FEATURES

Your Realistic CD (Compact Disc) – 1000 is another state-of-the-art audio product from Radio Shack. It uses the first truly revolutionary audio technology since the introduction of audio tape over 35 years ago – a low-power laser beam reads digital information from the compact disc and converts it into audio signals.

Because only light touches the disc, there is no disc wear during normal use. With proper care, the disc will retain its original quality practically forever. And even if the disc becomes slightly scratched, the CD-1000 has circuits that electronically “reconstruct” small sections of missing or damaged digital information.

A compact disc (4 3/4” in diameter) can hold up to 75 minutes of program material on a single side – more than both sides of a 12” LP record.

You Can Hear the Difference

The audio specifications of the CD-1000 are dramatically improved over conventional turntables and records, and other analog audio systems (tapes). These improved specs represent a cleaner sound for you, the listener.

For example, the signal-to-noise ratio of 95 dB is about 30 times better than records. There is no tape hiss or scratch noise introduced by the CD-1000.

The dynamic range (contrast between loud and soft passages) is 95 dB, as compared to 50 – 60 dB on records.

The frequency response is 5 – 20,000 Hz ± 0.5 dB. This small variation (± 0.5 dB) over the entire audible range means that you will hear exactly what was recorded.

The distortion (0.003%) and the wow and flutter (0.001%) are practically immeasurable and are far below limits detectable by the human ear.

- Direct, High-Speed Track* Selection – automatically begins play with any track you select.
- Random Track Programming – automatically plays, in any order, up to 15 pre-selected tracks.
- Repeat Play – automatically repeats the entire disc, a group of pre-selected tracks, or any portion of a track.
- Automatic Search Music System – automatically locates and begins plays at the beginning of the next track or at the beginning of the current track being played.
- Manual Search – plays the disc (in either direction) at increased speed to aid you in locating a particular passage.
- Index* Search – locates specific points within a track (when playing a disc that was made with the necessary index information).
- Digital Display (Track/Index/Min/Sec) – when the disc is first loaded and when the player is in the stop mode, shows the total number of tracks and the total playing time on the disc. During play, shows the track (and index, if the disc has index information) being played and the elapsed time from the beginning of the track.
- The digital display also shows information being entered for the automatic play features listed above.


Optional Timer Operation – allows you to turn the CD 1000 on or off using a separate, optional timer.

* Track refers to an individual song, movement, or other selection on a disc.
* Index refers to a subdivision of a track (not included on all discs).

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION: RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For your own protection, we urge you to record the serial number of this unit in the space provided. You'll find the serial number on the back panel of the unit.

Serial Number:
GETTING STARTED

Even though the CD-1000 uses some of the most advanced technology available today, it is extremely simple to operate. The steps below will have you listening in the regular play mode in no time.

1. Using shielded audio cables with RCA type connectors, connect the LEFT and RIGHT OUTPUT jacks on the CD-1000 to the left and right aux-in or tape-in jacks on your amplifier/receiver. Then plug in the CD-1000 power cord.

2. Press POWER and then OPEN/CLOSE on the CD-1000. The disc compartment will open.

3. When the disc compartment is fully open, place the disc in the compartment so that it is flat and secure in the recessed portion of the compartment. The disc label must be facing up.

Then be sure to read the rest of the manual, so you can begin using all the special features of the CD-1000 (if you can stop listening long enough).

If you are curious about how the CD-1000 works, see "Understanding the Compact Disc" on page 14.

Note: Of course, all connections for the rest of your audio system must be made.
4. Press OPEN/CLOSE again; the disc compartment will close.

5. After the disc compartment completely closes and the digital display shows the number of tracks and total playing time of the disc, press ► (PLAY). Play will begin. Note: Be sure to select the amplifier/receiver input source that CD-1000 is connected to (aux or tape).

6. Press STOP/CLEAR and then OPEN/CLOSE to end play and remove the disc.
1 Fast-Reverse ▶ ◀ Button
Press and hold during play, for rapid audible search in the reverse direction; press PAUSE before ▶ ◀ for silent search.
Press this button and PLAY at the same time to automatically return to, and begin play at, the beginning of the current track. (See "Forward and Reverse Search" on page 10.)

