Application Tool for BM/Hitachi 902

Product Information

Version 2.1

November 1997

Contents:

Filename: AP2_INFO.DOC

1. Background

For each photometric application, which shall be measured at the BM/Hitachi 902 analyzer, the corresponding application data must be programmed. The application data for maximum 36 applications can be entered via the internal keypad or loaded from the *Parameter Disk* in drive 1 on the analyzer.
Since the data input via keypad is very inconvenient and each analyzer needs a customer-specific combination of applications, it is necessary to have a tool with which the applications can be modified and combined on an external computer. This individually combined application data can be written back to the *Parameter Disk* and then loaded into the analyzer.
This will be the main purpose of the ***Application Tool***.

2. Setup of the Tool

2.1. Hard- and Software Requirements

To run the ***Application Tool***, your computers hard and software must meet the following requirements:

- any IBM compatible machine with 80486 processor or higher
- a hard disk (with about 4 MB free space)
- a 3.5 inch floppy drive
- a VGA compatible display (resolution 640 * 480 or more)
- at least four megabyte of memory
- a mouse

- MS-DOS version 3.1 or later
- Windows version 3.0 or later

2.2. Installation of the Tool

The ***Application Tool*** is to be installed on the hard disk by the SETUP routine on the distribution diskette 1.
The SETUP routine creates a new directory, copies the program files, the help and library files from the distribution diskettes to the hard disk.
Be sure that no other application is open during setup !

To start Setup:

- Insert the distribution diskette 1 into drive A:
- From the file menu of the Program Manager or File Manager, choose Run.
- Type ***A:\SETUP***
- Follow the setup instructions on the screen.

2.3. Initialization of the Application Database

After the first installation of the ***Application Tool*** there is neither the configuration data file (APP902.INI) nor the application database file (APP902.DB) present.
When starting the Tool for the first time by double-clicking the newly created program icon the software creates a default configuration file and an 'empty' application database.
Now please insert the *Application Update Disk* which is also included in the software packet and perform the menu option 'Update Disk / Read Application Update Disk'.
All application entries which are stored on the disk may be copied to the application database on your harddisk.
Now you can start configuring applications and creating *Parameter Disks* for the BM/Hitachi 902.
Read the following chapters to find out how to do that.

3. Software Changes

3.1. Version 2.1 - November 1997

- The ‘Assay Code’ information was missing within the ‘Application Data Table’
  Bug fixed
- If the first Carry Over Evasion entry was displayed and the [Reset] button was pressed, the first entry was not deleted.
  Bug fixed

- The application comment was inserted between the channel number and the application code in the ‘Chemistry Parameter’ list.
- The caption of the Evasion Enabled/Disabled checkbox toggles for better understanding of the actual status.
- The character range for the test name text field is limited to the range that is available at the 902 analyzer (0 to 9, A to Z, -/.)
- If you try to start the tool while it is already running, a warning is displayed
- The following default values have been changed, if an application entry is deleted in the Work or Database Area:

  Standard position 1: 0
  Expected Value Range: -99999 to 999999
  SD Limit: 0.1
- The ‘Reagent Load List’ gets the following two fix entries appended:

  Pos 39: Multiclean
  Pos 40: Hitergent

  If there are no photometric tests entered for positions 37 and 38, the following is printed:

  Pos 37: Int. Std.
  Pos 38: Diluent

3.2. Version 2.0 - October 1997

3.2.1. Three-digit Application Code as additional data item

When updating the version 1.0 ***Application Tool*** to version 2.0, the existing database files are not overwritten. However the structure of the application database, the *Application Update Disk* and the *Application Set* files has changed in version 2.0.

- ***Conversion of the Application database***

When starting the tool after installation of version 2.0, it recognizes the version 1.0 application database and converts it automatically to the new structure by adding the default application code '000' to each application record.

- ***Conversion of the Application Set file***

If you try to open an *Application Set* file which was saved with version 1.0 of the ***Application Tool***, the tool converts the 36 application records in the same way than described above. In addition the actual ISE, Serum Index and Carry-Over Evasion parameters are appended to the *Application Set* file.

- ***Conversion of the Application Update Disk***

If you try to perform the menu option 'Update Disk / Read Application Update Disk', the application records on the disk are automatically converted to the new version 2.0 structure by adding the default application code '000' to each application record.
If you try to access a version 1.0 *Application Update Disk* with any other menu option of the ***Application Tool***, a message is displayed which asks you to use the above mentioned menu option to convert the disk.

3.2.2. Application Update Disk Comparison

The version 2.0 got a new main menu option 'Update Disk' where the 'Read' and 'Write Application Update Disk' options moved from the 'File' menu.
An additional option in this menu is the comparison of two *Application Update Disks*. The application code as new data item is used to compare the parameters of an application that is saved on both *Update Disks*. With this report as enclosed documentation, the user who receives a new *Application Update Disk* may find out, which application are new or if single parameters of specific applications have been changed.

3.2.3. Application Update Disk Maintenance

This option within the 'Update Disk' menu is hidden. It may only be used by evaluation personal who create the *Update Disks*.
The option allows to write a disk identifikation to the disk. It also allows to assign the 3-digit application code to the applications on the disk. Search options may be used to find applications without code (default code is 000) or applications which have the same code assigned. The above described Update Disk Comparison only works, if all applications have the correct application code assigned.
A further maintenance option is the sorting of the applications on the *Update Disk* by test name or application code.

3.2.4. Edit Carry-Over Evasion Information

In additon to the edit options for the *ISE* and *Serum Index* parameters the 'Extras' menu got the option to edit the *Carry-Over Evasion* information.

