

Rebar Detection Data  
Analysis Software

Instruction Manual

# Table of Contents

## Appointment in the Instruction Manual

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Section 1 Overview .....                                        | 1  |
| Section 2 Installation, <b>Running and Uninstallation</b> ..... | 3  |
| 2.1 Installation .....                                          | 3  |
| 2.2 <b>Running</b> .....                                        | 5  |
| 2.3 <b>Uninstallation</b> .....                                 | 5  |
| Section 3 Rebar Detection Data Analysis Software.....           | 7  |
| 3.1 Introduction to Software Interface.....                     | 7  |
| 3.2 Function button .....                                       | 13 |
| 3.2.1 File.....                                                 | 13 |
| 3.2.2 Parameter setting.....                                    | 16 |
| 3.2.3 Edit <b>object</b> .....                                  | 19 |
| 3.2.4 Rebar correction.....                                     | 20 |
| 3.2.5 Tool.....                                                 | 21 |
| 3.2.6 Language setting.....                                     | 28 |
| Appendix Installation of USB <b>driver</b> .....                | 29 |

## Appointment in the Instruction Manual

- A. Word with gray background and black box indicates a button in the interface, such as **OK** button.
- B. The keys on the instrument panel are represented by **【】**, such as **【Save】** key.
- C. Word with white background and black box indicates Windows software menu command, where “→” indicates a decollators among different menu classes. For example, **file** → **open** indicates open menu item command under file menu.
- D. Word with gray background but no box indicates the name of the control (choice box,input box,etc.) of the popup window on the screen,such as the input box of **File Name** in the open file dialog.
- E. Name of view area is indicated with boldface letter with gray background but no box, such as **file list area**.
- F. Sign👉 means special attention is needed here.
- G. Besides contents introduced in the instruction manual, some prompt information will be displayed automatically during the use process of software by user and user is required to follow the information in operation.
- H. **Bitmap** in this instruction manual is a graphic file and the extension name is BMP.
- I. The software interface is composed of several parts (or views). When you click certain part with the mouse, the

clicked part will become **current focus**.

- J. Window pictures used for illustration in this instruction manual are all obtained under Windows XP system. When the software is installed under other system, window style or name will be slightly different.
- K. Software interfaces and pictures in this instruction manual are only for indication. With software upgrade and continuous improvement of products, they may be changed without prior notice.

## Section 1 Overview

Rebar detection data analysis software (hereafter referred to as rebar analysis software) is the Windows application software launched and it is mainly used to process **the rebar test data** generated by R6 series concrete rebar detectors.

With friendly interface, the processing software can be operated conveniently. The operation method and interface form both fully match with Windows style. Users familiar with Windows application software operation can grasp the software easily. The software is specially designed **for the users who work on engineering inspection** and it can **run** in computers with Windows 95 or Windows 98, WinMe, Windows XP, Windows 2000 and Windows NT operating system.

The software mainly has following functions:

- 1) To manage **project** information and **object** information of all detected **objects** in the **project** as well as test data of various measuring points (e.g., **cover's depth**, rebar position), etc.;
- 2) Detected data are analyzed and evaluated in accordance with Code for Acceptance of Constructional Quality of

## Concrete Structures (GB 50204-2002);

3) Detected data can be analyzed in accordance with JGJ/T152-2008 Technical Specification for Test of Reinforcing Steel Bar in Concrete.

4) Detected data of **objects** are shown in graphics. As for general scan, profile scan, fine scan, grid scan and picture scan data, position diagram, signal diagram, grid diagram and three-dimensional diagram can be generated. They can be saved in bitmap form so as to be processed through other graphic processing software;

5) Several rebar data files can be combined into one file; **objects** can be added or removed conveniently;

6) Data transmission software can be used conveniently to transmit the detected data on rebar detector to the computer in order to analyze and backup further more;

7) The detection reports can be generated automatically in accordance with user-defined report template (Microsoft Word format (extension name is DOC or DOCX)).

Files and file types involved in the software are shown in Table 1.1.

Table 1.1 File type list

| Type                  | Extension name | Remark                |
|-----------------------|----------------|-----------------------|
| Data file             | ZRW            | Detected data file    |
| Bitmap file           | BMP            | Bitmap file           |
| Text file             | TXT            | ASCII code file       |
| Detection report file | DOC            | Detection report file |

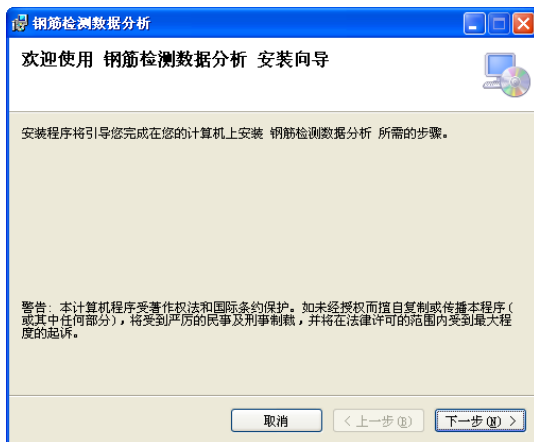
## Section 2 Installation, Running and Uninstallation

The installation procedure of this processing software is similar to that of common Windows software. **The installation and preparation before using the process software would be detailedly introduced in this chapter.**

Files required for installation of the processing software are in the compact disk or USB flash disk attached to the instrument.

### 2.1 Installation

1. Find out and run file “RebarSetup.msi” under the root directory of the compact disk or USB flash disk, then automatically start **installation guide** and bring up the welcome interface shown in Fig. 2.1.



|               |                                                                |
|---------------|----------------------------------------------------------------|
| 钢筋检测数据分析      | Rebar detection data analysis                                  |
| 欢迎使用钢筋检测数据分析安 | Welcome to use the installation guide for rebar detection data |

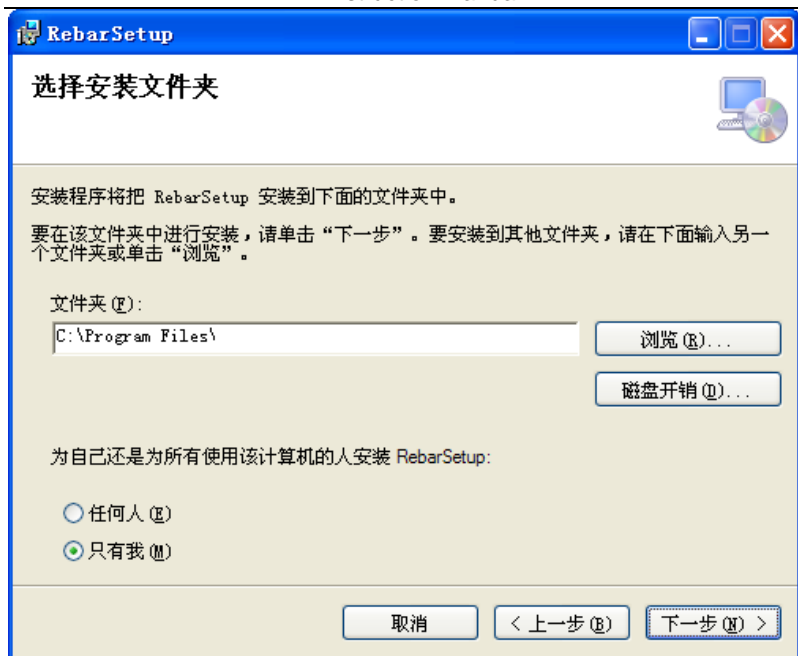
Rebar Detection Data Analysis Software  
Instruction Manual

|                                                                                     |                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 装向导                                                                                 | analysis                                                                                                                                                                                                                                                                                              |
| 安装程序将引导您完成在您的计算机上安装钢筋检测数据分析所需的步骤。                                                   | The installation program shall guide you to complete the steps required for installing <b>rebar</b> detection data in your computer.                                                                                                                                                                  |
| 警告：本计算机程序受著作权法和国际条约保护。如未经授权而擅自复制或传播本程序(或其中任何部分)，将受到严厉的民事及刑事制裁，并将在法律许可的范围内受到最大程度的起诉。 | Warning: the computer program is protected by copyright law and international treaty. Any one shall receive severe civilian and criminal sanction as well as maximal prosecution within the allowable range of law if copying or propagating the program (or any part therein) without authorization. |
| 取消                                                                                  | Cancel                                                                                                                                                                                                                                                                                                |
| 上一步                                                                                 | <b>Back</b>                                                                                                                                                                                                                                                                                           |
| 下一步                                                                                 | <b>Next</b>                                                                                                                                                                                                                                                                                           |

Fig. 2.1 Welcome interface

2. Click **Cancel** button in the welcome interface to exit from the installation program. Click **Next** button to pop up the dialog box for selecting installation folder (as shown in Fig. 2.2).

