

FalCon DB-Server

Introduction

FalCon Quick View DB is more than a product, it is a concept. It consists basically of two separate programs:

- a **database server** and
- A **client program**.

In addition to the Viewer functions familiar from FalCon Quick View, the client contains additional functions for managing the archive, performing tests, controlling cameras and for transferring picture data from the camera to the host. Almost the entire control process of database functions takes place by means of the client section. It is described in more detail in the FalCon eXtra manual.

The **DB Server** program is used to manage the digital data archive. The features offered by the server include automatic data backup, CD burning, access protocols, access protection, automatic data importing and much more.

Although the client program gives the appearance that it is accessing a database, the only connection to the database is created by the DB server. All “database access” of the client is only simulated there; the actual access takes place on the server side. This makes it possible in principle to exchange the database system currently being used, *MS Access*, with another one, for example *Oracle*, without having to make any changes in the client.

Directory structure

The data is stored on Disk **D:** of the server: The year number of the test name forms the root directory, while the type of test forms the directory under it and the test number in turn forms the name of a sub-directory one level lower.

Here is an example: Test *98-FC-13* is stored in directory `D:\98\FC\13`. A sub-directory is created for each of the individual forms, using the name of the film, and the Bayer pictures are stored in the sub-directories.

Please note:

Since it is assumed that the DB server will only be operated by experienced Windows users, basic knowledge of Windows is required.

Tasks of the Program

The main tasks of the DB server are:

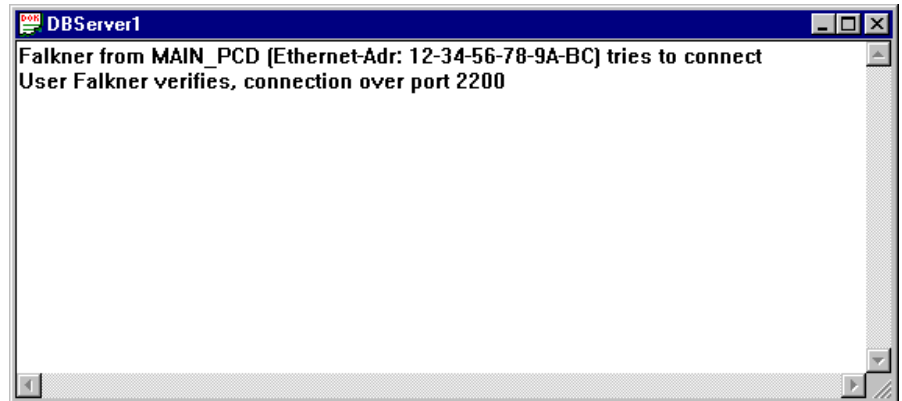
- Simulation of database functionality for the clients.
- Verifying users for access rights.
- Verifying PCs for access rights.
- Making data available (=video, pictures, graphs) insofar as the user has appropriate authorization.
- Automatically saving data on CD and on backup computers.
- Automatically saving the database.
- Automatically importing measurement values.

If you find the description of a particular functionality missing in this manual, please consult the Client manual, since it is the client that executes the functionality. Managing the database from the client offers the advantage that authorized users can make changes from every authorized workstation without having to go to the server computer. Only functions that actually require physical access or functions that are responsible for the basic configuration of the program need to be performed directly on the DB server.

The DB server shows you which users are currently connected with the server, when they last had access to the server, how many tables are currently open and which database the system is working with.

The Main Window

Connections



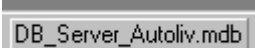
This window displays who is attempting to log on to the DB server. The following line indicates whether the attempt to log on was successful and the port through which the connection was created, or the reason for which the connection was declined.

