PROSTAGE
control without limits!

XLS Looper | Switcher
Users Manual

Firmware Version 1.80
As at 1st July 2016

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NOTE => This manual uses digital bookmarks. You can show them by clicking on the "flag" icon in the top left of Acrobat Reader. A click on a topic flips directly to that chapter.

1 Introduction

Dear Customer

Thank you for purchasing the Prostage XLS looper | switcher. The XLS has been designed to remotely switch effect units, MIDI units and other electronic equipment with one single MIDI foot controller.

Depending on its version, the XLS provides four or eight audio loops and/or four relay outputs, a tap switch and a versatile MIDI mapping. As the audio loops contain no active circuitry, the XLS can work with any effects device regardless of signal level.

With a Prostage foot controller or any other MIDI footswitch sending MIDI Control Changes, you turn effects on and off easily as you would do directly on the pedalboard ("Stompbox Mode"). Another approach would be creating unique presets for each sound accessible via a single tap on a MIDI foot controller switch. Or you could combine the preset-approach with the "Stompbox Mode".

1.1 XLS Features

- XLS-4: Four audio loops for effect switching
- XLS-4-4: Four audio loops for effect switching & four switching relay outputs
- XLS-8: Eight audio loops for effect switching (two groups of four loops each)
- StageWire technology: Connection to the foot controller using a standard microphone cable
- Phantom power for Prostage foot controllers.
- Works with all MIDI footswitches
- Responds to Program Change and Control Change messages
- Easy programmability of the loops / relays via front panel buttons
- Extended programmability via System Manager software for PC or Mac
- MIDI Mapper to control connected MIDI gear
- 128 programs can be saved in memory
- LEDs display the switching states
- Tap relay connection
- High-quality, gold plated relays for optimal sonic performance (hard-bypass)
- Soft-X-Fade switching technology that reduces the click noise associated with relay-based switchers

1.2 The Prostage System

Prostage stands for professional live-equipment. The XLS is plug and play. This means that you can plug it in and use it, without having to configure anything. You can easily store the settings for the loops and switching outputs directly at the unit.

Prostage foot controllers are connected to the XLS by one standard microphone cable! The StageWire technology developed by Prostage thereby achieves a secure connection between the foot controller(s) and the XLS. A standartd MIDI foot controller can be connect to [MIDI In] on the rear panel.

Prostage's philosophy is "control without limits". We want you to be able to setup your system exactly as you want it to work while keeping it as simple to use as possible. Therefore, there are lots of things inside the system you can configure yourself. To setup the additional features of the XLS, you need the System Manager software. This is available on our website for free download (Mac & PC).

You will notice that the chapters for connecting the system and the separate users manual for the Prostage System Manager software are very extensive, while the chapter "Programming & Operation" does not even fill a single page. This means: once you have configured the system properly, you will be able control your entire equipment with one single footstep.

If you have any questions, or if something does not work as you expect, please do not hesitate to contact us: info@prostage.eu. Your questions will also help us to improve this users manual.

The Prostage team wish you lots of fun with the new XLS and big success in your musical career.

Lukas Truninger
Founder & Developer

2 Terminology

2.1 MIDI

MIDI is Voodoo? This is wrong! Although, MIDI can do much more, what you need as a guitarist, is very simple. This is how MIDI works: A device - such as a foot controller – sends a command to another device - e.g. the XLS - using a MIDI cable. The transmitting device - the foot controller - notifies the recipient - the XLS - what it shall do. That's all.

You can connect your Prostage devices and use the basic functions directly, without having to deal with MIDI. If you want to use the advanced functionality of the system, you can find more detailed information on MIDI in the users manual of the System Manager software.

2.2 StageWire

StageWire is a further development of MIDI. The technology has been developed by Prostage specifically for the use on stage. StageWire is a connection where multiple devices communicate with each other (bidirectional) via a standard microphone cable.

Using StageWire, you can interconnect up to 14 Prostage foot controllers to control the XLS. The foot controllers are joined together in a chain. This means, you simply run a microphone cable from the first foot controller to the second, another cable from the second to the third foot controller, and so on. The foot controller(s) are supplied with power by the XLS.

2.3 Stompbox Mode = Instant Access = On/Off Switches

Instant Access are "direct-access switches." These on/off switches work like an analog pedal switch, which is connected directly to the amplifier, for example, to switch between the channels. So at the foot controller, you can define a switch, which is firmly assigned to a loop or switching output of the XLS. This switch, then, simply turns on and off the loop | switching output at the XLS.

