

# ALARM PAGER SET PG-2W

ver. 1.1.e

The PG-2W pager is designed for the wireless transmission of a car alarm signal and for local paging. Additionally, this device can be used for remote indication of other signals. The working distance of this system is 2 km (open area, transmitter antenna installed properly). The PG-2W set includes: transmitter PG-2T, receiver PG-2R, tape antenna PG-2A, keypad for manual triggering and wire-harness.

The transmitter can send three different signals (it has three signal inputs - zones). Additional signals can be sent if the keypad for manual triggering is connected to the transmitter. Each transmitter has a unique transmitting digital code (factory set). This code insures that only a receiver which was set (taught) for this code will react to the transmitted signal. An unlimited number of receivers can be set (taught) for each transmitter.

The transmission of the signal can be carried through the adhesive tape antenna or it can be sent through the car radio antenna. If an automatic antenna is installed, the pager can provide a signal to extend the antenna.

The pocket size receiver can be carried or clipped on your belt. It responds with an audible and visual signal if the corresponding code is received. Each receiver can recognize up to three distinct transmitters. So, one receiver is capable of monitoring up to three cars. You can distinguish which transmitter (car) is signaling by the color of the CAR LED (red, green or orange). The color of the ZONE LED distinguishes which input of the transmitter was triggered or which button on the keypad was pressed. The receiver reacts differently for alarms and for manual paging. All information received is stored into the receiver's ALARM memory (six levels). The user can easily check the memory. The PG-2R receiver is powered by two AAA size batteries. The condition of the batteries are checked automatically.

## Specifications:

### transmitter:

operating voltage	10 - 15VDC
consumption	stand by 10mA, act. 0.7A
frequency	27 MHz band
radiated power	max. 4W
working distance	up to 2km (open area)
code	digital (1.000.000 codes)
transmitting	max. 30sec after triggering

### receiver:

power	2x battery 1.5V, size AAA
consumption	1.2mA
indication	audible & visual
antenna	built in frame antenna
dimensions	75 x 55 x 17mm

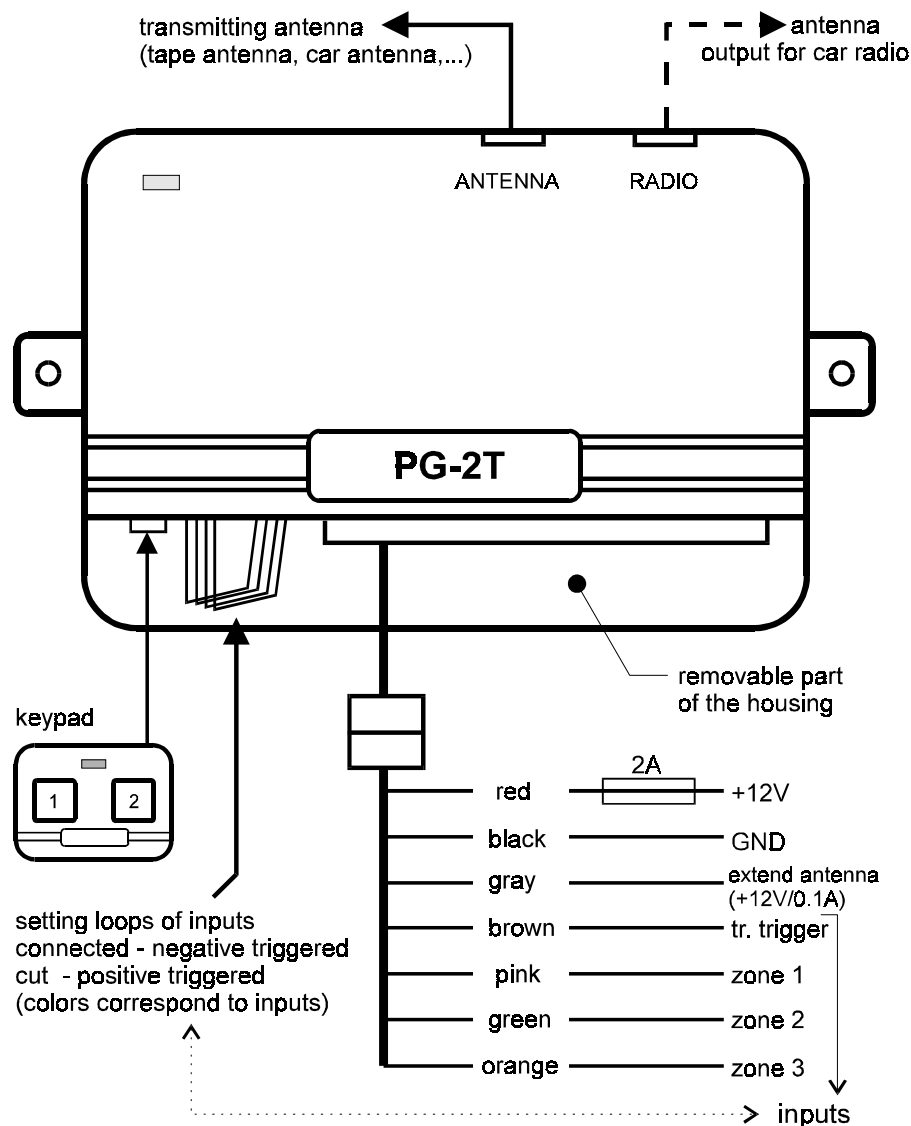
## Installation:

