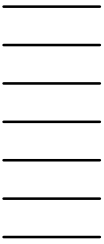
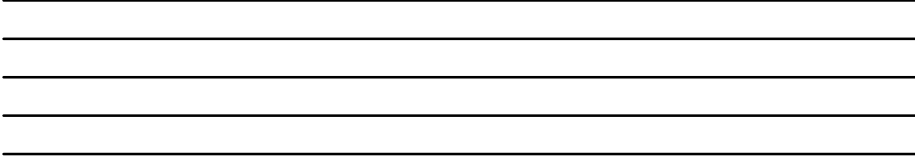


Lottery Director
Professional Wheeling
User's Guide



The CDEX Group
P.O. Box 24501
Jacksonville, FL 32241-4501

DC-PWUG-010



Contents

Your Professional Wheeling Programs

Lottery Director: Professional Wheeling	1
What Professional Wheeling Does	1
Installation	1
More Information	1
Terms and Conditions of Program Use	2
Product Warranty	2

Getting Started

What to Do First	3
Use Your 'Quick Start' Guidebook First!	3
What's In This User's Guide	3
Lotteries, Wagering, and 'Odds'	4

Designing Your Own Wheels

Principles of Wheeling	5
Your Two Kinds of Lotto Wheels	6
Master Wheels	6
Text Wheels	6
How New Wheels are Developed	7
A Typical 'Text' Wheel	8
Importing a 'Text' Wheel	9
What 'Wheel Parameters' Do	10
Choosing a Wheel Type	11

Your Wheel Types

Your Wheel Types	12
'Full' Wheels (Full)	12
'Skip Four' Wheels (Skp4)	12
'Skip Nine' Wheels (Skp9)	12
'Abbreviated' Wheels (Abbr)	12
'Expanded' Wheels (Expd)	12
'Pair' Wheels (Pair)	12
'Key Number' Wheels (Key1, Key2, Key3, Key4)	13
'Compound One' Wheels (Com1)	13
'Compound Two' Wheels (Com2)	13
'Compound Three' Wheels (Com3)	13
'Zone' Wheels (Zn13, Zn16, Zn19, Zn23, Zn26, Zn29)	13
'Pool' Wheels (Pool)	13
'Custom' Wheels (Cust)	13

Starting the Programs

Starting the Programs	14
Selecting a Wheel	16
Entering the Wheel Name	17

Using Your Automatic Wheeling Programs

Generate Wheel Automatically	18
Estimate Win Probability	19
Make a Zone Numbers Wheel	20
Make Large Linked Wheels	22
Import a Lotto Wheel	28
Export a Lotto Wheel	29
Check Wheel Hits/Holes	30
Convert Wheel Format	42

Managing Your Wheels

Your Wheel Management Menu	44
List Master, Text, Backup Wheels	46
Show Wheel Parameters	47
View Text Wheel Combinations	48
Edit Text Wheel Combinations	49
Join Text Wheel Combinations	50
Sort Text Wheel Combinations	51
Key Number Options	52
Rename a Wheel	53
Copy a Wheel	54
Delete a Wheel	55
Restore Wheel From Backup	56
Convert Alpha to Numeric	57

Questions and Answers

Questions and Answers	58
-----------------------------	----

Lottery Director: *Professional Wheeling*

What Professional Wheeling Does

Your ***Professional Wheeling*** programs give you powerful tools for developing, customizing, checking, and managing your own Lotto wheeling systems.

You can create new Lotto wheels automatically, using a variety of wheel layouts. Your wheels can contain up to 64 numbers, in up to 5,000 combinations for the Pick-2-3-4-5-6 Lotto games, or up to 3,500 combinations for Pick-7-8-9 games. You can 'link' wheels and 'pre-filter' them into as many as 500,000 combinations.

You have extensive facilities for checking and managing your wheeling systems. You can see how well a wheel matches the lottery's possible winning numbers. If a wheel fails to provide proper matching, you can repair it automatically.

You can 'export' your wheels for use in other lottery programs, and you can 'import' wheels in a standard text format into Professional Wheeling.

Installation

Your 'Professional Wheeling' programs are part of your Lottery Director Professional package. Installation instructions are in your Easy Start Guide.

More Information

If you would like a free catalog and further information about our products, please send us a postcard with your name and address (please print plainly). Write to us at the address in this guide.

Lottery Director™, Professional Wheeling™, and CDEX™ are all trademarks of The CDEX Group.

Published by The CDEX Group, Jacksonville, FL 32241-4501, USA.
All rights reserved. Printed in U. S. A.

Terms and Conditions of Program Use

You may make one copy of this program for 'backup' use on a single system. You may not make additional copies, other copies, or derivative works of this program, nor sell, transfer, or distribute this program or its copy to others.

Other than for the single 'backup' copy described above, no part of this program or its materials may be reproduced in any form without the written permission of The CDEX Group, Jacksonville, FL 32241-4501.

The program, including all related materials, is furnished solely for entertainment and you agree to use it solely for that purpose.

The actual lottery process operates by random number selections. The program tracks past lottery numbers that have been entered. The program does NOT predict which future lottery numbers may occur. Your use of the program in conjunction with any lottery acknowledges your understanding of the lottery's random process, and the fact that the program does NOT predict results. You solely control its use.

The program is warranted to perform substantially as described in its published warranty, subject and according to the warranty's terms. Neither the program's developers nor its agents shall be held liable or accountable for any outcome or consequence of the use of the program.

Your use of the program constitutes your full agreement to these terms, conditions, and published warranty as the sole basis for its use.

Product Warranty

The program's software and other materials are warranted to be free of defects for a period of 120 days from your original date of purchase. Items found to be defective within this warranty period will be exchanged at our option, if they are returned to us accompanied by satisfactory proof of your purchase date. In no event will our liability exceed the price you paid for purchase of the program, even if we have been notified of such liability. No other warranty, expressed or implied, including fitness of the program's software, media, documents, guidebooks, or other materials for any purpose, is made to you or to any other person or entity.

Items found to be defective within the above warranty period may be returned for exchange by contacting in writing:

The CDEX Group
Customer Service
Box 24501
Jacksonville, FL 32241-4501

What to Do First

Read This Guidebook: You should read the information in this guidebook about lotteries and 'odds', how to wheel numbers, and how to use your programs.

Important: To make your first wheel, follow the instructions in your '**Quick Start**' guidebook. It gives you a step-by-step example for making a wheel.

Use Your 'Quick Start' Guidebook First!

You have an easy-to-use 'Quick Start' guidebook for Professional Wheeling.

New Users: If you are using these programs for the first time, you should follow the example in your 'Quick Start' book. It will show you how to create a wheel, how to make it playable for your Lotto program, and how to check its quality.

Then . . . When you have finished with the example in your 'Quick Start' guide, you should find it easy to use your programs. Then you can use this User's Guide for the detailed information about each part of your Professional Wheeling.

What's In This User's Guide

If you finished the example in your 'Quick Start' guidebook, you should find it easy to use this User's Guide.

If you haven't used your 'Quick Start' guidebook yet, you should use that book first. It gives you a step-by-step example for using Professional Wheeling.

If you are not familiar with the concept of 'wheeling', you'll find an explanation in these sections of this User's Guide:

Principles of Wheeling: Explains how wheeling works, and what it does.

Your Two Kinds of Lotto Wheels: Explains why your software makes two kinds of wheels -- one kind for development, and the other kind for permanent use.

How New Wheels are Developed: Explains the process of making wheels.

Lotteries, Wagering, and 'Odds'

Public lotteries furnish an entertainment that players can enjoy at low expense. They are also institutions that support the revenue needs of many governments. A person who chooses to play – or wager – in a lottery should understand the lottery's underlying purpose and the extremely large 'odds' against winning.

As each lottery must be a revenue source, a portion of all wagers must be set aside to meet its revenue goals and operating costs. The remaining portion is available for prize money. Over the long term, the amount of prizes paid out must be less than the overall 'odds' of winning those prizes. The 'odds' *cannot* favor the players. The lottery could not function as a revenue source otherwise.

Play for Entertainment: Lotteries are drawn at random, and past wins do not 'cause' or 'guarantee' a future win. If you choose to play in a lottery, do so only for enjoyment, as with any other pastime. Enjoy the adventure and suspense, win or lose -- and if you are fortunate to become a winner, enjoy the rewards.

Know the Odds: With the 'odds' strongly against you, any wagering must be done only with realistic goals. Always consider your financial means, and do not exceed them. Only then should you consider whether, when, and how to wager.

You can always track a lottery *without* wagering, as you develop understanding of the lottery process. Before wagering, be patient while watching your numbers. Always set a realistic point at which to wager, and another realistic point to stop wagering, whether it is successful or unsuccessful. Set realistic limits for the amount and timing of your wagering. Do not wager unless you are satisfied that your selection has become worth the risk – and loss – of your wager.

Selection Methods: Three popular methods for picking numbers are outlined below. They have very little in common, with many variations among players.

Systems based on the 'rarity' of winning numbers usually anticipate that, over an extended time, all numbers tend to occur at about an even rate. They assume that currently 'rare' numbers should eventually begin to occur more frequently.

Systems based on the 'frequency' of winning numbers usually anticipate that, over an extended time, the normal mechanical factors in the selection process (like weight, friction, balance, size, or wear) may slightly favor some numbers. They assume that 'frequent' numbers should continue to occur more frequently than the other numbers, unless those factors are changed.

Systems based on 'trending' usually include aspects of the above two systems. They use 'rarity' or 'frequency' in the numbers, but do so over a shorter, more recent period of time. They usually emphasize the lottery's 'current' activity, for example only those drawings held within the past several weeks or months.

Principles of Wheeling

When you 'wheel' a set of lottery numbers, you place them into combinations. You are combining your numbers to aim for a particular prize goal in the lottery. You are arranging your numbers in a planned way - not in random groups. Wheeling does not guarantee a win, but it combines your numbers efficiently so that all possible combinations are covered at your desired prize level.

Example: Suppose your game is a Pick-6 Lotto. You pick six numbers on each ticket. Suppose also that you have 10 numbers that you want to play - your favorite numbers. If you wanted to combine your 10 numbers to aim for the jackpot - and to make sure that all of the possible combinations are covered - you would need 210 tickets. That is, 210 combinations are necessary to cover all of the possible ways in which your 10 numbers can be combined into groups of six numbers.

If you wish, you could aim for a second or third prize, using a more economical wheeling system. You can use as few as 18 tickets to cover all of the 'second prize' combinations in your 10 numbers. For the third prize, you can play as few as 3 tickets.

The second or third prize may not sound as attractive as the jackpot - but the cost of playing only 18 tickets, or 3 tickets, is certainly more attractive than playing the full set of 210 tickets. The main point is this: your wheeling systems *give you the choice - you know in advance* how economical each method of playing will be.

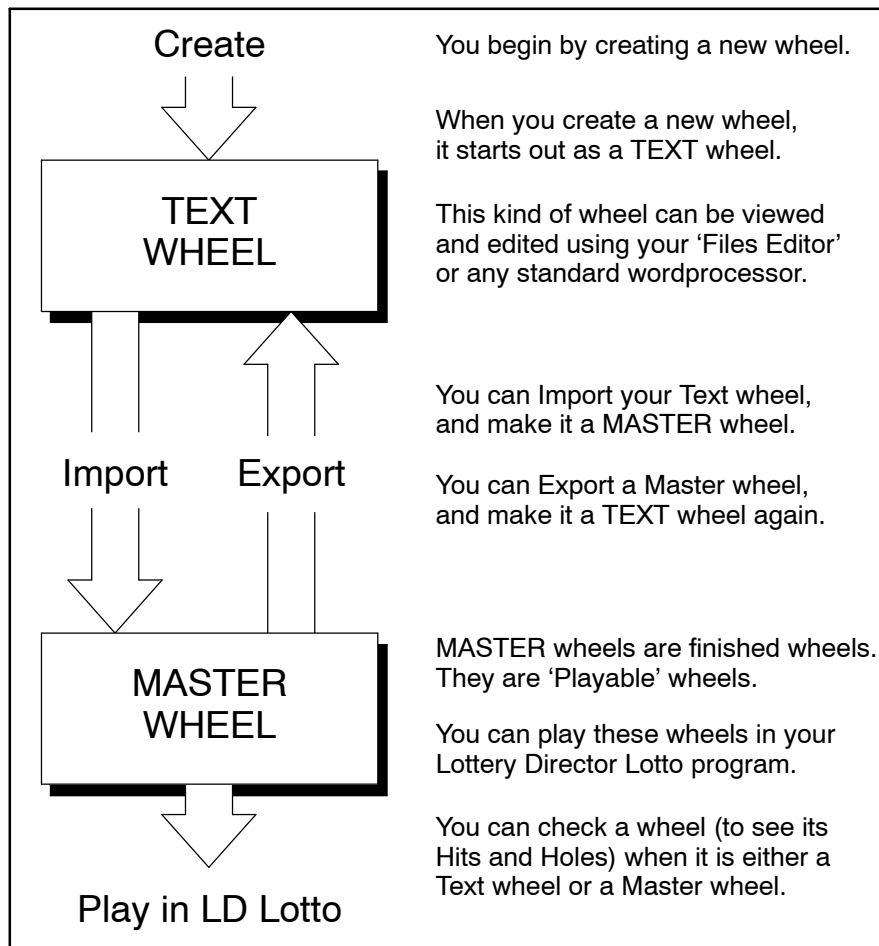
By knowing *in advance* how many tickets will be needed for each prize goal, you can choose the most practical wheels for your numbers and your budget.

