



[Ak chcete po slovensky kliknite sem](#)

Remote control of computer - Girder

Purpose of this paper is to give familiarization to people about smart device of type "great idea" (tested by satisfied users).

Introduction:

Try to build very simple remote control of your computer. Computer control is possible **with arbitrary infrared remote control** (e.g. to TV, VCR, CD, ...). Here introduced scheme is 100% functionable. At design of remote control I accentuate for maximum simplicity of hardware and transfer all intelligence to service software.

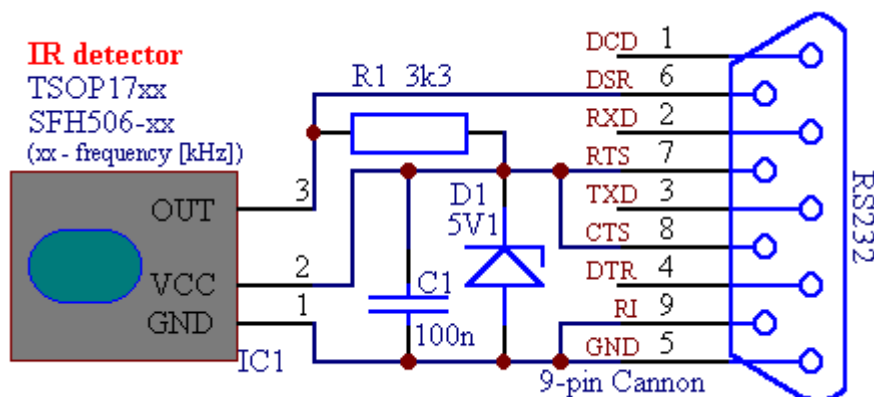
On internet is possible to find miscellaneous construction of remote control of computer. Many of them is solved with using of microcontroller (PIC, Atmel), which decode received code from IR-control and transmit it to the computer. Disadvantage of this design is small flexibility when problem happens with atypical remote control code (codes transmitted from IR-controls is not standardized: every manufacturer have its own - although there exists quasi-standards like as RC5, RECS-80, NEC). And this "exotic" remote controls are worldwided. At that time there is need for software update in microcontroller, what is difficult for "common" user (necessity of knowledge of programming mikroconrolers and technical devices - programmers). Other disadvantage is higher price of hardware too.

Construction:

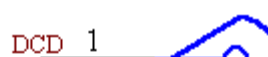
In my design is hardware very simple and cheap (cca 1US\$). All intelligence is made by service software. When problem will happen with atypical code of IR-control then is enough upgrade of software, what every user know sure (download from internet site).

As service software for remotes I choose [Girder](#). It is very good **multilanguage** program, and as one of few is **freeware**. It has well-solved support of software and hardware plugins. Therefore I have created my own plugin to Girder, which communicate with hardware part of remote control. Program Girder and my plugin you can obtain in [download section](#).

At the next picture is schematic of hardware:



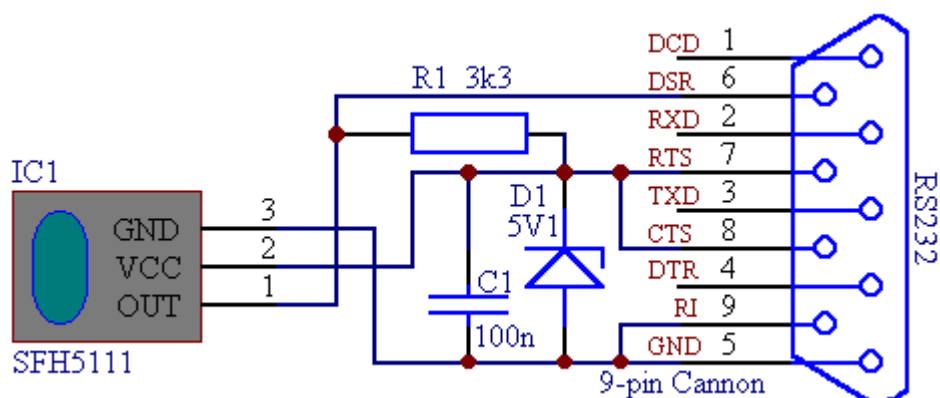
or with another type of sensors:



Attention! According to

users experiences:

Increasing of R1 to value up to 10k may increase receiving sensitivity - using this type of sensors (SFH5110 and SFH5111).