The transmitter should be installed in the passenger compartment of the car. Avoid locating it close to any other electronic device. Use two screws or double sided adhesive tape to attach the transmitter unit.

**Antenna** - the adhesive tape antenna PG-2A should be fixed to a window. It should be located at least 10mm away from the edge of the window. Do not install the antenna on a window with a built in defroster. Use the screened cable (provided in the kit) to connect the antenna. This cable has a connector on one end and two leads (core and screen) on the other end. Connect the cable core lead to the tape antenna. This connection should be as short as possible (cut the wire to the desired length). Insulate this connection properly with electrical tape. Then connect the screen lead with the car body (GND). This connection should again be as short as possible. The car body works as the second antenna pole. Plug the connector on the other end of the cable into the ANTENNA connector on

Pager set PG-2W

Installation



the PG-2T transmitter. The length of the cable can not be increased, so be sure to predetermine the location of the transmitter in reference to the antenna cable.

You can also use a **car radio antenna** for the pager. However, only an antenna which is not equipped with a built in preamplifier can be used. Additionally, the active part of the antenna must be longer than 1.2m. To use the car antenna, connect the antenna cable directly into the ANTENNA connector on the PG-2T transmitter. Then, use the connecting cable (equipped with connectors on both ends - provided in the kit) to connect the RADIO connector on the pager to the antenna input on the car radio. The PG-2T transmitter has a built-in signal splitter which allows the signal from antenna to reach the radio and will not interfere with the radio reception. When the pager is triggered, the antenna is used for the pager transmission.

If an automatic antenna is installed, the pager also provides a signal to extend the antenna (gray wire).

**Note:** some car radio antennas do not transmit the band of 27 MHz well. If this is the case with your antenna, you will realize this when you test the pager's working distance. The ideal antenna for the pager is a CB car antenna.

## Wiring:

The wire-harness is equipped with a connector which makes the installation easier. If you do not use some wires in the harness, you can release the wires from the connector (pressing the connector tab inside the housing with a narrow screwdriver). The transmitter housing has a removable part on the side of the wire outputs. Place the ends of your fingers on

the wire output slot and pull the upper part of the housing up to open the output section. Inside, you will find the keypad connector and four colored wire loops. These loops can be used to change the triggering polarity of the corresponding colored input wires.

**Keypad** for manual operation - install this keypad in a suitable place inside the car (use the adhesive tape that is attached to the keypad). Plug the keypad cable into the connector on the transmitter unit.

**Note:** The keypad is optional and the pager will work with the keypad uninstalled.

## Wires:

**Black** = GND Supply. Connect this wire to the original GND point in the car.

**Red** = Positive Supply (the wire with a 2A fuse). It should be connected directly to the positive terminal of the battery cable (usually marked as signal number 30 on the car wireharness).

**Gray** = output for automatic antenna actuator control. There is a +12V/max.100mA when the pager transmitter is active. Remove this wire if you do not use an automatic antenna.

