



Installing The Espion Software



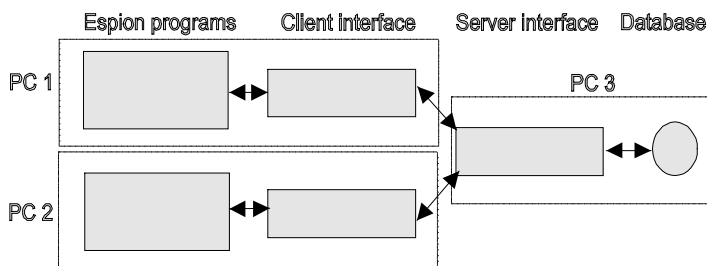
Intended Audience

This application note is designed for customers who either have to re-install their Espion software, apply a new patch, upgrade from a previous version, or install onto a new client PC. If you are installing onto a client PC, please make sure you have read the application note about client/server configurations called "Installing Espion on client" (PDF file available from the Diagnosys web-site). It is also assumed you have some experience in using Windows and configuring PCs.

Background Information

To run the Espion software correctly, at least two different programs need to be installed and a third maybe required for a separate client PC installation. All software installations require the Espion software to be loaded, the database client interface program, and at least one PC in the client group requires the database server program to be loaded. Both client and server programs are provided by the company Interbase. A client group is one or more computers connected to the same database simultaneously via the network. Espion consoles are factory configured to be a single client group only. That means no other PC may be connected to the Espion and share the database without updating the license arrangements and potentially installing further software. Consoles are therefore supplied with the Espion software, the database client and the database server programs already installed to form what is called a local client/server group (local means the server and client programs reside on the same disc drive).

Below is an example of client/server group involving 3 PCs. PC3 is the server, and PC1 and PC2 are clients. For a normal Espion installation, the console is equivalent to PC1 and PC3 combined.



Example of client/server group

The **Espion program** is the main front end software which acquires data and analyses the results. The **Interbase client** is the interface software between the database client software (in this case the Espion program) and the database server program. The **Interbase server** program is the interface software between the actual database file and a client program.

License requirements

This Interbase server is the only program of the three that requires a license number to be entered during installation. You require both a valid ID and key value which will either have been supplied with your system, if you have purchased the client/server upgrade option, or will have to obtain from Diagnosys. You also require a license for each copy of the Espion program loaded onto a client PC.

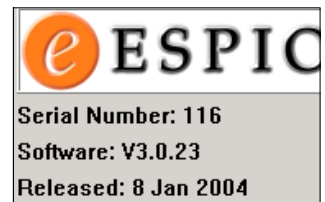
Client/Server Information

For users who want to connect one or more PCs to the Espion console to be able to share database information, a new installation of the Espion software must be performed on each client PC. Depending on how the client/server network is to be setup, this will entail installing the Espion software, the database client software and possibly the database server depending on network configuration.

Note: before installing the software on further client PCs, you must be in possession of the relevant licenses required.

Determining software version

The current software version is shown on the front menu of the Espion software along with the release date and the Espion serial number which should be the same as the console serial number found on the back of the console tower where the power cord is plugged in. In this example, the software is V3 build 23 released 8th Jan 2004.



Software version

Supplied Software



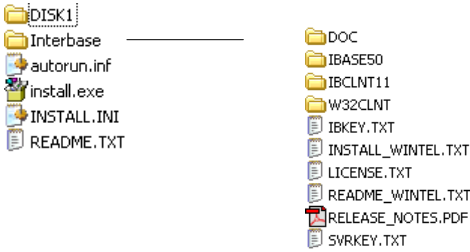
The installation/upgrade software is supplied either on a Zip disc, a CD (for client PC installations) or can be downloaded from the web-site (www.diagnosysllc.com). There are potentially three installation programs that may be needed and possibly further patch files to update the installation. The three programs are:

- Espion software
- Interbase database client
- Interbase database server



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An example of the directory structure of an installation CD/ZIP disc is shown below:



Default installation directories

Espion directory (Late V2-V3 onwards)

Espion software by default is always installed into a directory called "ESPION" on the C drive ("C:\ESPION"). We recommend that unless there is a compelling reason not to, you install the software into the default directory.