Or in case of problems [schematic with better receiving sensitivity](#).

And here is figure of its physical image (it is very simple):



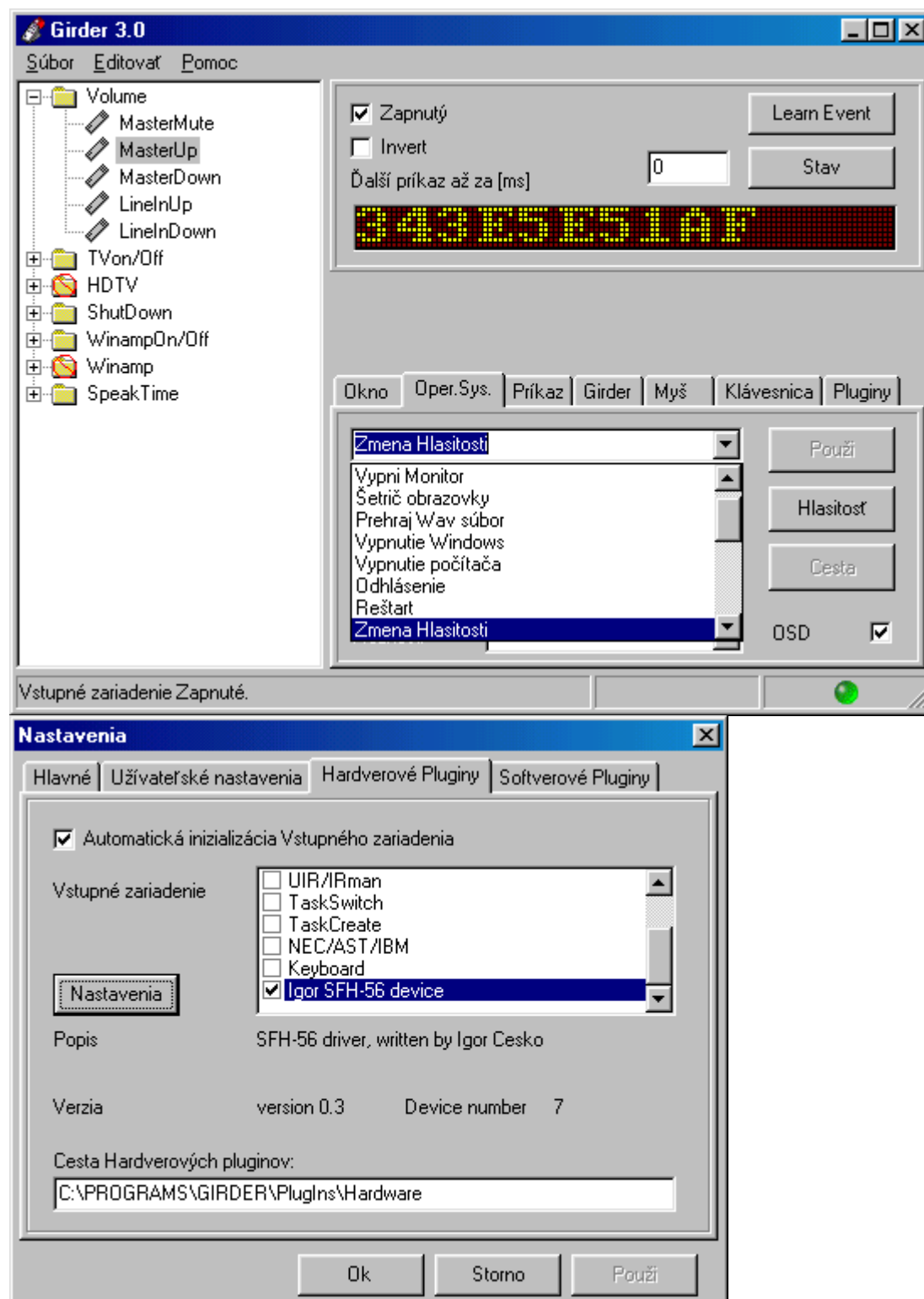


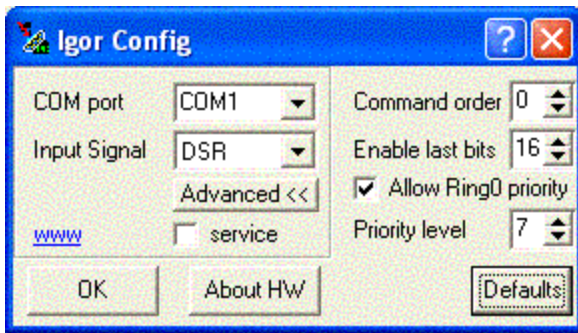
And here is in details [more pictures](#) (cca180kB).

Don't see to its simplicity. Only plug it into the serial port of computer and execute Girder. In configuration of hardware plugins there is necessary to choose "**IgorSFH-56 device**" and set correct

COM port.

In case of your interest you can see here [more details about plugin settings](#).





Sensitivity of receiver is fine. Even if the receiver is plugged directly in serial port on computer back side (which is below the table), is receiving marvelous good (comparison with TV). In choice of sensor frequency (xx in schematic) is necessary to respect matching frequency of IR-transmitter with used receiver. But this choice is not critical: e.g. sensors for 36kHz (SFH56-36; TSOP1736) receive with sufficient sensitivity transmitters at 38kHz too (but 40kHz too). The best way is choosing receiver at 38kHz (SFH56-38; TSOP1738), which are receiving with good sensitivity all remote controls.

Most of remote controls operate at 38kHz, some at 36kHz and some (mostly Sony) at 40kHz.

There is appropriate to read **Girder's help (exist in several languages)** .

Description of function:

Circuit uses integrated infrared receiver used for receiving of modulated signal. This chip contains circuits needed for receiving and demodulation of infrared signal. From its output goes only pure digital signal (envelope curve of amplitude modulated transmitted signal). Available are receivers of types SFH56-xx a TSOP17xx (tested). Chips SFH56-xx are only in bargain sale (end of production). Number "xx" mean used frequency for receiving. The persons concerned about details of this chips, they can find it in datasheets on internet.