This info is read from the *Parameter Disk* together with the other information and saved in a separate database file. It may be modified, printed and optionally written back to the *Parameter Disk*.
It is also saved in the *Application Set* file together with the *Work Area* applications, the *Key Setting*, the *ISE* and *Serum Index* information.

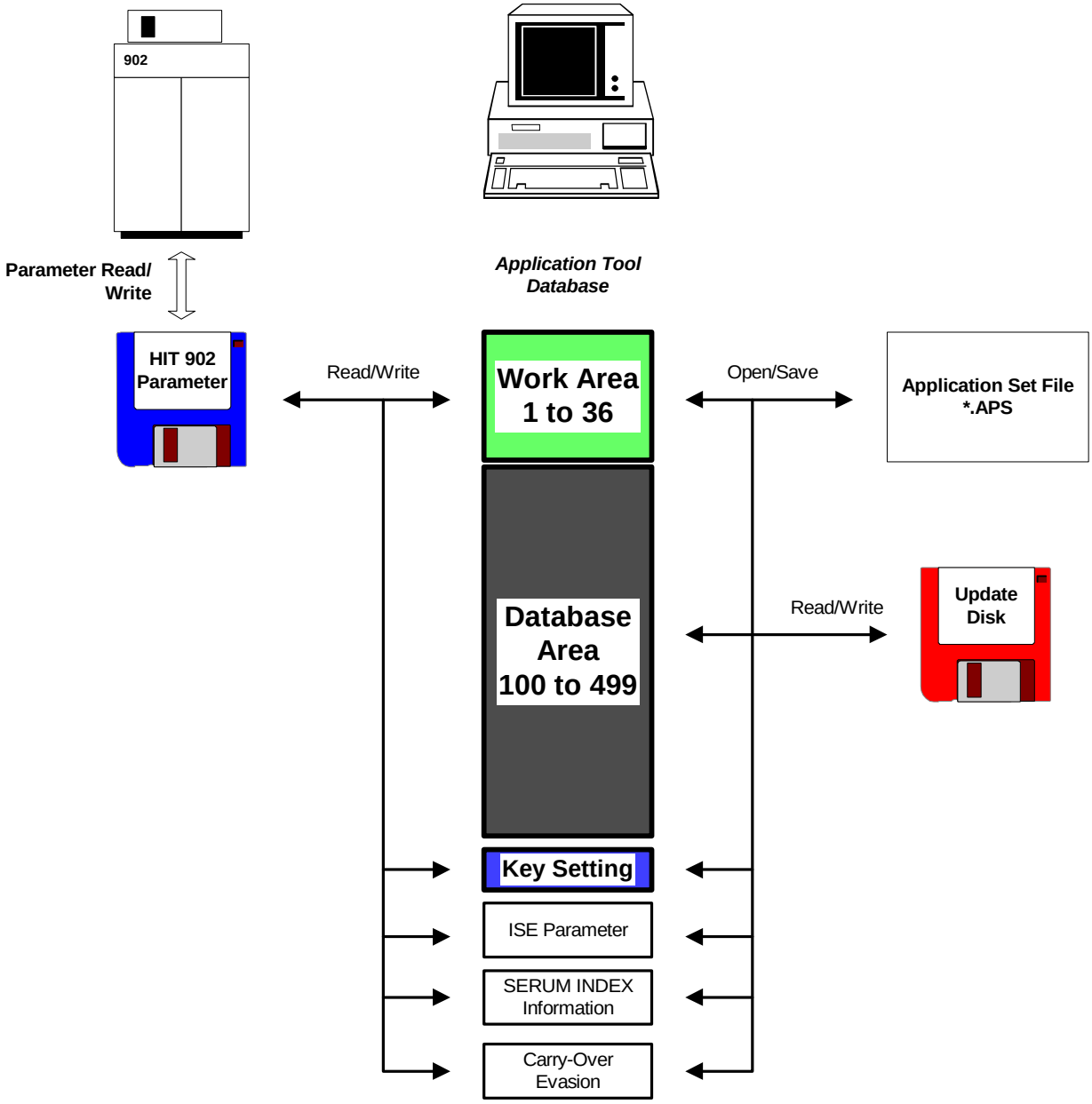
3.2.5. Make Default Parameter Disk

All files of a default *Parameter Disk* are installed on the hard disk during the installation of the version 2.0 Application Tool. This new option within the 'Options' menu allows to create a *BM/Hitachi 902 Parameter Disk* by copying the corresponding files to an empty 3,5 inch diskette.