2.4 Preset | Program Change

Presets are saved settings that can be recalled with a switch on the foot controller (= Program Change). A preset contains all settings of the amplifier and effects belonging to a sound (e.g. Clean). You create, for example, the following presets :

- Preset 1 (Clean) => Channel 1 of the amplifier & chorus switched on
- Preset 2 (Lead) => Channel 2 of the amplifier & delay and booster activated

If you press button 1 on the foot controller, the amplifier switches to channel 1 and the chorus is turned on. If you press button 2, the amplifier switches to channel 2. The delay and the booster are turned on. The chorus is turned off simultaneously.

So you can switch your complete guitar rig with a single button. You no longer need to perform a tap dance on different switches to adjust your sound.

2.5 Relay

The Prostage looper | switcher uses relays for switching the loops and switching outputs. Relays are remotely controllable switches.

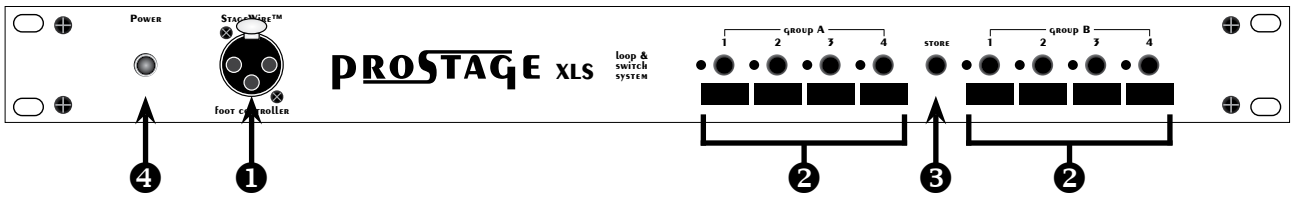
2.6 Bypass | Hard-Bypass

Bypass means that the signal is passed from the input jack of an effect device directly to its output. The effect is thus bypassed, ie it is off. With a hard-bypass, this is done with a relay. That is as whether the jacks are soldered directly to each other.

There are also devices that control the bypass electronically. In this case, at least one electronic component (an input amplifier) will always remain in the signal path. In the worst case, even the entire analog-to-digital and digital-to-analog converter chain remains in the signal path. Thus, the guitar signal will be affected even if the effect is off.

That is why you should always make sure that the device has a hard bypass. The Prostage looper are such hard-bypass systems.

3.1 The Front Panel



❶ StageWire | Foot Controller

Prostage foot controllers are connected to the StageWire connector of the XLS using one standard microphone cable. The cable can be up to 200 meters long. Also, a connection over an audio multicore is possible. The foot controller is phantom powered by the XLS. (=> A standard MIDI foot controller can be connected to the [MIDI In] on the rear panel.)

NOTE => StageWire does not work with phase reversed cables (microphones still work like this). Make sure that the cables are soldered properly.

IMPORTANT => "Old" Prostage foot controllers without StageWire connection are partly compatible with the XLS. Please contact us (info@prostage.eu) before you connect one of these foot controllers to the XLS!

❷ Relay Buttons

These buttons turn the audio loops or switching outputs (the relays) of the XLS on and off. The LED on the left side of each button is lit when the corresponding relay is on.

❸ Store Button

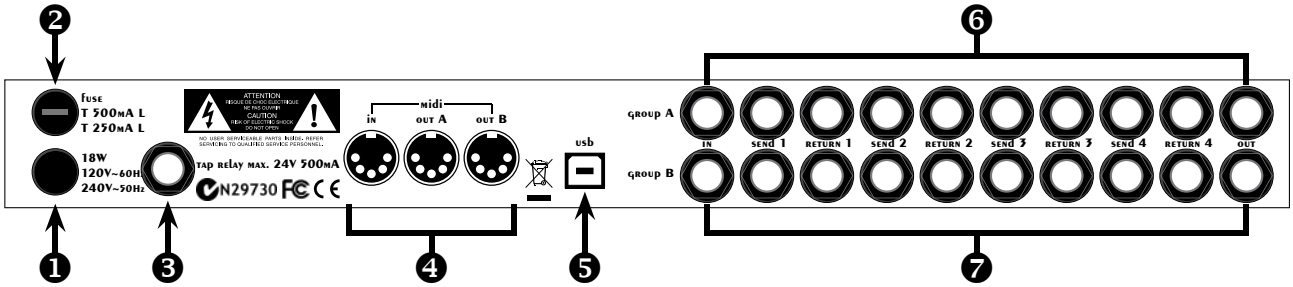
By pressing the Store button twice, the configuration of the loops and switching outputs is saved to the current preset number. The current preset number is the one last recalled in the XLS.