**Note:** the following four wires are inputs. They all are negative triggered (an input is active when connected with the GND). If you need any of them as a positive triggered input (active when connected with +12V), cut the wire setting (programming) loop with corresponding color. The setting links are located in the output section of the transmitter. Do not forget to insulate ends of the wires with electrical tape if you cut any link.

**Brown** = transmitting trigger. If this input is active (for at least 5 seconds), the transmitter will send information regarding which zone input

is (or was) triggered. So there are two conditions for a transmission: a zone input triggering and an activation of the transmitting trigger. If the transmission trigger input is active for a longer period, the transmission will automatically be terminated after 30 seconds.

**Pink, green, orange** = zone inputs. These inputs determine which color of the ZONE LED on the receiver will light when the alarm is triggered. One of these inputs must be triggered (it can be only a short pulse) at the same time (or before) the transmission trigger (brown wire) is activated. Signals in these inputs are valid only if they were finished within one second before the transmitting trigger. If they are generated during the transmitting trigger they will also be valid.

More inputs can be triggered simultaneously (or gradually) during one transmission period. The ZONE LED on the receiver will repeatedly alternate between the corresponding colors.

The ZONE LED has the following colors (red = pink input, green = green input, orange = orange input).

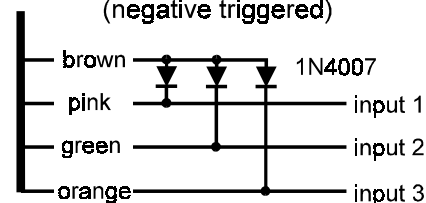
#### Examples of use:

**Installation in a car equipped with a car alarm** (following description is valid for CA-300 Jablotron car alarm). Cut the brown and pink setting loops in the PG-2T transmitter at first. Connect the brown and pink wires parallel to the siren output of the car alarm. Connect the green wire parallel to the output of ultrasonic detector and the orange wire parallel to the door switches. When installed in this way, each alarm will be indicated with red flashes of the ZONE LED on the pager receiver. If an alarm is triggered by the ultrasonic detector, then the ZONE LED will alternate red flashes with green flashes. When the LED alternates between red flashes and orange flashes, it means that the alarm was triggered by a door switch. If the ZONE LED alternates between all three colors, the door switch and the ultrasonic detector were both triggered.

**Installation in a car without a car alarm** (for example in a car equipped with an immobilizer). The easiest solution in this case is that you will only connect the brown and pink wires with the door switches. The other wires will not be connected (remove them from the connector). In this case, your receiver will inform you when anybody opens a door.

If there are more sensors available in the car (hood and trunk switches etc.), you can get three independent inputs on the pager transmitter. Use diodes connected as shown on the diagram.

#### how to get three independent inputs (negative triggered)



**Installation with a house alarm system.** When a telephone line is not available to transfer an alarm signal, you can use the PG-2W for this purpose. You again can choose if you will send only one alarm signal (parallel connection of pink and brown wires with siren output only), or to distinguish three different signals (see the description above).

You can also use the adhesive tape antenna on a house window for the transmitter. Connect the screen lead of the antenna cable to the earth in this case.

A better solution for the use in a house is to use an additional antenna with the receiver. See section "How to increase working distance ". We also recommend an external power supply module (model PG-2M) for the receiver. This

module provides an alarm signal on a dry contact output as well.

**Preparation of the receiver** - Insert two AAA size batteries to the PG-2R receiver. The receiver provided in the kit has been preset for the provided transmitter's code by the manufacturer (the receiver's CAR LED will be red for this transmitter). If you add a new receiver(s) to the transmitter, you must teach it the transmitter communication code. Each PG-2T transmitter has a unique code. Each PG-2R receiver can be taught a maximum of three transmitter codes.

#### Setting code procedure:

Note that the sliding switch for turning the receiver on and off can also be pushed in as a button switch. With the switch in the OFF position, press the switch in and hold it while sliding it to the ON position. Hold the button pressed until the receiver beeps. When you release the button, the ZONE LED will light orange permanently and CAR LED will flash red. This is confirmation that you have entered the learning mode.