Possible reasons for which a connection is not created are as follows:

- The user has no access rights to the database → Please use the client to make the entry with authorized users.
- PC not configured for access → Please use the client to make the entry with authorized PCs. Not that depending on the message, the PC may also need to be entered as a domain PC.
- Domain unknown → Enter the domain as authorized for access. See further below.
- Number of connections / port number exceeded → DB servers have 1024 port connections available (in the range from 2200 to 3224). As soon as another user logs off, the port will be released and will be available for additional connections.
- DB server currently saving on CD → To ensure that the data are burned correctly onto the CD, the DB server will not set up any connections at this moment. If necessary, reschedule the time for writing the CDs. See further below.
- Number of open tables exceeded → *MS Access* has the limitation that the number of tables open simultaneously is restricted. (Microsoft has promised a modification in the next version). It is possible to open about 95 tables simultaneously with the interim update from MS. The DB server always has 4 tables open (basic load). Under normal circumstances, one table per user will be added to this number, so that about 90 users can access the server at the same time. Users that are currently performing a search require about 5 tables. You should therefore make certain that users exit the client program in a normal fashion if possible so that the corresponding tables are released again on the server. See also the display for connections.

Database Used

The status bar of the program indicates which database is currently in use.

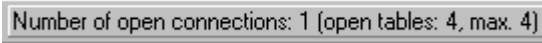


DB_Server_Autoliv.mdb

To switch database, you must stop the server – menu item in the File menu – and then another database may be selected.

Open Connections and Tables

The status bar of the program indicates how many users are currently logged on to the server.

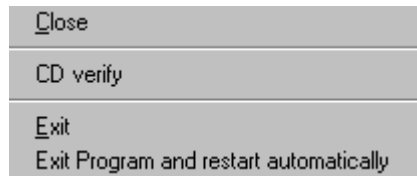


Number of open connections: 1 (open tables: 4, max. 4)

The display is refreshed every 10 seconds, and also whenever a user logs on or off. Please note what was said earlier about the number of possible connections and the maximum number of tables open at the same time.

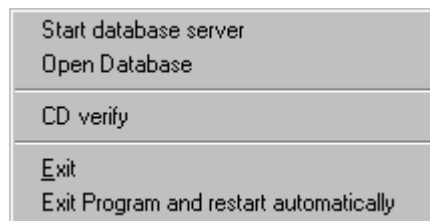
File Menu

If the Server is Working



As soon as the DB server starts up, it automatically goes into server mode. To select a new database, use the menu entry **Close**. Please note that as a result, all connections with the clients will be interrupted.

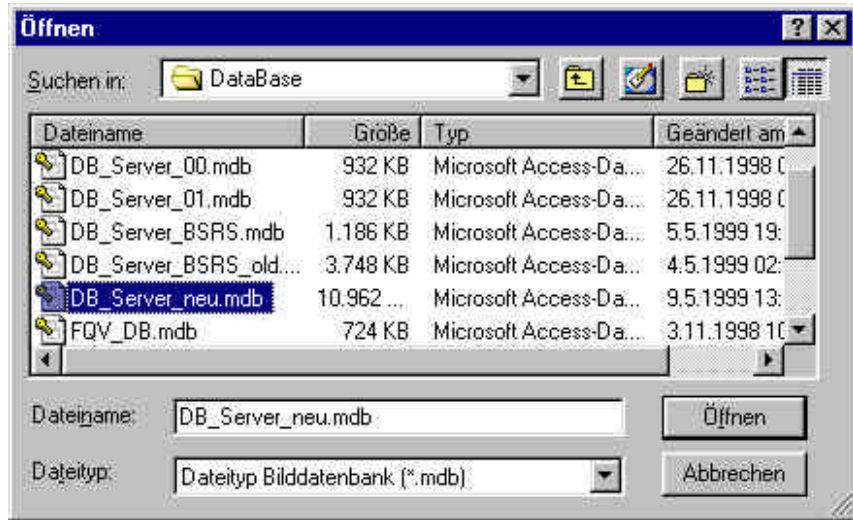
If the Server is Not Working



To place the DB server in server mode, use the menu entry **Start Database Server**.

