing will be confirmed with an orange LED indicator flash. A pause for more than 1 second and a red LED indicator flash confirm the input of the third digit. Then you can enter the next digit.
• Enter the fourth digit of the code using the VALET button. Press the button a number of times, equals to the fourth digit. Pauses between presses should not exceed 1 second. Each pressing will be confirmed with an orange LED indicator flash. The system will confirm the correct PIN-code with the series of red and green flashes and the system will enter the programming mode. If the input was incorrect, it will be indicated with a red LED indicator flash and the system will stay in the previous state. New input can be attempted after 5 seconds.

Status indicator lights during PIN-code entering:

LED signal	Description
Short orange flash	Confirmation of the VALET button pressing
Short red flash	Confirmation of entering a PIN-code digit
Red and green flashes	PIN-code is correct
Long red flash	PIN-code is incorrect

Exit the programming mode
There are several ways to exit the programming mode:
· Switch on the ignition
· Press and hold the VALET button more than 10 seconds (until a siren sound)
· Disconnect power of the base unit (disconnect the main power supply and USB)
The system will reboot programmatically (all changes will be saved) after exiting programming mode. All ways to exit the programming menu are accompanied by sound signals of the siren and light signals of the LED indicator. The signals indicate the number of recorded control devices.

Indication of recorded control devices:

LED signal	Description
Short orange flashes	Number of recorded remote controls
Short green flashes	Number of recorded radio tags
Long red flash	Mobile phone is paired

Preparing to program the system using a computer

The system allows programming all settings and updating software of the base unit via a USB cable. If the base unit has not been installed in the vehicle yet, it will be powered from a USB cable while programming. To program using a computer, you need a standard USB cable, a computer with Windows XP/Vista/7/8/10 and the Pandora Alarm Studio application (you can download it from pandorainfo.com) It is required to create an account in the Alarm Studio to use the Pandora CLONE for remote engine start (you can register without a connection to the system). The Pandora CLONE procedure requires an Internet connection.

In preparation to programming, these stages should be followed:
• Install the Pandora Alarm Studio
• Start the Pandora Alarm Studio
• Connect the system and PC via a USB cable
• Enter the programming mode by entering the service PIN-code
• The application will automatically open

Updating firmware

It is recommended to update firmware of the base unit before installing and programming the system (actual version of the firmware you can download from pandorainfo.com or from the Alarm Studio). You can update firmware using the Alarm Studio application after entering the programming mode.

Programming using the VALET button

The system allows programming some settings using the VALET button. To configure all settings use a computer to program the system.
Enter the programming mode by entering the «Service PIN-code». Use the VALET button to enter the desired level number (press the button the number of times, equals to the level number; pauses between presses should not exceed 1 second). The system will confirm correct input with red LED flashes and short sound signals of a siren and proceed to the desired level. If the input was incorrect, the system will not confirm input and will await a new level input after a series of green and red flashes.

Level 1 – Recording remote controls/radio tags into the system memory

Prepare to record all remote controls (system memory cells are designed for four 868MHz remote controls and one 2.4GHz remote control. The D-800 remote control uses 2 cells – 1 for 868MHz and 1 for 2.4 GHz) and radio tags (you can record up to 3 tags). Insert batteries in the remote controls and radio tags. If the main remote control is switched off, switch it on in accordance with its manual.
Enter the programming menu and then press the VALET button once. The LED indicator will light green and the system will enter the remote controls and tags recording mode.

An example of recording remote controls and radio tags is on the reverse side.

Level 2 – Changing the factory preset of the service PIN-code

Prepare a new value of the 'Service PIN-code', it should consist of 4 digits (from 1 to 9). Write down or remember the new PIN-code.
Enter the programming menu and then press the VALET button twice. The system will enter 'Changing the Service PIN-code' mode and the status LED indicator will turn off.

Changing the 'Service PIN-code'
• Enter the first digit of the code using the VALET button. Press the button a number of times, equals to the first digit. Pauses between presses should not exceed 1 second, every pressing will confirm with an orange LED indicator flash. A pause for more than 1 second and red LED indicator confirms the input of the first digit. Then you can enter the next digit.
• Enter the other numbers in the same manner. The input of the fourth number will be confirmed by the series of red and green LED indicator flashes. The system will wait for PIN-code re-entering.
• Enter all four digits again.
• If you were able to correctly enter the 'Service PIN-code' twice, the indicator will produce the series of red and green flashes, the new PIN-code will be recorded, the system will return to programming mode. In case of the incorrect code input the indicator will be lit red, the system will return to the programming mode.