Espion directory (Early V2)

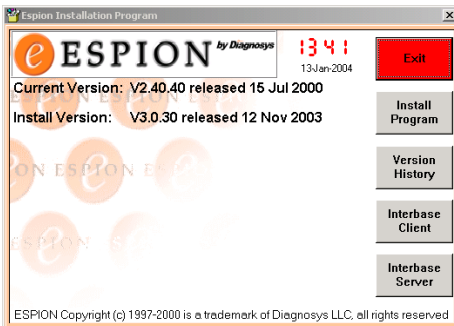
On original Espion installations, the default directory was "C:\program files\diagnosys\espion"

Interbase database directory

The interbase server and client software default to the following directory "C:\Program Files\InterBase Corp\InterBase"

Automatic installation program

If you are supplied with a CD, or ZIP then it is likely to include the Espion installation front end program (INSTALL.EXE and INSTALL.INI) which allows you to install all three programs in a friendly manner. This installation program will display the current version of any Espion software loaded, (if it has been installed in the default ESPION directory) and also shows the version on the disc to be installed. It also has buttons to install the database client software and the database server software (if the server has not been detected as being installed on your computer already) and even show any README file associated with the current Espion software release. For CD



Espion installation program

installations, this program is normally set to auto run when the CD is inserted. For ZIP discs, you will have to run the program manually using Windows desktop commands.

Manual Installation of programs

If you need to manually install any one of the three programs, then each has a separate installation program called "SETUP.EXE" which is stored in the following directories on the installation disc or can be downloaded from either the normal web-site (ESPION programs) or restricted web-site (Interbase software):

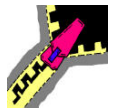
Program	Default Directory	Web File
Espion	DISK1	PARTIALXX.ZIP
Interbase Client	INTERBASE\W32CLNT	W32CLNT.ZIP
Interbase Server	INTERBASE\IBASE50	IBASE50.ZIP

Download from the web

All three programs may be downloaded from either the normal web-site: www.diagnosticsllc.com (Espion software) or the Diagnosys restricted web-site: www.diagnosticsuk.net (Interbase software) which requires a username and password that customers must obtain from Diagnosys directly before they can access it.

Zip format

All downloaded programs are stored in the standard PC ZIP format which requires an unzip program to extract the contained files. Late Espion consoles include the DOS based program PKUNZIP.EXE which is normally to be found in the default ESPION directory. The Diagnosys web-site also includes download links to a DOS, Windows freeware and Windows shareware ZIP program. To run the DOS unzip program, you need to run the program in a DOS shell.



Downloading Interbase programs

Both Interbase programs are stored on the restricted web-site. After downloading the relevant file, copy it to somewhere other than the Espion directory. You may need to create a temporary directory to hold the unzipped files. After unzipping the file, the new directory will contain all the files as found on a standard installation disc Interbase directory. Now simply run the setup program included with the files in the normal way.



Installing The Espion Software

Note: No new updates of the Interbase server or client software are required as these remain the same as those supplied with the first Espion version.

Downloading Espion program updates

The Espion software may be downloaded from the standard web-site in one of two file forms:

Partial format - These files have filenames of the form **PARTIALXX.ZIP** where XX is the build number. A partial file contains a full installation of the Espion software (V3 upwards only) including the INSTALL and/or SETUP program. It does not contain the Interbase programs, manual or other peripheral files to keep the size down. This file should be unzipped into a temporary directory, not into the ESPION software directory before running the included setup program.