Open Database

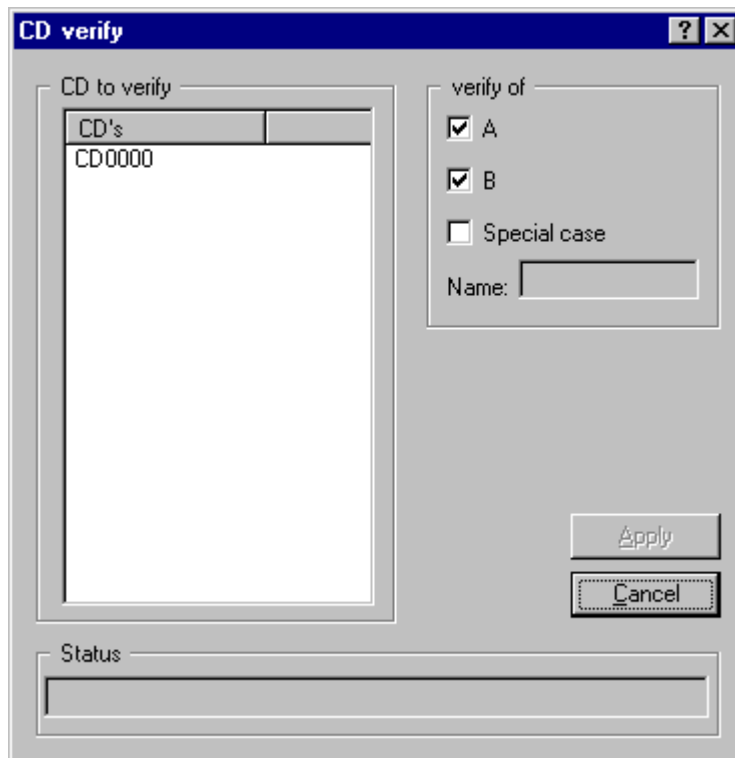
To select a new database, use the menu item **Open Database**. The following screen appears:



The database you selected is opened and is displayed in the status line. The program notes the last database to be opened and automatically uses it the next time the program is started. Please note that the program only “notes” this if you exit the DB server with **Exit**, not, however, if you abort the program with the menu item **Cancel program and restart**.

Verify CD

To test individual CDs in addition to the automatic testing, select the menu item **Verify CD**.



In the left window, select which CD you would like to verify. On the right, select whether you want to test *CDxxxxA*, *CDxxxxB* or a special case. A special case is present if the program was not able to write to the CD provided for that purpose and used a reserve CD. A special case can only arise as long as the CD is still in the jukebox. To do this, proceed as follows:

- Open the Windows Explorer.
- Open drive Z.
- Enter the appropriate name.

Press **Accept** to begin the verification process. If the CD is no longer located in the jukebox, the program will prompt you to insert the appropriate CD into the CD drive.

All tests that are on the CD will be verified. The Status line displays the file that is currently being accessed. At the end, an overall status – hopefully error-free – will be displayed.

Please note that a complete verification is only possible if all data can still be located on the hard drive of the server. Bayer data, for example, is deleted after 3 months (see further below), and so it cannot be tested after that point.

Exit

Select the menu item **Exit** to leave the program in a normal manner. This menu item is the only way to ensure that all settings will be saved with new values and will be available the next time the DB server is started. This normal exiting is only possible, however, if no clients are connected with the server, or if connected clients confirm that the connection is being interrupted. The menu entry **Cancel program and restart** is available to exit the DB server without the conditions described above. In this case, however, modified basic settings are not saved with the new values. This canceling and restarting is performed even after the CDs have been written. This frees up tables of users who did not log off. You should take care that CDs are written at a time when no clients are normally connected with the server.

Settings



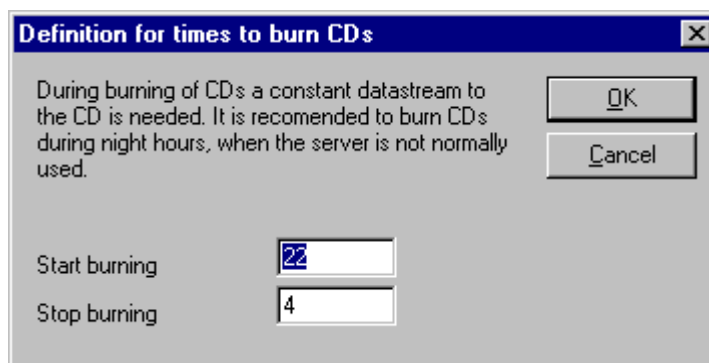
The individual menu entries are described in more detail below:

Times for Writing CDs

Strategies for saving

The DB server saves the data on 2 CDs each. Information that is saved includes measurement data, Bayer pictures, and the database and files that will be required to regenerate the films. The program attempts to make the best possible use of the CDs. A test will be burned onto CD at the earliest on the second night after the test was performed, but no later than 7 days. This initial delay was built in because the measurement data is often not yet available for the server on the same day. The program searches for all the tests that are to be saved. As soon as there is a combination that will fill up at least 600 MB on the CD, the data is burned onto the CD. To fill up the CD, the program runs through a simple loop in which at each iteration the largest test is selected for which there is still enough free space on the CD. If there are tests that are older than 7 days, then they will be written to the CD in any case, even if more space is left over.