4. How the Application Tool works

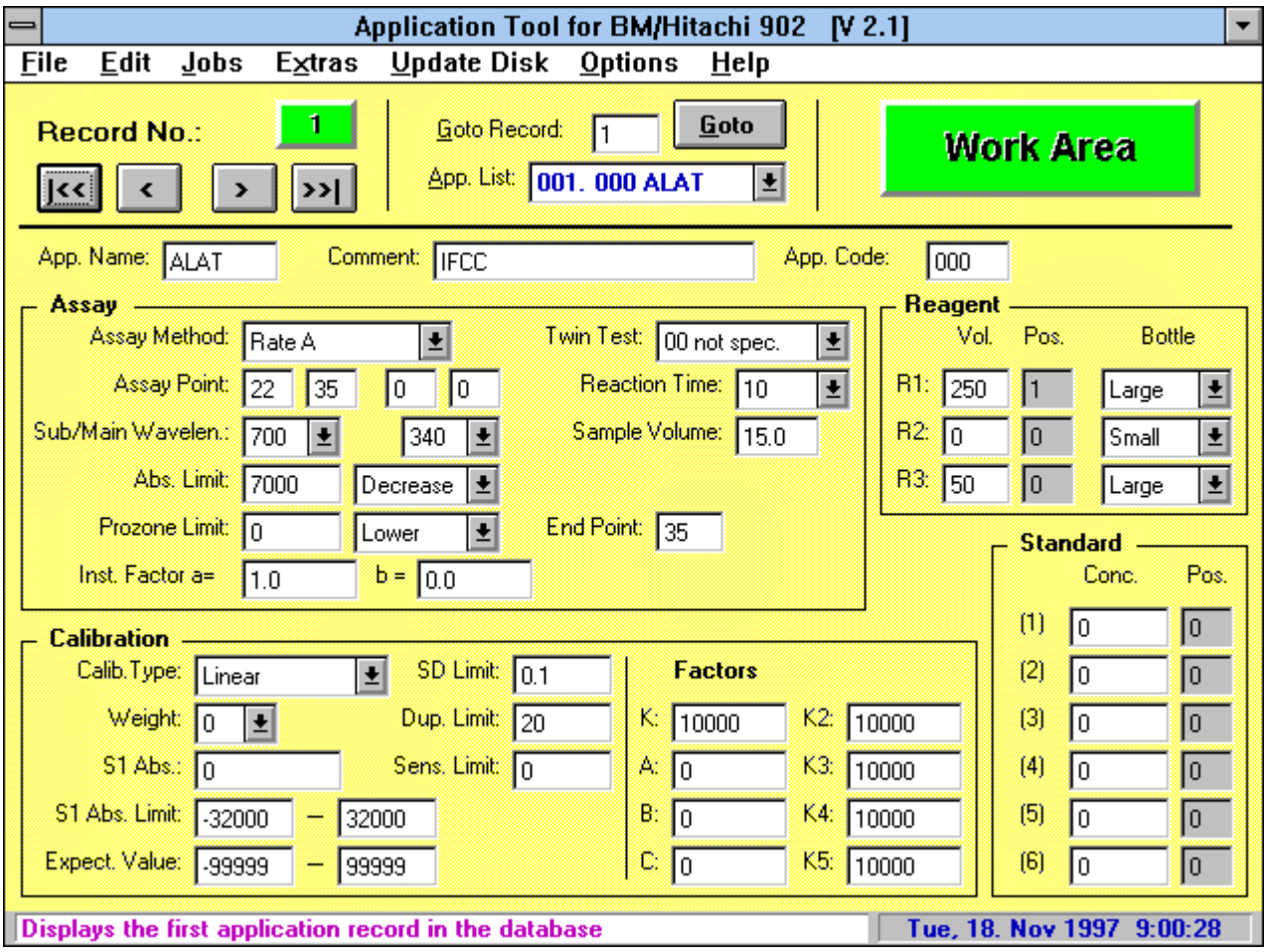
4.1. Application database concept

The tool has access to an application database with 436 records. The first 36 records represent the *Work Area*, the remaining 400 records represent the *Database Area*. The *Database Area* includes all existing applications for the analyzer. The operator selects the needed applications out of the *Database Area* and copies them to the 36 positions of the *Work Area*, which is afterwards written to the *BM/Hitachi 902 Parameter Disk*.



4.2. Main screen of the tool

After starting the tool, all data items including a comment of the first application record of the *Work Area* are displayed on the screen. Each data item may be modified.
The main screen includes a pull-down menu system and a status line where date and time as well as a short hint regarding the object which has the focus are displayed.



4.3. How to move within the application database

For moving through the application database the following means are available:

- Buttons for moving to the next/previous application record
- Buttons for moving to the first/last application record
- Combination of ‘Goto’ button and text field to enter the number of the record which shall be displayed
- Test list for selecting the wished application record by test name

5. How to update/create a Parameter Disk

For updating an already existing or creating an initial *Parameter Disk*, do the following steps:

If you want to update an already existing *Parameter Disk*, perform first the ...
... Menu option: **Read Hit 902 Parameter Disk** in the 'File' menu.

This option reads the application data from the Parameter Disk and enters it into the Work Area.

Now go on with the ...
... Menu option: **Configure Work Area** in the 'Jobs' menu.

Here you copy the needed application records from the Database Area to the Work Area

The next will be the ...
... Menu option: **Edit Key Setting** in the 'Jobs' menu.

The Key Setting may be done for the above configured applications and can be printed as additional documentation enclosed to the Parameter Disk

A first check can be done with the ...
... Menu option: **Reagent Load List** in the 'Jobs' menu.

The entered reagent positions are displayed; multiple assignment may be recognized. The Reagent Load List may be printed as additional documentation enclosed to the Parameter Disk.

A further check can be done with the ...
... Menu option: **Calibration Load List** in the 'Jobs' menu.