Patch format - These filenames are of the form **PATCHXX.ZIP** where XX is the current build and contain all the files that have changed from the first build of the current version to bring the installed version up to the current build revision. It will contain the newest version of current files and should be unzipped directly into the Espion directory overwriting all existing similar files. It is always advisable to make a backup of your Espion directory first in case of problems in installation.

Patching software



Unlike other types of software, it is not always advisable to update to the latest release or patch. New patch files are released regularly which do contain bug fixes, and new features but many of these features are implemented specifically for individual customers and are not applicable to all users. Also, like all new software, adding new features is likely to add new bugs which may not have been detected by the standard test procedures. We do not in general recommend updating to every patch that becomes available unless it fixes bugs you are experiencing or adds new features that you would find useful. The list of bug fixes and new features can also be found on the web-site by clicking on the **history** link beside each patch file.

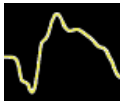
Latest alpha build patches



The Diagnosys restricted site normally has the very latest Espion software build patch file containing bug fixes, and new features which is in alpha test release state. This means that it has not yet been fully tested to ISO9000 release requirements, and can not therefore be released to the normal web-site for download. You may download this patch, but do so at your own risk.

Downloading ISCEV Protocols

You may also download from the web the latest ISCEV protocols available for the current version of the ESPION software. These protocols can be added to your current database by entering the "**Database Center**" menu and using the "**Transfer In**" option. They include the standard ERG for ColorBurst and ColorDome, EOG for ColorDome and VEP, and PERG for the pattern stimulator.



Before installing updates

Before installing a new update, you should perform the following actions:

- Make a copy of your ESLOCAL.INI file. This file contains all configuration changes to your program including stimulator calibration (V2 only).
- Make a copy of your ESGLOBAL.INI (if installed)
- Make a copy of your database file (normally ESPION.GDB in the DATABASE directory)
- Make a copy of your existing ESPION directory

Although new software updates do not overwrite these files, you may need access to them later. Secondly, if you make a copy of the Espion directory, should the new update have any unwanted side effects, you can return to your existing setup.

INI files explained

The Espion software requires up to three INI files which contain system parameters in ASCII format. These files are:



ESPION.INI - Read only. This file contains all the system configuration parameters and their default values/settings. New patches and updates tend to include a new version of this file.

ESLOCAL.INI - Contains all configuration parameters that have been changed after installation either by the user, or during initial customer configuration. These parameter values are mostly changed using the "Configure system" menu. Also, in V2 of the software, this file contained the stimulator calibration parameters. Every Espion software installation will contain its own ESLOCAL file.

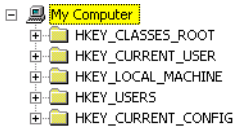
ESGLOBAL.INI - This file is not usually applicable as it is designed for multiple Espion client/server configurations.



Installing The Espion Software

Any configuration parameter maybe designated to be saved into the global file which maybe read by all Espion software installations. Thus only one change needs to be made for all installations. A new installation only contains one INI file: ESPION.INI. This file is designated read-only because new updates invariably overwrite this file as new parameters are added to the program.

Windows registry usage



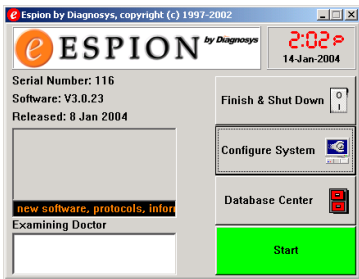
The Espion program from late V2 onwards no longer uses or accesses the Windows registry, but instead stores all its user information in INI files which are normally stored in the Espion application directory.

This system allows multiple versions of the program to be loaded onto any one machine in different directories without interference between them. It does mean however, that each installation requires individual configuration or that they share the same configuration by copying the ESLOCAL.INI file which contains the user configuration parameters into each new directory. The Interbase software does use the registry.

Configuring the software

Once the Espion software has been loaded, you must configure it before you can acquire new data, or access the database. A full overview of configuring the software can be found in the Espion software manual. If you have only installed a new software patch rather than performed a full installation, and haven't created a new Espion application directory, then you may skip this step.