If a test is modified after it has already been burned onto CD – for example if more measurement data is added to it – it will be burned onto CD again.



The dialog box above determines when to begin writing to the CDs and at what point in time the last write process should begin. Please note that the final time does not mean that the write process must also be complete at this time. Here is an example:

Example:

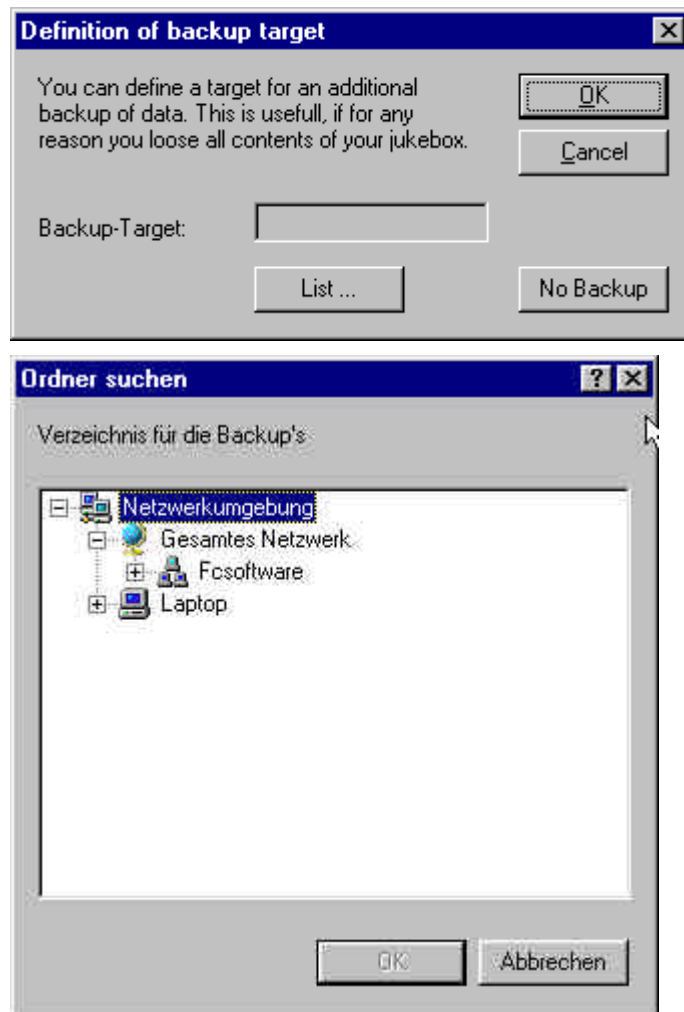
The write procedure for a CD pair begins at 3:55 am. Normally, about 1 hour is required to burn and verify a CD, which means that in this case the writing will be complete by about 5:55 am. If it so happens that it was not possible to write one CD without errors, however, then the write process will last until just before 7:00 am. The situation is even worse if several attempts are required to produce a CD that is free of errors.

After the write process is complete, even if there was no need to burn any CDs, the files whose “expiration date” has been exceeded will be deleted. As a rule, data is not deleted until it has been backed up on CD.

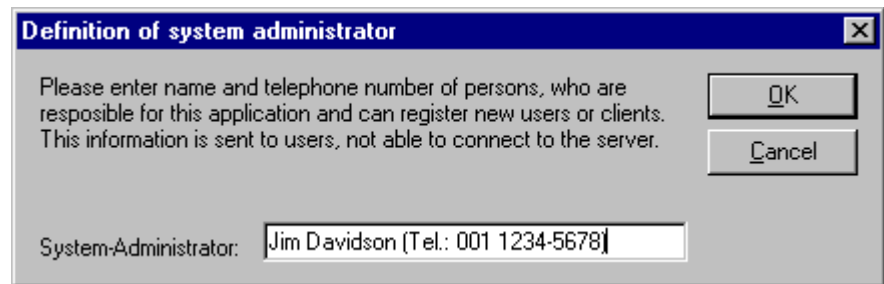
Upon completion of the writing and deletion process, the server automatically exits and starts itself again. This automatic mechanism is only activated, however, if the program had finished writing and deleting within the allotted time, i.e., before the time for the end of the write process was reached.