You can change the color of the CAR LED by quickly pressing the button. Each press of the button will change the color. Use this method to set the color you want the receiver to show when it receives a signal from the transmitter. After selecting the desired color, trigger the transmitter (with keypad or with an alarm input). The receiver will confirm with five short beeps that the code was stored to the memory (approximately 10 sec. after the transmitter triggering). The receiver will now be in stand by mode, indicated by both LEDs tuning off. You can also terminate the learning mode at any point by sliding the switch to the off position.

If you want to teach the receiver an additional transmitter code, enter the learning mode again, set requested color of the CAR LED and trigger the next transmitter.

When your receiver has already learned codes for other transmitters and you want to reset it for only one transmitter, teach the transmitter code into all three colors of the CAR LED. The receiver will recognize that all the codes are the same and the green and orange code memory will be erased. Now the receiver will react only to one transmitter (with red color of the CAR LED).

**Note:** If you leave the receiver in the learning mode without any input, it will automatically return to the stand by mode after 4 minutes (without any change of the settings). All the codes are stored in non voltage memory, so the receiver will remember them even if the batteries are disconnected.

## OPERATION

**Stand by mode** - slide the switch on the receiver to the ON position. The receiver will confirm that it is ready with a short beep and a flash of both LEDs.

**When alarm signal received** - the receiver reacts with audible and visual signals. If you hear 9 beeps repeatedly and the ZONE and the CAR LEDs are flashing, it means that a zone input has been triggered (see color of the ZONE LED). You can stop the signals (confirm reception) by short pressing the switch button down. This stores the information to the memory. If the button is not pressed within 30 seconds, the information will be automatically stored to the memory.

**When manual paging signal received** - you can hear 3 beeps repeatedly and the ZONE and the CAR LED will flash. It means that somebody pressed a button on the transmitter keypad. You can recognize which button was pressed according to the ZONE LED color (orange = button no.1, green = button no.2, red = both buttons simultaneously). You can stop the signals (confirm reception) by short pressing the switch button down. This stores the information

to the memory. If the button is not pressed within 30 seconds, the information will be automatically stored to the memory .

**Indication of new information stored in the memory** - if a signal was automatically stored (was not confirmed by user), the receiver will beep once every 60 seconds. Pushing the switch button once will acknowledge the new information and the beeping will stop.

CAR (transmitter)	ZONE		
	red	green	orange
red			
green			
orange			

**Memory information reading** - press and hold the switch button on the receiver to check the most recent event in the memory. You will see which car (transmitter) signaled on the CAR LED and what happened on the ZONE LED. If the information was sent manually from the keypad, both LEDs will flash simultaneously and the receiver will be silent. If it was an alarm signal, the LEDs will flash and the receiver will also beep. If the ZONE LED alternates its color, it means that multiple zones on the transmitter were triggered. The receiver has 6 events memory. By pressing and holding the button you can see the latest event. If you release the button for a moment (max. 1 second) and press it again, you can see the second most recent event. The same method can be used to view the remaining events in order. If you hear 3 beeps after pressing the button, it means that there is no more information in the memory (the LEDs will remain off). If you release the button for more than 3 seconds and then press it again, the memory will return to the most recent event.

**Memory reset** - switch off the receiver and all events information will be erased.

**Battery check** - receiver performs an automatic battery condition check when it is in the stand by mode. If the batteries are low, the receiver will beep twice every five minutes.

#### How to increase the working distance

The working distance is essentially determined by the quality of the transmitter antenna. If you desire a longer working distance for the pager installed in your car, we recommend the use of a CB car antenna. Such an antenna should be installed and adjusted by a CB radio professional.

If you use the pager for a house alarm (fixed installation of the transmitter), you can use an additional wire antenna, model ANT-1. This antenna has a 5m span and can be installed vertically or horizontally (for example on the house roof). Install the transmitter unit close to the antenna (do not make the antenna cable longer).

If you install the receiver in a permanent location, we also recommend an additional antenna. You can use a wire (5m as a minimum). Locate the wire in a location that is not screened by any large metal objects. Lead one end of the wire to the receiver. Make four turns of the wire around the receiver housing and connect the end of the wire to the ground (central heating, protective earth etc.). In this way, the receiver will receive the signal via inductive coupling. If you install an additional antenna to the transmitter and the receiver as well, you will have a significantly further working distance.

For fixed installation of the receiver we recommend an external power supply module (model PG-2M). This module provides alarm signal on a dry contact output as well.