Configuring system parameters



Espion main menu

user manual.

You should enter the Configure System menu by pressing the "Configure System" button from the front menu. The parameters are displayed as individual items located within logical groups or folders which themselves may be further grouped together to produce a tree like structure. For example, Stimulator parameters

are grouped together under the relevant stimulator types which themselves are grouped under a general Hardware section.

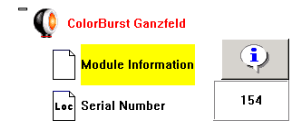
Serial number (software)

The most important parameter to be entered is the software serial number found in the **Program/Global** folder. You should enter the console serial number (found on the back of the console tower, where the power is plugged in), even if configuring a PC installation. This number is used when creating new database records to produce a unique record ID and every customer should enter their own console serial number. Just to be sure, the program will prompt you to enter this value before allowing access to the main area.



Stimulator Serial numbers

If you are installing the software on an Espion console, then you must also enter the serial number of every stimulator that will be attached. This parameter can be found under the general **Hardware** folder section in the relevant stimulator folder. The system supports multiple stimulators e.g. dual ColorBursts and if you have more than one of each type of stimulator, you should enter both serial numbers into the parameter. If you are unsure of the serial number of each stimulator, then by opening the relevant stimulator folder and pressing the "Module Information Info" button, (assuming the stimulator is attached), as shown in the picture, the system will detect and display the current stimulator serial and model number.



Location of ColorBurst Info button

IO Card enabled

To turn on the Espion data acquisition system, which is disabled by default, you will



Enable IO card

need to enable the "IO card Enabled" parameter which can be found in the **Hardware/Console** folder. For PC client installations, this option should be left to disabled.



Important parameter summary

The following table summarizes the parameters that should be configured (depending on stimulator options owned):

Program - Global folder	Hardware - Console folder
<ul style="list-style-type: none"> Country Type Host Computer Mains Frequency Serial number Play sounds Touch screen 	<ul style="list-style-type: none"> IO Card enable <p>Hardware - VSG Stimulator folder</p> <ul style="list-style-type: none"> Pattern stimulator enabled <p>Hardware - PSG, ColorBurst, ColorDome Stimulator folder</p> <ul style="list-style-type: none"> Serial Number(s)

Loading/creating a database file



If you have an existing database either loaded on the console or backed up on another disc, you should load it onto the console hard disc. If you have used the program database backup facility then you will need to enter the Database Center menu and restore it. Actually, you may not need to perform this second step, as the program backs up database files in the standard zip format. Thus a backed up database file e.g. "ESPION.BDB" is really the same as a zip file called "ESPION.ZIP" and can be unpacked using any commercial unzip package to produce ESPION.GDB. By default the database file resides in a sub-directory of the Espion application directory normally called DATABASE e.g. "C:\ESPION\DATABASE". If you don't have a database file to load, you should enter the Database Center menu and create a new one, or direct the program to look for a database file on another server computer e.g. in the normal TCP/IP method: "SERVER:C:\DATABASE\ESPION.GDB" or in UNC namespace "\\SERVER\C:\DATABASE\ESPION.GDB" depending on the current naming protocol set in the configuration parameters.