Backup Destination

To prevent the case of a total loss of data in the event of a failure of both the hard drives and the jukebox, data is saved on a remote computer (only as AVI files) until such time as the CDs have been removed from the jukebox. The probability of such a failure is very slight, since it could only be caused by events such as a fire in the server area. If possible, select a computer for this purpose that is set up in a building far away.



System Administrator



Definition of system administrator

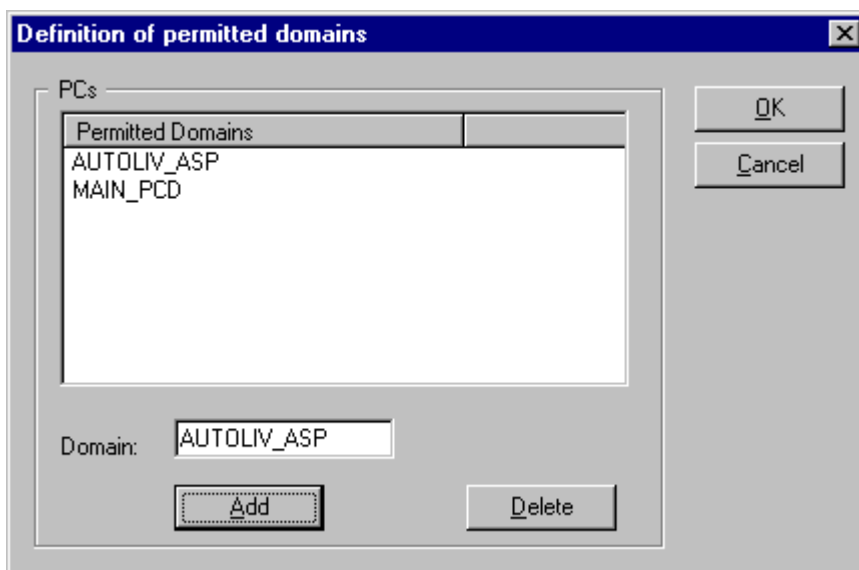
Please enter name and telephone number of persons, who are responsible for this application and can register new users or clients. This information is sent to users, not able to connect to the server.

System-Administrator:

OK Cancel

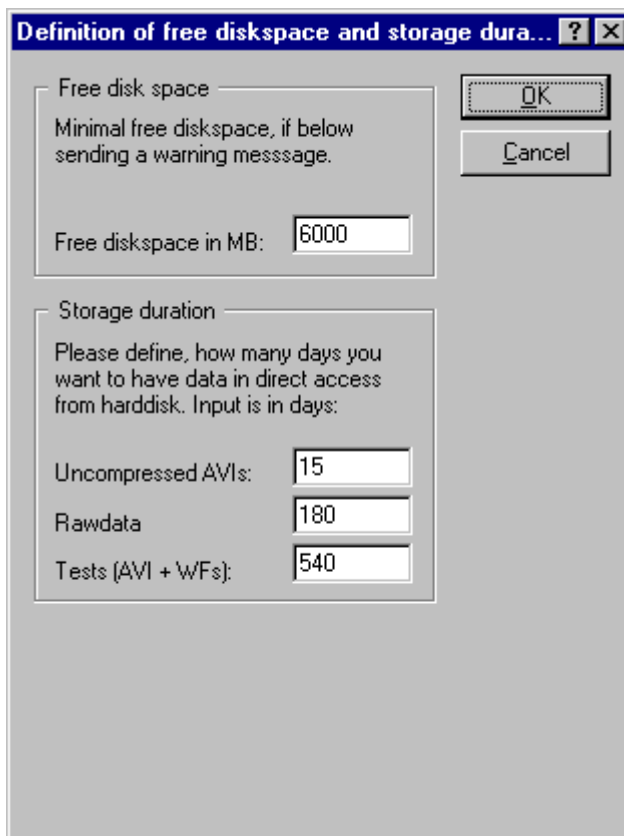
Enter the name of a contact person here to whom users can refer when they are unable to gain access to the server. The text you enter here will be displayed for the client along with a message explaining why access was refused.