Integrated circuit is supplied directly from computer serial port - from pin RTS. Stabilization of voltage to 5V makes Zener diode **D1**. It is without limiting resistor, because it used fact, that serial port has current limiting cca 10mA. In first version was used limiting resistor, but there was problem with insufficient voltage in case of notebooks using. In notebooks are signal levels about +/-6V and voltage loss on resistor causes receiving unreliability (same reason is impossibility to use stabilization with circuits of type 7805, which have min. voltage loss about 2V).

Capacitor **C1** is for filtration (flow peaks). Resistor **R1** is pull-up according to recommendation of manufacturer of TSOP17xx. Output of receiver is connected to signal DSR of serial port, where is software decoded.

Service driver is designed as plug-in module "**IgorPlug.dll**" in program **Girder**, to which it send received code. **Girder** in the next executes function, which was choosed. Assigning of transmitted code to given action is going through so-called learning by following: In program **Girder** we create given action and then we push button "Learn Event" (see figure). In the next we push button on IR-control, transmitted code is received and assign to given action. Functionality of action we test by pushing the same button on remote control.

Possible replacements of IR detector (in order of its applicability):

TSOP1738, TSOP1138, TSOP2138, SFH56-38 (end of production), SFH506-38, SFH5110-38 (need [to use schematic with improved receiving sensitivity](#)).

(Attention! some sensors have pins connected in another order - sensors in small packages)

Dealers in Slovakia (none promotion - only for Yours help): [Nedis](#) (cash on delivery too), [SOS](#) (through internet too), [GM Electronic](#) (try ?), [3Q Service](#)

Practical applications:

The greatest domain of remote control application is certainly comfortable control PC and in PC add-on devices: TV and radio cards, CD, DVD, WinAmp ... For this purpose was this device developed and mostly used too (who isn't lazy for get up and go to computer, in which just now is

going movie?)