You are the Judge: Your program gives you a choice of wheeling systems. Using your favorite lottery numbers, you can create one ticket combination, or as many as 500,000. You can find a system that comfortably fits your budget, for playing with maximum enjoyment.

Try Before You Buy: *You do not have to purchase any actual lottery tickets to try your wheels.* You can wheel a set of combinations and check them for winners in Professional Wheeling, in the Lottery Director Lotto program, or in other lottery software programs that accept these wheels. For example, you can test them with the winning numbers from past drawings. You can test all choices with 'what-if' situations - different wheels, and different sets of numbers. You can try the wheels (and enjoy them) entirely from within your programs - and then consider playing them later, when you are comfortable with their results.

Your Two Kinds of Lotto Wheels

You will be using two kinds of wheels: 'Text' wheels, and 'Master' wheels.



Text Wheels are stored in a standard word processor 'Text' format on your disk. This is often called an 'ASCII' text format, and is a very commonly used format. These letters stand for 'American Standard Code for Information Interchange'. This format sets a world-wide standard for the way in which information is stored.

Master Wheels can be played directly in the Lottery Director Lotto program. (For this reason, they are also called 'playable' wheels.)

How New Wheels are Developed

1. Creating: All wheels are created as 'Text' wheels.

Because the wheel is in a standard 'text' format, you can use your favorite word processor program to edit the wheel's contents, and to view and print the wheel.

You can also use the 'Files Editor' supplied with your Lottery Director software. Just click on your **Files Editor** icon, and use it to view and print your wheels.

This 'text' format makes it very easy for you to work with each new wheel. For example, after you create a wheel, you can view and print its combinations. You can 'customize' the wheel by adding, deleting, and changing combinations.

2. Importing: When you are ready to play your wheel, you will 'import' it. This converts the wheel into a Master (playable) wheel, used by Lottery Director. You can then play the wheel directly in your Lottery Director Lotto program.

3. Checking: After you create a wheel, you can check it for 'hits' and 'holes'. This will show you which combinations in the wheel will produce winners – and which ones will not. If you wish, you can then go back to your 'Files Editor' and add those missing combinations into the wheel. Or, if you wish, you can let your Professional Wheeling program add them for you.

Some wheels can be repaired automatically in this way, while others cannot. For example, 'Full' wheels, 'Abbreviated', 'Expanded', and 'Key Number' wheels can all be repaired automatically. Other wheels that have 'custom' combinations cannot be repaired automatically because the program cannot know how custom numbers are supposed to be arranged in the wheel. In this case, you can still check the wheel automatically, and printout a list of the wheel's 'hits' and 'holes'. Then you can edit it manually, if you wish, until you are satisfied with the wheel.

To Summarize . . .

1. When you make a new wheel, it starts out as a 'Text' wheel. You can view it, edit it, and print it with your 'Files Editor'.
2. When you are ready to play your wheel, you must 'import' it. This makes it a Master wheel. You can then play it in your Lottery Director Lotto program.
3. You can check your wheel for 'hits' and 'holes', to see how well it works. You can repair it automatically, or you can edit it manually by using your 'Files Editor'.

A Typical 'Text' Wheel

When you create a new wheel, it starts out as a 'Text' wheel. It will be stored on your disk in a standard 'text' format. The wheel can contain up to 64 different numbers, in up to 5000 combinations.

Professional Wheeling gives you three automatic wheel development programs. Each of these programs will generate combinations in a wheel automatically. The three programs are:

- Generate Wheel Automatically
- Make a Zone Numbers Wheel
- Make Large Linked Wheels

In addition, you could also create a 'Text' wheel manually -- by just entering some combinations with a word processor and storing them on your disk.

You can view, edit, and print a 'Text' wheel's combinations using the Files Editor supplied with Professional Wheeling. When you look at the wheel's combinations on your screen, they will look similar to this:

```
1 2 3 4 5 6
1 2 3 4 5 7
1 2 3 4 5 8
1 2 3 4 6 7
1 2 3 4 6 8
1 2 3 5 6 7
. . . (etc.)
```

These are called 'Pointers': The numbers that you see are *not* lottery numbers. They are called 'pointers'.

When you play the wheel, you'll enter the actual lottery numbers you want to play. At that time, the wheel's 'pointers' will point to the lottery numbers that you enter, and will make combinations of your numbers.

Example: For example, if you play the following lottery numbers: 20 14 33 34 7 41 12 5 3 24 -- using the above wheel, the first set of 'pointers' will place your *first six* numbers into your first combination: 20 14 33 34 7 41.

The wheel's second set of 'pointers' will make: 20 14 33 34 7 12, and so on. Each of the 'pointers' will make a different combination of your lottery numbers.

Importing a 'Text' Wheel

'Text' wheels cannot be played directly in the Lottery Director Lotto program. If you want to play a wheel, it must be a Master wheel -- in a 'playable' format.

You can easily convert a Text wheel into a Master wheel. This is called 'importing' the wheel into Lottery Director.

You have a Professional Wheeling program that does this automatically for you:

Import a Lotto Wheel

When you use your 'import' program, it will read the 'Text' wheel file on your disk. Then it will write a Master wheel -- a 'playable' version of the wheel on your disk. It will not erase the 'Text' version -- both versions will remain on your disk.

When the program reads a 'Text' wheel, it shows a set of 'Wheel Parameters'. These describe the wheel. Here is a typical screen:

```
READING WHEEL FILE:  .\WHEELS\LDW60000.TXT
-----
Current Wheel Parameters:
This is a 'Custom' wheel for a 'Pick-6' lottery.
It contains 25 numbers in 90 combinations.
Its initial Match Quantity is 1 for a Win Size of 1.
Its Win Probability is currently unspecified.

The Wheel is now ready for you to enter new Parameters.

-----
Press any key to enter the new Parameters:  > _
```

You can modify the Wheel Parameters with your 'import' program. You'll find complete instructions on how to run your 'import' program in this guidebook.

You'll find a description of the Wheel Parameters on the next page.

What 'Wheel Parameters' Do

Each wheel has some 'Wheel Parameters'. They describe how a wheel works.

'Playable' wheels have a full set of parameters that are stored with the wheel.

'Text' wheels have only a basic set of parameters. You can assign a full set of parameters when you import a 'text' wheel and make it a 'playable' wheel.

This is the full set of Wheel Parameters:

Wheel Name This identifies the wheel. When you want to select a wheel, you'll enter this name into the program.

Type This describes the wheel's requirements for matching the lottery's winning numbers in order to win. Each type of wheel has a certain set of requirements for winning. See *Your Wheel Types*, on the following pages.

Quantity to Wheel This describes how many lottery numbers you can play in the wheel. You'll have this many numbers to try to match with the winners.

Quantity to Match This shows how many of your numbers must be matched with the regular winning numbers in the lottery drawing. *Each type of wheel also requires your numbers to be matched in certain ways.*

Expected Win Size This is the prize goal that you aim for with the wheel. *If all of the wheel's matching requirements are met*, at least one ticket should have this many winning numbers, with the win probability as described below. You may have a higher prize, or multiple winning tickets, but this is the basic level of prize you are aiming for when you play the wheel.

Expected Win Pct This is the probability of reaching the prize goal, *if all of the wheel's matching requirements are met*. It is always stated as plus or minus one percent (1%). For most wheels, you have a 99-100% chance of meeting the prize goal if all of the matching requirements are met. Some of your wheels have a smaller percentage. This is because some lower priority combinations have been eliminated, keeping the higher priority ones. This lets you place more numbers into the wheel, for a given quantity of tickets. Usually, you must decide whether to use a wheel with a higher percentage and fewer numbers, or one with a lower percentage that lets you play more numbers.

Combinations This is the quantity of tickets that will be created by the wheel. This quantity reflects the cost of playing the wheel.

Choosing a Wheel Type

When you import a 'text' wheel and make it a 'playable' wheel, you can assign a complete set of Wheel Parameters to the wheel.

These parameters will then be displayed in your Professional Wheeling listings. They will also be displayed in the Lottery Director Lotto program when you want to play the wheel in that program.

One of the most important parameters for a playable wheel is its 'Wheel Type'. This describes how the lottery numbers that you play in the wheel must be matched with the lottery's winning numbers, in order for you to win a prize. Each type of wheel matches the lottery's numbers in a different way.

Every wheel is a 'Custom' wheel while it is in its 'text' form (while you are still developing the wheel). When you import the wheel, you can then give it a final Wheel Type, using a screen like this one:

```
Wheel Type:

This Wheel is currently registered as a 'Custom' Wheel.

What type of Wheel do you want to call it now?

Please enter one of the values below to identify the Wheel.
(If you are not sure, enter a value of 99 (Custom).)

VALUE  TYPE           VALUE  TYPE           VALUE  TYPE
  0     Abbreviated    7     Compound One    14     Zone 1-3
  1     Expanded      8     Compound Two    15     Zone 1-6
  2     Full          9     Compound Three  16     Zone 1-9
  3     Key One       10    Skip Four      17     Zone 2-3
  4     Key Two       11    Skip Nine      18     Zone 2-6
  5     Key Three     12    Pairs          19     Zone 2-9
  6     Key Four      13    Pool           99     Custom

Your entry: >  -- --
```

If you do not know exactly what kind of wheel will result from your development, you can just keep calling your wheel a 'Custom' wheel.

You'll find a description of each Wheel Type on the following pages.

Your Wheel Types

'Full' Wheels (Full)

The purpose of a Full wheel is to aim for the jackpot or for multiple lower prizes. Full wheels cover every possible combination of the lottery numbers you enter. They must generate a large amount of combinations to cover the numbers. That makes them the least economical wheel for playing a set of numbers.

'Skip Four' Wheels (Skp4)

These wheels aim for the jackpot or multiple lower prizes, like a Full wheel. The first five combinations are played, as in a Full wheel. These contain your highest priority numbers. Then four combinations are skipped, and every fifth is played. The 'expected win percent' is 20%, but you can play more numbers, compared to a Full wheel, with better chances for a winning match.

'Skip Nine' Wheels (Skp9)

These wheels aim for the jackpot or multiple lower prizes, like a Full wheel. The first ten combinations are played, as in a Full wheel. These contain your highest priority numbers. Then nine combinations are skipped, and every tenth is played. The 'expected win percent' is 10%, but you can play more numbers, compared to a Full or Skip Four wheel, with better chances for a winning match.

'Abbreviated' Wheels (Abbr)

The main purpose of these wheels is to aim for a specific lower prize, such as the second or third prize. Abbreviated wheels cover every combination of numbers for that prize (but not for a higher prize). They generate a relatively small amount of combinations for a large set of lottery numbers. They are an economical type of wheel for playing a large set of numbers, to increase your chances for matching the lottery's winning numbers. To win, the stated matching quantity (out of the numbers played) must match winners drawn in the lottery.

'Expanded' Wheels (Expd)

These wheels are similar to Abbreviated wheels, with a goal of a lower prize. They make slightly more combinations than Abbreviated wheels, but these contain more of your higher priority numbers - increasing your chances for multiple wins. Matching requirements are the same as for Abbreviated wheels.

'Pair' Wheels (Pair)

The first two lottery numbers you enter into this wheel become a pair. The next two numbers become a second pair, and so on. To win, the wheel's matching quantity must be met entirely with paired numbers - that is, if any number is drawn as a winner, its paired number *must also* be drawn.

'Key Number' Wheels (Key1, Key2, Key3, Key4)

The first 1, 2, 3, or 4 numbers you enter become one to four 'Key' numbers – your high priority numbers. 'Key' numbers appear in every combination. To win, you must match *all* key numbers, as well as meet the wheel's matching quantity.

'Compound One' Wheels (Com1)

Your lottery numbers are arranged into groups – six groups for a Pick-6 lottery, or five groups for a Pick-5, and so on. For example, a Pick-6 wheel with 18 numbers has 6 groups, each with 3 numbers. To win, *any one* number can be drawn from each group, as well as meeting the wheel's matching quantity.

'Compound Two' Wheels (Com2)

Your first lottery number is a 'Key' number. The rest of the numbers are placed into groups. For example, a Pick-6 wheel with 16 numbers has 1 key number and 5 groups, each with 3 numbers. To win, the key number *must* be drawn, plus *one* number from each group, as well as meeting the matching quantity.

'Compound Three' Wheels (Com3)

The first two lottery numbers you enter become 'Alternate Key Numbers'. Either can be used as a 'Key' number. To win, *either one or both* of the numbers *must* be drawn as winners, as well as meeting the wheel's matching quantity.

'Zone' Wheels (Zn13, Zn16, Zn19, Zn23, Zn26, Zn29)

These wheels have three 'zones' - a 'Key' zone, 'Alternate' zone, and 'Full' zone. 'Zn13, Zn16, Zn19' wheels have 1 Key number, plus 3, 6, or 9 Alternate numbers. 'Zn23, Zn26, Zn29' wheels have 2 Key numbers, plus 3, 6, or 9 Alternates. The rest of your lottery numbers are combined into the wheel's Full zone. For example, in a 'Zn23' wheel with 16 numbers, your first 2 numbers are Keys. Your next 3 are Alternates. The remaining 11 are combined in the Full zone. To win, you must match *all* Keys, *any* Alternate, and *any* Full zone combination.

'Pool' Wheels (Pool)

These wheels are specially designed for playing a large set of lottery numbers. They are useful for player 'pools', in which many people get together to play – perhaps with each person picking one or more favorite numbers. They are also for individuals who want to play *all the lottery numbers* for maximum coverage. Jackpot chances are small (well below 1%), with so few combinations made from so many numbers. On the other hand, their coverage can make these wheels popular to play, and very exciting to follow in the lottery drawings.