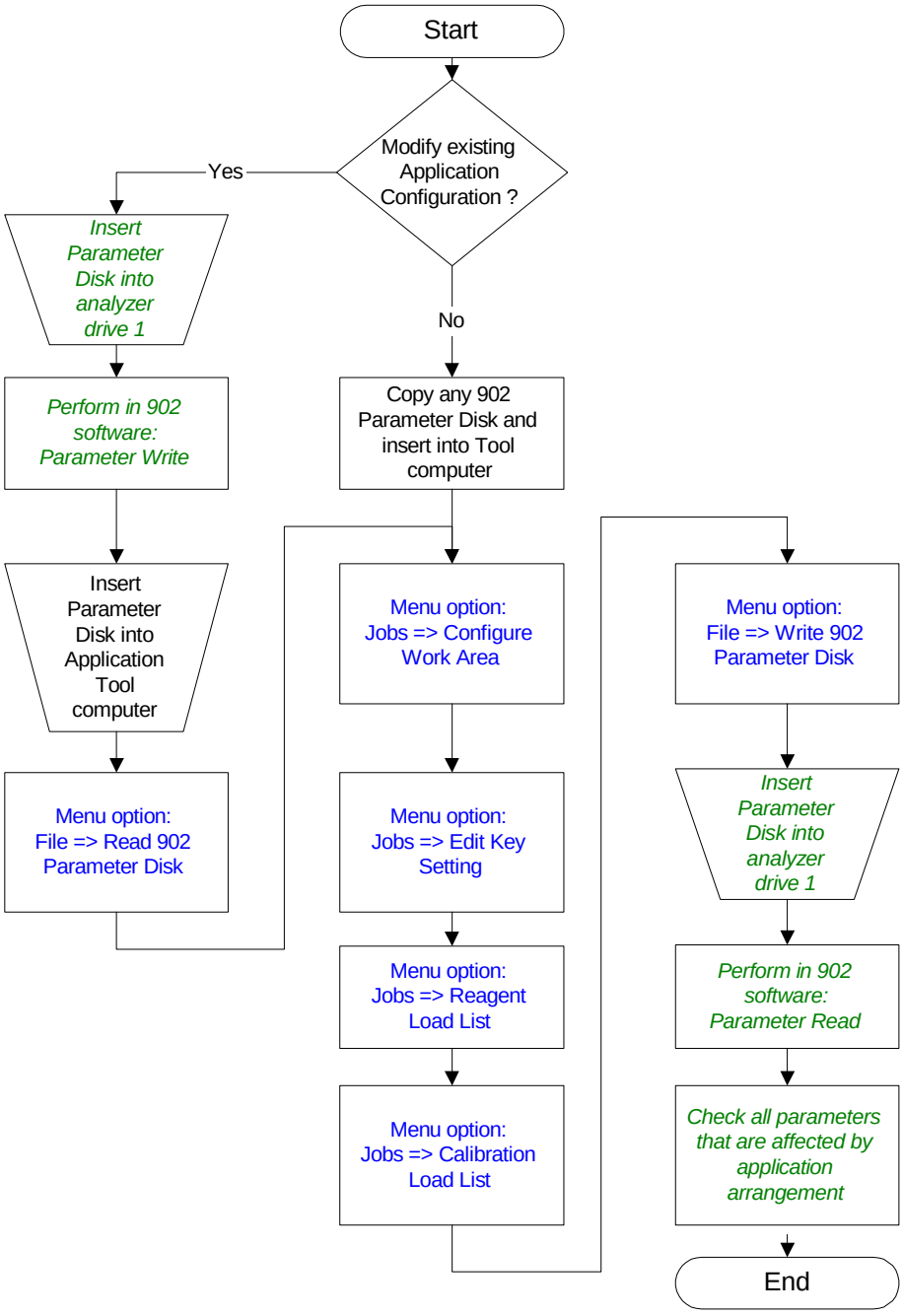
The entered Standard positions are displayed. The Calibration Load List may be printed as additional documentation enclosed to the Parameter Disk.

After having done all these jobs, insert the *Parameter Disk* again and perform the ...
... Menu option: **Write Hit 902 Parameter Disk** in the 'File' menu.

The application and key setting data is written to the Parameter Disk. After inserting the disk into drive 1 of the BM/Hitachi 902, perform the **Parameter Write** function to load the data into memory.

When reading the application data from the *Parameter Disk*, the **ISE** parameters, **Serum Index** and **Carry-Over Evasion** information are also read and stored on the hard disk. As an additional option, they may be edited and written back to *Parameter Disk*.

The following workflow chart shows includes the above described steps:



Application Tool operation steps are printed in blue color

Hit 902 operation steps are printed in green color

6. Menu System of the Application Tool

The pull-down menu system includes all options for reading, writing, modifying, saving, printing the application data:

File Menu	
Read Hit 902 Parameter Disk	... reads the 36 application records, the Key Setting, the ISE parameters, the Serum Index and Carry-Over Evasion information from the Hit 902 Parameter Disk into the database files
Write Hit 902 Parameter Disk	... writes the 36 application records of the Work Area, the Key Setting, the ISE parameters, the Serum Index and Carry-Over Evasion information to the Hit 902 Parameter Disk
Open Application Set	... opens an already created Application Set (see next option) and loads it into the Work Area.
Save Application Set	... saves the 36 records of the Work Area, the actual Key Setting, the ISE parameters, the Serum Index and Carry-Over Evasion information into an Application Set file. Different combinations of applications for different instruments or customers can be stored for later processing.
Delete Application Set	... deletes an Application Set file which is no longer needed.
Print	... prints the application data in different formats to different output targets. Any subset of applications out of Work and Database Area may be selected for the output. The output formats are: • Screen Copy (one Application per page) • Parameter list (one Application per page) • Parameter table The output targets are ... • the standard printer • a text file • a text file where the data items are delimited by a character which can be specified. This file may be imported into any spreadsheet application for further processing • a bitmap graphics file (only for screen copy) This file may be used for import into word processor, for documentation purpose.
Exit	... quits the program

Edit Menu

Save actual Record	... saves the actual application record into the database. As soon as any data item is changed, it is displayed in red forecolor. If the record shall be left or a menu option is selected, there is a prompt, whether the record shall be saved. If the record shall be saved, all data items are checked for valid values.
Copy, Move, Delete, Compare Records	... allows copying, moving, deleting and comparing data records within the complete application database. The records are displayed in two list boxes, a source and a target list box. Any subset of application records may be selected in the source list and copied or moved to the position selected in the target list. When moving records, the source positions are deleted (= overwritten with a default record). The Compare option allows comparing the data items of two records where the different data fields are displayed with different background color.
Delete Application Database	... deletes the complete application database

Jobs Menu

Configure Work Area	... allows to configure the Work Area according to the requirements for a specific instrument. The needed applications may be copied from the Database to the Work Area.
Edit Key Setting	... modifies the actual Key Setting. When reading the application data from the Parameter Disk, the Key Setting is also read and stored in the application database. This Key Setting can be modified according to the actual application arrangement in the Work Area. The Key Setting is written back to the Parameter Disk together with the application data. The Key Setting may also be output to the printer or a text file for documentation purpose.
Reagent Load List	... displays the actual reagent positions according to the position values in the application records of the Work Area. The reagent position table may be output to the printer or a text file for documentation purpose.
Calibration Load List	... displays the actual Standard positions according to the position values in the application records of the Work Area. The Calibration Load List may be output to the printer or a text file for documentation purpose.