But good property of all programs of type **Girder** is possibility to transfer application which was written only for user interface by mouse and keyboard in to environment of industry automatization. For example **Girder** makes possible remote controlling through TCP/IP network too. There is possible to choice communication medium and then reduce the protocol as we need. After this manner we obtain computer with powerful software, which is located at controlled place of work, but its control may be done from another place and especially with more simple hardware (reduced keyboard or microcontroller). From software point of view is only necessary to assign to external commands theirs competent actions on PC (key pushing, mouse movement and clicking, executing program etc.). So program, which wasn't dedicated for example for its controlling through RS232 will become by this manner externally controlled. Requirement is only using of operating system Windows (but there are versions and projects for Linux too).

Space for another applications I let for readers, but there are many : types of security systems of buildings , controlling on out-of-reach places by embedded PCs , wireless extension of control etc.

Action definition in Girder:

Here I present very good internet links, where is good description and technique of **command definition, eventually already finished command groups**:

- possible download already defined actions to Girder (here you are - only select):

<http://www.girder.nl/exportgr.php>

- very asked control of WinAmp:

<http://www.girder.nl/exports/winamp263.gxr>

or <http://www.girder.nl/exports/winamp271.gxr>

- control of Windows Media Player:

<http://www.girder.nl/exports/mediaplayer64.gxr>

- Common control of Windows98:

<http://www.girder.nl/exports/windows98.gxr>

And for people who want some to create by ourselves:

- fine explanation of Windows control principle is on [pages of Jan Rehak](#) (Czech language), where are another interesting links (for example: [controlling of all PC](#))

- good is read too [czech help](#) from [David Pribyl](#) (for Czech and Slovak users)

And at address <http://www.girder.nl/links.php> are good links relevant to Girder and PC control by IR remote control.

Latest news:

- **new hardware construction for ethernet network** [IgorPlug-UDP \(AVR\)](#) - also has support in last plugin
- **Internet payment possible:** to pay for donation or to order registered version of USB receiver. More info [here](#)
- **new plugin for WinXP for USB and COM port** [IgorPlugXP](#) - intended use for USB and UDP receiver. But works also with COM receiver (requires modified COM schematic: added connection between pins 1(DCD) and 3(TxD) on DB9 serial connector - see schematic included in plugin)
- **new hardware construction for USB port** [IgorPlug-USB \(AVR\)](#)

Downloads:

- **Girder** has changed from freeware to shareware - **download of Girder is possible only from Girder website** (Downloads section).
- **Last version of plugin IgorPlug** and **IgorPlugXP** . Packed by WinZip (cca 260kB). Installation of plugin consist in copying file "IgorPlug.dll" to directory "\GIRDER\Plugins\". Has support for USB and UDP receiver

- **Sound files for talking clock** for Girder in Slovak language. Talking clock say you current time after pressing button on RC. This is my voice - so ... ;-)
[Sound.zip](#) (cca 230kB). You only copy directory "Sound" into directory "GIRDER" and you can try **Talking Clock**.
- **Plugin mirrors:** [my mirror webpages](#), [Girder's downloads page](#).

Donation and support !!!:

- *If you are satisfied with this my smart idea* - you can you can send to me some small financial payment (amount of payment is your choice): *Bank account number:*
- Or simply use internet payment:  to donate and sponsoring next development - use here as recipient my e-mail: cesko@internet.sk . Thanks.

Information about last version:

version: **1.15** and **4.05** for WinXP

added functions/changes concerning to previous versions:

- v0.75-added autorepeat,
- v0.76-support Sharp RC,
- v0.77-correction in receiving RECS-80 code,
- v0.80-changes in receiving codes, changes in schematic,
- v0.84-support RC6 code (Philips),
- v0.90-added solution of main problem: Code receiving is now reliable! (but only under Win9x/ME and on processors above 486 - see section [Problems solution](#)),
- v0.91-possibility of manual priority setting (as driver in v0.90)
- v0.92-added version information into DLL, non setting Girders thread priority
- v0.93-schematic picture for better understanding how to build device
- v0.94-settings priority of plugin (if you have performed computer and multimedia is stopping during code receiving - you may decrease priority)
- v0.95-improved performance and better receiving in WindowsXP
- v0.96-added help in config window (question mark in upper right corner), independent schematic window, detection of hardware presence (RTS-CTS), small software changes
- v0.97-improved detection of hardware failure in receiver construction
- v0.99-lower CPU usage during receiving, changes in timing (removed problem of variable processor frequency - Intel SpeedStep, AMD PowerNow! - especially on notebooks)
- v1.00-added support for Girder 3.1.x (another changed plugin API in new Girder), but it supports older Girder 3.0.x too
- v1.01-added support for Girder 3.2.x (new changed plugin API in new Girder), but it supports older Girder 3.0.x and 3.1.x too
- v1.06-added solution for WinXP users : Code receiving is more reliable! (possibility to set Ring0 priority under WinXP/2k/NT too - see section [Problems solution](#)). Added correct receiver waking up after computer waking (from sleep mode, suspend, ...)
- v1.07-small change in RECS80 code receiving
- v1.08- support of new hardware construction for USB port : **IgorPlug-USB (AVR)** , added option of masking last bits
- v1.09-removed small bug in USB receiving (division by zero)
- v1.10-small changes - behaviour during ending Girder
- v1.11-changes about receiving code from RC for TV Mascom
- v1.12-added LED control in USB receiver (device enabled LED, and command received LED) - for more information see [IgorPlug USB key.pdf](#)
- v3.00- **USB and COM plugin with improved serial port version under WinXP** (serial port is for WinXP only), Attention! serial port schematic was slightly changed : added connection between TxD and DCD - pins 1 and 3 (see included schematic in plugin config)
- v4.01- USB and COM and **UDP plugin** - all in one. Removed problems with crash during config

window open. For UDP version see article about [IgorPlug-UDP \(AVR\) ethernet network receiver](#) (and see schematic in plugin configuration)

v4.03- removed problems calling plugin DLL from others programmers languages (images in config window behavior)

v4.04- small changes in decoding (improvement in RC5 code receiving)

v4.05 and v1.14- support for Girder 4 added

v1.15- removed problem with freezing in config window

tested with RC: Sony TV (Sony code), Orava TV (RC5 code), Panasonic Video (RECS-80 code), PCTVLive (NEC code), Creative iNFRA CDROM (NEC code), Xwave DVD (NEC code), Philips DVD (RC6 code), Philips TV (RC6 code) and certainly other too...

Problems solution:

Command is executed not only once: Some RC transmit code repeatedly with delay ones to tens milliseconds. In this case only adjust in Girder for this command in box *"Antirepeat wait time"* value about 100 ms (according to your button speed dropping).

Command is not executed repeatedly when key on RC is press: Then is necessary button on RC pressing and unpressing (not to let pressed). It is mistake of RC, because some RC transmit another code at first pressing and another code at long pressing (autorepeat has different code - usually smaller) - *from version 0.75 and up is already autorepeat fully functional for most RC !*

Code receiving is unreliable (different code at the same button press): Try to come near to receiver. If problem was then removed by this procedure, mistake is in matching frequency of transmitter and receiver or transmitter power is small - in this case is better the receiver move to the front (to direct visibility). If problem remains is possible, that on computer is running software, which usage processor at 100% (typically some 16-bit programs) and there is not enough time for service of code receiving. Look at processor usage and close program, which uses system, eventually try to reduce priority of some program (typically WinAmp on slow computers). If you now are browsing internet through local modem, then is receiving limited (see next section: "Mistakes to the present time").

This problem was removed use version above 1.06. But is necessary to turn on *"Allow Ring0 priority"* and set *"Priority"* to 7 or 8.

Another mistakes: Write to me description of mistake. In plugin configuration turn on service mode and then transmit some codes from RC. In directory *"/Girder"* will be created file *"log.txt"*, which you send to me [by e-mail](#) together with error description. I try to repair yours problem - wait for a new plugin version at this site. Note.: Data are only adding to the file, therefore if you want you can delete file (manually) and then update data in file by next button pressing on RC. Service mode is after program start always turned off - it not remains turned on if you are not turn it off.