## Rebar Detection Data Analysis Software Instruction Manual



|                                                       |                                                                                                                                                                  |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 钢筋检测数据分析                                              | Rebar detection data analysis                                                                                                                                    |
| 选择安装文件夹                                               | Select installation folder                                                                                                                                       |
| 安装程序把钢筋检测数据分析安装到下面的文件夹中。                              | Installation program installs rebar detection data analysis to the folder below.                                                                                 |
| 要在该文件夹中进行安装, 请单击“下一步”。要安装到其它文件夹, 请在下面输入另一个文件夹或单击“浏览”。 | To install the program in the folder, please click “Next”. To install the program in other folder, please <b>input</b> the other folder or click “browse” below. |
| 文件夹 (F):                                              | Folder (F):                                                                                                                                                      |
| C: \Program File\                                     | C:\Program File \                                                                                                                                                |
| 浏览 (R)...                                             | Browse (R) ...                                                                                                                                                   |
| 磁盘开销 (D) ...                                          | Disk overhead (D)...                                                                                                                                             |
| 为自己还是为所有使用该计算机的                                       | To install <b>rebar</b> detection data analysis                                                                                                                  |

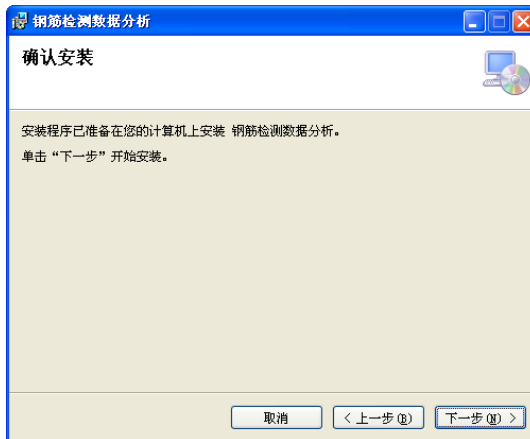


Rebar Detection Data Analysis Software  
Instruction Manual

|              |                                                   |
|--------------|---------------------------------------------------|
| 人安装钢筋检测数据分析: | for yourself or for all personnel using computers |
| 任何人 (E)      | Any body (E)                                      |
| 只有我 (M)      | Only me (M)                                       |
| 取消           | Cancel                                            |
| 上一步 (B)      | <b>Back</b> (B)                                   |
| 下一步 (N)      | <b>Next</b> (B)                                   |

Fig. 2.2 Selecting dialog box for selecting installation folder

3. Click the **Browse** button in the window shown in Fig. 2.2 to choose a destination folder. After setting, click the **Back** button to back to the interface shown in Fig. 2.2; click the **disk overhead** to display space information of various discs. Click the **Cancel** button to exit from installation; click the **Back** to back to the interface in Fig. 2.1. Click the **Next** button to pop up the installation confirmation interface (as shown in Fig. 2.3).



|                 |                                            |
|-----------------|--------------------------------------------|
| 钢筋检测数据分析        | <b>Rebar</b> detection data analysis       |
| 选择安装文件夹         | Select installation folder                 |
| 安装程序把钢筋检测数据分析安装 | Installation program installs <b>rebar</b> |

Rebar Detection Data Analysis Software  
Instruction Manual

|                                                     |                                                                                                                                                           |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 到下面的文件夹中。                                           | detection data analysis to the folder below.                                                                                                              |
| 要在该文件夹中进行安装，请单击“下一步”。要安装到其它文件夹，请在下面输入另一个文件夹或单击“浏览”。 | To install the program in the folder, please click “Next”. To install the program in other folder, please input the other folder or click “browse” below. |
| 文件夹 (F):                                            | Folder (F):                                                                                                                                               |
| C: \Program File\                                   | C:\Program File \                                                                                                                                         |
| 浏览 (R)...                                           | Browse (R) ...                                                                                                                                            |
| 磁盘开销 (D) ...                                        | Disk overhead (D)...                                                                                                                                      |
| 为自己还是为所有使用该计算机的人安装钢筋检测数据分析:                         | To install rebar detection data analysis for yourself or for all personnel using computers                                                                |
| 任何人 (E)                                             | Any body (E)                                                                                                                                              |
| 只有我 (M)                                             | Only me (M)                                                                                                                                               |
| 取消                                                  | Cancel                                                                                                                                                    |
| 上一步 (B)                                             | Back (B)                                                                                                                                                  |
| 下一步 (N)                                             | Next (B)                                                                                                                                                  |

Fig. 2.3 Installation confirmation interface

4. In the installation confirmation interface, click **Next** to pop up the installation progress dialog box (as shown in Fig. 2.4). Click **Back** to return to the interface shown in Fig. 2.2. Click **Cancel** button to exit from installation.



|              |                                                                 |
|--------------|-----------------------------------------------------------------|
| 钢筋检测数据分析     | Rebar detection data analysis                                   |
| 正在安装钢筋检测数据分析 | Installation of rebar detection data analysis is under progress |
| 请稍候...       | Please wait...                                                  |
| 取消           | Cancel                                                          |
| 上一步          | Back                                                            |
| 下一步          | Next                                                            |

Fig. 2.4 Installation progress dialog box

5. After installation is completed, click **Close** button to finish installation. The shortcut icon for calling the processing software will appear in desktop and program group.

## 2.2 Running

After installation is finished, you can choose step by step start → all programs → rebar detection software → rebar detection data analysis ,then run the processing software. Besides, you can also double click rebar detection data analysis

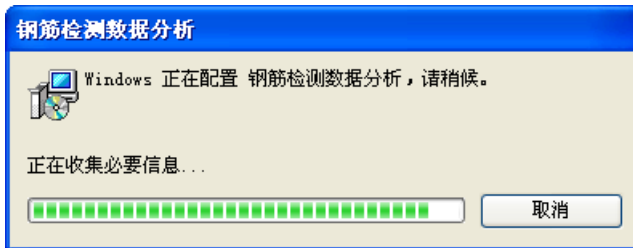
icon to run this process software.

## 2.3 Uninstallation

After releasing a new version of the software ,if you want to upgrade this software, the software of old version should be uninstalled firstly. There are two methods to uninstall:

Method 1: The same as other application program under Windows, in the “control panel”, double click “add/delete program” with the mouse. Choose the software to be uninstalled (rebar detection data analysis software) in the popup dialog box and then click Add/Delete button to start the **uninstallation** guide. The remaining step is same as method 2.

Method 2: choose start → all programs → rebar detection software → unload rebar detection data analysis to start uninstall progress dialog box (Fig. 2.5).



|                           |                                                                                 |
|---------------------------|---------------------------------------------------------------------------------|
| 钢筋检测数据分析                  | Rebar detection data analysis                                                   |
| Windows 正在配置钢筋检测数据分析，请稍候。 | Windows is configuring rebar detection data analysis, please wait for a moment. |
| 正在收集必要信息...               | Collection of necessary information is under progress...                        |
| 取消                        | Cancel                                                                          |

Fig. 2.5 Unloading progress dialog box



Note: if the processing software has been installed, the installation guide dialog box shown in Fig. 2.6 will pop up in second installation. At this time, choose the first or the second item, **restore** or **delete**, press **Finish** button to complete the restoration or uninstallation of the processing software.

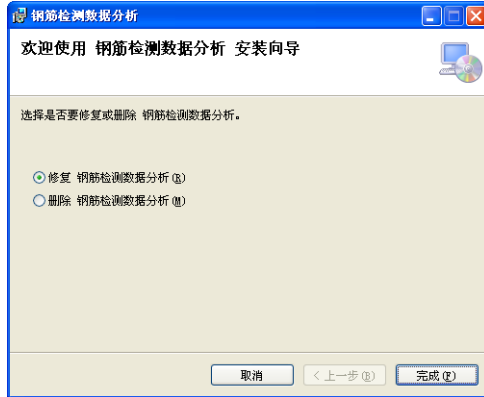


Fig. 2.6 Restore or delete dialog box

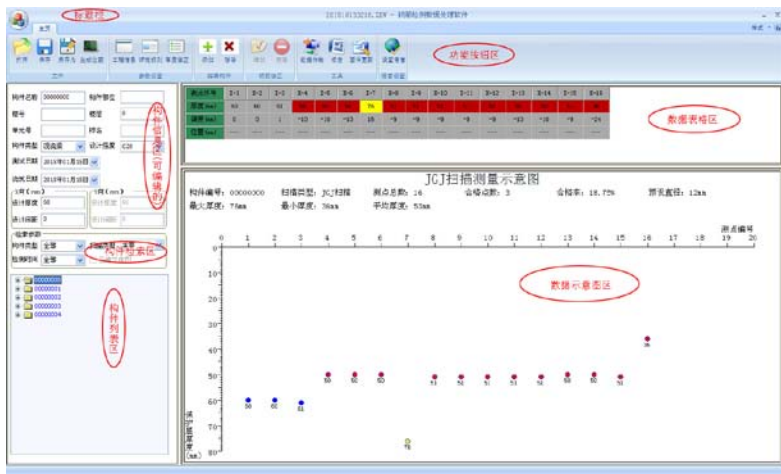
|                     |                                                                                |
|---------------------|--------------------------------------------------------------------------------|
| 钢筋检测数据分析            | <b>Rebar</b> detection data analysis                                           |
| 欢迎使用钢筋检测数据分析安装向导    | Welcome to use the installation guide for <b>rebar</b> detection data analysis |
| 选择是否要修复或删除钢筋检测数据分析。 | Select whether to restore or delete <b>rebar</b> detection data analysis       |
| 修复 钢筋检测数据分析 (R)     | Restore <b>rebar</b> detection data analysis (R)                               |
| 删除 钢筋检测数据分析 (M)     | Delete <b>rebar</b> detection data analysis (M)                                |
| 取消                  | Cancel                                                                         |
| 上一步 (B)             | <b>Back</b> (B)                                                                |

|        |            |
|--------|------------|
| 完成 (F) | Finish (F) |
|--------|------------|

