Software Update Protocol



1. Présentation

Before you begin, please read this notice completely and make sure that you understand it

To update the software embedded in the implanteo unit, the programs of three microprocessors must be changed.

Microprocessor AM188ES: user interface program (IHM). Microprocessor PIC 16F873A moteur: motor steering program (MOTEUR) Microprocessor PIC 16F873A dalle: touch screen management program (DALLE)

We have provided you with a program transfer kit that should contain the following elements:

Items required for the update :





Items that may need to be replaced :

• Screws BHC M3-10	Generality
• Washers	
• Jumper	
• Inserts	
• Adhesive	RECEIPTER 406 North Contraction North Contractio

To use this equipment, you must have a PC with a serial port and a USB port. This PC is not supplied.

To install the software associated under Windows NT, 2000 and XP pro, you must have administrator rights

2. Operation of the programmers

a. PIC PROGRAMMER



• Connect the USB cable to the programmer



Series-B connector

- Connect the transfer cable to the programmer
- Install the software (see annexe A)
- Connect the other end of the USB cable to the computer



Series-A connector



b. IHM (USER INTERFACE) PROGRAMMER

• Connect the programmer to serial port COM1 of the computer



• Install the software (see annexe B)

3. Opening the unit

Unscrew the six screws that retain the plastic cover by means of the Allen key.

- If needed, disconnect the pedal, the motor and the power cord
- Put the unit in the position indicated in the next photo



Start by removing the screw located in the opening



• Then, unscrew the five other BHC M3-10 screws



- Put the unit back in its normal position
- Be careful not to damage the cables when removing the plastic cover
- To facilitate this operation, you may use a small shim that you place at the front of the unit
- Place yourself in front of the unit (screen facing you)
- Place your hand on the side of the unit
- Lift the cover about two centimetres



• Push the cover slightly backwards



• Tilt the cover towards you. Pay attention not to damage the white wire of the backlighting wires



4. Loading of the user interface (IHM) software

• Identify the IHM connector and the IHM jumper



• Put the IHM programming jumper in the indicated position



• Connect the programming connector of the IHM programmer. Pay attention to the locating pin.





• Verify if the voltage selector indicates the correct voltage

• Connect the unit to the power supply



• Switch on the unit

WARNING : The unit is energized. Switch off the unit before handling the jumpers or the connections

• Launch the loader188 program



o Double-click on the loader 188 icon

and the second s	ues\01004-Impla	anteol 💷 🛛
File Settings ?		
State of the target		
Communication in progress		
Test		
Initialization of the FLASH		
<u>C</u> ancel		
<u> </u>		
COM 1 - 38400,n,8,1 - Handshake : Xon/Xoff	11/10/2004	17:05

• The program checks if the programmer is enabled

egg Loader of AM188 target J:\Projets Techniques	\01004-Impli	anteo\ 💷 🔯
File Settings ?		
State of the target Communication in progress		
Loading		
Loading of 8% of the application.		
Time remaining estimated : 2 mn 05 s		
Cancel		
COM 1 - 38400,n,8,1 - Handshake : Xon/Xoff	11/10/2004	17:01

• The program automatically starts the transfer

State of the target	
An application is in the target.	Test
Loading	
Successful loading.	

• The program checks if loading was successful

gg Loader of AM188 target J:\Projets Technique	es\01004-lmpla	anteo\ 💷 🔯
File Settings ?		
_ <u>State of the target</u>		
An application is in the target.		
Loading-		
Launch of the application		
Total duration of the operation : 1 mn 44 s		
COM 1 - 38400,n,8,1 - Handshake : Xon/Xoff	11/10/2004	17:03

o The implanteo is launched in automatic mode

Be Loader of AN	/188 target	J:\Projets	Techniques	\01004-lmpla	anteo\ 💷 🛛
File Settings ? State of the target— Application la	unched in automa	tic mode.	Test		
COM 1 + 38400,n,8,1 +	Handshake : Xor	ı∕Xoff		11/10/2004	17:03

o If this screen appears, the transfer was successful

Loader of AM188 target J:\Projets Technic	ues\01004-Impla	anteo\ 💷 🛛
State of the target The target does not answer.		
COM 1 - 38400,n,8,1 - Handshake : Xon/Xoff	11/10/2004	17:04

- Otherwise, this screen appears, then :
 - verify if the jumper is properly connected
 - verify if the connector is connected
 - verify if the IHM programmer is properly connected to the PC
 - verify if the unit is switched on
 - configure the utilized COM port if it differs from COM1
 - to configure the COM port, select the settings menu

👂 Paramètres d	lu port de co	mmunication	×
Port <u>s</u> érie	СОМ 2 🔿 СОМ	4 3 C COM 4	Ok
Bit <u>s</u> par seconde	19200 ⓒ 384	00 C 56000	
- <u>B</u> its de données-	- <u>P</u> arité	- <u>C</u> ontrôle de flux	<u>C</u> ancel
C7 © 8 Bits d'arr <u>ê</u> t	 Aucune Impaire Paire 	C Aucun C RTS/CTS C Xon/Xoff	Paramètres par <u>d</u> éfaut

- select the utilized COM port (COM1, COM2, COM3 or COM4)
- to check again, switch off the unit and switch it on again
- Switch off the unit
- Put the IHM programming jumper back in its initial position



• Remove the programming connector from the board



• Close the loader 188 program

5. Loading of the PIC Moteur software

• Identify the PIC MOTEUR connector





- Make sure that the unit is switched off
- Remove the jumper





• Connect the programming connector of the PRESTO programmer on the PIC Moteur connector. Pay attention to the direction (see photo)

WARNING : There is no locating pin



The right pin on the right of the connector must remain unconnected! Red wire near the unconnected pin side

• Launch the program ASIX UP(PRESTO)



File Edit View Device Options Help Image: State S
Image: Configuration Program Read Verify Erase Blank check. PREST0 PIC16F872 Image: Configuration Program Read Verify Erase Blank check. PREST0 PIC16F872
E Code memory
0000 8000 8000 8000 8000 8214 1280 1280 1280 1281 8214 1280 1281 <t< td=""></t<>
Configuration PRESTO programmer settings
Puses: Port TE: Mds pore range/ CP Enabled Mds pore range/ MR1: WDTE MDTE: CPO SC: Press: LVP MS MDTE: Stop Press: Press:

• Select the moteur.hex file locate on CD ROM In IMPV6_3 directory



• Click the Program icon on the menu bar or push GO button, on the Programmer.



- Verify if loading was successful
- Remove the programming connector



• Replace the jumper



- 6. Loading of the PIC Dalle software
- Identify the PIC Dalle connector



• Make sure the unit is switched off

• Remove the jumper



• Connect the programming connector of the PRESTO programmer on the PIC Dalle connector. Pay attention to the direction

WARNING : There is no locating pin



The right pin on the right of the connector must remain unconnected! Red wire near the unconnected pin side

• Open the program ASIX UP(PRESTO)

💊 UP v. 2.14 - project: Untitled.ppr (n File Edit View Device Options Help	robeun51.hex)	
Open Save Main Data Configuration Program	, 😹 , 🚰 , 😰 , 🖧 , Read Venity Erase Blank check	PRESTO PIC16F873
E Code memory 0000 Cable 0000 (1080 1200 1080 1200 1080 0000 1080 1200 1080 1000 1080 1000 1080 1000 1080 10000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	140.0 118.0 148.0 18.0 20.0 00.05 0	10
00F 0 01F 8 01F C 0874 1283 00A3 1683 087 0108 00A0 1603 1C20 2914 1683 0875 67F 0110 1803 0F78 07FC 1283 1683 0CFC 0CF	3 1283 0082 1683 0872 1283 0081 1683 0871 128 0 0876 1803 0F76 07FA 0877 1803 0F77 07FB 087 0 0FFA 0CF9 1283 0CA3 0CA2 0CA1 0CA0 1683 00F	3 αυταεικατατικά 8Παλυ.υάω.αύχ D .χυαπυθάδαε¢; πý 🛩
Configuration	PPELOTO programmer webland Idle power supply: Nore / External Active power supply: Inferral DV Programming algorithm MCLR pin control Programming method: HVP	
ID: 3FFF 3FFF 3FFF 3FFF UUUUU		

• Select the dalle.hex file locate on CD ROM In IMPV6_3 directory

• Click the Program icon on the menu

- Verify if loading was successful
- Remove the programming connector

• Place the jumper back

7. Replacement of the fuse 4A

- Make sure the unit is switched off
- Identify fuse 4A

- Pull out the fuse
- Replace it with the supplied fuse T4AL

8. Check

• Replace the plastic cover on the unit

• If necessary, connect the unit to the power supply

- Switch on the unit
- Check the implanteo display

As of version 5.1 of the main implanteo software (IHM), the three software versions appear on the screen in the order IHM / PIC MOTEUR / PIC DALLE If the system does not display 6.3 for IHM, IHM loading must be recommenced. The same applies to PIC MOTEUR 5.2 or PIC DALLE 4.2

- The protocol selection screen must appear, otherwise, the system locks on the previous screen
- Switch off the unit

9. Reassembly

• Unplug the power cord

• Put the unit in the position indicated in the next photo

- Make sure the cover fits properly
- Place a screw in the opening. Do not tighten, all screws will be tightened in the end.

• Place the other screws

• Tighten the screws

•

- Warning / do not overtighten in order not to damage the plastic cover inserts
 - If necessary, change the inserts :
 - o Remove the insert
 - Replace the insert by gluing it with the Loctite 406 adhesive that came with the kit
- Damaged screws should also be replaced

10. Pedal setting

• Connect the power cord to the unit

• Connect the pedal to the unit

• Initialization and check

To commence the initialization stage, press the centre of the screen for about 30 seconds once the unit is energized

• Setup of the touch screen

The first step of the initialization stage consists of setting up the touch screen by successively selecting the enabled keys that appear on the screen

• Pedal calibration

The second step is to calibrate the pedal by pressing the enabled key that corresponds with the position of the pedal (down or up)

Then set the contrast

o Check

With the power on, check if a 'pedal not present' message appears when you disconnect the pedal

11. Completing the software-traceability

• Note the serial number (S/N) located at the back of the unit and fill in the traceability card

