Saloon Cars

DRIVER'S MANUAL

The Fourth Dimension

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How to load Saloon Cars

Insert disc 1 into drive 0. Double click on !SALOON through desktop. Insert disc 2 when prompted and leave this disc in the drive.

Introduction

It is a well known fact that nobody ever reads the instructions until something has gone wrong, so please refer directly to the Trouble Shooting section of this manual, without studying any of the intervening information which you don't really need anyway. For those of you who just want to play the game, the quickest way is to select the item that the mouse points to on each menu screen, and you will soon be deposited in a car and given a chance to regret not reading the instructions.

Press (and hold down briefly) "S" to start the engine, "D" to put the car into drive, "H" to take the handbrake off and press the right mouse button briefly to set off. The "Practice" car has a cruise control so when you release the right button it will continue at the same speed until it hits something. Move the mouse to the left and right to steer, and use the right button for faster and the middle button to apply the brakes and slow down. When you have crashed into the barriers and stopped, press "R" to select reverse gear, back off then "D" for forward again. Press Q and F12 together to leave your car. If you wish to know more about using the program, or if something has gone wrong, Read On...

The Menus

On loading the game you will be faced with an array of very sophisticated and confusing menu screens. These allow you to do just about anything. You can select a saved player, change the course which will be used for the next race, you can see how much money you don't have, and you can be told you can't afford even the most menial of repairs to be done on your car. You could buy a new car, built to your personal customised specifications and to the manufacturer's personal customised price. You can also become totally bemused and bewildered by the mass of options available, so here is a brief description of the layout, intended to reinforce the air of confusion and ensure that anyone who thought they did understand it does not get the unfair advantage of being correct.

The first thing to point out is that when each menu screen appears, the mouse pointer is positioned on a default item. Clicking on these defaults at every stage from loading the program will get you straight into playing the game in practice mode with nobody else getting in your way.

Main Menu

The main menu screen has several options which are described here.

1. Demo Mode

This is the easiest way to drive. Select this option, sit back and enjoy the view. When you have seen enough, press Q and F12 together to quit the demo mode. You can try the demo mode on any of the three courses supplied and selecting a new course is described soon.

2. Race

This option allows you to actually go for a drive and you are given several options as to how to do so. You have a choice of two practice modes: "Solo Practice" gives you free reign of the course for as long as you wish to practice staggering round without any immovable objects jumping out in front of you; "Normal Practice" is similar but other cars are out there trying to get in your way, which they tend to be quite good at. Finally there is the "Race" option. This is your chance to make a total fool of yourself by writing off your car in the first five seconds of the qualifying time and then watching the rest of the race from the sidelines. Don't despair, one day, with practice, you may set a lap time and then be told it still wasn't good enough to qualify for the race. Press Q and F12 together to leave your car.

3. Players

This menu can be used to load or save your player and to perform a variety of simple operations, such as changing the name of your player and accessing information about your current status.

It should be realised that the "Practice" car provided at the start of the game is for practice only. It does not allow many of the options provided later in the game but it does have the attractive property of being very easy (well, less difficult anyway) to drive. When you feel ready to enter the racing world fully and start paying the horrendous repair bills you will inevitably get, you should load "Automatic" or "Manual" from the list of default cars, change your name to something descriptive and enter a race!

The options to load and save player are important. Loading a player is simple, just type in the filename. Of course you haven't saved any players yet, so just press return and you are offered a list of default cars to choose from.

Once you have entered a race, and started out on your first season, you will need to save your player. This is just as simple and again type the filename. The players are stored in the "Players" directory on disk 2. Old ones can be deleted, and you can catalogue the disk, using the desktop. You can also save players to a separate disk if you create a "Players" directory first.

4. Courses

This menu screen allows you to select a new course from those available and you can view the lap records for the course, or select a new one from the list. If you want to access a different course disk, insert the new disk before selecting this option. Course disks should be available later this year (special "flying pig" delivery service costs extra!).

5. Money

This menu provides a range of facilities which don't really fit in anywhere else. They can be ignored most of the time, but you may wish to play with them when you become familiar (i.e. bored) with the rest of the game. The main use of this section is to improve your car when you have the money.

6. Controls

This one can be conveniently ignored most of the time. The mouse options may be useful. The speed of the mouse can be changed by clicking with the left or right buttons over the option "Slow/Medium/Fast Mouse". The control mode can be set to "Mouse", "Keyboard" or "Analogue" (if you have an I/O card). In addition to this the control mode can be set up more specifically using the "Custom Menu" option.

There are several joystick interfaces available now. The RTFM joystick can be used by plugging it in and selecting Keyboard controls, the Serial Port joystick can be used by loading up the module provided on the system disk, and selecting keyboard controls.

The joystick modes allow an Atari style joystick to be used, with left and right motion controlling the steering, forward to accelerate, back to brake. The fire button operates kickdown on an automatic car and will change gear on a manual car, up if the stick is pushed forwards and down if it is pulled back.

For ease of use, the clutch is controlled automatically on all cars. The clutch is disengaged when the engine revs are low (to stop the car from stalling) and when you try to change gear. The exception to this is the Analogue controls where the clutch is fully implemented on manual cars allowing bumpstarts, and clutchless gear changing which is not (quite) impossible!

The Analogue mode allows the use of an Analogue port to input the position of the steering wheel and three pedals. This is by far the best way of controlling the car, but unfortunately it needs extra hardware in the shape of a steering wheel and three pedals. These may become available in the future, or construction details for the DIY enthusiast are available in the section entitled Technical Information.

Your First Appearance in the Driving Seat

There comes a time in the career of every young driver when he becomes bored with wading through endless menus and setting up his car, he hears the call of the open circuit, and he craves for the wind in his hair, so he turns off his computer and goes out for a drive. For those of us who aren't lucky enough to possess a Sierra Cosworth, fuelled up and ready to go, we have an alternative....

Controls	***Mouse***	***Keyboard***	***Analogue***	***Joystick***
Steering	left-right	Z-X	Channel 1	left-right
Accelerator	right button	Page down	Channel 2	up
Brake	middle button	Copy	Channel 3	down
Clutch (Manual)			Channel 4	
Kickdown (Automatic)	left button	Delete	Channel 4	fire

Gears (Manual)		
Gear up	up arrow	fire-up
Gear down	down arrow	fire-down
Gears 1-5	numbers 1-5	
Neutral	N	
Reverse	R	

Gears (Automatic)	
Drive	D (or keypad 1)
Neutral	N
Reverse	R (or keypad 0)

Game Controls			
Starter	S	Pause On/Off	P / Spacebar
Stop engine	A	Volume Down	F1
Toggle Handbrake	H	Volume Up	F2
Mend Car (in pits)	M	Toggle Sound	F3
Refuel (in pits)	F	Leave Car	Q-F12

Select the "Race Menu" on the main menu screen, and then choose "Solo Practice". You are deposited in the driving seat of a race ready Astra GTE (even in the world of the imagination, you have to save up for a Cosworth!). The handbrake is initially on and the car is in neutral so start the engine by pressing "S", but hold it down for about a second, just as you would a real starter, until the engine is actually running. The "Practice" car is an automatic, so the controls are simply, right mouse button to accelerate, and middle mouse button to brake. It has a cruise control, so, after releasing the accelerator, the car will try to continue at the same speed until it hits something or after braking, when it will slowly roll to a halt. With automatic gearboxes, the left button is a kickdown (to be used in emergencies!). To move off you must put the car into drive by holding down "D" until the gear is selected, release the handbrake with "H", and then press the accelerator briefly. Moving the mouse to the left or right will steer the car, but do so gently when travelling at speed.

Once you have crashed inextricably into the barriers, you will need to move backwards to free yourself. Select reverse using "R" and then accelerate gently, being careful not to crash into the other barriers. When you are clear of the barriers, stop using the middle button for brakes, then turn the steering wheel the other way and use "D" to select forwards again. The more advanced student can put the handbrake back on by pressing "H" again, and select neutral by pressing "N". Good luck!

When you have got used to life on the open road in the easy car, select the "Player Menu", then "Load Player" and "O.K.". Select "Automatic" from the list of cars and have a go in a real racing car. If you want to try your hand with a manual gearbox, select the "Manual" car.

The "Automatic" car is similar to the "Practice" car except that it is not fitted with a cruise control and therefore slows down and stops if you release the accelerator. This makes it easier to control the car's speed on bends, but to go slowly, you must tap the accelerator in short bursts.

Your First Race

When you are confident that you can stagger around the track without actually killing yourself, you are probably still not ready to enter a race but have a go anyway. First you need to load a proper car and a real circuit instead of the practice ones. Both the "Player" and "Course" menus have a load option, so load Silverstone and the "Automatic" car, select the "Race" option and you will be entered for the first race in the season. Click on "Enter Race" to do your qualifying laps and you will be placed in the pitlane ready to qualify. If you set a lap time which is good enough you can go on to enter the race, otherwise, you

fail to qualify and the race will be run without you.

You may find it difficult to qualify at first, remember most of the other drivers have been doing this for years and they have much better cars than you. You may find it useful to improve your car as much as you can afford, before you even attempt a race, but remember you will need some money for repair bills.

A quick note on the system of saloon car racing. There are three classes of car: class A which is dominated by Sierra Cosworths, Class B is mainly BMW M3s and class C is Vauxhall Astras. All the cars race together, but you are awarded points and prize money according to your position in your class. Each year there is a season of ten races, and at the end of the season, there is a winner from each class, with the most points. The winner of class A gets the Saloon Car Driver of the Year award, and can brag about it afterwards. Top drivers in the other classes are sometimes offered promotion to the next class depending on their performance.

And now back to your first race. If you manage to qualify, you will be placed on the starting grid ready to race. From the back of the grid, you cannot see the starting lights, so you will have to watch the cars in front to know when to go. As you pass the pit lane, your pit crew will signal to you, first the number of complete laps remaining, and then your position in your class last time you crossed the starting line. They may also hold a red board which means come to the pits for repairs.

Mending Your Car

In the dangerous world of high powered car racing, there are times when the inevitable accidents occur. If you survive you might be worried about the state of your car. Give the instruments a quick check over, they will often warn you of forthcoming disaster (for example, if they are covered in blood, you have banged your head on the steering wheel). If you think you are in need of repairs, go into the pit lane, park in your bay where you will not be rammed by other cars entering the pits, stop your engine, put on the handbrake and press "M". A team of highly trained pit crews, or, failing that, your mechanic, will leap to your aid, make whatever repairs seem like a good idea at the time, say "Frr...Weell, I could maybe fit you in next Tuesday?" and on you go.

Needless to say not all damage can be patched up in the pits during a race, and sometimes you will need to retire and make (very expensive) repairs after the race. Did I mention that saloon car racing is an expensive business?

Improving Your Car

If you have the money you can make numerous alterations to your car. Most of these are accessed via the "Money" menu and most of them are expensive. It can often prove worthwhile to try out new products, but sometimes they are not as good as you hoped, so remember to save your car from the "Player Menu" before trying out expensive new gimmicks.

Gears

The simplest method to improve your car is to use the "Tune Gears" option in "Race Menu", to alter the gear ratios. This is free since it only involves a few hours of your mechanics time and you are paying through the nose for his services anyway. The gear ratios are shown as a number, which is the number of turns of the engine to one turn of the wheels. So a big number is a low gear (good acceleration but low top speed) and a small number is a high gear (bad acceleration but high top speed). The ratios can be changed by pointing to a gear and clicking the left button to lower the gear and the right button to raise it. The middle button will return the gearbox to the state it was in before you started messing around. A general guideline is that you use high gears for a fast flat straight course such as Silverstone, and lower gears for twisty slow courses like Brands Hatch. You will also need higher gears if you get a bigger engine for your car, because it can generate more power. If you find your car is sluggish in the higher gears, you should lower the ratios, and if it seems to accelerate rapidly into top gear, and then trundle along with the engine screaming, you should raise the ratios.

After you have fiddled with the numbers, click on "O.K." and you will see a graph. There is a line for each gear showing the power of your car (vertical scale), against speed (horizontal scale). Each of the red lines represents a gear, the tall spiky one is first gear and the flat smooth one is top gear. The height of the curve represents the peak power your engine can generate in that gear, and the width of the curve shows the speeds you can use the gear. First gear generates lots of power when you are going slowly, so the first line is very high at the left hand end, but is useless if you are travelling fast, because the line drops to zero on the right hand side of the graph. Top gear generates much less power so the line is lower, but it can be used at high speeds because the line goes on to the right hand side of the graph. The graph is useful because you can see if your gears are evenly spaced, or if some of them are too close together and are going to be useless.

Extra Bits

When you have been racing for a while, and have built up a few savings, you may decide to improve your car a little more. This can be done with the "Hot Tweaks" option in the "Money" menu. There are several extras you can add to your car (for a price!) and you can change the make of tyre you are using. You can also buy a new engine for your car, but as always you get what you pay for!

Antilock Braking System (ABS)

This is a device found on many real cars which simply releases the brakes when (or preferably just before) the wheels lock and start sliding. If you can afford it, it may well get you out of trouble a time or two.

Antispin Clutch Override (ASC)

This device is similar to the ABS except it acts on the clutch, and disengages the drive from the wheels if they are starting to spin. Again it makes driving easier but it does put a damper on those rather impressive wheelspin starts.

Engine

There are four engines available with widely varying performances and prices. When you change your engine you will get some money back by part exchanging the old one, but it does depend on its condition of course.

Tyres

If you buy a new engine, you will probably find that the extra power makes your car skid all over the road (what's new!), so you need some new tyres. There are four types of tyre, described by their price, but the more expensive ones can only be used if you have large wheel arches, and your first car does not! Remember, you need four tyres to qualify, and four more for each race. The price is for each tyre, so it can be an expensive business running on good tyres.

Buying a New Car

There is a limit to how much you can improve a car and there comes a time when there is no alternative but to sell it and buy a new one. If you manage to get sponsorship for another class you will have to do this anyway. You will be asked a range of questions and then a design will be put together to your exacting specifications.

GEARBOX

One of the options when buying a car is the type of gearbox. Once you have bought the car, this cannot be changed until you buy a new car. There are three types of gearbox which are described as follows:

Manual Gearbox

This is the hardest gearbox to use and the most realistic. The clutch is handled automatically, except for Analogue controls, but you decide when to change gear, and do so by pressing up arrow, down arrow, R, N or a number 1-5. The clutch is engaged when you are operating the gears or when your revs fall below a certain limit. This car cannot be stalled. The starting player called "Manual" has this type of gearbox.

Using a manual gearbox with the Analogue pedals is a little different, the clutch is fully implemented and you must use it to change gear or when stopping.

Automatic Gearbox

This operates just like an automatic car. Use R, N or D to select Reverse, Neutral or Drive, and then simply accelerate. In drive, the gears are selected automatically without you needing to do anything. In this mode, the left hand button is a kickdown. This will try to throw the car into a lower gear and keep it there until kickdown is released. This is useful for getting a little extra acceleration in emergencies, but it does not always make the car go faster.

Computerised Gearbox

This gearbox works similarly to the automatic, except it has a cruise control. When the accelerator is released, the cruise control will try to maintain the same speed. It is probably the easiest gearbox to use and it is the one used on the "Practice" car. Note that when the car is skidding, the cruise control will rev the engine harder, so it should be knocked out by tapping the brakes to help your car recover. The kickdown function can also be used on this gearbox.

LARGE ARCHES

Another option when buying a car is the option to have large wheel arches fitted. These allow you to use wider tyres, which are generally better and (naturally) more expensive.

FRONT OR REAR WHEEL DRIVE

The choice of engine position affects the car's handling in skids. The behaviour of sliding cars is extremely complicated and, as a general rule, if you have lost control you will be lucky, or a good driver, or both, if you get it back. The best

course of action is to release the accelerator and brake, steer into the skid and pray.

Hints and Tips

a) You start off with the cheapest tyres money can buy and they stick to the road like a damp sponge. Put one wheel on the grass or corner too fast and you will lose control, your position and possibly your life. Always drive carefully and concentrate.

b) If you drive down the middle of the road the following cars may not be able to decide which side to overtake you, and they may hit you. Letting cars by will stop them from doing this and the other drivers will not get so frustrated.

c) If you have left the road, you will find the verges very slippery, take your time and nurse your car back onto the road. Accelerating hard on grass will get you into worse trouble!

d) When moving off the grid, watch the cars in front carefully, if one misses a gear you may have hit him before you realise.

e) As you approach a bend, swing to the outside, then swing in to 'take the apex' and swing out again as you leave it. Go into bends slowly and out fast, and try not to clip the kerb at 100mph - it can be very messy.

f) When the car skids during acceleration or braking, you should release the accelerator/brake to recover from the skid, keeping the button pressed will only make things worse!
In powerful cars you may need to tap the button repeatedly, rather than keeping it pressed, just like in a real car.

Trouble Shooting

Saloon Cars fails to load on a 1M machine...Memory is incorrectly allocated. *Unplug or *Kill any modules not being used and try again. And or use the desktop task display to adjust memory allocations and try again.

Saloon Cars runs but display is flickery....Memory is incorrectly allocated. Use the desktop task display to set up 160K of Screen memory and try again.

Technical Information

Joysticks

Using the game with an RTFM joystick is fairly self explanatory. Select the keyboard control option and the controls will be Left or Right to steer, Up and Down to accelerate or brake. The firebutton operates a kickdown on an automatic car and will change gear on a manual car, up if it is pushed forwards and down if it is pulled back.

If you have a Serial Port joystick, this can be used by loading the module provided on the system disc before running Saloon Cars. Select the keyboard control option and operate the joystick exactly as above.

Steering Wheel and Pedals

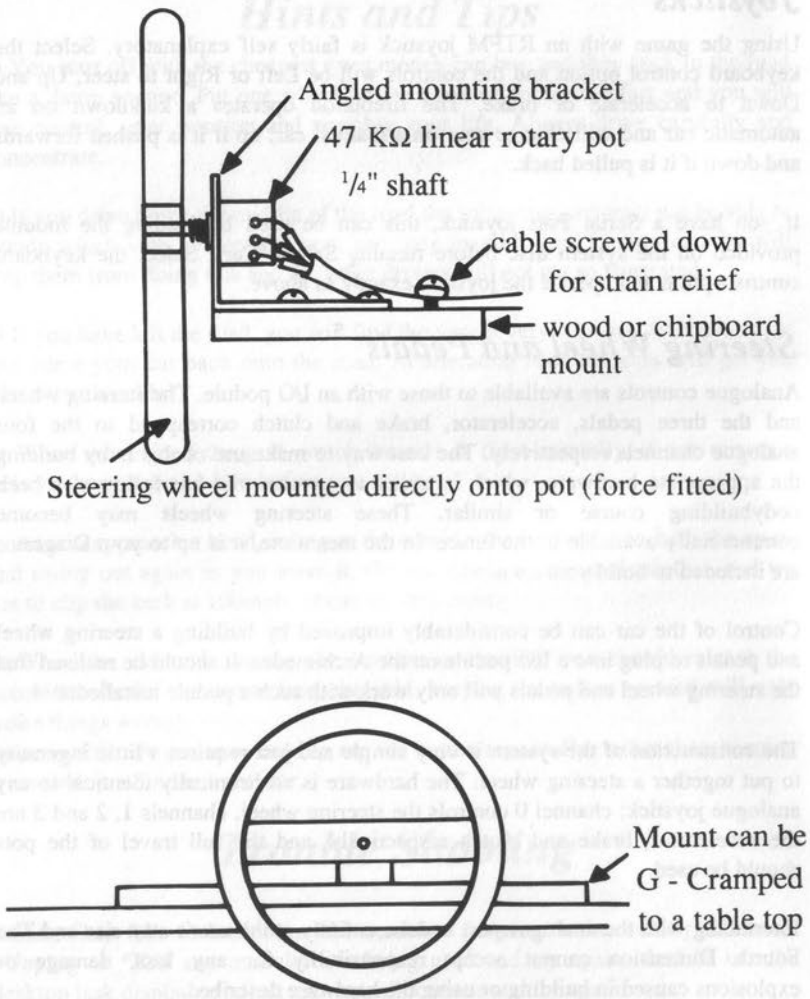
Analogue controls are available to those with an I/O podule. The steering wheel, and the three pedals, accelerator, brake and clutch correspond to the four analogue channels respectively. The best way to make use of this is by building the appropriate hardware, which is trivial to anyone who has followed a beeb bodybuilding course or similar. These steering wheels may become commercially available in the future. In the meantime, it is up to you. Diagrams are included to build your own.

Control of the car can be considerably improved by building a steering wheel and pedals to plug into a I/O podule on the Archimedes. It should be realised that the steering wheel and pedals will only work with such a podule installed.

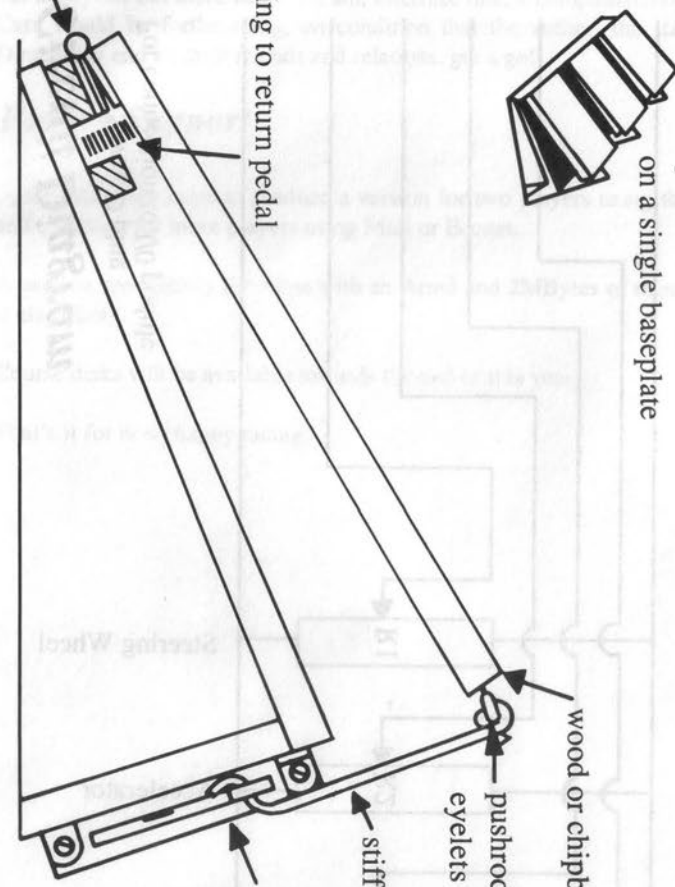
The construction of the system is very simple and just requires a little ingenuity to put together a steering wheel. The hardware is electronically identical to any analogue joystick; channel 0 controls the steering wheel, channels 1, 2 and 3 are the accelerator, brake and clutch respectively, and the full travel of the pots should be used.

Interfacing with the analogue port is done entirely at the user's own risc and The Fourth Dimension cannot accept responsibility for any loss, damage or explosions caused in building or using the hardware described.

Steering Wheel



Pedals



Hydraulic Chair

The program also features a facility for connection to a hydraulic chair. Unfortunately, such devices do not exist for the Archimedes to my knowledge but if anyone out there can build and interface one, a compatible copy of Saloon Cars would be forthcoming, on condition that the author, the staff at Fourth Dimension and all their friends and relations, get a go!

Future Support

In the future we hope to produce a version for two players using the Serial link and a version for more players using Midi or Econet.

A version specifically for those with an Arm3 and 2MBytes of memory or more is also likely.

Course disks will be available towards the end of this year.

That's it for now, happy racing.

Written by Andy Swain

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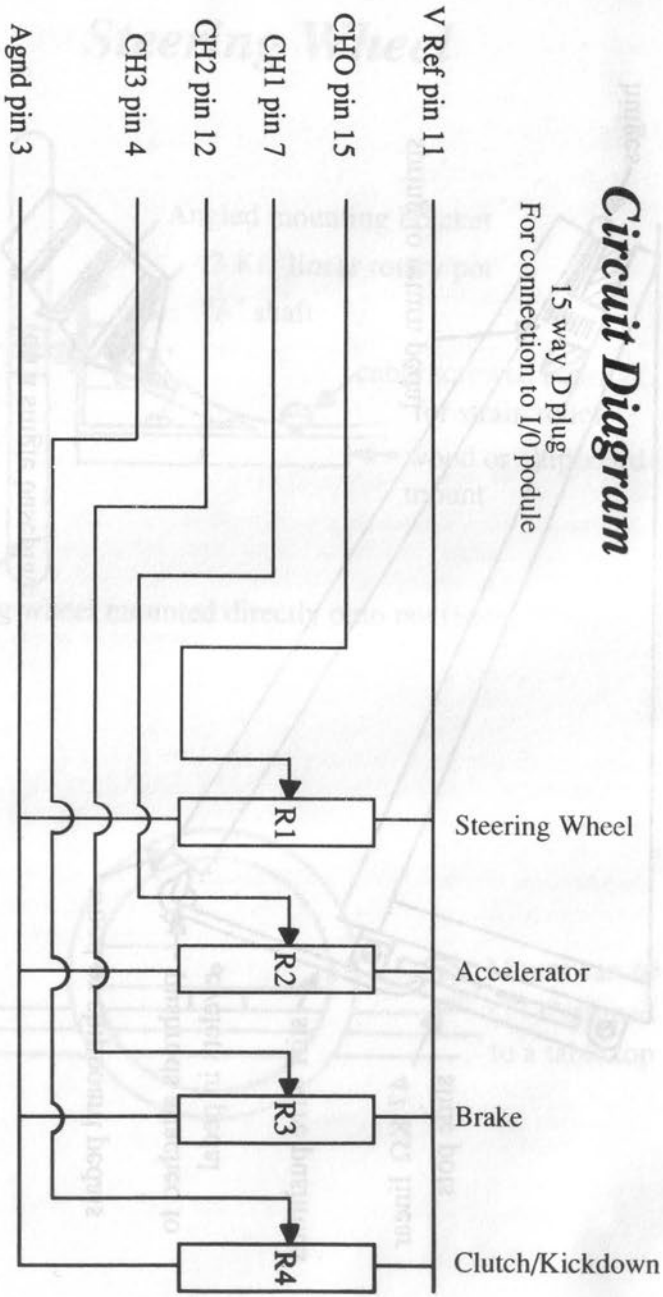
Circuit Diagram

15 way D plug
For connection to I/O podule



R1 47 KΩ linear rotary pot
R2-4 47 KΩ linear slide pot