❹ Power LED

The red LED of the XLS indicates that the system is operating:

Blinking LED	=> the XLS is working, but no foot controller has been detected at the StageWire port.
Solid LED	=> The System is working and the communication with the foot controller works properly.
LED flickers	=> The XLS is receiving data on StageWire input.

3.2 The Rear Panel



❶ Power Cable

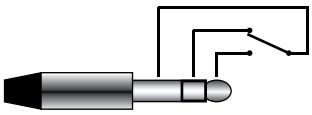
Depending on the country, the XLS is designed to operate on 110-120 or 220-240 volts. Before connecting the XLS to the grid, you must check whether the voltage printed on the XLS information is consistent with the country-specific mains voltage.

❷ Fuse

The fuse is used to protect the device. Defect fuses must be replaced using only equivalent fuses. Lower or higher values than indicated on the back of the equipment are inadmissible and can even lead to the destruction of the equipment.

❸ Tap Relais

The [Tap Relais] connection is an isolated switching contact. If your effects device has a connection for a tap footswitch, you can connect it with the [Tap Relais] connection of XLS (using a normal jack cable). One switch on the foot controller can then be used to adjust tempo-based parameters of the effect unit such as delay times. This is done by beat-related tap on the switch.
Alternatively, the [Tap Relais] can also be used as a programmable switch to alter amp channels. The [Tap Relais] is a toggle switch:



Shield => common terminal
Ring => normally closed
Tip => normally open

❹ MIDI

MIDI In => You can connect a standard MIDI footswitch or a sequencer here to send MIDI commands to the XLS.

MIDI Out => MIDI data received at MIDI In or StageWire can be directly forwarded through MIDI [Out A], MIDI [Out B] or both (MIDI thru). Further, any MIDI commands processed by the MIDI mapping of the XLS can be sent via these outputs. There are lots of possibilities to map, distribute, modify and forward the MIDI data inside the XLS. These settings are made using the System Manager software (Please consult the users manual of the System Manager software).

❺ USB

The USB connection is used for the communication with the System Manager software.

❻❼ Audio Connections | Switching Relay Outputs

Depending on the model version, the groups A and B are equipped with audio loops or switching relay outputs:

- Ten sockets = Group of four audio loops
- Four sockets = Four switching relay outputs

Please refer to chapter 4 for more information.

IMPORTANT => Building rack systems often leads to hum problems. To avoid this, the "Ultimative Guitar Rig Building Guide" is availablefor free download on our website. The guide applies not only to the XLS, but concerns the entire guitar rack building. We strongly recommend you to read this guide before you start wiring your guitar rig.

www.prostage.eu/guitar-rig-building.html

4.1 The Switching Relay Outputs

The switching relay outputs are used to control foot-switchable features of your guitar amp or any other device. This could be channel switching, boost, reverb, etc. Thus, the XLS replaces the classic footswitch of your amp. The channels and functions are switched by a MIDI foot controller instead.

To use one or more of these switching relays, connect a relay output using a standard jack guitar cable to the footswitch jack of the amp. If your amp has a two button footswitch with a stereo jack plug, you can use an insert cable. An insert cable has two mono plugs on one end – these are plugged into two relay outputs of the XLS. The other end of the insert cable has one stereo jack plug, which goes to the footswitch jack of the amplifier. If the amplifier has a multipin connector, we may offer a special (custom) cable. Pressing the relay button on the XLS now controls the same channel or function that your footswitch would do.

The four relay switching outputs of the XLS-4-4 are completely independent. This means, they have no common ground. So you can switch functions of four different devices too.

The pin assignment of the relays is the same as for the "Tap Relais" (see diagram in chapter 3.2). The relays can also be used as toggle-switches.

4.2 General Information about the Audio-Loops

Audio loops are used to include effects devices into the signal path - respectively, exclude them completely from the signal path when the effect is not used. The XLS is a true-bypass loop system. This means that the signal from the input goes directly to the output when no loop is switched on. The effects are only in the signal path when the corresponding loop of the XLS is turned on. The loops can also be used to distribute the signal to different amplifiers (switchable) or mute the signal for tuning.

