Desktop Icon Backup Manager

User Manual

Software Version: 0.1.1

Developed by: **mapi68**

December 27, 2025

Contents

1 Introduction **3**
1.1 Key Features . . . 3
1.2 System Requirements . . . 3

2 Installation and Startup **3**
2.1 Installation . . . 3
2.2 First Run . . . 4

3 Main Interface **4**
3.1 Interface Overview . . . 4
3.2 Main Buttons . . . 4
3.2.1 SAVE QUICK BACKUP . . . 4
3.2.2 RESTORE LATEST . . . 4
3.2.3 BACKUP MANAGER . . . 5

4 File Menu **5**
4.1 Scramble Desktop Icons (Random) . . . 5
4.2 Remove All Backups . . . 5
4.3 Exit . . . 5

5 Settings Menu **6**
5.1 Start Minimized to Tray . . . 6
5.2 Auto-Save on Exit . . . 6
5.3 Auto-Restore on Startup . . . 6
5.4 Enable Adaptive Scaling on Restore . . . 6
5.4.1 How Scaling Works . . . 6
5.5 Minimize to Tray on Close . . . 7
5.6 Automatic Backup Cleanup Limit . . . 7

6 Advanced Backup Management **7**
6.1 Backup Manager Window . . . 7
6.1.1 Information Columns . . . 8
6.1.2 Available Operations . . . 8
6.2 Backup File Format . . . 8

7 System Tray Integration **9**
7.1 System Tray Context Menu . . . 9
7.2 Notifications . . . 9

8 Keyboard Shortcuts **9**

9 Troubleshooting **9**
9.1 Common Issues . . . 9
9.1.1 Error: "Unable to find desktop ListView control" . . . 9
9.1.2 Icons Restored to Wrong Positions . . . 9
9.1.3 Backup Not Found . . . 10
9.2 Logging and Diagnostics . . . 10

10 Best Practices **10**
10.1 Optimal Backup Strategy 10
10.2 Multi-Monitor Management 10
10.3 Regular Maintenance 10

11 Frequently Asked Questions (FAQ) **11**
11.1 Does the program work with Windows 11? 11
11.2 Can I use the program with virtual desktops? 11
11.3 Are backups portable between different computers? 11
11.4 How much space do backups occupy? 11
11.5 Can I manually edit backup files? 11

12 Technical Information **11**
12.1 Software Architecture 11
12.2 Remote Memory Access 11
12.3 Security and Privacy 12

13 License and Credits **12**
13.1 Developer 12
13.2 Libraries Used 12

14 Support and Contacts **12**

15 Screenshots **13**

1 Introduction

Desktop Icon Backup Manager is a professional tool designed to save and restore Windows desktop icon positions. The program offers advanced features for managing multiple layouts, adaptive scaling for different resolutions, and complete automation through configurable settings.

1.1 Key Features

- **Quick Backup**: Save icon positions with optional descriptive tags
- **Backup Management**: Dedicated interface to select, restore, or delete specific backups
- **Adaptive Scaling**: Option to automatically scale icon positions across different resolutions
- **Automatic Cleanup**: Configurable limit on the number of backups to retain
- **Random Scramble**: Randomize icon positions with automatic preventive backup
- **System Tray Integration**: Quick access to main functions from the system tray
- **Automation**: Automatic save on exit and automatic restore on startup

1.2 System Requirements

Minimum Requirements

- Operating System: Windows 7 or higher
- Python 3.8+ (if running from source)
- Libraries: PyQt6, pywin32
- Disk Space: 50 MB for the application + space for backups

2 Installation and Startup

2.1 Installation

Method 1: Standalone Executable (Recommended)

1. Download the `DesktopIconBackupManager.exe` file
2. Place the executable in a dedicated folder
3. Run the program with a double-click

Method 2: From Python Source

1. Install Python 3.8 or higher
2. Install dependencies:

```
pip install PyQt6 pywin32
```

3. Run the script:

```
python DesktopIconBackupManager.py
```

2.2 First Run

On first run, the program:

- Automatically creates the `icon_backups` folder for backup files
- Generates the `settings.ini` configuration file
- Verifies the presence of desktop icons
- Places itself in the system tray

Warning

Make sure desktop icons are visible. If icons are hidden, the program will not be able to access their positions.

3 Main Interface

3.1 Interface Overview

The main interface is divided into four main areas:

1. **Menu Bar**: Contains File, Settings, and Help
2. **Tag and Actions Area**: Field for descriptive tags and main action buttons
3. **Activity Log**: Displays operation status in real-time
4. **Status Bar**: Shows current resolution and status messages

3.2 Main Buttons

3.2.1 SAVE QUICK BACKUP

Color: Green

Immediately saves current desktop icon positions to a new backup file. You can add a descriptive tag in the field above the button.

