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# READYKEY™ CONVERSION

IMPLEMENTING A READYKEY FOR WINDOWS TO STANLEY PAC CONVERSION

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**STANLEY.**

## Converting Readykey for Windows to Stanley PAC

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### Introduction

This document explains how to prepare for and implement a conversion from Readykey for Windows to Stanley PAC. Although most existing systems can be converted with little or no change to installed hardware, there are some functions that may need new equipment, or may need to be used in a different way. You need to be aware of any limitations before you start the conversion.

Note that we use the term *conversion*. When you install Stanley PAC you are installing a new system, and not just upgrading an existing system.

#### PAC Portico for Windows

This was an identical, PAC branded version of Readykey for Windows.

#### PAC Vision or PAC Prism

Although this document discusses the conversion of a Readykey for Windows system, most of the information provided also applies to the conversion of a PAC Vision system to Stanley PAC. The primary differences are:

- PAC Vision may already be using TCP/IP communications. In which case just some minor changes to the Lantronix configuration will be required.
- The use of Regions, Access Levels and Reader Groups in PAC Vision means that data conversions may not be as simple as when converting from Readykey for Windows. Extra time may be needed to manipulate the data.

### Outline

Using this document you should be able to plan a Stanley PAC conversion. In outline the steps involved are:

1. Assess the existing system to see what, if any, features or functions will need to be changed.
2. Establish what Stanley PAC licenses will be needed based on the number of controllers, doors, PCs etc.
3. Schedule a time to perform the data conversion and database creation.

### Before you start

There are several things to consider before embarking on the conversion process. Take time to assess the items below to help ensure a trouble free conversion.

#### Why are you converting to Stanley PAC?

There are many good reasons to convert to Stanley PAC. The most likely reason is a need to replace outdated and unsupported computer equipment. You may also want to take advantage of new features such as network communications.

However do not expect this conversion to fix existing hardware problems. If you have a faulty controller or unreliable bus cabling then changing the PC software will make no difference. If the current system is exhibiting problems of this nature then ensure these are resolved before converting the system

#### Check existing hardware

Ensure that all the existing equipment meets the requirements for Stanley PAC. These are detailed below, but it is essential that this is verified before starting.

## What features are being used?

There are some features used by Readykey for Windows that are not supported in Stanley PAC. Elevator Control is one example. There are also some features that are done in a different way such as dial-up communications. These are all described below and you should check whether any of these affect the system being converted.

## Improve the system

Many Readykey for Windows have been installed for a long time. Over the years different administrators will have had their own ideas on how to run the system and organize access. This conversion process will be an opportunity to make significant adjustments or clean up the whole system. Sometimes just converting the existing system will just transfer a confusing and muddled system from one PC to another.

Stanley PAC, like PAC Vision before it, introduces direct network communications. Many systems that currently use dial-up connections can now switch to using a TCP/IP network.

Other improvements might include the combining of several independent systems now that network communications can be used.

## Existing Hardware

It is essential that you review this section to ensure your existing equipment is capable of being used by Stanley PAC. It may just be a matter of upgrading firmware, but in some cases new equipment may be required.

## What existing equipment is supported

### Door Controllers

- All existing 2200 (4 door) and 1200 (2 door) controllers are supported.
- All existing 2100 (4 door) and 1100 (2 door) controllers are supported – but must have v3 or above firmware installed. Controllers with earlier firmware must have the latest firmware chips installed.
- All existing 2000AM, 2000N and 2000SA controllers can be converted to a 2100 by installing a new memory module. Bear in mind that these controllers will be very old by now.

### Readers and Credentials

- All readers, cards and keys in use on existing controllers will continue to operate. No changes in wiring or configuration are required.
- All Wiegand output devices will continue to operate whether using a Wiegand interface or directly connected to a 2200 or 1200 controller.