The four audio loops of one group are connected in series. Each loop is connected internally to the next. When a loop is off, the Send and Return jacks are bypassed for this loop. The audio signal passes directly to the next loop, respectively, to the Out. If the loop is switched on, the guitar signal is routed to the Send jack. The Return jack is connected with the next loop, respectively with the Out. Thus, the connected effect unit is inserted in the signal path.

Group A and B of the XLS-8 are completely independent of each other (electrically isolated). This means that there is no ground connection between group A and B. Thus the two groups can be used for completely different signals.

4.3 Connecting Effects Devices to the XLS

There are many ways to use the loops of your XLS. For example, if you want to switch the effects used in the Send / Return of your guitar amp, connect the Send of the amp to the In of a loop group on the XLS. The Out of the loop group is connected to the Return of the amp.

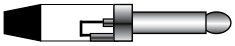
A Send of the XLS is basically connected to your effect units Input. The effect Output is connected to the related Return of the XLS. If you like to use all eight loops in series (e.g. all effect units are before the amplifier), connect [Out A] with [In B] using a short jack-jack cable.

More connection examples can be found in chapter 5.

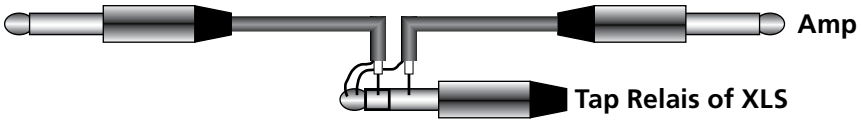
4.4 Tuner/Mute Function

You can use one loop as a Tuner/Mute function:

- Connect the Input of your tuner to the Send (the Output of the tuner will not be connected).
- Plug a short-circuited jack-plug into the Return (tip connected with shield).

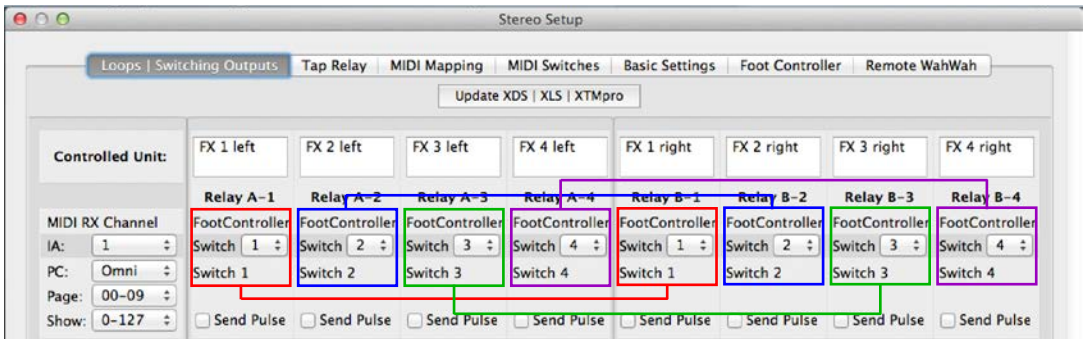
Mute plug: 

Tip => You can also use the [Tap Relais] as a mute function if you wire a special cable:



4.5 Stereo

The XLS-8 can be used as a four-loops stereo system. Group A is your left channel, group B the right channel. In order to link the two groups, you have to assign the same "Foot Controller Switch" to relay 1 of group A as to relay 1 of group B inside the System Manager software, and so on... (see chapter 10.3 in the System Manager software users guide).



If you like to use up to six loops in mono and only the last effect in stereo, there is a custom solution. Please contact Prostage for more information.

