

# JSConfig Overview

JSConfig is a program supplied by JoeScan that finds JS-20 or JS-25 scan heads on a local network.

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## Use Cases

Use JSConfig to:

- assign IP addresses, Cable Ids, and network address modes (IP Setup modes)
- establish a link between serial numbers and IP addresses
- verify firmware (Build) numbers

JSConfig is used to establish a mapping from physical location to Cable ID (and, therefore, IP address) so your application can address individual heads without having to rely on serial numbers.

The latest JSConfig can always be downloaded from the [Downloads](#) section.

## Scan Head Factory Settings

In the factory setting, all scan heads initially have an IP address of 192.168.1.105. Duplicate IP addresses on a network segment will lead to conflicts, so all devices must have a unique IP address.

However, as our configuration tool (JSConfig) does not rely on addressing scanners by IP, it is acceptable to hook up all your scanners at once to configure them. All other software, including JSDiag, requires that the IP addresses are unique.

## Obtaining and Installing JSConfig

JSConfig is a Java™ application, meaning that it needs to be executed by the Java Virtual Machine. JSConfig is delivered as a JAR file and cannot be run simply as an executable. However, we have packaged up JSConfig with an installer that verifies all the necessary components are installed on your machine. See below for your platform.

### Microsoft Windows

The installer from the [Downloads](#) section will install JSConfig on your computer. A prerequisite for the installer to succeed is that you have a version of the Java™ Runtime (JRE) installed. Both 32-bit and 64-bit Java installs are supported. If you don't have the JRE installed, the installer will notify you and fail. Before you can proceed, you must download a JRE from [Oracle](#).

If successful, the installer will create:

- Folder C:\Program files (x86)\JoeScan
- Startup Menu Folder "JSConfig"
- Desktop Shortcut



#### Windows Firewall

An active Windows Firewall can prevent JSConfig from finding scanners on your network. The discovery process relies on broadcast UDP packets to which all scanners will respond with their identification. An active firewall will discard the incoming packets quietly. To avoid this and to enable JSConfig to find scanners, you can either turn off the Firewall temporarily, or add an exception rule to the firewall. Because JSConfig is delivered as a "jar" file, the exception must be added to the "javaw.exe" executable.

The installer can create this exception for you. When prompted, acknowledge that an exception will be added. If you'd rather not add the exception, you can simply decline and turn off the firewall only for the time JSConfig is needed.

### Linux and Unix

JoeScan does not distribute an installer for Linux and Unix-based systems. Instead, we recommend that you download the Windows installer, install it on a Windows-based machine and extract the file "JSConfig.jar" from C:\Program Files (x86)\JoeScan and copy it to your machine.

If you have a JRE installed on your machine, you can run JSConfig by typing:

```
java -jar JSConfig.jar
```

## Setting Up Scan Heads with JSConfig

### User Interface

The JSConfig UI is extremely simple. For each head, an entry is displayed. To modify the settings for a single head, select the relevant line and click **Configure**. The "Configure Scanhead Dialog" is shown.

JS JSConfig						Version 3307	
Refresh		Configure		17 Scanners			
Serial Number	Cable ID	MAC Address	Current IP Setup	IP Address	Build		
2926	0	00:1C:65:00:07:6C	Base IP + ID	192.168.1.150	13628		
3071	0	00:1C:65:00:07:F8	Base IP + ID	192.168.1.151	13691		
3453	0	00:1C:65:00:09:7F	Base IP + ID	192.168.1.155	13700		
3876	17	00:1C:65:00:0B:26	Base IP + ID	192.168.1.122	13633		
3873	18	00:1C:65:00:0B:2D	Base IP + ID	192.168.1.123	13633		
2895	20	00:1C:65:00:07:49	Base IP + ID	192.168.1.125	13633		
3868	21	00:1C:65:00:0B:18	Base IP + ID	192.168.1.126	13633		
3875	22	00:1C:65:00:0B:2E	Base IP + ID	192.168.1.127	13633		
3864	23	00:1C:65:00:0B:20	Base IP + ID	192.168.1.128	13633		
3878	24	00:1C:65:00:0B:2F	Base IP + ID	192.168.1.129	13633		
3803	25	00:1C:65:00:0A:D6	Base IP + ID	192.168.1.130	13633		
3874	26	00:1C:65:00:0B:2C	Base IP + ID	192.168.1.131	13633		
3869	27	00:1C:65:00:0B:27	Base IP + ID	192.168.1.132	13633		
3073	28	00:1C:65:00:07:F6	Base IP + ID	192.168.1.133	13633		
3872	29	00:1C:65:00:0B:2A	Base IP + ID	192.168.1.134	13633		
3871	30	00:1C:65:00:0B:29	Base IP + ID	192.168.1.135	13633		
3870	31	00:1C:65:00:0B:2B	Base IP + ID	192.168.1.136	13633		

### Configure Scanhead Dialog (Windows)

Configure Scanhead 2895

Base IP + ID

Base IP Address: 192.168.1.105

Final IP Address: 192.168.1.125

Netmask: 255.255.255.0

Save New ID: ☐

Current ID: 20

Clear Cable ID

OK

Cancel

### IP Setup Modes

There are two different modes by which a scan head can obtain an IP address:

- Static IP – lets you set the IP address directly
- BaseIP + ID – the effective IP address is computed by adding the ID to the Base IP address

In either mode, all scan heads must have a unique effective IP address on the network.

#### Which IP Setup mode should I use?

In almost all cases, it is preferable to use BaseIP + ID. In installations with multiple scan heads, each head will need to "know" its ID so it can apply the relevant sections in a parameter file. By using BaseIP + ID, you can structure your parameter file (param.dat) in a way that easily groups heads into zones, allows for staggering and lets you re-use fixture definitions.



### More Background

The concept of BaseIP + ID doesn't really exist in TCP/IP networking. From a networking perspective, each head responds to its effective IP address, and the base IP address is meaningless. To check if a particular head is online, you can use the 'ping' tool on the effective IP address.

The developer toolkits for C/C++ and .NET/C# provide calls to connect to heads based on a Base IP address and Cable IDs; however, the underlying code operates on effective IP addresses. The Cable ID is a piece of information the scan head itself is aware of and uses to determine its timing settings for staggered scanning setup, which calibration fixture to use and what parameters to apply.

## Example

In the screenshot above, the the IP Setup selected is "Base IP + ID". The Base IP Address is 192.168.1.105 and "Current ID" is 20; therefore, the Final (Effective) IP Address of the scanner highlighted in blue is 192.168.1.125.

If it was necessary to make the Cable ID 21:

- then the check box "Save New ID" and
- set "Current ID" to 21.

Saving these settings will produce the final IP address 192.168.1.126.