Permitted Domains



Enter the names of the Windows NT domains from which clients should receive access here. Enter the name in the lower entry box as well and then press the **Add** button. To remove a domain, select it by clicking on it with the mouse and then click on the **Delete** button. The DB server is configured so that up to 20 domains can be entered.

Save for How Long

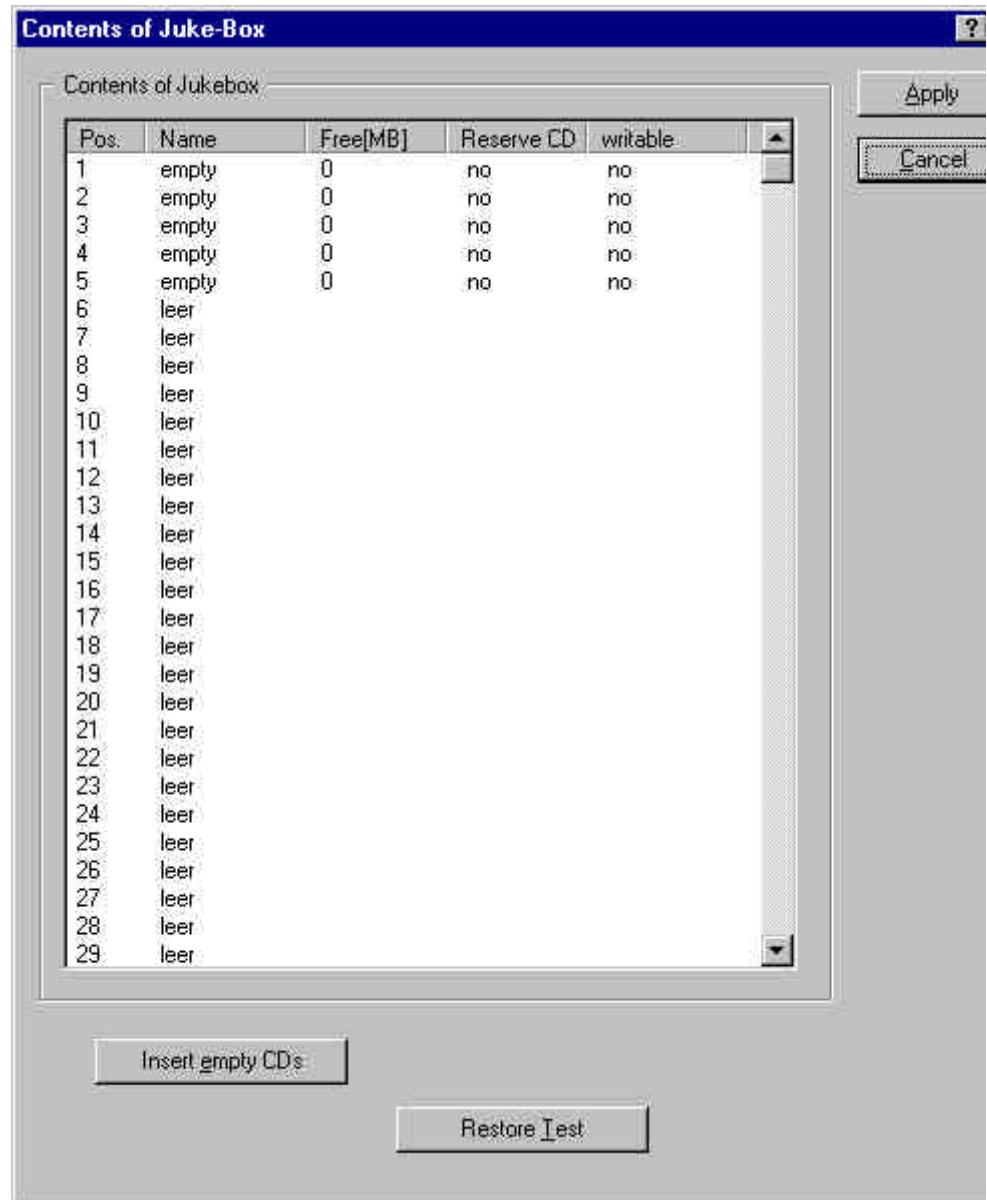


In this dialog box you can specify how long the types of data in question should be kept on the hard drive, and thus be directly accessible for your users. The data will not be deleted until the respective test has been burned onto CD.