Extras Menu

Edit ISE parameters	... allows editing the ISE parameters which are read from the Parameter Disk together with the application data. The info may be printed and written back to the Parameter Disk.
Edit Serum Index Information	... allows editing the Serum Index information which is read from the Parameter Disk together with the application data. The info may be printed and written back to the Parameter Disk.
Edit Carry-Over Evasion	... allows editing the Carry-Over Evasion information which is read from the Parameter Disk together with the application data. The info may be printed and written back to the Parameter Disk.

Update Disk Menu

Read Application Update Disk

... reads all records from the Hit 902 Application Update Disk (see next option) and displays them in a list.
Any subsets of this list may be selected and loaded to any position of the Database Area.

Write Application Update Disk

... allows to write up to 400 records of the Database Area to an Application Update Disk. Updated and new applications for the Hitachi 902 may be distributed in this way.

Check, Sort, Modify Application Update Disk

... allows to write an ID to the Update Disk. Application codes may be assigned to the application records on the disk. The applications on the disk may be sorted by test name or application code. The Update Disk may be searched for missing of multiple used application codes.
This menu option is enabled only for evaluation staff !

Compare Application Update Disks

... allows to compare the contents of two Update diskettes. The key field for the comparison is the application code. Different items may be selected for the comparison report

Options Menu

Desktop Language

... offers several different languages for the desktop of the ***Application Tool***.
All text lines for one language are stored in separate text file. The english and german text files are included, further language versions may be created with any text editor. A software change is not necessary.

Database Path

... allows to set a path for the database files (Application, ISE and Serum Index). The database files may also be stored on a network drive, where they are available for different workstations.

Make Default Parameter Disk

... allows to create a default BM/Hitachi 902 Parameter Disk by copying the corresponding files from hard disk to an empty floppy disk.

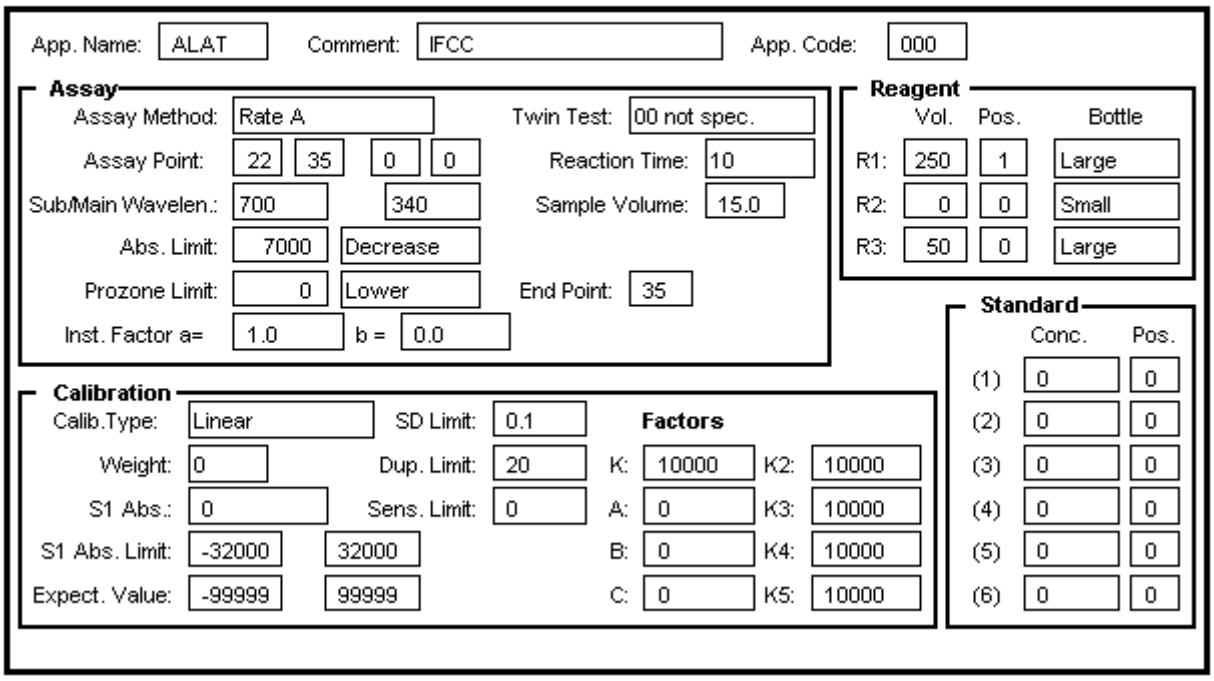
Help Menu

Contents	... opens the Windows-based help system for the ***Application Tool***. In each form there is a help button with which the operator gets context-sensitive help.
Info	... displays information about the ***Application Tool***, the developer and the system

Appendix A: Printouts of the Application Tool

1. Application Data - Screen Format (one application/page)

Application Tool for BM/Hitachi 902 [V 2.1]
11-18-1997
Application data - Test: ALAT Channel #1



2. Application Data - List (one application/page)

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Chemistry Parameters
--------------------