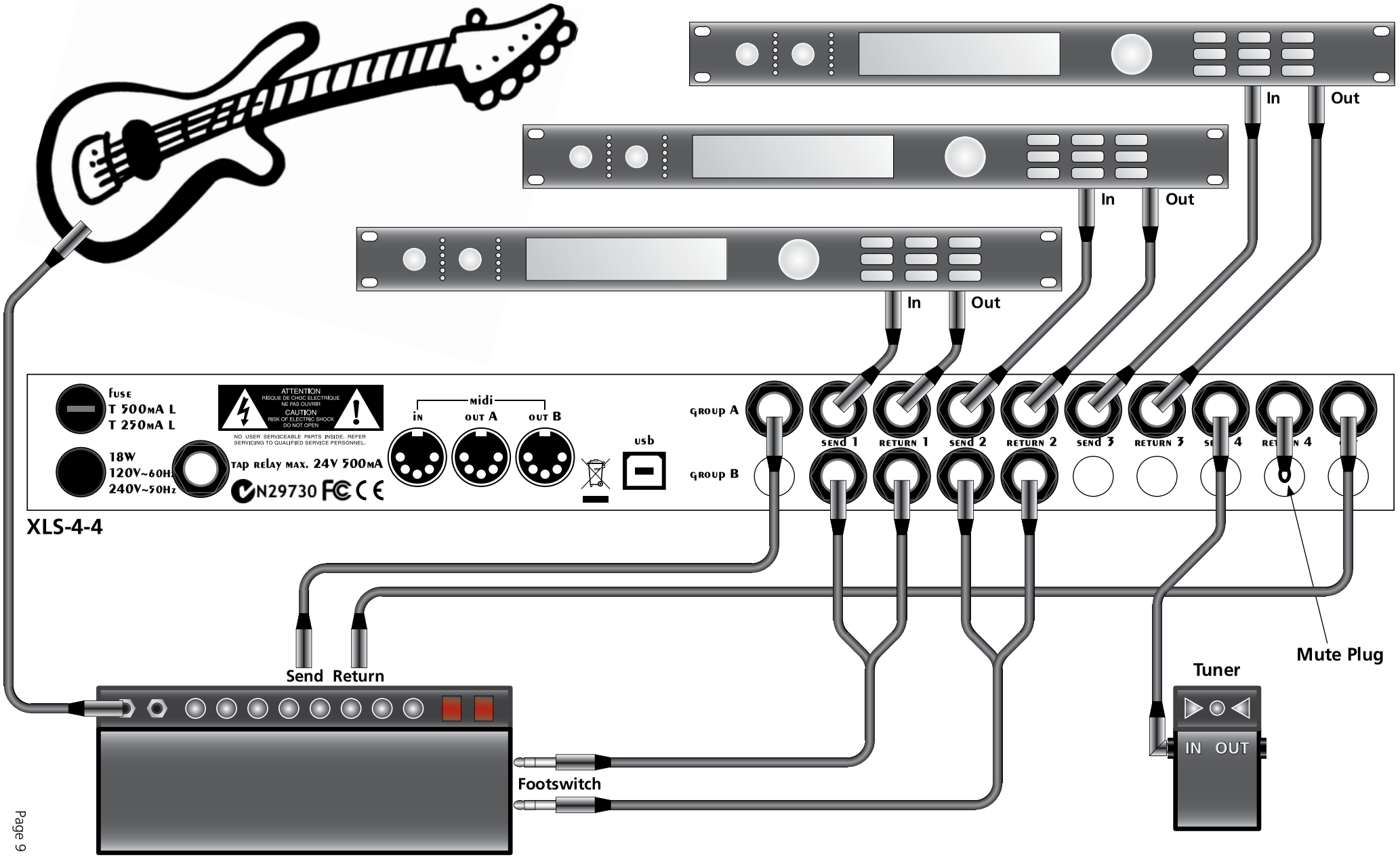
4.6 The Soft-X-Fade Feature

The XLS uses gold plated relays to switch the loops. Relays are the only switching method available without affecting the sound quality. The disadvantage of relays is that they can produce a slight click in your audio signal when they switch. This is more noticeable when using a high gain amplifier or overdrive and distortion pedals.