Operation:

- Scans all icons present on the desktop
- Records X and Y coordinates for each icon
- Saves metadata (resolution, icon count, timestamp)
- Applies automatic cleanup if configured

3.2.2 RESTORE LATEST

Color: Red

Restores icon positions from the last saved backup. Before restoring, a confirmation window is shown with backup details.

Information Displayed:

- Backup file name
- Saved resolution

- Number of icons
- Tag/description
- Backup date and time

3.2.3 ☰ BACKUP MANAGER

Color: Blue

Opens the backup management window that allows you to:

- View all available backups
- Select a specific backup to restore
- Delete single or multiple backups
- View extended details of each backup
- View a visual layout preview of each backup

4 File Menu

4.1 Scramble Desktop Icons (Random)

This function completely randomizes the positions of all desktop icons.

Important

Before scrambling, an automatic backup is **always** created with the tag "Auto-Backup before Scramble (Random)". This ensures the ability to restore the previous layout.

Procedure:

1. Select `File > Scramble Desktop Icons`
2. Confirm the operation in the dialog window
3. The program automatically creates a backup
4. Icons are repositioned randomly

4.2 Remove All Backups

Permanently deletes all saved backup files.

Warning - Irreversible Operation

This action cannot be undone. All backups will be permanently deleted from the system.

4.3 Exit

Closes the application. If configured, it can:

- Create an automatic backup before exiting
- Minimize to system tray instead of closing
- Save window geometry

5 Settings Menu

5.1 Start Minimized to Tray

When enabled, the application starts minimized to the system tray instead of showing the main window.

Use Case: Useful for users who want to have the program always available in the background without occupying space in the taskbar.

5.2 Auto-Save on Exit

Automatically creates a backup of current positions when closing the program.

Recommended

This option is strongly recommended to avoid data loss in case of unsaved changes.

Technical Details:

- The backup is created with the tag "Auto-Save on Exit"
- Respects the configured automatic cleanup limit
- Does not require user confirmation

5.3 Auto-Restore on Startup

Automatically restores the last saved backup when starting the program.

Behavior:

- Restore occurs 1 second after startup
- Uses configured scaling settings
- Shows operation log in the main window

Note

When combined with "Auto-Save on Exit", this option creates an automatic save/restore cycle of icon positions.

5.4 Enable Adaptive Scaling on Restore

Enables adaptive scaling of icon positions when restoring a backup created with a different resolution.

5.4.1 How Scaling Works

The system calculates scaling factors based on resolution:

$$\text{scale}_x = \frac{\text{current width}}{\text{saved width}}$$

$$\text{scale}_y = \frac{\text{current height}}{\text{saved height}}$$

Each coordinate is then transformed:

$$x_{\text{new}} = x_{\text{saved}} \times \text{scale}_x$$

$$y_{\text{new}} = y_{\text{saved}} \times \text{scale}_y$$

Practical Example:

- Backup saved at 1920×1080
- Restore on 2560×1440 monitor
- Scaling factors: $\text{scale}_x = 1.333$, $\text{scale}_y = 1.333$
- Icon saved at (100, 100) → restored at (133, 133)

5.5 Minimize to Tray on Close

When enabled, pressing the "X" button minimizes the program to the system tray instead of closing it completely.

To close completely:

- Use `File > Exit`
- Right-click on the tray icon and select "Exit"
- Press `Ctrl+Q`

5.6 Automatic Backup Cleanup Limit

Configures the maximum number of backups to maintain. When the limit is exceeded, the oldest backups are automatically deleted.

Available Options:

- **Disabled (Keep All)**: No limit (value: 0)
- **Keep Last 5**: Keeps only the last 5 backups
- **Keep Last 10**: Keeps only the last 10 backups
- **Keep Last 25**: Keeps only the last 25 backups
- **Keep Last 50**: Keeps only the last 50 backups

Recommended Strategy

For daily use, **Keep Last 10** offers a good balance between security and disk space usage. For power users who frequently change configuration, **Keep Last 25** or more is recommended.

6 Advanced Backup Management

6.1 Backup Manager Window

The Backup Manager window offers a complete view of all saved backups.

6.1.1 Information Columns

1. **TAG/DESCRIPTION**: Description or tag assigned to the backup
2. **RESOLUTION**: Monitor resolution at the time of saving
3. **ICONS**: Number of saved icons
4. **TIMESTAMP**: Backup date and time in readable format

6.1.2 Available Operations

Restore:

- Double-click on a backup
- Selection + click on "Restore Selected Layout"
- Right-click ¿ "Restore Selected"

Delete:

- Right-click on a backup ¿ "Delete Selected"
- Confirmation required before deletion

6.2 Backup File Format

Backups are saved as JSON files in the `icon_backups` folder.

Naming Convention:

```
[Resolution]_[Date]_[Time].json

Example: 1920x1080_20241211_143000.json
```

JSON File Structure:

```
{
    "timestamp": "2024-12-11T14:30:00.123456",
    "icon_count": 15,
    "description": "Backup Before Meeting",
    "display_metadata": {
        "monitor_count": 1,
        "primary_resolution": "1920x1080",
        "screens": [...]
    },
    "icons": {
        "Computer": [100, 200],
        "Documents": [100, 350],
        ...
    }
}
```

7 System Tray Integration

7.1 System Tray Context Menu

Right-click on the system tray icon to access:

- **Quick Save**: Saves a quick backup with default tag "Quick Save (Tray)"
- **Restore Latest**: Restores the last saved backup
- **Show Window**: Shows the main window
- **Exit**: Completely closes the application

7.2 Notifications

The program shows notifications from the system tray for:

- Operation completion when the window is hidden
- Critical errors
- Minimized startup
- Minimization from window closure

8 Keyboard Shortcuts

Shortcut	Action
`Ctrl+S`	Quick save
`Ctrl+Q`	Exit application

Table 1: Available keyboard shortcuts

9 Troubleshooting

9.1 Common Issues

9.1.1 Error: "Unable to find desktop ListView control"

Cause: Desktop icons are hidden or the ListView control is not accessible.
Solution:

1. Right-click on the desktop
2. Select `View > Show desktop icons`
3. Restart the program

9.1.2 Icons Restored to Wrong Positions

Cause: Resolution change or different monitor configuration.
Solutions:

1. Enable "Enable Adaptive Scaling on Restore" in settings
2. Create separate backups for each monitor configuration
3. Verify that current resolution matches the backup

9.1.3 Backup Not Found

Cause: Corrupted or deleted backup file, missing `icon_backups` folder.
Solution:

1. Verify existence of `icon_backups` folder
2. Check read/write permissions
3. Verify JSON file integrity

9.2 Logging and Diagnostics

The "Activity Log" area records all operations and errors. For advanced diagnostics:

1. Execute the problematic operation
2. Copy the log content
3. Check specific error messages
4. Verify `settings.ini` file for incorrect configurations

10 Best Practices

10.1 Optimal Backup Strategy

Recommended Configuration

- Enable "Auto-Save on Exit"
- Set automatic cleanup limit to 10-25 backups
- Create manual backups before important changes
- Use descriptive tags for important backups

10.2 Multi-Monitor Management

For multi-monitor configurations:

1. Create separate backups for each configuration
2. Use descriptive tags: "2 Monitors", "Single Monitor", etc.
3. Do not enable auto-restore if frequently changing configuration
4. Always verify monitor configuration before restoring

10.3 Regular Maintenance

- Periodically review saved backups
- Manually delete obsolete backups if necessary
- Check `icon_backups` folder for space usage
- Export important backups to safe locations

11 Frequently Asked Questions (FAQ)

11.1 Does the program work with Windows 11?

Yes, the program is fully compatible with Windows 11 and all previous versions starting from Windows 7.

11.2 Can I use the program with virtual desktops?

The program manages icons on the main desktop. Icons on Windows 10/11 virtual desktops are managed by the same system, so the backup includes all visible icons.

11.3 Are backups portable between different computers?

Yes, JSON files can be copied between computers. However, positions may not be accurate if resolutions differ. Use adaptive scaling for best results.

11.4 How much space do backups occupy?

Each backup typically occupies 2-10 KB depending on the number of icons. With 50 backups, total usage is generally less than 500 KB.

11.5 Can I manually edit backup files?

Yes, they are standard JSON files. You can edit them with a text editor, but be careful with JSON syntax to avoid file corruption.

12 Technical Information

12.1 Software Architecture

The program uses:

- **PyQt6**: Modern GUI framework
- **win32api**: Low-level access to Windows functions
- **Threading**: Asynchronous operations to avoid UI blocking
- **QSettings**: Configuration persistence in INI format

12.2 Remote Memory Access

To read icon positions, the program:

1. Locates the Explorer process managing the desktop
2. Allocates memory in the remote process
3. Uses Windows messages to query the ListView control
4. Reads coordinates and icon names
5. Frees allocated memory

12.3 Security and Privacy

- No data is sent online
- All backups are local
- No telemetry collection
- Access only to desktop information

13 License and Credits

13.1 Developer

mapi68

13.2 Libraries Used

- PyQt6 - The Qt Company (GPL/Commercial License)
- pywin32 - Python for Windows Extensions (PSF License)

14 Support and Contacts

To report bugs, request features, or get support:

- Use the "Issues" section of the repository
- Always include the complete error log
- Specify program version and Windows version

15 Screenshots

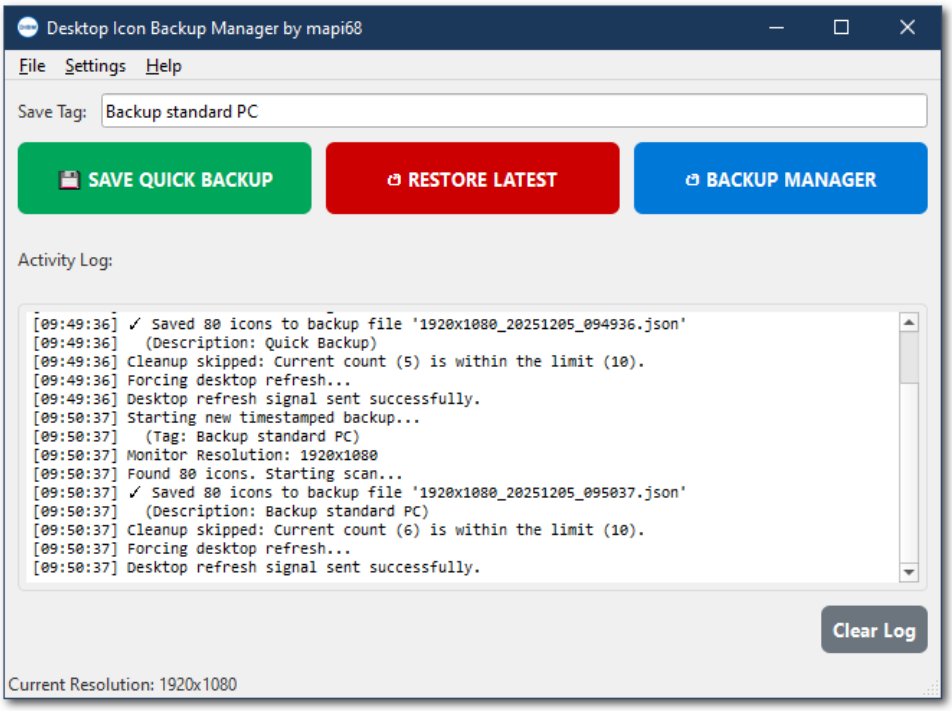

Figure 1: Main interface showing the activity log and three main action buttons

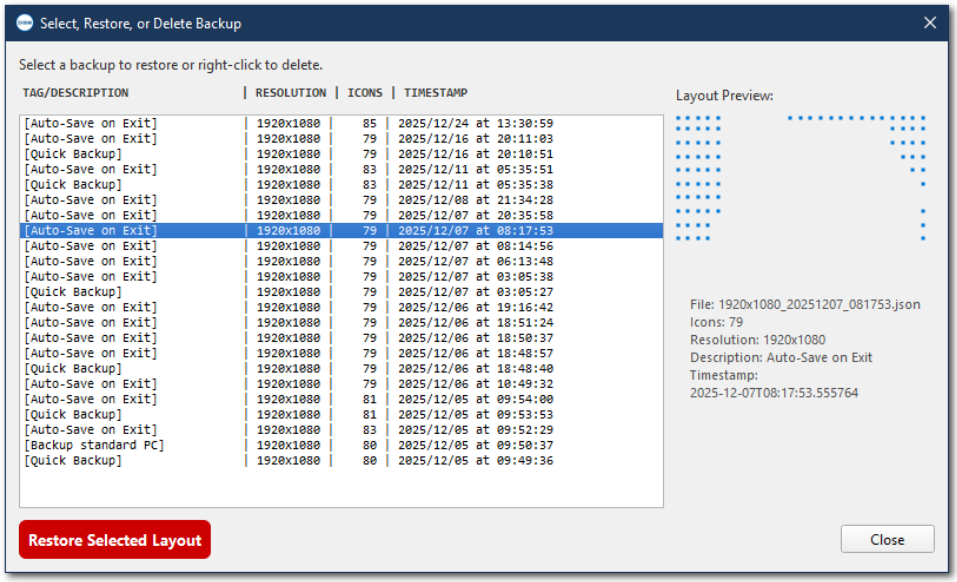

Figure 2: Backup Manager window with list of saved backups and layout preview

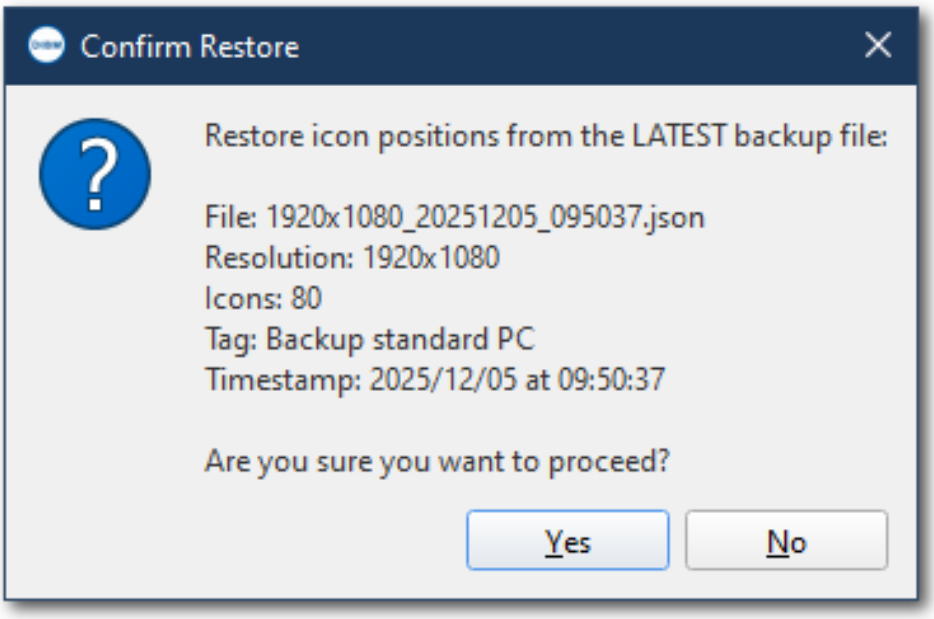

Figure 3: Confirmation dialog before restoring a backup

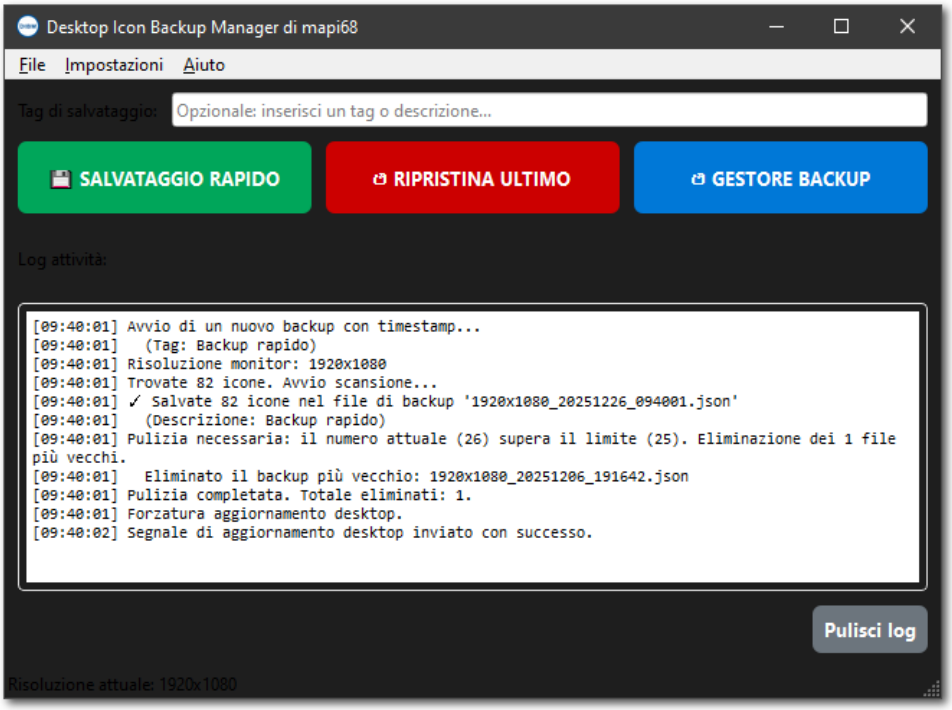

Figure 4: Desktop Icon Backup Manager featuring dark mode and Italian support

End of User Manual
Desktop Icon Backup Manager
December 27, 2025