



Proxcheck User's Guide

This user guide provides information on how to use and operate the Proxcheck Proximity Card Verifier and Proxcheck-IC Iclass card verifier.

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Revision pages of this manual are marked in the lower center of each page, noting the current revision level, and revision date.

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The Proxcheck



Package Contents

Included in your package should be:

- 1 Proxcheck
- 1 AC Adaptor
- 1 USB cable

Please inspect your package to be sure that you have all of the items listed.

Proxcheck Features

The proxcheck contains a 2-line backlit led display on the front of the unit for displaying proximity and Iclass card information. On the right side of the Proxcheck is a usb connector, a receptacle for the supplied ac adaptor, and a control switch.

The proxcheck can be powered from the ac adaptor, the usb cable, or 2 AA batteries. The usb cable and ac adaptor can be connected at the same time and will not harm the proxcheck, even if there are batteries in it.

Proxcheck can be used to verify or analyze the bit structure of a proximity or Iclass card, and decode the data from the card using preloaded or user-defined data formats.

Proxcheck can read Farpointe, Hid, and Awid cards, up to 64 bits in length.

Proxcheck-IC can read Hid Iclass cards, up to 64 bits in length.

Card data can be displayed in binary (showing each bit of the card), hexadecimal, or decimal.

The binary display shows 16 bits on each screen. The 1st 16 bits are shown first, then after each button press the next 16 bits are shown, until all bits have been displayed.

The hexadecimal display shows all of the bits (in hex) on one display line.

The decimal displays show the decoded data (facility code and id) from the card using the formats defined in the Proxcheck.

The functionality of the Proxcheck and Proxcheck-IC are the same. The only difference is the Proxcheck reads proximity cards, while the Proxcheck-IC reads only Iclass cards.

Getting Started

Connect the ac adapter to the Proxcheck and plug in the ac adapter.

The Proxcheck screen will display:



On the front of the Proxcheck there is an led. The led will be green when power is ON. If the led is red, that means that the Proxcheck has been "locked" to read only specific card formats. This will be explained later in the manual.

Present any supported card to the ProxCheck and the Proxcheck will display the card manufacturer on the display along with the number of bits on the card.

Examples:



Press the button on the side of the Proxcheck. This moves you to the next menu. On the next menu, Proxcheck will display a binary bit dump of the card. The first screen will display bits 1 through 16. Pressing the button again will display additional bits, 16 at a time, until all the bits on the card have been displayed:



Pressing the button again moves to the next screen which displays the card data in hexadecimal:

Hex Dump 26 Bit
8E698E4

Each hexadecimal character represents 4 bits. Cards that contain a number of bits not evenly divisible by 4 will be left justified in the hexadecimal data.

Following the hexadecimal display, the next display will show a decode of the card data. The Proxcheck comes with a number of pre-defined formats for 26,30,32,34,35,37, and 50 bit cards. For 26 bit cards, there are 3 pre-defined formats. The first format is the standard 26 bit format with a site code and id number. Proxcheck will show this format first:

(26-1) FC:5
ID:2

The (26-1) means this is the first pre-defined format for 26 bits. Pressing the button again will display the next pre-defined format for this card if there is one. For 26 bit cards, there are three pre-defined formats. Formats 2 and 3 will look like this:

(26-2)
ID:327681

(26-3)
ID:655362

Once all decoded formats have been displayed, Proxcheck will then go back to the welcome screen:

ProxCheck V1.03

OR

ProxCheck-IC
V1.03

You can press the button to view the card information again. Proxcheck will hold the last card data in memory for a period of 2 minutes. You can review the card information again if you wish by hitting the button and going through the displays again.

You can also present another card at any time to start a new card analysis and display. You do not have to wait for all display screens to be shown before reading a new card.

It is possible to program the Proxcheck to display only the decoded data for a card, using one of the pre-defined formats or a user-defined format. This is discussed in the programming section.

Proxcheck Features

Auto Shutoff

The Proxcheck can be programmed to shut off automatically after a period of inactivity. The available options are:

- Shut off after 30 seconds of inactivity
- Shut off after 60 seconds of inactivity
- Shut off after 90 seconds of inactivity
- Never shut off

This feature should be used if operating Proxcheck using battery power.

Proximity Card Locks

The Proxcheck can be programmed to bypass the card analysis displays and show only the decoded data display. If you are using the Proxcheck solely for identifying the ID numbers from cards which have worn off printing, this is the mode you will want the Proxcheck to be in. Once in this mode, every time you present a card the decoded data will be displayed.

There are a number of pre-defined card formats programmed into the Proxcheck. These pre-defined formats are:

26 Bit:		
(26-1)	FC: 2-9	ID: 10-25
(26-2)		ID: 2-24
(26-3)		ID: 1-26
30 Bit:		
(30-1)		ID: 14-29
(30-2)		ID: 15-30
(30-3)		ID: 1-30
32 Bit:		
(32-1)		ID: 16-31
(32-2)		ID: 17-32
(32-3)		ID: 1-32
34 Bit:		
(34-1)	FC: 2-17	ID: 18-33
(34-2)		ID: 19-34
(34-3)		ID: 1-34
35 Bit:		
(35-1)		ID: 19-34
(35-2)	FC: 3-14	ID: 15-34
(35-3)	FC: 3-14	ID: 16-34
(35-4)		ID: 1-35
37 Bit:		
(37-1)	FC: 2-17	ID: 18-36
(37-2)		ID: 2-36
(37-3)		ID: 1-37
50 Bit:		
(50-1)	FC: 2-17	ID: 18-49
(50-2)		ID: 1-50

You can lock the Proxcheck to any 1 format for each of the available bit counts. For example, you can lock 26 bits to the 26 bit standard format which is (26-1). You can also lock a 35 bit format to the standard which is (35-3).