### Communication and administration

- The PC administration kit is supported. This will continue to communicate with a master door controller and provide an enrollment reader.
- The MkII CNC is supported, but only the six-wire bus communication port is used. The enrollment reader on the CNC can also be used. See below for more details on CNC serial and dial-up communications.
- Any existing network connections used by PAC Vision are supported. The Lantronix devices, either external or built-in to the 2200ip, will just need a simple adjustment to their channel configuration.

### Ancillary Equipment

- The Alarm Event Manager (AEM, metal case, 8 Input, 8 Output) is supported – but Elevator Control is NOT supported, see below.



- The K2050 and K2051 alarm integration devices are supported. These devices have not been manufactured for some time and only work with the 2100 series controllers. Provided access groups are configured in the same way as before these devices will continue to operate.

## What is NOT supported

### Hardware

The following equipment is NOT supported. Alternatives are provided.

- **The Mki CNC.** This CNC can be identified by the large 25 pin serial ports on the rear. It was replaced in the mid 90s by the much improved MkII version. The MkII has smaller 9-pin serial ports on the rear plus a connection for an external reader. Either replace with a MkII CNC or, more likely, use an alternative communication method such as an administration kit or network.
- **All CNC serial ports.** These were used either for direct connection using a variety of communication devices or for dial-up using modems. Any direct serial device can be connected to a PC serial port. All dial-up is now performed by the PC. You can either connect the existing modem to a PC serial port or use an internal modem on the PC.
- **The Alarm Module** (plastic case, 8 Input, 4 Output). Replace with AEM.
- **PIPer modems.** These devices used the IP network but emulated dial-up modems and could be used by the CNC. Replace these with Lantronix UDS-1100 devices at each master door controller and use Stanley PAC network communications.

### Functions

- **Elevator Control** is not supported with existing equipment. This function is now provided using the 500 series controllers – see section below for details.
- **Global anti-passback.** This was a feature of a 2200 series master controller. Global anti-passback includes anti-passback between entry and exit readers on a single 2200 or 1200 controller. Local anti-passback on a single door controller using doors 1 and 4, 2 and 3 is still supported. Area anti-passback is now provided using a 500 based system.
- **Attendance Report.** Readykey for Windows had an attendance report that calculated the number of hours an individual had been present over a time period. Although Stanley PAC has an attendance report, it is more limited in the parameters that can be used.

## The PC running Stanley PAC

It is almost certain that a new PC will be used with Stanley PAC. As usual the simplest advice is to get a new one. We always recommend that the PC running Stanley PAC is dedicated to that task. It should not be installed on a PC intended for general use. This restriction does not apply to client PCs as they are not critical for the running of the system.

If a new PC is not available then the best advice is to take an existing PC and reformat the hard drive and reinstall the operating system. Almost all problems you may experience either installing or operating Stanley PAC (or many other applications) are due to various operating system settings or components. Re-installing the operating system from the original discs and applying all the latest patches will ensure a stable environment.

## Operating System

Stanley PAC will run on the following operating systems. In all case the operating system should be up to date with all Microsoft service packs, updates and patches.

- Windows 8/8.1 – 32 and 64 bit editions
- Windows 7 – 32 and 64 bit editions
- Windows Vista Business, Enterprise or Ultimate Editions - 32 and 64 bit editions
- Windows Server 2012 or 2012 R2– only available as a 64 bit edition
- Windows 2008 Server R2 – only available as a 64 bit edition

Stanley PAC will NOT run on the following:

- Windows XP
- Windows 2000
- Windows 95, Windows 98, Windows ME
- Windows Mobile
- UNIX, Linux, Mac OS and anything else you can think of.

## PC Specification

There are no special requirements for the PC running Stanley PAC. The most important component is the operating system as described above. Beyond that a minimum hardware specification will include:

- 1 GHZ Pentium 4
- 1 Gb RAM – the more RAM the better
- 20 Gb free space on the hard drive
- CD Drive
- Ethernet interface
- 1 serial port (RS232) – you may need more for communication purposes, see below.  
Do not use a USB to serial adaptor. These have been known to work, but more often they do not.