Level 3 – Recording the idle speed (rpm) to the system memory

To timely turn off the starter during automatic or remote engine start via digital or analog tachometer input and the correct operation of the 'Smart Turbo Timer', it is necessary to record the engine idle speed.
To record the idle speed to the non-volatile system memory, enter the programming menu. Press the VALET button three times. Switch on the ignition and start the engine after entering this level of programming (the engine should be warmed-up; idle speed should match the stable idle speed of the warmed-up engine). The system will confirm the presence of the idle speed status with green flashes of the LED indicator. Wait until the stable idle speed will be reached and save the changes.

Saving changes:
Press the VALET button once to save idle speed. Successful recording of the idle speed will be confirmed with the series of red and green flashes of LED indicator and a siren signal. The series of siren signals will indicate incorrect recording. The system will exit the programming menu and reboot after saving the idle speed.

Level 4 – Resetting to the factory settings

The procedure recovers the factory settings of the system without deleting previously registered devices (remote controls, tags, mobile device, relays, etc.) that is stored in the non-volatile memory. To reset the settings enter the programming mode and press the VALET button four times. Press and hold the VALET button for more than 4 seconds until a siren signal, then release the button. The system will confirm resetting to the factory settings with a long red flash of the LED indicator. After that the system will return to the programming mode.

Level 5 – Recording a Bluetooth engine compartment module (RHM-03BT)

To record a Bluetooth engine compartment module, enter the programming mode and press the VALET button 5 times. The LED indicator will light green and the system will enter the recording of an engine compartment module mode.

An example of recording an engine compartment module is on the reverse side.

RHM-03 BT
Place the radio module unit wires down. Do not shield the zone of the built antenna (no less than 3 cm from metal surfaces)

Antenna 2.4 GHz

Pin	Wire	Label
10	Blue/Red	Blocking relay (COM)
9	Blue/Black	Blocking relay (NC) — 10A
8	Green/White	To front hood lock (Opening)
7	Red	+12V Module power supply — 3A*
6	Red	Front hood lock circuit power supply — 15A*
5	Black	+12V
4	Green	Temperature sensor / LIN output/Programming
3	Yellow	Front hood switch
2	Blue/White	To front hood lock (Closing)
1	Blue	Siren — 2A (+)

Level 6,7 – Recording Bluetooth radio relays №1, №2 (BTR-101)

Radio relays recording is performed one by one starting from the 6th level: a radio relay №1 is recorded on the 6th level; a radio relay №2 is recorded on the 7th level. Enter the required level and the system will enter the recording of a radio relay mode.

An example of recording radio relays is on the reverse side.

Antenna 2.4 GHz
NO — 6
Programming — 3
NC — 2
COM — 5
+12V
BTR-101

Level 8 – Recording a Bluetooth GPS/GLONASS receiver (NAV-035BT)

To record a Bluetooth GPS/GLONASS receiver, enter the programming mode and press the VALET button 8 times. The LED indicator will light green and the system will enter the recording of a receiver.

An example of recording a GPS/GLONASS receiver is on the reverse side.

GPS-antenna
TOP SIDE
NAV-035 BT

Connection
+12B — Red — 1
GND — Black — 2

Level 11 – Programming and configuring an "Immobilizer PIN-code"

It is necessary to configure an analog input (INP) as 'Code immobilizer' in the settings of the base unit inputs when implementing the "Code immobilizer" function via an analog input. It may be necessary to switch on the ignition after entering the level 11 of programming (if the car bus is active only when the ignition is switched on) when implementing the "Code immobilizer" via a digital CAN-bus protocol.
To program an "Immobilizer PIN code", enter the programming mode and press the VALET button 11 times. The level is divided into 3 sublevels (Sublevel 11.1 – Selecting buttons; sublevel 11.2 entering the PIN-code; sublevel 11.3 – confirmation of the PIN-code input). The system will automatically enter the sublevel 11.1 (Selecting buttons) after entering the level 11. The system can determine buttons via an analog "Code immobilizer" input or via a digital protocol of a car. After selecting active buttons enter the sublevel 11.2 (Entering PIN-code) by pressing the VALET button once. Program the PIN-code using the selected buttons at this sublevel; press the VALET button once and enter the PIN-code again. To confirm PIN-code re-entering and save all the settings press the VALET button once again.

Sublevel 11.1 - Selecting buttons:
This sublevel is used to select active buttons via a digital protocol of a car or via a 'Code Immobilizer' analog input. To determine the activity of an analog "Code Immobilizer" input, apply potential to the corresponding input (INP) of the base unit, the LED indicator will be flashing orange. If you determine buttons via a digital protocol select one or more buttons (up to four) for entering the secret code of the immobilizer. To do this press the selected button, the LED indicator will confirm input with orange flashes. If there are no orange flashes when any button is pressed, then this button is not recognized by the system, select a different button. Repeat the procedure to select the second, third, fourth button and enter the next sublevel. To enter the next sublevel 11.2l press the VALET button once.