## Section 3 Rebar Detection Data Analysis Software

### 3.1 Introduction to Software Interface

The interface is mainly composed of following 7 parts (as shown in Fig. 3.1): **title bar**, **function button area**, **object information area (editable)**, **object searching area**, **object list area**, **data area**, **data schematic diagram area**.



|            |                                          |
|------------|------------------------------------------|
| 钢筋检测数据处理软件 | Rebar detection data processing software |
| 标题栏        | Title bar                                |
| 主页         | Home page                                |
| 打开         | Open                                     |

Rebar Detection Data Analysis Software  
Instruction Manual

|       |                            |
|-------|----------------------------|
| 保存    | Save                       |
| 另存为   | Save as                    |
| 生成位图  | Generate bitmap            |
| 工程信息  | <b>Project</b> information |
| 评定规则  | Evaluation rule            |
| 厚度修正  | <b>Depth</b> correction    |
| 添加    | Add                        |
| 移除    | Remove                     |
| 增加    | Add                        |
| 删除    | Delete                     |
| 数据传输  | Data transmission          |
| 报告    | Report                     |
| 固件更新  | Firmware update            |
| 设置语言  | Set language               |
| 功能按钮区 | Function button area       |
| 文件    | File                       |
| 参数设置  | Parameter setting          |
| 编辑构件  | Edit <b>object</b>         |
| 钢筋修正  | <b>Rebar</b> correction    |
| 工具    | Tool                       |
| 功能按钮区 | Function button area       |
| 构件名称  | <b>Object</b> name         |
| 构件部位  | <b>Object</b> position     |
| 楼号    | Building number            |
| 楼层    | Building floor             |
| 单元号   | Unit number                |

Rebar Detection Data Analysis Software  
Instruction Manual


|             |                           |
|-------------|---------------------------|
| 桥名          | Bridge name               |
| 构件类型        | Object type               |
| 现浇梁         | Beam casting on site      |
| 设计强度        | Design strength           |
| 测试日期        | Test date                 |
| 2015年01月15日 | Jan 15, 2015              |
| 浇筑日期        | Concreting date           |
| 2015年01月15日 | Jan 15, 2015              |
| X向 (mm)     | Direction X (mm)          |
| Y向 (mm)     | Direction Y (mm)          |
| 设计厚度        | Design depth              |
| 设计间距        | Design space              |
| 检索参数        | Searching parameter       |
| 构件类型        | Object type               |
| 全部          | All                       |
| 扫描类型        | Scanning type             |
| 全部          | All                       |
| 检测时间        | Detection time            |
| 全部          | All                       |
| 三维立体图       | Three-dimensional drawing |
| 构件检索区       | Object searching area     |
| 构件列表区       | Object list area          |
| 数据表格区       | Data area                 |
| 测点序号        | Measuring point number    |
| 厚度          | Depth                     |
| 偏差          | Deviation                 |



Rebar Detection Data Analysis Software  
Instruction Manual

| 位置           | Location                                           |
|--------------|----------------------------------------------------|
| JGJ 扫描测量示意图  | Schematic diagram for JGJ scanning and measurement |
| 构件编号         | <b>Object</b> number                               |
| 扫描类型: JGJ 扫描 | Scanning type: JGJ <b>scan</b>                     |
| 测点总数         | Total measuring point number                       |
| 合格点数         | Qualified point number                             |
| 合格率          | Acceptability                                      |
| 预设直径         | Preset diameter                                    |
| 最大厚度         | Maximal <b>depth</b>                               |
| 最小厚度         | Minimal <b>depth</b>                               |
| 平均厚度         | Average <b>depth</b>                               |
| 测点编号         | Measuring point number                             |
| 数据示意图区       | Data schematic diagram area                        |
| 保护层厚度        | <b>Depth of the coverage</b>                       |

Fig. 3.1 Main interface of software

1. **Title bar** shows software icons rightwards, software name and two standard Window application program buttons  rightwards. Functions of these two standard Window application program buttons are to minimize and close programs.
2. **Function button area** is composed of 6 function panels: **File**, **parameter setting**, **edit object**, **rebar amendment**, **tool** and **language setting**, as shown in Fig. 3.1. Click buttons in various function panel areas to realize corresponding functions.

3. **Object information area (editable)** is used to display test information of **objects** selected at present, including **object** name, **object** location, **object** type, design strength, test date, etc., as shown in Fig. 3.2. Object information in the area can be modified.

|           |                                            |           |                                    |
|-----------|--------------------------------------------|-----------|------------------------------------|
| 构件名称      | <input type="text" value="B22B08"/>        | 构件部位      | <input type="text"/>               |
| 楼号        | <input type="text"/>                       | 楼层        | <input type="text" value="0"/>     |
| 单元号       | <input type="text"/>                       | 桥名        | <input type="text"/>               |
| 构件类型      | <input type="text" value="现浇墙"/> ▼         | 设计强度      | <input type="text" value="C20"/> ▼ |
| 测试日期      | <input type="text" value="2008年06月16日"/> ▼ |           |                                    |
| 浇筑日期      | <input type="text" value="2008年05月16日"/> ▼ |           |                                    |
| X向 ( mm ) |                                            | Y向 ( mm ) |                                    |
| 设计厚度      | <input type="text" value="15"/>            | 设计厚度      | <input type="text" value="0"/>     |
| 设计间距      | <input type="text" value="0"/>             | 设计间距      | <input type="text" value="0"/>     |

|      |                        |
|------|------------------------|
| 构件名称 | <b>Object</b> name     |
| 构件部位 | <b>Object</b> location |
| 楼号   | Building number        |
| 楼层   | Floor                  |
| 单元号  | Unit number            |

Rebar Detection Data Analysis Software  
Instruction Manual

|                  |                      |
|------------------|----------------------|
| 桥名               | Bridge name          |
| 构件类型             | <b>Object</b> type   |
| 现浇梁              | Beam casting on site |
| 设计强度             | Design strength      |
| 测试日期             | Test date            |
| 2008 年 06 月 16 日 | Jun 16, 2008         |
| 浇筑日期             | Cast-in-situ data    |
| 2008 年 05 月 16 日 | May 16, 2008         |
| X 向 (mm)         | Direction X (mm)     |
| Y 向 (mm)         | Direction Y (mm)     |
| 设计厚度             | Design <b>depth</b>  |
| 设计间距             | Design space         |

Fig. 3.2 Member information area (editable)

4. **Object searching area** is used for searching objects to be displayed in the object list area. Objects are searched in

three modes: object type, scanning type and detection time, as shown in Fig. 3.3.

| 检索参数  | Searching parameter     |
|-------|-------------------------|
| 构件类型  | Object type             |
| 全部    | All                     |
| 扫描类型  | Scanning type           |
| 全部    | All                     |
| 检测时间  | Detection time          |
| 全部    | All                     |
| 三维立体图 | Three-dimension drawing |

Fig. 3.3 Member searching area

5. **Object list area** is used to display all objects in current project, as shown in Fig. 3.4. This is a series list. A object is a father node and measuring line or profile in each object is a child node. User can click sign “+” in front of the father node to unfold and show the child nodes thereunder. After the father node is unfolded, click sign “-” in front of the father node to conceal all child nodes. User can double click object nodes for concealing or unfolding. User can also select certain object or measuring line by clicking it with the mouse. If current focus is in the object list area, you can

choose the object or measuring line via the up and down keys in the keyboard.

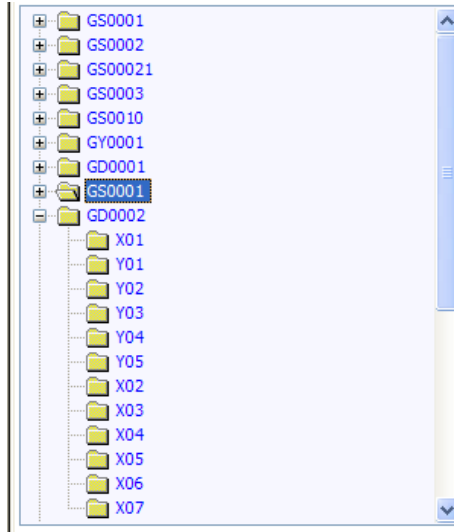


Fig. 3.4 Member list area

6. **Data area** is used to display original detection data of various measuring points of current objects, as shown in Fig. 3.5. “—” displayed in the data area indicates there is no data. Data with yellow shading are higher than the allowable upper deviation. Data with red shading are lower than allowable lower deviation.