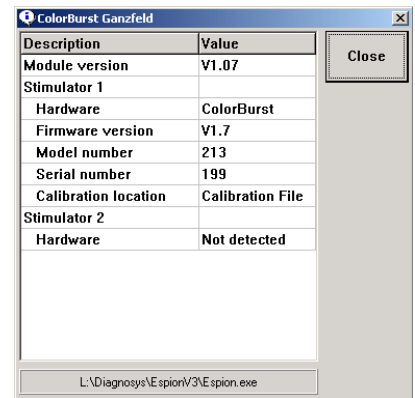
Installing calibration parameters



Since Espion software V3 and upwards, all stimulator calibration values have been saved in separate calibration files rather than directly in the ESLOCAL.INI file. These files are normally supplied with each ColorDome or ColorBurst on separate ZIP disc, but can be obtained from Diagnosys or maybe downloaded from the web. Stimulators that were supplied with systems that were configured with V2 software will only have a single ESLOCAL.INI file containing all calibrations. This makes it imperative that you always make a copy of your ESLOCAL file before updating. To install the newer calibration files, simply copy the files into the ESPION application directory (normally C:\ESPION). Calibration files have the follow the filename naming

format: "SSSS###.CAL" where "SSSS" is "COLB" for a ColorBurst, "COLD" for a ColorDome, "PSG" for a PSG pattern stimulator etc. and "###" is the serial number of the stimulator. Thus COLD143.CAL would be the calibration file for ColorDome S/N 143. As well as copying the file, you must also remember to correctly set the stimulator serial number into the "Configure System" parameter under the Hardware-Stimulator group of parameters.

For older V2 systems that do not have calibration files for their stimulators, you should copy the old ESLOCAL.INI file into the new directory and the program should be able to read the calibration values directly from it. If you don't have this file, then contact Diagnosys with the serial number of your stimulator and they will generate one of the new calibration files based on the original calibration data for that stimulator.



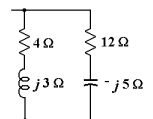
Stimulator information menu

As a final check. Once you have set the serial number of the stimulators into the System parameters and saved them, then by returning to the Configure System menu, selecting the stimulator parameter group and pressing the Info button, the system will display a menu (as shown) which will inform

you about the stimulator attached and where the calibration parameters are currently being read from. If you have installed the correct calibration file, then the calibration location will show "Calibration File". If you are using old calibration values stored in the ESLOCAL file, then the location will show "INI File" and if they are not found, then it will show "Defaults".

Impedance calibration

Finally, if you did not have an original ESLOCAL.INI file to copy, and you have re-installed the software, your impedance calibration values will now be set to default and the impedance measurement system will read incorrectly. These are the only calibration values still stored in the ESLOCAL file. For more information about re-calibration of the impedance system, or more information about your existing impedance calibration values, please contact Diagnosys directly.





Re-installing the software



If you should ever need to re-install the Espion software from scratch on the Espion console, you will need to firstly, make sure you have the correct version of the Espion software you want to load, as well as the Interbase server and client programs. These should be found on the ZIP disc supplied with the Espion system, or can be downloaded from the web. You will need to download the current installation file labelled PARTIALXX.ZIP and then any extra patches available which begin PATCHXX.ZIP. The Interbase client and server programs may also be downloaded from the Diagnosys restricted web-site.

When you are ready to install the software, we advise you to perform the installations in the following order:

- Install the Interbase server program
- Install the Interbase client program
- Install the Espion program (using PARTIALXX.ZIP) if necessary
- Install any patches
- Install other programs

NOTE: You will need a valid server license to install the server. This may be obtained from Diagnosys.

Other programs that may be required



An Espion installation may require the following other programs to be loaded depending from what installation point you are starting from. All these files are either to be found on the original installation ZIP disc supplied with the system, already on the Espion console hard disc or can be downloaded from the main Diagnosys web-site.

- VGA drivers for the Boser CPU (69000 chipset).
- PC speaker driver. This is required to allow the Espion program to play WAV files through the built in speaker.
- Touch drivers for the IR touch screen built into the Espion console. (Note use defaults and COM1 port)
- Belkin driver for ColorDome USB camera

For older Inside CPU consoles (if your CPU is a Pentium 1 or AMD 586 chip running at not more than 400MHz then you have an Inside CPU board) - check the power up screen for CPU speed and type), VGA drivers may be obtained from Diagnosys as these are not available from the web directly.