## Stanley PAC Licensing

Once installed Stanley PAC needs to be licensed. Without a license Stanley PAC will operate and allow up to 4 doors and 20 cards to be used. This is usually for demonstration and training. However no system will communicate with the 2000 series controllers until licensed to do so.

Licensing is based on a unique serial number, or 'fingerprint'. No hardware device (dongle) is used. If a PC is changed then a new set of codes will need to be generated.

### Determining the license requirements

There are several steps to determine what Stanley PAC licenses are required for any given system. The different components are described in detail below. The main steps are:

1. Determine which **Edition** will be required. In almost all cases the **Advanced** edition will be used for conversions.
2. Determine the total number of **2100/2200 Door Controllers** in the entire system. If you have more than 50 of these controllers you will need the **Professional** Edition.

### The different editions

Stanley PAC is provided in 4 editions. These editions provide increasing functionality and capacity. Make sure you choose the edition that matches the system you are converting.

The editions and the main features are shown below:

	Lite	Standard	Advanced	Professional
<b>Stanley PAC part no.</b>	7S-PACLT	7S-PACSE	7S-PACADV	7S-PACPRO
<b>Cards</b>	5000	25000	50000	75000
<b>Doors</b>	128	250	750	2000
<b>Access Groups</b>	200	1000	2000	5000
<b>Number of Client PCs</b>	2	5	10	15
<b>2100/2200 Controllers</b>	<b>NO</b>	<b>NO</b>	<b>50</b>	<b>250</b>
<b>Elevators</b>	NO	NO	20	100
<b>Number of Org Units</b>	15	25	50	100
<b>ID Badge</b>	Yes	Yes	Yes	Yes
<b>500 Channels</b>	0	100	250	500
<b>Direct Channels</b>	50	50	50	100
<b>Dial-Up Channels</b>	10	100	250	500
<b>TCP/IP Channels</b>	Unlimited	Unlimited	Unlimited	Unlimited

**Note:** For Readykey for Windows conversions using 2100 or 2200 series controllers then you will **always** use either the Advanced or Professional Editions.

All editions include ID Badge design and printing as well as image capture.

## The Conversion process

Once the Stanley PAC software has been purchased, installed on the new PC and licensed the conversion process can begin.

It is important to understand what elements of the system need to be entered manually and what are converted from the existing system.

### Building the Database

#### Data that is transferred from the existing system

The following data is transferred from the existing system and will appear in Stanley PAC.

- Areas – all area names are transferred.
- Access Group names – note that only the names and not the configuration are transferred
- Cardholder information – this includes Access Groups, Extra Access (Areas, but NOT time profiles) and Extra Info.
- Photos – if images have been stored then these are transferred.

#### Data that needs to be entered manually

Most of this information can be transcribed directly from the relevant parts of Readykey for Windows. If the old PC is still operating then this can be quite a straightforward process.

- Channel settings – all communication parameters (from sites in Readykey for Windows).
- Door controller configuration – including name, address, and lock sharing.
- Input/output programming – including controller relays and K2015 inputs and outputs.
- Door configuration – including name, lock time, door monitoring, access information.
- Time Profiles – all time profiles need to be recreated, including holiday schedules. These can then be applied to Doors, Access Groups, Personal Access (if used) and any Relays.
- Access Groups – although the names are transferred, these need to be programmed again.
- Operators – these need to be recreated.
- Card Designs – if card designs were used these need to be re-created.

The best way to proceed with this process is to get the converted data into the system at the start and then build up the new database from there. Alternatively the hardware database can be started and the cardholder imported later.

### Install and license Stanley PAC

At an early stage you should install and license Stanley PAC on the target PC. Try and install on the machine you know is going to be used. Re-installing Stanley PAC on another PC at a later point will need a new license code and could result in delays.