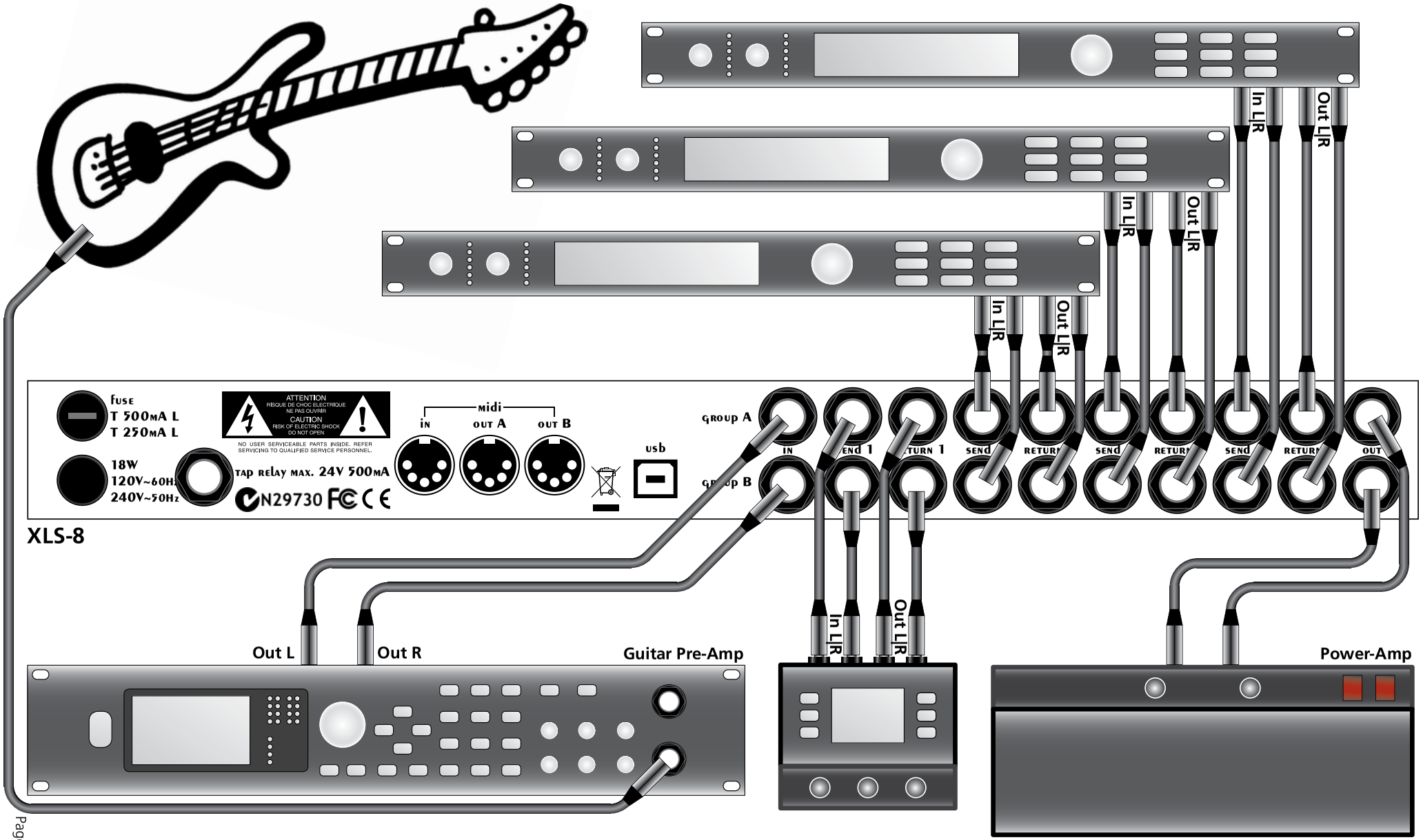
Therefore, the looper | switcher is equipped with a Soft-X-Fade feature - also known as "Click Stopper". This feature suppresses the audible click noise by briefly muting the audio output when the relays switch. Further, it makes preset changes sound more natural.

The Soft-X-Fade is suited at the Output of each loop group. You can turn off this feature using the System Manager software. If you are using all eight audio loops for stompboxes used in front of your amplifiers input, you should disable the Soft-X-Fade of group A (only the Soft-X-Fade feature at the end of the effects chain, thus Out B will be used). If you are using group A before the amp, and group B in the Send/Return of your amp, you can turn off the Soft-X-Fade of group B (switching effects after the preamp/distortion are by far not as critical and no audible click will be produced).