You can also specify a minimum amount of free storage space on the hard drive. If your system falls below this level an alarm (both visual and acoustic) will warn you.

A backup of the database will be performed every night at midnight. In this dialog box you can specify how many copies – and thus how many previous days – should be created. These backups will be copied to the backup computer. You must make certain that this computer is available at midnight. If the backup computer is turned off at night, you must let the DB server know that no backup computer is available. See above. In this case, however, no other data will be backed up on the backup computer. If the backup destination is not available, an error message will appear on the server.

Jukebox Administration



Here you see the contents of the jukebox. The CD pairs must each have the same amount of free space. CDs for which the storage space is 650 MB have not yet been written to. If **Incorrect** is entered as the name for a CD, it was not possible

to write to the CD without errors, or a difference was determined during automatic verification. In this case, the program used one of the reserve CDs. You will find the name on one of the places you reserved for the reserve CDs.

When you remove the CDs and fill the jukebox with new CDs, handle the CDs very carefully! Even the tiniest traces of sweat or dust can render CDs unusable. Wear special gloves if possible. If the error rate is greater than 5%, either you have not been working carefully enough or you should change the brand of CDs you are using. If this does not result in any improvement, the writer in the jukebox should be checked.

In terms of handling the jukebox, reference is made here to the Jukebox manual. First remove all magazines. Be certain not to mix them up, however. Then replace the CDs that are marked as defective with those from the reserve area that are free of errors. Only then should you remove the CDs and place them in their corresponding sleeves. The CD pairs must be kept in different places. Move the remaining CDs to the beginning of the jukebox and make note of the starting number – it will be required below. Use the following dialog box to communicate to the DB server how the jukebox is filled.

Fill with empty CDs

Normal storage time

Start position A-CDs: 1

End position A-CDs: 600

Start position B-CDs: 701

End position B-CDs: 715

CD-Names start at: 1

Certification storage CDs

Start position C-CDs: 601

End position C-CDs: 700

Start position D-CDs: 716

End position D-CDs: 720

CD-Names start at: 9000

OK

Cancel

The beginning and ending position can usually be taken over unchanged. For CD pairs, begin by entering the number of the first CD (see above).

The program generates an optical and acoustic warning if less than 5 pairs of CDs (a total of 10 CDs) are available.

Festlegung Positionen für Reserve CDs

Startposition: 130

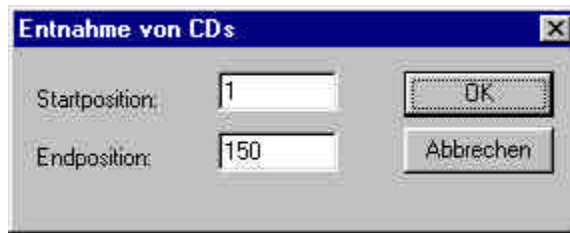
Endposition: 150

OK

Abbrechen

Here you can determine the range in the jukebox from which the program will take reserve CDs. If you incorporate the information above, you can keep the error rate down to 15%. If your error rate is higher, however, you should provide a greater range for the reserve CDs.

The program generates an optical and acoustic warning if less than 5 pairs of CDs are available.



With this program item you can communicate to the DB server which CDs you are going to remove. The DB server will then delete the corresponding tests from the backup computer.

Use this dialog box with care, since it will result in your backup being deleted.



You can use this dialog box to play back tests on the hard drive of the computer again. Select the appropriate test in the left window and determine on the right side what type of data is to be restored.

To start the restore process, press the **Accept** button. If the required CD is no longer in the jukebox, the program will prompt you to insert the appropriate CD.

Please note that you must extend the times that determine how long various types of data will be saved on the hard drive accordingly to ensure the data will not be automatically deleted the next night. Don't forget to exit the DB server with **Exit** so that your settings will be retained!

