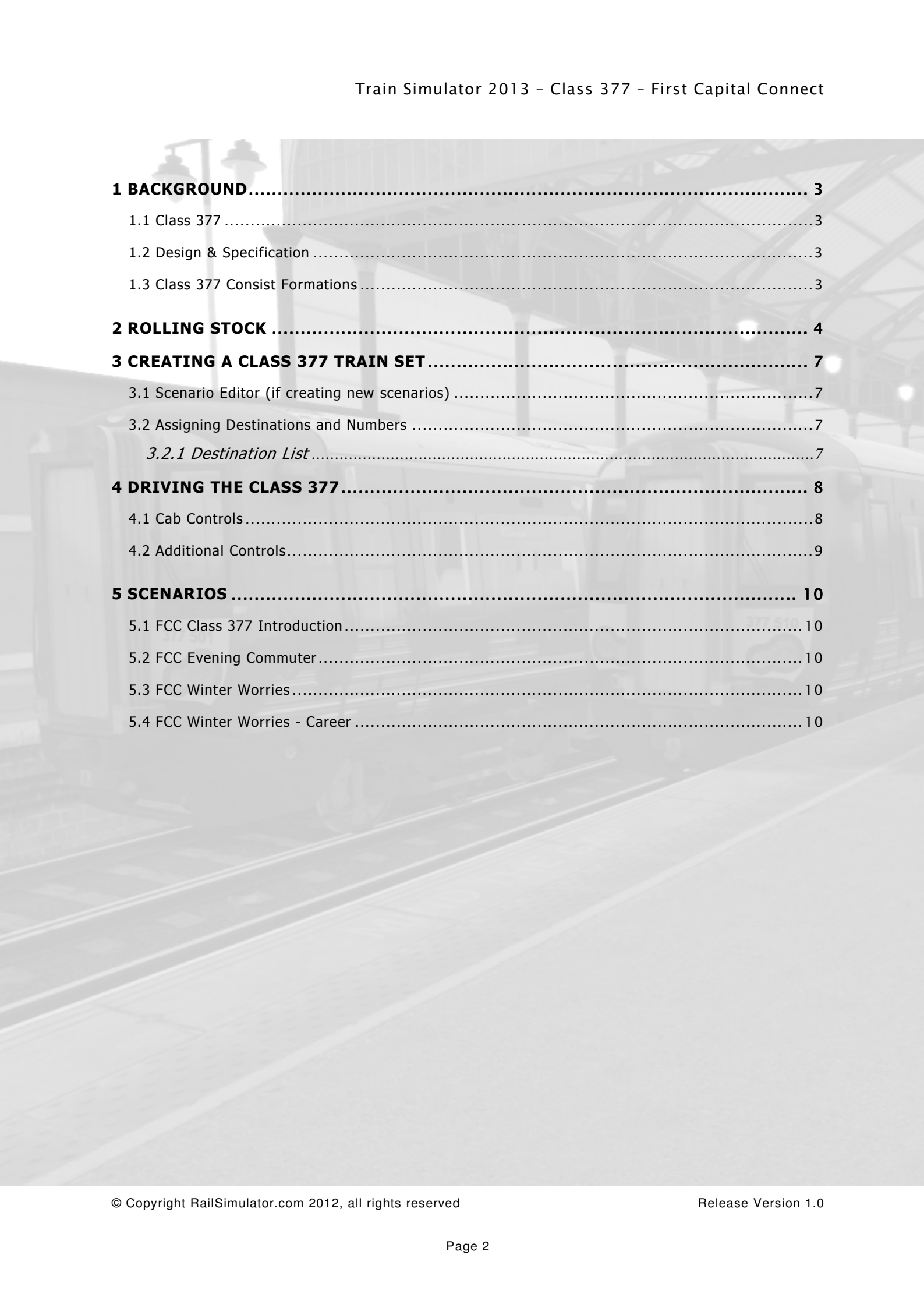


# CLASS 377

**First**  **Capital Connect**





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## 1 Background

### 1.1 Class 377

The Class 377 third-rail DC 4 car electric multiple units began service during 2002. Built by Bombardier in Derby, England, they are a member of the 'Electrostar' train family, the most numerous EMU built in post-privatisation Britain.

In April 2007, as part of the Route Utilisation Strategy for the Brighton Main Line, it was announced that Southern would obtain an additional 48 Class 377 units to replace an identical number of Class 319 units (12 x 4-car units) that were due to be transferred to First Capital Connect. Further to this, eleven more dual-voltage units were added to the order, making a total of 23. They were ordered from Bombardier in March 2008 and were delivered in First's corporate colour scheme but with Southern spec interior (green seats). The units were commissioned at Southern's Selhurst depot in South London before being transferred to First Capital Connect's Bedford Cauldwell depot. The first of these, unit 377501, was delivered to Cauldwell depot on 27 February 2009 after making its first appearance through the Thameslink Central London core. The 377/5s operate mainly on the Bedford to Brighton services but in the peaks form part of FCC's and Southeastern's new joint service to places such as Rochester and Ashford. Once FCC's new passenger vehicles come into service, the 377/5 fleet will be returned to Southern.

Delays in the construction of the Class 377/5s for First Capital Connect saw the temporary transfer of eight of Southern's Class 377/2s to FCC to enable them to implement the planned timetable changes on 22 March 2009; the loss of these units until September 2009 was covered by the temporary cascade of a number of Class 350/1s to Southern from London Midland, which operated services between East Croydon and Milton Keynes.

### 1.2 Design & Specification

<b>TOPS Number</b>	<b>Class 377</b>
<b>Formation</b>	4-car: DMCO+MSO+PTSO+DMCO
<b>Unit Weight</b>	173.6 tonnes (35-48 tonnes per vehicle)
<b>Vehicle Length</b>	66ft 11in (20.4m)
<b>Vehicle Width</b>	9ft 2in (2.8m)
<b>Body Construction</b>	Aluminium body with steel ends
<b>Power Collection</b>	Dual Voltage 750v DC 3rd Rail / 25KV Overhead Electric
<b>Vehicle Power</b>	2,000HP (1,500kW)
<b>Design Speed</b>	100 MPH (161km/h)
<b>Coupling Type</b>	Dellner
<b>Brake Types</b>	Air
<b>Seating</b>	242 Standard

### 1.3 Class 377 Consist Formations

Class	Consist	Number Range
377/5	DMOC – PTOSL (low) - MOSL - DMOC	377501 - 377123

The pantograph well should be at the centre of the formation.

4 car formations are often used on local and branch stopping services.

4, 8 and 12 car formations are used on off-peak fast services.

8 and 12 car formations are commonly seen on peak time fast and express service.

## 2 Rolling Stock

### Class 377 DMOC FCC



### Class 377 DMOC Blue



**Class 377 MOSL FCC**



**Class 377 MOSL Blue**



**Class 377 PTOSL FCC High**  
**Class 377 PTOSL FCC Low**



**Class 377 PTOSL Blue High**  
**Class 377 PTOSL Blue Low**



## 3 Creating a Class 377 train set

### 3.1 Scenario Editor (if creating new scenarios)

To get the Class 377 ready for selection in a scenario that is not located on the London to Brighton Main Line, you will need to enable it in the object set filters, which will add it to the rolling stock browser list.

Follow these steps:

1. Enter the Scenario Editor. (Note: If a route is locked it will need to be unlocked first before you can enter the Scenario Editor. Unlock by clicking the padlock icon in the bottom right of the screen).
2. Click the Object Set Filter button (the small blue cube on the middle left panel).
3. In the new window which opens on the right hand side, select the following:  
**RSC / Class377Pack01**
4. The Class 377 vehicles will now appear in the list of rolling stock.
5. You may need to repeat this process on other routes or scenarios where you wish the Class 377 to be available.

### 3.2 Assigning Destinations and Numbers

For developers wishing to make use of the units in their own scenarios and routes, it is possible to customise the Destination Display during creation of a scenario. This allows the train to correctly display an appropriate destination.

In order to display a specific destination, the correct value must be entered into the vehicle properties window. This number consists of a 12 digit value containing both a letter and numbers.

The 12 digit value is arranged like so: **dVVVVVUUUUUU**

- d** = the Destination code (See the Destination List below)  
**VVVVV** = the Vehicle number displayed on the side of the coach  
**UUUUUU** = the Unit number displayed on the front of the driving vehicle

Example : d78580377501 (*where "d" is for Blackfriars*)

So the above value results in unit 377501, with vehicle number 78580, displaying "Blackfriars" as the destination

#### 3.2.1 Destination List

<b>a</b>	Ashford International	<b>j</b>	East Croydon Via Elephant & Castle	<b>s</b>	Luton Via Elephant & Castle
<b>b</b>	Bedford Via Elephant & Castle	<b>k</b>	East Croydon Via London Bridge	<b>t</b>	Luton Via London Bridge
<b>c</b>	Bedford Via London Bridge	<b>l</b>	Farringdon	<b>u</b>	Rochester
<b>d</b>	Blackfriars	<b>m</b>	Gatwick Airport	<b>v</b>	St. Albans City
<b>e</b>	Brighton	<b>n</b>	Haywards Heath	<b>w</b>	St. Pancras International
<b>f</b>	Brighton Via Elephant & Castle	<b>o</b>	Kentish Town	<b>x</b>	Three Bridges
<b>g</b>	Brighton Via London Bridge	<b>p</b>	London Bridge	<b>y</b>	West Hampstead
<b>h</b>	City Thameslink	<b>q</b>	London Victoria	<b>z</b>	Thameslink
<b>i</b>	East Croydon	<b>r</b>	Luton Airport Parkway		Sorry, Not in Service!

## 4 Driving the Class 377

### 4.1 Cab Controls



#### Main console

- 1 Master key
- 2 Reverser
- 3 Combined throttle and brake
- 4 Emergency brake
- 5 Brake pressure gauges
- 6 Speedometer
- 7 Cruise control speed

- 8 Cruise Control
- 9 AWS flower
- 10 AWS Reset
- 11 Windscreen wipers
- 12 Horn
- 13 Depot whistle
- 14 Sander
- 15 Cab light

- 16 Guard communication
- 17 Notice board light

#### Side panel

- 18 3<sup>rd</sup> Rail Shoe controls
- 19 Pantograph controls
- 20 Headlights
- 21 Taillights
- 22 Blinds

## 4.2 Additional Controls

The following additional keys can be used with the Class 377 units.

Keystroke	Feature
Shift + D	Brake Hold. This can also be activated by pressing the button on the end of the brake/throttle control (3)
Shift + P	Raise the 3 <sup>rd</sup> rail shoes. Also activated by pressing the blue button on the upper left panel (18)
Ctrl + P	Lower the 3 <sup>rd</sup> rail shoes. Also activated by pressing the yellow button on the upper left panel (18)
L	Cab Light
B	Depot Whistle
C	Guard communication (16)
Shift + Numpad Enter	Toggle the Driver Vigilance Device. This is an audio only device so has no visual prompt. By default this feature is turned off.
Numpad Enter	Acknowledge a Driver Vigilance alert

## 5 Scenarios

### 5.1 FCC Class 377 Introduction

An introductory drive in the First Capital Connect Class 377 unit. Drive a FCC Class 377 unit on a short special trip from Brighton to Haywards Heath.

- **Date** **6th November 2012**
- **Duration** **20 Minutes**
- **Start Location** **Brighton**

### 5.2 FCC Evening Commuter

Drive the 18:18 FCC service from Brighton to Norwood Junction.

- **Date** **5th November 2012**
- **Duration** **60 Minutes**
- **Start Location** **Brighton**

### 5.3 FCC Winter Worries

Drive a FCC service from Norwood Junction to Brighton on a “challenging” morning. You are driving the 8:00am service from Bedford to Brighton however, owing to recent train failure on the Redhill Avoiding line the timetable is in chaos.

- **Date** **7th November 2012**
- **Duration** **85 Minutes**
- **Start Location** **Norwood Junction**

### 5.4 FCC Winter Worries - Career

Drive a FCC service from Norwood Junction to Brighton on a “challenging” morning. You are driving the 8:00am service from Bedford to Brighton however, owing to recent train failure on the Redhill Avoiding line the timetable is in chaos.

- **Date** **7th November 2012**
- **Duration** **85 Minutes**
- **Start Location** **Norwood Junction**