'Custom' Wheels (Cust)

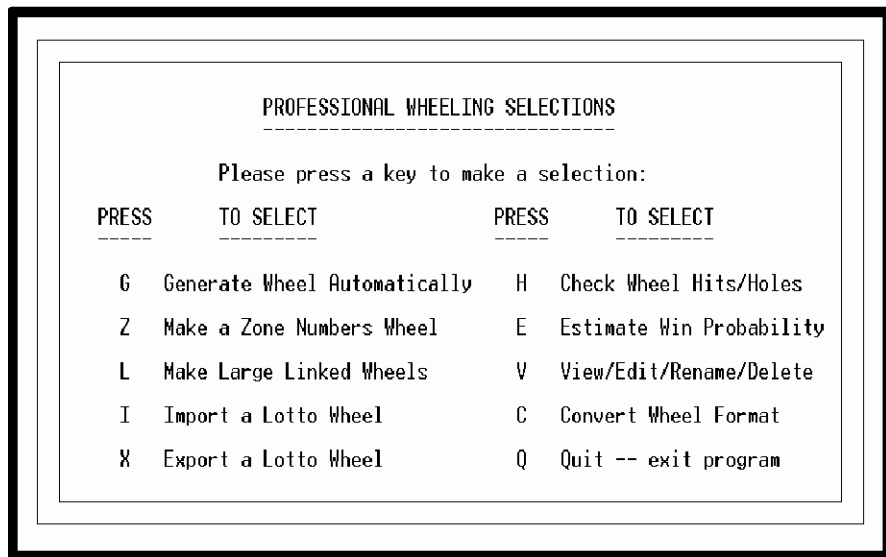
These are wheels that you design using your Professional Wheeling programs. You define your own prize goals and matching requirements for each wheel.

Starting the Programs

1. Start your Lottery Director programs as described in your Easy Start book. Your Lottery Director opening menu should appear.
2. At your Lottery Director opening menu, press **W** (Professional Wheeling).

Note: You can also click on your 'Professional Wheeling' icon to start your Professional Wheeling programs.

Your Professional Wheeling main menu will appear, like this:



Selecting a Program: Press a key as shown on your menu to select any one of your Professional Wheeling programs. If you are a new user, a good program to begin with is your 'Generate Wheel Automatically' program.

Instructions: Each program will offer instructions. Feel free to browse through them. You'll return to your program after viewing the instructions. You will also find a complete description of each program in this book.

Canceling a Program

If you start any program, and then you decide that you do not want to continue, press 'Control-C' on your keyboard. (Hold down the 'Control' key, and tap 'C'.)

Generate Wheel Automatically

You can create a wheel with up to 64 lottery numbers and 5000 combinations. Your wheel can be made either with or without 'Key' numbers.

Make a Zone Numbers Wheel

You can automatically create a wheel with three 'zones' – a 'Key' zone, 'Alternate' zone, and 'Full' zone – with up to 64 lottery numbers and 5000 combinations.

Make Large Linked Wheels

You can create a large wheel, and 'split' it into smaller wheels. Depending on your strategy and budget, you could then play any one, or some, or all of the wheels. Your total wheel can be as small as you wish, or it can contain up to 64 lottery numbers and 500,000 combinations. You can 'pre-filter' the wheel to reduce the final amount of combinations.

Import a Lotto Wheel

You can 'import' a wheel that is in a standard 'Text' file. This makes it ready to play in the Lottery Director Lotto program.

Export a Lotto Wheel

You can 'export' a Lottery Director wheel. This converts it to a standard 'Text' file. You can then play the wheel with other lottery programs that use this kind of file. You can also modify the wheel with your 'Files Editor'.

Check Wheel Hits/Holes

You can check a wheel to see how well it can match combinations that might be drawn by the lottery. If the wheel fails to match some combinations, you can repair the wheel automatically. You can check either the 'Text' or 'Playable' version.

Estimate Win Probability

You can see how many combinations are required to cover a field of numbers, and you can see your chances for matching the various prize levels.

View/Edit/Rename/Delete Wheels

This selection takes you to a second menu for managing your wheel files. You can view, edit, rename, delete, and do many other tasks with your wheels.

Convert Wheel Format

You can convert a 'Text' wheel into formats that may be used with other programs.

Selecting a Wheel

When you start a Professional Wheeling program, it will ask you to select a wheel. You always select a wheel by entering its 'wheel name' into the program.

Wheel Name: Here is a typical screen for entering the wheel name:

```
Wheel Selection:
-----
Please enter the name of the Wheel.

The name can contain up to 8 characters.

Wheel Name: > LDW60800

Wheel Type: P (Playable), T (Text), or B (Backup): > _
```

In this example, the wheel that is being selected has the wheel name LDW60800. This is an example of the wheel name that you would enter into the program. You'll find some examples of typical wheel names on the next page.

Wheel Type: Some of your programs will ask you to identify the kind of wheel that you will be using - a 'Playable' wheel, or a 'Text' wheel, or a 'Backup' wheel. You can see this in the example above.

Some of your programs do not ask for the kind of wheel, because they naturally use only one kind of wheel. For example, your 'Generate Wheel Automatically' program always creates 'Text' wheels, so it will not ask for any further information.

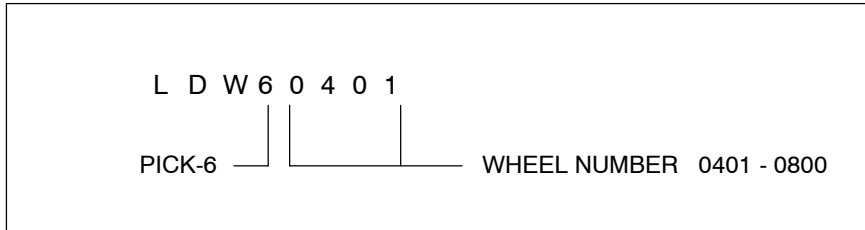
Changing Your Mind: If you decide that you do not want to select a wheel, you can exit most programs at this point by pressing your keyboard 'Escape' key.

Entering the Wheel Name

To select a wheel, just enter its name. (See the example on the previous page.)

The wheel name starts with the letters 'LDW'. This identifies the wheel to the Lottery Director Lotto program.

The rest of the wheel's name consists of a 'Pick number', and a 'Wheel number'.



The 'Pick number' specifies how many numbers will appear in each combination. For example, a 'Pick-6' wheel has six numbers in each combination.

You can give each wheel a 'Wheel number' from 0401 to 0800.

You can have up to 400 wheels for each 'pick' number (400 Pick-5 wheels, plus 400 Pick-6 wheels, and so on).

Examples: Here are some examples of typical wheel names.

LDW50401 LDW50402 . . . LDW50800 (Pick-5 wheels)

LDW60401 LDW60402 . . . LDW60800 (Pick-6 wheels)



Note Wheel numbers 0001 to 0400 are reserved for the original wheels that are supplied with your Lottery Director Lotto program, and for future ones to be developed.

You can play these wheels in your Lotto program, but you cannot use them in your Professional Wheeling programs. You can, of course, create new wheels to use in addition to your original wheels.

Only the wheel numbers from 0401 to 0800 can be used in your Professional Wheeling programs.

Generate Wheel Automatically

Overview: This program will automatically generate a Lotto wheel with up to 64 numbers and 5000 combinations. Your wheel can have zero or more key numbers. You can also 'offset' (shift) the numbers to a higher range. The program will make your wheel, and will store it as a 'text' wheel on your disk.

Starting

Start the program and select a wheel as described previously in this guidebook.

Note that when you enter a wheel name, it contains a 'pick' number for the wheel. This defines your wheel as a Pick-6 wheel, or a Pick-5 wheel, or other wheel. (See *Selecting a Wheel* for examples of how to enter the wheel name.)

If you are not yet used to your program, a good name to start with is: LDW60800

Entering the Wheel Parameters

First, enter the quantity of lottery numbers that you want to have in your wheel.

Next, enter the quantity of key numbers you want to have in each combination.

Next, enter an 'offset' value for the numbers in each combination. This will shift the numbers higher. If you do not want to shift the numbers, enter 0 (zero).

Next, enter the quantity of combinations that you want to have in your wheel. Your screen will show you the maximum amount of combinations you can have.

What Happens Next

As the wheel's combinations are being generated, they'll be listed on your screen. If you wish, you can press a key to stop the listing. You can then exit or continue.

Timing: If you are generating a very large wheel (with many lottery numbers), it can take a relatively long time for the program to generate the combinations. Naturally this also depends on the processing speed of your computer.

When all of the combinations are generated (or when you stop the listing), you'll have a choice to write the combinations on the disk (to store the wheel).

Your wheel will be a 'Text' wheel. If you store the wheel, you can view it, edit it, import it, or do any of the other kinds of operations in Professional Wheeling.

Estimate Win Probability

Overview: This selection will show you the size and win probability of a wheel, based on how many lottery numbers are to be placed in the wheel.

It shows you how many combinations must be contained in a wheel to completely cover all of possible combinations of the wheel's numbers. This reflects the cost of playing the wheel.

It also shows your probability of matching the lower prize levels if all of the lottery's winners fall within the wheel's field of numbers. In a Pick-6 wheel, for example, you can see your chances for matching 5, 4, and 3 winners.

You start by entering the amount of lottery numbers that are played in the wheel. Then you enter the amount of lottery numbers that are played in one combination. The program then shows you the total combinations and matching probabilities.

Starting

Make this selection from your main menu.

Entering the Wheel Parameters

First, enter the quantity of lottery numbers that you want to have in your wheel.

Next, enter the quantity of numbers you want to have in each combination. For example, if the wheel is a Pick-5 wheel, enter 5. For a Pick-6 wheel, enter 6.

What Happens Next

Your screen will show the total combinations that are needed in the wheel to completely cover all of the possible combinations of the wheel's field of numbers. For example, an 18-number Pick-6 wheel will require 18,564 combinations to cover all of the possible ways that 18 numbers can be combined into groups of 6.

This is the same as your probability of having a 6-number win, if you played only one combination and the lottery's winners fell within the field of 18 numbers.

Your screen will also show the chances of matching smaller sets of the numbers. In the example above, your chance of matching 5 numbers is one chance in 258. This is the same as your probability of having a 5-number win, if you played only one combination and the lottery's winners fell within the field of 18 numbers.

Make a Zone Numbers Wheel

Overview: This program will automatically generate a Lotto wheel with up to 64 numbers and 5000 combinations, using 3 'zones' of numbers as described below. When you start the program, give it the name of the wheel you want to generate. Then tell it how you want the zones to be created. The program will make your wheel, and will store it as a 'text' wheel on your disk.

How A Zone Wheel Works

In a Zone wheel, the numbers in each combination are arranged into three areas, called 'zones'. The wheel's zones work in different ways to match the lottery's winning numbers.

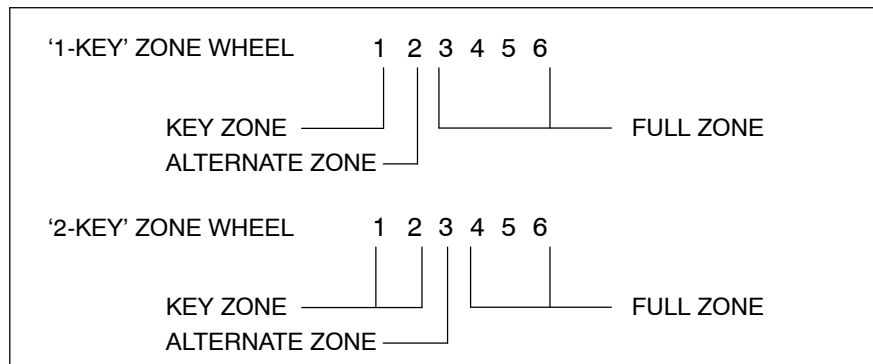
'Key' Zone: In each combination, the first zone is called the 'Key' zone. It has either 1 or 2 'Key' numbers - you specify whether you want 1 or 2 numbers.

'Alternate' Zone: The second zone is called the 'Alternate' zone. It can have 1 or more numbers - you specify how many numbers you want in this zone.

'Full' Zone: The third zone is called the 'Full' zone. The rest of your numbers will go into this zone. The program will then generate every possible combination of those numbers, up to the maximum limit of combinations in the wheel.

To win, you must match *all* Key numbers, plus *any* Alternate number, plus *any* Full combination of numbers. Multiple prizes are possible with Zone wheels.

Here is the layout of the numbers in a Pick-6 combination. The top example shows a combination with 1 key number. The lower example shows 2 key numbers.



Starting

Start the program and select a wheel as described previously in this guidebook.

Note that when you enter a wheel name, it contains a 'pick' number for the wheel. This defines your wheel as a Pick-6 wheel, or a Pick-5 wheel, or other wheel. (See *Selecting a Wheel* for examples of how to enter the wheel name.)

If you are not yet used to your program, a good name to start with is: LDW60800

Entering the Wheel Parameters

First, enter the quantity of lottery numbers that you want to have in your wheel.

Next, enter the quantity of Key numbers you want to have in Zone 1.

Next, enter the quantity of Alternate numbers you want to have in Zone 2.

Last, enter the quantity of combinations that you want to have in your wheel. Your screen will show you the maximum amount of combinations you can have.