Once you lock a format or formats, only cards that match the bit counts for those formats will be read. All other cards will be ignored.

User Defined Format

You can program your own format if the predefined formats do not include a format which matches the cards you are reading. If you program a user defined format, the Proxcheck will be locked to that specific format.

The user defined format takes precedence over other predefined formats. For example, if you program a user defined 26 bit format, then your user defined 26 bit format will be shown, not one of the standard 26 bit formats, even if you have locked the Proxcheck to one of the predefined 26 bit formats.

On/Off Button

When operating in the battery mode with no usb cable or ac adapter connected, the button on the side of the Proxcheck is pushed to turn it on. To turn the Proxcheck off, push the button and hold it for a few seconds until the Proxcheck turns off.

Note that you cannot use the button to turn the Proxcheck off when you are in any of the programming menus.

Programming the Proxcheck

The Proxcheck is programmed by going through menus and selecting the options that you want to program. There are two main menus, shown below:

Autooff	Userbit
Userfmt	Next

26	30	32	34
35	37	50	END

The menu system is entered by pressing the button 3 times quickly, within 10 seconds of turning on the Proxcheck.

Once you are in the menu system, you can move around the menu by depressing the side button. To select an option, hold the button for a while on that option. When the display changes you can let the button go. To get to the 2nd menu screen, hold the button for a while on the "Next" option on the first menu. Note that you cannot turn the Proxcheck off while in the Menu system by using the button. You must go through the menu to the last option "END" and select that option to return to the welcome screen in order to turn the Proxcheck off using the button.

Prior versions of the Proxcheck supported using a special card to enter the menu system. That card may still be used to enter the menu on a Proxcheck. It will not work on a Proxcheck-IC.

While traversing through the menus, an arrow will point to the option you are currently positioned at. Depress the button to move to the next option, or hold down the button to select that option.

Once you select an option, if further information is required, another screen will be displayed with the sub-options that can be selected for the main option.

An example:

If you hold down the button while positioned at "Autooff", the following display will be shown:

Auto Shutoff:
30 60 90 Off

On this screen, you can select an auto shutoff option of 30 seconds, 60 seconds, 90 seconds, or turn the auto shutoff OFF. To select an option, position the arrow at the option you want, then hold down the button until it is selected.

The options for locking specific proximity formats are labeled F1 (for format 1), F2, F3, and F4 if used. Refer to the table on page 8 for the bit formats for each of the options.

An display of the sub-options for locking a 26 bit format is:

Lock to 26 Bits: Off F1 F2 F3

If you select OFF, then the Proxcheck will not be locked to any 26 bit format. If you select any one of the formats, then the Proxcheck will be locked to that format.

You can select up to one locked format for each card size (bit count). You can select 26-1 for a 26 bit card, and 37-2 for a 37 bit card. Once you've done this, the led on the Proxcheck will turn red, signaling that the Proxcheck is locked. After that point, you will be able to read only 26 bit and 37 bits cards.

Programming a User-Defined Format

You can program one user-defined format into the Proxcheck. To program the User Defined format, you will need to know the following information for the cards you wish to read:

- Bit Count
- Facility Code start bit and length
- ID Number start bit and length

The Bit count is programmed by selecting "Userbit" from the first menu. The facility code and Id number information is programmed by selecting "Userfmt" from the first menu.

The operation of these sub-menus for Userbit and Userfmt are different than the other menus. On these two menus, depressing the button does not move you to the next option if you are on a numeric field

User Format Bits 00 Back

FC: 00 00 ID: 00 00 Back

For example, on the "User Format Bits" sub-menu, when you are positioned at the bit count field ("00"), depressing the button will increase the bit count. The bit count will range from 00 to 64. A value of 00 turns off the user-defined format.

Once you have selected the bit count that you want, hold the button down until the arrow moves to the "Back" option. Hitting the button quickly, while on this option, will work like the other menus and position back at the Bit Count. Holding the button down for a long period will go back to the first menu, just like the other menus.

On the Userfmt sub-menu, you enter in the starting bit (relative 1) and length of the facility code (site code) field. Also enter in the start and length of the ID field. If you enter in a length of 00 for the facility code field, then no facility code will be shown. The 2-digit number on the left of the display is the start, and the 2-digit number to the right of that is the length.

Note that a quick depress of the button changes the numeric values for the fields, similar to the Userbit screen.

Understanding how to use these 2 sub-menus will take some practice, however once you set your user format, you likely won't have to go back to these sub-menus again.

Loading new firmware into the Proxcheck

When new firmware is available, you can download the firmware into the Proxcheck using the IBC Firmware Flash Utility. The Utility and firmware are available on IBC's Proxcheck page.

The Proxcheck must be connected to your pc using a usb cable, and the IBC usb drivers must have already been loaded on your pc.

Install the utility software on your pc. When complete, run the utility program. You will find it in your "programs" menu, Programs -> ibc -> IBC Flash Utility.

The utility program will ask for the file to download into Proxcheck. Select the binary file which you have downloaded from the site, and click on "Start Download". The Proxcheck will now be flashed with the new firmware.