Mistakes to the present time:

Windows shutdown problem: Using Girder's command for Windows shutdown happens that Girder freezes. Use following procedure to shutdown computer:

Instead of using simple *"Shutdown"* command in Girder use before this command *"Disable device"* (in sheet Girder), and put this commands into MultiGroup command..

Control problem in case of modem using: Code receiving is uncertain in case of using device, which uses driver for serial port. This situation can be for example during connecting to internet if you use local modem (including internal modem), or when you move fast mouse (but who will be to control PC by RC if you are browsing). In plugin settings switch *"Priority level"* to 7 and switch on *"Allow Ring0 priority"*.

Problematic applications: Code receiving is uncertain if on computer is running program, which uses 100% processor time or is sensitive to speed: teletext, multimedia (video, MP3). Then there depends at processor speed, but control is possible with some breaks from above Pentium 120MHz (may be less too).

Some applications use drivers, which periodically in short intervals (periodically cca 50 milliseconds) take control of system (interrupt is about ones of milliseconds) and by this they lock

during this interrupt code receiving. At that time happens in code change in several bits (during this some milliseconds), but periodically at another part of code, then the code looks as different at another times. Problem of this type is solvable only by adjusting problematic application - if is this possible. (Driver is running at system kernel level and it is not possible "decrease" its priority.) **But :** *This problem was removed - use version 1.06* (and higher). In plugin settings switch "Priority level" to 7 and switch on "Allow Ring0 priority".

FAQ:

1. Is possible to use IrDA port to receive signal from remote? No!!! This is impossible. IrDA is designed for data transfer and is incompatible (HW and SW) with standard remote controls used in electronic devices
2. Is possible to use USB to COM adapter for serial receiver? No!!! USB is in this application too slow! Believe me. USB response is cca 1ms and the signal changes from remotes are also below 0.2ms. Therefore I have developed USB receiver **IgorPlug-USB (AVR)**.
3. Received code is always 0000. Why? In plugin above version 3.0 is implemented new serial receiver schematic. You must connect pin1 and pin3 on COM connector together. Or next solution is to use plugin below version 3.0 (only for serial receiver).
4. Girder says that there is incompatible plugin. Don't copy file "IgorUSB.dll" into plugins directory. This file is not plugin, this is driver library for USB receiver. Don't touch this file.

Tested on operating systems:

- Windows95, Windows98, WindowsME, Windows2000, Windows XP
- Girder run on Windows NT too - but remove another plugins (*.dll files), which are showed in opening error messages
(my plugin is functional)

- I have developed also version for DOS - **DOSGir**  :



- appropriate for embedded systems (MP3 players based on old computers)
- simulation of keyboard pressing (in future eventually mouse moving)
- my own Girder

Hardware requirements:

- minimal tested configuration : Intel486 66MHz, 8MB RAM (works fine); Intel486 33MHz, 8MB RAM (not now works!!!)
- maximal tested configuration : Intel Pentium4 3.4GHz, 1024MB RAM ; AMD Athlon XP 3500+ 1034MB RAM
- if you have experience out of above ranges (faster/slower frequencies) let me now [by e-mail](#).

List of known vendors:



SLOVAKIA:

- **Pavol Bielopotocky** : offer 2 versions. One [with direct plug to the connector](#). Second is with receiving sensor on the cable. Both versions are according to [schematic with improved receiving sensitivity](#). Delivery is fast, cash on delivery (*in Slovakia*).
- **Martin Bordac** : offers 2 versions. One [with direct plug to the connector](#). Second is with receiving sensor on the cable. Both versions are according to [schematic with improved receiving sensitivity](#). Delivery is possible *in Bratislava*. Telephone +421-908 722 554.

- **Peter Piricky** : offers 2 versions. First version [with direct plug to the connector](#). Second version is with receiving sensor on the cable. Both versions are according to [schematic with improved receiving sensitivity](#). Delivery is fast, cash on delivery (*in Slovakia*), or delivery is possible *in Kosice* (face-to-face). Telephone +421-903-032287.

