

Bluechip-Pro

Programming Instructions



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Bluechip-Pro Table of Contents

Table of Contents	1
Component Parts of the Bluechip-Pro	2
Application Chart - Lexus	3
Application Chart - Toyota	4
Installing The Program	5
Programmer Setup, Denso	6
Programmer Setup, Delco	7
Getting Started	8
Reprogramming Codes	9
Reprogramming an ECU, Denso	10
Reprogramming an ECU, Delco	11
Probe Connection Colors	12
After the ECU has been Reprogrammed & Installed	13
Reprogram ICU - Type 1	14
Reprogram ICU - Type 2	15
Reprogram ICU - Type 3	16
Reprogram ICU - Type 4	17
Reprogram ICU - Type 5	18
After ICU Reprogram	19
Engine Control Synchronization	20
Reprogramming an Immobilizer Box (Honda)	21
After the Honda ICU has been Reprogrammed & Installed	22
Transponder Innovations Warranty	23

Component Parts of the Bluechip-Pro



Bluechip-Pro



ACOM1 Adapter & Probe Set



ASEREE2 Adapter & ASOIC Clip

Lexus

Model	Year	Std/Optional	Туре	Protocol	Reflash Code	Location	Notes
ES 300	1998 - 2001	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
ES 300	2002 - 2003	Standard	32 bit ECU	Denso	32 bit code	Behind glove box	
ES 330	2004	Standard	Immo Box 2	Denso 4	33110	Behind glove box	Factory key needed
GS 300	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Under hood Left front	
GS 300	2001 - 2003	Standard	32 bit ECU	Denso	32 bit code	Under hood Left front	
GS 400	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Under hood Left front	
GS 430	2001 - 2003	Standard	32 bit ECU	Denso	32 bit code	Under hood Left front	
GX 470	2003 - 2004	Standard	Immo Box 2	Denso 4	60330	Behind instru- ment cluster	Factory key needed
IS 300	2001 - 2003	Standard	32 bit ECU	Denso	32 bit code	Under hood Left front	Occasional 16 bit
LS 400	1997	Standard	Immo Box 1	Denso 3	50020	Behind glove box	
LS 400	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
LS 430	2001 - 2002	Standard	Immo Box 5	Denso 3	50030	Above Naviga- tion system	Factory key needed
LS 430	2003	Standard	Immo Box 5	Denso 3	50031	Above Naviga- tion system	Factory key needed
LS 430	2004	Standard	Immo Box 3	Denso 4	50050	Above Naviga- tion system	Factory key needed
LX 470	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
LX 470	2001 - 2002	Standard	32 bit ECU	Denso	32 bit code	Behind glove box	
LX 470	2003 - 2004	Standard	Immo Box 2	Denso 4	60230	Above ecu be- hind glove box	Factory key needed
RX 300	1999 - 2003	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
RX 330	2004	Standard	Immo Box 3	Denso 4	48020	Above center dash	Vin starts J Factory key
RX 330	2004	Standard	Immo Box 3	Denso 4	0E010	Above center dash	Vin starts 2 Factory key
SC 300/400	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Below glove under carpet	
SC 430	2002 - 2003	Standard	Immo Box 5	Denso 3	24020	Behind instru- ment cluster	Factory key needed