2 PLAY ▶ Button & Indicator
Press to begin play; the indicator will light.

3 Fast-Forward ▶▶ Button
Press and hold during play, for rapid audible search in the forward direction; press PAUSE before ▶▶ for silent search.
Press this button and PLAY at the same time to automatically advance to, and begin play at, the beginning of the next track. (See "Forward and Reverse Search" on page 10.)

4 STOP/CLEAR Button
Press to stop play and/or to clear the random-programming or repeat-play memory.

5 PAUSE Button & Indicator
Press to temporarily stop play; the PAUSE indicator will light. Press PLAY to resume play at the point where it stopped.

6 PROGRAM Number Buttons
Press to enter track and index numbers for the CD-1000's direct selection and programmable play features.
Note: Only track numbers may be entered for random track programming.

7 MEMORY Button
Press to store selected track numbers into the CD-1000 memory.

8 REPEAT Button & Indicator
Press to begin repeat play; the indicator shows which repeat mode is being used. (See page 9.)

9 OPEN/CLOSE Button & O/C Indicator
Press to open or close the disc compartment. POWER must be on.

The O/C indicator will light and the digital display will flash as the compartment opens or closes. The indicator will go off and the digital display will light steadily when the compartment is fully open or closed.

CAUTION: Never force the compartment open or closed.

10 Disc Compartment
Insert the compact disc so that it is flat in the recessed portion of the compartment with the label side up.

Note: Only one side of the disc is played.

11 POWER Switch
Press to alternately turn the power on or off.

12 Digital Display
TRACK – with a disc loaded and in the stop mode, shows the total number of tracks on the disc. During play, shows the number of the track being played.
INDEX – during play, shows the index number of the portion of the track being played. If the disc does not have index information, 01 will remain on the display.
MIN/SEC – with a disc loaded and in the stop mode, shows the total playing time of the disc. During play, shows the elapsed time from the beginning of the disc, even if you began in the middle of the track or used ◀◀ or ▶▶ during play.
DETAILED OPERATION INSTRUCTIONS

DISC HANDLING
Even though the compact disc is more durable than regular record albums, it should be handled with care. Always hold the disc by the edges. In extreme cases, fingerprints and scratches on the disc surface can prevent the laser from correctly reading the digital information.
Always keep the disc in its protective case or sleeve when it is not being played.

LOADING A COMPACT DISC
1. Press POWER on; the digital display will flash for a few seconds and then light steadily.

2. Open the disc compartment by pressing OPEN/CLOSE. The O/C indicator will light, and the digital display will flash as the compartment opens; the indicator will go off and the display will light steadily when the compartment is ready for disc loading.

CAUTION: Do not force the compartment open or closed.

3. Hold the disc so that your fingers do not touch its surface and place it, label side up, in the recessed portion of the compartment. The disc must be flat and secure in the compartment.

4. Press OPEN/CLOSE again to close the compartment. The O/C indicator will light, and the digital display will flash, as the compartment closes.

5. After the display stops flashing, and the total number of tracks and the total playing time appear, the disc is ready to be played.
You may simply press PLAY to start with track 1 and play the tracks in order, or you may use one of the CD-1000 special play modes. See page 7.
SPECIAL PLAY MODES

Direct Track Selection

This play mode allows you to begin play with any track. If unattended, the CD-1000 will continue play from that point, until the end of the disc is reached - then go to the stop mode.

1. When in the stop mode or during play, use the PROGRAM buttons to enter the track number (and then the index number, if appropriate) you want to play.

If you enter an incorrect track number when in the stop mode, press STOP/CLEAR; then enter the correct number. During play simply wait a few seconds and the display will return to the current track number; then enter the correct number.

2. Press PLAY; after a few seconds the disc will begin playing at the selected track (and index, if selected) and continue playing to the end of the disc.