When calling for a license you will need to have the Stanley PAC order information available to ensure the correct license codes are generated.

### Transferring Data

Data from the existing system can only be extracted and transferred to a Stanley PAC system by sending a database backup to Stanley PAC Technical Support. In most cases this can be done by e-mail and file transfer. Once received the data can usually be transferred and returned the same day.

If the system is complex or you are taking advantage of this process to make significant changes then it may take a little longer.



It is important to arrange this process in advance to ensure that a technician is available on the day.

## Readykey for Windows

Make a backup from the Readykey for Windows system. This will generate 2 files; DATABACK.ARQ and DATABACK.HDR. If, for some reason, it is not possible to make create a backup in this way, then copy the entire contents of the data folder. This is usually **C:\Rkeywin\Data**. You may need to compress (zip) these files into a single file for transmitting.

## PAC Prism or PAC Vision – Access

Two files are required from the data folder. This folder will usually be **C:\Program Files\Prism\Data** or **C:\Program Files\Vision\Data**. The data folder could have been moved to a different location such as a network server. To make sure you are looking in the right place open the SYS2000.ini file (Windows Start: Run... then open SYS2000.ini). The first few lines of this file will look something like:

```
[OS]
LocalPath=F:\Vision
RemotePath=F:\Vision\Data
Custom_Fields=20
```

The line that starts **RemotePath=** is the location of the data folder.

The two files that are needed are:

```
Access_control.mdb
Hardware.mdb
```

## PAC Prism or PAC Vision – SQL

If the system is using a SQL server then you will need to ask the SQL administrator to make a backup of the Vision database.

## PAC Prism or PAC Vision – Photos

Whether the system uses an Access or SQL database any photos are stored in the Remote Path (see above). You should copy all the files from the **[Remote Path]\Graphics\Photos** folder. These should be compressed (zipped) into a single file.

## Send the files

These files should then be sent to the person performing the transfer. You can send the files in a variety of ways depending on their size and the facilities available.

- By e-mail if less than 10Mb
- Using a file transfer service – you will be given a link to upload up to 2Gb
- Copy to CD or DVD and send by carrier

**Note:** If you have already started entering data into the Stanley PAC system then send a backup of Stanley PAC as well as the older files. Then the data will be merged into the Stanley PAC system and you will not lose the data you have already entered.

## Data Conversion

Data from the original system is transferred (see above for details) and a Stanley PAC database is returned. This is usually done within the day provided e-mail or file transfer are used.

## Restore Stanley PAC database and complete programming

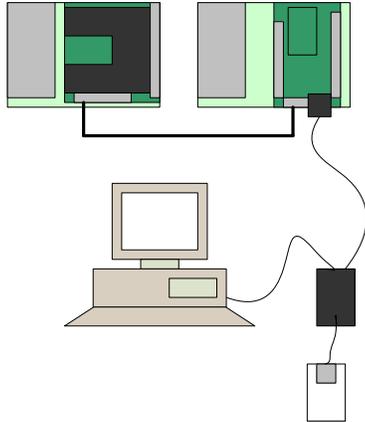
A Stanley PAC database is returned which is then restored into the system. You should find all the Areas, Access Group names as well as all Cardholder information, including images is now in place.

## Examples

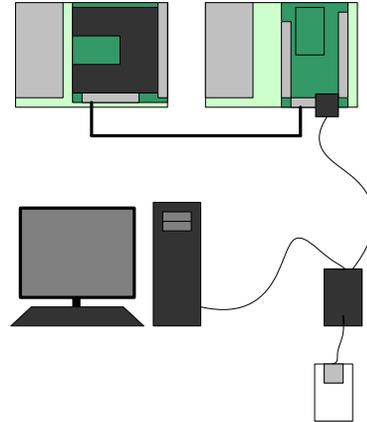
The diagrams below show typical systems and how they may be converted to Stanley PAC.