- **Branislav Rozbora** : Offer:

1) Receiver according to [schematic with improved receiving sensitivity](#) - **receiver on extension cable** (nicely build in plastic 9-pin CANON socket). Length of cable is selectable: up to 2m (available as kit too).

2) Receiver according to [schematic with improved receiving sensitivity](#) - **receiver on connector**: complete product or as kit too.

Delivery is fast: till 1 workday since order request: Phone: +421-0904-503424 or e-mailom:

rozbora@post.sk www: <http://sektor-x.wz.cz> . *Cash on delivery*, eventually *face-to-face in Trencin (Slovakia)* after phone call.

- **Martin Jenis** : offers version with TSOP1738 receiver on cable: 0.5m ,1m , 2 meters (you can choose), [schematic is with improved receiving sensitivity](#) in plastic box Cannon, delivery is up to 3 days. *Orders* on <http://supertech.szm.sk> or supertech@inmail.sk. For all is 1 month guarantee.

CZECH REPUBLIC:

- **Stanislav Vcelka** : offers 2 versions. One [with direct plug to the connector](#). Second is with receiving sensor on the cable. Both versions are according to [schematic with improved receiving sensitivity](#). Delivery is possible *in Czech Republic*, cash on delivery. Mobile phone: +420 777 809 114 .

- **Ondrej Valis** : offers 2 version. Version may be basic [with direct plug to the connector](#) or according to [schematic with improved receiving sensitivity](#). Package contains CD with the newest versions of control software: Girder + plugin. Price about 200,-Kc. Delivery is possible in *in Czech Republic* , cash on delivery, after previous **e-mail** contact or by phone: +420-608-862210.

- **Jiří Kalkus** : offers version with receiving sensor on the cable (cable length cca1.5m) or [with direct plug to the connector](#). Version are according to [schematic with improved receiving sensitivity](#). Price is 200,-Kc (sensor on the cable) or 170,-Kc (sensor on connector) and delivery is possible *in Czech Republic* in towns *Ceske Budejovice* or *Prague*. Contact: tel: +420777184274, e-mail: djbj@volny.cz .

GERMANY:

- **Benedikt Redmer** (e-mail irben@electrics.de): offer receiver "IRBen": [basic version](#) (but possible is [version with improved receiving sensitivity](#) after request too). Version is for direct plug into connector (very nice - see [webpage](#)) with price about 8-12 Euro. But if you want, he offer cable to extend serial port (cca 4 Euro). Something about his reliability you can see on <http://cgi2.ebay.de/aw-cgi/eBayISAPI.dll?ViewFeedback&userid=graustufe> (online auction eBay). Contact information: web: <http://www.electrics.de> , e-mail: ben@redmer.net , tel.: 05251/527861, mobil: 0177/9362001 .

- **BAxel Hundt** (e-mail axelhundt@web.de): http://www.usa-x.org/1shop/product_info.php?products_id=78 supplier of GIRDER-IR modules. Contact: Axel Hundt Am Lohfeld 1 * D-85445 Oberding Tel:+49 (0) 180/5445745-126 . Website: <http://www.dvbshop.tv>

POLAND:

- **Sebastian Grzys** : offer 2 versions. It is possible to choose between [basic version](#) or [version with improved receiving sensitivity](#). Both versions are in two modification: [with direct plug to the connector](#) or with receiving sensor on the cable. Delivery is possible *in Wroclaw* or by post *in all Poland* (after email contact).

- **Pawel Gluba** : offering [basic version](#) and [version with improved receiving sensitivity](#) with receiving sensor on the cable. Contact by phone: 0/502 055-039. Fast delivery *within Poland* by post or face-to-face.

- **Lisek** : offers [version with improved receiving sensitivity](#). Contact by e-mail: klsoft@interia.pl . Delivery is available *in Kielce*, and everywhere *in Poland*.

- **Michal Polak** offering [basic version](#) and [version with improved receiving sensitivity](#) (both version with receiving sensor on the cable). Fast delivery *within Poland* by post, or face-to-face (in Gdansk). Competitive price. More information: 0505 709 229, or e-mail: michal@gral.pl .