Note that you don't have to enter a quantity of numbers for Zone 3 (the Full zone). After you entered your quantities of numbers for Zones 1 and 2, the program will automatically place the remaining numbers into Zone 3.

What Happens Next

As the wheel's combinations are being generated, they'll be listed on your screen. If you wish, you can press a key to stop the listing. You can then exit or continue.

Timing: If you are generating a very large wheel (with many lottery numbers), it can take a relatively long time for the program to generate the combinations. Naturally this also depends on the processing speed of your computer.

When all of the combinations are generated (or when you stop the listing), you'll have a choice to write the combinations on the disk (to store the wheel).

Your wheel will be a 'Text' wheel. If you store the wheel, you can view it, edit it, import it, or do any of the other kinds of operations in Professional Wheeling.

Make Large Linked Wheels

Overview: This program will automatically generate a series of multiple Lotto wheels, with up to 64 lottery numbers and a total of up to 500,000 combinations. Your program will store your wheel as a series of 'text' wheel files on your disk.

What are 'Linked' Wheels?

Professional Wheeling uses a unique method of making large wheels. Instead of storing one massive wheel file on your disk, Professional Wheeling creates your wheel as a group of smaller files, and 'links' them together as a single wheel. Where one wheel 'stops' in its combinations, the next wheel 'starts' at a new one – so if you play all of the wheel files, all of the combinations will be covered.

This makes your wheel much more manageable for checking, editing, and playing.

For example, if you create a Pick-6 Text wheel with 500,000 combinations, you will be making a wheel with a minimum of 6 to 9 megabytes of text characters in it. As a single file on your disk, the wheel would become time-consuming to view, edit, or print with most word processors and editing programs.

By splitting the wheel into smaller files, Professional Wheeling makes each part of the wheel easier for you to work with. In addition, you will be able to apply different kinds of filtering techniques to various parts of the wheel, when you play it later.

Even though the files are separate, they share the same set of lottery numbers. Their combinations work together, from wheel to wheel, for a common prize goal.

What are the Advantages of Linked Wheels?

When you divide a large wheel into smaller wheels, you can play any one, two, or more of them in a single drawing. For example, you can split a 'Full' wheel with 3003 combinations into 10 smaller wheels -- each with about 300 combinations.

Instead of having only a single, expensive wheel file to play, you can play any part – or selected parts – according to your strategy and budget. If you make 10 files, each would have a 10% chance of winning. The more wheels you use, the better your chances. Playing them all is like playing the Full wheel – the choice is yours.

Note that this is not limited to 'very large' wheels. For example, you can split a 20-combination wheel into two 10-combination wheels, or four 5-combination wheels, and so on. You design your wheels for your playing strategy and budget.

Choosing a Wheel Name

Linked wheels have a wheel name that is different from other wheel names. This is because the wheel is created as multiple files, each with a different name. Up to 100 files can be created as your program develops the wheel for you.

You can enter any kind of name that will help you to remember your wheel. Your wheel name can be from one to six characters in length.

For example, you can just call your wheel by the name ' LDW607 '. Note that this name has six characters.

Your program will then add the letters ' 00 ' through ' 99 ' to the wheel name, as it develops your wheel.

For example, if you want to divide your ' LDW607 ' wheel into four wheel files, you'll have four separate files stored on your disk. They'll have the wheel names ' LDW60700 ', ' LDW60701 ', ' LDW60702 ', and ' LDW60703 '.

Note how the wheels are now numbered automatically -- from 700 to 703.

Then, you can import the files, using your Professional Wheeling 'import' program. You can import each file singly, or you can import them all together at once.

The Maximum Wheel Size

This method of naming a wheel (00 to 99) allows up to 100 separate wheel files. Each wheel file can contain up to 5000 combinations.

Therefore you can make a wheel containing up to 500,000 total combinations. Your program gives you several options for reducing larger wheels to this size.

Starting

Start the program as described previously in this guidebook.

Enter a wheel name as described above. Your wheel name can contain up to six characters (letters and numbers). Enter any wheel name of your choice.

A suggested name is: LDW607 . This will start the wheel at wheel number 700.

After you enter the wheel name, the program will ask for the Wheel Parameters. This is described on the next page.

Make Large Linked Wheels (Continued)

Entering the Wheel Parameters

The program will ask for the Wheel Parameters. Here is a typical screen:

```
Wheel Parameters:          (This wheel will be a Pick-6 wheel.)
How many numbers in each combination in the wheel?
Your wheel can have from 2 to 9 numbers.
    Your entry: >  _6_
How many lottery numbers do you want in the wheel?
Your wheel can have from 7 to 64 numbers.
    Your entry: >  _20_
Do you want to Offset (shift) the numbers?
Your wheel can have from 0 to 44 Offset.
    Your entry: >  No Offset
A 'Full' wheel would require 38,760 combinations.
How many combinations ( 1 to 5000 ) do you want in each file?
    Your entry: >  _5000_
```

First, enter the quantity of numbers that you want to have in each combination. For example, if you want your wheel to be a Pick-6 wheel, enter a value of 6.

If you want to make a Pick-5 wheel, enter a value of 5.

Next, enter the quantity of lottery numbers that you want to have in your wheel.

Next, enter an 'offset' value for the numbers in each combination. This will shift the numbers higher. If you do not want to shift the numbers, enter 0 (zero).

Next, enter the quantity of combinations that you want to have in each wheel file. You can have up to 5000 combinations in each wheel file.

Options for a Large Wheel

You have options for sizing the wheel (see the screen example on the next page).

G Generate the Wheel This will create the wheel, skipping some combinations -- only if this is required to reduce the size of the wheel to 500,000 or less.

P Pre-filter the Wheel This will allow you to enter some custom filtering criteria -- to eliminate unwanted combinations and reduce the size of the wheel.

Here is a typical screen showing your options:

```
Options for a LARGE WHEEL
-----
For a Full wheel, you would need 8 files.  Maximum is 100.

Your Options:
-----
  G  Generate the wheel -- skip combinations if necessary
  P  Pre-filter the wheel -- enter filtering criteria
  R  Redefine the wheel -- enter new wheel parameters
  X  Exit the program

Your entry: > _
```

If you select P (Pre-filter the wheel), you can enter filtering criteria for your wheel. You can select a range of Sums, Even, and Low numbers. You can select limits for Matching Final Digits and Consecutive Numbers. Here is a typical screen:

```
FILTER SELECTION
-----
Set the filters for the combinations you want to keep in the wheel.
To accept all of the wheel's combinations, just press Enter.

Standard Sum: 63.0
Even, Low: 0 to 6   Final Digit, Consecutive: 1 to 6

Sums:           60 to 66
Even:           2 to 4
Low:            2 to 4
Final Digit:    2
Consecutive:    2

Press any key to continue: > _
```

Make Large Linked Wheels (Continued)

The Wheel Forecast

Next, your program will show you the maximum amount of files that it will generate. If you are using filtering, the final set of files can be less than this amount.

Here is a typical screen showing a Wheel Forecast:

```
Wheel Forecast:
Your program will generate this many wheel files (before filtering):

      7 wheel files, each with ... 5000 combinations
plus...  1 additional file, with .... 3760 combinations
-----
Total..  8 wheel files, containing ..38760 combinations.

Note: Filtering may significantly reduce the above totals.

Press any key to continue: > _
```

When you press a key, the program will begin generating your wheel.

Cancelling the Wheel: If you decide that you want to cancel the wheel, instead of generating it, you can do so. Just press 'Control-C' on your keyboard (hold down the 'Control' key, and tap 'C'). You'll return to your Professional Wheeling main menu.

What Happens Next

As the wheel's combinations are being generated, they'll be listed on your screen. If you wish, you can press a key to stop the listing. You can then exit or continue.

When all of the files have been created, you'll get a final message on your screen.

The final message will tell you how many wheel files were created, and will give you their wheel names.

Then, when you press a key, you'll exit to your main menu.

What to Do Next

If you have used a standard 'LDW' wheel name for your wheels (like LDW60700), you can use your I (Import a Lotto Wheel) selection to 'import' your new wheels. This will make them playable in the Lottery Director Lotto program.

If you have used the name 'CUSTOM', you can use C (Convert Wheel Format) to merge your wheel files into one large file, or to convert them into other formats. Your 'Convert Wheel Format' selection is described in this guidebook.

You can see a list of the wheels you have made, and you can view their contents. This is described below.

Listing and Viewing Your Wheels

At your Professional Wheeling main menu, press V (View/Edit/Rename/Delete). This gives you a menu for managing your wheels. The menu shows your options for listing and viewing your wheels.

You can see a list of your wheels with 'List Text (ASCII) Wheels'. As you view the list, you can view any wheel's combinations by pressing V (VIEW FILE).

Note - if you did not use a standard 'LDW' wheel name for your wheel, your 'List' screen may show an 'error' message: 'Error reading wheel file.' If you get this message, *you can disregard it.*

The message is there because the wheels *do not have a standard wheel name.* If you wish, you can use your R (Rename a Wheel) selection to give each wheel file a new name.

Import a Lotto Wheel

Overview: This program will convert a wheel that is in 'text' format into a wheel that you can play directly. It makes it into a 'Master' wheel for your Lotto program. After the conversion, both the 'Text' wheel and 'Master' wheel will be on your disk.

Wheels You Can Import

You can import wheels in an 'Alphabetic' (ABCDEF) or a 'Numeric' (1 2 3 4 5 6) format. The numeric format is used in your Professional Wheeling programs. The alphabetic format is sometimes found in lottery publications or other programs.

Note that you might have to edit wheels produced by other programs before you can import them. Wheels must contain only the combinations of the numbers. Any other text (such as 'comments' or 'descriptions') must be removed.

If you are importing a wheel from some other lottery program, you must first copy the wheel into your WHEELS directory, and you must give it a proper 'LDW' name. (See *Selecting a Wheel* for examples.) The directory is: C:\LDIR\WHEELS.

Starting

Start the program and select a wheel as described previously in this guidebook. See *Selecting a Wheel* for examples of how to enter the wheel name.

Identify the wheel you are importing as an 'Alphabetic' or a 'Numeric' wheel.

If you enter a wheel number of 500, 600, or 700, and are importing a Numeric wheel, the program will ask if you want to import a 'single' wheel or 'linked' files. Up to 100 'linked' wheel files can be made using your Professional Wheeling 'Make Large Linked Wheels' program. You can import all of them at once.

Entering the Wheel Type and Parameters

Your program will read the text wheel and check it for errors in the combinations. If the wheel is free of errors, you can then describe the kind of wheel you want.

The program will ask for a Wheel Type, and then for the Wheel Parameters. Enter values as shown on your screen to describe the new 'playable' wheel.

What Happens Next

You can play your wheel in the Lottery Director Lotto program. You can also check its quality (check for 'hits' and 'holes') in Professional Wheeling.

Export a Lotto Wheel

Overview: This program will convert a 'Master' wheel into a 'Text' wheel. You can then edit the wheel with your 'Files Editor'. After the conversion, both the 'Master' wheel and 'Text' wheel will be on your disk.

You might also play the wheel with other lottery software programs that accept 'text' wheels in a 'numeric' (1 2 3 4 5 6) format.

The Text wheel will have the same name as the playable wheel (like LDW60800), but will have the extension '.TXT' in its filename (example: LDW60800.TXT).

Wheels You Can Export

You can export any 'Master' wheel number from 401 to 800 that is on your disk.

You might also want to export a wheel that you previously imported. For example, suppose you created a 'Text' wheel, imported it, and then deleted the 'Text' wheel. If you need the 'Text' wheel again, just export the 'Master' version of the wheel. That will re-create the 'Text' wheel for you.

Starting

Start the program and select a wheel as described previously in this guidebook. (See *Selecting a Wheel* for examples of how to enter the wheel name.)

What Happens Next

Your program will read the playable wheel and check it for errors. If the wheel is free of errors, it will be made into a standard 'text' wheel.

You can edit the wheel with your 'Files Editor' program or any standard word processor program.

Your Files Editor: To use your 'Files Editor', just click on your **Files Editor** icon. You will find your Text wheel files in your: C:\LDIR\WHEELS folder. Look for the wheel files with the extension .TXT in their filenames (example: LDW60800.TXT).

You can also do other kinds of operations with the wheel in Professional Wheeling. For example, you can rename or copy the wheel, or change it to a different kind of 'pick' number by adding key numbers. You can then import the modified wheel.

Check Wheel Hits/Holes

Overview: This program will check a Lotto wheel with up to 64 numbers and 5000 combinations for valid winning combinations (called 'hits'), and for missing combinations (called 'holes'). It will report a summary of the wheel's average wins. It will also report a listing of 'hits' and 'holes'. If any 'holes' are found in the wheel, you have several options for repairing them automatically.

Wheels You Can Check and Repair Automatically

You can check and automatically repair any of the following wheel types:

Full	Expanded	2 Key Numbers	4 Key Numbers
Abbreviated	1 Key Number	3 Key Numbers	

You can check either the 'text' version or the 'playable' version of these wheels.

Note: When you check the 'text' version of any wheel, that wheel is still called a 'Custom' wheel by your program. This is because 'text' wheels do not have any Wheel Parameters assigned to them yet -- you assign the Wheel Parameters when you import a 'text' wheel and make it a 'playable' wheel.

You can still go ahead and check the 'text' version of a wheel - but you should know that you originally created it to be one of the wheel types listed above.

Wheels You Should Not Repair Automatically

You should not repair any wheel types other than those listed above. The reason for this is that the other wheels have ways of combining numbers that will look like 'holes' -- but which are really valid for the wheel. That is, the wheel could appear to contain 'holes' -- but it is really a good wheel for its kind of matching.