### Readykey for Windows using an Admin Kit

Readykey for Windows using an admin kit.

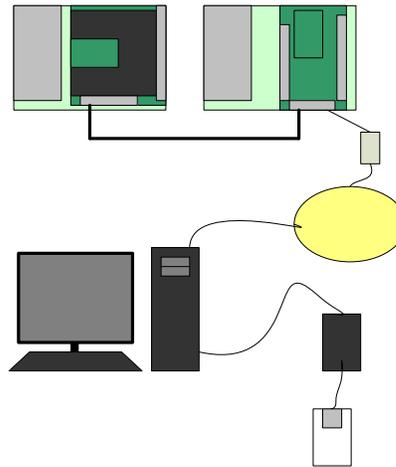


Stanley PAC uses the same admin kit with no change.



Channel Type: Direct  
 Protocol: Serial RS232-SWB  
 Port: PC serial port, e.g. Com 1  
 Admin Reader: same serial port

As an alternative a network connection could be made using a Lantronix UDS-1100. The admin kit is then just used for enrollment.



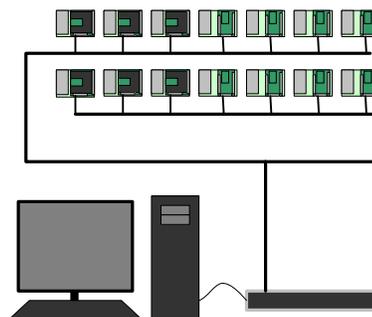
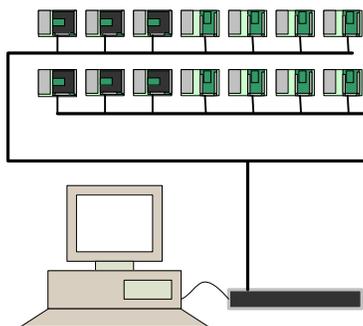
Channel Type: TCP/IP  
 Address: IP Address  
 Admin Reader: PC serial port, e.g. Com 1



## Readykey for Windows using a CNC – Six-wire bus

Readykey for Windows using a CNC with controllers connected to the six-wire bus. Up to 32 controllers on the six-wire bus.

Stanley PAC uses the same CNC with no change.

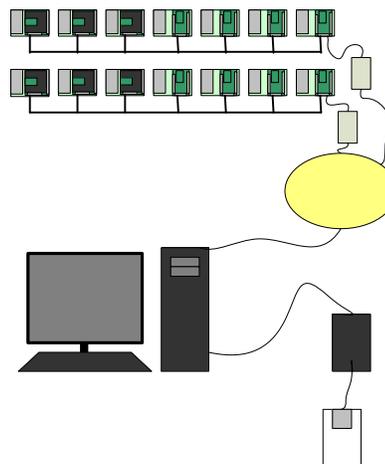


Channel Type: Direct  
Protocol: Serial RS232-SWB CNC  
Port: PC serial port, e.g. Com 1  
Admin Reader: same serial port

As an alternative a network connection could be made using a Lantronix UDS-1100. If there are more than 8 controllers on the six-wire bus then the bus will need to be split into separate clusters of 8 or less controllers. Each cluster will be a separate channel with its own network connection.

An admin kit can replace the CNC as an enrollment reader.

You can retain the CNC and use it just for enrollment. In this case you would just create a Direct channel, with the CNC protocol, but no controllers attached.