Channel          : 102
Comment          : Albumin
Application Code : 067

No  1.  Test Name                         ALB
No  2.  Assay Code (Mthd)              1 Point
No  3.  Assay Code (2.Test)                  0
No  4.  Reaction Time                        3
No  5.  Assay Point 1                        6
No  6.  Assay Point 2                        0
No  7.  Assay Point 3                        0
No  8.  Assay Point 4                        0
No  9.  Wavelength (SUB)                   700
No 10.  Wavelength (MAIN)                  600
No 11.  Sample Volume                      2.0
No 12.  R1 Volume                          350
No 13.  R1 Position                          0
No 14.  R1 Bottle Size                   Large
No 15.  R2 Volume                            0
No 16.  R2 Position                          0
No 17.  R2 Bottle Size                   Small
No 18.  R3 Volume                            0
No 19.  R3 Position                          0
No 20.  R3 Bottle Size                   Small
No 21.  Calib. Type (Type)              Linear
No 22.  Calib. Type (Wght)                   0
No 23.  Calib. Conc. 1                    0.00
No 24.  Calib. Pos. 1                        0
No 25.  Calib. Conc. 2                       0
No 26.  Calib. Pos. 2                        0
No 27.  Calib. Conc. 3                       0
No 28.  Calib. Pos. 3                        0
No 29.  Calib. Conc. 4                       0
No 30.  Calib. Pos. 4                        0
No 31.  Calib. Conc. 5                       0
No 32.  Calib. Pos. 5                        0
No 33.  Calib. Conc. 6                       0
No 34.  Calib. Pos. 6                        0
No 35.  S1 ABS.                              0
No 36.  K Factor                         10000
No 37.  K2 Factor                        10000
No 38.  K3 Factor                        10000
No 39.  K4 Factor                        10000
No 40.  K5 Factor                        10000
No 41.  A Factor                             0
No 42.  B Factor                             0
No 43.  C Factor                             0
No 44.  SD Limit                           0.1
No 45.  Duplicate Limit                    270
No 46.  Sens. Limit                       2700
No 47.  S1ABS. Limit (L)                -32000
No 48.  S1ABS. Limit (H)                 32000
No 49.  ABS Limit                            0
No 50.  ABS Limit (D/I)               Decrease
No 51.  Prozone Limit                        0
No 52.  Proz Limit (Upp/Low)             Lower
No 53.  Prozone (End Point)                 35
No 54.  Expect. Value (L)                -9999
No 55.  Expect. Value (H)                 9999
No 56.  Instr. Factor (a)                  1.0
No 57.  Instr. Factor (b)                  0.0
No 58.  Key Setting                          -
```

3. Application Data - Table (multiple applications, only text file)

```
Chemistry Parameters

;Channel#;100;101;102
;Comment;AMP;OCPC;BCG
;Application Code;043;055;067
1;Test Name;ALP;Ca;ALB
2;Assay Code (Mthd);Rate A;2 Point End;1 Point
3;Assay Code (2.Test);0;0;0
4;Reaction Time;10;5;3
5;Assay Point 1;26;5;6
6;Assay Point 2;35;17;0
7;Assay Point 3;0;0;0
8;Assay Point 4;0;0;0
9;Wavelength (SUB);700;700;700
10;Wavelength (MAIN);415;600;600
11;Sample Volume;11,0;10,0;2,0
12;R1 Volume;250;250;350
13;R1 Position;0;0;0
14;R1 Bottle Size;Large;Large;Large
15;R2 Volume;0;100;0
16;R2 Position;0;0;0
17;R2 Bottle Size;Small;Large;Small
18;R3 Volume;50;0;0
19;R3 Position;0;0;0
20;R3 Bottle Size;Small;Large;Small
21;Calib. Type (Type);Linear;Linear;Linear
22;Calib. Type (Wght);0;0;0
23;Calib. Conc. 1;0;0,00;0,00
24;Calib. Pos. 1;0;0;0
25;Calib. Conc. 2;0;0;0
26;Calib. Pos. 2;0;0;0
27;Calib. Conc. 3;0;0;0
28;Calib. Pos. 3;0;0;0
29;Calib. Conc. 4;0;0;0
30;Calib. Pos. 4;0;0;0
31;Calib. Conc. 5;0;0;0
32;Calib. Pos. 5;0;0;0
33;Calib. Conc. 6;0;0;0
34;Calib. Pos. 6;0;0;0
35;S1 ABS.;0;0;0
36;K Factor;10000;10000;10000
37;K2 Factor;10000;10000;10000
38;K3 Factor;10000;10000;10000
39;K4 Factor;10000;10000;10000
40;K5 Factor;10000;10000;10000
41;A Factor;0;0;0
42;B Factor;0;0;0
43;C Factor;0;0;0
44;SD Limit;0,1;0,1;0,1
45;Duplicate Limit;110;350;270
46;Sens. Limit;1000;0;2700
47;S1ABS. Limit (L);-32000;-32000;-32000
48;S1ABS. Limit (H);32000;32000;32000
49;ABS Limit;15000;0;0
50;ABS Limit (D/I);Increase;Increase;Decrease
51;Prozone Limit;0;32000;0
52;Proz Limit (Upp/Low);Lower;Upper;Lower
53;Prozone (End Point);35;35;35
54;Expect. Value (L);-9999;-99999;-9999
55;Expect. Value (H);9999;99999;9999
56;Instr. Factor (a);1,0;1,0;1,0
57;Instr. Factor (b);0,0;0,0;0,0
58;Key Setting;-;-;-
```

4. Application Database Index

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Application Database Index
--------------------------

Channel 100:  043  ALP      AMP
Channel 101:  055  Ca       OCPC
Channel 102:  067  ALB      BCG
Channel 103:  003  ALT      IFCC
Channel 104:  123  ALP      AMP
Channel 105:  005  ALP      opt.
Channel 106:  002  P-AMY    liquid
Channel 107:  000  P-AMY    EPS
Channel 108:  000  AMYL     liquid
Channel 109:  000  AMYL     EPS
Channel 110:  000  BIL-T    DPD
Channel 111:  000  D-BIL    Jendr. Direct
Channel 112:  000  BIL-T    Jendr.
Channel 113:  000  CK       NAC  Lyo
Channel 114:  000  Ca       OCPC

Channel 116:  002  Chol     PAP Liquid  with SMS
Channel 117:  000  Chol     PAP  liquid
Channel 118:  000  CHE      But.
Channel 119:  000  ALP      AMP
Channel 120:  000  CK       NAC  Lyo

Channel 123:  000  CREJ     Jaffe with blank
Channel 124:  000  CRE      Jaffe  STAT Meth.
Channel 125:  000  CRE      PAP plus

Channel 127:  000  GGT      Szasz

Channel 129:  000  GGT      Std. Meth. 94

Channel 131:  000  GLU      PAP
Channel 132:  000  GLU      HK

Channel 134:  000  AST      IFCC
Channel 135:  789  ASAT     IFCC  with Pyp
Channel 136:  000  GOT      opt.
Channel 137:  000  ALT      IFCC
Channel 138:  000  ALAT     IFCC  with Pyp
Channel 139:  000  GPT      opt.
Channel 140:  000  HBDH     opt

Channel 143:  000  FE       Ferroz.

Channel 145:  000  LDH      SFBC
Channel 146:  000  LDH      opt
Channel 147:  000  LIP      turb.

Channel 150:  000  PHOS     UV

Channel 154:  000  TP       Biuret
Channel 155:  000  TG       PAP liquid
Channel 156:  000  TG       PAP liquid with  SMS

Channel 158:  000  UREA     liquid  UV

Channel 160:  000  UA       PAP plus

...
```