3. To stop temporarily, press PAUSE; press PLAY to resume play at the point where play was stopped.

4. Press STOP/CLEAR to end play.

Notes:
- For consistent operation, enter a zero before single-digit track and index numbers (01, 02, 03, etc.).
- The CD-1000 will not accept a track number larger than the total number of tracks.
- The disc will not play if an invalid index number is entered.

Note: The PLAY indicator will flash as the CD-1000 searches for the selected track.
Random Track Programming

In this mode you may program up to 15 tracks to play in any order you choose. You may program a track to play more than once, within in the 15 track maximum.

1. Using the PROGRAM buttons, enter the number of the first track you want to program; the entered numbers will flash on the display.

   Notes: Index numbers cannot be used in programming.

   Notes:
   • If you enter an incorrect track number, press STOP/CLEAR and enter the correct number before pressing MEMORY (step 2).
   • The CD-1000 will not accept a number larger than the total number of tracks on the disc.

2. Press MEMORY to store the track number; the numbers will light steadily on the display.

3. Repeat steps 1 and 2 for all the tracks you want to program, up to the maximum of 15. If you attempt to enter more than 15 selections, only the first 15 will be programmed.

4. Press PLAY, and the tracks will be played in the order you entered them.

   Notes:
   • You may program tracks or add to the programmed tracks during play by following steps 1 and 2. However, do not press STOP/CLEAR if you make an error; this will clear all entered information. Simply wait a few seconds for the display to return the current track; then enter the correct number.
   • The PLAY indicator will flash as the CD-1000 searches for the beginning of the next track.
Repeat Play

You may select from three types of repeat play - repeating the entire disc, repeating pre-selected tracks, or repeating any portion of a track.

To Repeat the Entire Disc - Before beginning, or at any time during regular play, press REPEAT. The REPEAT indicator will light. Regular play may be initiated by pressing PLAY after loading a disc or by using the direct track selection mode. (See page 7.)

The entire disc will repeat. When the end of the disc is reached, the disc will repeat from beginning to end, even if you began play with a track other than track 1, using the direct track selection mode.

Notes
- If you press REPEAT before beginning play, you must press STOP/CLEAR to exit the repeat mode.
- If you press REPEAT during play, you may exit the repeat mode by pressing REPEAT twice quickly. If you press REPEAT only once or pause before pressing it the second time, you will enter the point-to-point repeat mode. (See “Point-to-Point Repeat.”)
- The PLAY indicator will flash each time the CD-1000 returns to the beginning of the disc.

To Repeat Pre-Selected Tracks - During play in the random track programming mode, press REPEAT; the REPEAT indicator will light. The tracks you programmed will repeat in the order you programmed them, until STOP/CLEAR is pressed.

Note: The PLAY indicator will flash as the CD-1000 searches for each track.

CAUTION: You cannot exit the repeat mode without pressing STOP/CLEAR. This will also clear the program memory.

Point-to-Point Repeat

Point-to-point repeat allows you to repeat any portion of a track or disc. The repeated portion may contain parts of two or more tracks.

1. During play, press REPEAT at the end of the section you want to repeat; the repeat indicator will light.

2. Press REPEAT again at point where you want to end the repeat; the repeat indicator will start flashing, indicating the point-to-point repeat mode.

The selected section of the disc will continue to repeat until you exit the repeat mode by pressing STOP/CLEAR or by pressing REPEAT again. In either case the repeat indicator will go off.

Note: The PLAY indicator will flash as the CD-1000 returns to the beginning of the repeated portion.

Other Special Features

Automatic Search Music System (ASMS)

ASMS allows you to immediately go to the beginning of the track currently playing or to the beginning of the next track.

To return to the beginning of the current track, press PLAY and at the same time; then release both buttons. The PLAY indicator will flash as the CD-1000 searches for the beginning of the track; then play will automatically resume.

To advance to the beginning of the next track, press PLAY and at the same time; then release both buttons. The PLAY indicator will flash as the CD-1000 searches for the beginning of the next track; then play will automatically resume.

Note: If you use ASMS during play in the random track programming mode, the CD-1000 will go to the beginning of the next programmed track when PLAY and are pressed, not necessarily the next track on the disc.
Pause and Standby
If you want to stop temporarily during play and resume play at that point, press PAUSE; press PLAY to resume play.

PAUSE may also be used to "cue" a track (prepare it for immediate play at a later time). Simply press PAUSE instead of PLAY when initiated play in the regular mode, direct track selection mode, or random track programming mode.

The CD-1000 will locate the first track to be played and then "standby". When you are ready to begin play, press PLAY.

Forward and Reverse Search
For forward search, press and hold ►► during play. As you hold ►► the CD-1000 will go through three modes of search.

1. During the first 4 seconds the play speed will increase slightly and the volume will be increased.

2. During the next 4 seconds, the CD-1000 will begin to make small skips ahead on the disc.

3. After about 8 seconds the CD-1000 will begin making rather large skips ahead on the disc. This feature allows you to use the CD-1000 with any standard timer.

For reverse search, press and hold ◄◄ during play. As you hold ◄◄ the CD-1000 will go through the same three search modes described for forward search, except in the opposite direction.

Notes
- When the beginning or end of the disc is reached during search, the CD-1000 will enter the stop mode; the display will show total tracks and playing time.
- If forward or reverse search is used during play in the random track programming mode, the CD-1000 will advance/return to the tracks in the order they were programmed, not in the order they appear on the disc.
- You may search silently by pressing PAUSE before beginning the search.

Timer Play
If POWER is turned off or the power cord is unplugged while a disc is loaded, the CD-1000 will enter the regular play mode when power is restored.

1. Connect the CD-1000 to the timer and turn the timer power switch on.

2. Press POWER and load the desired compact disc.

3. Set the timer for the desired time and turn the timer power switch off; the CD-1000 POWER switch must remain on.

At the pre-set time the CD-1000 will come on and begin play at the beginning of the disc.

Note: You cannot use the direct track selection or random track programming mode for time operation. This disc will always start at the beginning and play the track in order.
CARE AND MAINTENANCE

- Treat disc surfaces carefully
  Although a disc will virtually last forever in normal use, we recommend some common-sense practices be used.
  Handle the discs so that fingerprints and dust do not adhere to the surfaces of the discs. To clean-off, use a soft cloth. (Do not use a hard cloth since this will mar the disc.) Wipe the disc from the center to outer edge.
  The disc is coated with plastic. Use only a special disc cleaning solution or other cleaner designed for plastics.

- Clean cabinet and panels when dirty
  Clean off dirt on the surfaces with a dry cloth. Never use thinners, benzene or alcohol since these will damage the surface finish.

PRECAUTIONS FOR USE

- Discs that may be played on this player have the following mark on them:
  - During playback, if the player is subjected to a sudden shock or jolt, the speed of rotation may suddenly change, or some noise may be produced. This is not a malfunction.
  - If the player is operated while you are receiving an FM/AM radio broadcast, you may hear noise on the radio broadcast. In this case, turn the player’s power switch off.
  - If other audio components or their connecting cords are installed near this player, you may hear a humming sound. In this event, try changing the location of the other components or their wiring.
  - Whenever moving the player, be sure to first remove the disc from it. If the player is moved with a disc loaded, the disc may be damaged.
  - The CD-1000 has a wide dynamic range. As a result, if you turn your amplifier’s volume up too high during soft (low volume) parts of a program, your speakers may be damaged when the dynamic range of a sudden loud passage is produced.
  - Do not move the player suddenly from a very cold room into a warm room. When a chilled player is moved suddenly to a warm location, moisture condensation may form on the pickup lens, preventing proper operation. In this case, wait 30 minutes before resuming play.
  - Do not place foreign objects in the disc drawer and attempt to operate the drawer control (Open/Close) function. It may cause damage to the mechanism.
  - Do not store discs in high temperature, high humidity locations. The discs may develop warps and become unable to play. Also, discs with moisture on them may be unplayable. Wipe any moisture off with a soft, dry cloth, and be sure discs are fully dry before using.

- If the ventilation holes are obstructed or the unit is installed in a confined location, heat dissipation will be poor and malfunctions may occur. Also, do not install the unit on top of amplifiers or other components liable to become hot.

WARNING LABEL INSIDE THE UNIT

This laser compact disc player functions by help of invisible laserlight and is equipped with safety switches to avoid exposure when door is open and safety interlocks are defeated. It is dangerous to set safety switches out of function.

There are no user’s serviceable parts inside the unit leave all service to qualified service personnel.

DANGER
Invisible laser radiation when open and interlock failed or defeated.
AVOID DIRECT EXPOSURE TO BEAM.
PROBLEM SOLVING CHART

With proper care and handling, your CD-1000 should give you years of trouble-free service. However, if you do have problems, try the solutions in the chart below before bringing the unit to Radio Shack for assistance.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power is turned on, but indicators do not light.</td>
<td>Power plug is not connected securely.</td>
<td>Insert the power plug into the power outlet securely.</td>
</tr>
<tr>
<td>You attempted to close Drawer by hand, but it stopped part way.</td>
<td>Attempting to close the Drawer forcibly caused the drawer operation to not work properly.</td>
<td>Use the Drawer Open/Close button to open and close the Drawer properly.</td>
</tr>
<tr>
<td>Disc is loaded, but total number of programs is not displayed.</td>
<td>1. Disc is loaded upside down. 2. Disc is dirty. 3. Disc used is nonstandard.</td>
<td>1. Load the disc correctly. 2. Clean the surface of the disc. 3. Replace the disc.</td>
</tr>
<tr>
<td>Play button (†) is pressed, but play does not begin.</td>
<td>1. Disc is dirty. 2. Disc has scratches or is warped.</td>
<td>1. Clean surface of disc. 2. Replace disc.</td>
</tr>
<tr>
<td>No sound is produced.</td>
<td>Audio cables are not connected.</td>
<td>Connect the audio cables to the output terminals of the player and the input terminals of the amplifier.</td>
</tr>
<tr>
<td>Sound is distorted.</td>
<td>1. Connections to amplifier are wrong. 2. Amplifier volume is set too high and sound is being clipped.</td>
<td>1. Connect player to amplifier correctly. 2. Turn down the amplifier output volume.</td>
</tr>
<tr>
<td>A particular spot on the disc does not play correctly (sound cuts out, or same spot is repeated).</td>
<td>1. Disc is dirty. 2. Defective disc.</td>
<td>1. Clean the surface of the disc. 2. Use a good disc.</td>
</tr>
<tr>
<td>Button is pressed, but operation is not performed correctly.</td>
<td>1. Operation searching for play position does not match with button operation. 2. Disc is scratched or dirty.</td>
<td>1. Press the STOP/CLEAR button once and then attempt play again. 2. Remove the disc and look for scratches or dirt and then attempt playback again.</td>
</tr>
</tbody>
</table>

SPECIFICATIONS

AUDIO

Number of channels 2
Frequency response 5 – 20,000 Hz ± 0.5 dB
Dynamic range 95 dB
Signal-to-noise ratio 95 dB
Harmonic distortion 0.004% (at 1 kHz)
Separation 90 dB (at 1 kHz)
Wow/Flutter Less than measurable limits (± 0.001% W. peak)
Output voltage 2V

DISCS USED

Compact Disc
Playing time Approx. 60 minutes/one side (Max. 79.8 minutes)
Diameter 120 mm

SIGNAL FORMAT

Sampling frequency 44.1 kHz
Quantization number 16-bit linear/channel
Transmission bit rate 4.3218 Mb/sec

PICK-UP

System Object lens drive system optical pick-up
Object lens drive system 2 dimensional parallel drive
Optical source Semiconductor laser
Wavelength 780 nm

GENERAL

Power requirements AC 120V, 60 Hz (v. 240V, 50 Hz for the units purchased in U.K. and Australia)
23W
Power consumption Dimensions 3.5/16” × 12.5/8” × 12.1/16” (H. W. D.)
83 × 320 × 307 mm (H. W. D.)
Weight 10.8 lbs., 4.9 kg

ACCESSORIES

Connecting pin cords
Specifications and design may be changed without notice for improvement.
UNDERSTANDING THE COMPACT DISC

The Compact Disc (CD) was invented in 1982. It is completely different from any previous audio reproduction system. Before the CD, all audio devices were analog - they stored, either in the groove of a record or on the surface of magnetic tape, a continuous representation of the sound waves (vibrations) that travel through the air. Sound waves vibrate between 20 and 20,000 times a second. The technique used in making CD discs "samples" the sound 44,100 times a second. Each time the sound is sampled, the frequency, loudness, etc. of the sound are stored as binary digital data - the same type of data used by computers. Since the CD is not limited by the width of a groove or the saturation point of a tape, it is capable of storing much greater dynamic and frequency ranges.

From the disc, the digital data is read by a laser beam in a CD player, such as the CD-1000, and is converted back into analog signals that can be used by your stereo system.

In addition to providing what many people believe to be superior audio quality, the CD is able to store other related information such as tracks numbers, index numbers, total playing time, and track playing times.

How is the Information Stored

Although the surface of the CD disc appears smooth and shiny, it is covered with tiny "pits." Each pit is about 1.6 micrometers (1/15,875 inch) wide and a disc can hold up to 2,500,000,000 pits.

Note: Only one side of the disc is used to store data - the side opposite from the label.

Binary digital data is nothing more than a series of 0's and 1's. As the laser scan over the pits, a rise or fall on the surface of the disc represents a 1 and a smooth surface represents a 0.

On-the-Spot "Repairs"

No matter how careful you are, it is possible that the surface of the disc will become scratched. This could obscure the data from the laser beam.

The method used in storing data allows the CD-1000 to electronically "replace" the damaged data. Following a set formula, the data is stored on the disc in a different order than it will be heard later. Then, during play, it is re-assembled. Therefore, if a certain portion of the disc is damaged, the data that will immediately precede or follow the damaged portion during play is not at the same location on the disc.

So, during play, the CD-1000 can estimate and reproduce the contents of the damaged data by looking at what comes before and after it. Of course, if the damage is too severe, even this system cannot save the disc.

Tri-Spot Laser Tracking

As you might suspect, the aiming of the laser beam must be extremely precise in order for it to accurately read the pits on the disc. This accuracy is assured by the tri-spot tracking system.

Using a mirror and lens, the laser beam is divided into three spots of light. The two outside spots "look" for the space between the rows of pits while the center spot reads the data. If the beams are too far left or right, the outside beams will “see” the pits and alignment will be corrected automatically and instantaneously.
Uni-torque Motor
Precision designed to reduce the variation of the rotation, so as to reduce reading errors.

3-spot tracking
There are two sub laser spots to detect tracking error.

Lens Actuator
Tracking error detected by the 3-spot laser is fed immediately to the actuator, to restore perfect tracking. The accuracy of tracking is within 0.1 μm.

Beam Detector
The strength of the reflected beam changes as the beam passes over the pits. The detector senses these changes and converts them into electrical signals.

Laser Diode
Emits the laser beam.
RADIO SHACK LIMITED WARRANTY
This product is warranted against defects for 1 year from date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply bring your Radio Shack sales slip as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.
EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.
This warranty gives you specific legal rights and you may also have other rights which vary from state to state.
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RADIO SHACK, A DIVISION OF TANDY CORPORATION
U.S.A.: FORT WORTH, TEXAS 76102
CANADA: BARRIE, ONTARIO L4M 4W5

TANDY CORPORATION
AUSTRALIA
61 KURRAJONG AVENUE
MOUNT DRUITT, N.S.W. 2770

BELGIUM
PARC INDUSTRIEL DE NANINNE
5140 NANINNE

U.K.
BILSTON ROAD WEDNESBURY
WEST MIDLANDS WS10 7JN

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