Sublevel 11.2 – Entering the PIN-code:
Program the immobilizer deactivation PIN-code using the selected button or buttons. Enter the first digit by pressing the previously selected button (pauses between presses should not exceed 1 second). The base unit will confirm entering with a red flash of the LED indicator. Enter the second (third, fourth) digit by pressing the previously selected button. The base unit will confirm entering of each digit with a red flash of the LED indicator. Input the required number of digits (up to 4) and then press the VALET button. The system will confirm receiving of the secret validator code with a long red flash of the LED indicator and will wait for confirmation of the PIN-code.

Sublevel 11.3 - Confirmation of the PIN-code input:
Enter the PIN-code again similarly to the procedure (level 11.2 – Entering PIN-code) and press the VALET button. The system will confirm the correct PIN-code with red and green flashes of the LED indicator and will memorize the PIN-code, and then the system will proceed to the programming mode awaiting level input. Incorrect confirmation is indicated with a long red flash of the LED indicator, after that the system will return to the programming mode.

Level 15 – Emergency deactivating immobilizer radio tags

To disable/enable immobilizer tags, enter the programming menu and press the VALET button 15 times. The LED indicator will light green (green light indicates enabled tag) and the system will wait for "Secret PIN-code" entering. Red light of the LED indicates disabled immobilizer tag.

Disabling radio tags:
The LED indicator will light green after entering the programming level. The system will wait for entering the 'Secret PIN-code'. Enter the 'Secret PIN-code' that is written on the owner's plastic card. The system will confirm disabling of the radio tag with two sound signals of the siren and a long red LED flash. After that the system will return to the programming menu. If the PIN-code is not entered within 10 seconds or the input is incorrect, a siren will sound one signal, the LED will produce the series of red and green flashes and the system will return to the programming menu.

Enabling radio tags:
The LED indicator will light red after entering the programming level. The system will wait for an action. Press the VALET button once to enable radio tags. The system will confirm enabling with one short sound signal of a siren and a green LED light. After that the system will return to the programming menu.

Level 16 – Updating firmware of the built-in Bluetooth modem

Download firmware and install the Pandora BT application on your mobile device (Android or iOS with Bluetooth 4.0 Low Energy or higher support).
To update firmware of the built-in Bluetooth modem, enter the programming mode and press the VALET button 16 times. Find your system in the mobile application, go to detected devices and select one of the updating option: File manager (for Android only) or Internet and update Bluetooth modem firmware. File manager allows to upload firmware from phone storage and Internet option allows to upload Firmware from the server to the base unit.

Level 17 – Programming bypass of an original immobilizer

Bypass learning procedure is performed on this level. Detailed manuals can be found in the Alarm Studio.

Level 18 – Pairing and unpairing a mobile device

The system supports only one mobile device. Pairing a new mobile device (if the system has previously paired device) is not allowed without unpairing procedure. When you overwrite the same device in the system memory, you should delete the Bluetooth connection on your mobile device, delete the mobile device from the system memory and then record the mobile device in the system memory.
To pair a mobile device, enter the programming mode and press the VALET button 18 times. The LED indicator will light green (a green light indicates the system is ready to pair a mobile device) and the system will enter the mobile device pairing mode. A red light of the LED indicates the system has already had paired mobile device, overwriting of the mobile device can be done only after unpairing procedure.

An example of recording a mobile phone is on the reverse side.

Level 23, 24 – Recording door sensors №1, №2 (DMS-100BT)

Door sensors recording is performed one by one starting from the 23rd level: A door sensor №1 is recorded on the 23rd level; a door sensor №2 is recorded on the 24th level. A door sensor can be overwritten only on the level of its initial registration. To record door sensors №1, №2, enter the programming mode and press the VALET button 23 times for the door sensor №1 or 24 times for the door sensor №2. The LED indicator will light green and the system will enter the recording a door sensor mode.

An example of recording door sensors is on the reverse side.

Level 27 – Recording additional modules (DI-04, BT-01)

The system supports only one device DI-04 or BT-01.
To record an additional device, enter the programming mode and press the VALET button 27 times. The LED indicator will light green and the system will enter the recording mode.

An example of recording is on the reverse side.

Level 19, 20, 21, 22, 25, 26, 28 – Updating firmware of additional Bluetooth devices

Download the firmware and install Pandora BT application on your mobile device.
To update firmware of additional devices, enter the programming mode and press VALET button the number of times equals to the desired level number (see the Programming levels table). Find your system in the mobile application, go to detected devices and select one of the updating option: File manager (for Android only) or Internet and update firmware. File manager allows to upload firmware from phone storage and Internet option allows to upload Firmware from the server to the base unit.