Toyota

Model	Year	Std/Optional	Туре	Protocol	Reflash Code	Location	Notes
4 Runner	1998 - 2001	Standard LTD	16 bit ECU	Denso	16 bit code	Behind glove box	
4 Runner	2002	Standard	32 bit ECU	Denso	32 bit code	Behind glove box	
4 Runner	2003 - 2004	Standard	Immo Box 2	Denso 4	35090	Behind glove box	Factory key needed
Avalon	1998 - 2003	Standard XLE	16 bit ECU	Denso	16 bit code	Behind glove box	
Camry/Solara	1998 - 2000	Standard XLE	16 bit ECU	Denso	16 bit code	Behind glove box	Possible Delco
Camry/Solara	2001-12/2002	Standard XLE	32 bit ECU	Denso	32 bit code	Behind glove box	
Camry/Solara	1/2003-2004	Standard XLE	Immo Box 2	Denso 4	AA010	Behind glove box	
Camry/Solara	1/2003-2004	Optional on 4 cylinder	32 bit ECU	Denso	32 bit code	Behind glove box	Factory key needed
Highlander	2001 - 2003	Standard LTD	16 bit ECU	Denso	16 bit code	Behind glove box	
Landcruiser	1998 - 2000	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
Landcruiser	2001 - 2002	Standard	32 bit ECU	Denso	32 bit code	Behind glove box	Factory key needed
Landcruiser	2003 - 2004	Standard	Immo Box 2	Denso 4	60220	Behind glove box	
MR 2	2002 - 2003	Standard	16 bit ECU	Denso	16 bit code	Behind driver seat	
Prius	2001 - 2003	Standard	Immo Box 1	Denso 3	47010	Under dash above steering	
Prius	2004	Standard	Immo Box 4	Denso 4	47020	Under dash above steering	
Rav 4	2002 - 2003	Standard	16 bit ECU	Denso	16 bit code	Behind glove box	
Sequoia	2001 - 2002	Standard	32 bit ECU	Denso	32 bit code	Behind glove box	
Sequoia	2002 - 2003	Standard	Immo Box 1	Denso 3	34010	Behind glove box	Factory key needed
Sienna	1998 - 2003	Standard XLE	16 bit ECU	Denso	16 bit code	Behind glove box	
Sienna	2004	Standard	Immo Box 2	Denso 4	08010	Above center dash	Factory key needed

INSTALLING THE PROGRAM ON YOUR HARD DRIVE

SETTING UP THE PROGRAM TO RUN UNDER WINDOWS

- 1. Run: Instal1.bat from the Distribution Disk. This will create a directory called EPROM.
- 2. Click START, go to PROGRAMS, click WINDOWS EXPLORER.
- 3. Double click the EPROM folder, Right click WINPEP.
- 4. Click PROPERTIES.
- 5. Click on the PROGRAM tab.
- 6. Type "Bluechip-Pro Programmer " (or any name you prefer) on the line.
- 7. On the line marked CMD. Line type: C:\EPROM\WINPEP.BAT
- 8. At the bottom check the box marked "close on exit"
- 9. Click on the MEMORY tab, set EMS (expanded memory) to 16384
- 10. Click on the SCREEN tab, set usage to FULL
- 11. Click OK
- 12. Close WINDOWS EXPLORER

ADDING THE Bluechip-Pro PROGRAM TO YOUR START MENU

- 1. Click START, choose SETTINGS, click TASKBAR
- 2. Click START MENU PROGRAMS tab, click the ADD button
- 3. Create Shortcut appears, Type: C:\EPROM\WINPEP.BAT and press ENTER
- 4. Click 'next'
- 5. Click 'next' again
- 6. Click 'finish'
- 7. Click 'ok'

PROGRAMMER SETUP Denso, Denso 3, Denso 4, Honda

REQUIREMENTS: Bluechip-Pro, ASEREE2 Adapter, and ASOIC8 Clip

INSTALLING THE ADAPTER:

To install the adapter into the programming unit, lift the handle on the programming unit ZIF socket to about 45 degrees. This will release the mechanism and allow the adapter base pins to be inserted into the socket The adapter has a 28 pin base and must be inserted fully to the left on the programming unit. (See Photo 1). After the adapter is inserted and flush with the socket, release the handle to lock the adapter in place.

To remove the adapter, reverse the procedure.

INSTALLING THE CLIP/PROBE SET

To install the clip into the adapter, lift the handle on the adapter to about 45 degrees. This will release the mechanism and allow the base pins to be inserted into the adapter socket (the clip has an 8-pin base and must be inserted fully to the left on the adapter socket. Red dot must be oriented to the upper right. (See Photo 2). After the clip base is inserted and flush with the socket, release the handle to lock the clip in place. To remove the clip, reverse the procedure.

DIP SWITCH SETTINGS:

Programming Unit (see Photo 3) Adapter (see Photo 4)



Photo 1



Photo 2



Photo 3



Photo 4

PROGRAMMER SETUP

DELCO ECU:

REQUIREMENTS: Bluechip-Pro, ACOMI Adapter and Probe Set

INSTALLING THE ADAPTER:

To install the adapter into the programming unit, lift the handle on the programming unit ZIF socket to about 45 degrees. This will release the mechanism and allow the adapter base pins to be inserted into the socket. The adapter has a 28 pin base and must be inserted fully to the left on the programming unit. See Photo 5. After the adapter is inserted and flush with the socket release the handle to lock the adapter in place. Connect the "+5" adapter pin to the "+5" programming unit accessory connector. To remove the adapter, reverse the procedure.