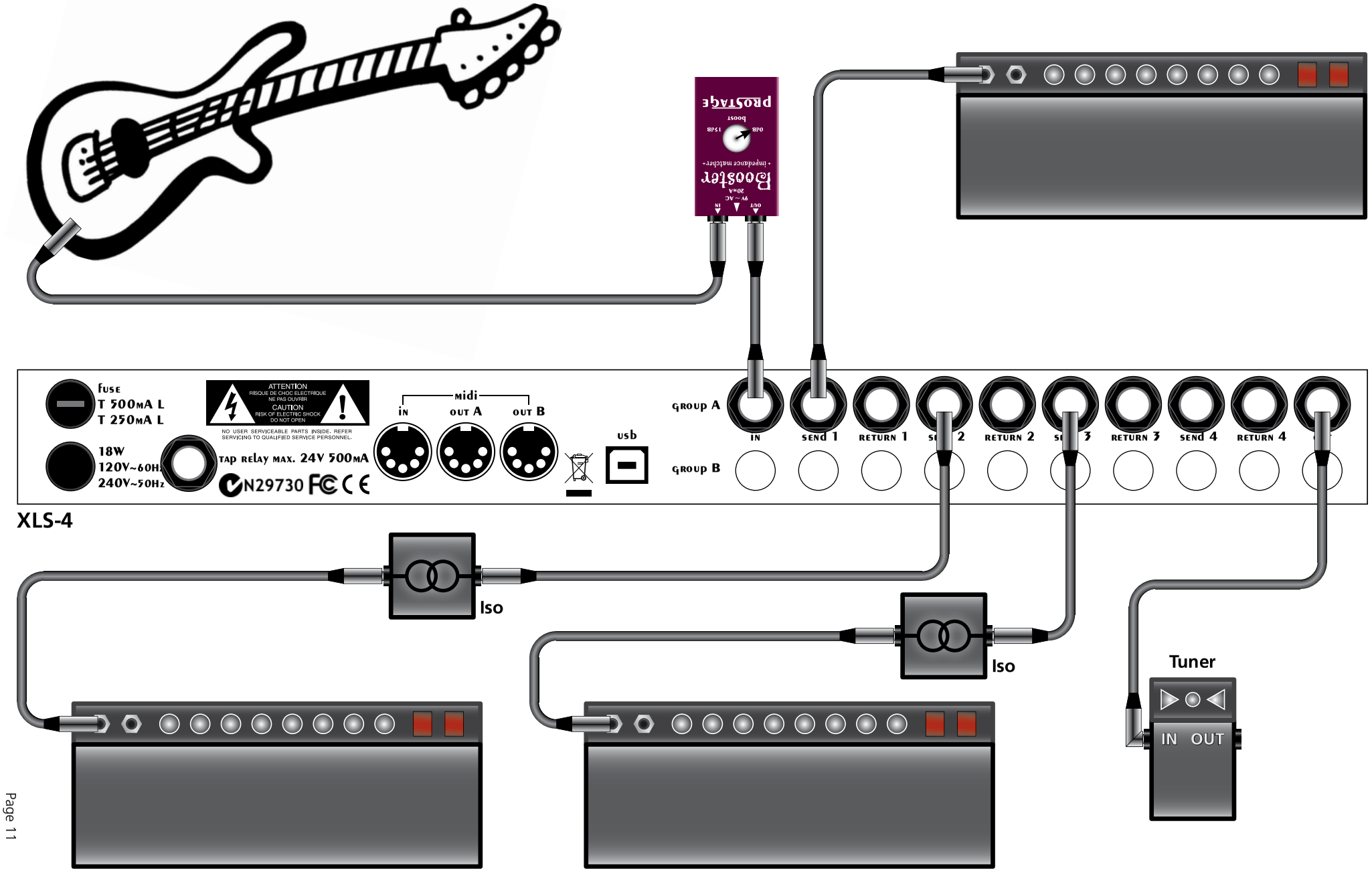
5.1 Connection Sample 1 => 3 Rack Effects in the Send/Return of the Amplifier, Tuner/Mute Function and Amp Channel Switching



5.2 Connection Sample 2 => Stereo Effects



5.3 Connection Sample 3 => Signal Distribution to 3 Amplifiers (switchable)



6.1 Creating Presets directly at the XLS

Inside the XLS, you can save 128 presets. The switching relay states (e.g. amp channel switching) and the settings of the loops (whether the effect is in the signal path or not) can be easily programmed:

- First, choose on the foot controller the program number or the sound respectively, for which you want to save the settings. Thus, the corresponding preset is recalled in the XLS.
- Enable / disable the relays as you like them to be activated in this preset using the switches on the XLS.
- Finally, press the store button twice. Thus, the current setting of the eight loops will be stored to the current preset number. To indicate that the new preset is stored, the red LED turns off for a brief moment.

IMPORTANT => Whenever a loop or switching output is switched, whether by hand or by preset changes, the XLS sends the new switching state on the StageWire bus, so that all foot controller (eg X07) display the switches current state.

6.2 Switching the Relays with Instant Access Switches (Stompbox Mode / Direct Switching w/o Presets)

The switching relays and loops can also be switched on and off directly with a switch on the foot controller, so as with a simple analog footswitch. At the foot controller, one or more switches have to be assigned to this function (e.g. using the Prostage X07). If you use a "standard" MIDI foot controller, this is done by using Control Change (CC) messages. Which button on the foot controller switches which loop is set by the System Manager software.