5. Application Update Disk Index

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Application Update Disk Index
Disk ID: Version 2.0
-----------------------------

Channel 100:  888  ALB      BCG
Channel 101:  005  ALP      opt.
Channel 102:  043  ALP      AMP
Channel 103:  123  ALP      AMP
Channel 104:  003  ALT      IFCC
Channel 105:  000  AMYL     liquid

Channel 107:  055  Ca       OCPC

Channel 109:  999  P-AMY    liquid
```

6. Key Setting (part 1)

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Key Setting (sorted by Key no.)
-------------------------------

Key 01: 011 HDL-C   Channel 001
Key 02: 014 TG      Channel 002
Key 03: 123 CHOL    Channel 003
Key 04: 456 Ca      Channel 004
Key 05: 000 ACP     Channel 005
Key 06: 000 NPP     Channel 006
Key 07: 000 K       Channel 008
Key 08: 000 GLDH    Channel 009
Key 09: 000 Mg      Channel 010
Key 10: 000 LIP     Channel 007
Key 11: 000 TG      Channel 011
Key 12:

Key 13:
Key 14:
Key 15:
Key 16:
Key 17:
Key 18:
Key 19:
Key 20:
Key 21:
Key 22:
Key 23:
Key 24:

Key 25:
Key 26:
Key 27:
Key 28:
Key 29:
Key 30:
Key 31:
Key 32:
Key 33:
Key 34:
Key 35:
Key 36:

Key 37:
Key 38: 000 ISE     Channel 037
```

Key Setting (part 2)

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Key Setting (sorted by Channel no. = Host channel)
--------------------------------------------------

Channel 001. 011 HDL-C   on Key  1
Channel 002. 014 TG      on Key  2
Channel 003. 123 CHOL    on Key  3
Channel 004. 456 Ca      on Key  4
Channel 005. 000 ACP     on Key  5
Channel 006. 000 NPP     on Key  6
Channel 007. 000 LIP     on Key 10
Channel 008. 000 K       on Key  7
Channel 009. 000 GLDH    on Key  8
Channel 010. 000 Mg      on Key  9
Channel 011. 000 TG      on Key 11
Channel 012. 000 APOA1
Channel 013. 000 Na
Channel 014. 000 GENT
Channel 015. 000
Channel 016. 000
Channel 017. 000
Channel 018. 000
Channel 019. 000
Channel 020. 000
Channel 021. 000
Channel 022. 000
Channel 023. 000
Channel 024. 000
Channel 025. 000
Channel 026. 000
Channel 027. 000
Channel 028. 000
Channel 029. 000
Channel 030. 000
Channel 031. 000
Channel 032. 000
Channel 033. 000
Channel 034. 000
Channel 035. 000
Channel 036. 000

Channel 037.      ISE     on Key 38
```

7. Reagent Load List (part 1)

```
Application Tool for BM/Hitachi 902   [V 2.1]
04-22-1997

Reagent Load List (sorted by Position no.)
------------------------------------------

Pos. 01: ALB   R1 (#01) /
Pos. 02: P-AMY R1 (#02) /
Pos. 03: P-AMY R3 (#02) /
Pos. 04: AMYL  R1 (#03) /
Pos. 05: AMYL  R3 (#03) /
Pos. 06: BIL-T R1 (#04) /
Pos. 07: BIL-T R3 (#04) /
Pos. 08: Ca    R1 (#05) /
Pos. 09: Ca    R2 (#05) /
Pos. 10: Chol  R1 (#06) /
Pos. 11: CREJ  R1 (#07) /
Pos. 12: CREJ  R3 (#07) /
Pos. 13: GGT   R1 (#08) /
Pos. 14: GLU   R1 (#09) /
Pos. 15: GLU   R2 (#09) /
Pos. 16:
Pos. 17:
Pos. 18:
Pos. 19:
Pos. 20:
Pos. 21:
Pos. 22:
Pos. 23:
Pos. 24:
Pos. 25:
Pos. 26:
Pos. 27:
Pos. 28:
Pos. 29:
Pos. 30:
Pos. 31:
Pos. 32:
Pos. 33:
Pos. 34:
Pos. 35:
Pos. 36:

Pos. 37: (Int. Std.)
Pos. 38: (Diluent)

Pos. 39: Multiclean
Pos. 40: Hitergent
```

Reagent Load List (part 2)

```
Application Tool for BM/Hitachi 902   [V 2.1]
04-22-1997

Reagent Load List (sorted by Channel no.)
-----------------------------------------

Channel  1: ALB   R1   1
Channel  2: P-AMY R1   2
                  R3   3
Channel  3: AMYL  R1   4
                  R3   5
Channel  4: BIL-T R1   6
                  R3   7
Channel  5: Ca    R1   8
                  R2   9
Channel  6: Chol  R1  10
Channel  7: CREJ  R1  11
                  R3  12
Channel  8: GGT   R1  13
Channel  9: GLU   R1  14
                  R2  15
```

8. Calibrator Load List

```
Application Tool for BM/Hitachi 902   [V 2.1]
04-22-1997

Calibration Load List (sorted by Position no.)
----------------------------------------------

Pos. 36: ALB   (#01-S1)  P-AMY (#02-S1)  AMYL  (#03-S1)  BIL-T (#04-S1)
         Ca    (#05-S1)  Chol  (#06-S1)  CREJ  (#07-S1)  GGT   (#08-S1)
         GLU   (#09-S1)
Pos. 37: ALB   (#01-S2)  P-AMY (#02-S2)  AMYL  (#03-S2)  BIL-T (#04-S2)
         Ca    (#05-S2)  Chol  (#06-S2)  CREJ  (#07-S2)  GGT   (#08-S2)
         GLU   (#09-S2)
Pos. 38:
Pos. 39:
Pos. 40:
Pos. 41:
Pos. 42:
Pos. 43:
Pos. 44:
Pos. 45:
Pos. 46:
Pos. 47:
Pos. 48:
Pos. 49:
Pos. 50:
Pos. 51:
Pos. 52:
Pos. 53:
Pos. 54:
Pos. 55:
Pos. 56:
Pos. 57:
```

9. ISE Parameters

Application Tool for BM/Hitachi 902 [V 2.1]
04-22-1997

ISE Parameters

	Na	K	Cl
No 1. Low Liquid Conc.	120.0	3.00	80.0
No 2. High Liquid Conc.	160.0	7.00	120.0
No 3. Calibrator Conc.	134.0	4.42	99.6
No 5. Expected Low	0	0	0
No 6. Expected High	9999	9999	9999
No 7. Instr. Factor A	1.00	1.0	1.0
No 8. Instr. Factor B	0.0	0.0	0.0
No 9. Comp. Tolerance Range	200.0	200.0	200.0
No 10. Correction Coefficient	-2	-0.11	0

10. Serum Index Information

```
Application Tool for BM/Hitachi 902   [V 2.1]
04-22-1997

Serum Index Information
-----------------------

Channel No  :000

Factor A    :        25
Factor B    :    122000
Factor C    :        10
Factor D    :      1600
Factor E    :     19000
Factor F    :    180000
```

11. Carry Over Evasion Information

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Carry-Over Evasion Parameters
-----------------------------

* Reagent Probe Evasion *

Channel 004: 456 Ca    R1  to Channel 005: 000 ACP   R1  Pos. 36  250ul
Channel 004: 456 Ca    R1  to Channel 005: 000 ACP   R1  Pos. 39  250ul
Channel 002: 014 TG    R3  to                 ALL   R2  Pos. W1  100ul
Channel 008: 000 K     R2  to                 ISE   R3  Pos.  7   60ul
Channel 001: 011 HDL-C R1  to Channel 010: 000 Mg    R1  Pos. 10  100ul


* Reaction Cell Evasion *

Channel 004: 456 Ca     Pos. 39  500ul
Channel 001: 011 HDL-C  Pos.  1   50ul


* Sample Probe Evasion *

Channel 005: 000 ACP    Pos. W3
```

12. Application Update Disk Comparison

Part 1

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Application Update Disk Comparison
----------------------------------

* Applications on Disk 1 and Disk 2 *

Disk 1: Version 1.0
Disk 2: Version 2.0

Channel 101: 005 ALP   opt.
Channel 102: 043 ALP   AMP
Channel 103: 123 ALP   AMP                                    DIFFERENT !

      Different Data Items            Version 1.0         Version 2.0
   1. Test Name                             ALP                 AMYL
   5. Assay Point 1                          26                   28
  11. Sample Volume                        11.0                 10.0
  14. R1 Bottle Size                      Large                Small
  45. Duplicate Limit                       110                  100
  46. Sens. Limit                          1000                  510
  49. ABS Limit                           15000                20000
  54. Expect. Value (L)                   -9999               -99999
  55. Expect. Value (H)                    9999                99999

Channel 104: 003 ALT   IFCC
Channel 107: 055 Ca    OCPC
```

Part 2 (Option)

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Application Update Disk Comparison
----------------------------------

* New Applications on Disk 2 *

Disk 1: Version 1.0
Disk 2: Version 2.0

Channel 100: 888 ALB   BCG
Channel 109: 999 P-AMY liquid
```

Part 3 (Option)

```
Application Tool for BM/Hitachi 902   [V 2.1]
10-08-1997

Application Update Disk Comparison
----------------------------------

* Applications on Disk 2 without Application Code !!! *

Disk 1: Version 1.0
Disk 2: Version 2.0

Channel 105: 000 AMYL  liquid
```