Updating software (different versions)



For users upgrading from one major version to another e.g. V2 to V3, you need to re-install the Espion software (rather than just patching it). However, you do not need to re-install the Interbase programs. The upgrade can be performed by downloading the latest PARTIALXX.ZIP file from the web, unzipping it into a temporary directory and then running the SETUP program. Before performing the upgrade, you should make a copy of your old ESPION directory and especially your ESLOCAL.INI file. If you install the software into a new directory, you should copy your old ESLOCAL.INI file into this new directory after finishing the installation. Next you should download the latest PATCHXX.ZIP file and unzip it directly into the new ESPION directory. If you were running an early version of the software, you may also be required to update your database to the current format. This can be achieved through the "**Database Center**" menu, using the "**Copy**" option. Remember to make a backup of your database file first.

After installation, you should check that the system recognizes your stimulator and can find the relevant calibration parameters. See "Installing the calibration parameters" on page 5.

Updating or patching (same version)



If you are updating the build level of your current Espion software with a later build without changing version number e.g. updating V3 build 10 to V3 build 21, then you need only download the PATCHXX.ZIP file from the web-site and unzip the contents directly into your ESPION directory. You do not need to re-install the software or the Interbase programs. The very latest alpha build may be downloaded from the restricted web-site for customers who need the newest facilities and bug fixes.

New client installation



If you are installing a client installation of the software onto a client PC (not the Espion console), you will need to install the Espion software and the Interbase programs, see "Re-installing the software", but do not need to install any other programs and



do not enable the IO card or stimulator parameters. See the "Installing Espion on Client" document which can be downloaded from the web.

Installing a ColorDome

If you are installing a new ColorDome on an existing Espion console, you will need to perform the following operations:

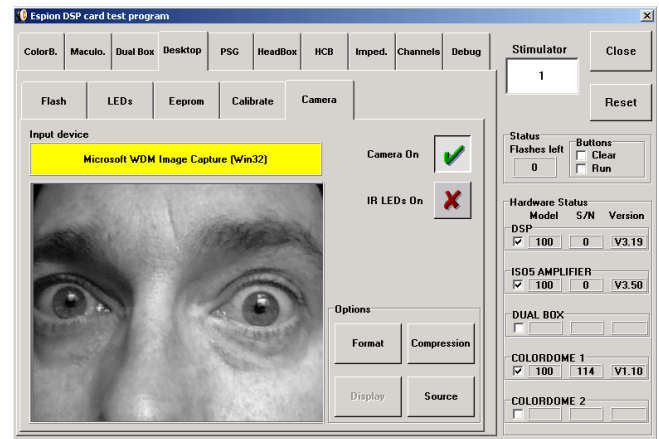


- Update the Espion software to the latest version
- Copy the ColorDome calibration file supplied with the ColorDome into the Espion software directory
- Change the ColorDome serial number in the "**Configure System**" menu under the **Hardware-ColorDome** parameter group to reflect your ColorDome(s) serial number. After saving the changes, attach the ColorDome, and then re-enter the "**Configure system**" menu and press the "**Module Information**" Info button to check that the system recognizes the ColorDome, the serial number matches the number entered and the calibration parameters are being read from the calibration file.

Installing the USB camera driver

Connect the ColorDome and power it up. Next connect the USB camera cable from the back of the ColorDome Power unit into the USB connector on the PowerBloc and if everything is working well, Windows should detect a new USB imaging device (actually one

image and two sound devices) and request a location from which to read the driver files. Insert the ZIP disc with the Belkin driver on it and point Windows to the Belkin directory. You may also download the Belkin drivers from the Diagnosys web-site directly.



Testing the ColorDome USB camera

To check if the camera now works, run the GANTEST.EXE program (Stimulator Test program in the Espion program group), Select the Desktop tab, and then the Camera sub-tag. Finally press the Camera On button (you may need to also press the IR LED on button). If everything is installed correctly, you should see an image on the screen (hopefully not this mug-shot!).