6.3 Programming with the System Manager Software

All further programming such as setting of the MIDI channel can be done with the Prostage System Manager software (PC or Mac). The software and its users manual can be downloaded for free on our website:

www.prostage.eu = > Support = > Download

7 Firmware Upgrade

The firmware is the operating system, the software within the XLS. New firmware adds more functionality to the system. You can upgrade the firmware to the latest version yourself. All information about this can be found in the manual of the System Manager software.

Important Note for the Firmware Update from Version 1.xx to 2.xx:

When upgrading from firmware version 1.xx to 2.xx, you must be sure to update the foot controller(s) first, and the XLS only after that.

Firmware version 2.00 provides a greatly improved StageWire communication. Therefore, a XLS with firmware version 2.xx does not recognize a foot controller with firmware 1.xx (and vice versa). Thus, once the firmware version 2.xx runs on the foot controller, this is no longer recognized by the XLS with version 1.xx. Once the XLS also has been updated the latest firmware, the units communicate with each other again .

8 MIDI Implementation Chart

The XLS is part of the coherent Prostage system. The XLS handles all MIDI data as they are configured by the System Manager software. Therefore you will find the MIDI Implementation Chart in the manual of the System Manager software.

9 Warning Instructions and Warranty

9.1 Warnings and Safety Instructions

For reasons of the product liability, we are obligated to make clear certain safety aspects which must not be ignored under any circumstances. The device must **not be stored or operated in damp or wet environment.** Before you connect the XLS to the power grid, make sure that the **tension of the equipment corresponds** with the mains voltage of the **country-specific grid**. If the data of the power grid does not match the data printed on the back of the equipment, it must not be connected to the grid under any circumstances. The power plug of the equipment must be easily accessible so that it can be disconnected from the grid. In addition, we recommend you to connect the equipment to a switchable current distribution.

The device serves for routing guitar signals as well as for controlling amplifiers and must be used exclusively for this purpose.

The equipment must be opened only by qualified technical personnel. Inside the device, **lethal tensions** arise. In addition, there are no user serviceable parts inside the device.

In order to avoid damages, you should be careful when transporting and setting up the devices. Please **avoid strong variations in temperature.** Particularly the change from the cold transport vehicle to the, usually warm, stage can cause condensing humidity, which can cause leaks and thus can evoke defects. Usually, 60 minutes are sufficient to equalize the temperature. For transportation, always carry the devices in a robust packing or rack, especially if you change your place of work frequently.

Defect fuses must be replaced exclusively using equivalent fuses. Lower or higher values than indicated on the back of the equipment are inadmissible and can even lead to the destruction of the equipment. For supply of current, only use three-core cables / **plugs with earthing contact** which are in technically perfect condition.

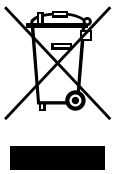
No containers filled with liquid may be placed on the equipment!

9.2 Warranty / Support

All Prostage PurpleLine units are covered by a **2-year warranty**. Prostage shall not be liable if the damage was caused by inappropriate use or if the units are not connected as described in this users manual. There are no user serviceable parts inside the unit. The detailed terms of the warranty can be downloaded on the Prostage website.

If you need technical support, please contact your local dealer or email info@prostage.eu

9.3 Disposal of Old Devices



The PurpleLine products are subject to the European guideline 2002/96/EC. All old electric and electronic devices must be disposed separately from the domestic waste, using the collection points provided by the government. The devices must not be disposed with domestic or skip refuse. Information about collecting points or collection dates, can be asked from the local administration or the local waste management company.
Please also carry the packing to an environmentally fair disposal. Cardboard boxes can be transferred with wastepaper collections or to the public collecting stations for recycling. Foils of the shipment are collected by the local waste management company and are forwarded to environmentally fair disposal.

10 Declaration of Conformity

Company: Prostage SL
Apdo 57
ES-07560 Cala Millor

Type of equipment: PurpleLine System

Trademarks: Prostage / StageWire

Models: XDS, XLS, XTMpro, X10, X07, X05, X01, XB1

The products meet the requirements of the following standards:

EMC: EN 55103-2 | EN 55103-1:2009 | EN 55103-2:2009
EN 61000-3-2
EN 61000-4-2 | EN 61000-4-3 | EN 61000-4-4 | EN 61000-4-5 | EN 61000-4-3 | EN 61000-4-11
Safety: IEC 60065:2001 | EN 60065:2002 / A1:2006 / Cor.:2007 / A11:2008

Year: 2011

Cala Millor, 14. Dezember 2011 Lukas Truninger, CEO

Information to the user:

Class B Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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