Importing Graphs

The DB server checks in the mailboxes every 15 minutes to see whether new measurement data is present. The program scans the "L:" and "N:" disk drives to determine whether there are any sub-directories containing a file "Free.dat". The content of this file has no significance. Its mere presence communicates to the server that the data in this directory must be imported into the database. The directory name is used as a test name for this purpose, and must correspond to the test name conventions. All PIAS work files in the directory are inserted into the database. Since the channel name of the work files is often incorrect, the name of the work file is used as the channel name. If the file "Graphs.usf" is also located within the directory, then the channel description will be taken over if the channel occurs in the file.

If you select this menu item, the program attempts to import measurement data immediately.

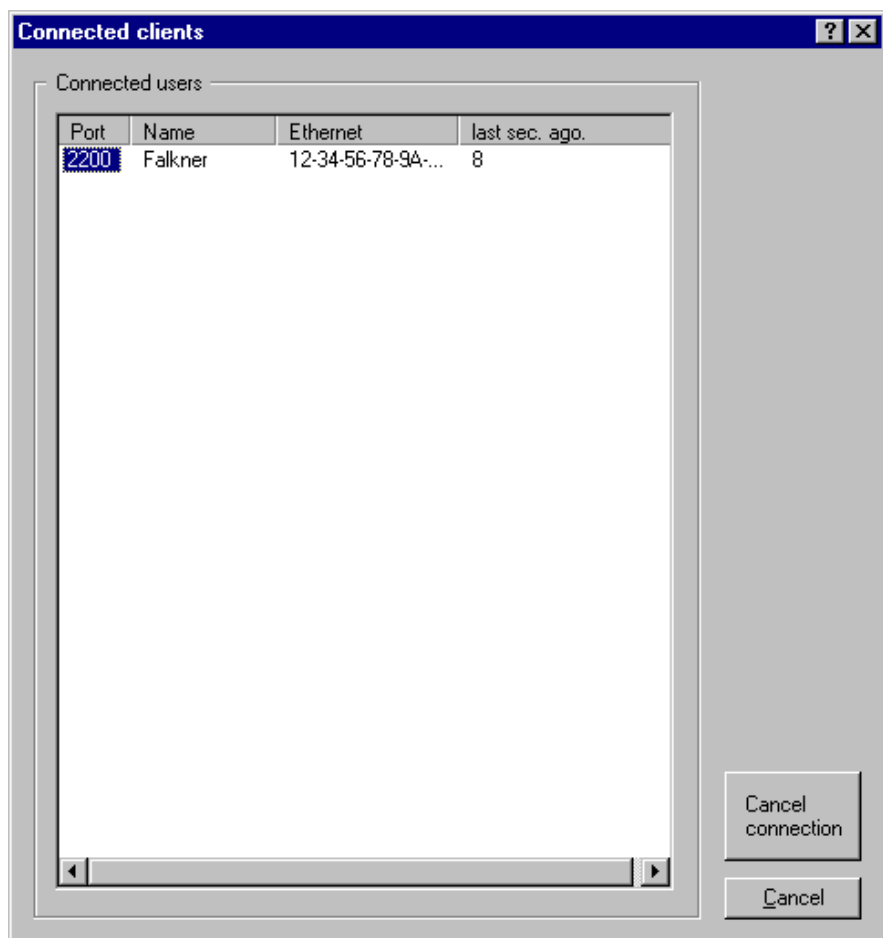
Database Backup

With this menu item you can cause the DB server to create a copy of the database being used. You have already determined how many copies exist under the menu item **Save for how long**.

Start CD Write

Use this menu item to start the CD write process immediately. Please note that the DB server cannot accept any additional connections during this time and will serve the existing connections at a very slow rate.

Connected Users



When you select this menu entry you can see who is currently connected to the server and where the connection originates from. The display also indicates when the user in question last had access to the server. Please note that there is no dynamic update of the list.

You also have the option of canceling selected connections. To do this, select a connection in the list and then click on the **Terminate connection** button. This could be necessary, for example, if no open tables are available and you see a user that has not accessed the server for several thousand seconds. For further information, see **Main window – Connections**.