UNITED KINGDOM:

- **Dusan Malenka** : from **United Kingdom** offer 1 version. It is according to [schematic with improved receiving sensitivity](#), with receiving sensor on the cable. Delivery is possible *within Great Britain* by post (after e-mail contact).

- **Daniel Richardson** : from **United Kingdom** offer versions according to [schematic with improved receiving sensitivity](#), with receiving sensor on the cable or without the cable (you can choose). Package includes CD with the last version of Girder and setup guide/manual (help). Delivery is possible *within Great Britain* or to the rest of *the world*. Something about his reliability you can see on http://cgi2.ebay.co.uk/aw-cgi/eBayISAPI.dll?ViewFeedback&userid=pc_infrared_uk. Contact and more information: web: <http://zap.to/pcremote> e-mail: dj-richardson@ntlworld.com .

CANADA:

- **Phil Karza** : from **Canada** offer version according to [basic version](#). The cost will be \$15 Canadian. Shipping costs will be actual. You can contact him at his mail address 4ks@telus.net, or buy from www.dvbwest.com - ask for the Igor Girder Interface. Delivery is possible *in Canada*.

SINGAPORE (ASIA PACIFIC REGION):

- **Han Loke Su** : from **Singapore site** offer 1 version. It is according to [schematic with improved receiving sensitivity](#), with receiving sensor on the cable. **Now offer USB and Serial versions**. For DIY, offers SFH5110-38 and AT90S2313-10PI as well. More info on website: <http://www.alldiy.info> Delivery is possible *within Asia Pacific region* by post.

INDIA & PAKISTAN:

- **Joseph.F.Gonsalvis** : offers 1 version. It is according to [schematic with improved receiving sensitivity](#), with receiving sensor (TEMIC 1738-A 38) on the cable with 1m length . Delivery is possible *within India and Pakistan*. Price details: for Indian customers : 350 rupees (postage included) , *for Pakistan and Dubai customers* : 12 dollars (postage included). Money will be accepted by money orders only. No other payment means possible. Product will be sent in one or two weeks in India or any other place. *Contact address* : Joseph.F.Gonsalvis , 52\2 "D" type II colony , Ambikanagar-581363 , KARANATAKA , INDIA. *E-mail*: steven_fg@rediffmail.com

INDIA:

- **Harish Reddy** offer on serial receiver.Price: 9\$ per piece including delivery charges *anywhere in India* bulk orders negotiable. Delivery is within 1 week from order. e-mail: redharish@gmail.com.

VIETNAM:

- **Chinhan Ngole** : offer 3 versions using IR detector TSOP1738. It is possible to choose between [basic version](#) or version with [with improved receiving sensitivity](#). Both versions are in three modification: with direct plug to the connector or with receiving sensor on the cable or an internal piece connect to internal COM connector (sp. in old mainboard) with free hard/software instruction. A package (request) includes CD with the last version of Girder or PC Remote. Delivery is possible *in Danang, Hue or by post in all Vietnam* (after email contact). Price: 3-4.5 \$. *E-mail*: ngonhan2k1@yahoo.com

ARGENTINA:

- **Brush** : offer version of receiver according to the [basic version](#) and it's built up in small package with 1.5m cable to serial port (DB9). You can see photos at [Brush's webpage](#). The package has magnetic base and black acrylic front. Delivery is possible *within Argentina or* face-to-face *in Buenos Aires* (after previous [e-mail](#) contact).

In case of your interest to sell this "hardware" I will publish your address at this place. Condition is reliability at your customers. You can contact me [by e-mail](#). But there are possible you can be removed/added by similar way by your customers [complaints/compliments](#). Usage of plugin is for home usage free. For commercial purpose (sales with profit) is usage for companies not free - price is by contract: cca 4,-US\$/piece (let me to know [by e-mail](#) - it depends from amount). For home persons and small production volume is sale free.

Internet links:

www.cesko.host.sk - section Hardware
www.girder.nl
www.irassistant.com
www.pcremotecontrol.com
gware.virtualave.net
www.geocities.com/SiliconValley/Sector/3863/uir/

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homepage: www.cesko.host.sk