For example, a 'Skip 4' wheel only contains every fifth combination that is possible for its set of numbers. It plays a combination, then skips the next four, and so on. If you tried to check this wheel, the 'skipped' combinations would appear as 'holes' in the wheel. Actually, the wheel is a valid wheel of the 'Skip 4' type. It has the advantage of being able to play more lottery numbers by skipping some matches.

If you 'repaired the holes' in the 'Skip 4' wheel, you would really destroy the characteristics of the wheel. You should only repair the proper kinds of wheels.

Checking the Wheel's Quality If you only want to see how a wheel matches the numbers, you can still check the wheel in your 'Check Wheel Hits/Holes' program. This will show you the average wins that are in the wheel for various prize levels. Just ignore any 'holes' that are reported, and do not attempt to repair them.

An Example of Holes in a Wheel

Here is an example of a wheel that contains a hole.

This wheel is supposed to be a Pick-6 'Full' wheel with seven lottery numbers. If any six numbers are matched, the wheel is supposed to produce a ticket with six winning numbers on it, with an expected win percentage of 100 percent.

The wheel contains:

1 2 3 4 5 6	1 2 3 4 5 7	1 2 3 5 6 7
1 2 4 5 6 7	1 3 4 5 6 7	2 3 4 5 6 7

Hits If the lottery draws the numbers that the above combinations 'point' to, the wheel will have a ticket with 6 winners. All of the above combinations are 'hits'.

Hole One combination is missing in the wheel. If the lottery draws 1 2 3 4 6 7, the wheel will not produce a ticket with 6 winners. This combination is a 'hole'.

Note that the wheel would produce several tickets with 4 or 5 winners on them. However, this wheel is supposed to produce a ticket with 6 winners, so the missing combination is still a 'hole' in this wheel.

If you checked this wheel with your program, it would show you the wheel's 'hole' (as well as its 'hits'). You would have options for repairing the wheel. The program can fix the wheel by adding the missing combination. It can then store the repaired wheel on your disk.

Or, if you wish, you can instruct the program to leave the 'hole' in the wheel, and to calculate a reduced win percentage (less than 100%). Then it will store the wheel. This is still a 'repair' to the wheel, because now the wheel will work as described (it will match the field of 7 lottery numbers, with a known win probability).

Program Timing

When you check a large wheel (with many lottery numbers), it may take some time for the program to complete the checks. This is because the wheel has a large amount of possible matches, each of which must be checked. Naturally this time will also depend upon your computer's processing speed. It is not unusual for the program to take many minutes, or even many hours, to do all of the checks.

While it is running, your program will continuously report an 'estimated time' for it to complete the checking of the wheel. It will also give you an audio 'beep' signal every 5 minutes while it is checking.

You can let the program go ahead unattended, even if it must go for a long time. It can detect the wheel's 'holes', and repair them automatically, while it is running. Then, when the program is finished, you will have a completely repaired wheel.

Check Wheel Hits/Holes (Continued)

Starting

Start the program and select a wheel as described previously in this guidebook. (See *Selecting a Wheel* for examples of how to enter the wheel name.)

After you enter the wheel name, the program will ask you to choose the kind of wheel file to be checked – the ‘playable’ version of the wheel, or the ‘text’ version.

If you have just generated a ‘text’ wheel with Professional Wheeling and want to check it, choose the ‘text’ version of the wheel. Or, if you have already imported the wheel, choose the ‘playable’ version.

Note that the wheel file must already exist on your disk (this program only checks a wheel, it does not generate a wheel). The program will inform you if the wheel file is not found on the disk.

Viewing the Wheel Parameters

The program will read the wheel file, and will report the current Wheel Parameters. A typical screen is shown at the top of the next page.

Playable Wheel: After viewing the Wheel Parameters, you can check the wheel. The Wheel Parameters shown on your screen will be used for checking the wheel.

Text Wheel: If the wheel is a ‘text’ wheel, the Wheel Parameters on your screen are ‘starting’ parameters for the wheel. ‘Text’ wheels contain only combinations of numbers – they do not have any specifications for matching the numbers, or for a win level, or for a win percentage.

To check the ‘text’ wheel, you must first give it some basic Wheel Parameters. The program needs matching and winning information so it can check the wheel.

After viewing the ‘text’ wheel’s ‘starting’ parameters, press a key. Then enter the parameters you want to use for checking the wheel.

Setting the Amount of Checking

Next, you can specify how much of the wheel you want to check.

You can check for all of the possible matches that are valid for this type of wheel. You can check only for the matches between the wheel’s first and last combination. Or, you can enter a custom range of matches to be checked.

A typical screen is shown at the bottom of the next page.

Here is a typical screen showing Wheel Parameters:

```
READING WHEEL FILE:  .\WHEELS\LDW60800.WHL
-----
Current Wheel Parameters:
This is a 'Key One' wheel for a 'Pick-6' lottery.
It currently contains 20 numbers in 22 combinations.
Its current Match Quantity is 4 for a Win Size of 3.
Its current Win Probability is 100% for a good match.

The Wheel File is now ready for you to begin checking.
-----
Press a key to begin checking:  > _
```

Here is a typical screen for specifying how much of the wheel you want to check:

```
Amount of Checking:
How much of the wheel do you want to check?
-----
You can check all of the possible Matches, or just a part of them:

A  ALL possible Matches.
   This will check for the entire range of possible matches.

W  WHEEL'S range of Matches.
   This will check only for the matches in the range between
   the first and the last combinations actually in the wheel.

C  CUSTOM range of Matches.
   You can enter a range of matches that you want to check.

X  EXIT without making a selection.
   You will exit the program.

Your choice: >
```

After you have specified this information, the program will check the wheel.

Check Wheel Hits/Holes (Continued)

Checking the Wheel

As your program checks the wheel, it shows you a summary of its progress. Here is a typical summary screen:

```
Checking the Wheel:                                LDW60800.WHL
This is the Check Summary. Press any key to continue: > _
Repair: Manual
-----
Checks done: 969
More to go: 0
Estimated time: ....
Percent done: 100%
Average Hits: 3.5
           Hits: 953
           Holes: 16
```

Checks done: This shows how many checks have been completed in the wheel.

More to go: This shows how many checks are remaining to be done.

Estimated time: This is the estimated time the program will need to complete the checks. This time will count down to zero as the program checks the wheel.

The estimated time appears after the first 30 seconds of time have elapsed. In the screen example above, the wheel was completely checked within 30 seconds.

Note that *this is not a clock* - it is a running estimate of the time that is remaining. If the program is making a complex series of checks, the time will count down very slowly, or even stand still for a while. If the checks are simple, it will count down quickly. The program sounds a 'beep' signal as it completes each five minutes of remaining time.

Percent done: This shows how much of the wheel has been checked so far.

Average Hits: This shows the average winning performance of the wheel so far. It shows the average winners that are being found in the wheel's combinations.

Hits: This is the total quantity of valid winning matches found in the wheel.

Holes: This is the total quantity of missing matches in the wheel. You have several kinds of options to repair these holes.

Getting More Information About the Wheel

While the program is checking the wheel, you can press a key and get detailed information about the wheel. When you press a key, you'll get this menu:

```
Checking the Wheel:                                LDW60800.WHL
                                                    Repair: Manual
Select your next action from the menu below: > _
-----
      T  View the Top Hits
      O  View the Holes
      N  View the Numbers Distribution
      C  Continue Checking the Wheel
      F  Force Repair and Continue Checking
      P  Print the Hits, Holes, or Combinations

      Q  Quit -- Stop Checking
```

View the Hits and Holes: You can view a list of 'hits' and 'holes' that have been found in the wheel so far. You'll find examples on the next pages of this book.

Numbers Distribution: You can see how numbers are distributed in the wheel. This shows how many times each number will occur when you play the wheel.

Force Repair and Continue Checking: You have options for setting a repair mode, forcing an immediate repair, and continuing with the checking of the wheel.

Print the Hits, Holes, or Combinations: You can print the wheel to keep a record of its details.

Check Wheel Hits/Holes (Continued)

Viewing the Hits

You can see the list of 'hits' found in the wheel. Here is a typical screen:

```
Here are the 953 top Hits:
1)  1  2  3  4  [ 4]          21) 1  2  4  8  [ 3]
2)  1  2  3  5  [ 4]          22) 1  2  4  9  [ 5]
3)  1  2  3  6  [ 5]          23) 1  2  4 10  [ 3]
4)  1  2  3  7  [ 4]          24) 1  2  4 11  [ 7]
5)  1  2  3  8  [ 4]          25) 1  2  4 12  [ 4]
6)  1  2  3  9  [ 6]          26) 1  2  4 13  [ 4]
7)  1  2  3 10  [ 3]          27) 1  2  4 14  [ 2]
8)  1  2  3 11  [ 6]          28) 1  2  4 15  [ 4]
9)  1  2  3 12  [ 2]          29) 1  2  4 16  [ 3]
10) 1  2  3 13  [ 4]          30) 1  2  4 17  [ 5]
11) 1  2  3 14  [ 5]          31) 1  2  4 18  [ 5]
12) 1  2  3 15  [ 6]          32) 1  2  4 19  [ 3]
13) 1  2  3 16  [ 4]          33) 1  2  4 20  [ 2]
14) 1  2  3 17  [ 5]          34) 1  2  5  6  [ 4]
15) 1  2  3 18  [ 4]          35) 1  2  5  7  [ 3]
16) 1  2  3 19  [ 2]          36) 1  2  5  8  [ 5]
17) 1  2  3 20  [ 2]          37) 1  2  5  9  [ 5]
18) 1  2  4  5  [ 4]          38) 1  2  5 10  [ 3]
19) 1  2  4  6  [ 3]          39) 1  2  5 11  [ 6]
20) 1  2  4  7  [ 5]          40) 1  2  5 12  [ 4]

Press N (NEXT), P (PREVIOUS), T (TOP), B (BOTTOM), S (SCAN), M (MENU): > _
```

The first 10,000 hits are stored for you to view. Usually these contain the pointers to your highest priority numbers – the ones that you would play in the wheel first. Note that your program checks *all* hits. You can view the first 10,000 of them.

What is a 'Hit'? A 'hit' is a combination that will produce one or more winners when its numbers are drawn by the lottery. For example, see the 'hits' above. This wheel is a 'Match-4' wheel, so every 'hit' combination contains 4 numbers. The first combination (1 2 3 4) points to the first four lottery numbers that you would play in the wheel. The amount in the brackets [4] is the amount of wins.

If your lottery draws those four numbers – out of the six numbers in its drawing – then you will have 4 winning tickets, each with the wheel's specified 'Win Size'.

The 'Win Size' is the amount of winning numbers that are on each winning ticket.

For example, if the above wheel is a 'Match-4 to Win-3' wheel, then the wheel's 'Win Size' is 3. You would have 4 tickets with 3 winning numbers on each ticket. Both the 'Match Size' and 'Win Size' are specified in the Wheel Parameters.

Viewing the Holes

You can see the list of 'holes' found in the wheel. Here is a typical screen:

```
Here are the 16 Holes:
1) 1 2 16 19
2) 1 2 19 20
3) 1 3 18 20
4) 1 3 19 20
5) 1 4 8 20
6) 1 4 10 20
7) 1 4 15 20
8) 1 5 7 17
9) 1 6 18 20
10) 1 7 17 19
11) 1 7 19 20
12) 1 10 13 18
13) 1 10 18 20
14) 1 10 19 20
15) 1 13 16 18
16) 1 14 16 18

Press N (NEXT), P (PREVIOUS), T (TOP), B (BOTTOM), S (SCAN), M (MENU): > _
```

Your program checks *all* of the holes in the wheel. The first 1,000 are stored for you to view. A wheel that has more than a few dozen holes may give you some difficulty in matching your numbers – unless you are willing to accept the holes.

What is a 'Hole'? A 'hole' is a combination that will not produce any winner when its numbers are drawn by the lottery. For example, see the list of 'holes' above. This wheel is a 'Match-4' wheel, so every 'hole' combination contains 4 numbers. The first combination (1 2 16 19) points to the 1st, 2nd, 16th, and 19th lottery numbers that you would play in the wheel.

If your lottery draws those four numbers – out of the six numbers in its drawing – then you will not have any winner at the wheel's 'Win Size'.

For example, if the above wheel is a 'Match-4 to Win-3' wheel, and the lottery draws those four numbers, you would not have a ticket with 3 winning numbers.

You might have a ticket – or even several tickets – with 2 winning numbers or with 1 winning number. But you will not have a ticket with the wheel's 'Win Size' of 3.

In order for the wheel to give you a 3-number win, you would have to repair the holes in the wheel. You'll find several ways to do this, starting on the next page.

Check Wheel Hits/Holes (Continued)

Repairing the Wheel - During Checking

You have several ways to repair holes as they are being found in the wheel. You can select 'Force Repair and Continue Checking'. You'll get this menu:

Please press a key to make a selection:		
Automatic Repair	A	Automatically Repair Holes - Each Occurrence
	F	Automatically Repair Holes - Groups of Five
	T	Automatically Repair Holes - Groups of Ten
	Y	Automatically Repair Holes - Groups of Fifty
Manual Repair	M	Manually Force All Repairs
No Repair	S	Store Current Holes in Hole File
	W	Write Holes to Hole File -- Groups of 1,000
	C	Clear Holes List Only
	Esc	Exit to Menu
Your choice: > _		

Automatic Repair: You have four options for automatically repairing holes. 'Each Occurrence' will repair each hole as soon as it is found in the wheel.

You can also repair them in 'Groups' - that is, after 5, 10, or 50 holes are found.

Your best choice for repairing depends on each wheel - on how many holes it has. If the wheel has only a few holes, you might want to repair each one as it is found. If it has many holes, the repair will be more efficient if you repair them in groups.

Manual Repair: This option will repair any holes that have already been found. If you have been using one of the automatic repair options, this will cancel it. You can always return to this menu and select one of the automatic options again. Or, you can return to this menu and repair any new holes manually.

No Repair: You have three options for making 'no repair' to the wheel. You can store the current holes into a 'Hole File' on your disk (this also clears the holes list). You can also have the program do this automatically each time it reaches a total of 1,000 holes. Or, you can just clear the holes list, with no further action. Any of these selections will cancel any automatic repair options you have been using.

Repairing the Wheel - After Checking

After the program is finished checking the wheel, you'll get this menu:

```
Checking the Wheel:                                LDW60000.WHL
Select your next action from the menu below: > _  Repair: Manual
-----
T  View the Top Hits
O  View the Holes
M  View the Numbers Distribution
M  View the Matching Totals and Averages
S  See the Summary again
R  Go to the Repair Menu
P  Print the Hits, Holes, or Combinations

Q  Quit -- Stop Checking
```

If the wheel has holes, select 'Go to the Repair Menu'. Then you'll get this menu:

```
Repairing the Wheel:
The wheel now has 22 combinations.  Its Win Percentage is 100%.
16 Holes were found in the wheel.
-----
Your repair options are:
A  ADD combinations to the wheel.
   ... The repaired wheel will have 28 combinations.
   ... Its Win Percentage will be 100%.
R  REDUCE the wheel's Win Percentage.
   ... The repaired wheel will have 22 combinations.
   ... Its Win Percentage will be 98%.
S  Store Current Holes in Hole File.
   ... No further repairs will be made to the wheel.
M  Return to the Check Menu.

Your choice: > _
```

The Repair Menu explains your options. Choose any option to repair the wheel.

Check Wheel Hits/Holes (Continued)

Other Options in Your Program

When the program is finished checking the wheel, this menu will appear:

```
Checking the Wheel:                                LDW60800.WHL
Select your next action from the menu below: > _  Repair: Manual
-----
T  View the Top Hits
O  View the Holes
N  View the Numbers Distribution
M  View the Matching Totals and Averages
S  See the Summary again
R  Go to the Repair Menu
P  Print the Hits, Holes, or Combinations

Q  Quit -- Stop Checking
```

These are your options:

View the Hits and Holes: You can view the first 10,000 'hits', and see how many winners each one will produce. If there are any 'holes', you can view up to 1,000 of them. If the wheel has already been repaired, there are no holes to view. You'll find a description of 'hits' and 'holes' on previous pages in this guidebook.

Numbers Distribution: This shows how many times each number occurs in the wheel. If the wheel has been repaired, this shows the final distribution of numbers.

Matching Totals and Averages: This shows total hits, holes, and combinations in the wheel. It also shows the average amount of wins for various win sizes.

Summary: This shows the screen that the program displayed during checking. It gives you a summary of the hits and holes that were found in the wheel.

Repair Menu: If the wheel has not been repaired yet, select this menu to do so.

Print: You can print a copy of the wheel's hits, holes, and combinations.

Viewing the Matching Totals and Averages

When you select 'View the Matching Totals and Averages', you'll get a screen like the one below. This screen is available only after the wheel has been checked.

```
Matching Totals and Averages:                LDM60800.WHL
                                             Repair: Manual
-----
These are the Matching results. Press any key to continue: > _

Wheel:  20 Numbers.  Match-4 to Win-3 (100%).  28 Combinations.
Total 4-Number Matches in the wheel: 969    Holes: 0
100% of the Matches were checked: 969 of 969
Matching 4 of the wheel's 20 numbers gives these average wins:
      2-Number Wins:    10.33
      3-Number Wins:     3.18
      4-Number Wins:     0.23

Repairs were made.  Re-checking the wheel may improve these averages.
```

This screen shows the total combinations, hits, and holes that are in the wheel. It also shows the average wins that the wheel will produce at various prize levels. If repairs were made, the average wins may improve if you re-check the wheel.

What to Do Next

When you are finished checking the wheel, and you want to exit the program, you can press **Q** (Quit - Stop Checking) at the menu shown on the previous page. When you do this, the program will ask you to confirm that you want to exit. You can exit, or you can return to the program.

If you exit, and have not checked the wheel completely, you will have an option for storing the wheel's status on your disk. Later, you can re-start the program and resume checking the wheel where you left off.

Finally, as you exit the program, you'll see a summary screen showing the actions that have been taken in checking and repairing the wheel.

Convert Wheel Format

Overview: This program will convert a wheel in the Lottery Director 'text' format (1 2 3 4 5 6) into another 'text' format on your disk. The resulting 'text' format can be the Alphabetic (ABCDEF) or another kind of Numeric (010203040506) format. You can use these wheel formats with other programs that support them.

You have an option to store the resulting wheel as a series of separate wheel files, or to merge it together into one wheel file.

Wheels You Can Convert

The wheels you are converting must be named CUSTOM00 through CUSTOM99. You can use 'Make Large Linked Wheels' to create wheels with these names.

If you store the final wheels as separate files, they will keep these same names. If you merge the wheels into one file, it will have the name MAXWHEEL.

Starting

Start the program as described previously in this guidebook. Enter the wheel names you want to convert. A typical screen for doing this is shown below.

Wheel Selection:

Please enter a number (00 to 99) to select your wheel files.

Then enter the amount (2 to 9) of numbers in each combination.

Start with Wheel File: CUSTOM00

Stop after Wheel File: CUSTOM99

Size of Each Combination: (2-9) 6

Press any key to continue: > _

Select the kind of conversion method you want to use (Alphabetic or Numeric):

```
Conversion Method:
Please choose the kind of conversion you want.

A Alphabetic conversion . . . ABCDEF
N Numeric conversion . . . . 010203040506

Your choice: > _
```

Select the file merge method you want to use (Merged or Separate files):

```
File Merge Method:
Do you want to Merge the wheel files into a single wheel file?

M Merge the converted files into one combined file
S Keep the converted wheel files separate

Your choice: > _
```

Your wheel files will be converted. They will be listed with 'Show Wheel Notes', and you can see their contents with 'View Text Wheel Combinations'.

Your Wheel Management Menu

Overview: Your Professional Wheeling main menu has a selection that is labeled V (View/Edit/Rename/Delete). It takes you to your Wheel Management menu:

```
WHEEL MANAGEMENT SELECTIONS
-----
M  List 'Master' Wheels          K  Key Number Options
T  List Text (ASCII) Wheels      R  Rename a Wheel
B  List Backup Wheels           C  Copy a Wheel
N  Show Wheel Names             X  Delete a Wheel
P  Show Wheel Parameters        F  Restore Wheel From Backup
V  View Text Wheel Combinations A  Convert Alpha to Numeric
J  Join Text Wheel Combinations D  Develop Advanced Wheels
E  Edit Text Wheel Combinations H  Help with these selections
S  Sort Text Wheel Combinations Esc Exit to Main Menu

Your choice: >
```

Here is an overview of your menu:

List 'Master', Text, and Backup Wheels

You can see a complete list of your Master, Text, and Backup wheels. The list will show each wheel's name, with its total numbers and combinations. You can also view the contents of Text and Backup wheels from this list.

Show Wheel Names

This shows you a complete listing of all the custom wheels you have made so far. It gives you the full list of your custom wheel files in your WHEELS directory.

Text wheels will have a 'TXT' extension following their file names. Those are the wheels you have created or brought in from other sources.

Master wheels will have a 'WHL' extension following their file names. Those are the wheels you have imported into your Lottery Director Lotto program.

Backup wheels have a 'BAK' extension, and Hole files have a 'HOL' extension.

Show Wheel Parameters

You can select a playable wheel, and see its complete set of Wheel Parameters.

View, Join, Edit, and Sort Text Wheel Combinations

You have two options for viewing the contents (combinations) of a Text wheel file. You can join (merge) two Text wheel files together, to combine them into one wheel. You can edit (modify) a Text wheel file, or you can create a new wheel manually. You can also sort a Text wheel's combinations into the proper numerical order. This is most useful after you have joined two wheels. It will also eliminate any duplicate combinations found in the wheel.

Key Number Options

You can automatically add or remove a 'Key' number in every combination in a Text wheel. For example, adding a 'Key' number to a Pick-5 wheel makes it a Pick-6 wheel. Removing a number from a Pick-6 wheel makes it a Pick-5 wheel.

Rename, Copy, or Delete a Wheel

You can rename any wheel – to give it a different wheel name or number. You can make a duplicate copy of any wheel. You can delete any wheel.

Restore Wheel From Backup

When you edit (modify) a wheel using the built-in Files Editor, you can save a backup copy of the original wheel. Later, if you decide that you do not want to use the modified wheel, you can restore the backup version.

Convert Alpha to Numeric

All of the Text wheels used in Professional Wheeling use a 'numeric' format. Some other programs use an 'alphabetic' format. You can automatically convert those 'alphabetic' wheels to the 'numeric' format for use in Professional Wheeling.

Develop Advanced Wheels

This gives you an overview of the ways you can continue with your wheels after importing them into the Lottery Director Lotto program. It outlines how you can test a wheel using a game's history. It describes using your Lotto program's filters to match a game's trends and fit a wheel to your playing goal and budget.

List Master, Text, Backup Wheels

Overview: These three menu selections give you a list of your Master, Text, and Backup wheel files. For each Master wheel that is listed, it shows the wheel's quantity of numbers, matching requirements, win goal, and total combinations. For Text and Backup wheels, it shows the quantity of numbers and combinations.

Up to 160 wheel files of each type can be listed on your screen. If you have more than this, you can see them listed in 'Show Wheel Notes' on the same menu.

Using This Selection

Make the selection from your Wheel Management menu.

Your wheel files will be listed on your screen. The top line on your screen will show the parameters for the currently selected wheel.

You can use your keyboard's 'arrow' keys to move through the list of wheels. You can also use the 'Home' and 'End' keys to go to the top and bottom of the list.

Viewing Text Wheels: If you are viewing a list of Text wheels or Backup wheels, you can look into the wheel and see its combinations. Just press V (VIEW FILE), as shown on the bottom of your screen. You can also just press Enter to do this.

As you view the combinations, you can use your keys to move up and down in the wheel. The bottom line of your 'view' screen shows your keyboard options. After viewing the combinations, press Escape to return to your list of wheels.

Note that you can view the combinations in Text or Backup wheels in this way. Master wheels cannot be viewed directly. You could, of course, use your 'export' program to export a Master wheel. That will convert it into a Text wheel. Then you can view the wheel's Text version.

Error Message: If you see the message 'Error reading wheel file', check the wheel's name. Wheels need a valid Master wheel name (even when they are in the Text format), in order to list their parameters. See *Selecting a Wheel* in this guidebook, for examples of wheel names.

If the wheel's name appears valid, check its contents. Text wheels should contain only combinations of numbers, without any 'comments' or other text. Even with the error message, you can view the text wheel by pressing V (VIEW FILE).

Show Wheel Parameters

Overview: This selection shows you the Wheel Parameters of 'playable' wheels.

This is a convenient way to view the parameters for a 'playable' wheel, without having to select it or play it in one of your programs.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the name of the wheel you want to examine. (See *Selecting a Wheel* for examples of how to enter the wheel name.)

Your program will look for the wheel on your disk. If the wheel does not exist, a message will inform you.

If the wheel exists, its Wheel Parameters will be displayed on your screen.

Playable Wheel Parameters: Here are the parameters for a playable wheel:

Parameter	Meaning
Wheel Type	How the wheel matches the lottery's numbers
Pick Value	How many lottery numbers are in each combination
Numbers	How many lottery numbers are played in the wheel
Combinations	How many tickets will be produced by the wheel
Match Quantity	How many numbers must be matched for a win
Win Size	How many winning numbers will be on a ticket
Win Probability	Expected win percentage for a valid match.

View Text Wheel Combinations

Overview: This selection shows you the combinations of numbers in Text wheels. You have several options for viewing your wheels.

Using Your 'Files Editor' Instead

Instead of this viewing method, you may find it easier to use your **'Files Editor'**.

Just click on your **Files Editor** icon. With your Files Editor running, go to this folder: C:\LDIR\WHEELS and you'll see all of your Text wheels there.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the text wheel you want to view. If you are not sure about the wheel name, return to your menu and use 'List Text (ASCII) Wheels' to see a list of the text wheels on your disk.

Select a view mode: Normal or Automatic.

Normal Mode: In the Normal mode, you can use your keyboard to move up or down through the combinations in the wheel.

Automatic Mode: In the Automatic mode, the combinations will scroll on your screen automatically. You can control the speed of the scrolling, and you can stop the scrolling completely. Use your keyboard 'minus' (-) key and 'plus' (+) key to control the scrolling speed. You can also use your 'Page Up', 'Page Down', and 'Home' keys to move to different parts of your wheel.

The Automatic mode can only be used when you are viewing in 'Full Screen' on your monitor (not in a window). You can switch to Full Screen by pressing 'Alt-Enter'. To do this, hold down your keyboard's 'Alt' key, and press Enter. Repeat this to return to the window view.

The program will look for the text wheel file on your disk. If the wheel does not exist, the program will exit this selection and return to your menu. If the wheel exists, its combinations will be listed on your screen.

Press Escape when you are finished viewing the wheel. You'll return to your menu.

Edit Text Wheel Combinations

Overview: This selection enables you to edit (modify) the contents of Text wheels. You can enter new combinations, change, or delete combinations in the wheel.

This selection opens your **'Files Editor'** for editing your wheel. You can also open your editor by clicking on your **Files Editor** icon.

Using This Selection

To use the Files Editor, select 'Edit Text Wheel Combinations' from your Wheel Management menu.

Enter the wheel name of the text wheel you want to edit. If you are not sure about the wheel name, return to your menu and use 'List Text (ASCII) Wheels' to see a list of the text wheels on your disk.

Saving Your Wheel File

When you create a new wheel, or edit a wheel, you will want to 'save' your wheel file on your hard disk. Select 'Save' or 'Save as...' in your Files Editor to do this.

All of your wheels are stored in the folder: C:\LDIR\WHEELS on your C: drive. Each wheel file uses the file extension .TXT or .BAK to show what kind of wheel it is. You can use either of these extensions when you save your wheel.

You will probably use the .TXT extension most often. This identifies your wheel as a standard 'Text' wheel. While you are working on a wheel, you might want to store the wheel using the .BAK extension. This identifies the wheel as one of your 'Backup' wheels. It gives you a second way to store your wheel. If you change your mind while you are developing a wheel, you can always restore its earlier version from your Backup copy.

Here is a summary of the file extensions you may see in your Wheels folder. Always be sure to use *only* the .TXT and .BAK extensions.

Extension	Type of Wheel
.TXT	Text Wheel (OK to Use)
.BAK	Backup Wheel (OK to Use)
All Others	DO NOT USE.

Join Text Wheel Combinations

Overview: This selection joins two Text wheels together, and merges them into one wheel. The result is a wheel containing the combinations from both wheels.

Your main use of this selection is to combine two wheels that you have created.

When you use this selection, the program will ask you for two wheel names. It will join the *second* wheel to the *first* wheel. The second wheel's combinations will be added to the end of the first wheel, and the final wheel will be written on your disk.

Your first wheel's name will be the final wheel's name.

When the two wheels are joined, here is what they will contain:

- Your first wheel will contain the combinations of both wheels. It will have the same wheel name as before.
- Your second wheel will not be affected in any way.

Note that the size of the final combined wheel cannot exceed 5000 combinations. The two wheels should be of the same 'pick' size -- for example, Pick-5 or Pick-6.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the first text wheel. Then enter the name of the second text wheel.

If you are not sure about the wheel names, return to your menu and use 'List Text (ASCII) Wheels' to see a list of the text wheels on your disk.

After joining the wheels you can use your 'Sort Text Wheel Combinations' program. This will sort the final wheel's combinations into the proper numerical order. It will also eliminate any duplicate combinations that might be in the wheel.

Sort Text Wheel Combinations

Overview: This selection sorts the contents of a Text wheel into numerical order. First it places the individual numbers in each combination into the proper order. Then it places all of the combinations in the wheel into the proper order.

This selection also checks for any duplicate combinations, and eliminates them.

Your main use of this selection is after editing a wheel, or after joining two wheels.

Note: Text wheels will also be sorted automatically when you import them, and when you check them for hits and holes. However, duplicate combinations will only be eliminated by the 'Sort Text Wheel Combinations' program.

Here is an example of a sorted wheel. At the left, the wheel is shown as it might appear before sorting. After sorting, it will be rearranged as shown on the right. First, the numbers will be sorted in each combination, and then all of the wheel's combinations will be sorted.

Before	After
4 7 8 9 11 10	1 2 3 4 5 6
1 2 3 5 4 6	2 3 4 9 10 11
4 3 5 6 7 8	3 4 5 6 7 8
3 4 2 9 10 11	4 7 8 9 10 11

The program also checks for invalid combinations in the wheel. For example, 1 2 2 3 4 5 is not a valid combination. If this kind of combination is found, you'll see a message on your screen, so you can edit the wheel and correct it.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the text wheel you want to sort. If you are not sure about the wheel name, return to your menu and use 'List Text (ASCII) Wheels' to see a list of the text wheels on your disk.

Note that you can enter any wheel name (even one without 'LDW' in its name). This allows you to sort a wheel with a 'custom' name while you are developing it.

Next, enter the 'pick' size of the wheel (for example, enter 6 for a Pick-6 wheel). The program will look for the text wheel file on your disk. If the wheel does not exist, a message will inform you. If the wheel exists, it will be sorted.

Key Number Options

Overview: This selection opens a menu for managing 'Key' numbers in wheels. You can add or remove a 'Key' number in an existing text wheel.

A 'Key' number is one that appears in every combination in the wheel. When you add a 'Key' number, the 'pick' size of the wheel will be raised by one (for example, from Pick-5 to Pick-6). When you remove a 'Key' number, the 'pick' size will be reduced by one (for example, from Pick-6 to Pick-5).

For example, you can make a 'Pick-3' wheel with 'Make Large Linked Wheels'. You could not use a 'Pick-3' wheel directly for Pick-5 or Pick-6 lottery games. However, you can now add 'Key' numbers, and make your new wheel into a true Pick-5 or Pick-6 wheel. The final wheel can cover a large field of numbers.

Here is another example. You could create a Pick-7 'Zone' wheel with 21 numbers using 'Make a Zone Numbers Wheel'. Then you can remove the 'Key' number. This will give you a Pick-6 wheel with 20 numbers, that contains only 'Zones'.

When the program adds or removes the 'Key' number, a new wheel is stored on your disk. You will have two wheel files - the original wheel, and the new wheel.

The new wheel will have the same name as the original wheel, with the 'pick' value changed by one. For example, if you add a 'Key' number to a wheel LDW50800 (a Pick-5 wheel), you will create a new LDW60800 (a Pick-6 wheel). Note how the 'pick' value is higher in the new wheel name, when the 'Key' number is added.

This will replace any existing text wheel that has this wheel name, so if you want to keep that wheel, you should rename it before you use this 'Key' number selection.

Using This Selection

Make the selection from your Wheel Management menu. Then, at the next menu, choose either 'Add a Key Number' or 'Remove a Key Number'.

Enter the wheel name of the text wheel you want to use. If you are not sure about the wheel name, return to your menu and use 'List Text (ASCII) Wheels'.

Enter the 'pick size' of the original wheel. For example, enter 6 for a Pick-6 wheel. If the wheel does not exist on your disk, a message will inform you.

Adding: If you are adding a number, it will be added into each combination.

Removing: If you are removing a number, the first number will be removed from each combination. It will be removed whether or not it is a true 'Key' number.

Rename a Wheel

Overview: This selection changes the wheel name of an existing wheel.

You can rename a Playable wheel, Text wheel, or Backup wheel. The contents of the wheel are not changed. Only its name is changed.

Playable Wheels: These are 'Master' wheels that are ready to play. As you make a new wheel, you might want to give it a 'temporary' name with a high wheel number – like LDW60800. You can use this name as you develop your wheel. Then, when your wheel is finished, you can give it a new name with a lower wheel number – like LDW60401. As you finish each wheel, you can rename it to place it into the same numerical sequence with all your other finished wheels.

Text Wheels: These are wheels that are generated by Professional Wheeling. You can also create them with your Files Editor or any standard wordprocessor. You might want to use a high number while making a new wheel – as described above for Playable wheels – and then rename the wheel when it is finished.

Backup Wheels: These are wheels that you can save on your hard disk when you use your 'Edit Text Wheel Combinations' selection. Each time you edit a text wheel, you might want to make a Backup of the current version. If you have a previous Backup of that wheel and you want to preserve it, you can rename it.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the wheel you want to rename. If you are not sure about the wheel name, return to your menu and use your 'List' selections – to see a list of the Master, Text, or Backup wheels on your disk.

The program will ask you to identify the wheel type: Playable, Text, or Backup. Press a key to identify the type of wheel you want to rename.

Next, the program will ask you to enter a new wheel name. This is the new name that you want to give to the wheel. Enter the new wheel name.

If the original wheel name exists on your disk, and the new name is not already used, your program will rename the wheel. Then you'll return to your menu. You can see the new wheel name in your 'List' selections.

Copy a Wheel

Overview: This selection makes a copy of an existing wheel.

You can copy a Playable wheel, Text wheel, or Backup wheel. You'll have two wheels – the original wheel, and the copy – each with a different name.

Playable Wheels: These are 'Master' wheels that are ready to play. If you 'import' a Text wheel that you are developing, you make a new Playable wheel. You might want to make a copy of the wheel, so you'll have wheels with different names. Then you can play one of them as you continue to develop the other.

Text Wheels: These are wheels that are generated by Professional Wheeling. You can also create them with your Files Editor or any standard wordprocessor. You might want to use different copies of a wheel as described above.

Backup Wheels: These are wheels that you can save on your hard disk when you use your 'Edit Text Wheel Combinations' selection. Each time you edit a text wheel, you might want to make a Backup of the current version. If you have a previous Backup and you want to preserve it, you can make a copy of it.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the wheel you want to copy. If you are not sure about the wheel name, return to your menu and use your 'List' selections – to see a list of the Master, Text, or Backup wheels on your disk.

The program will ask you to identify the wheel type: Playable, Text, or Backup. Press a key to identify the type of wheel you want to copy.

Next, the program will ask you to enter a new wheel name. This is the name of the new copy of the wheel. Enter the new wheel name.

If the original wheel name exists on your disk, your program will then make a copy of the wheel. Then you'll return to your menu. You can see the original and copy in your 'List' selections.

Delete a Wheel

Overview: This selection removes a wheel permanently from your disk.

You can delete a Playable wheel, Text wheel, or Backup wheel. You can also delete all of the Backup wheels together as a group.

Playable Wheels: These are 'Master' wheels that are ready to play. If you have made several versions of a wheel, you might want to delete one of them.

Text Wheels: These are wheels that are generated by Professional Wheeling. You might want to delete a Text version of a wheel when you are finished with it.

Backup Wheels: These are wheels that you can save on your hard disk when you use your 'Edit Text Wheel Combinations' selection. If you are finished with your wheel, and no longer need the Backup copy, you can delete it.

Also, you can simultaneously delete *all of the Backup wheels* on your disk. You might find this useful if you have accumulated many Backup wheels - from editing many Text wheels over a period of time. When you feel that you are finished with your editing, you can remove all of the Backup wheels and get more disk space.

Using This Selection

Make the selection from your Wheel Management menu.

The program will ask you to identify the type of delete: Delete a Single Wheel, or Delete all Backup Wheels. Press a key to make your selection.

Deleting a Single Wheel: Enter the wheel name of the wheel you want to delete. If you are not sure about the wheel name, return to your menu and use your 'List' selections - to see a list of the Master, Text, or Backup wheels.

The program will ask you to identify the wheel type: Playable, Text, or Backup. Press a key to identify the type of wheel you want to delete.

If the wheel name exists on your disk, your program will then delete the wheel. Then you'll return to your menu. The wheel should no longer be listed in your 'List' selections.

Deleting all Backup Wheels: The program will ask you to confirm the delete. Press a key to delete all of the Backup wheels, or to return to your menu.

Restore Wheel From Backup

Overview: This selection restores the most recent version of a text wheel.

Each time you use your 'Edit Text Wheel Combinations' selection to edit a Text wheel, you can save a Backup copy of the wheel. The Backup copy is stored on your disk. You now have two versions on your disk – the wheel that you are still editing, and your most recent Backup version.

Having Backup versions of your wheel gives you a way to 'change your mind' while you are developing and testing your wheels.

If you decide that you don't want to use the edited wheel, you can 'restore' the wheel from the Backup and you'll have your previous version of the wheel again.

When you restore the wheel from the Backup, you'll get the last Backup version that you saved.

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the wheel you want to restore. If you are not sure about the wheel name, return to your menu and use your 'List Backup Wheels' selection – to see a list of the Backup wheels.

If the Backup wheel exists on your disk, it will be copied to the Text wheel file with the same wheel name. The Text wheel will now be the same as the Backup wheel. Then you'll return to your menu.

If the Backup wheel does not exist on your disk, you'll just return to your menu.

You can use 'List Text (ASCII) Wheels', or 'View Text Wheel Combinations' to see the restored version of the wheel.

Convert Alpha to Numeric

Overview: This selection converts a text wheel that is in Alphabetic format into a text wheel in Numeric format. The Alphabetic version is removed from your disk.

Some lottery publications and software programs show wheel combinations in an Alphabetic (ABCDEF) format. Others use a Numeric (1 2 3 4 5 6) format. Your Professional Wheeling programs require the wheels to be in the Numeric format.

If you are creating a new wheel with your 'Edit Text Wheel Combinations' selection from a publication that uses the Alphabetic format, you can enter it in that format. Then you can use your 'Convert Alpha to Numeric' selection to convert the wheel.

If you have wheels that you made for another lottery program in Alphabetic format, you can convert them to the Numeric format. It is not necessary to re-enter the wheel's combinations manually. In this case, just remember to copy the wheel file to the Professional Wheeling program wheels directory (C:\LDIR\WHEELS) first. The Alphabetic wheel must also be given a standard Master wheel name (see *Selecting a Wheel* for examples). Then convert the wheel to the Numeric format.

Here is an example of a wheel conversion from Alphabetic to Numeric format:

Before	After
ABCDEF	1 2 3 4 5 6
BCDIGK	2 3 4 9 10 11
CHEFS	3 4 5 6 7 8
DG.IGK	4 7 8 9 10 11

Using This Selection

Make the selection from your Wheel Management menu.

Enter the wheel name of the wheel you want to convert. If you are not sure about the wheel name, return to your menu and use your 'List Text (ASCII) Wheels' selection - to see a list of the Text wheels on your disk. Wheels in Alphabetic format will be identified on the top line of your 'List' screen.

If the Alphabetic wheel exists on your disk, it will be converted to Numeric format. The wheel will have the same wheel name. Then you'll return to your menu.

If the Alphabetic wheel combinations cannot be read, you'll get an error message. Check the wheel with your 'View Text Wheel Combinations' selection. The wheel must contain only Alphabetic combinations - without any other kind of text.

If the Alphabetic wheel does not exist on your disk, you'll just return to your menu.

Questions and Answers

This section contains helpful ideas and suggestions for using Lottery Director.

● Every wheel has a 'Wheel Type'. What does this do for the wheel?

The 'Wheel Type' describes how the wheel's combinations are supposed to match the lottery's winning numbers, in order to win a prize. For example, a 'Full' wheel is one that matches every possible combination of the numbers that are played in the wheel. This is assuming that the wheel was made correctly.

An 'Abbreviated' wheel, on the other hand, does not attempt to match every possible combination of numbers. It only matches combinations that will result in a lower prize, for example the second or third prize. This is a much less costly wheel to play than a 'Full' wheel, because fewer combinations are needed to match the second or third prize. Like all wheels, the 'Abbreviated' wheel must be free of 'holes' for its combinations to win prizes.

Note that the 'Wheel Type' only *describes* the kind of performance intended for the wheel. It does not *make* the wheel perform. For example, you might call a wheel a 'Full' wheel even though it has many holes. This would be an error. You must always check a wheel before being sure that you can call it correctly. Professional Wheeling can check 'Full', 'Abbreviated', 'Expanded', and 'Key' wheels directly, and can automatically repair their 'holes'. It can check other kinds of wheels also, but cannot automatically repair 'holes' in them.

Generally, you can add more combinations to a wheel – as long as you do not add more lottery numbers – and you will improve the wheel's win performance. You can keep the same Wheel Type when you do this. If you delete or change a combination, or if you add more lottery numbers, then you might be reducing the wheel's performance. The wheel might not match all the numbers properly. In this case, you should probably give the wheel a 'Custom' wheel type.

● How do I assign a 'Wheel Type'?

You assign a Wheel Type to a wheel when you import it -- that is, when you change it from a 'Text' wheel to a 'Playable' wheel. Your 'Import a Lotto Wheel' program provides a screen for assigning the Wheel Type.

You also assign Wheel Parameters with this program -- the Match Quantity, Win Size, and Expected Win Percentage.

● **What are the differences between the various types of Lotto wheels?**

There are four major differences between Lotto wheels.

First, each wheel takes a certain quantity of lottery numbers. Second, each has requirements for matching the wheeled numbers with those in the lottery draw. Third, each wheel has a prize goal, which can be won only if all of the matching requirements are met. Fourth, each wheel produces a quantity of combinations. The more combinations that are created, the higher the cost of using the wheel.

Generally, the more numbers you want to wheel, and the higher your prize goal, the more tickets that will be generated. This depends on the type of wheel.

For example, some typical wheels for Pick-6 Lotto are listed below. Each plays 12 lottery numbers (Quantity to Wheel). Note how the wheels differ in the quantity of numbers that must match the lottery's winners (Quantity to Match). Each wheel's prize goal is its Expected Win Size and Expected Win Percentage. To win, each type requires winning numbers to be matched in a specific way. Matching requirements are outlined in the section about your wheel types.

Each wheel produces a certain quantity of ticket combinations, which affects the cost of playing. Note the wide range of combinations for wheeling 12 numbers.

<u>Type</u>	<u>Quantity to Wheel</u>	<u>Quantity to Match</u>	<u>Expected Win Size</u>	<u>Expected Win Pct</u>	<u>Combinations</u>
Full	12	6	6	100	924
Skp4	12	6	6	20	188
Skp9	12	6	6	10	101
Abbr	12	3	3	100	17
Abbr	12	5	3	100	3
Abbr	12	4	4	100	42
Abbr	12	5	4	100	22
Abbr	12	6	4	100	6
Abbr	12	5	5	100	136
Abbr	12	6	5	100	44
Expd	12	6	5	100	50
Key1	12	4	4	100	24
Key1	12	5	4	100	10
Pair	12	4	4	100	8
Com3	12	4	4	100	37
Com3	12	5	4	100	15
Zn13	12	6	6	100	210
Zn23	12	6	6	100	105

● What are the main steps for making a wheel?

You have two ways to create a wheel. You can create a wheel manually, or you can create one automatically. Here are some guidelines.

Choosing a Wheel Name and Size

Choose a wheel name. See *Selecting a Wheel* for examples.

The Lottery Director Lotto program handles up to 5000 combinations in each wheel for Pick 4-5-6 games, or 3500 combinations for Pick 7-8-9 games.

Creating a Wheel Manually

To create a wheel manually, use your 'Edit Text Wheel Combinations' selection. You'll start with a blank screen. Enter the numbers in each combination. Remember that you are entering 'pointers' - not the actual lottery numbers. They'll point to lottery numbers you want to use later, when you play the wheel.

Creating a Wheel Automatically

To create a wheel automatically, use your Professional Wheeling menu options. You can make a standard wheel, Key numbers wheel, Zone wheel, or a series of linked wheels. You describe your wheel, and your program generates it.

Your New Wheel

Your new wheel is a Text wheel. Before you can play it in the Lotto program, you must import it.

Importing the Wheel

You can import your Text wheel to make it a Playable wheel. When you import the wheel, you assign a Wheel Type and set of Wheel Parameters to the wheel. These will tell your programs how you want the wheel to work. If you want to change these parameters later, you can do so - just import the wheel again, and give it a new set of parameters.

Checking the Wheel

You can check your wheel for hits and holes. You can check it as a Text wheel, or you can check it after you have imported it and made it a Playable wheel.

If you check a wheel while it is still a Text wheel, you'll have to enter some basic Wheel Parameters (so your program will know how to check the wheel). If you check the wheel after it is a Playable wheel, the Wheel Parameters are already a part of the wheel, so you do not have to enter them.

Handling Hits and Holes

When you check the wheel, your program will show a list of the hits and holes in the wheel. These are only useful for certain wheel types -- Abbreviated, Expanded, Full, and Key wheels with one to four Key numbers.

You can check any wheel, if you just want to see how the wheel matches various combinations. Any 'holes' might not be a problem in some types of wheels, because of the unique matching requirements of the wheel. Holes are a problem if they occur in one of the wheel types listed above.

If you find holes in the wheel, you have several options. If you wish, you can repair the wheel in several ways (if it is one of the above wheel types only). You can automatically add combinations into the wheel to repair the holes, or you can reduce the wheel's win percentage. Adding combinations will add cost to playing the wheel. Reducing the win percentage will keep the same cost.

You also have other options, instead of 'repairing' the wheel. You can reduce the matching requirements in the wheel's parameters. For example, suppose you found holes in a wheel when checking it for 'Match-5 to Win-5'. You might try checking it with new parameters of 'Match-6 to Win-5', or 'Match-5 to Win-4'. Many of the holes might disappear when the wheel's matching requirements are reduced. If you do this, you might also be able to delete some combinations, making it economical to play the wheel for multiple winners at lower prize levels.

You can recheck a Text wheel using new parameters, just by specifying the new parameters as you check the wheel. To change the parameters in a Playable wheel, import the wheel again and enter new parameters in the Import program.

Editing the Wheel

When you check the hits in the wheel, you'll see that some combinations have more winning matches than others. For example, a combination might produce ten winners if its numbers are drawn, while another only produces one winner. You might consider editing (modifying) some of the combinations so they use less of some numbers, and more of other numbers. Or, you might be satisfied with the way the wheel works. The choice is yours. Remember to check the wheel again, if you change any of its combinations.

Experiment!

Be prepared to experiment with your wheel. Don't expect to create the 'perfect' wheel the first time you try. Enjoy the creative possibilities that you have for customizing wheels with your Professional Wheeling programs!

● What is a 'Key' number?

A 'Key' number is a number that appears in every combination in a wheel. The main advantage of a 'Key' number wheel is that you know you will have at least one winning number on each ticket, if the 'Key' number wins in the lottery.

When you play a wheel with 'Key' numbers, play your most important numbers first. They will become the 'Key' numbers in the wheel.

'Key' number wheels are more economical to play than Full or Abbreviated wheels, for the same set of lottery numbers and matching requirements. When a 'Key' number is used, the other numbers are combined into smaller groups, out of a smaller field. For example, if a Pick-6 wheel has 14 numbers (and no 'Key'), all 14 numbers must be combined 6 ways. If one 'Key' number is used, the rest of the numbers in a combination can be made from the remaining 13 numbers, combined 5 ways. With two 'Key' numbers, the rest of the combination can be made from 12 numbers, combined 4 ways. When you combine fewer numbers, in fewer ways, fewer total combinations are needed in the wheel.

To win with a 'Key' number wheel, the 'Key' number *must* be drawn as a winner, in addition to meeting the wheel's matching requirement. For example, if the wheel is a 'Match-4 to Win-4' wheel with one 'Key' number, the 'Key' number must be drawn plus three other numbers in the wheel (to make the total of 4 matches). If the 'Key' number is not drawn, the stated prize might still be won, although it cannot be expected.

● When I select 'Show Wheel Names', what are the wheels I see?

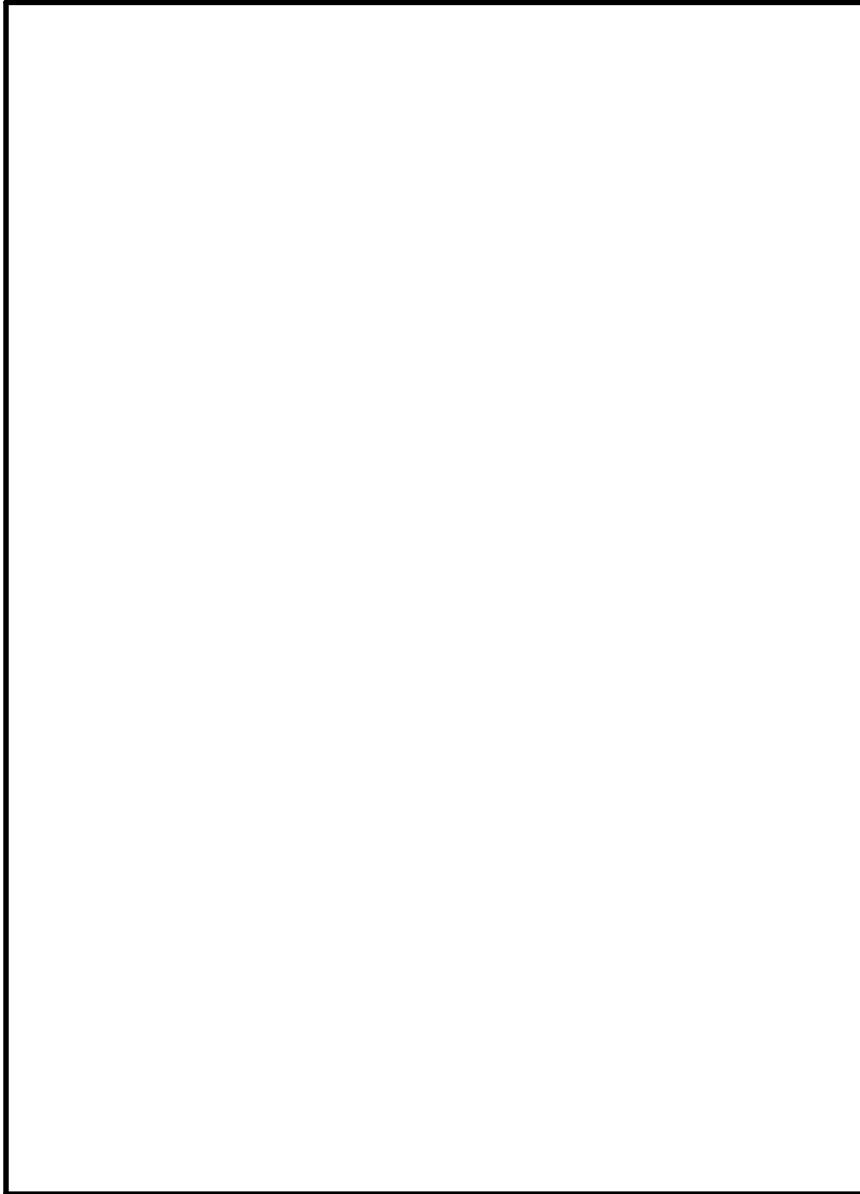
That selection is on your Wheel Management menu. It shows you all the wheels you have made so far. It shows the wheels you have created, and any ones you have brought in from other sources. It also shows any 'backup' wheels and 'hole' files you still have.

It is a handy way to review your collection of wheels. After viewing the list, you can go to the details for each wheel, using the other selections on your menu.

Here are the types of files you're likely to see:

Filename	Extension	Type of File
LDW-----	WHL	Master wheel (playable wheel)
LDW-----	TXT	Text wheel
LDW-----	BAK	Backup wheel (text wheel)
LDW-----	HOL	Wheel 'holes' file

Notes

A large, empty rectangular box with a black border, intended for taking notes. It occupies the central portion of the page.