7. **Data schematic diagram area** is used to display current measuring line or profile diagram of current object. If current object is a general scanning object or JGJ scanning object, display of the data schematic diagram area is shown in Fig. 3.6. The horizontal coordinate indicates the measuring point number and the vertical coordinate indicates depth of the coverage. Upper part in the figure indicates the assessment result for all

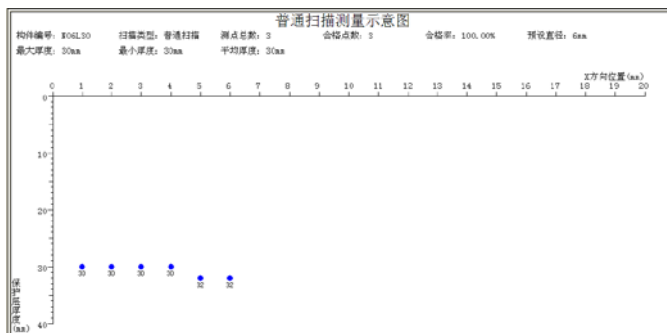
Rebar Detection Data Analysis Software  
Instruction Manual

scanned measuring lines of current objects which are at same direction with current measuring lines: maximal and minimal depth, average depth, acceptability, etc. The figure above each measuring point is the depth of the coverage.

|         |       |       |       |       |       |       |       |       |       |        |        |        |        |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 测点序号    | Y01-1 | Y01-2 | Y01-3 | Y01-4 | Y01-5 | Y02-6 | Y03-7 | Y04-8 | Y05-9 | Y02-10 | Y02-11 | Y02-12 | Y02-13 |
| 厚度 (mm) | 34    | 24    | 33    | 36    | 22    | 21    | 20    | 18    | 22    | 36     | 35     | 36     | 37     |
| 偏差 (mm) | -2    | -2    | -3    | 0     | 0     | -1    | -2    | -4    | 0     | 0      | -1     | 0      | 1      |
| 位置 (mm) | 97    | 273   | 436   | 497   | 66    | 68    | 71    | 55    | 52    | 90     | 259    | 396    | 508    |

|      |                        |
|------|------------------------|
| 测点序号 | Measuring point number |
| 厚度   | Depth                  |
| 偏差   | Deviation              |
| 位置   | Location               |

Fig. 3.5 Data table area

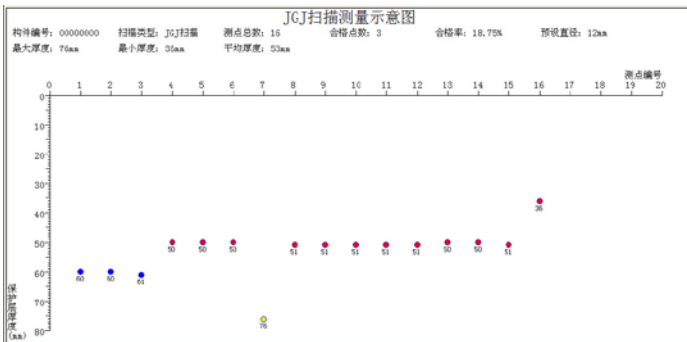


|            |                                                    |
|------------|----------------------------------------------------|
| 普通扫描测量示意图  | Schematic diagram for general scan and measurement |
| 构件编号       | Object number                                      |
| 扫描类型: 普通扫描 | Scanning type: general scan                        |

## Rebar Detection Data Analysis Software Instruction Manual

|        |                              |
|--------|------------------------------|
| 测点总数   | Total measuring point        |
| 合格点数   | Qualified measuring point    |
| 合格率    | Acceptability                |
| 预设直径   | Preset diameter              |
| 最大厚度   | Maximal <b>depth</b>         |
| 最小厚度   | Minimal <b>depth</b>         |
| 平均厚度   | Average <b>depth</b>         |
| X 方向位置 | Location along direction X   |
| 保护层厚度  | <b>Depth of the coverage</b> |

(a) General scanning and measuring schematic diagram



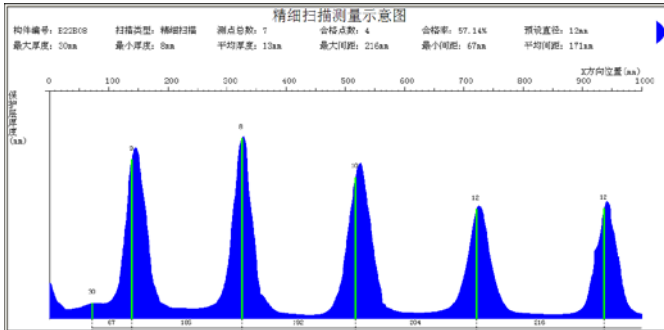
(b) JGJ scanning and measuring schematic diagram

Fig. 3.6 Measuring schematic diagram for general scanning and JGJ scanning

If current object is a fine scanning one, display in the data schematic diagram area is shown in Fig. 3.7. The horizontal

Rebar Detection Data Analysis Software  
Instruction Manual

coordinate is the scanning distance, and the vertical coordinate is the signal value. In this figure, there are rebars in current position indicated by green vertical lines. The upper part displays the depth of the coverage measured in the point.



|            |                                                 |
|------------|-------------------------------------------------|
| 精细扫描测量示意图  | Schematic diagram for fine scan and measurement |
| 构件编号       | Object number                                   |
| 扫描类型: 精细扫描 | Scanning type: fine scan                        |
| 测点总数       | Total measuring point                           |
| 合格点数       | Qualified measuring point                       |
| 合格率        | Acceptability                                   |
| 预设直径       | Preset diameter                                 |
| 最大厚度       | Maximal depth                                   |
| 最小厚度       | Minimal depth                                   |
| 平均厚度       | Average depth                                   |
| 最大间距       | Maximal space                                   |
| 最小间距       | Minimal space                                   |

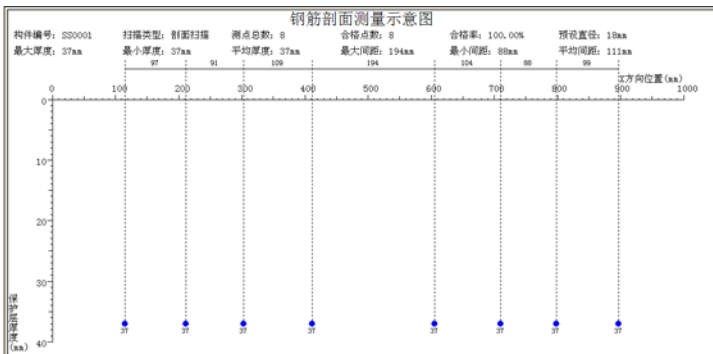


Rebar Detection Data Analysis Software  
Instruction Manual

|        |                            |
|--------|----------------------------|
| 平均间距   | Average space              |
| X 方向位置 | Location along direction X |
| 保护层厚度  | Depth of the coverage      |

Fig. 3.7 Schematic diagram for fine scanning and measuring

If current object is a profile scanning one, display in the data schematic diagram is shown in Fig. 3.8. The horizontal coordinate indicates rebar distance and vertical coordinate indicates the depth of the coverage. The figure above each measuring point indicates the depth of the coverage.



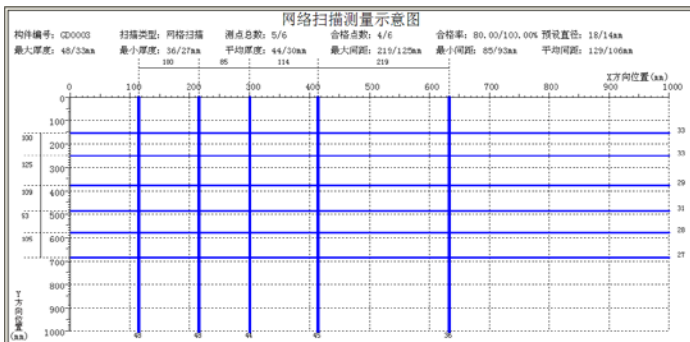
|            |                                    |
|------------|------------------------------------|
| 钢筋剖面测量示意图  | Schematic diagram for profile scan |
| 构件编号       | Object number                      |
| 扫描类型: 剖面扫描 | Scanning type: profile scan        |
| 测点总数       | Total measuring point              |
| 合格点数       | Qualified measuring point          |

Rebar Detection Data Analysis Software  
Instruction Manual

|        |                              |
|--------|------------------------------|
| 合格率    | Acceptability                |
| 预设直径   | Preset diameter              |
| 最大厚度   | Maximal <b>depth</b>         |
| 最小厚度   | Minimal <b>depth</b>         |
| 平均厚度   | Average <b>depth</b>         |
| 最大间距   | Maximal space                |
| 最小间距   | Minimal space                |
| 平均间距   | Average space                |
| X 方向位置 | Location along direction X   |
| 保护层厚度  | <b>Depth of the coverage</b> |

Fig. 3.8 Schematic diagram for measurement of rebar section

If the current object is the grid scan one, display of the data schematic diagram is shown in Fig. 3.9. The horizontal coordinate indicates longitudinal rebar distance and the vertical coordinate indicates transverse rebar distance.



Rebar Detection Data Analysis Software  
Instruction Manual

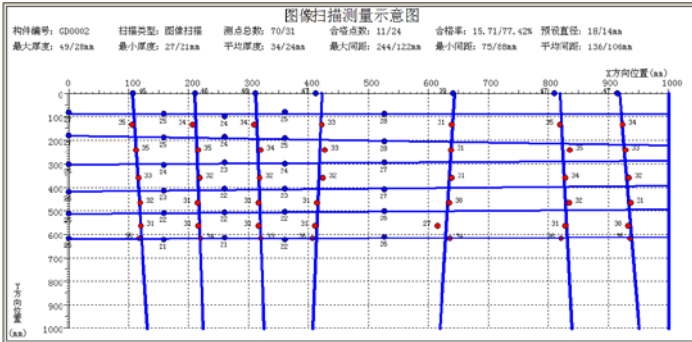
|           |                                 |
|-----------|---------------------------------|
| 网格扫描测量示意图 | Schematic diagram for grid scan |
| 构件编号      | Object number                   |
| 扫描类型：网格扫描 | Scanning type: grid scan        |
| 测点总数      | Total measuring point           |
| 合格点数      | Qualified measuring point       |
| 合格率       | Acceptability                   |
| 预设直径      | Preset diameter                 |
| 最大厚度      | Maximal depth                   |
| 最小厚度      | Minimal depth                   |
| 平均厚度      | Average depth                   |
| 最大间距      | Maximal space                   |
| 最小间距      | Minimal space                   |
| 平均间距      | Average space                   |
| X 方向位置    | Location along direction X      |
| Y 方向位置    | Location along direction Y      |

Fig. 3.9 Schematic diagram for grid scanning and measuring

If the current object is an picture scanning one, display in the data schematic diagram is shown in Fig. 3.10. The horizontal coordinate indicates the gap of longitudinal rebars and the vertical coordinate indicates gap of transverse rebars. Small round dots in the figure are the depth of the coverage at the measuring point. **The depth of the coverage at yellow round dots**

Rebar Detection Data Analysis Software  
Instruction Manual

are higher than the positive deviation and the depth of the coverage at red round dots are lower than the negative deviation.



|            |                                                |
|------------|------------------------------------------------|
| 图像扫描测量示意图  | Schematic diagram for picture scan measurement |
| 构件编号       | Object number                                  |
| 扫描类型: 图像扫描 | Scanning type: picture scan                    |
| 测点总数       | Total measuring point                          |
| 合格点数       | Qualified measuring point                      |
| 合格率        | Acceptability                                  |
| 预设直径       | Preset diameter                                |
| 最大厚度       | Maximal depth                                  |
| 最小厚度       | Minimal depth                                  |

Rebar Detection Data Analysis Software  
Instruction Manual

|        |                            |
|--------|----------------------------|
| 平均厚度   | Average <b>depth</b>       |
| 最大间距   | Maximal space              |
| 最小间距   | Minimal space              |
| 平均间距   | Average space              |
| X 方向位置 | Location along direction X |
| Y 方向位置 | Location along direction Y |

Fig. 3.10 Schematic diagram for image scanning and measuring

When the current **object** is an picture scanning one, the check box for three-dimensional diagram in the object searching area becomes selectable. At this time, check the three-dimensional diagram. At this time, the three-dimensional diagram is shown in the data schematic diagram area, as shown in Fig. 3.11. In the figure, “27” and “46” indicate the depth of the coverage of rebars.

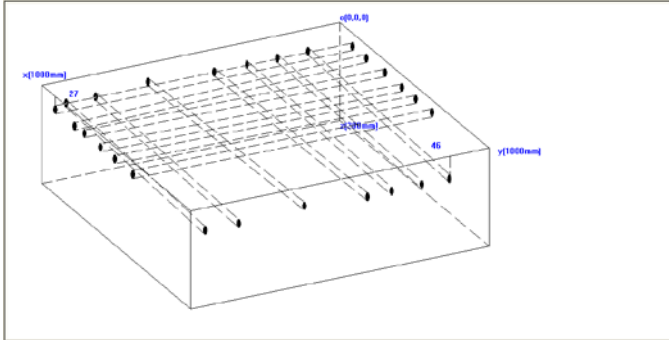


Fig. 3.11 Three-dimensional diagram

## 3.2 Function button

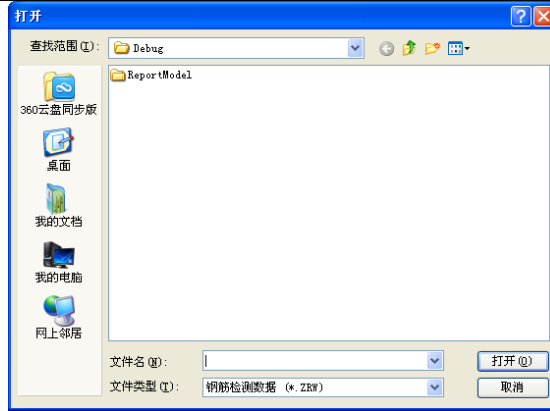
### 3.2.1 File function

#### 1. Open

After clicking **Open** button, “open file” dialog box shown in Fig. 3.12 pop up. Select the folder wherein the file to be opened is located from the **searching range**. Select the type of the file to be opened and then enter the file name in the “filename” box or select the file to be opened from the file list box. Afterwards, press **Open** button to open the file.

Before opening a new file, if previously opened file has been modified, it prompts whether the file will be saved. At this time, if you select **Yes**, save the corrected result and if you select **No**, the result is not saved; if you select **Cancel**, no operation is executed.

Rebar Detection Data Analysis Software  
Instruction Manual



|           |                                |
|-----------|--------------------------------|
| 打开        | Open                           |
| 查找范围      | Search range                   |
| 360 云盘同步版 | Sync version of 360 cloud disk |
| 桌面        | Desktop                        |
| 我的文档      | My document                    |
| 我的电脑      | My computer                    |
| 网上邻居      | Network neighborhood           |
| 文件名       | File name                      |
| 钢筋检测数据    | <b>Rebar</b> detection data    |
| 打开        | Open                           |
| 取消        | Cancel                         |

Fig. 3.12 Dialog box for opening a file

2. Save

Current data file is saved.

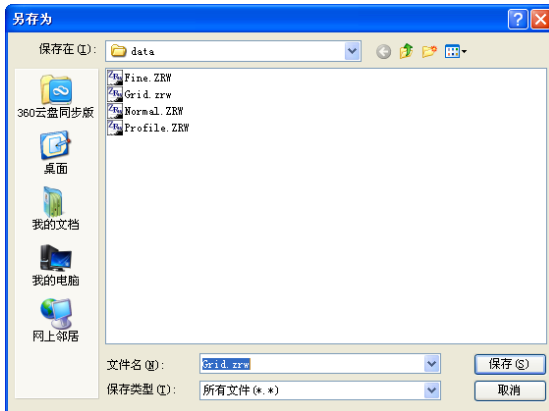
3. Save as

Save currently opened file as a new file. After save as button is clicked, "save as" dialog box shown in Fig. 3.13 pops

up. Select the folder wherein the file to be saved is located from the **save in** button. After filename is inputted in the **filename** box, press **Save** button to save the file and press **Cancel** button not to save the file.

#### 4. Generate bitmap

Click **Generate bitmap** button to pop up the diagram box shown in Fig. 3.14. You can select all objects or current object. In the range, select type of the object to generate a bitmap. Here, width, height, horizontal and vertical resolution of the generated bitmap can be set. After setting, press the **Cancel** button to exit and no bitmap is generated; press the **OK** button to pop up folder selection dialog box (as shown in Fig. 3.15). Select the destination folder to save the bitmap file and then press the **OK** button, all generated bitmaps are saved under the folder. Bitmap name is “**object name.bmp**”.



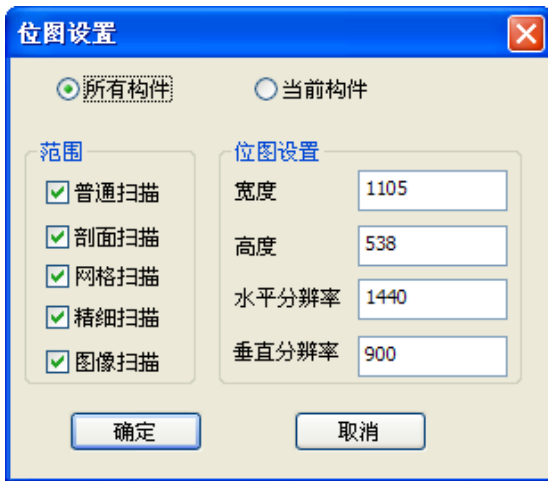
|     |         |
|-----|---------|
| 另存为 | Save as |
| 保存在 | Save in |



Rebar Detection Data Analysis Software  
Instruction Manual

|           |                                |
|-----------|--------------------------------|
| 360 云盘同步版 | Sync version of 360 cloud disk |
| 桌面        | Desktop                        |
| 我的文档      | My document                    |
| 我的电脑      | My computer                    |
| 网上邻居      | Network neighborhood           |
| 文件名       | File name                      |
| 保存类型      | Save type                      |
| 所有文件      | All files                      |
| 保存        | Save                           |
| 取消        | Cancel                         |

Fig. 3.13 Save as dialog box

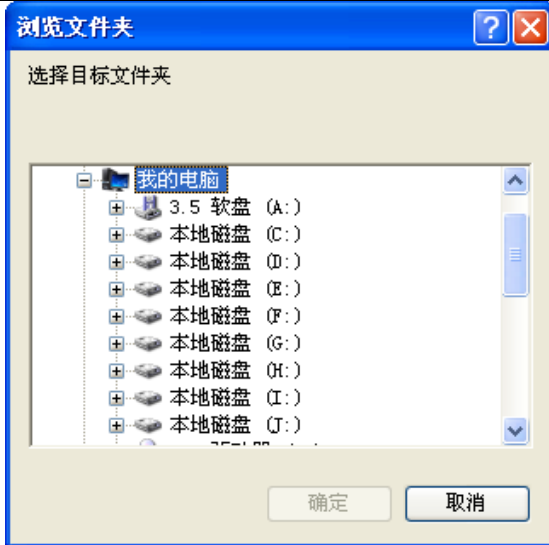


|      |                       |
|------|-----------------------|
| 位图设置 | Bitmap setting        |
| 所有构件 | All <b>objects</b>    |
| 当前构件 | Current <b>object</b> |

Rebar Detection Data Analysis Software  
Instruction Manual

| 范围    | Range                      |
|-------|----------------------------|
| 普通扫描  | General scan               |
| 剖面扫描  | Section scan               |
| 网格扫描  | Grid scan                  |
| 精细扫描  | Fine scan                  |
| 图像扫描  | Picture scan               |
| 位图设置  | Bitmap setting             |
| 宽度    | Width                      |
| 高度    | Height                     |
| 水平分辨率 | Horizontal resolution rate |
| 垂直分辨率 | Vertical resolution rate   |
| 确定    | OK                         |
| 取消    | Cancel                     |

Fig. 3.14 Dialog box for bitmap setting



|        |             |
|--------|-------------|
| 我的电脑   | My computer |
| 3.5 软盘 | 3.5         |
| 本地磁盘   | Local disk  |
| 确定     | OK          |
| 取消     | Cancel      |

Fig. 3.15 Dialog box for folder selection

## 3.2.2 Parameter setting function

### 1. Project information

Click **Project information** button to pop up the dialog box shown in Fig. 3.16. User can set **project name**, **construction unit**, **detection unit**, **qualification certificate number**, **report number** and other relevant information. After setting is completed, press the ok button, the inputted information is effective; press cancel button and the inputted information is ineffective.

If the project information in the existing file is same as or similar to saved file, press **Read** button, select the file in the popup “open file” dialog box and then press **Open** button to read out the project information in the file and fill it into the dialog box. User can slightly correct or not correct the information. Press **Default** button to read out the project information saved last time and fill it into the dialog box.

| Project information           |                       |
|-------------------------------|-----------------------|
| Detection company information |                       |
| Project name                  | Company               |
| Project address               | Address               |
| Project number                | Certificate           |
| Design company                | Contact with          |
| Construction company          | Tel                   |
| Development company           | Instrument and staffs |

Rebar Detection Data Analysis Software  
Instruction Manual

|                            |      |                                |        |
|----------------------------|------|--------------------------------|--------|
| Supervision <b>company</b> |      | <b>Instrument model</b>        |        |
| Monitor <b>company</b>     |      | <b>Serial number</b>           |        |
| Entrusting number          |      | <b>License of instrument</b>   |        |
| Structure type             |      | <b>Examiner</b>                |        |
| Report number              |      | <b>License of examiner</b>     |        |
| Detection number           |      | Entrusting number: Jan 1, 2005 |        |
| <b>Default</b>             | Read | <b>OK</b>                      | Cancel |

Fig. 3.16 Dialog box for engineering information setting

Click button ▼ behind the **entrustment date** column with the mouse to pop up the date input interface shown in Fig. 3.17. The input method: 1) Click the year position (year 2005) in the interface with left key of the mouse and **2005** appears. Click buttons ▲ and ▼ to adjust the year; 2) click buttons ◀ and ▶ at top left and right sides of the interface to adjust the month or click month (January) position to select month in the popup list; 3) Click the date figure with mouse to adjust the date. Furthermore, the interface disappears after you click any position beyond the date input interface and the date is updated.

◀
▶

2005年1月

星期日 星期一 星期二 星期三 星期四 星期五 星期六

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| 26 | 27 | 28 | 29 | 30 | 31 | 1  |
| 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 1  | 2  | 3  | 4  | 5  |

今天: 2005-2-2

January 2005

|        |        |         |           |          |        |          |
|--------|--------|---------|-----------|----------|--------|----------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--------|---------|-----------|----------|--------|----------|

Today: Feb 2, 2005

Fig. 3.17 Date selection and input  
In other dialog box or interface, all places where date is

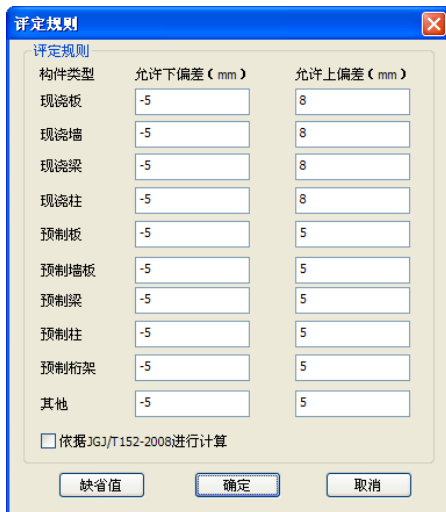
input will pop up the interface shown in Fig. 3.17 and input methods are the same.

## 2. Evaluation rule

Click **Evaluation rule** button to pop up the dialog box shown in Fig. 3.18. Here, User can set **Evaluation rule** and other options. After setting is completed, press **OK** button and the setting is effective; press **Cancel** button and the setting is ineffective.

Evaluation rule is to set allowable upper deviation and lower deviation for the depth of the coverage of different types of objects. Press **Default** button to read out the option saved last time to the dialog box.

If instrument type of currently opened file is ZBL-R660, based on JGJ/T152-2008, the check box is defaulted as checked and set in gray status. Otherwise, the check box is defaulted as not checked and it is in effective status.



| 构件类型 | 允许下偏差 (mm) | 允许上偏差 (mm) |
|------|------------|------------|
| 现浇板  | -5         | 8          |
| 现浇墙  | -5         | 8          |
| 现浇梁  | -5         | 8          |
| 现浇柱  | -5         | 8          |
| 预制板  | -5         | 5          |
| 预制墙板 | -5         | 5          |
| 预制梁  | -5         | 5          |
| 预制柱  | -5         | 5          |
| 预制桁架 | -5         | 5          |
| 其他   | -5         | 5          |

依据JGJ/T152-2008进行计算

缺省值      确定      取消

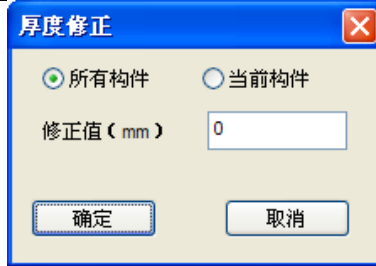
Rebar Detection Data Analysis Software  
Instruction Manual

| Evaluation rule               |                            |                            |
|-------------------------------|----------------------------|----------------------------|
| Object type                   | Negative deviation<br>(mm) | Positive deviation<br>(mm) |
| Floor casting on site         |                            |                            |
| Wall casting on site          |                            |                            |
| Beam casting on site          |                            |                            |
| Pillar casting on site        |                            |                            |
| Precasted Floor               |                            |                            |
| Precasted Wall                |                            |                            |
| Precasted Beam                |                            |                            |
| Precasted Pillar              |                            |                            |
| Precasted Truss               |                            |                            |
| Others                        |                            |                            |
| Judged based on JGJ/T152-2008 |                            |                            |
| Default                       | OK                         | Cancel                     |

Fig. 3.18 Dialog box for evaluation rule

### 3. Depth correction

When the depth of the rebar coverage is smaller than the minimum measuring range, a mat can be put for test. When the user carries out the data process, firstly, the mat depth should be reduced from the measuring depth. After depth correction menu item is selected, the dialog box shown in Fig. 3.19 pops up. Select the object to be corrected (current **object** or **all objects**). After inputting correcting value, press the **OK** button to add the inputting correction depth to the depth of the coverage of all measuring values for selected objects. Press **Cancel** button not to perform correction.



| Depth correction      |                       |
|-----------------------|-----------------------|
| All <b>objects</b>    | Current <b>object</b> |
| Correction value (mm) |                       |
| <b>OK</b>             | Cancel                |

Fig. 3.19 Dialog box for depth correction

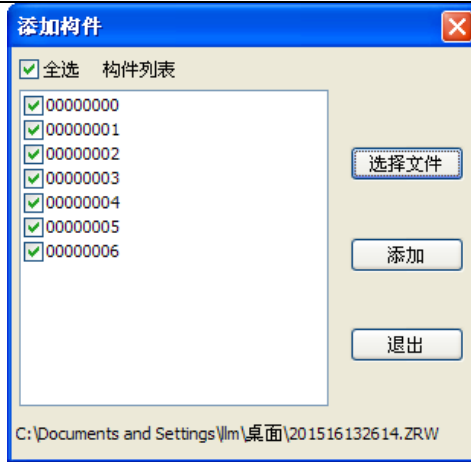
### 3.2.3 Edit **object**

#### 1. Add

The function is used to add partial or all functions of other files to current files for unified management.

Click the **Add** button to pop up the dialog box shown in Fig. 3.20. At first, click the **Select file** button to select a rebar data file from the popup "open file" dialog box. Click the **Open** button to display all objects in the data file in the **object list** and user can select objects to be added in the list (if the object line is in blue color, the line is checked). Afterwards, click the **Add** button to add the checked object to current folders; click **Exit** button, no object is added





|                                                         |
|---------------------------------------------------------|
| Add <b>objects</b>                                      |
| Check all <b>Object</b> list                            |
| Select file                                             |
| Add                                                     |
| Exit                                                    |
| C: \Documents and Settings\llm\desktop\201516132614.ZRW |

Fig. 3.20 Dialog box for adding member

## 2. Remove

The function is used to delete current object in the **object list area** from the file. Before removing, it inquires “do you really want to delete the selected object?”, if you give a **Yes** answer, the object is deleted; if you give a **No** answer, the object is not deleted.

The menu item is effective only after a object (father node) is selected in the object list area. If a measuring line or section (child node) is selected in the object list area, the menu item is ineffective.



Note: the removed object cannot be restored. Therefore, you must be cautious during object removing. Only one object in the file cannot be removed any more.

### 3.2.4 Rebar correction

#### 1. Add

If the current object is a fine scanning one (the function is effective only in this way), press the left key of the mouse in the data schematic diagram area. At this time, a blue vertical line displays in the current position. Click the position where a rebar is to be added and then click the **Add** button, a rebar is added at the current position.

#### 2. Delete

If the current object is a fine scanning one (the function is effective only in this way), press the left key of the mouse in the position of the data schematic diagram area where a rebar is to be deleted, a blue vertical line is displayed in current position.

### 3.2.5 Tool

#### 1. Data transmission

After detection is completed, the menu function can be used to transmit detection data in the instrument to the computer for assessment and filing. The operation steps are shown below:

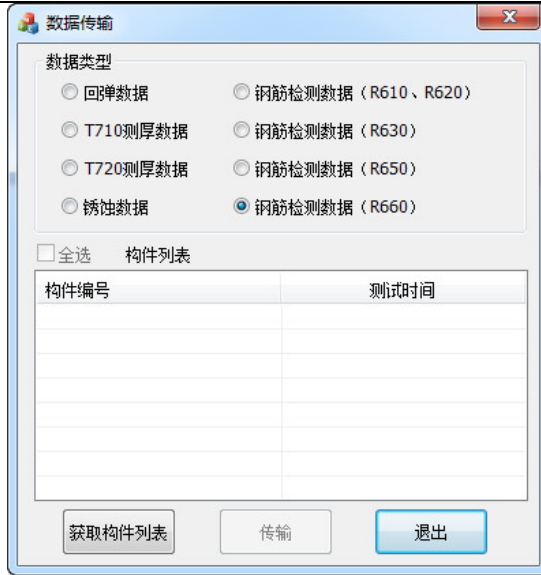
1) Connect the USB port of the rebar detector and USB port of the computer with a special transmission line; before connection, you had better turn off the rebar detector before connection and it is not advocated to perform “hot plug”. Otherwise, the instrument may be damaged. When the

transmission line is connected at the first time, the computer will detect the new hardware, it is required to install the drive program and the detailed operation is shown in the appendix.

2) Run the rebar data analysis software under WINDOWS platform and click **Data transmission** button to pop up the dialog box shown in Fig. 3.21. Set **data type** as **rebar** detection data **(no wrong instrument type can be selected).**

If **data type** selected is **rebar** detection data (R660), click the **Obtain object list** button to display information of all objects in the instrument in the object list area, as shown in Fig. 3.22. Click the **Check all** check box to select all or not select all or click the check box in front of the object for selection or cancelling selection. Click **Transmission** button to pop up the folder selection dialog box shown in Fig. 3.15. After the destination folder is selected by the user, click the **OK** button to start data transmission. At the same time, the dialog box for data transmission progress pops up. After data transmission is completed, click the **Exit** button to exit from transmission. If it is selected to transmit all objects in the instrument, after transmission finishes, it prompts "Are all objects data in the instrument to be deleted?" If you select **Yes**, it is to delete all data. Otherwise, it is not to delete the data.

Rebar Detection Data Analysis Software  
Instruction Manual



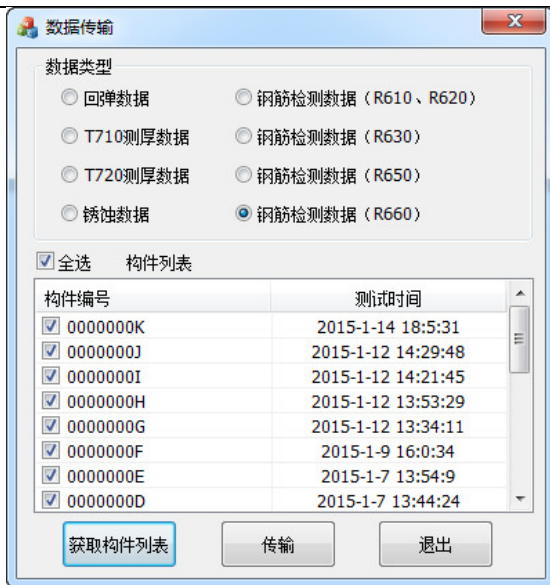
|                                 |                                  |
|---------------------------------|----------------------------------|
| Data transmission               |                                  |
| Data type                       |                                  |
| Rebound data                    | Rebar detection data (R610,R620) |
| T710 thickness measurement data | Rebar detection data (R630)      |
| T720 thickness measurement data | Rebar detection data (R650)      |
| Corrosion data                  | Rebar detection data (R660)      |
| Check all                       | Object list                      |
| Object number                   | Test time                        |
| Obtain Object list              | Transmission Exit                |

Fig. 3.21 Dialog box for R660 Data transmission



Note: for R660 instrument, objects can be selected for data transmission. In this way, time can be saved.

Rebar Detection Data Analysis Software  
Instruction Manual



|                                 |                                  |      |
|---------------------------------|----------------------------------|------|
| Data transmission               |                                  |      |
| Data type                       |                                  |      |
| Rebound data                    | Rebar detection data (R610,R620) |      |
| T710 thickness measurement data | Rebar detection data (R630)      |      |
| T720 thickness measurement data | Rebar detection data (R650)      |      |
| Corrosion data                  | Rebar detection data (R660)      |      |
| Check all                       | Object list                      |      |
| Object number                   | Test time                        |      |
| Obtain object list              | Transmission                     | Exit |

Fig. 3.22 Obtain object list information


If other data type is selected, the interface in Fig. 3.21 is switched to the interface as shown in Fig. 3.23.



|                                 |                                  |
|---------------------------------|----------------------------------|
| Data transmission               |                                  |
| Data type                       |                                  |
| Rebound data                    | Rebar detection data (R610,R620) |
| T710 thickness measurement data | Rebar detection data (R630)      |
| T720 thickness measurement data | Rebar detection data (R650)      |
| Corrosion data                  | Rebar detection data (R660)      |
| Check all                       | Object list                      |
| Object number                   | Test time                        |
| Obtain Object list              | Transmission Exit                |

Fig. 3.23 Data transmission dialog box for other data type

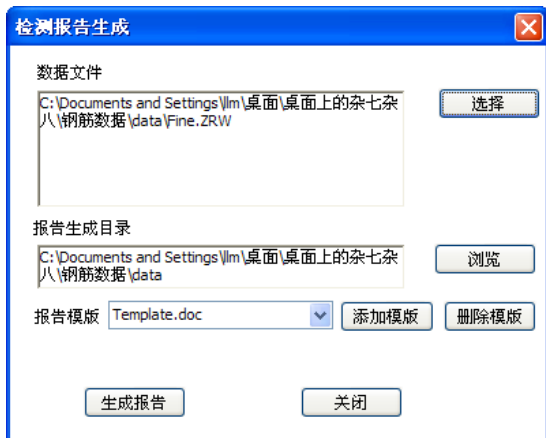
Directly click **Transmission** button for data transmission. For transmission steps, refer to data transmission of **rebar** detection data R660. After transmission finishes, return to software main interface from the transmission interface.

 Note: some relevant information will be displayed in the **information prompt** box during transmission. If transmission fails or there is other error, the system will give out corresponding prompts.

## 2. Generate report

User can use the menu to generate the first draft of

corresponding detection report file. To perform the operation, the computer must be installed with OFFICE97 Chinese version (or superior version).



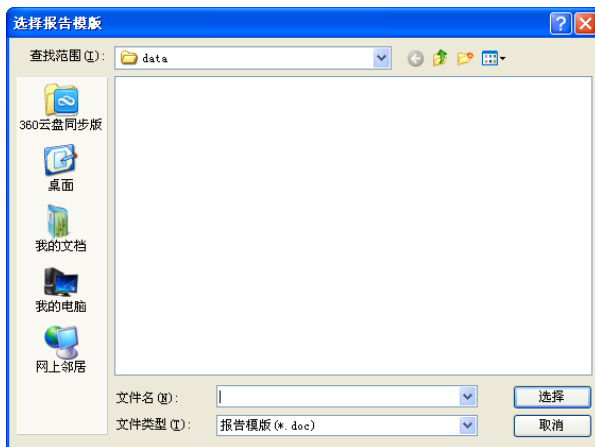
|                                                              |              |                 |
|--------------------------------------------------------------|--------------|-----------------|
| Generation of detection report                               |              |                 |
| Data file                                                    |              |                 |
| C:\Documents and Settings\llm\桌面\桌面上的杂七杂八\钢筋数据\data\Fine.ZRW | Select       |                 |
| Report generation directory                                  |              |                 |
| C:\Documents and Settings\llm\桌面\桌面上的杂七杂八\钢筋数据\data          | Browse       |                 |
| Report template                                              | Add template | Delete template |
| Generate report                                              |              | Close           |

Fig. 3.24 Detection report generation software interface

Click the **Generate report** button to bring up the interface shown in Fig. 3.24. At first, click the **Select** button at right of the **Data file** box and select a rebar data file in the pop up “open file” dialog box; afterwards, the **report generation directory** is automatically updated as the directory wherein the selected file is located. Click the **Browse** button to pop up the folder selection dialog box shown in Fig. 3.15. After report generation directory

folder is selected, click the **OK** button, the generated report file is saved under the selected destination folder.

User will self-define a WORD template as required and then click the **Add template** button to pop up the select report template dialog box shown in Fig. 3.25. After template file is selected, click the **Select** button to add the template file to the combination box for the **report template**. Click the **Delete template** button to delete the currently selected report template file. If only the last template is left in the report template, you cannot perform the template deletion operation.



|                                                                                           |              |                 |
|-------------------------------------------------------------------------------------------|--------------|-----------------|
| Generation of detection report                                                            |              |                 |
| Data file                                                                                 |              |                 |
| C:\Documents and Settings\llm\Desktop\miscellaneous on desktop\Desktop data\data\Fine.ZRW |              | Select          |
| Report generation directory                                                               |              |                 |
| C:\Documents and Settings\llm\Desktop\miscellaneous on desktop\Desktop data\data          |              | Browse          |
| Report template                                                                           | Add template | Delete template |
| Generate report                                                                           |              | Close           |



Fig. 3.25 Dialog box for selecting report template

After the operation is completed, press **Close** button to exit from the report generation program; after report template is selected, press the **Generate report** button to automatically call the WORD program and display the generated report. The report is an initial draft. User is required to edit and correct the draft to form a formal detection report based on the objective condition.



Note: 1) **Data file** in above dialog box must be selected. Otherwise, prompt information is given out after pressing the **Generate report** button to ask user to perform selection.

2) When a report file has existed, after the **Generate report** button is pressed, it inquires “A report file has existed! Will it be covered or not?”. If your answer is **Yes**, the file is covered. Afterwards, original file is lost and cannot be recovered; if your answer is **No**, user is required to input a new name.

3) During automatic generation of the report, don't perform any other operation for the computer. Otherwise, there may be other abnormal phenomenon.

There are two template rules for how to fabricate the report template required by user, as shown in Tables 3.1 and 3.2.

Table 3.1 Template rule 1

| Content                                | Code in template |
|----------------------------------------|------------------|
| Project name                           | <gcmc>           |
| Project site                           | <gcdd>           |
| Project number                         | <gcbh>           |
| Design company                         | <sjdw>           |
| Construction company                   | <sgdw>           |
| Construction date<br>(production date) | <sgrq>           |
| Construction company                   | <jsdw>           |

Rebar Detection Data Analysis Software  
Instruction Manual

|                                                                        |        |
|------------------------------------------------------------------------|--------|
| Supervision <b>company</b>                                             | <jldw> |
| Monitor <b>company</b>                                                 | <jddw> |
| <b>Entrustment company</b>                                             | <wtdw> |
| Entrustment date                                                       | <wtrq> |
| Entrustment number                                                     | <wtbh> |
| Detection date (i.e. test date)                                        | <jyrq> |
| Inspection conclusion                                                  | <jyjl> |
| Report number                                                          | <bgbh> |
| Report date                                                            | <bgrq> |
| Detection device<br>(instrument type + number<br>+ certificate number) | <jczz> |
| Detection result (raw data record table)                               | 见下表    |
| Project overview                                                       | <gcgk> |
| Detection personnel                                                    | <jcry> |
| Detection <b>company</b>                                               | <jcdw> |
| Detection number                                                       | <jcbh> |
| Design strength                                                        | <sjqd> |

Table 3.2 Template rule 2

| Content                     | Code in template |
|-----------------------------|------------------|
| <b>Object</b> number        | <bggjbn>         |
| <b>Object</b> type          | <bggjlx>         |
| Test direction              | <bgcstx>         |
| Design <b>depth</b>         | <bgsjhd>         |
| Maximal <b>depth</b>        | <bgzdhd>         |
| Minimal <b>depth</b>        | <bgzxhd>         |
| Average <b>depth</b>        | <bgpjhd>         |
| Qualified point number      | <bghgds>         |
| Total point number          | <bgzcds>         |
| Acceptability               | <bghgl>          |
| Unqualified point<br>number | <bgbhgds>        |
| Reject ratio                | <bgbhgl>         |

|                   |          |
|-------------------|----------|
| Evaluation result | <bgpdjg> |
|-------------------|----------|

Based on template rule 1, if you want to put project name, supervision company and entrusted company into the report, it is required to put <gcmc>, <gcdz> and <wtdw> into corresponding position, as shown in Fig. 3.26.

工程名称: <gcmc>

委托单位: <wtdw>

监理单位: <jldw>

|                      |
|----------------------|
| Project name:        |
| Entrustment company: |
| Supervising company: |

Fig. 3.26 Detection report

Based on template rule 2, if you want to put object number, object type, test direction, design depth, maximal depth, minimal depth, average depth, qualified point number, total point number and acceptability into raw data record table, the report template is shown in Fig. 3.27.

| 构件编号   | 构件类型   | 测试方向  | 设计厚度    | 最大厚度   | 最小厚度  | 平均厚度  | 合格点数    | 总测点数  | 合格率   |
|--------|--------|-------|---------|--------|-------|-------|---------|-------|-------|
| <bggj> | <bggj> | <bgc> | <bgssi> | <bgzd> | <bgz> | <bgp> | <bgugd> | <bgz> | <bgg> |
| <bh>   | <lx>   | <sfx> | <hd>    | <hd>   | <xhd> | <jhd> | <s>     | <cds> | <gl>  |

| Object number | Object type | Test direction | Design depth | Maximal depth | Minimal depth | Average depth | Qualified point number | Total measurement point number | Acceptability |
|---------------|-------------|----------------|--------------|---------------|---------------|---------------|------------------------|--------------------------------|---------------|
|               |             |                |              |               |               |               |                        |                                |               |

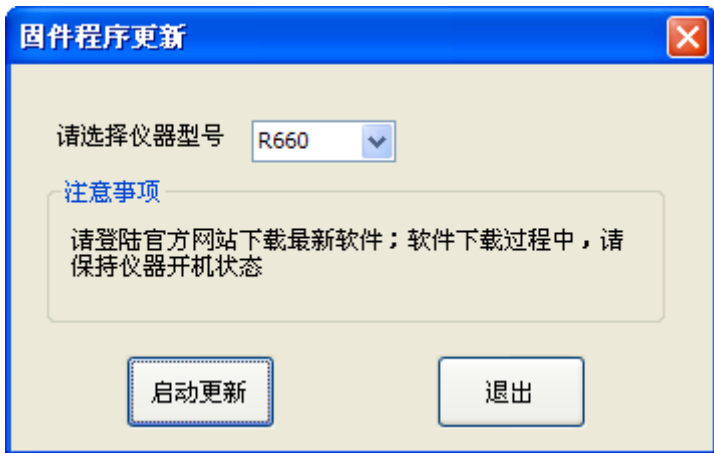
Fig. 3.27 Record table of raw data

### 3. Firmware update

Firmware update function is provided for instrument R660

so that customers can update firmware program of the instrument conveniently.

Click **Firmware update** button to pop up the firmware program update interface shown in Fig. 3.28. Click the **Start update** button to start update and pop up firmware update progress bar dialog box.



|                                                                                                                                                                 |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Firmware program update                                                                                                                                         |      |
| Please select instrument type                                                                                                                                   |      |
| Notice                                                                                                                                                          |      |
| Please go to the official website to download up-to-date software;<br>during software downloading process, please maintain the instrument<br>in turn-on status. |      |
| Start update                                                                                                                                                    | Exit |

Fig. 3.28 Firmware program update

### 3.2.6 Language setting

Click the **Set language** button to pop up the language

setting dialog box shown in Fig. 3.29.



|                   |        |
|-------------------|--------|
| Language setting  |        |
| Language: Chinese |        |
| OK                | Cancel |

Fig. 3.29 Language setting dialog box

## Appendix Installation of USB Driver

All our R6 series rebar detector adopt USB port for data transmission. During data transmission at the first time, if no related driver program is installed in the computer, install USB driver at first. Otherwise, no data transmission can be performed.

The driver can be found in compact disk or USB flash disk attached to our products you buy. Furthermore, you can also download “**automatic installation program for USB driver**” (the program is a zip folder) from our website “**download center** —>**tool software**” page.

There is a folder named “USB driver” under the root

directory of the compact disk. Operate `UsbSetup.exe` file in the folder and then perform operation based on prompts to complete installation of drive program.

If you download the drive program from website, you should decompress downloaded compressed files into a folder of a hard disk and then operate file `UsbSetup.exe` under the folder.

Note: our other products (slab thickness detector, digital readout rebound apparatus, etc.) have same USB drive as slab thickness detector. If you have already installed the drive program for other products, it is unnecessary for you to install the program anymore.