Channel Types: TCP/IP  
Address: IP Address  
Admin Reader: PC serial port, e.g. Com 1

## Readykey for Windows using a CNC – Serial Ports

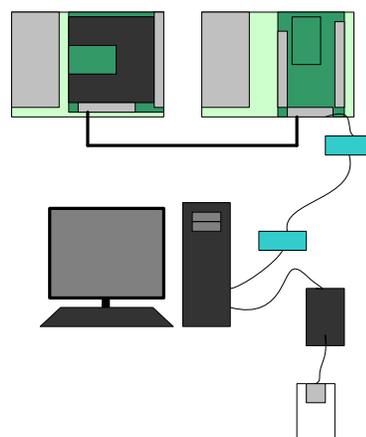
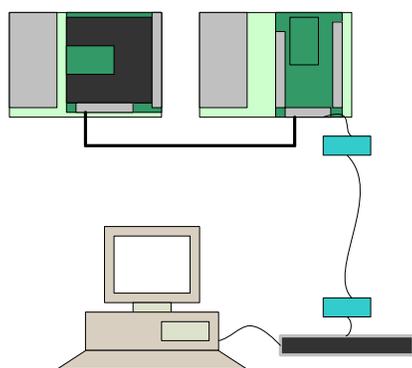
Stanley PAC does not support the 3 serial ports on the CNC. Instead any sites connected in this way need to be connected directly to the PC. You may need to ensure there are 2, 3 or 4 serial ports on the PC.

In many cases the CNC will also have controllers directly connected to the six-wire bus as shown above. In this case the CNC can still be used a

Readykey for Windows using a CNC with controllers connected directly to a serial port.

This type of connection may use a wide variety of communication devices, including line drivers, fiber-optic transceivers, Ethernet serial servers etc.

Stanley PAC can use the same devices but connected directly to a PC serial port.



Channel Type: Direct  
Protocol: Serial RS232-SWB  
Port: PC serial port, e.g. Com 2  
Admin Reader: PC serial port, e.g. Com 1



## Elevator Control

As explained above, elevator control is a function not supported with the 2100/2200 controllers. If this function is required then some controllers will need to be replaced with the 500 series controllers. These do provide elevator control – as well as many other functions.

Elevator Control in this context is where a reader is installed in side an elevator cab. When a cardholder presents their card, a number of relays will activate to enable one or more floor buttons. These relays are connected to the elevator control panel.

The purpose of this section is to help identify what components are needed to implement elevator control. The main information you need to determine equipment required is:

- Number of cabs
- Number of controlled floors in each cab
- Physical location of cabs. Are they in the same building or different buildings?

Note that not all floors may be controlled. The button to return to the first floor (lobby or ground floor) is rarely controlled, for instance.

## 500 Series Controllers

The primary component is the 500 access server. This is the intelligent device that processes the card presentations and determines which relays to operate. Each 500 can control a large number of cabs and floors. The maximum depends on the combination of cabs and floors. For example 48 cabs with 12 controlled floors each or 24 cabs with 36 floors each.

Attached to each 500 on an RS485 bus will be one or more 512 2-door controllers. It is to these controllers that each cab reader is connected. One 512 can control 2 elevator cabs.

Also on the RS485 bus will be one or more 530 output controllers. Each 530 has 12 relays.

You should also be aware that each 512 also has 2 programmable relays that can be used for floor control.

### Example 1

A building has two elevators and they want to control 5 floors in each. This will require 2 readers, one for each cab and 10 relays (2 x 5 floors)

Equipment:

- 1 x 500
- 1 x 512 (will control 2 readers)
- 1 x 530 (has 12 relays, only 10 required)

In addition to this equipment, power supplies and enclosures will also be needed. In this example 1 x 3 Amp power supply and 1 x 4-way DIN rail enclosure will be sufficient.

### Example 2

A building has 4 elevators with 7 controlled floors in each. There is a pair of elevators at each end of a long building.

Equipment:

- 1 x 500
- 2 x 512 (will control 4 readers)
- 2 x 530 (use 12 relays on the 530 plus 2 on each 512)

In addition to this equipment, power supplies and enclosures will also be needed. In this example 2 x 3 Amp power supplies and 2 x 4-way DIN rail enclosure will be sufficient.

The maximum distance for the RS485 bus is 4000ft.



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