



LAYOUT DALLAS



# handbook 2016 book

EUROPEAN FEDERATION OF RADIO OPERATED MODEL AUTOMOBILES

# Race Calendar 2016



Week	Date	Large-scale Track	Large-scale Buggy	Ignition Track	Ignition Buggy	Electric Track	Electric Buggy
13	Apr. 01-03	GP 1:5 TC/F1, Boljopna, San Lazzaro, Italy				EC 1:12 mod Electric TC, Trenčín, Slovakia EC 1:12 Spec Electric TC, Trenčín, Slovakia	
13	Apr. 01-03						
15	Apr. 16-17						
18	May. 06-08	GP 1:5 TC/F1, Naestved, Denmark			GP 1:8 IC OR, Freixedas, Portugal		
19	May. 13-15				IR 1:8 IC OR, Redovan, Spain		
20	May. 16-22			EC B 1:8 I CTR, Vila Real, Portugal			
21	May. 27-29	GP 1:5 TC/F1, Lostallo, Switzerland		IR 1:8 I CTR, Eskilstuna, Sweden	EC B 1:8 IC OR, Freixedas, Portugal		IR 1:10 Electric OR 2WD/4WD, Valladaolid, Spain
23	Jun. 10-12						
24	Jun. 17-19			IR 1:8 I CTR GT, Zagreb, Croatia			
25	Jun. 24-26	GP 1:5 TC/F1, Gorinngen, Netherlands					
26	Jul. 01-03					EC 1:10 mod Electric TC, Trenčín, Slovakia EC 1:10 spec Electric TC, Trenčín, Slovakia	IR 1:10 Electric OR 2WD/4WD, Kampenstocht Belgium
26	Jul. 01-03						
27	Jul. 05-10		GP 1:5 OR, Vrtzza/Ledentica, Bulgaria		EC A 1:8 IC OR, Redovan, Spain		
28	Jul. 14-16	EC 1:5 F1, Boljopna Collari Raceway, Italy		EC A 1:8 I CTR, Eskilstuna, Sweden			
29	Jul. 18-23	EC 1:5 TC, Boljopna Collari Raceway, Italy					
30	Jul. 25-30		EC 1:5 OR, Neuville de Portou, France				EC 1:10 Electric OR 2WD/4WD, Valladaolid, Spain
31	Aug. 01-06						
32	Aug. 08-14			IFMAR WC 1:10 IC TR, Gubbio, Italy	GP 1:8 IC OR, Eskilstuna, Sweden		
33	Aug. 20-22				IFMAR WC 1:12 Electric TC, Beijing, China IFMAR WC 1:10 Electric TC, Beijing, China		
34	Aug. 26-28				IFMAR WC 1:8 IC OR, Las Vegas, USA		
36	Sep. 08-11			EC 40+ 1:8 / 1:10 CTR, Hamm, Germany			EC 1:8 Electric OR, Malaga, Spain
37	Sep. 16-18						
38	Sep. 23-25	IR 40+ 1:5 TC, Lostallo, Switzerland			EC 40+ 1:8 IC OR, Velika Gorica, Croatia IFMAR WC 1:8 IC OR, Las Vegas, USA		
40	Oct. 02-09						
44	Nov. 05-06			EFRA AGM, Vienna			

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PRO MODELS BVBA

Shenzhen Grepow Batt. Co. Ltd. (GensAce).

MODEL CARGO Racing

MSE MUGEN SEIKI Europe Vertriebs GmbH

Neidhart SA

PROLINE

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Intellect Battery Co. Ltd.

Associated Electronics Inc

Yokomo Ltd.

d.b ENGINE TECHNOLOGY SRL

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Freemax Metal Products Co., Ltd

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RC concept

Hobbico RC

Xray s.r.o.

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[www.mugen.eu](http://www.mugen.eu)

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[www.prolineracing.com](http://www.prolineracing.com)

[www.os-engines.co.jp](http://www.os-engines.co.jp)

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[www.teamyokomo.com](http://www.teamyokomo.com)

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[www.optipower.co.uk](http://www.optipower.co.uk)

[www.arrowmax-rc.com](http://www.arrowmax-rc.com)

[www.novarossi.it](http://www.novarossi.it)

[www.rconcept.net](http://www.rconcept.net)

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## Denmark

**DASU Dansk Automobil Sports Union**

**Website: [www.dasu.dk](http://www.dasu.dk)**

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## Estonia

### Eesti Automodelispordi Klubi

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# Finland

**AKK-Motorsport Ry**

**Website: [www.autourheilu.fi](http://www.autourheilu.fi)**

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## Greece

**EL.M.E Hellenic Modelling Federation**

**Website: [www.el-me.gr](http://www.el-me.gr)**

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# Hungary

**Hungarian Association of Modellers**

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## Ireland (Eire)

**RCCAUI Radio Controlled Car Association of Ireland**

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# Italy

## AMSCI Auto Model Sport Club Italiano

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## Luxembourg

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## Monaco

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# Netherlands

## NOMAC

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# Norway

## NMF Norwegian Motorsport Federation

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## Poland

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Section 1:10th EI. OR Scale	Jacek Żurek	ul. Chrościńskiego 83/19 02-414 Warszawa Poland	48601130195 jacek.zurek@plusnet.pl

# Portugal

**FEPRA Federação Portuguesa de Rádio Modelismo Automovel**

**Website: [www.fepra-portugal.com](http://www.fepra-portugal.com)**

<b>Position</b>	<b>Name</b>	<b>Address</b>	<b>Tel/Email</b>
Federation	Lino Franco	Rua Álvaro Pires Miranda, 109 1º Dtº C Apartado 197 2416-903 Leiria Portugal	351914491940 geral@fepra.pt
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Section 1:10th IC Scale	Fernando Dantas	Rua Álvaro Pires Miranda, 109 1º Dtº C Apartado 2416-903 Leiria Portugal	351914491940 geral@fepra.pt fernando.dantas@sapo.pt
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## Romania

### F.R.Md. Federatia Romana de Modelism

#### Website:

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## Russia

### Federation Of Automodel Sport Of Russia

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Position	Name	Address	Tel/Email
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Secretary	Dmitriy Malishko	Russia	secretary@fams-rus.ru 10.offroad@fams-rus.ru
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**Slovakia**  
**ZVAZ modelárov Slovenska**  
**Website: [www.modelar.sk](http://www.modelar.sk)**

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President	Pavol Barbarič	Mazúrova 1 90901 Skalica Slovakia	pavol.barbaric@controlline.sk
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## Slovenia

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# Spain

**AECAR Asociacion Española de coches a radiocontrol**

**Website: [www.aecar.org](http://www.aecar.org)**

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# Sweden

## SBF Svenska Bilsport Forbundet

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**Switzerland**  
**SRCCA Swiss R/C Cars Association**  
**Website: [www.srcca.ch](http://www.srcca.ch)**

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# Turkey

## Model Car Sport Association Turkey

Website: [www.model.org.tr](http://www.model.org.tr)

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## EFRA REFEREE LIST 2016

- A World Championship**  
**B European Championship**  
**C Grand Prix or Int. Meetings**

	Reg Year	1:6 off road	1:5 ICTR	1:8 ICTR	1:8 ICB	1:10 ICTR	1:10 EL B	EL TR	Elect 1/12		Reg Year	1:6 off road	1:5 ICTR	1:8 ICTR	1:8 ICB	1:10 ICTR	1:10 EL B	EL TR	Elect 1/12	
<b>Austria</b>																				
Paul Srna Liechtensteinstraße 45/3 A-1090 Wien Austria Tel: +43 1 317 80 26 paul.srna@chello.at	2004			EI B		A	A	A												
Hubert H. Jaeger Klosterwiesgasse 29 A-8010 Graz Austria Tel +43 (0) 650 / 800 60 60 secretary@oefmav.at	2003	C		EI C		C														
Florian Klemm Raugasse 33 A-2700 Wr. Neustadt Austria Tel +43 (0) 676 / 4 099 099 florian_klemm@hotmail.com	2010					B	B	B												
Markus Winkler Hauptstrasse 54/5/3 A-7034 Zillingtal Austria +43 (0) 660 / 488 77 61 winklerm@drei.at	2016							B	B											
<b>France</b>																				
Bruno Jasmin 187 Chemin de la Mare Faucon 76760 – Ouveille L' Abbaye Tel: +33 6.71.07.60.55 b.jasmin@fvrc.asso.fr	2013	B			B															
Guillaume Lievre Lotissement le petit Champ 01310 - Curtafond Tel: +33 06.60.86.39.27 piste10th@fvrc.asso.fr	2010		C	C		C														
Patrick Thioux 100 Boulevard de Strasbourg 93 600 Aulnay sous Bois Tel: + 33 6.87.44.22.21 piste8th@fvrc.asso.fr	2006			B		B														
<b>Germany</b>																				
Philippe Bertrand 48 Rue Jean Paul Sartre 54 800 Jarny Tel: +33 3.54.66.80.46. bertrandphilippe1758@neuf.fr	2002			B	A															
Nicole Boers Am Vogtshostert 32 53332 Bornheim Tel: +4922747063239 nicole.boers@koeln.de	2008			B	B			B												
Josef Dragani Am Aufspringbach 8 55234 Wahlheim Tel: +49 6731 467 69 josefdragani@aol.de	2007			B	A	B	A	B	B	B										
Dirk Horn Gretenade 31 24 232 Schönkirchen Tel: +4916099110101 DirkHorn@Horn-schoenkirchen.de	2002			B	B	A	B													
Stefan Kruse Am Wiesenhof 48 60529 Frankfurt Tel: + 49 69 666 00 429 stefan.kruse@mbcgoldstein.de	2007					B	B	B	A	A										
Wolfgang Petermann Am Pfingstborn 13 D – 61191 Rosbach V.d.H. Tel: +49 6003 8298715 IPetermann@aol.com	2002		A	A	A	A	B													
Norbert Rasch Jungbauerplatz 7 86609 Donauwoerth Tel: +4916096640747 Norbert.Rasch@t-online.de	2007			B	B	A	B			B	B									
Peter Reichelsdörfer Ziegelhuettenweg 17 A 92348 Berg b. Neumarkt Tel: +49 9189 41 25 50 Peter.Reichelsdoerfer@t-online.de	2002		A	A	A	A	A	B	B	B										

	Reg Year	1:6 off road	1:5 IC TR	1:8 IC TR	1:8 IC B	1:10 IC TR	1:10 EL B	EL TR	Elect 1/12		Reg Year	1:6 off road	1:5 IC TR	1:8 IC TR	1:8 IC B	1:10 IC TR	1:10 EL B	EL TR	Elect 1/12		
Katja Brammertz Kirchfeldstrasse 98 40215 Dusseldorf Tel: +491639017908 Katja.brammertz@web.de	2013	B			B		B			Jim Spencer 7 Buck Lane Hough, Crewe Cheshire, CW2 5JP Tel +44 1270 84 20 43 treasurer@brca.org	2002								B		
<b>Great Britain</b>										John Cockill 6, Dahlia Walk Bermuda park Nuneaton, CV10 7SQ Tel: +44 7931 390883 jcockill@tiscali.co.uk	2011									B	
Mark Burgess 15 Anchor Way Norwich NR3 3PR Tel: +44 (0) 7768 778787 MarkB@nofear.fsworld.co.uk	2008					c		c		Mark Stitson 6 Lakeside Close Ilkley West Yorkshire LS29 0AG Tel: +44772575186	2015				B						
Russ Giles 54, Fairford Close, Redditch, Worcestershire B98 9LU Tel: +44 1527 456753 russ.giles@hotmail.com	2002							A	A	<b>Italy</b>											
Kevin Griffin 14 Fishmore Road Ludlow, Shropshire SY8 2LU Tel +44 1584 87 74 22 suekev@griffins7.fsnet.co.uk	2002				A					Teodoro Spagnolo Via Sabatelli, 7 72015 Fasano Tel: +39 339 1165302 teodorosp@libero.it	2008		B	C	C						
Chris Hardisty 49 Candwr Park Ponthir Gwent, NP18 1HN Tel: +44-1633-420464 vice.electric.track@efra.ws	2002	B	B	B	B	A	A	B		Alessandro Pafundi Via Mazzini, 14 48012 Bagnocavallo (RA) Tel: +39 335-8161566 oropaf@tiscalinet.it	2009		B	C	B						
Bob Harley 4 Popular Ave Swadincote Derbyshire DE12 6BH Tel: +44 1283 76 22 77 bob@harley12.freeserve.co.uk	2002				B					<b>Portugal</b>											
Alan Leighton 12 Manitoba Croft Kings Norton B38 9QJ Tel: +44 7899032944 Alan16@hotmail.co.uk	2012					B				Cesar Coelho R. Alexandre Herculano, Lt. 38, Vivenda Neves Bairro do Freixo - Alpriada 2625-571 Vialonga Tel: +351 914 491 940 cesar-paiva@sapo.pt	2010		B	B	B						
John Russell 69 Lower Edge Road Elland West Yorkshire HX5 9PL Tel: + 44 1422 3774308 mursty@tesco.net	2002		B	B						Fernando Cardoso Travessa do Correio, 22 2350-455 Torres Novas Tel: +351 917 276 120 lamaclub@sapo.pt	2012		B	B	C	C	B				
										José Oliveira Rua Álvaro Pires Miranda, 109 1º Dtº C Apartado 197 EC Marrazes 2416-903 Leiria Tel: +351 919 933 850 josearoliveira@mail.pt	2014	C	C	C	C	C	C				



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 1:6 off road  
 1:5 I C TR  
 1:8 I C TR  
 1:8 I C B  
 1:10 I C TR  
 1:10 EL B  
 EL TR  
 Elect 1/12

2010

C C C

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C C C C

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B

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2014

C

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 1:5 I C TR  
 1:8 I C TR  
 1:8 I C B  
 1:10 I C TR  
 1:10 EL B  
 EL TR  
 Elect 1/12

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C C B B B C C

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1:5 IC TR  
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1:8 IC B  
1:10 IC TR  
1:10 EL B  
EL TR  
Elect 1/12

2015 B B B B B B B B  
  
  
  
  
  
  
  
  
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vice.electric.track@efra.ws

Reg Year  
1:6 off road  
1:5 IC TR  
1:8 IC TR  
1:8 IC B  
1:10 IC TR  
1:10 EL B  
EL TR  
Elect 1/12

2002 B B B B A B

**EFRA Executive**

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2002 A A A A B B

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2007 A A A A A A A

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2002 A A A A A B

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2002 A A A B

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2003 A A A A A

## List of EFRA Registered Timekeepers

### Czech Rep

NAME: Vladimír Seliga  
 Address: Klasterní Dvůr 932  
 Postcode/Town: 664 61 Rajhrad, Czech republic  
 Phone:  
 E-MAIL:  
 Preferred Class:

Race Program:

### Germany

NAME: Sebastian Keller  
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 PHONE: 00493416894135  
 E-MAIL: sepp-keller@gmx.net  
 PREFERRED CLASS: 1:5 Track, 1:8 IC Track, 1:8 IC Buggy  
 RACE PROGRAM: Race Control Management

NAME: Peter Leue  
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 POSTCODE/TOWN: 04277 Leipzig  
 PHONE: 00491772329347  
 E-MAIL: peter.leue@arcor.de  
 PREFERRED CLASS: 1:5 Track, 1:8 IC Track  
 RACE PROGRAM: Race Control Management

NAME: Thomas Mayer  
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 PHONE:  
 E-MAIL: thomas.mayer@mcbcbamberg.de  
 PREFERRED CLASS: 1:8 IC Track, 1:8 IC Buggy, 1:5 Track  
 RACE PROGRAM: Racecontrol

NAME: Florian Schrenk  
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 POSTCODE/TOWN: 94486 Wisselsing  
 PHONE: 00499932-90684  
 E-MAIL: flow.schrenk@t-online.de  
 PREFERRED CLASS: 1:8 IC Buggy  
 RACE PROGRAM: Racecontrol

### Great Britain

NAME: Gareth Bevens  
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 POSTCODE/TOWN: Congleton, Cheshire. CW12 3BG  
 PHONE: 07976 975098  
 E-MAIL: events@brca.org  
 PREFERRED CLASS: Any  
 RACE PROGRAM: BBK

### Netherlands

NAME: Hugo Keller  
 ADDRESS:  
 POSTCODE/TOWN:  
 PHONE:  
 E-MAIL: h.keller@chello.nl  
 PREFERRED CLASS: 1:8 IC Track  
 RACE PROGRAM: RCM

### Portugal

NAME: FERNANDO CARDOSO  
 ADDRESS: Tv. do Correio, 22  
 POSTCODE/TOWN: 2350-455 TORRES NOVAS  
 PHONE: + 351 917 276 120  
 E-MAIL: amaclubes@sapo.pt  
 PREFERRED CLASS: 1:10 Electric – Touring and Off-road  
 RACE PROGRAM: My RCM

NAME: JOSÉ OLIVEIRA  
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 109 1º Dtº C  
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 PHONE: +351 919 933 850  
 E-MAIL: josearoliveira@mail.pt  
 PREFERRED CLASS: 1/8 off road 1/10 electric off road  
 RACE PROGRAM: RCTiming

NAME: FÁBIO BARROS  
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 Travessa da Pereira, nº 6  
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 PHONE: +351 936 978 106  
 E-MAIL: fabioarros@mac.com  
 PREFERRED CLASS: 1/8 onroad, 1/10 onroad  
 RACE PROGRAM: RCM

NAME: JORGE SIMÕES  
 ADDRESS: URB. Nova Conímbriga II Lote B7 1º Esq.  
 POSTCODE/TOWN: 3150-223 Condeixa-a-Nova  
 PHONE: +351 964 018 769  
 E-MAIL: jorgesimes@gmail.com  
 PREFERRED CLASS: 1/10 EP TC  
 RACE PROGRAM: RCM Ultimate

NAME: FERNANDO LOPES  
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 POSTCODE/TOWN: 7800-050 Beja  
 PHONE: +351 963 203 893  
 E-MAIL: crbeja@gmail.com  
 PREFERRED CLASS: 1/8 OFF ROAD  
 RACE PROGRAM: Spark

NAME: NUNO COSTA  
 ADDRESS: Rua Pedro Álvares Cabral, 15 3ºFte.  
 POSTCODE/TOWN: 6300-745 Guarda  
 PHONE: +351 919 821 825  
 +44 778 566 6360  
 E-MAIL: nscosta@gmail.com  
 PREFERRED CLASS: 1:8 OFF ROAD  
 RACE PROGRAM: RCM Ultimate

### Spain

NAME: Javier Llobregat Gómez  
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 POSTCODE/TOWN: 46017 Valencia  
 PHONE: 00 34 609 681 666  
 E-MAIL: info@ambrc.com  
 jllobregat@aecar.org  
 PREFERRED CLASS: All classes  
 RACE PROGRAM: RCM Ultimate

## **Switzerland**

NAME: Camponovo Ernesto  
ADDRESS:  
POSTCODE/TOWN  
PHONE: +41 79 696 98 74  
E-MAIL: e.camponovo@bluewin.ch  
PREFERRED CLASS: 1:5 Track, 1:8 IC Track,  
1:10 IC Track, 1:10 electric track  
RACE PROGRAM: RC-Timing (RCM)

NAME: Frattaroli Andres  
ADDRESS: Sonnhalde 25  
POSTCODE/TOWN 8547 Gachnang  
PHONE: +41 79 593 53 07  
E-MAIL: Andres.frattaroli@leunet.ch  
PREFERRED CLASS: 1:10 / 1:12 electric (all classes)  
RACE PROGRAM: RC-Timing (RCM)

NAME: Moretti Giacomo  
ADDRESS: Via alle semine 6a  
POSTCODE/TOWN 6500 Bellinzona  
PHONE: +41 79 410 07 56  
E-MAIL: giacomo.moretti@bluewin.ch  
PREFERRED CLASS: 1:5 Track, 1:8 IC Track, 1:10 IC Track,  
1:10 / 1:12 electric (all classes)  
RACE PROGRAM: RC-Timing (RCM)

NAME: François Moser  
ADDRESS: Bächliwis 36  
POSTCODE/TOWN 8184 Bachenbuelach  
PHONE: +41 79 206 70 15  
E-MAIL: tc-chief@srcca.ch  
PREFERRED CLASS: 1:8 IC Buggy  
RACE PROGRAM: RC-Timing (RCM)

## **Sweden**

NAME: Stefan Svensson  
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PHONE: +46 704-264362  
E-MAIL: eslin@eslin.org  
PREFERRED CLASS: All classes  
RACE PROGRAM: RCM Ultimate/professional

## **Turkey**

NAME: SERDAR AYTEMİZ  
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E-MAIL: serdar.aytemiz@evilrc.com  
PREFERRED CLASS: Electric Track/Buggy IC Track  
RACE PROGRAM: RCM Ultimate

## 2. CONSTITUTION OF THE EUROPEAN FEDERATION OF RADIO OPERATED MODEL AUTOMOBILES EFRA

### 1. Name

The name of the Federation is the European Federation of Radio Operated Model Automobiles (hereinafter referred to by the acronym EFRA)

### 2. Objectives

The objectives of the Federation are:

- a) The promotion of international Friendship and Co-operation, particularly (but not exclusively) on the continent of Europe, through and for the construction, competition and sport of radio-operated model automobiles.
- b) The establishment of uniform International rules and regulations for such construction and operation.
- c) The co-ordination of races and competitions, national and international and the keeping of records thereof and the distribution of information relating thereto.
- d) The representation of its member countries in the world federation IFMAR(International Federation of Model Auto Racing) which coordinates model car racing in the world and organises World Championship races. EFRA is recognised by IFMAR as its representative for Europe and it's affiliate members. EFRA in turn recognises and supports the authority of IFMAR in all matters relating to the worldwide organisation of model car racing.

### 3. Membership

- a. Membership of EFRA shall be open to the National governing body of Radio Controlled Car Racing in each country in Europe and those countries considered by the Executive Board to be acceptable in terms of proximity to Europe.

Any application for membership must contain such information as the executive board of the Federation may from time to time require and must be accompanied by the then current annual membership fee. All membership applications shall be submitted for acceptance before the next General Meeting of EFRA. All membership applications shall be deemed as provisional until formally accepted by the General Meeting. Such acceptance shall require a simple majority of votes.

Pending such acceptance however a provisional member shall be entitled to be represented at all EFRA sponsored events

Any question that may arise regarding if the Applicant is in fact the governing body of the country it wishes to represent, or whether such country is in fact a country for the purpose of these rules, (as distinct from a province, country etc,) shall be decided at the General meeting of EFRA by a simple majority. A General Meeting may, by a two thirds majority of the membership, cancel the membership of any member.

At least one month notice of any proposal to review a membership shall be given to all members and the executive shall, if so requested, transmit to all members any defence or explanation which the member in question wishes to put forward.

- b. Manufacturer Associate Membership.

1. Associated Membership to EFRA is available to bona fide manufacturers of RC model goods against an annual Associated Membership fee as decided by the EFRA AGM and published on the EFRA website  
Associated membership is valid from January 1st. for the calendar year. An Associated Membership carries no voting rights at:- agm, General Meeting, Section Conferences or any Team Managers or International Jury meetings.
2. Benefits and rights of Associated Members:  
Attend and participate to manufacturer meetings organised by EFRA  
Attend General meetings as observer  
Address the General Meeting subject to authorisation or invitation (a request stating the topic to be sent to the General Secretary in writing in due time to be included in the agenda).  
Submit proposals regarding the sport of RC racing for the General Meeting or Conference agendas.  
Participate at Section meetings.  
Participate in workgroups or specific taskforces when invited to do so by EFRA.  
Subject to authorisation by EFRA: expose products, where it is possible, without trading rights at meetings. A nominal fee may be applicable and EFRA does not provide exposition accessories, stands or furniture.  
Receive early notification about proposed constructional rule changes.  
One page advertising in the concerned section of the electronic (pdf) version of the EFRA handbook. (Advertising of acceptable quality, pdf format A4 to be provided by the member)  
Be advertised as Associated Member on the EFRA website (appropriate company logo to be provided)  
Being listed in the EFRA handbook as an Associated Member (subject to the application being received in due time).  
Considerable discounts on approval fees.  
Associated Members have specific advertising rights as detailed in [3] below.
3. Associated Members of EFRA are allowed to use a specific EFRA logo and state that they are an Associated Member of EFRA in any advertising or on any products. EFRA will supply a specific logo to be used for this purpose when a company becomes an Associated Member. In the event of a company ceasing or resigning from being an Associated Member, then all references to EFRA and the use of any EFRA logo in advertising or on products must also cease.
4. Where EFRA has an homologation/approval process for any specific products, then an Associated Member is allowed to state that a specific product is approved by EFRA, using the wording: "EFRA Approved". EFRA will supply a specific logo for this purpose. Other wording such as: "EFRA Legal, accepted, preferred, recommended, etc" is specifically NOT allowed. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation/approved list. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA approval, although it can portray that the manufacturer is an Associated Member of EFRA.

Associated Members that contravene this ruling can be banned for up to two (2) years from holding EFRA Associated Membership, or applying to obtain approval of any further products. It is also possible that any existing approved products

could be removed from any approved lists. No refund or indemnities whatsoever will be granted.

If any existing EFRA approved product is altered in any way resulting that the product no longer complies with EFRA rules, then the same penalties apply.

AM's should gain permission from EFRA before using "EFRA Approved" on any product.

5. Manufacturers not having Associate Membership.

a Manufacturers or Companies that are not Associated Members of EFRA are specifically NOT allowed to include any EFRA logo/trademarks in any advertising or on any products. This includes the use of any EFRA Logo or any wording that could be construed to relate to any membership recognition by EFRA. This does not preclude any non- Associate Member from having products approved by EFRA and included on the relevant homologation/approved list.

b Manufacturers or Companies that are not EFRA members, but have specific products approved by EFRA, are allowed to portray in advertising or on the specific product, the wording "EFRA Approved" for that specific product. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation/approved list. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA approval, either in general advertising or on the product.

Wording such as: "EFRA legal, preferred, recommended" etc., is specifically not allowed.

c Any unauthorised reference to EFRA by non-Associate Members is subject to a ban from any approvals or becoming an Associated Member for up to three (3) years. No claims what so ever can be made against EFRA in such case and EFRA retains sole rights to accept or refuse applications for membership or approval of products at any time.

If any existing EFRA approved product is altered in any way resulting that the product no longer complies with EFRA rules, then the same penalties apply.

Manufacturers/companies that are not Associated Members of EFRA should gain permission from EFRA before using "EFRA Approved" on any product.

## 4. Organs of the federation

### 4.1.a General Meeting

The Federation shall hold an Annual General Meeting in the month of November. A Special General Meeting shall be called if either the Executive Board of EFRA so resolves, or a request in writing signed by the Representatives of at least 1/3 of the member countries, is received.

Notice of every General Meeting shall be given at least one month beforehand with general particulars of the business to be conducted, and details of any proposed alterations to this constitution or to the racing or construction rules and regulations

The Business at an Annual General Meeting shall be:

a) The election of Officers whose terms of office have expired, proposals for official posts must be lodged with the General Secretary at least 45 days before the General Meeting. The main Officers will form a Committee Board as follows:

Committee Board

1. The President
2. General Secretary
3. Section Chairmen
4. Treasurer

All candidates for office properly proposed under the provisions of this constitution shall be introduced to the General Meeting prior to the Section conferences. The meeting shall be given the opportunity to question candidates for election.

Each section shall also elect a Vice Chairman who shall deputise in the event of the Chairman's absence.

One officer will be elected every two years to act as liaison between EFRA and IFMAR to maintain continuity of policy. The post of IFMAR liaison officer may be combined or separate from other post.

To carry out the task for Public Relationships one officer will be elected for two years.

- b) Election of President will take place at the Annual General Meeting each year. General Secretary, Treasurer and Section Chairmen shall hold office for 2 years and be elected at the Annual General Meeting.
- c) To decide the date and venue of future European Championships. The Meeting may (but is not bound to) fix such dates and venues for up to three years ahead, from applications made in writing to the Executive not less than 45 days before such meeting.

General particulars of any such applications shall be included in the notice covering the meeting and the selection of the venue will be decided in the Section Meeting and approved by the AGM.

The voting system to select the venue is as follows: Each member country has one voting form with 3 choices. All 3 must be used.

1st choice will receive 4 points.

2nd choice will receive 2 points.

3rd choice will receive 1 point.

The two sites receiving the highest total number of points will go forward to a second ballot where a simple majority will decide the chosen site.

In the event of a tie, the relevant official may use his casting vote.

All balloting will be secret, but results will be published.

- d) To decide the dates and venues of other EFRA-approved events during the following year, including the next Annual General Meeting if not decided previously.
- e) To consider any matter or proposal which the Committee Board or the relevant official wishes to bring before the Meeting, particulars of which shall be included in the notice of the Meeting
- f) To consider any matter or proposal of which a member has given notice in writing up to the 31<sup>st</sup> of August. Particulars of such shall be included with the notice of the General Meeting as required by Section 4 above.

The Committee Board will examine all proposals received for discussion at the Annual General Meeting and where necessary prepare them for presentation by eliminating duplication and contradiction. Where proposals concerning Section matters that have a broader effect on General Rules or Constitution matters are received, the Committee Board will endeavour to resolve conflicts and present appropriate proposals to the General Meeting.



The catalogue of proposals recognised to be presented at the upcoming AGM should be sent to all EFRA members representatives/secretaries at least 4 weeks before the meeting.

Proposals from EFRA Members for IFMAR Constitutional and Racing Rule changes must first be submitted to the EFRA Annual General Meeting and shall be subject to the same rules and procedures as those in force for EFRA matters.

This procedure does not remove the absolute right of any Member to make proposals directly to the General Meeting, these direct proposals will be recorded on the minutes and will be voted in the next General Meeting.

- g) To deal with any matter which, under these Constitution Rules failed to be dealt with by a previous General Meeting.

### 4.1.b. Voting

- a) Following any proposal at a General Meeting each member country shall have one vote which shall be exercisable by a person duly authorised in writing by his governing body in such country.
- b) Each country shall also be entitled to one vote at any section meeting for which the country has paid the section membership fee, exercisable by a person duly authorised as provided for above.
- c) No proxy votes shall be allowed.
- d) Section meetings shall form part of the AGM. Voting procedures for the Section meetings shall be as for the AGM. Decisions of the Section meetings relating to the Technical Rules or Financial affairs of general concern to EFRA shall be ratified by the AGM.
- e) Any amendment to the Constitution of the Federation shall require a two-thirds majority of the Annual General Meeting.

Other proposals unless otherwise specified herein, shall require a simple majority only. The President or the relevant official shall, in the event of a tie, have a casting vote.

A resolution in writing, signed by the authorised representatives of all members, shall have the same effect as if it had been duly passed at a general meeting.

- f) In the case that more than 1/3 of the Member federations of the effected section or the Executive Committee feel it is necessary, a postal vote can be allowed.

In the event that there is a need to request a postal vote from all Member Federations, then a time limit of 30 (thirty) days shall be set for the return of the required voting form.

The decision made by postal vote shall be effective 30 (thirty) days after it has been published to all Member Federations, subject to the respect of the standard time frame.

Postal votes should only be used in the case of unforeseen circumstances and should not apply to any decision taken at the last AGM.

- g) Before a voting process will be started, the total number of votes being present will be recorded. The voting result will be published to the auditorium and recorded in the minutes. Number of votes in favour and number of votes against and abstentions.
- h) Correspondence: The official address of the Federation shall be the address of the General Secretary. Every member country shall furnish to the Executive Board an address for correspondence and any communications directed to

that address shall be deemed to have been duly delivered by course of post.

i) The official language of the Federation is the English language.

**4.2. Committee Board**

The President or in his absence the senior Committee Board member present, shall take the chair at the General Meetings and in the event of a tie, be entitled (but not bound) to exercise the casting vote.

The Treasurer shall be entitled to demand and receive all money due to the Federation and shall keep proper accounts thereof.

All offices under the Federation shall be honorary but the officers shall be entitled to reimbursement of expenses properly incurred, but subject always to consideration and approval of AGM.

The committee board are empowered to employ paid assistants for secretarial and other duties within budget limits, which are defined and approved at the AGM and also subject to the provisions of section 7 of this constitution. These paid assistants shall not hold EFRA committee-positions.

**PRESIDENT:**

- 1 Maintain contacts with IFMAR and other International organisations Officials.
- 2 Co-ordinates the efforts of the different E.F.R.A. Section Chairmen and provides advice when problems occur.
- 3 Takes the chair at the E.F.R.A. AGM and at E.F.R.A. Committee meetings.
- 4 Proposes appointment of Honorary Officers to the E.F.R.A. AGM.
- 5 Visits important races.
- 6 Forms an Executive Working Committee with General Secretary and Treasurer to deal with all matters that affect the day to day running of E.F.R.A. general business.
- 7 Liaises/meets with Officials from Members .

**GENERAL SECRETARY:**

- 1 Takes the minutes at E.F.R.A. Committee meetings and the E.F.R.A. Annual General Meeting.
- 2 Publishes a record of the minutes of these meetings.
- 3 Updates lists of Member Countries and other interested parties such as Manufacturers, Magazines and Contact addresses.
- 4 Deals with the main correspondence from/to all Member Countries and maintains file copies of all relevant correspondence.
- 5 Co-ordinates the arrangements for the E.F.R.A. Meetings, i.e. Annual General Meeting. Liaises with the hotel, Member Countries and provides full details of the timetable of the AGM.
- 6 In conjunction with the President and Section Chairmen draws up the Agenda for the AGM and other EFRA meetings.
- 7 Co-ordinates the racing calendars of the E.F.R.A. Sections and arranges for the publishing of these calendars.
- 8 Keeps a record of the results of all E.F.R.A. sanctioned races.
- 9 Maintain copies of all Member Country Officials address changes for updating the E.F.R.A. database.
- 10 Visits important races.
- 11 Forms an Executive Working Committee with President and Treasurer to deal with all matters that affect the day to day running of E.F.R.A. general business.
- 12 Liaises/meets with Officials from Members.
- 13 Arrange for the completion and return of E.F.R.A. contracts applicable to EC events being organised the following year.

### **TREASURER:**

- 1 Maintains a complete set of records of the Financial aspects of E.F.R.A. business.
- 2 Produces a full set of accounts as at the end of the financial year for presentation and acceptance by the Member Countries at the E.F.R.A. Annual General Meeting. Expenses can be split down into amounts of approx. 3000 €.
- 3 Issues International Driver's Licences to the different member countries.
- 4 Send copies of all Licence address changes received from member countries to the General Secretary for updating of the E.F.R.A. database.
- 5 Keeps abreast of all facets of bookkeeping and the financial situation of E.F.R.A.
- 6 Before the 15th January following the AGM send invoices to all E.F.R.A. Member Countries regarding annual subscriptions, sanction fees for E.F.R.A. GP and EC events, entry fees for EC events.
- 7 During the year send invoices to Member Countries or persons when requested to do so.
- 8 Maintains a watching brief of outstanding invoices and one month after the date of maturity of the invoices he sends reminders to those Member Countries who have not paid their invoices.
- 9 Every three months produces a report for all Committee Members giving details about the financial situation and status of all debtors.
- 10 Pays the expenses declarations of the Committee members within a week of receipt.
- 11 Refunds all the deposits as soon as the Section Chairman sends his approval.
- 12 Visits important races.
- 13 Forms an Executive Working Committee with President and General Secretary to deal with all matters that affect the day to day running of E.F.R.A. general business.
- 14 The Treasurer has to present the accounts and all assigned documents to the auditors prior to the AGM.

### **SECTION CHAIRMEN:**

- 1 Effectively manages the Section for which he is elected at the AGM.
- 2 Provides information to other E.F.R.A. Officials as and when requested.
- 3 Attends the GP organised ahead of an EC and reports upon the track, the accommodation and the organising committee.
- 4 Attends the EC relevant to his section.
- 5 As soon as the race calendar of the next year has been published he oversees the distribution of the information of the Section events in appropriate language.
- 6 Issues race meeting sanctions after fully examining the information sent by the applicants following the decision made at the Section Meeting and the approval/acceptance by the AGM.
- 7 Updates the list of "A" licensed drivers when needed and decides upon the validity of an EFRA Licence.
- 8 Co-ordinates the entries for EC and WC and settles re-allocations in cooperation with the Member Countries and the organisers.
- 9 Decides if the deposits paid for GP and EC events may be refunded and requests the Treasurer to refund any monies due.
- 10 Collects the results of all the E.F.R.A. sanctioned races.
- 11 Makes a report of the past racing season to be presented at the AGM.

- 12 Is a full member of the E.F.R.A. Committee with a seat in all E.F.R.A. Committee meetings.
- 13 Takes the Chair at the Section Meetings during the AGM.
- 14 Arranges for the minutes of the Section Meeting to be recorded and provides a copy of these minutes to the General Secretary.
- 15 Presents decisions made at the Section Meetings to the main AGM.
- 16 The Section chairman (or the EFRA appointed deputy) has the authority to provide clarification on the interpretation of rules.

#### 4.3 **Executive Committee**

The President, Treasurer and General Secretary will form an Executive Working Committee to deal with all matters that affect the day to day running of E.F.R.A. general business. In regards of section business they must be informed of the day to day running of the different sections. OK

#### 4.4 **Other officers**

##### **PR OFFICER:**

- 1 Maintain contact with the EFRA Executive.
- 2 Carry out the promotional and communication work as decided by the AGM and EFRA Executive Committee.
- 3 Attends EFRA AGM and Committee meetings when needed.
- 4 Co-ordinates the production and distribution of the regular news.

##### **IFMAR LIAISON OFFICER:**

- 1 Maintains direct contact with IFMAR bloc officials.
- 2 Acts as a central co-ordinator for all matters between E.F.R.A. and IFMAR.
- 3 Provides information to/from IFMAR/FEMCA/ROAR/FAMAR to all Sections within E.F.R.A.
- 4 Puts forward proposals drawn up and approved by the E.F.R.A. Committee or by the AGM to IFMAR.
- 5 Attends EFRA Committee meetings when needed and AGM.
- 6 He attends IFMAR Meetings as the full representative of E.F.R.A.

##### **HOMOLOGATION OFFICERS:**

EFRA has a homologation or registration process for various products that are used in EFRA races.

For the various task officers are appointed. Products for homologation or registration are bodies, mufflers, batteries, INS boxes. Other products may be add in the future.

The aim for homologation or registration is to protect the products of manufacturers, to avoid products that are unsafe or do not follow international agreements (f.i. GBS for bodies) or environmental laws.

The task of the homologation officer is the following

- 1 Receives and acknowledges the products from Manufacturers wishing to have their products homologated or registered by E.F.R.A.
- 2 Passes invoice order to the E.F.R.A. Treasurer.
- 3 Checks the products against pictures, drawings or measurements or agreements provided by the Manufacturer. A 10% tolerance is acceptable in some occasions.
- 4 If the product is acceptable under E.F.R.A. standards, he sends a certificate to the Manufacturer. The certificate will bear the homologation or registration number which the Manufacturer must use to mark the product. Should there be any discrepancies, he will advise the Manufacturer in writing as to the exact reasons why the product was refused.

- 5 Copies of the homologation certificate and detailed drawings are passed to the General Secretary and IFMAR Liaison Officer.
- 6 Retains the original products for specification purposes during the life of the certificate and 2 years more.
- 7 Advises the E.F.R.A. Treasurer of homologation or registration expenses incurred.
- 8 At no time and under any circumstance will the product received for homologation or registration, including drawings and specifications be shown to or handed over to anybody involved with the manufacturing of model cars or parts for modelcars.

### **AUDITORS:**

- 1) The position of auditors is to be appointed by EFRA member countries and voted at each AGM for a period of duty of one year.
- 2) This position will be covered by two delegates, not belonging to the same national federation, nor being member of the same federation as the treasurer.
- 3) They have the right to inspect all actions or bookkeeping, which are in conjunction with EFRA's finances.
- 4) They have to present their written report to the AGM. The EFRA Board has to have knowledge about their comments prior to the AGM, so that board members may prepare their reactions.

### **4.5 Honorary officers**

- a) EFRA may if it so wishes elects an Honorary Life President and Honorary Life Vice President to the Federation on proposal from the Committee Board. Such persons shall be granted these Honorary titles in recognition of exceptional service to EFRA or Model Car Racing in general. There shall be only 1 Honorary Life President but there may be as many Life Vice Presidents as the Federation wishes. Election shall be by vote at the Federation AGM following proposal in accordance with the provisions of this Constitution.
- b) Such Honorary Officers are elected to view the activities of EFRA in the light of their particular experience and provide help, advice and guidance should it be needed. They shall have the power to ask the Executive Committee Board to call an Extraordinary General Meeting should circumstances arise that threaten the well being of EFRA.
- c) The Honorary President and Vice Presidents can address the EFRA Committee Board and AGM but may not have a vote.
- d) In the event of the resignation or other circumstances that prevents a properly elected EFRA Official from carrying out his or her duties, the Honorary Life President or a Vice President may be asked by such EFRA Officers as remain to deputise until such a time as the elected Officer is available or an Officer is elected. Such a request shall be by simple majority vote of the remaining EFRA Officers.
- e) In the event of Honorary Life Officers being called upon to assist the Committee Board they will be entitled to reimbursement of any necessary expenses incurred. A Honorarium will not be paid.

### **5. Subscription**

The Annual subscription of the Federation shall be fixed by resolution of a General Meeting. Such subscription shall become due on the first of January of each year. If not paid within three months thereafter, representatives of a country in default may not, until payment take part in any activity of the Federation or be

sponsored by; if not paid within twelve months, membership of the country in default shall cease.

To recover its active membership the member must pay the duly invoices pending. The accounts will be closed on the 30th of September each year.

**6. Technical Rule Changes**

The date for introducing any construction/technical rule changes affecting General Rules will be decided at the Main AGM.

The date for introducing any constructional/technical rule changes within a Section, will be decided at the Section meetings.

Any important rule changes by any Section that effect more than one Section, including the date for introduction, will not become valid until approval of the Main AGM.

If the date for introduction of any construction/technical rule change is not specified at either a Section meeting or Main AGM, then the change will become effective twelve (12) months after the rule change has been approved.

When deciding dates for introducing rule changes, due consideration should be given to:- making existing equipment obsolete and any manufacturing processes required allowing the change. In all cases, changes for safety issues should be given priority.

### **3. EFRA SANCTIONS**

#### **3.1. EFRA Sanctions**

3.1.1. The object of EFRA Sanctions is to obtain uniform racing and organisational standards for major European events in all classes of radio-controlled model car racing.

Major European events are:

-European Championships

-EFRA Grand Prix

-International races with EFRA sanction

National Organisations are advised to adopt these standards and rules for use at Premier level national championships

3.1.2. To ensure the quality of these major events the minimum standards set by EFRA described here, have to be met. The EFRA Section Chairman will authorise the events after the applicant has proved able to meet the minimum standards of EFRA.

3.1.3. In order to receive an EFRA sanction, an application has to be done to the section chairman through the national federation.

3.1.4. The National Association of the host country will hold prime responsibility for the organisation and well running of the event. They have a duty to monitor the organisation of the event from the moment the EFRA Sanction is obtained until the official results of the race are sent to EFRA.

3.1.5. If the minimum standard is not met during the event, despite having an EFRA Sanction, then EFRA must consider to not returning the deposit(s) in fully or in part.

3.1.6. The Executive Committee is given the power (authority) to apply suitable sanctions in case of refusal of a race-organiser to co-operate with EFRA following consultancy with the relevant EFRA officials involved.

3.1.7. The European Championships should preferably be held during week numbers 26 - 31. Week 1 of the year is the week that contains the first Thursday in January, a week starts on Monday. Changes to this pattern may only be made at the AGM or EFRA committee meeting.

#### **3.2 European Championships**

NOTE:- Rules 3.2.3 & 3.2.4 do not apply to Open Entry EC's

3.2.1. Each section may run a maximum of 4 European Championships per year and in the event of there being more than 2 classes, it is the sections responsibility to decide which class shall be raced as secondary to the main class in any particular year. The section shall decide at the section meeting.

3.2.2. The venue of the European Championships is to be decided by the EFRA AGM, 2 years ahead. The applicant National Association must submit all details (as per a to g below) to the valid Section Chairman and the EFRA Secretary by 31<sup>st</sup> August latest. The Section Chairman and the EFRA Board will evaluate the proposed venue, facilities, personnel and dates. A list of acceptable applications will be presented to the section.

Accepted applications must be presented at the EFRA AGM Section meeting by the National Association in electronic format, preferably PDF, and a paper version must be given to each EFRA member country.

The Section Meeting will decide the venue after the presentations.

Each application must contain:

- a. The organiser's name, address, fax and telephone number and email address.
- b. A single contact point for all correspondence/enquiries

- c. Diagram of track indicating length, width and direction of racing
- d. Drawing of the venue (preferably photograph) showing track, rostrum, pit area, timekeeping and general facilities
- e. Details/location of the venue
- f. Map of the area showing proximity of airports, port, roads, etc.
- g. Basic details of race timetable and dates
- h. List of race officials
- i. List of approved frequencies and list of specific frequencies that cannot be used.
- j. Practice facility (dates available, closed dates prior to the event)
- k. Details of accommodation (at least three (3) local hotels/motels of different grade which must include daily rate including all taxes, if applicable and alternative accommodation e.g. camping. In case of camping at track site, the organiser have to deal directly with the campers. Team managers cannot be asked to take any responsibility for booking, payments, etc.
- l. Any special accommodation deals, including all taxes, if applicable.
- m. Information on transport available between hotel/s and track.
- n. Voltage used in host country. Drawings of plug types.
- o. Advice on whether each competitor is required to bring or mail one passport sized photograph of him/ herself and any mechanics or Team Manager for attachment to identity badges
- p. Marshalling details if needed (availability of marshals for practice/qualifying/finals).
- q. web address of the organizing club

The Section Chairman will investigate the applications and must advise or propose acceptance to the AGM. The Chairman is entitled to reject applications when information is inadequate or unsatisfactory.

- 3.2.3. The host Club proposed by the National Association must have successfully organised one Major EFRA European event with EFRA Sanction, in the last 4 years before the application, preferentially on the proposed track.

The year before a European Championship an EFRA Grand Prix will take place, The EFRA Referee present at this GP in the previous year before the EC will check that all EFRA Standards are met, if due to any reason he finds that required EFRA Standards are not reached he will inform directly on that subject to the EFRA Section Chairman & the EFRA General Secretary. At that year an official of the organizer of the next European Championship must be present at least 3 days at the previous European Championship of the same kind.

An EFRA Major European event must be held on the same track two (2), maximum four (4) months before the EC.

The AGM Section meeting may waive any of these requirements.

- 3.2.4. The National Association of an EFRA country hosting a European Championship or World Championship is subject to a special fee to EFRA, to cover the extra expenses of the EFRA involvement in that race. This fee is established by the AGM ( 3.5)

- 3.2.5. For a European Championship a contract will be signed by EFRA, the National Federation and the Organiser. It must be received by EFRA by 31st January. If after the 21<sup>st</sup> December any of the classes of an European Championship event is having an allocation under a 25 % of the maximum number of entries with a minimum of at least 5 countries, then EFRA, after consulting with the organizer may consider the cancellation or the change of status of event.



- 3.2.6. At the AGM section meeting preceding the event the host country of European Championships will be asked to demonstrate to the meeting that they have the organisation and facilities needed to stage the event. They should also confirm that the club involved will be able to honour any promises or obligations made by their successful application the previous year.
- 3.2.7. The section meeting may decide to re-allocate the event to a "safe" venue of it's choice if rule 3.2.6. is transgressed
- 3.2.8. As soon as practical after the decision confirming the organiser of an European Championship, the host club should be sent a copy of the EFRA handbook.
- 3.2.9. At the latest, 100 days before the European Championships in question, there should be a meeting between the National Federation contact and the host club to confirm that everything is running according to the Handbook. Minutes of this meeting required to be forwarded to relevant section chairman and general secretary within 10 days (English language).
- 3.2.10. A member Association cannot organise a National Championship race on the same days of a European Championship in the same class/section.
- 3.2.11. OPEN ENTRY EUROPEAN CHAMPIONSHIPS  
Open entry EC's are determined by the section conferences annually.
- 3.2.11.1 For each entry the organiser will pay EFRA €5 - the total amount will be settled with the deposit.
- 3.3 EFRA GRAND PRIX**
- 3.3.1. EFRA Grand Prix have the status of "Open EFRA International Championships" of the organising country.
- 3.3.2. Each EFRA member-country may organize 1 (one) official EFRA Grand Prix per year per class. Each section may run a maximum of 3 (three) EFRA Grand Prix per year.  
For large scale section only: Limit strictly to 4 EFRA GP per year, (4 EFRA GP instead of 3 will allow a right to make mistakes, or an absence on 1 EFRA GP).  
An EFRA Grand Prix must have an EFRA Sanction. In order to obtain such, an application must be sent to the EFRA General Secretary to be received at 31st of August the latest.  
At the AGM must each presumptive organizer make a presentation containing relevant information such as pictures of the accommodation, hotel information, camping and charges to be paid, details of facilities such as water, electric power, W.C. and showers.  
For each entry the organizer will pay EFRA € 5,-. The total amount will be settled with the deposit.
- 3.3.3. Following proposals from the sections will the EFRA Race calendar be finalized and presented at the AGM during the Sunday morning session. As soon as practical after the decision confirming the organizer of an EFRA GP, the host club should be sent a copy of the EFRA handbook. Any EFRA Grand Prix Organizer who changes a date following an AGM decision loses the EFRA Sanction for official EFRA Grand Prix status. Only an enforced change beyond the control and influence of the organizing club is liable to be accepted for discussion by the EFRA Committee.
- 3.3.4. The dates of the 3 EFRA GP of each year must be respected by the different national calendars, National Championships in the same class will only be allowed to organize on the same date as an EFRA GP if approved by the valid Section Chairman.

3.3.5. Organisers of EFRA Grand Prix are subject to a special fee payable to EFRA. This fee is established by the AGM (see 3.5).

3.3.6. If EFRA Grand Prix results shall be used as the basis for awarding points to the competitors, a general classification shall be published at the end of the racing season. The sum of the 4 best results of the season to be the final score of each driver. Points shall be given as follows:

EFRA GP1 (Less than 30 drivers)

50	46	42	38	34	32	30	28	26	24
22	21	20	19	18	17	16	15	14	13
12	11	10	9	8	7	6	5	4	3

EFRA GP2 (30 to 60 drivers)

75	71	67	63	61	59	57	55	53	51
49	48	47	46	45	44	43	42	41	40
39	38	37	36	35	34	33	32	31	30
29	28	27	26	25	24	23	22	21	20
19	18	17	16	15	14	13	12	11	10
9	8	7	6	5	4	3	2	1	1

EFRA GP3 (60 drivers plus)

100	96	92	88	84	82	80	78	76	74
73	72	71	70	69	68	67	66	65	64
63	62	61	60	59	58	57	56	55	54
53	52	51	50	49	48	47	46	45	44
43	42	41	40	39	38	37	36	35	34
33	32	31	30	29	28	27	26	25	24
23	22	21	20	19	18	17	16	15	14
13	12	11	10	9	8	7	6	5	4
3	2	1	1	1 ( 1 for places greater than 83)					

EUROPEAN CHAMPIONSHIP

300	280	260	240	220	210	200	190	180	170
165	160	155	150	145	140	135	130	125	120
115	110	105	100	99	98	97	96	95	94
93	92	91	90	89	88	87	86	85	84
83	82	81	80	79	78	77	76	75	74
73	72	71	70	69	68	67	66	65	64
63	62	61	60	59	58	57	56	55	54
53	52	51	50	49	48	47	46	45	44
43	42	41	40	39	38	37	36	35	34
33	32	31	30	29	28	27	26	25	24
23	22	21	20	19	18	17	16	15	14
13	12	11	10	9	8	7	6	5	4
3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2

1 for places greater than 140

WORLD CHAMPIONSHIP

500	450	400	350	320	290	260	230	200	170
160	155	150	145	140	135	130	125	120	115
110	105	100	95	90	89	88	87	86	85
84	83	82	81	80	79	78	77	76	75
74	73	72	71	70	69	68	67	66	65

64	63	62	61	60	59	58	57	56	55
54	53	52	51	50	49	48	47	46	45
44	43	42	41	40	39	38	37	36	35
34	33	32	31	30	29	28	27	26	25
24	23	22	21	20	19	18	17	16	15
14	13	12	11	10	9	8	7	6	5
4	4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2

1 for places greater than 140

### 3.4. INTERNATIONAL RACES WITH EFRA SANCTION

3.4.1. For important international events other than European Championships and EFRA Grand Prix, an EFRA Sanction can be requested, in writing only.

The EFRA Sanction will be an official recommendation of EFRA to the special event, to ensure a minimum standard. These races may not be called EFRA Grand Prix.

3.4.2. Organisers of international races with an EFRA Sanction are subject to a Sanction-fee. This fee is established by the AGM.

### 3.5. EFRA SANCTION FEES

3.5.1. The EFRA Sanction fee is established annually by the AGM and published in the minutes of the meeting.

3.5.2. EFRA will invoice the applicant for the EFRA Sanction fee from the 1st of January of the year the race is scheduled. The invoice must be paid to EFRA within 30 days of the invoice date.

3.5.3. The organising country-member must pay all fees for World Championships, European Championships, Grand Prix's and International Races at the beginning of the year of the Championship within 30 days of the invoice date.

3.5.4. A deposit is payable for all E.C.'s and sanctioned G.P.'s. Copies of the result and the referees report should be send to the EFRA General Secretary and Section Chairman.

3.5.5. Non payment of charges invoiced by EFRA by the due date, may lead to withdrawal of the EFRA Sanction and therewith the official status of the event.

3.5.6. If a Grand Prix is cancelled for whatever reason, the sanction fee is not returnable.

### 3.5.7. FEES (all amounts quoted in Euro)

#### Membership Fees

Annual Subscription	450 (including 5 non-renewable lics.)
Section Fee	75
Full membership	850 (annual + all sections)
Associate membership	1000
Drivers Licence	30

#### Sanction Fees

European Championship	460
European Championship, Open	230
International Race	200
Grand Prix	150

#### Deposits

European Championship	600
European Championship, Open	600
Grand Prix	600

Additional Fees: GP and open entry EC fee  
for EFRA/driver 5

**Entry Fees**

European Championship	100
European Championship 2 classes	150
Open Entry Championships max.	50
Grand Prix (maximum)	40
Handling fee World Championships + 10% of the IFMAR fees	

**Homologation Fees**

Mufflers	120 (50% discount for Associate)
Bodyshells	500 (50% discount for Associate)
Large Scale Bodyshells	500 (50% discount for Associate)
INS-Box	800 (50% discount for Associate)
Batteries	500 (50% discount for Associate)
Brushless 05 Motors	50 per Motor Class.

All transport, taxes and duty costs for homologations to be paid by the manufacturer.

- 3.6. ALLOCATION PROCEDURE FOR EUROPEAN AND WORLD CHAMPIONSHIPS**
- 3.6.1. For European and World Championship, EFRA allocates places to all its members countries. The twenty (20) direct nominatives allocations existing in sections 1/10 IC Track and Large Scale are subject to the approval of their national federation for these drivers. Each member country if present at the section meeting is entitled to have at least one (1) place allocated in each section paid for.
- 3.6.2. At the Annual Conference, each Section establishes the allocations for next years Championships, following written application from member countries. Final Numbers must be confirmed to the relevant Section Chairman by 21<sup>st</sup> Dec. following the conference.
- 3.6.3. Whilst determining the allocations for each country, the following points should be discussed, in order of priority:
- a. total number of drivers;
  - b. international results at E.C./W.C./ Grand Prix;
  - c. places taken up at the last E.C.;
  - d. participation in international racing;
  - e. length of membership of EFRA.
- Separate procedure exist for Electric off road (see Appendix 3)
- 3.6.4. At the Annual Conference, the Chairman will propose the allocations-list to the Meeting. The Meeting may, within reason, discuss the proposed list and may ask for changes. In case of disputes, the Meeting can decide the dispute on a simple majority vote.
- 3.6.5. The procedure for allocating entries is also used for re-allocation unless otherwise stated so. 40 days before the EC and 60 days before a WC the places not taken up by the Countries will be reallocated by the Section Chairman. The entry forms list must be given to the Chairman 40 days before the EC. Failing to deliver these forms list in time will lead to re-allocation of the corresponding places. The Meeting may recommend preferential re-allocation of places to countries with small initial allocations. Preferential re-allocation places must be specified in the allocations list.
- 3.6.6. For a European Championship the host country is allowed 2 extra places in addition to their original allocation.
- 3.6.7. The defending section/class Champion is allocated 1 place with the sole exception of the B class Champion who is allocated 1 place at the immediate next year European Championship A.

- 3.6.8 For each European Championship (not including Open EC), places will be allocated at the AGM. Federations MUST then confirm their Final Number for each event to the relevant Section Chairman no later than 21<sup>st</sup> Dec. following the AGM. EFRA will invoice the Federations according to the Confirmed Final Numbers (submitted by 21<sup>st</sup> Dec.), with the amount being as detailed in GR 3.5.7 for the current year. Invoices will be sent to the Federations by the end of January and must be paid to the EFRA Treasurer no later than end of February. EFRA will pay the Organising Federation the full amount of the entry fee value (100%), based on the Confirmed Final Numbers (submitted by 21<sup>st</sup> Dec.). EFRA takes NO portion of the allocated entry fees. The allocated entry fees will be paid to the Organising Federation at least one month before the event, unless a written agreement has been received by the Treasurer to effect payment in a different manner. EFRA will inform the Organising Federation the Confirmed Final Numbers that will be paid, by 1st. January. The Section Chairman is responsible for controlling all event allocations and must inform the EFRA treasurer the confirmed final numbers in order for EFRA to invoice Federations and pay the correct number of allocations to the organiser.
- 3.6.9 European Championship places (not including Open EC) that are allocated at the AGM and confirmed as Final Numbers (by 21<sup>st</sup>. Dec.) that are not paid by end of February may be reallocated to other countries by the Section Chairman. Reallocated entry fees will be paid to and retained by EFRA. EFRA will invoice each reallocated entry to the member countries without specifying the drivers' name etc. No money is allowed to be paid at the event. Reallocation entry fees will be 150% the specified entry fee (GR 3.5.7), unless:-
- a) The final number of places allocated to the country concerned is still less than, or the same as, the Final Number agreed (submitted by 21<sup>st</sup>. Dec.).
  - b) The country concerned has places on an official Reserve List due to the event being over subscribed and such places were requested at the time when the Final Numbers were confirmed (21<sup>th</sup>. Dec.). If additional reallocated places are awarded that increases the total number of entries at the event to more than the Confirmed Final Numbers (submitted by 21<sup>th</sup>. Dec.), EFRA will pay the organising country the additional numbers.
- The Section Chairman is responsible for controlling all event allocations/reallocations and must inform the EFRA treasurer the Confirmed Final Numbers including any reallocated places for each Federation, in order for EFRA to invoice the Federations concerned and to pay the correct number of allocations to the organiser. At EC events where places are allocated/reallocated, any places not filled by the stated deadline dates (due to cancelations or reduced entry numbers) can be allocated to late entries subject to the agreement of the Section Chairman. Such places must be requested by a member Federation and will be charged at the 150% rate. Late entry requests may be declined if all entry details have been 'frozen' and submitted to the organiser.
- 3.6.10 For an IFMAR World Championship or IFMAR sanctioned event, places will be allocated at the AGM. Federations MUST then confirm their Final Number 'required' for each event to the relevant Section Chairman no later than 21<sup>st</sup> Dec. following the AGM. (It should be noted that numbers "required" by Federations may not be possible to award, based on the number of allocations granted to EFRA). The entry fees are payable in \$US. in advance to the EFRA Treasurer. The entry fee is established by IFMAR and is subject to a 10% EFRA surcharge. The EFRA

Treasurer will invoice member Federations separately for all WC allocations by the end of March and these must be paid by the end of April, or within one month of invoice in the case of re-allocations. Re-allocations will be charged at the normal entry fee rate. Once requested by a member country, no WC allocations can be cancelled or fees repaid.

- 3.6.11 All contractual correspondence between EFRA, Organiser and Federation Rep related to EC's and WC's should be sent by registration mail or by a means which has traceability.

**3.7. LEGAL LIABILITY**

- 3.7.1. EFRA is unable to, and will not, accept any legal liability for any event for which it has granted an EFRA Sanction and accepted a sanction fee.
- 3.7.2. EFRA Officials cannot and will not accept any legal liability for events that may take place at an EFRA Sanctioned event at which they are acting in an advisory or supporting role.

## 4. INTERNATIONAL DRIVERS LICENCES

### 4.1. OBJECT OF THE INTERNATIONAL DRIVERS LICENCE

4.1.1. International driver's licences enable organisers to compose the qualifying heats so that novice or less experienced drivers are not mixed up with the top international drivers, in the interest of both groups.

4.1.2. All competitors at European Championships and World Championships must have a valid EFRA drivers licence.

Application for entries at EC's or WC's must be made by the National Association that have granted the EFRA licence, using the model delivered by EFRA, bearing the initials of the National Federation and the licence number.

Each National Federation shall be entitled to issue EFRA licences

- 1) To its nationals;
- 2) To the nationals of other countries represented in EFRA, in compliance with the following statutory conditions:
  - a) That their parent National Federation gives each year its prior agreement to the issuing which may only take place once a year.
  - b) That they can produce for their parent National Federation (the country of their passport) a permanent proof of residence in the other country;
  - c) That their parent National Federation has recovered the EFRA licence originally issued if such exists.

No person authorised by their parent National Federation to apply for an EFRA licence from some other National Federation shall hold an EFRA licence from their parent National Federation valid for the current year.

If for very special reasons however, An EFRA licence-holder wishes to change the nationality of his licence during the current year, he would only be able to do so after having obtained his parent National Federation's consent and once his old licence has been taken back by his parent National Federation.

A National Federation may also grant an EFRA licence to a foreigner belonging to a country not yet represented in EFRA but only on condition that EFRA is immediately informed of the intention to do so, in which case EFRA will at once state if there is any reason why such an EFRA licence should not be granted. A National Federation shall advise EFRA of any refusal on its part to comply with a request of this nature.

The organiser will register the licence numbers of all drivers and record these in all results.

4.1.3. All competitors at EFRA Grand Prix and other EFRA sanctioned events (apart from EC's) must either have a valid EFRA drivers license, or a valid National License issued by their National organization. The license must be verified at registration. The organiser will register the license numbers of all drivers and record these in the final results.

Drivers with an international EFRA license take precedence over non-EFRA licensed drivers at EFRA Grand Prix in the event of over subscription.

4.1.4. Nationality of a competitor or driver

All EFRA drivers, irrespective of the nationality of their licence, participating in any IFMAR World Championship or EFRA European Championship event, shall retain the nationality of their passport in all official documents, meetings, information bulletins and prize-giving ceremonies.

4.1.5. Any European driver holding an EFRA license for the past years, in any class, and who had participated in an EC in any class for the past years, is not entitled to

participate in a World Championship, in any class, for another block as EFRA. Any driver found in this position, will not be able to get an EFRA license for the next 2 years.

**4.2. CLASSES OF LICENCE**

- 4.2.1. A section is empowered to issue different classes of licence. based on the experience of the drivers or on their results during E.C.'s or G.P.'s should they so wish.
- 4.2.2. The grading system to be used will be settled in the section meeting and described in the section rules.

**4.3. APPLYING FOR INTERNATIONAL DRIVERS LICENCE**

- 4.3.1. Applications for International Drivers Licences are made by the National Federation to the EFRA Treasurer, before the 1st of March of every year. EFRA will only issue licences when the country applying has settled all payments to EFRA and the payments for the cost of licences have been received by EFRA.
- 4.3.2. The cost of an International Drivers Licence is established by the AGM.
- 4.3.3. The International Drivers Licence must be renewed every year and runs for a calendar year, ending on the 31st of December of the year of issue.
- 4.3.4. Only the national association could ask to the EFRA secretary/ treasurer to obtain a certain number of EFRA licence. The request will be accepted only if the fee has been paid.
- 4.3.5. The National Association should fill in the licence in the appropriate sections before issuing to a driver.  
The licence must carry the name of the National Organisation.  
The name of the driver and a licence number must also be entered and recorded. A list of licence holders including Name, Address and Licence Number should be introduced in the EFRA database.  
The individual drivers licence number should remain unchanged from year to year and must not be used for re-issue to other drivers. Each number is a personal number.
- 4.3.6. If for whatever reason a driver should lose a current EFRA Licence, then the National Federation may apply in writing to the EFRA Treasurer for a replacement to be issued. No fee will be charged for this service but it is subject to the fact that the original licence was registered as issued by the appropriate National Federation.
- 4.3.7. Pending IFMAR hosting a Large Scale Off Road World Championship event. Drivers from other blocks within IFMAR are entitled to apply for an EFRA licence and pay for the licence and entry fee directly to EFRA for an entry in the Large Scale off road European Championship event.

**4.4 CANCELLATION OF INTERNATIONAL LICENCES**

- 4.4.1. Member Federations have the absolute right to issue or cancel International Licences.
- 4.4.2. EFRA additionally reserves the right to cancel or withdraw an International Licence from any driver who:-
  - a) Has been adjudged to have flagrantly and repeatedly broken EFRA or IFMAR rules.  
NOTE: The issue of Warnings for driving offences during a race would not in normal circumstances constitute grounds for cancellation of an International Licence.
  - b) Has been excluded from his National Federation.

Note: See rule 8.14.10.



- 4.4.3 Cancellation of an EFRA International Licence must be authorised by the EFRA Executive Committee and the driver is entitled to representation at any hearing of a proposal to cancel an International Licence.
- 4.4.4. The driver must be given 14 days notice in writing of any such hearing which will normally be included in the Agenda of an Executive Committee Meeting.
- 4.4.5 The driver has the right to appeal within 14 (fourteen) days of the decision.
- 4.5 TEAM DRIVING**
- 4.5.1 In a case where team driving, unsporting behaviour or conduct by persons that is construed as being prejudicial to a fair race are suspected, the official referee will consult with the race director (or vice versa). In cases where both officials agreed that such action have occurred and they have been unable to take action, they will report to the most senior EFRA official present, or otherwise the Section Chairman, who may take any action apart from issue penalty or sanction. The senior EFRA official, or Section Chairman will present the full circumstances of any such report to the EFRA Committee at the next meeting opportunity.
- 4.5.2 Any driver directly involved must be called to represent himself/herself at a meeting of the EFRA Committee and will be given due notice according to rule: 4.4.4. Any failure to attend or otherwise represent himself/herself will be taken into consideration.
- 4.5.3 For instances of team driving, gross misconduct, serious unsportsmanlike behaviour, conduct prejudicial to a fair race, the EFRA Committee may exercise its right to cancel an International Racing Licence for incremental periods of six month up to a maximum period of five years.

## 5. GENERAL REQUIREMENTS EFRA EVENTS

### 5.1. GENERAL REQUIREMENTS TRACK

- 5.1.1. Access: approach by car must be possible to within at least 100 mtr. of the pits.
- 5.1.2. Parking: parking for competitors must be available within 100 mtr. of the pits.
- 5.1.3. Spectators area barriers must separate spectators from the track and the pit area.
- 5.1.4. Public conveniences: water and toilets for both competitors and spectators must be provided.
- 5.1.5. Refreshments: a place should be provided for this purpose.
- 5.1.6. Electricity: 230 V must be available in the drivers area for charging batteries and using solder iron. The organiser can allow the use of other electric equipment if power supply is sufficient.
- 5.1.7. Hotel and camping: sufficient and reasonably priced hotel and camping facilities within 20 minutes of the track must be available.  
Wherever possible, it is preferable that camping should be at trackside. Any charges must be fixed before arrival of competitors and mentioned in the invitations.
- 5.1.8. An EFRA Press Area must be put in place by the Organizer of any EFRA European Championships, that must be protected against bad weather and must be equipped with tables, chairs, electricity supply. EFRA Press Area must have a Quality of Service (QoS) capable unrestricted internet connection, which is shared using QoS between EFRA Media Partner and other media representatives. Sharing is done in way, that EFRA Media Partner has up- and downstream bandwidth, which fulfills the requirements of yearly revisited specifications agreed at AGM together with EFRA technical representative and EFRA Media Partner. These requirements will be announced during AGM and published in meeting minutes.
- 5.1.9. Track requirements are specified per appendices.

### 5.2. ACCOMMODATION REQUIREMENTS

- 5.2.1. Drivers pitting area must accommodate all drivers and be equipped with tables, chairs and protection against bad weather (outdoor racing). The drivers rostrum must be easily accessible from the drivers area. Based on the Final entry list supplied by the Section Chairman, the organiser will allocate pitting spaces so that drivers from the same country pit together, providing the pitting area allows.
- 5.2.2. The drivers rostrum must accommodate 10 drivers with minimum 80cm space for each driver  
Width of the rostrum must be minimum 1.25 mtr.  
Height of the rostrum - floor to be:-

Standard	Between 2 and 3 mtrs
1:12 Electric Track Section	Between 1 and 3 mtrs
1:10 Electric Off Road Section	Between 1.5 and 3 mtrs

Access to the rostrum must be by a solid stair, with a minimum width of 1.20 mtr. The use of individual stands on the rostrum is only valid for people under 160 cm and on their own risk. A strong parapet is mandatory. The rostrum must be protected or capable of being protected against bad weather.  
A sand box and a fire extinguisher must be placed on the rostrum when the transmitter impound is placed there.
- 5.2.3. The drivers rostrum must be placed in a position that provides equal view of the track to each of the drivers at any place on the rostrum, during practice and racing.

The view may not be obstructed by any object (pillar, flagpole, other drivers etc.). The distance from the front of the rostrum to the nearest part of the track is recommended to be between 2 and 4 mtr.

- 5.2.4. Timing and lap counting area must be located at a slow part of the track, with a good view of the track for all lap counting officials. The number of the car must be readable for at least 2 seconds from that area.

Car numbers must be used as provided by the Organisers.

EFRA will supply EC organizers with car numbers, it's compulsory to use the provided numbers

- 5.2.5. Timing and lap counting area must not be accessible to competitors or spectators.

- 5.2.6. A result board must be positioned at a convenient place not far from the timing and lap counting area and accessible to all competitors. The result board must be protected against rain and wind. An electronic score board is recommended.

### **5.3. SAFETY**

- 5.3.1. The safety of the spectators is of prime importance and must be considered when laying out track and spectators area.

- 5.3.2. The safety of officials, helpers, competitors and accompanying people is of equal importance, but it is assumed that they are more aware of any potential danger.

- 5.3.3. Spectators, competitors and officials must be efficiently protected against the cars by adequate barriers.

- 5.3.4. When dots are used as barriers to prevent shortcutting of corners, they must be placed in a way that cars cannot "fly" into the public when they hit the dot at full speed.

- 5.3.5. Technical inspection must always include the bumpers (no sharp edges allowed), or other protruding parts of the cars. They may never be placed or designed in such a way as may cause serious injuries in case of an accident.

- 5.3.6. First-aid supplies: The minimum should be available in case of necessity. It is recommended that there also is equipment to clean eyes in case of accident with splashing glue, methanol, petrol etc.

- 5.3.7. First-aid: a first-aid officer should be present during events to which large crowds will be attracted.

- 5.3.8. Police and ambulance services must have easy access to all areas both public and restricted.

- 5.3.9. A public liability insurance, against accidents, and legal liability is compulsory for all events. The cover must be applicable to all competitors and officials, irrespective of their nationality or sporting status.

A copy of the insurance certificate should be presented to the Section Chairman prior to the event.

- 5.3.10 Mobile phones are not allowed to be used on the rostrum, pitlane or on the track. Other transmitting devices, except those who are needed by the organiser, are not allowed to be used. With the exception of the drivers radio equipment.

- 5.3.11 In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organizers (e.g. bad weather conditions with safety risks for all persons at the meeting), the referees together with the Race-director will decide, after consulting with the EFRA Representative (if present) whether to cancel or continue the meeting.

If the planned number of practice rounds, qualifying rounds and finals not being possible to complete, then priority will be given in the order of one Controlled Practice Round.

Minimum number of Qualifying Rounds as detailed in Section rules.  
Finals. (Finals take precedence over additional Qualifying Rounds).

- 5.3.12 In the interest of safety any battery pack carried on a modelcar must be able to be disconnected quickly in an emergency.

Note: Direct soldering of battery packs is not acceptable.

All racing batteries, car and radio equipment, irrespective of the kind of material of its composition, must be charged in a Lipo sack at all times.

LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.

#### **5.4. LAPCOUNTING AND TIME KEEPING AND COMPUTER REQUIREMENTS**

- 5.4.1. Independent systems must be used simultaneously at EFRA Sanctioned events.

- 5.4.2. For European Championships only, EFRA will check both systems.

- 5.4.3. These systems must satisfy the requirements of EFRA and therefore must be proposed and explained in the application.

- 5.4.4. Both systems will be operated by the organising club.

- 5.4.5. The first system must produce a record of all the individual laptimes of all cars and the number of laps and final times after finishing.

- 5.4.6. The second system will be used as a back up system and must produce a record of all individual laptimes and the number of laps and final times after finishing.

- 5.4.7. Lap times and final times must be recorded in hours, minutes, seconds and 1/100th of seconds. At least 1 (one) Lap Recording System must be capable of this.

- 5.4.8. Electronic systems are used, printouts must be kept with the record sheet, on which the final result is written down.

- 5.4.9. The results from the first and second system are compared and in case of differences, the time-keeping official should examine the data produced and in particular the lap time-sheets. The final decision on the result is the responsibility of the Timekeeper.

- 5.4.10. Race director and/or lap counting official at EC's must have a suitable working personal computer with proper, race proven programs to sort the lap times, print results from heats, final positions after each series of races within 15 minutes.

- 5.4.11. The time-keeping official is responsible for publication of the final results.

He must store all the data produced by the 2 systems until the end of the meeting. They can be used in case of protest against the result.

- 5.4.12. Electronic systems must be connected to a reliable power source (Preferably not a generator). Connecting plugs must be firm and not easy to disconnect. When 2 electronic systems are run simultaneously, they should not be connected to the same power source.

- 5.4.13. For timekeeping accommodation requirements, see 5.2.5. and 5.2.4.

- 5.4.14. The official result sheets containing results of all heats, semis and finals, must be sent to the EFRA Section it concerns within 10 days of the race.

- 5.4.15. The clubs that apply for an EFRA event must guarantee (mandatory), that the software to be used for time-keeping provides the capability of online streaming of the lap times (lap by lap, in real time). The software used must also have the capability to store, and show online, through the hole event, the reports (including general classification) after the different heats or finals.

#### **5.5. CLASSIFICATION OF DRIVERS**

- 5.5.1. Qualification for finals will be based upon each drivers best single score achieved during the qualifying heats, or upon points achieved during qualifying rounds/heats as detailed by Section/Class rules.

- 5.5.2. In the case of more than one driver recording identical best results at the end of qualifications, the next best result is taken unless otherwise stated at class/section rules.
- 5.5.3. In the case of more than one driver recording identical best results in a final the driver starting with the highest number is classified as the fastest.  
(e.g. if numbers 5 & 2 are equal then 5 is deemed as the highest final placing)
- 5.5.4. In the case of more than one driver recording identical best results in a final and having used all possibilities to sort them out without success, the qualification order will decide.

## **6. ORGANISATION OF EFRA EVENTS**

### **6.1. RACE ORGANISATION REQUIREMENTS**

6.1.1. Preliminary Checks: Before applying for an EFRA sanctioned event, the host club must:

- a) Be confident they can offer foreign competitors a race that is worth the travelling and expense in all respects;
- b) Have the track available from at least Friday-morning prior to the race (09.00 till 18.00 hours minimum), unless stated differently by section appendix;
- c) Be sure the track and accommodation comply with the rules as described in chapter 5 and the section appendix;
- d) Have enough experienced volunteers to organise the race, and set up a committee for this purpose to cover: lap counting and timekeeping, technical inspection, and race control facilities, organise marshalling and to arrange hotel accommodation
- e) have the necessary authorisation to hold the race, i.e. from the owner of the track or property, with regard to noise, spectators, refreshments, chargeable entries etc.
- f) have the right insurance for an international event.

6.1.2. Request for EFRA Grand Prix and European Championship (see chap.3)

The organising club must request the race through its National Association, who will forward this request to EFRA as described in paragraph 3.2.2. and 3.3.3. The National Association may reject such a request even before sending it to EFRA, they being in the first instance responsible for such a race.

6.1.3. Request for EFRA Sanction or other major international meetings are made in the same way. Such requests can be made to EFRA at any time of the year but before 31 August of the previous year.

### **6.2. INVITATIONS AND FORMS FOR EUROPEAN CHAMPIONSHIPS**

6.2.1. The host Federation shall provide sufficient copies of the necessary information to the EFRA Section Chairman not less than 120 days before the event. The information shall include a program to be approved by the Section Chairman, a plan of the track, directions to the track, hotel accommodation etc. The invitation must state whether the race is to be run in a clockwise or anti-clockwise direction.

The Section Chairman must make sure that all EFRA contact addresses receive this information, together with the entry forms, not less 90 days before the event. The information should, at the same time, be published on the EFRA website [www.EFRA.ws](http://www.EFRA.ws).

6.2.2. For European Championships the National Federation is responsible for sending the entry-forms of their national team to the EFRA Section Chairman, at the latest 60 days before the event. They may send in entry-forms for up to 4 drivers additional to their country allocation for reallocation purposes. Those extra entry-forms must be marked clearly "FOR REALLOCATION".

A list of the team members, mentioning their EFRA DRIVERS LICENCE numbers, must be send to the EFRA Section Chairman at the same time. Family Names must be written in Block letters. eg: MARTIN Angus. The name of the team manager of the country who is sending the list for the EC must also be mentioned at the entry form.

6.2.3. 55 Days before the event any places not taken will be re-allocated by Section Chairman, using the procedure established at the AGM. The reallocation will be published to all the participating countries 40 days before the event at the latest. If the re-allocated places do not fill the entire series of heats, the host country

may provide the remaining drivers. The entry fee for such will be the normal allocation fee.

- 6.2.4. Only drivers with an international EFRA licence are allowed to participate in a European Championship.
- 6.2.5. Organisers must confirm the entries of all competitors participating in the race, 30 days before the event at the latest, to both the National contact address and each competitor and through publication on the official website of the event.

### **6.3. INVITATION AND ENTRY FORMS FOR EFRA GRAND PRIX ETC.**

- 6.3.1. Invitations, Entry forms and time tables with additional information must be published on, or linked from, the EFRA web site at least 60 days before the event. This information must be at least in English language.
- 6.3.2. The National Association distributes the entry forms to the interested drivers, completing the entry form and sending it to the organizing Club is the responsibility of the individual driver. The organizer may request payment of the entry fee in advance. If this is requested the entry form must specify the methods of payments. Among those an IBAN number with all data needed for international Bank transfer is required; other methods of electronic payment (e.g. credit card or pay-pal) are also acceptable.  
If payment in advance is requested the entry is not confirmed until payment is done. Only due to exceptional circumstances the payment might be refunded in the event of a no-show previously communicated.

Closing date for the entries must be marked on the entry form but should not be later than 7 days before the event.

- 6.3.3. The maximum number of entries at an EFRA Grand Prix may not exceed 120 under normal circumstances or 144 in the event of heats and finals of 12 drivers or more.
- 6.3.4. Drivers who cannot take part because of over-subscription should be notified by the organisers.

### **6.4. PROMOTION AND SPONSORING**

- 6.4.1. EFRA events must be organized in such a way that the sport is well represented to both the spectators and the competitors. Enough advertising must be made in the area to draw spectators and to interest the Press in the EFRA event. An event website for EC's should be made. Live feed of results and probably picture's/ film is advisable.
- 6.4.2. When sponsors are attracted, they may only be offered advertising space on cars or drivers (shirts or jackets), when the sponsors name does not conflict with any manufacturer of cars, radio equipment, engines (related to the model car sport), present or represented in the race.  
Sponsors may not demand from the organisers the exclusive use of their name or their product by all competitors during the event.

### **6.5. CONVENIENCE AND SECURITY**

- 6.5.1. For European Championships, public convenience and refreshments must be available to all competitors from the first day of the event onwards.
- 6.5.2. For EFRA Grand Prix, public convenience and refreshments must be available to all competitors from Friday onwards.
- 6.5.3. All possible action must be taken to avoid any danger for public or competitors (see 5.3.). The police must be advised of the meeting.
- 6.5.4. The Pit area must be secure. All possible care must be made to safeguard both the drivers and their equipment.
- 6.5.5. Animals in pits and working areas are strictly forbidden.

## **7. RACE OFFICIALS**

### **7.1. REFEREES**

List see chapter 1

- 7.1.1. The main task of Referees is to observe the racing and in particular good sportsmanship during racing.

He will ensure that the current EFRA rules are observed by everybody.

The referee for a Championship should be nominated at least 60 days previous to the event.

- 7.1.2. Referees are part of the International Jury when a meeting is called by the Race Director. The Referees will advise on any dispute regarding procedures associated with driving, marshalling or rostrum area behaviour.

- 7.1.3. Two EFRA referees, (see approved list) appointed by the section chairman after consultation with the national federation, are required for all EFRA EC's with allocated places. At least one of them must be from abroad and will be head referee. The hosting federation must provide suitably qualified substitute(s) to assist and stand in.

For GP's and open EC's one EFRA referee will suffice (see approved list). A second referee, known by name and approved by the national federation but not necessarily on the approved list may be accepted. The hosting club must provide a suitable qualified substitute to assist and stand in. EFRA does not pay any referee expenses for GP's or sanctioned International races.

- 7.1.4. EFRA referees are appointed by EFRA for a period of two (2) years after being proposed by their National Federation. The EFRA Referee form must be used and the registration year will be indicated on the Referee list, chapter 1.

EFRA referees must be experienced and unbiased people with a good knowledge of the English language and EFRA rules. They must have acted as Referee at least at National level in that class before being proposed by their National Federation. Each Section will prepared a list of approved Referees from those proposed together with an indication of their experience level.

EFRA Referees are divided in 3 categories

Grade C: Grand Prix or International Meetings

Grade B: European Championships

Grade A: World Championships

Grade A and BEFRA Referees must, after proposed by National Federation, receive the sanction of the appropriate Section Chairman.

Appointment to be made by the EFRA Executive Committee.

- 7.1.5. EFRA should pay the travelling costs (agreed in advance) of one non-national referee appointed to European Championships with allocated places at the AGM. Other costs to be supported by the organiser.

Referees are entitled to claim a maximum of 92 € (or equivalent) for lodging, sundries and meals per 24H period from the organising club. Higher costs will be the responsibility of the referee or to be arranged in advance with organiser. All claimed costs, as far as possible, must be duly documented (e.g. bills, tickets, receipts etc.) However it may be assumed that the organiser reserves decent hotel accommodation and provides comfort at tracksite (Lunches, refreshments, dinner-party etc.)

### **7.1.6. REFEREES DUTIES**

At EFRA events at all times during the qualifying heats, both referees in turn will watch and observe the racing from start to finish.



During the finals both referees must observe the racing from start to finish. The host Federation must provide suitably qualified substitutes to stand in for these referees should they be called away from their duties. The expenses of these substitutes must be clarified in advance between host Federation and the organising club.

7.1.7. Both referees always work together, they take decisions and issue warnings and instructions.

The referees may take action after an initial warning, but in all cases a maximum of 3 warnings means automatic disqualification.

7.1.7 a The Referees will agree on any time or other penalties to be awarded following consultation with the Race Director taking into account the likely advantages to be gained by Jump Starts etc. on individual tracks. They will also decide the practical limits for numbers of pit lane mechanics. This will normally be limited to:

a) 1 mechanic plus Team Manager during qualification

b) 2 mechanics plus Team Manager during finals.

If space permits these numbers can be adjusted upwards.

### **7.1.8. POINTS OF OBSERVATION**

7.1.8a. Bad sportsmanship during racing, i.e. impeding the progress of other participants, deliberate slowing down (including deliberately slowing down and/or coasting past any noise testing equipment with the intention of avoiding the checks) or waiting for another car, deliberate crashing into another car, deliberate cutting of corners and reckless driving in general.

7.1.8.b Team driving, conduct unbecoming or interfering with the fair outcome of a race (refer to rule 4.5 UNSPORTMANSLIKE BEHAVIOUR)

7.1.9. Unsporting behaviour of drivers and mechanics involved in the racing.

7.1.10. Incorrect use of the entry and exit to the pits.

7.1.11. Repairs and refuelling outside the pit area.

7.1.12. Cars that do not conform to the regulations before the start is given or during the racing (i.e. loss of the bodyshell, exceeding the noise-rules due to loss or damage of the silencer).

7.1.13. Cars that are in an undriveable or dangerous condition due to damage or malfunctioning of the car.

7.1.14. Starting procedure, i.e. writing down start line infringements and if necessary reporting these to the time-keeper.

7.1.15. It is not the duty or the responsibility of the referee to check that the cars conform to the technical rules. This is always the responsibility of the Technical Inspector. The Section Chairman (or the EFRA appointed deputy) checks the methods used for technical inspection.

### **7.1.16. REFEREES AUTHORITY**

7.1.16a. The referee issues warnings in the event of infringements of any of the points as described under 7.1.8.-11 and ultimately may even issue a black-flag (disqualification) when his warnings are not effective.

7.1.17. Warnings and instructions are announced by the referee himself and he keeps a record of the warnings and instructions issued (referee-notes).

3 Successive warnings lead to disqualification (black flag).

Instructions issued by the referee must be observed immediately.

7.1.18. Warnings for bad sportsmanship (7.1.8.-7.1.9.) are announced with the words: "FIRST WARNING TO CAR NO.....FOR BAD DRIVING".

- 7.1.19. Warnings for mis-use of the pit are (7.1.10 and 7.1.11) are announced with the words:  
"FIRST (SECOND) WARNING TO CAR NO.....FOR MIS-USE OF THE PIT AREA".
- 7.1.20. Instructions for repairs (7.1.12 and 7.1.13.) are announced with the words:  
"CAR NO.....REPAIR BODY, SILENCER, CAR ETC".
- 7.1.21. The warnings and instructions issued by the referee are indisputable and final and may not be interfered with by anyone.  
Under no circumstance may a warning or an instruction from the referee lead to the interruption of the whole race.
- 7.1.22. Appeals against the decisions of the referee must be addressed to EFRA General Secretary, after the meeting and in writing.  
EFRA is not obliged to act on such a complaint, but will seriously study it and answer.

**7.1.23. REFEREES FACILITIES**

- Referees must be offered a place from where they can observe the track from the view as seen by the drivers. At an EFRA EC must this place be on the rostrum. The place must be separated from the drivers area, to assure a quiet and undisturbed working environment. Protection must be given against bad weather (walls, roof etc).
- 7.1.24. The place must be equipped with 2 chairs, a table, a microphone and a monitor to watch the race order. With the microphone the Referee must be able to announce his warnings or instructions at any time during the race. A system of preference for the Referees microphone over the announcers microphone must be provided by organisers.
- 7.1.24a Referees should be able to communicate verbally with each other, the Race Director and Lap Counting Supervisor.
- 7.1.25. It may be assumed that the referees comfort is provided for by the organisers ( lunch, refreshments, dinner-party etc. ).

**7.1.26. REFEREES REPORT (EFRA REF: REFEREE 92-1/7)**

- 7.1.26a. Both referees make up their official EFRA report directly after the race, provide a copy to the Race Director, and send copies of it to the Section Chairman and General Secretary. The report should contain general information about the organisation, accommodation and races.  
Referee notes with issued warnings etc should to be included.

**7.2. TIME KEEPING SUPERVISOR AT EUROPEAN CHAMPIONSHIPS**

- 7.2.1. For all European Championships, EFRA will approve a Time-keeping Supervisor to check the systems provided and operated by the organising club.
- 7.2.2. EFRA will not be responsible for the costs.
- 7.2.3. EFRA approves the equipment of both Time-keeping systems.
- 7.2.4. The organising club must provide experienced lapcounters and a suitable accommodation for the Time-keeping Supervisor.
- 7.2.5. The Time-keeping Supervisor is responsible for recording all the individual lap-times and total laps plus finishing time of all drivers during all heats, semi-finals and finals.  
He is not responsible for the classification of the results, nor for the selection of drivers for semi-finals and finals.
- 7.2.6. After the finish of any heat, semi-final or final, the results of the first and second time-keeping system are compared by the Time- keeping Supervisor and in case of differences between the 2 systems, the Time-keeping Supervisor investigates both results and takes the decision on the final result. Only the results approved

by the Time-keeping Supervisor may be published to the competitors and are official.

- 7.2.7. In case of protests against results, the Time-keeping Supervisor together with the Race-Director will check on the questioned result and will take the decision.
- 7.2.8. All results, written, printed or otherwise, in their original condition are property of EFRA and kept by the EFRA Time-keeping Supervisor until the end of the event ( see 7.2.1. ). After the event all relevant data will be sent to EFRA (rule 5.4.14). Copies of the original data are left with the organisers.

### **7.3. RACE OFFICIALS**

#### **7.3.1. Mandatory Officials.**

In EFRA Sanctioned races it is mandatory to have the following Official positions held by different persons:

- a. Race-Director
- b. Time-keeper
- c. Technical Inspector

Other Officials have to deal with:

- d. registration of entrants, checking licences, collection of fees;
- e. supervise transmitter impound;
- f. giving start and finish signals;
- g. lap-counting and time-keeping;
- h. recording and publishing results;
- i. separation of public/drivers area and track
- j. supervising the marshalling around the track;
- k. track marshalling.

#### **7.3.2. Qualification of Officials.**

All Officials must be properly trained and experienced persons, with the main positions held by persons with international experience and a good knowledge of the rules and the English language. All main Officials must be able to converse in English.

#### **7.3.3. Selection of the Officials.**

For EFRA Sanctioned races, the organising club may select all the Officials. The Race-Director must be approved by the National Association.

For European Championships the Race-Director must be known and approved by EFRA as well.

- 7.3.4. All Officials, except Referees and the Time-keeping Supervisors, are subordinate to the Race-Director, who issues detailed instructions for all jobs.

- 7.3.5. No Official is allowed to take part in a race.

- 7.3.6. Officials should be clearly distinguished from competitors and spectators by wearing a band or otherwise.

- 7.3.7. No Race Official is empowered to make interpretations of any EFRA Constructional or Procedural Rule either during technical inspection or racing without full approval of the International Jury. During the meeting of the International Jury which is convened for the purpose of approving any such interpretations, it is the duty of the Section Chairman (or the EFRA appointed deputy) to provide authoritative guidance on the interpretation of any rule in question.

### **7.4. INTERNATIONAL JURY**

- 7.4.1. The international jury consists of the section chairman if present, all Team-Managers or their deputy of the countries present, the Race Director and the 2 EFRA Referees. All decisions are taken by simple majority, one vote per person and no

proxy votes. In case of parity of votes, the Section Chairman has the deciding vote. The result of each decision must be published in writing.

- 7.4.2. During a meeting of the International Jury, at least 2/3 of all countries must be present at the meeting. The Team Manager or his deputy must be present.
- 7.4.3. Responsibilities of the International Jury:
- a. to adjudicate in unforeseen situations.
  - b. to adjudicate in the case of protests if needed.
  - c. to amend the schedule.
  - d. to check that the race is run according to the official EFRA rules.
- 7.4.4. When necessary, the Race-Director calls an International Jury meeting. The Referees may also call an International Jury meeting to settle disputes or protests against unforeseen situations. A written agreement of a minimum of 3 Team Managers have the power to call an International Jury meeting. The Race-Director must provide a room or other place for the international jury to meet in seclusion.
- 7.4.5. The international jury is not responsible for the organisation and the well running of the race.
- 7.4.6 The International Jury may only adjudicate in the interpretation of the official EFRA rules. It may not either alter or ignore the rules and may not instigate it's own rules.

## **7.5. TEAM MANAGER**

- 7.5.1. The Team Manager or a nominated deputy, approved by the Race Director should be present during all official racing and is a member of the International Jury. The Team Manager is appointed by his national association.
- 7.5.2. Responsibilities of the Team Manager are:
- a. To register on behalf of his team providing the organisers with all driver's EFRA licences and frequencies.
  - b. Be present at the technical control. either before, during or after the end of the race, in which team members participate.
  - c. Look after the welfare and behaviour of his team and take care they receive proper accommodation in the pits area.
  - d. He must attend the Team managers meeting(s) prior to the start of the race.
  - e. He is the link between his team and the race direction by receiving all information referring to.
    - time table changes
    - frequency changes
      - results after every qualification round, sub finals, semi-finals and finals
    - other information referring to the race.
  - f. He is allowed to stay in the pit area when a race of one of his team members is in progress.
  - g. He will receive a list with frequencies from Race Control for his drivers before the official race (timed practice) starts, so he can check that there are no discrepancies
- 7.5.3. At Championships, Team-Managers preferably do not take part in the race. They must speak English.

## **8. GENERAL RACE PROCEDURE**

### **8.1. PRACTICE AT EUROPEAN CHAMPIONSHIPS**

8.1.1. At European Championships, at least 1 series of organised practice in heats per class is compulsory.

It is compulsory to run at least the last round of the organised practice with official starting, official time keeping with the results published, as in official racing.

8.1.2. Results scored during organised practice could determine the start order (when using delayed start) in Round 1 of the qualifying heats.

8.1.3. Organised practice must be seen as a last rehearsal and test for both the organisers and the drivers and therefore all EFRA rules have to be followed seriously.

8.1.4. Free practice for all drivers CAN be allowed prior to the organised practice. During free practice a frequency board must be in use. In order to give every driver the same free practice and organised practice time a ticket system may be used under the control of the Race Director.

Whether it is free, organised or timed practice, the identity of each driver must be carefully checked upon arrival on the rostrum.

8.1.5. Free practice on the day of racing may be allowed by the organisers till 30 minutes before the start of the first heat. This is not compulsory.

8.1.6. Free practice may only be allowed between the start of the first heat and the finish of the main final at the discretion of the organiser. Free practice is not mandatory. If free practice is planned it must be well known to everybody fairly in time.

8.1.7. A driver, not taking part in the organised practice, may not complain later to the organiser in case of radio-interference etc.

8.1.8. During Free and Control Practice drivers must follow Race Control instructions - may be given in a written paper prior to the event start -, specially all instructions related to marshalling and technical inspection - e.g. go to his marshalling position after a practice, or mark chassis prior to the start of the qualifying. If a driver does not follow those instruction he will loose his best qualifying result

### **8.2. PRACTICE AT OTHER EFRA SANCTIONED RACES**

8.2.1. At least one day of practice in heat format for all drivers who wish to take part is recommended; normally Friday.

8.2.2. During the free practice the frequency board must be in use.

8.2.3. An organised practice of only one series of only one class is optional. This organised practice should be used as a last rehearsal and test and must include official time-keeping (see 8.1.1.).

8.2.4. Practice on the race-days may be allowed till 30 minutes before the start of the first heat and after the prize-ceremony, but is not compulsory.

8.2.5. When the organizer has started organized practice, all drivers must respect the time schedule and the heats set. If a driver is caught cheating, for instance taking part in two different practice heats the driver will be disqualified from the race.

### **8.3. ARRANGEMENT OF THE HEATS**

8.3.1. For arranging the heats the organiser has to consider the skill of each driver. If the section has a grading system for licences, only drivers with the same grading may compete in the same heats.

8.3.2. One arrangement of heats may be used for one class only and must be different for following classes, with the purpose of finding different opponents.

8.3.3. Organisers may only change the composition of a heat when there is a serious and obvious problem that cannot be solved otherwise.

8.3.4. Prior to commencement of Qualifying Rounds, drivers should be re-grouped for qualifying heats taking into account controlled practice results and/or upon the Race Officials observations.

#### **8.4. REGISTRATION**

8.4.1. At European Championships drivers registration must take place on the day prior to the race. Registration will be done by the National Team Manager.

During registration the drivers licence is checked. The licence numbers will be registered by the race organiser.

8.4.2. At EFRA Grand Prix and other EFRA sanctioned races, drivers registration may take place up till 30 minutes before the start of the first heat.

8.4.3. Driver's registration must involve:

- paying the entry fee (G.P's only, if not previously collected in advance);
- checking the required drivers license;
- receiving a list with the heat arrangement/timetable, including the frequencies used;
- receiving other necessary information

8.4.4. At every EFRA event, pre-registration may be requested by the organizers. Limit date for pre-registration must be 72 hours before the official limit time for registration. Pre-registration must involve:

- Name of driver
- Country
- The required drivers license
- EFRA License number
- At least two (2) frequencies

And may involve: Payment in advance, Sending a picture for accreditation.

#### **8.5. FREQUENCIES AND FREQUENCY CHANGES**

8.5.1. Frequencies authorised by the governing body of the country concerned will be used.

8.5.2. In case of more than one driver using the same frequency during practice, the time for each driver must be divided equally.

8.5.3. In case of 2 drivers using the same frequency who qualify for the same semi-final or final, the faster qualified driver will keep his frequency and the other must change.

8.5.4. When a frequency change is required, up to 10 minutes time must be allowed following notification to carry out the change.

8.5.5. Slower qualifying drivers, who cannot or will not change their frequency, will not take part in the semi-final or final for which they have qualified.

8.5.6. If a driver must change his frequency before the start of a semi-final or final due to an error of the organisers, he will be allowed up to 10 minutes time to carry out the change.

8.5.7. If a driver finds his radio-equipment defective or has made an error in the selection of his crystals, the race will not be delayed beyond the schedule (see Racing Formats).

8.5.8. All frequencies and frequency changes must, at all times, be authorised, in writing, by the respective countries team manager and designated Official before the frequency is approved or the change is made.

8.5.9. No frequencies will be published on heat sheets and other public information. The frequencies used by the drivers will only be known to the race-officials.

8.5.10. A minimum of 10 kHz between frequencies must be used. A Frequency spacing of 20kHz between the competitors is recommended.

## 8.6. TRANSMITTER AND TRANSMITTER IMPOUND

There can be 2 different kinds of transmitter:-

- a) Transmitters with a crystal that can be changed. See rules 8.6.1 / 8.6.3 / 8.6.6
  - b) Transmitters using a software decoding system that seeks for a free channel. Anybody using these kind of transmitters cannot ask for a delay for radio interference.
- 8.6.1. Transmitters (as in 8.6 a) must be constructed in such a manner, that the crystal can be changed and all competitors must have at least one alternative frequency available. Voltage supply to the transmitter must not exceed the manufacturer's type approval or National authority recommendations. Any driver found to be using external or additional battery packs must have proof that it conforms to the radio manufacturer's specifications. No changes or additions are allowed on the antenna unless authorised by the original manufacturer.
- 8.6.2. Electronic driving aids :Steering and driving/brake can only be operated by direct action of the driver using the Radio. The use of traction control devices, active suspension devices and any steering control aided by gyroscopes or 'G'-force sensors is strictly forbidden. Sensors are only allowed for the purpose of passive data recording and not for adjusting the performance of the car whilst in motion. It is not allowed to use any form of telemetry with active transmission. Clarification: It is not allowed for any wireless signals to be transmitted from the car to an external source during the race that is judged to give the driver a competitive advantage during that particular race! Drivers found using any of the above forbidden items/devices will be subject to disqualification from the event where the items are used and can be banned from all EFRA and IFMAR events for a period of 5 - 10 years.
- 8.6.2.b) Radio communication is allowed between Driver and Mechanic.  
Radio Communication Rules:
- a: Only designated public service bands with a maximum power output of 500 mW are allowed.
  - b: Radio communication can only be used by the driver their pit crew, only while their driver is on the drivers' rostrum for the duration of the race.
  - c: A single ear piece or one sided head set type that is not audible to others and does not reduce the ability to hear the referees' calls must be used.
  - d: All equipment must comply with the local & country radio communications rules.
  - e: Not allowed, any 2.4 GHz radio equipment.
  - f: Radio equipment cannot be used at any other time within or around the complex.
  - g: Race management has the right to test, decline or withdraw the use of any and all equipment without question.
- Note: Rules, b, c & f, do not apply to race management.
- 8.6.3. Spare transmitters must have the crystals removed and if possible must be kept out of the pits.
- 8.6.4. Transmitters may never be taken onto the track during racing.
- 8.6.5. Transmitters will be under the control of the Race Organisers.
- 8.6.6. At European Championships, the organizers must have the ability to verify that transmitters as detailed in 8.6 a) are operating correctly on the frequency that has been designated. EFRA will advise on any equipment that is needed.
- 8.6.7. Transmitter impound is not mandatory. It's up to the Race director in accordance with the EFRA representative to have an impound or not.

- 8.6.8 Should the Race Director and Organiser decide not to have a compulsory Transmitters Impound, then such decision can be changed following a request of at least 3 Team Managers present.  
If a Transmitter Impound is not mandatory, then drivers can only switch on the transmitter when on the rostrum, or under supervision at Technical Inspection. In event of drivers marshaling, there must be a place next to the rostrum where they can place their transmitters while acting as marshals.
- 8.6.9. Transmitters are impounded immediately after a request by the Race Director or other Official. When impounded for the first time, transmitters are marked with heat-number or with identification number of the driver and are stored accordingly.
- 8.6.10. The transmitter impound must be close to or if possible on the rostrum. Transmitters must be protected against bad weather and stored in a safe and secure manner to prevent any damage to the transmitter.
- 8.6.11. Transmitters are only released for the next race immediately prior to the race start and must not be removed from the official area's or switched-on until the previous race has been declared finished. Transmitter-impound must take place immediately after the driver has completed his race or has finished driving and is leaving the drivers rostrum.
- 8.7. TECHNICAL INSPECTION**
- 8.7.1. Admission Inspection must always take place in an area protected from intrusion and before the start of the first heat. Cars must be presented for inspection as requested by the Officials any time during the meeting. Random checks on technical specifications can be done during the whole race. During Technical Inspection only the Driver or Mechanic and the Team manager are entitled to be present in addition to Race Officials.  
Under all circumstances it is the responsibility of the driver that his car is within the EFRA rules during a race meeting. If a car is found illegal during heats, sub-finals or final, the drivers result will be made void and the car has to stay in technical inspection until the result is published and the protest time is over.
- 8.7.2. At European Championships admission inspection must take place before the timed practice.
- 8.7.3. Technical inspection must include a thorough check-out of the car, weight limit, motor, muffler, tank, batteries, tyres, homologation of bodies, spoiler and overall dimensions. At European Championships, also of the transmitter (see 8.6.2).  
Any tank found illegal after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of app. 15 minutes. This period of 15 minutes is only necessary in case the temperatures are above 20° C. The use of artificial aids to cool the car, tank and/or the fuel in the cool down period is forbidden. Only EFRA approved equipment for measuring are allowed.  
Only for IC track: Any tank found illegal after a heat or final will remain installed in the car and inspected for a second time after an initial "cool down period" of app. 15 minutes. This period of 15 minutes is only necessary in case the temperatures are above 20° C. The use of artificial aids to cool the car, tank and/or the fuel in the cool down period is forbidden. Only EFRA approved equipment for measuring are allowed.
- 8.7.4. Only one car per driver per class will be accepted. When transmitters are checked, spare-transmitters may also be presented for inspection.
- 8.7.5. When a car or a transmitter does not comply with the rules, changes may be carried out before presenting it for final admission.



- 8.7.6. Cars which have passed Technical Inspection must be marked with the drivers identification number, consisting the registration Entry number. This number must be applied inside the chassis plate.
- 8.7.7. For each competitor the race has officially started after technical inspection and admission of his car.
- 8.7.9. At European Championships, all cars of finalists go into a "Parc Fermé", immediately after the finish of the final and are inspected. Cars must remain with the Officials, untouched by drivers or mechanics. Any race distortion must be ignored. Inspection must be at least on:
- engine (motor)
  - tank capacity (batteries)
  - battery-pack and weight
  - chassis (dimensions)
- 8.7.10. Point 8.7.9. may be applied at EFRA Grand Prix or other EFRA sanctioned races, but is not compulsory.
- 8.7.11. The marked part of the car, normally the main chassis, may be changed. This would be subject to any technical criteria detailed within each Section. The original marked part must be left with the organisers until racing has finished
- 8.7.12. If a car is found to exceed the limits of dimensions on checking immediately after a race positive proof of race damage may prevent disqualification.  
If a car fails to pass the technical inspection, the driver's result/time is only discarded from that heat. In a final, or sub-final, it will mean last position of that final.
- 8.7.13. The car shall be measured for width, length and height using equipment as detailed in each Sections Technical rules. The equipment should be constructed preferably from metal, or alternatively from high quality board suitably stiffened to prevent distortion.  
The car must freely fit such equipment with any steer able wheels set in the straight ahead position, and comply with any maximum dimensions due to suspension movement that may exist in the Section rules.  
The measurement of the wheelbase may be made by simple measurement of axle centre distances with suspension in any position but Race Directors should be prepared to make more exact checks in cases of doubt or protest. If is suggested that the wheels are removed and the wheel spindles are firmly placed on the blocks whilst accurate measurements are made.
- 8.7.14. The equipment used for technical inspection by the organiser must be made available to competitor's at all reasonable times.
- 8.7.15. All lists of approved equipment, (i.e. Bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the finale lists for this year and no changes will be made before the next year. Equipment homologated during the year will not be put on the list until 1st of March next year
- 8.8. TEAM MANAGER MEETING**
- 8.8.1. A Team Managers Meeting must be held prior to each race and per class. It must be held in English.  
The Race Director must call the meeting, Team-managers, Referees and other Officials must be present.
- 8.8.2. Team Manager meeting have to be completed at least 1 hour before the start of the first timed practice and the following points must be covered as a pre-race briefing:

- security and safety items;
- starting procedure, explanation;
- disciplinary questions;
- other items concerning the contestants;
- changes in the organisation or procedures;
- presentation of the main Officials and Referees.
- details of the penalties that may be awarded and the circumstances that they will be awarded under.
- details of the number of mechanics etc. authorised to enter the pit lane during racing.

Team managers are links to distribute this info to their respective drivers

## **8.9. FLAGS**

8.9.1. If flags are used then: Starting flag: the national flag of the country where the race is held.

Finish flag: chequered flag. Black flag: the car in question must immediately stop in the pit to receive instructions

8.9.2. The use of the black flag by the Referee (see 7.1.8.-9.):

- drivers who impede the progress of other participants;
- unsporting behaviour;
- participants driving in a manner deemed to be dangerous.

8.9.3. The use of the black flag by either the Referee or the Race Director (see 7.1.12.-13.):

- Vehicles judged to be in an undriveable or dangerous condition; after repairs have been carried out and after the Race Director or the Referee have approved the repair, they may continue their race;
- Vehicles which loose their bodies or other parts must immediately stop and carry out the necessary repairs after which they may re-start.

8.9.4. The black flag is operated by the Flagman (Starter), who receives his instructions to do so from either the Race Director or the Referee.

Under no circumstance may he use the black flag on his own authority.

8.9.5. No response to the black flag (verbal or physical) within three (3) laps will lead to disqualification of the concerned participant of the whole event.

## **8.10. PENALTY CAUSES**

Time penalties should be awarded as stop and go penalties where possible. The Referee and/or Race Director should inform the driver and the penalty should be announced through the sound system and the driver should bring the car into the pit lane in the immediate next three (3) laps where it will stay the amount of time that the race organiser has decided depending on track layout. The 'stopped' time should be announced at the Team Managers Meeting. It will not be allowed any repair or refueling during the penalty being served.

In the case that there is no possibility to call a driver for a stop and go penalty (e.g during the last 2 -3 laps of the actual heat or final), the Referee and or Race Director will announce that a time penalty of 10 seconds will be applied. (Large scale: 1 lap). When a 10 sec. penalty is applied, the Organiser will ensure the following criteria is applied:-

- 1) The competitor receiving the 10 sec. penalty will have his actual Race Time (time on track) reduced by 10 secs.
- 2) Organiser to check results to establish the time of the last lap using the Penalised Race Time.

- 3) The organiser will amend the published time for the penalised driver to show a time of -- “the number of seconds over his Penalised Race Time, added to the normal Designated Race Time for drivers not receiving a penalty”.

Examples:- Designated Race Time is 10 mins. (600 sec.). Driver X receives time penalty of 10 Sec., therefore his Penalised Race Time is 590 sec.

- 1) X crosses the timing loop at 595 sec. at the end of lap 12. His corrected time will be published as 12 laps in 605 sec.
- 2) X crosses the timing loop at 589 sec. on lap 12. He can continue and completes lap 13 at 620, (31 sec lap).

His corrected time will be published as 13 laps in 630 sec.

8.10.A Penalties in time, laps or even disqualification issued by EFRA Referee:

8.10.1. Unsporting behaviour (see 7.4.);

8.10.2. Deliberate corner-cutting;

8.10.3. When a car is re-entering the race other than from the point at which it left the track (not in case the engine has stopped and has to be re-started. Then the car re-enters the race from the pits);

8.10.4. When repairs are made to the car other than in the pit area off the track;

8.10.5. If the car is pushed over the finish-line (must finish under its own power);

8.10.6. Not returning to the pits after finishing a race;

8.10.7. Driving in the opposite direction of the race direction at any time.

8.10.B Penalties in time, laps or even disqualification, issued by the Race Director:

8.10.8. If orders of Race Officials are not obeyed;

8.10.9. If acting contrary to the EFRA Rules;

8.10.10. If a driver changes his complete car for whatever the reason;

8.10.11. If a driver changes his frequency without permission of the Race Director;

8.10.12. If a driver does not return his transmitter to the transmitter impound immediately after the finish of the race;

8.10.13. Penalties in time or laps may be issued by the time-keeping Official in the case of early starts (see starting procedures).

8.10.14. The bad behaviour and deportment of any competitor or assistant person to a competitor during the whole event, which could injure the image of the sport, may become subject to National or International (EFRA) sanction;

8.10.15. All Warnings and penalties must be noted on the result sheet and on the result board for the drivers (preferably in red).

8.10.C Drugs

8.10.16. If drugs or alcoholic impacts a competitor, competitor mechanics or an Official, the penalties for a competitor will be immediate disqualification. An official and competitor mechanics will immediately be taken out of service.

8.10.17. Any driver, representative or mechanic behaving abusively may be expelled from the meeting (a meeting may be one or more days and consist of more than one event/class).

Any incidents that are likely to bring the sport into disrepute can be subject for further action from the Executive Committee.

### 8.11. PROTESTS

8.11.1. Only drivers participating in the race may enter a protest.

8.11.2. At European Championships a protest can only be made through the Team Manager.

8.11.3. Protests may concern:

- the Organisation (act against the rules);
- Officials (act against the rules);

- Results (only when proof can be presented showing the result is wrong);
  - Other competitors (acting contrary to the rules to the disadvantage of the one entering the protest or the one the Team Manager is representing).
- 8.11.4. Only written protests, handed over to the Race Director within 20 minutes after the publication of results of the heat or occasion to which it concerns, will be considered.
- 8.11.5. 100 € or equivalent in the host countries currency has to be paid to the Race Director, on behalf of EFRA, who will only then accept the protest. The time of receipt of the protest must be recorded.
- 8.11.6. The protest must contain relevant information for the Race Director to be able to discuss the protest and decide.
- 8.11.7. The Race Director together with either the Referee(s), the Timekeeping Supervisor or the International Jury, will deal with the protest and decide. This decision is final.
- 8.11.8. The decision must be made within 30 minutes after the acceptance of the protest. Only for important reasons and when the International Jury has to meet, may the decision be delayed to 60 minutes max.
- 8.11.9. When a protest concerns semi- or finalist, either the decision must be taken 10 minutes before the start the latest, or the start must be delayed until 10 minutes after the decision.
- 8.11.10. After the final race, there will be a “protest period” of 10 minutes after the provisional results have been published in writing on the score-board. For this purpose, the publishing time of the provisional results must be noted down on the result-sheet. During these 10 minutes, protests against the results may be presented to the Race Director who will then act according 8.11.7 and 8.11.8. If no protests are presented within the 10 minutes “protest period”, the provisional results become official and final and may be announced.
- 8.11.11. Appeals to EFRA against the decisions of the International Jury may only be made if submitted to the Race Director in writing with a further appeal fee of 500 € (or equivalent) before the end of the event. Appeals are only allowed against decisions of rule interpretation or of decisions made by the international jury after protest and not the fact of rules (see rule 7.4.6). In cases where the international jury has adjudicated in cases of protest the decision of the jury is maintained until the appeal is considered. In cases where the international Jury has made an interpretation of the rules the decision is suspended pending consideration of the appeal. Appeals against the decision of referees shall also be made in writing to EFRA (see rule 7.1.22) and will not alter or interfere with the race in progress and will not suspend any decision of the referees. Appeals to EFRA must be considered at the next Executive committee meeting or before the next AGM and are always to be considered as final.
- 8.11.12. If protest is upheld, the protest-fee of 100 EUR must be remitted immediately.
- 8.11.13. The Race Director may, without a protest being made, correct results which he may deem necessary, after consultation with his organising staff and referees.
- 8.11.14. Protests against the decisions of the Referee, concerning the racing, are not possible. The Referees decisions are indisputable (see 7.1.21 and 22).

**8.12. LAP COUNTING PROCEDURE**

- 8.12.1. At EFRA sanctioned events, the lap counting is to be done automatically by means of an automatic lap counting system and a transponder fitted inside the cars body shell.  
All competitors must supply their own Personal Transponder and are responsible for ensuring that the organizer is advised of the unique number.
- 8.12.2. The fitting of the correct transponder inside the cars body shell is the responsibility of the driver.
- 8.12.3. If a driver loses the transponder during the race, or if a transponder is not working, the lap counting supervisor must try to counts the laps manually.
- 8.12.4. If a driver forgets to fit the transponder during the race, the Race Director and the lapcounting supervisor will decide whether the laps are counted or not. There is no appeal against their decision.
- 8.12.5. Transponders must be moved to a better position in the car on the race-directors instruction, if lapcounting problems occur. Failure to comply may result in lost laps.
- 8.12.6. It is the responsibility of each competitor to ensure that no parts of his racing equipment generates any form of signal that in any way interferes with the automatic lap counting system. If it is proven, that interference is being caused, the Race Director must instruct the driver to modify the offending item and if this does not prove possible, the driver will be excluded from the racing.
- 8.12.7. The result of a heat, subfinal or final should consist of the number of laps and the time of the last finish line passing in minute, seconds and 100 of seconds.

**8.13. PRIZES AND PRIZE CEREMONY**

- 8.13.1. Immediately after the finish of the race and before the drivers leave the drivers rostrum, the unofficial winner must be declared for the public and a symbolic first place award is presented. This award must be returned to the organisers immediately after the unofficial ceremony.
- 8.13.2. Immediately after the official result is published, the prize-ceremony must be held.
- 8.13.3. Winners are not entitled to claim prizes by right.
- 8.13.4. Prizes must be announced in the race-program. The actual prizes must correspond with the prizes as announced.  
They must be of a reasonable value according to the standard of the race.
- 8.13.5. Cash prizes or any other means of payment (paper tickets or coins of an obvious exchangeable value) are strictly forbidden.
- 8.13.6. Gifts not exceeding the price of an one-eight scale car kit may be given.
- 8.13.7. EFRA will award the first three drivers of each official European Championship with a golden (first), silver(second) and bronze (third) medal.
- 8.13.8. The best driver under 17 years will also receive an EFRA award.

**8.14 Events organised by associated members**

- 8.14.1. Events organised by associated members under endorsement of EFRA may not be subject to prize money or to starting premiums.
- 8.14.2. Applications for such events should be sent to both the President and the Secretary of EFRA at least 6 months before the start of the event
- 8.14.3. Such events may not have the title nor be referred to as Grand-prix, European or National Championships.
- 8.14.4. At least one official EFRA representative must be present. EFRA does not pay any expenses and all costs are to be supported by the organising associate member. This EFRA representative will be integrated in the officials listing and have the

right to be present at all meetings and have access to all parts of the premises as an observer and auditor.

- 8.14.5 The relationship between the associated member and EFRA shall be that of independent identities for all purposes, and in no event shall persons employed by either party be held or construed to be representatives of the other.
- 8.14.6 Racing formats and classes may be different from those described in the EFRA handbook. The parts of the EFRA rules that will be applied should be clearly stated as well as the deviations on technical rulings. However the parts in the EFRA handbook referring to Legal liability, safety, security, conveniences, frequencies and drugs can under no circumstances be waived as being part of the rules fully in force.
- 8.14.7 The organizer accepts full responsibility for all necessary authorizations and to comply with local laws and regulations. The Associate organiser at its sole cost and expense shall procure and maintain during the term of this event with insurers of recognized responsibility for all insurances needed policies with adequate coverings.
- 8.14.8 Whenever prizes in merchandise are given they must be spread over at least 15 participants and have to be comparatively within reasonable proportion to each other
- 8.14.9 The Associated member will defend, indemnify and hold EFRA harmless from and against any and all liabilities, damages, losses, claims, fines, penalties, assessments, demands, actions, suits and judgments, including all fees, costs and expenses incidental thereto, that may be charged to, asserted against or incurred by EFRA by reason of any loss, damage or injury of any kind or nature whatsoever in any manner or to any extent resulting from or arising out of the articles or services covered by the endorsed event except to the extent resulting solely and directly from EFRA's gross negligence or wilful misconduct.
- 8.14.10 EFRA licensed drivers are allowed to participate at events organised by EFRA Associated Members, but their EFRA International licence may be withdrawn if they participate at International events not recognised by EFRA.  
Note: The valid EFRA Section Chairman is the only person that has the right to determine events not recognised. His decision is final and cannot be protested.

## **8.15. MARSHALLING**

Positions for marshals must be spread equally around the track and may not obstruct the vision of the drivers.

The positions must be numbered. When a position is located at a dangerous part of the track (i.e. the straight or a fast corner), this position must be equipped with protection for the Marshal (a wall, tires, a gate etc.).

The marshal's position must be furnished with gloves and/or other protection and a safety jacket which is compulsory to wear. For IC events, it is mandatory (safety reasons) that the marshal position is also equipped with a plastic or wood baton as an aid to kill a running engine.

- 8.15.1 Only drivers taking part in the competition may and must marshal the heat following their own, (subject to 8.15.4). The first heat will be marshalled by the drivers of the last heat.  
Other than running marshals, all other marshals must remain at their posts until replaced. No other persons, except officials are allowed on the track while the race is in progress.
- 8.15.2 Failure to marshal or provide a competent substitute will result in the loss of the driver's best qualifying time if qualifying by Fastest Time is in operation. The loss of the best points score will be the result if qualifying is by the Round by Round system.

If competitors are required to marshal Finals, then failure to marshal in a Final will result in being placed last in the appropriate Final. Failure to marshal is clarified as: not being at the correct marshalling point 30 seconds prior to the start of a controlled practice, qualifying heat or final.

A substitute marshal is only allowed if the driver is physically disabled

- Notification of the substitute must be made to the Race Director prior to the start of the race which the driver is racing in.
- If a substitute is being used for the whole event, notification must be made prior to the beginning of the first Time Practice Round.
- The driver who is substituted must stay at the Race Director's disposal in a designated area (not in the pit) up to the end of each race where he is substituted.

Failure to comply with these provisions will result in the same losses as if a driver does not comply with his marshalling duty. Designated marshals who repeatedly fail to marshal will be excluded from further participation at the event on the basis of Unsporting Behaviour and their Federation will be informed to take corrective action.

- 8.15.3 The organisation of drivers marshalling for the final will be the responsibility of the organiser. The main system for such will be the following one: For finals, large teams provide the most marshals, maximum 2, smaller teams 1 and very small teams none (but may volunteer to help). Marshals will be allocated designated points marked by their country names. Team Managers to insure that these points are covered at all times by drivers. Only drivers taking part in the competition may and must marshal finals unless a substitute is allowed by the Race director due to physical disability. Alternative secondary systems like: Each driver taking part in a final must provide a marshal for his car number position or Drivers not bumping-up to the next sub final will marshal the positions of their car number in the immediate next sub final (descent from rostrum and go to marshal), or the driver marshal the precedent final on his side of the Christmas tree with the non-filled spots to be covered by the club can be used following a decision made by the Race Director together with the referees and the Section Chairman if present.
- 8.15.4 The organiser must provide a marshal for any unfilled position i.e. previous heat had less drivers or marshals missing.
- 8.15.5 It is the Team Manager's responsibility to ensure that drivers marshal finals. Country allocations will be decided pro-data. Team Managers who do not fulfill their duties regarding the organisation of marshals will be reported to their Federation with the intention that they are not nominated at future events.
- 8.15.6 For large scale racing Marshals are not allowed. Mechanics will act as Marshals out from the pit lane. This rule cannot overrule national insurance regulations.
- 8.15.7 All marshals must wear safe and sensible footwear that will not become detached when performing marshalling duties. (Sandals are not acceptable).

## 9. STARTING PROCEDURES

- 9.1. Purpose of the EFRA qualifying system is to create more equal chances for the drivers.
- 9.1.1 The Race Director will appoint a suitably qualified person(s) to perform the duties required by Race Control in respect of all procedures required for the operation of the timing software and a Start Official to be responsible for the start and finishing procedures of all cars in Qualifying and Finals.
- 9.2. Starting procedure for qualifying  
It can be either:
- Staggered Start: All cars are released one by one by the starter at an interval of approx. 1 second (track lay-out depending). Missing the starting procedure means that the car has to start his race from the pits after the last car has started from the designated starting area.
  - Flying Start: Cars will be driven at the track from the moment the track is declared "Open" for practice or warm-up, there will be no call for starting procedure. The Start Official will give a 2 minutes warning to the start, this will be announced through the sound system, you will also get the time "1 minute to the start", "30 seconds to the start" and "10 seconds to the start". An audible signal and the mention "clock is running" will indicate that the heat has started. During this procedure timing cant be adjusted.  
Common conditions: Each car will have its own timing. The total time will be the one designed in each class appendix.
- 9.3. Staggered Start: Timing/counting starts for each car separately the first time that car passes the start-line. For any cars not starting when directed, the latest that their individual clocks will be started is when:- Either:
- Any of the cars complete a full lap. Or:
  - Maximum one (1) minute after the designated first car was called to start.
- The actual starting position has to be a few meters before the start-line.  
Flying Start: Timing/counting starts for each car separately the first time that car passes the start-line or as maximum as when a 150% of a standard lap-time for the track has passed since the clock is running.
- 9.4. The position of the lap-timing antenna (loop) within the track at EC events must have the approval of the EFRA Section Chairman (or the EFRA appointed deputy).

## 10. RULING

### 10.1 PRECEDENCE

- 10.1.1 As long as appendix rules concerning specifications and race procedure do not clash with EFRA's spirit regarding fair racing they take precedence over the general rule governing the same item.



## APPENDIX 1

### 1/8th and 1/10th SCALE I.C. TRACK CARS Combined

#### 1. ALLOCATIONS FOR EUROPEAN CHAMPIONSHIPS.

- 1.1. The allocations for the EFRA European Championships 1/8th. and 1/10th. 200 mm scale will be established by the section meeting and published in the minutes.
- 1.2. For allocation and re-allocation procedures see Gen. 3.6. and 6.2.  
**For BOTH CLASSES:** Allocations will only be offered for EC and WC events to those member countries that have written to request places.  
**For 1/10<sup>th</sup> ONLY:** The first 20 drivers from the section ranking have automatically an allocated place for the next A European Championship and World Championship if there is a WC in that year. (Exception on General rule 6.2)
- 1.3. All countries receive re-allocated places in the order of the Allocation-list, unless stated otherwise in this list.
- 1.4. The number of entries for EFRA European Championships is 120 with a maximum of 150. Accommodations for at least 120 drivers must be available. If the number of entries exceed 120, the accommodation must be sufficient for all participants.
- 1.5. Applications for all EC's must be done in writing by using the applications forms to be presented at the annual AGM section meeting

#### 2. RACING FORMAT EFRA EUROPEAN CHAMPIONSHIPS AND GRAND PRIX.

- 2.1. European Championships are held in following classes:
  - a) The European Championship Sportscars/GT-P/Group-C ECA and ECB will be held on the 4th weekend of July.  
 The European Championship 1/10th Touring Car Sedan bodies ECA and ECB will be held on the 3rd weekend of August.  
 In the year there is an IFMAR World Championship outside the EFRA Bloc. then dates between EC and WC must be separated with at least 4 free weekends between the finals.  
 In the years there is an IFMAR WC in the EFRA Bloc. there will be no EC-A (see schedule IFMAR, [www.ifmar.org](http://www.ifmar.org))  
 It will be open to EFRA "A" and "B" licenced drivers, both running their own event. You can only start in one event, A or B. One special EFRA medal will be awarded to the fastest driver under 17 year in each class. So everybody of 16 years during the race dates, or younger can compete for this medal. One trophy must be awarded by the Organizer for each class.
  - b) The B-European Championship 1/8th Sportscars/GT-P/Group-C will be open to:  
 EFRA "B" licenced drivers 1/8 scale IC track. EFRA "B" licenced drivers 1/10 / 200 mm Scale IC track. The following drivers are not allowed to enter the 'B' EC: Top 10 from the EC of the following classes of the previous year: 1/8 Scale IC Track, Electric 200 mm Touring Cars, Large Scale, Electric Buggy, 1/8 Buggy A, EC-B 200 mm IC, 1/12th Electric Track and EC-B any class. Top 10 from any WC final from the last 10 years.  
 The Euro B for 1/10th will be open for: EFRA "B" licenced drivers 1/10th  
 The following drivers are not allowed to enter the 'B' EC: 1/8 Scale 'A' licensed drivers, 1/10th 200 mm Scale 'A' licensed drivers, or the Top 10 from the EC of the following classes of the preceding year: 1/8 Scale IC Track, Electric 200 mm Touring Cars, Large Scale, Electric Buggy, 1/8 Buggy A, EC-B 200 mm IC, 1/12th Electric Track and EC-B any class. Top 10 from any WC final from the last 10 years.

For both classes: The winner of the B-EC will become EFRA "A" licenced immediately and will retain A-licence for 3 years. Participation in this event will not affect the ranking list. One special EFRA medal will be awarded to the fastest driver under 17 year. So everybody of 16 years during the race dates, or younger can compete for this medal. One trophy must be awarded by the Organiser.

- c) The EFRA ranking list is based on the last 2 EC's A, the last WC and the best result of one GP in the previous year. The total result of this list will decide upon A and B licence at the end of the season. For all the races involved in this ranking, points can be achieved for the result after the finals (see points table section 3.3.6) and 50% of those points for the result based on the qualifications. Both points values will be added together for the result from each event.
- d) European Championship 1/8th Track 40+ and 1/10th 200 mm 40+. This will be one combined event.  
EC 40+: Open to all drivers of 40 years, including those who become 40 that year and older.
- e) European Championship 1/8 IC Flat Chassis. Open to all drivers with a valid EFRA Licence. Date to be proposed by 1/8 IC Track section. The allocated dates of the A-drivers EC and that of the B-drivers' Championship may be exchanged by simple majority vote at the AGM in the years that a World Championship is being held. Allocations and reallocations procedure will be fixed at the AGM's Section meeting. The format of EFRA GP's could be the same as for EC's but may be shortened depending on the number of entrants. To be an official European Championship there must be at least 25 drivers and a minimum of 4 countries competing.

2.2. Free practice for an EC is only allowed from the Monday preceding the Race. It will not be allowed for competitors in the event to practice for 10 days before this Monday (see also Gen. 8.1.). For 1/8th and 1/10th due to A&B held at the same event: Pit lane refuelling may be forbidden during free practice at an EC if it is necessary to facilitate a quicker turn-around of drivers (every five minutes).

2.3. Free practice for Grand Prix events must be allowed at least from Friday preceding the event (see Gen. 8.2.).

2.4. General Qualifying format for EC's and GP's:

5 Rounds of Qualifying will be run, irrespective of the number of drivers.

Qualifying is 5 minutes + last lap.

A point system will be used to establish the qualifying result.

With everybody qualifying for Christmas Tree sub-finals other than drivers qualifying directly for the 'Main' Final. The no. 1 ranked driver after completion of the qualifying heats will move up directly to the main final and take the pole position on the starting grid. The drivers ranked 2nd to 5th will compete in a 'super-pole' final after completing the last Round of Qualifying. Each driver will drive the 'super-pole' individually on the track, for 6 consecutive laps including warm-up on controlled tyres (from last round). The 'super-pole' running order will be 5, 4, 3, 2. The driver that scores the fastest lap will also move up straight to the 'Main' Final and take the second position on the starting grid. The other drivers from the 'super-pole' will start in the semi-finals as per qualifying ranking.

Depending on time available all finals higher than 1/64th can be shorter than 20 minutes (for instance 10 minutes). See also 2.6

The number of Rounds to count is as follows:

- 1 Qualifying Round completed -- 1 by laps and total time.
- 2 Qualifying Rounds completed -- 1 best by laps and total time.
- 3 Qualifying Rounds completed -- 2 best point scores to count.
- 4 Qualifying Rounds completed -- 2 best point scores to count.
- 5 Qualifying Rounds completed -- 3 best point scores to count.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count. Fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points etc.

If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round) Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position, the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (e.g. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded. If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format as the table above.

**Rain procedure:**

Only rounds ran under the same conditions will count. Same conditions means: no differences in average laptime by more than 20%. The Race director together with the referee will make the final decision.

2.5. Time Schedule:

The time schedule should not be rigid but adapted to the number of entrants. As a guideline; at EC's with 100 or more entrants the schedule should be as follows:-  
Monday - Wednesday: Free or Controlled Practice

Wednesday & Thursday: technical inspection

*All cars must pass technical inspection before Controlled Timed Practice.*

Thursday: Controlled Timed Practice and Qualifying 1 & 2 in the afternoon.

Friday: Qualifying Rounds 3 to 5, 'Super-pole' (for 2,3,4 and 5 Top Qualifiers), lower finals up to 1/64.

Saturday: 1/32 upwards, 1/16th, 1/8, 1/4 final, Practice 2 direct Qualifiers, 1/2 final, final.

The time schedule and the number of heats can be adjusted by the race director with agreement from the EFRA representative due to weather and unforeseen conditions and the number of total drivers at the event. The race director should seed the Controlled Practice heats, Controlled Timed Practice heats based on the EC from last year. The heats shall contain a maximum of 10 drivers. These Controlled Practice heats will be of 10 minutes duration. The Controlled Timed Practice heat will be of 5 minutes duration. The ranking from controlled timed practice will be used to make the heats for the qualification heats.

The schedule of all practice heats including each practice heat starting time will be carried out by the organisation of the event and it should be given to the Team Managers & published for general knowledge.

- 2.6. General format for sub-finals and main final at EC and GP: the lower finals are 20 minutes up to 1/64 finals.

Time for all finals higher than 1/64th to be set at team managers meeting. The duration of the main final is 45 minutes.

Sub-finals: The best 3 in each sub-final move up to the next final. Semi-finals, the best 3 in each semi-final move up to the main final, plus the best 2 remaining drivers from the 2 semi-finals combined. When racing conditions are different in the two semi-finals, the best 4 of each semi-final move up to the main final. Starting order for the drivers who moved up to the main final is based on number of laps and time for positions 3 to 10. In different circumstances it will be number 1 from the A semi-final who gets the number 3 and the number 1 from the B semi-final who gets the number 4 etc. Semi-final B is the first final to start on the Saturday afternoon.

After the first semi-final all cars will be put in Parc Fermé in technical inspection and they will be released after completion of the technical inspection of the 2nd semi-final. This will give all drivers that proceed to the final equal time for preparation.

- 2.7. Frequencies for semi-finals and finals are not published and must remain secret. The Race Director will allocate frequencies to the drivers personally after they have proposed to him 2 or 3 different frequencies. A radio check must be made before the start of the final.

- 2.8. During the race 2 (two) mechanics are allowed in the pit lane.

- 2.9. A ranking system will be made based on the GP results, 2 worst results can be taken out, to define a Pro-Open ranking. This is not an official EC series, but will be called, Pro-Open "year".

- 2.10. When the Qualification has been completed, the TQ, winner of super-pole and the drivers of car number 1 of Semi A, and car number 1 of Semi B must do a press interview with the cars (not only with the body) in a place that the organiser must prepare on the track. This place must be equipped with a table with an EFRA MEMBERS banner and chairs for the drivers. The EFRA official media partner will have preference for the first 5 questions. When the main final has been finished, we will have the same procedure for the 3 first drivers in the final, when the result has been declared official for the race director.

### 3. TRACK SPECIFICATIONS

- 3.1. Track surface should be unsealed asphalt or coarse finish with any joints smoothed.

- 3.2. Minimum length must be 200 metres ( advised 240-300 m. ).

- 3.3. Minimum width of the track will be 4 m. between marking lines. (**advised for new tracks 4 m between the marking lines**). The maximum width is 6.50 m.

The marking lines must be 8-10 cm wide and either white or yellow. They must be approximately 20 cm away from the edge of the racing surface.

- 3.4. Maximum distance from the middle of the drivers rostrum to the furthestmost point of the track must be 60 metres.

- 3.5. Vision: no obstacles may interrupt the vision from the driver's rostrum to any part of the track.

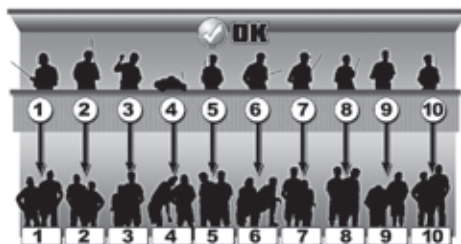
- 3.6. A broken line may be drawn in the middle of the straight to aid vision. No lines may be drawn in corners other than the outer marking lines.

- 3.7. The refuelling and pit area should be clearly distinguishable from the main track and as close as possible to the drivers rostrum. Exit from and entrance to the main track is advised to be on a slow part of the track.
- 3.8. Track design must include both right and left hand turns and must have a straight of minimum length 45 metres.
- 3.9. Outside barriers must provide a positive means of stopping a car which misses a corner or runs out of control. The primary consideration for selection of the outside barriers shall be the protection of the spectators and not the cars.
- 3.10. Inside barriers must deter corner-cutting and prevent cars reaching other parts of the track. Inside barriers must be positioned and dimensioned to prevent cars from flying over the outside barrier into the public enclosures. The barriers must be smooth. When cones or dots are used, they should not be higher than 5 cm.
- 3.11. Barriers must be a minimum of 20 cm away from the marking lines on the track.
- 3.12. The inner and outer surrounds to the track must be of grass or other suitable materials such as concrete. The object of these surrounds is to slow down any car that leaves the racing surface. The car must be able to leave the infield or outfield unassisted to minimise the need for Marshall's assistance.  
Marshal posts must be positioned at 30 m intervals around the track. They may not obstruct vision of the drivers. The post must be numbered. When a post is located at a dangerous part of the track (i.e. the straight or a fast corner) this post must have protection for the marshal (a wall, tyres, a gate, etc.).
- 3.13. A start/finish line must be painted across the track, preferably in front of the time keeping position.  
The first start line box must be located more than 10 m. away from the following corner.
- 3.14. Only a Le Mans type of start will be used. *For Le Mans type of starts, 10 numbered boxes will be located on the edge of the track, at an angle of 20-45 degrees to the track, min. 2 m. and max. 4 m. apart. The boxes must be 70-100 cm long and 30-40 cm wide (see 3.14.).*
- 3.15. Race Directors must use the staggered starting system for Qualifying (see general rules 9.).
- 3.16. Race Directors and referees involved in EFRA sanctioned events may be invited to a briefing meeting covering interpretation of the rules and management of International races, so that they feel confident to manage a good event.

**4. RACE PROCEDURES 1/8 & 1/10:**

(see also General Race Procedures Chapter 8). The arrangements of the Qualifying heats and the numbering will be defined with the best result of 3 consecutive laps of the Driver, made during 2 controlled timed practice runs.

The drivers must stand adjacent to their numbers on the rostrum; the mechanics must remain in their boxes along the pit lane. For all finals, drivers with the lowest starting numbers may choose their position on the rostrum and the mechanics must stand under the driver where this is possible or in the same order.



A & B drivers are only separated during practice and controlled timed practice. When B-drivers are faster in controlled timed practice (best 3 consecutive laps) they deserve to be in a higher heat. The 3 fastest consecutive laps will count for a complete rearrangement of the groups regardless the license status (A or B).



4.2. STARTING PROCEDURE OF HEATS

Starting for qualifying heats will be from the start line or pit lane, using the staggered start system (one by one). In each Round, the order of starting Heats will be as follows :

- Round 1-- 1,2,3,4,5,6,7,8,9,10
- Round 2-- 4,5,6,7,8,9,10,1,2,3
- Round 3-- 7,8,9,10,1,2,3,4,5,6
- Round 4-- 10,9,8,7,6,5,4,3,2,1
- Round 5-- 6,5,4,3,2,1,10,9,8,7

4.3. Qualifying.

- 1 All Qualifying runs and Finals are run by "time plus completion of lap" system. