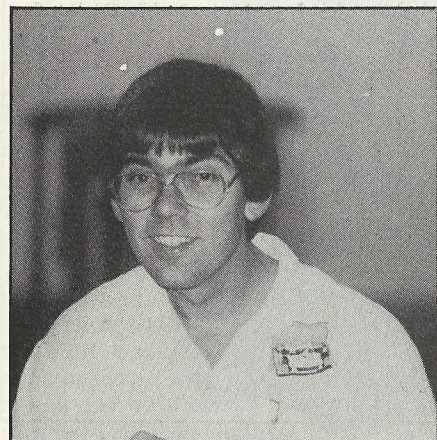


The 1984 1/12th Electric World Championships.

August 10th-18th —

Herning, Denmark



Bud Bartos, winner of the Stock Class.

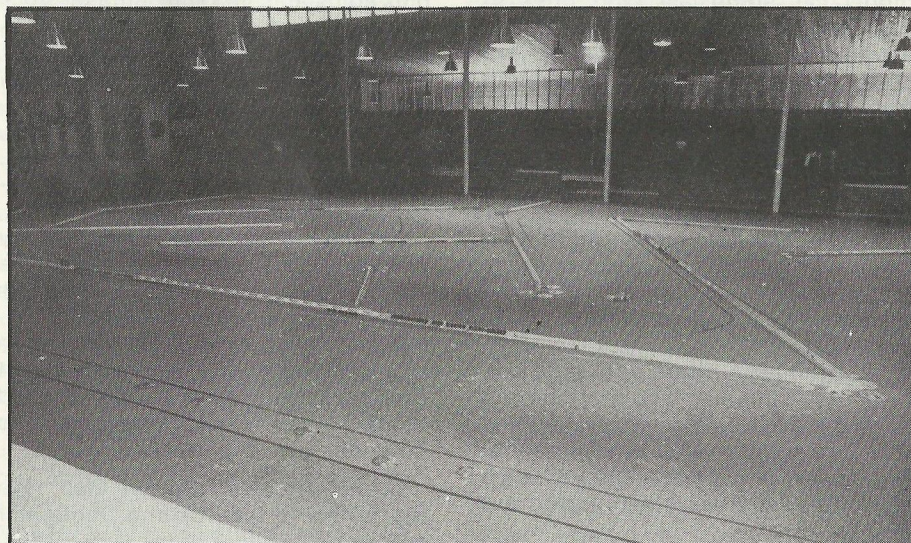
doubt protests about lap times were virtually eliminated by the use of this system which was originally tested on 1/6th scale cars. The only small snag with it was that it did not store names and best scores for working out the overall results, and at this meeting they had to be transferred manually to another computer for these purposes.

The Cars

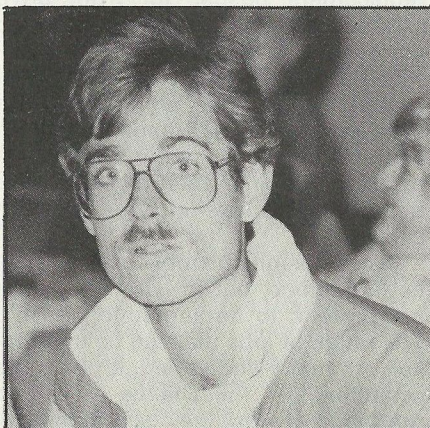
As might be expected the Associated RC12i and RC12iS cars were much in evidence, although the independent suspension front end was not universally popular. Quite a few drivers switched back to the old front end during Standard class, and still more preferred to change for Modified class. The track included a high proportion of hairpins which required the cars to change direction sharply and apparently the older set up performed better. Many of the Associated cars had been subjected to extensive lightening work and some even carried ballast in modified class — the Danish 25 øre coin



Tony Niesinger, winner of the Modified Class.



Finn Gjersoe the local Danish Champion who achieved some remarkable times.



The One Twelfth Scale Electric World Championships are held once every two years, the meeting at Herning in Denmark being the second time that the World Championships have been run. Between August 10th and 18th nearly 100 of the best drivers in the world competed for the chance to be declared one of the two World Champions (one for Standard Class and one for Modified Class) at the end of the meeting.

The entry list included most of the well known names from around the world, with a strong team from America including reigning Standard Class World Champion Kent Clausen. Great Britain had numerically the next strongest team with 13 drivers including the European Champion Phil Olson and the 1983 Euro Champ Micky Booth. In all 16 countries were represented, America, Great Britain, Norway, Australia, Austria, Holland, Italy, Japan, Belgium, South Africa, Germany, Sweden, France, Argentina, Finland and of course the host country Denmark.

The track was laid on the usual (for European meetings) Primafelt carpet which was a new experience for some of the competitors, although the provision of generous amounts of both uncontrolled and timed practice sessions enabled most of the drivers to set their cars up adequately. The tape joins were made underneath the carpet to ensure that the track was as smooth as possible and to eliminate slippery strips of tape on the racing surface. Track marking was by very severe lengths of wood that were firmly stuck down to the carpet making for a testing track that would take a lot of skill to lap consistently quickly — which was exactly how it should be for the most important meeting in the World!

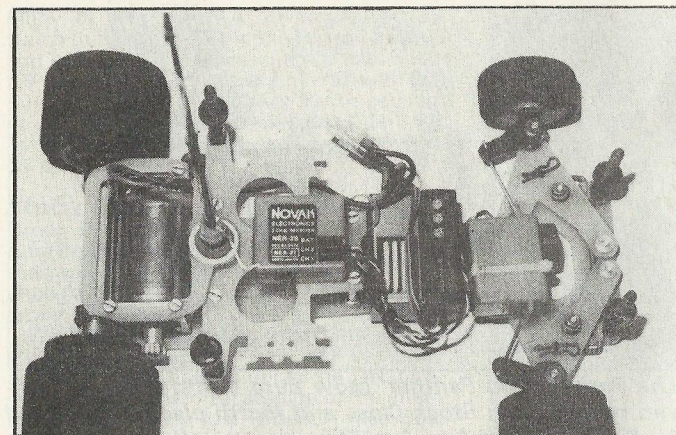
A real highlight for most of the drivers must have been the automatic lap counting system used for this meeting — a small transmitter (weighing about 25g) was attached to each car before the race and the signal was detected by a loop of wire on the timing line. In fact two separate automatic systems were in use to provide a back up in case of problems, and without a

The track was well laid out and designed to really test the driving skills.

was found to have a hole in the middle which made it ideal for bolting to the chassis plates!

The financial rewards for manufacturers who can say 'World Champion' in their adverts are naturally a big incentive to large amounts of sponsorship — Associated probably were the largest single sponsor present, as most of the Americans seemed to be Associated drivers, and in addition most of the other countries had drivers who were 'supported' by Associated in some way.

The Schumacher car was probably the most popular chassis after the Associated, the Team cars being unchanged from the usual specification for this race, the bodyshells, however, were the recently released Alpha 'Shadow'.



A Schumacher 'C' car with the new Futaba speed controller fitted. This is in two parts, a 'control' module with the electronics and a 'power' module containing the transistors and heatsinks.

After a long delay following the European Championships the Parma 'Euro Panther' at last made its debut in production form at Herning with kits available for sale. The cars of Buddy Bartos and Chris Arnold featured a rear anti-roll bar which also allowed chassis tweak adjustment, although this will not be part of the standard kit. Phil Olson (whose car was reputed to be about 30g underweight in standard class before being ballasted with loose change) chose to run a straight kit version. The availability and performance of the Panther persuaded a few drivers to build one while they were at the meeting!

There were not many Delta cars present, and those that were proved difficult to get just right, the American Delta drivers in particular had all sorts of problems although some of the Europeans appeared to have no trouble in this respect.

The Japanese pit area was full of the interesting Kyosho 'Plazma' car — a fairly standard 'floating power pod' with sprung front kingpins' type car, very European in appearance.

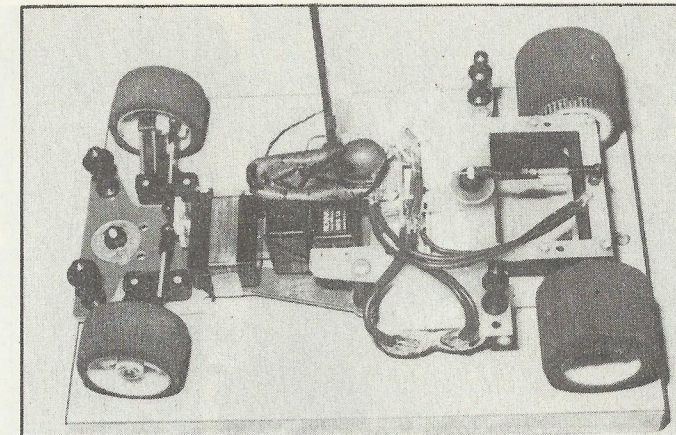
Speed Controllers

A tremendous variety of speed controllers were in use with many of the latest electronic ones featuring FETs (field effect transistors) which are said to be so efficient that turbo relays are not needed. In most cases reverse was dispensed with as well (although the track was such that reverse was very useful, most of the drivers took the view that if reverse was required the time would be no good anyway, so you were better off going for maximum forward speed!) making for a very light controller. Christian Sterrs CS controller which was used by Andy Dobson and Phil Davies of the Schumacher team weighed in at 31g complete with plugs and sockets, and the reversing version which needs a relay weighed 45g. Both of these controllers are still being developed, but when they do make it to the market place they are likely to be at least double the usual price for a conventional transistor speed controller.

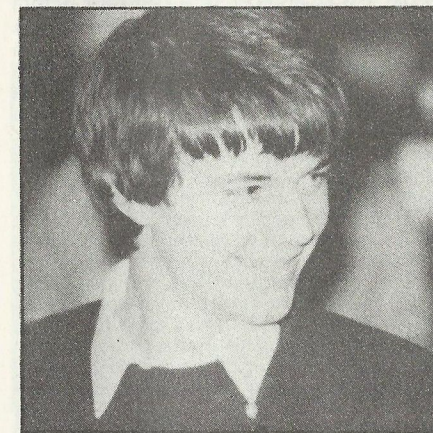
The Novak electronic controller which seems to have started the 'new generation' of very expensive and highly efficient controllers weighed only 26g, but did not find universal favour among the competitors — most of the cars that arrived with one fitted soon reverted to the usual resistor set up.

A Delta FET speed controller was also in use by some drivers, but these apparently proved too juicy to last the race distance, being quickly discarded. Also on the FET

Mike Reedy and team mates. Note large bottle of Reedy additive in centre of pic.



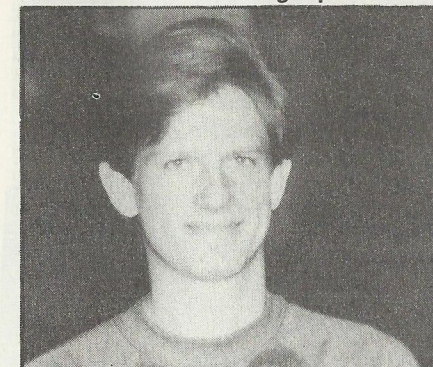
The Associated RC12i of Kent Clausen — note the very large chassis stiffener and the Danish 25 øre coin bolted to the chassis at the front as a ballast weight!



Christian Keil who startled many drivers with some amazing lap times.



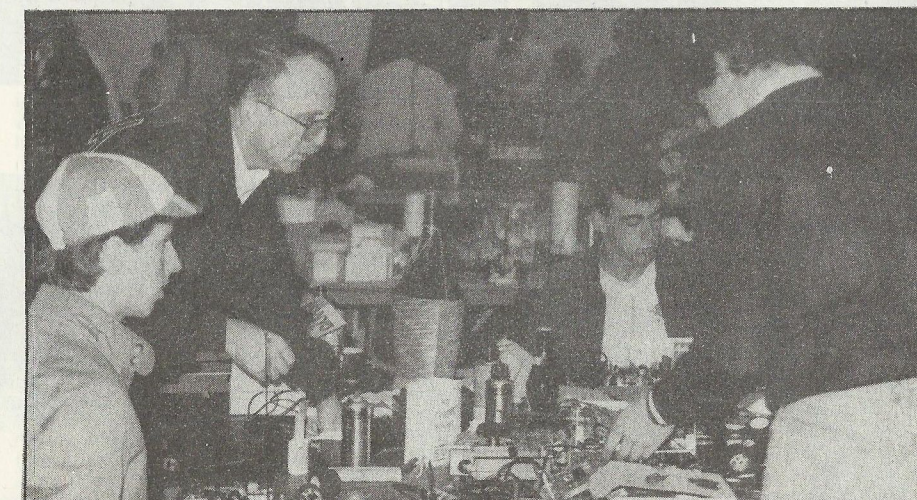
Micky Booth well placed in the Modified Class.

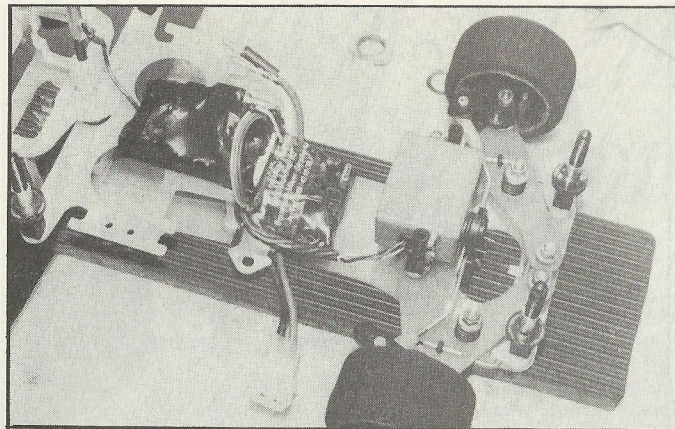


Chris Arnold one of the two "Brits" who got into the Modified Final.

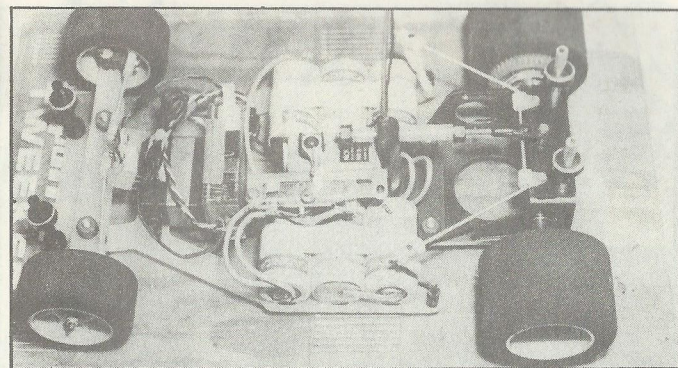


Glyn Peglar drove well but couldn't just reach the final.





The CS speed controller installed in Andy Dobsons 'C' car. This is still in the throes of 'product development' unfortunately!



The Parma 'Euro Panther' (now Euro World Panther?) driven to victory in Stock Class and fourth place in Modified by Bud Bartos of America. This was actually a production kit version, although the rear anti-roll bar set up is an optional extra. The car's designer, Chris Arnold, finished eighth in the Modified final.

bandwagon were many of the Italian competitors with a controller weighing 52g based upon a Simprop design — although as it turned out the top Italian driver used a Demon 2D...

A high proportion of the drivers (which increased as the meeting wore on!) used a resistor controller with various devious tricks to speed up the response time, such as Christian Keil of Germany who used the brake side of the resistor for forwards, and even that was shortened! It must have been like an on-off switch.

Stock Class Qualifying — Day 1

Almost before the meeting had got underway there were problems for some drivers as the frequency analysers sniffed out suspect transmitters — all Futaba 2M 'Twinstick' transmitters (especially favoured by the British drivers who prefer to have a transmitter that puts out so much power that the aerial glows in the dark!) were declared to be a possible source of interference to the other competitors. They were allowed to be used, however, on condition that no other driver suffered interfer-

ence — unfortunately this occurred so Phil Olson and Andy Dobson among others were left without transmitters. Luckily a very loud cry of 'Help!' was heard in England by George Land who rounded up a collection of Futaba FP-T2LGX transmitters and personally flew them to Denmark. Whether or not the drivers could adapt to a small modern transmitter after using the bulky 2M was another matter entirely.

The timetable for the meeting laid out in the program by the organisers was rigidly adhered to, much to the relief of the drivers drawn in the early heats, and qualifying began at 8.00 am on Sunday, August 12th. The qualifying was spread over two days, each driver having six heats, three on each day, the field being divided into A and B groups who would alternate between the morning and afternoon sessions so that sightseeing or lying in bed recovering from a hangover could be indulged in.

The 'Stock' motors were issued by the organisers and were of the Igorashi 05 type (donated by International Components Corporation Japan, Ltd) — two motors were picked by each driver, with

the option to buy a further two. With such a large number of motors there were obviously a few 'flyers' and 'dogs' in the batch, as unfortunately 05s do vary quite considerably, but with four to choose from most of the drivers managed to find a reasonable one. It was noticeable that most of the top drivers (especially the Americans) had no trouble finding plenty of speed!

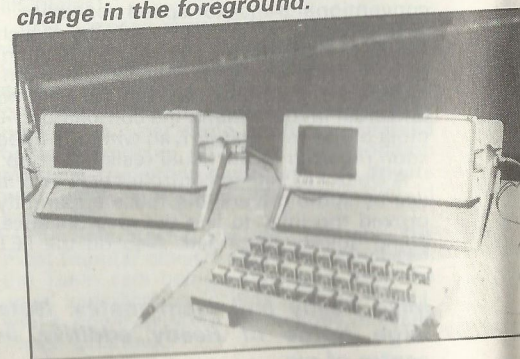
After Group A Round 1 the leader was Nigel Hale, just missing 33 laps with a 32/0.1 in heat 6, about a lap clear of the only other driver to achieve 32 laps, Tony Wells (32/17.1). By the end of the first morning of qualifying nobody had bettered Nigel's time, but quite a few other 32 lap times had been posted — Kent Clausen (32/1.3), Andy Dobson (32/4.3), Buddy Bartos (32/4.4), Mike Toland (32/11.4), Glyn Peglar (32/13.3), Les Pipe (32/15.0) and Fraser Smart Jr. (32/15.0).

Group B actually had a lower percentage of drivers able to match these times, but some of them, such as Christian Keil (FTD at the European Championships) were among the favourites for a final place.

Tony Neisinger gets his World Championship award from IFMAR President Ted Longshaw.



The really superb AMB Auto lap counter showing the responders on charge in the foreground.



Many of the Group A drivers stayed to watch the danger men in the second group, and Keil did not disappoint them with a 32/1.9 to move into third place overall with his third run. Other good times in the second group were Emanuele Zagatti (32/13.6), Tony Neisinger (32/15.8) and Terry Rott (32/16.1).

Stock Class Qualifying — Day 2

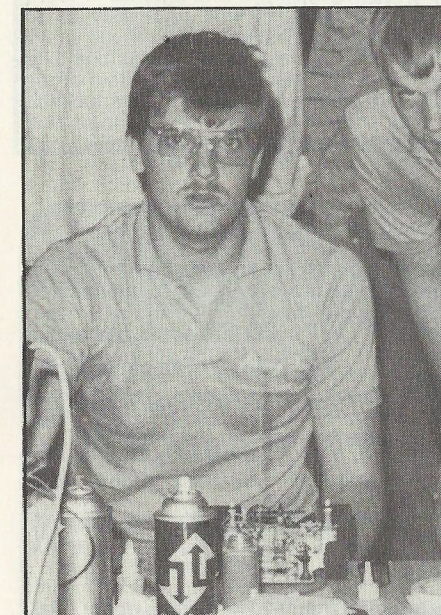
Group B began the last of their qualifying runs in the morning, and by the end of the session the situation at the top was largely unchanged, Christian Keil failing to improve on his scores from the day before.

With the four fastest qualifiers going straight through to the final, the competition was really hotting up as the Group A drivers began their last session in the afternoon. In the very first Group A race Bud Bartos of America driving a Parma Panther used his very fast motor to good advantage to record 33/13.3, but Kent Clausen took FTD with 33/11.6 in Heat 1 Round 6. The four drivers straight through to the final were therefore Clausen, Bartos, Hale and Ralph Burch Jr.

The rest of the places in the ten car final would consist of the winner of each of the semi finals, plus the next four fastest losers, so after the running of the lesser finals there was still plenty of action to come on the final day of Stock Class racing.

Stock Semi Final 'B'

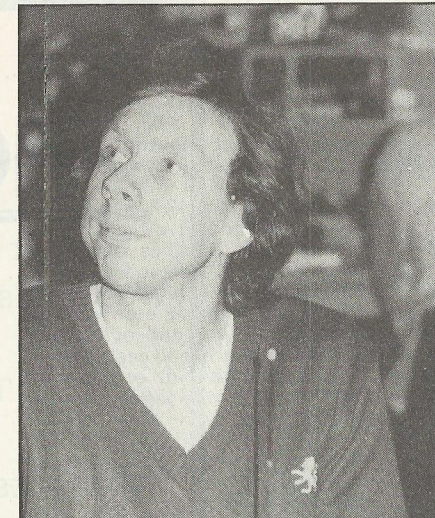
Andy Dobson had the misfortune to incur a penalty for a jump start, his jinx in major



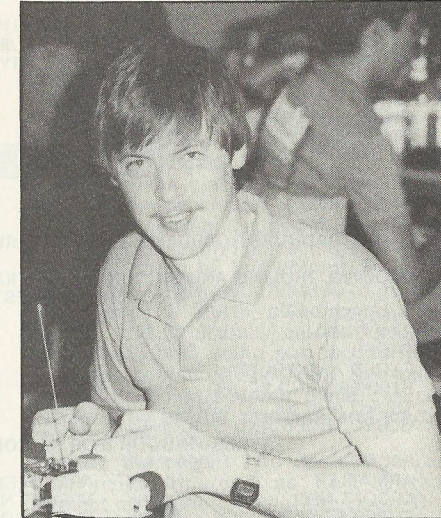
Jimmy Davies, showing the strain, being given some words of encouragement by brother Wayne.

competitions striking yet again, and although he ran in the first three for a few laps a series of crashes persuaded him to retire early on. Mike Lavacot led from the start, putting in laps of about 14.7 seconds to stretch the rest of the field headed by Les Pipe and Jim Davis. Halfway through the race Lavacot was the only driver lapping in under 15 seconds and had a large lead over Les Pipe and Mike Toland who had moved up into third. Les Pipe had unfortunately been caught napping at the start of the race and had been unable to fully charge his race cells, which meant that he had to use an old pack which proved unequal to the task.

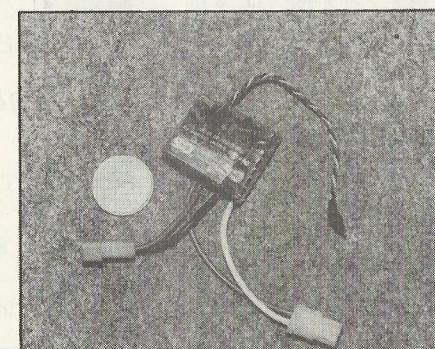
With a minute to go Les Pipe's cells had called it a day, and he had to allow both Mike Toland and Jim Davis to slip past.



Andy Dobson placed 2nd in the Modified Class.



Nigel Hale placed 2nd in the Stock Class.



The CS Speed Controller used by Christian Keil.



The responder (weight 25 grams including clip and washer) used on the car by the AMB Autocount system.

Mike Lavacot, however, had no duration problems and won the race easily by over a lap with a time of 33/12.9, just 1.3 seconds off FTD.

Stock Semi Final 'C'

Christian Keil led the second semi final from the start, with Micky Booth in second followed by Finn Gjersoe, whose name was giving the commentator a hard time! In fourth place was Emanuele Zagatti driving a Delta car, and back in sixth was Rick Hohwart of America, lapping in 14.6 seconds, as fast as Keil.

With three minutes gone Finn Gjersoe appeared to be in some kind of trouble and he actually let Zagatti go past him to take second, Micky Booth having dropped back a little. Despite his problems Finn Gjersoe overtook Zagatti at the end to finish second, with Rick Hohwart in fifth after a few crashes in the closing stages.

As the results were posted it became clear that the second semi had been very much faster than the first one, and only Lavacot made it into the final from Semi B, with Keil, Gjersoe, Zagatti, Booth and Hohwart from Semi C.

The new generation of speed controllers using FET were very popular.

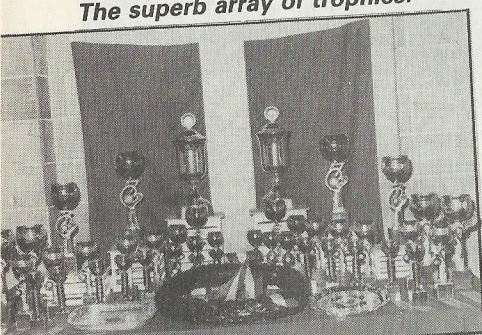
A Final — Stock Class

All of the drivers in the A Final were introduced to the crowd to take their bows before the race got underway, a nice touch. Just before the start the track looked like a miniature Formula One grid with mechanics fussing over the cars, wiping tyres and squirting in last minute applications of motor additive, but eventually the grid was cleared and the race was on. Bud Bartos took the lead off the line, followed by Ralph Burch and Nigel Hale, but a misjudgement put Bartos down to fourth. Micky Booth was soon past Burch, but Bartos had a harder time claiming third place as he took Ralph Burch down the straight only to be re-passed on the end corner.

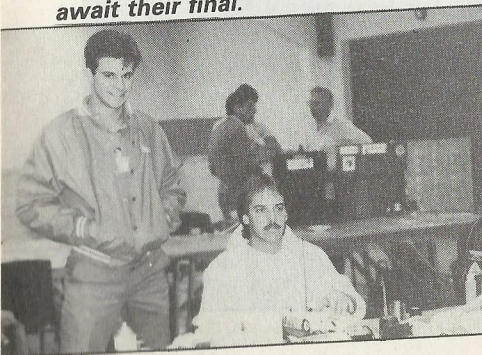
Eventually, however, Bartos broke free of Burch and set off after the leaders. With two minutes gone Micky Booth was in the lead, but Buddy Bartos was close behind and lapping faster than Micky and Nigel. Rick Hohwart found himself somewhat out-gunned in the final and seemed to spend most of his time moving over to let the faster cars through, to the extent that he hit the wall several times! About halfway through the race came the incident that probably decided the World Championship when Bud Bartos got alongside Nigel Hale at a rather unsuitable place for overtaking and knocked him out of the way to take second place. Long will rage the debate over whether Nigel could have won but for this incident and who was at fault, but the referees did not issue a warning to Bartos. Buddy had such a speed advantage that he could have probably afforded to wait a while, but this is easy to say for those who were not in the race.

It should be said that Buddy Bartos was a model of restraint when it came to taking the lead from Micky Booth, several times backing off to avoid contact, and finally

The superb array of trophies.



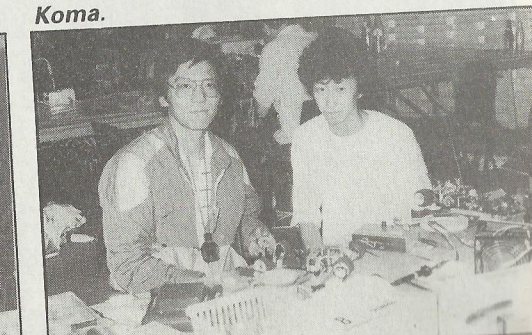
Mike (awesome) Toland (L) gives some support to Kent Clausen as they await their final.



Winner of the Stock Class Bud Bartos with Nigel Hale (2nd) and Micky Booth (3rd).



Kyosho designer Kazuhiko Nakanishi with top Japanese driver Junichi Koma.



brilliantly overtaking him around the outside at the end of the straight. As Micky's car slowed he allowed Nigel past to give him a chance of catching the leader, but Bartos was well in control and won relatively comfortably.

Modified Class Qualifying — Day 1

Group B were the first to qualify in Modified Class, the format being the same as that for Standard Class, six rounds spread over two days. The early leader after the first round was Johan Klier of Germany (33/10.4) driving a Schumacher car, followed by Marco De Marchi (33/17.2), Rick Hohwart (33/25.3) and Terry Rott (32/3.8). Klier did not improve during round two, but there were changes behind him as Emanuele Zagatti recorded 33/11.0 to take second place with Tony Niesinger third (33/15.8) and Marco De Marchi fourth (33/17.2). The final round that morning saw Klier retain his lead with a better time (33/5.2), and Christian Keil moved up from 31st to second with a 33/8.5. The top six drivers achieved 33 laps, although Junichi Koma of Japan only just failed to make it with a 33/0.5 for seventh place.

The generally faster Group A drivers in the afternoon really took charge, however, in the first round Koma was displaced from seventh to sixteenth and Mike Lavacot took FTD with a 33/2.9. Finn Gjersoe moved into third behind Johan Klier, and Bud Bartos was close behind him with a 33/7.7.

In round two Finn Gjersoe managed to trim 1.1 seconds from his best time to remain in second, and Chris Arnold did a 33/5.7 to move into fourth place, while Tony Wells equalled Bud Bartos' time of 33/7.7 to take sixth place. In the last race of the day some really fast times started to appear — Lavacot with the first 34 lapper (34/23.3) and Kent Clausen moved to second with 33/3.0. Finn Gjersoe stayed in third, but his time was equalled by Micky Booth to take fourth place.

It was apparent that with times as close as these (positions two to twenty all had 33 laps), it was just as well that the automatic lap counting system was in use, although at least one car had a lap missed for some reason. In Chris Arnold's first race he definitely narrowly won from Nigel Hale, but the primary lap counting system did not register his last lap. Luckily the back up system found the missing lap, but it did shake some drivers confidence in the lap counting! Interference from the motors was blamed for some malfunctions — no doubt these problems will soon be ironed out.

Modified Class Qualifying — Day 2

Group A began their final rounds in the morning session, although only Mike Toland made a big improvement in his fourth round to move into second place with a 33/0.5, the rest of the top positions being unchanged. Round five was a lot more interesting as Finn Gjersoe started his race from the pit lane after the rest of the field and won the race with 34/15.8 (FTD!) which went down very well with his home crowd. Terry Rott of America must have been the unluckiest driver at the meeting as with under a minute to go and heading for 34 laps his left front wheel detached itself as he entered the straight. One of the screws holding the wheel to the stub axle had

come undone.

For the fifth round the Team Schumacher drivers had abandoned their Trinity motors which were proving too thirsty for the cells in favour of Parma Yokomos, and this paid off for Andy Dobson in the last round with a time of 33/2.1, enough for the fourth straight through qualifying spot, but he would have to sit out the afternoon session to see whether he would stay there.

Christian Keil made an immediate improvement in Round four, moving from twelfth to sixth with 33/3.3, and Junichi Koma discovered how to make the cells last eight minutes to take ninth place with 33/4.9. There was no change at the top in Round five, but Tony Niesinger made a big (in this class of competition!) improvement to move to thirteenth with a 33/5.4, ten seconds better than his previous best.

There was now only one qualifying round to go, but Christian Keil made it count with FTD (34/13.6), pushing Andy Dobson down into the Semis and Ralph Burch Jr. into the 'D' Main. The straight through qualifiers were therefore Keil, Gjersoe, Lavacot and Toland, with only eleven seconds covering fifth place Andy Dobson and twentieth placed Tony Massey.

Ralph Burch Jr. finally got it all together in the 'D' main final, winning it with a time of 34/13.9, just 0.3 seconds away from FTD — that's racing for you!

Modified Semi 'B'

Parma had reclaimed the motor that Andy Dobson had used to put up the fifth fastest time for Buddy Bartos to use, but another one had been forthcoming which Andy had tested in the practice session and thought was even quicker! Added spice to the situation was given by the fact that both Dobson and Bartos were drawn in the same semi final — who would come out on top?

The answer looked to be Andy Dobson as he took the lead in the first semi final, quickly establishing a useful cushion over Johan Klier, Bud Bartos and Tony Niesinger with a succession of laps at around 14 seconds. Phil Davies managed to slip ahead of Tony Niesinger for a brief spell, but had trouble staying there despite driving a very tight line, and eventually Niesinger went back into fourth place. Halfway through the race Andy Dobson was still leading and putting in the fastest laps, but Bud Bartos was having problems with the tight hairpins in the infield which had allowed Tony Niesinger to catch and pass him.

With only two minutes to go Andy Dobson had a terrible misunderstanding with Junichi Koma who was being lapped, and lost several seconds overtaking him, but he was far enough ahead to retain the lead. Meanwhile Johan Klier had been caught by Niesinger who easily overtook him near the end to take second place.

Modified Semi 'C'

The start of the second semi final was delayed for a long time as Terry Rott complained of interference which was eventually sorted out, but when it did begin Terry incurred a one lap penalty for a jump start which put paid to his chances of making the final. Chris Arnold made the best start, although his car looked a little twitchy on the tighter corners which prevented him from really taking advantage of his good fortune. Behind Chris the pack was led by

Nigel Hale and Micky Booth.

Kent Clausen in fourth place took one bend too wide and Emanuele Zagatti nipped through on the inside, and shortly after Zagatti passed Micky Booth for third place, but the race was still very close. Nigel Hale clipped a dot going onto the straight which put him in the crowd and allowed Clausen to overtake Zagatti to move into second place. Clausen was putting in the fastest laps in the race, and he soon caught Chris Arnold who wisely decided to let him past and settle for second place in the hope that the time would be fast enough to qualify for the final. With two minutes to go Tony Wells was in fourth place pressurising Zagatti, and he actually passed him three times, each time being put back to fourth by some rough driving from the Italian. Tony finished in seventh place, his cells flattened by all the stopping and starting after the crashes.

When the results had been broadcast, the finalist emerged as Keil, Gjersoe, Lavacot and Toland straight through, Dobson and Clausen as the semi final winners, Niesinger, Bartos and Klier from semi 'B' and Arnold from semi 'C'.

A Final — Modified Class

After the introduction of the drivers to the audience, the usual photo sessions, sorting out Kent Clausen's interference problems and the last minute adjustments to the cars on the line, the last race of the meeting was at last started at little later than planned by the organisers.

Klier and Clausen made the best starts, but a tangle on the first lap allowed Tony Niesinger to take the lead and pull away from Christian Keil in second. Clausen was back to third just ahead of Bud Bartos, but he was soon up to second as Keil went through a bad spell — Finn Gjersoe was going well and had got in front of Bartos. Mike Lavacot was in fifth place and closing fast on the pack, but putting a rear wheel off the carpet spun him out and he lost three places.

After three minutes all the first five cars were on the straight together and Andy Dobson had joined the leading group in fifth place although Finn Gjersoe was lapping the quickest. Andy soon worked his way into third place behind Clausen, and both of them were catching Niesinger who was lapping very consistently without making any mistakes. With a minute to go Kent Clausen clipped a dot and Dobson and Gjersoe swept past relegating him to fourth, but it was apparent now that Niesinger could not be caught as the race drew to an end. Finn Gjersoe almost caught Andy Dobson on the line, but Andy's cells just held on to stay in second place.

As an indication of the quality of the race eight of the ten starters were on the same lap at the finish, a fitting climax to a fantastic meeting.

And Finally ...

The meeting, organised by the Midtjyds R/C Racing Club took over a year to arrange and was undoubtedly an overwhelming success with two weeks of the best racing to be seen anywhere. Congratulations to Bud Bartos and Tony Niesinger, the new World Champions and to everybody involved in the running of the meeting! □

Stock Class Results

Semi Final B

1. Mike Lavacot	USA 33/12.9
2. Mike Toland	USA 32/14.5
3. Jim Davis	GB 31/ 1.7
4. Glyn Peglar	GB 31/ 4.8
5. Les Pipe	GB 31/ 5.9
6. Fraser Smart Jr.	GB 31/12.3
7. Tony Niesinger	USA 30/ 0.2
8. Andy Dobson	GB 6/59.9

Semi Final C

1. Christian Keil	D 33/11.0
2. Finn Gjersoe	DK 32/ 5.4
3. Emanuele Zagatti	I 32/ 7.4
4. Micky Booth	GB 32/10.0
5. Rick Hohwart	USA 32/14.4
6. Marco De Marchi	I 31/ 6.7
7. Terry Rott	USA 31/ 7.9
8. Tony Wells	GB 29/ 7.1

World Championship Final

1. Bud Bartos	USA 32/ 3.3
2. Nigel Hale	GB 32/ 6.5
3. Micky Booth	GB 32/10.9
4. Ralph Burch Jr	USA 32/13.3
5. Emanuele Zagatti	I 31/ 2.1
6. Kent Clausen	USA 31/ 5.8
7. Mike Lavacot	USA 31/ 7.7
8. Finn Gjersoe	DK 31/11.4
9. Christian Keil	D 31/23.7
10. Rick Hohwart	USA 26/ 8.1

Modified Class Results

Semi Final B	
1. Andy Dobson	GB 34/12.8
2. Tony Niesinger	USA 33/ 4.2
3. Johan Klier	D 33/ 6.3
4. Bud Bartos	USA 33/ 7.4
5. Jim Davis	GB 32/ 3.5
6. Junichi Koma	J 32/ 7.8
7. Phil Davies	GB 32/10.6
8. Glyn Peglar	GB 31/11.3

Semi Final C	
1. Kent Clausen	USA 33/ 3.3
2. Chris Arnold	GB 33/11.3
3. Emanuele Zagatti	I 32/ 0.1
4. Nigel Hale	GB 32/ 1.4
5. Micky Booth	GB 32/ 1.7
6. Tony Massey	USA 32/ 2.7
7. Tony Wells	GB 32/ 3.9
8. Terry Rott	USA 22/59.9

World Championship Final	
1. Tony Niesinger	USA 33/ 5.0
2. Andy Dobson	GB 33/ 8.1
3. Finn Gjersoe	DK 33/ 8.5
4. Bud Bartos	USA 33/10.8
5. Kent Clausen	USA 33/11.8
6. Christian Keil	D 33/17.4
7. Mike Lavacot	USA 32/ 0.8
8. Chris Arnold	GB 32/ 2.7
9. Mike Toland	USA 32/13.1
10. Johan Klier	D 32/14.6

WORLD CHAMPIONSHIPS STOCK CLASS FINAL

All cars used Igorashi O5 motors

Pos	Name	Car	Differential	Cells	Rear Tyres	Front Tyres	Speed Controller	Radio	Servo	Gear Ratio	Body Tyre size
1	Buddy Bartos (USA)	Parma Euro Panther	Parma	Parma Sanyo (OD)	Parma Medium	Parma Medium	Parma Resistor	TX-Kraft Rx-Futaba	Futaba FPS 132H	14:46 53	Parma Osella
2	Nigel Hale (GB)	Associated RC12i	Associated	Associated Sanyo (ND)	Associated Green	Associated Green	Associated Resistor	Tx-Futaba Rx-Futaba	Novak NES 1A	13:46 51	Associated TOJ
3	Micky Booth (GB)	Associated RC12iS	Associated	Associated Sanyo	Associated Green	Associated Green	Novak	Tx-Multiplex Rx-Multiplex	Novak NES 1A	15:48 53	Associated TOJ
4	Ralph Burch Jr. (USA)	Associated RC12i	Associated	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	Tx-Futaba Rx-Novak	Novak NES 1A	15:48 50	Associated TOJ
5	Emanuelle Zagatti (I)	Delta Super Phaser	Parma	Sanyo	Delta B	Delta A	Demon 2D	Tx-Futaba Rx-Futaba	Novak NES 1A	15:46 51	Parma Osella
6	Kent Clausen (USA)	Associated RC12i	Associated	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	Tx-Kraft Rx-Novak	Novak NES 1A	15:46 50	Associated TOJ
7	Mike Lavacot (USA)	Associated RC12i	Associated	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	Tx-Kraft Rx-Novak	Novak NES 1A	15:48 50	Associated TOJ
8	Finn Gjersoe (DK)	Schumacher 'C'	Schumacher	Sanyo (OC)	Associated Green	Associated Green	TN Electronics DK	Tx-Futaba Rx-Futaba	Novak NES 1A	15:50 49	Alpha TOJ
9	Christian Keil (D)	Associated RC12iS	Associated	Associated Sanyo (ND)	Associated Green	Associated Green	Associated Resistor	Tx-Robbe Rx-Robbe	Novak NES 1A	15:48 50	Associated TOJ
10	Rick Hohwart (USA)	Associated RC12i	Associated	Trinity Sanyo	Associated Green	Associated Green	Novak Novak	Tx-Futaba Rx-Futaba	Futaba FPS 132H	14:46 56	Associated TOJ

WORLD CHAMPIONSHIPS MODIFIED CLASS 'A' FINAL

Pos	Name	Car	Motor	Cells	Rear Tyres	Front Tyres	Speed Controller	Radio	Servo	Gear Ratio	Body Tyre size	Differential
1	Tony Niesinger (USA)	Associated RC12i	Associated Reedy Yokomo (Green dot)	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	TX-Futaba Rx-Novak	Futaba S32	13:48 49	Associated TOJ	Associated
2	Andy Dobson (GB)	Schumacher 'C'	Parma Yokomo (Triple Wind)	CS Sanyo	Associated Green	Associated Green	CS Electronic (Forward only)	Tx-Futaba Rx-Futaba	Novak NES1A	12:48 48,5	Alpha Shadow	Schumacher
3	Finn Gjersoe (DK)	Schumacher 'C'	Trinity Yokomo (Double wind)	CS Sanyo	Associated Green	Associated Green	TN Electronics DK	Tx-Futaba Rx-Futaba	Novak NES 1A	12:48 50	Alpha TOJ	Schumacher
4	Bud Bartos (USA)	Parma Euro Panther	Parma Yokomo (Double wind)	Parma Sanyo (OD)	Parma Medium	Parma Medium	Parma Resistor	Tx-Kraft Rx-Futaba	Futaba FPS132H	11:46 53	Parma Osella	Parma
5	Kent Clausen (USA)	Associated RC12i	Associated Reedy Yokomo (Blue dot)	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	Tx-Kraft Rx-Novak	Novak NES 1A	12:46 48	Associated TOJ	Associated
6	Christian Keil (D)	Associated RC12iS	Associated Reedy Yokomo (Green dot)	Associated Sanyo (OF)	Associated Green	Associated Green	Associated Resistor	Tx-Robbe Rx-Robbe	Novak NES 1A	14:52 50,5	Associated TOJ	Associated
7	Mike Lavacot (USA)	Associated RC12i	Associated Reedy Yokomo (Blue dot)	Associated Sanyo	Associated Green	Associated Green	Associated Resistor	Tx-Kraft Rx-Novak	Novak NES 1A	13:50 48	Associated TOJ	Associated
8	Chris Arnold (GB)	Parma Euro Panther	Parma Yokomo (Double wind)	Parma Sanyo	Parma Medium	Parma Medium	Parma Resistor	Tx-Kraft Rx-Futaba	Novak NES 1A	12:48 52	Parma Osella	Parma
9	Mike Toland (USA)	Associated RC12iS	Associated Reedy Yokomo (White dot)	Associated Sanyo (ND)	Associated Green	Associated Green	Novak	Tx-Kraft Rx-Novak	Novak NES 1A	13:50 50	Associated TOJ	Associated
10	Johan Klier (D)	Schumacher 'C'	Trinity Yokomo (Double wind)	CS Sanyo	Associated Green	CS White dot	CS Electronic (Forward only)	Tx-Simprop Rx-Simprop	Bantam Midget	13:48 49	Associated TOJ	Associated