DIP SWITCH SETTINGS

Programming Unit see Photo 6



Photo 5



Photo 6

GETTING STARTED

Computer requirements

The programming system software will run under DOS, WINDOW 3.1, 95, 98, ME, and XP on any speed machine. For DENSO ECU's a PC or Laptop will work just fine. However, due to the power-up requirements of a DELCO ECU a laptop cannot be used, **you must use a PC to avoid damage to the programming unit**.

Connecting the programmer to your computer

- 1. Open the programming unit case and remove the power pack. The cable which connects to the printer port is rolled up inside. Carefully unroll the cable.
- 2. Connect the cable to any standard parallel printer port on your computer.
- 3. Connect the power pack to an AC outlet. The green AC Power LED on the unit will light up
- 4. If you have loaded the program onto your Hard Drive, open the program and proceed to step 6. If you are running this program from a CD disk, please insert the program disk now.
- 5. If you are running under DOS type PEP at the prompt > and press enter. If you are running under windows select run then enter **A:PEP** and press enter.
- 6. The control program will load and display the opening screen, memory allocation, and printer port assignment. Following will be a list of devices. If the program responds with an error message, check the printer cable and power connections.
- 7. Select a device by entering the name and pressing enter.

Delco - Delco ECU's

Denso - Standard Denso ECU 93C56 Denso 2 - 93C86 Chip (rare) on standard Denso Denso 3 - 93LC66A Denso 4 - 93LC66 Honda - Honda Immobilizer Box

- 8. The program will switch to the main command screen and request that you verify the Dip Switch settings for the device selected. After the *Dip Switch* is set, press any key to proceed to the next screen
- 9. At this point the system is now connected and operational. Before attempting to reflash any ECU please read: **Reflashing an ECU. pages 9 to 17**

REPROGRAM CODES

As with all reflash tools, this programmer cannot reprogram all Eproms with only one method. The Bluechip Pro Programmer is shipped with basic reflash codes that cover most applications. Please refer to the APPLICATION CHART pages 2 & 3 to be sure the proper code is used. You will be notified via email or telephone as to the availability of

updated codes.

Also available are "pre-programmed" key files. These files allow you to reprogram an ECU with a code that matches an accompanying set of keys. Simply reflash the ECU with the proper file and cut the keys. No on board programming is needed, just "plug-n-go".

The Reprogram Codes that are shipped with this unit are:

- 1. **DELCO** To be used only on ECU's manufactured by Delco.
- 2. **NONTRANS** To be used only when a non-transponder ECU manufactured by Denso has been reflashed by mistake.
- 3. **16 BIT** To be used on most Denso ECU's manufactured from 1998-2001. (Please refer to APPLICATION CHART).
- 4. **32 BIT** To be used on most Denso ECU's manufactured after 2001. (Please refer to application chart)
- 5. Honda Reprogram
- 6. 60230 Lexus, GX470, 2003 2004
- 7. 60330 Lexus, GX470, 2003 2004
- 8. 50020 Lexus, LS400, 1997
- 9. 50030 Lexus, LS430, 2001 2002
- 10. 50031 Lexus, LS430, 2003
- 11. 50050 Lexus, LS430, 2004
- 12. 24020 Lexus, SC430, 2002 2004
- 13. **48020** RX330, 2004
- 14. **0E010** RX330, 2004
- 15. 35090 4Runner, 2003 2004
- 16. AA010 Camry, 2003 2004
- 17. AA010 Solara, 2004
- 18. 60220 Landcruiser, 2003 2004
- 19. 47010 Prius, 2001 2003
- 20. 47020 Prius, 2004
- 21. **08010** Sienna, 2004
- 22. 34010 Sequoia, 2003 2004
- 23. **33110** Lexus, ES330, 2004

REPROGRAMMING A DENSO ECU

- 1. After removing ECU from vehicle, place it on a clean work surface. Remove the screws holding the cover in place and set cover and screws aside. Remove screw (s) holding the circuit board in place and gently remove circuit board from ECU case.
- Locate the proper EPROM on the circuit board. The EPROM is identified on the chip itself with the markings (93c56) or (L56R). The EPROM is also identified with markings on the circuit board (IC900) or (IC499). See Photo 7
- 3. After the proper chip is located, use a small file or emery board to gently clean the protective coating off of the legs of the chip.
- 4. With the programming unit hooked up to your computer and the program running, attach the programming unit to the chip with the ASOIC8 clip. The chip should be oriented so you can read the numbers stamped on the face. **The red dot on the clip should be facing you.** See Photo 8
- 5. On the programming screen select "DENSO"
- 6. Verify Dip Switch settings and press any key.
- 7. Select command "D"
- 8. Select the desired reflash code.
- 9. Press "ALT-1"
- 10. Verify connection to the chip and press "P". You will receive a message in the lower right comer of the programming screen:
 - A. "Programming Successful". You are finished. Disconnect circuit board and reassemble. Close program.
 - B. "Device did not program correctly". Reattach clip to the chip making sure the contacts are directly in line with the "legs" of the chip. The screen should read "new device installed". Press "Y".
 Note: Several attempts may be needed at times, depending on how the chip is seated on the circuit board.



Photo 7



Photo 8

REPROGRAMMING A DELCO ECU

NOTE: Due to power requirements, a laptop cannot program a Delco ECU, you must use a PC.

- 1. After removing ECU from vehicle, place it on a clean work surface. Remove the screws holding the cover in place and set cover and screws aside. Remove screw (s) holding the circuit board in place and gently remove circuit board from the ECU case.
- 2. Locate the proper EPROM on the circuit board. The EPROM is usually identified on the chip itself with the markings (MV*********). With the circuit board laying flat and the connector bay facing you, the chip is located in the top right comer. The chip is approximately ³/₄" square.
- 3. After the proper chip is located, use a small file or emery board to gently clean the protective coating off of the legs of the chip. It may also be necessary to use a small spiral key extractor to clean the coating from in between the legs. It is also recommended that you use a can of compressed air to remove any extra coating from behind the legs.
- 4. With the programming unit hooked up to your computer and the program running, attach the programming unit to the chip with the *ACOMI* adapter and probe set. See Photos 9 -11. The chip should be oriented so you can read the numbers stamped on the face.
- 5. On the programming screen select "Delco"
- 6. Verify Dip Switch settings and press any key.
- 7. Select command "Z".
- 8. Select "I" Upload Comm. Program".
- 9. Wait for "Buffer Upload Complete" and be sure "Communication Verified" is displayed.
- 10. Select command "D"
- 11. Select the desired reflash code.
- 12. Press "ALT-1"
- 13. Verify connection to the chip and press "P". You will receive a message in the lower right corner of the programming screen:
 - A. "Programming Successful". You are finished. Disconnect circuit board and reassemble. Close program.
 - B. "Device did not program correctly". Reattach clip to the chip making sure the contacts are directly in line with the "legs" of the chip. The screen should read "new device installed". *Press "Y"*. Note: Several attempts may be needed at times, depending on how the chip is seated on the circuit board.



DELCO ECU EPROM CHIP



Probe Connection Colors

After the ECU has been Reprogrammed and Installed

Programming The Engine Control Module

Important Note:

The ECU will be in "Automatic Registration Mode", when you install it. Three (3) keys need to be programmed in. The ECM can hold up to Ten (10) keys.

While the ECU is in "Auto Registration Mode", the last key registered becomes the valet key. It is important to register the valet key as the last key in the sequence. You can just program three (3) master keys if you want.

The security light will blink until the first master key is inserted in the ignition.

- 1. Insert the first master transponder key into the ignition lock cylinder for registration. The security light should remain "on". **Do not turn the key.** Wait about 15 seconds. Remove the key from the ignition.
- 2. Insert the second master transponder key to be registered. The security light should remain "on". *Do not turn the key*. Wait about 15 seconds. Remove the key from the ignition.
- **3.** Insert the third transponder key to be registered, The security light should go out after a couple of seconds. *Do not turn the key*. Remove the key from the ignition. If the security light is still illuminated, pump the brake pedal 5 times to close the programming cycle.
- 4. When you are done registering keys, remove any key that might be in the ignition.
- The cycle is now closed. The programming mode will end after 10 more seconds.

- 1. After removing I.C.U. from vehicle, gently remove the plastic end cap and slide the circuit board out of the case.
- 2. Locate the proper EPROM on the board, clean the coating from the legs of the chip, and connect the probe set as in photo 12 & 13.
- 3. With the **Bluechip-Pro** hooked up to your computer, from the Device Selection table select 'Denso 3'
- 4. Verify Dip Switch settings.
- 5. Select Command 'D'
- 6. Select the proper reprogram code. High light
- 7. Press Alt + 1, this will take you to the Programming screen.
- 8. Reverify connection to the chip, Press P
- 9. After Data Verification Correct, disconnect probes from the I.C.U.
- 10. Reinstall I.C.U. in vehicle and follow Synchronization Instructions, page 18



Photo 12



Photo 13



Photo 12 A



Photo 13A

- 1. After removing I.C.U. from vehicle, gently remove the plastic end cap and slide the circuit board out of the case.
- 2. Locate the proper EPROM on the board and connect the SOIC, clean the coating from the legs of the chip, and connect the probe set as in photo 14 & 15.
- 3. With the Bluechip-Pro hooked up to your computer, from the Device Selection table select 'Denso 4'
- 4. Verify Dip Switch settings.
- 5. Select Command 'D'
- 6. Select the proper reprogram code. High light
- 7. Press Alt + 1, this will take you to the Programming screen.
- 8. Hold Probe **Purple Wire** against leg 10, see photo 15, of main processor, Press P to start program cycle.
- 9. After Data Verification Correct, disconnect probes from the I.C.U.
- 10. Reinstall I.C.U. in vehicle and follow Synchronization Instructions, page 18



Photo 14



Photo 15

- 1. After removing I.C.U. from vehicle, gently remove the plastic end cap and slide the circuit board out of the case.
- 2. Locate the proper EPROM on the board and connect the SOIC, clean the coating from the legs of the chip, and connect the probe set as in photo 16 & 17.
- 3. With the **Bluechip-Pro** hooked up to your computer, from the Device Selection table select 'Denso 3'
- 4. Verify Dip Switch settings.
- 5. Select Command 'D'
- 6. Select the proper reflash code. High light
- 7. Press Alt + 1, this will take you to the Programming screen.
- 8. Hold Probe Purple Wire against either pad T26 or T27, see photo 17, of main processor, Press P to start program cycle.
- 9. After Data Verification Correct, disconnect probes from the I.C.U.
- 10. Reinstall I.C.U. in vehicle and follow Synchronization Instructions, page 18



Photo 16



Photo 17

- 1. After removing I.C.U. from vehicle, gently remove the plastic end cap and slide the circuit board out of the case.
- 2. Locate the proper EPROM on the board and connect the SOIC, clean the coating from the legs of the chip, and connect the probe set as in photo 18 & 19.
- 3. With the **Bluechip-Pro** hooked up to your computer, from the Device Selection table select 'Denso 4'
- 4. Verify Dip Switch settings.
- 5. Select Command 'D'
- 6. Select the proper reprogram code. High light
- 7. Press Alt + 1, this will take you to the Programming screen.
- 8. Hold Probe **Purple Wire** against either pad T180 or T19, **see photo 19**, of main processor, Press P to start program cycle.
- 9. After Data Verification Correct, disconnect probes from the I.C.U.
- 10. Reinstall I.C.U. in vehicle and follow Synchronization Instructions, page 18



Photo 18



Photo 19

- 1. After removing I.C.U. from vehicle, gently remove the plastic end cap and slide the circuit board out of the case.
- 2. Locate the proper EPROM on the board and connect the SOIC, clean the coating from the legs of the chip, and connect the probe set as in photo 20 & 21.
- 3. With the Bluechip-Pro hooked up to your computer, from the Device Selection table select 'Denso 4'
- 4. Verify Dip Switch settings.
- 5. Select Command 'D'
- 6. Select the proper reprogram code. High light
- 7. Press Alt + 1, this will take you to the Programming screen.
- 8. Hold Probe *Purple Wire* against 3 of XT-1, see photo 21, of main processor, Press P to start program cycle.
- 9. After Data Verification Correct, disconnect probes from the I.C.U.
- 10. Reinstall I.C.U. in vehicle and follow Synchronization Instructions, page 18



Photo 20



Photo 21

After Lexus/Toyota ICU has been reprogrammed

Programming Procedure for Separate Immobilizer ECU

Once a new Immobilizer (transponder) ICU is installed, the Immobilizer (transponder) ICU is in Auto learn mode, this includes 2 Master & 1 Valet keys.

If less than 3 keys are to be programmed, the Immobilizer (transponder) ICU Auto learn cycle must be closed manually. To close the Auto learn cycle; turn the ignition lock 5 times from OFF to ON in 10 seconds or less. Then remove the key.

The Security (theft) light will stay ON with no key in the ignition when the Immobilizer (transponder) ICU is in the Auto learn mode.

If the Security light blinks 2 times for a second and then 1 time for a quarter second, the Auto learn mode failed.

If the Security light blinks 2 times for a quarter second and then 2 time for a second, a key that was already learned was used again to learn.

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Acknowledgement

Our thanks to National Auto Lock Service, Inc. and Michael Hyde for permission to use the Copyright AutoSmart 2003 information contained on pages 18 and 19 of this manual.

Engine Control Synchronize

After you replace the IMMOBILIZER CONTROL UNIT - You must perform the following

- 1. Insert an already learned Master key into the ignition lock and turn to the ON position.
- 2. Do not try to start the vehicle.
- 3. Use a suitable jumper (to short) the terminals on the OBD2 port for 30 minutes and then remove. The Engine Control Unit should then be resynchronized with the Immobilizer ICU.
- 4. Remove the key from the ignition and then reinsert to start the vehicle.

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These terminals are also referred to as TC (13) & CG (4).

Terminal #4 is Orange in color, Terminal #13 is Pink w/Black in color.

Reprogramming an Immobilizer Box Honda

- 1. Open plastic cover on box by gently lifting the lid at the end nearest to the plug connectors.
- 2. Locate the proper EPROM on the circuit board. The EPROM is identified on the chip itself with the markings, (93C46) or (L46AR) The chip is located at the top center of the circuit board. *Nearest to the lid hinge*.
- 3. After the proper chip is located, use a small file or emery board to gently clean the protective coating off of the "legs" of the chip.
- 4. With the programming unit hooked up to your computer and the program running, attach the programming unit to the chip with the ASOIC8 clip. (Denso) The chip should be oriented so you can read the numbers stamped on the face. The red dot on the clip should be facing you. See Photo 22
- 5. On the programming screen select "Honda"
- 6. Verify dip switch settings and press any key.
- 7. Select command D
- 8. Select Honda Reprogram.
- 9. Press Alt 1
- 10. Verify connection to the chip and press P. You will receive a message in the lower right hand corner of the programming screen:
 - A. Programming Successful. You are finished. Disconnect circuit board and reassemble. Close program.
 - B. Device not programmed correctly. Reattach clip to the chip making sure the contacts are directly in line with the legs of the chip. The screen should read, New device installed. Press Y.

Note: Several attempts may be needed at times, depending on how the chip is seated on the circuit board.



Photo 22

After Honda Reprogram

- 1. Reinstall ICU in vehicle
- 2. Cut blade (HD106) to match vehicle and attach to red key head.
- 3. Cut Master key (HD106 PT 5) to match vehicle. Key must be cloned from supplied key or originated on RW2 to sequence #31EE11A4 94CE7F20.
- 4. Program ICU and keys using a PGM (factory) Tester or suitable aftermarket tester (T Code, SDD, Code-seeker)

12 Month Limited Warranty - Bluechip-Pro Programming Unit

Transponder Innovations, warrants to the original purchaser of this product that it will be free of manufacturing defects for a period of 12 months following the date of purchase. This warranty does not include damage to the product resulting from accident or misuse. This limited warranty is nontransferable, is contingent upon proper use of the products covered and does not cover products which have been modified or which have been subject to unusual physical or electrical stress.

If the product becomes defective within the warranty period, we will elect to repair or replace it, provided it is delivered at the consumer's expense to Transponder Innovations with a valid Returns Materials Authorization (RMA) number. No product will be accepted for repair, replacement or return without a valid RMA number. An RMA number will be issued by calling Transponder Innovations, **1-866-512-5397**

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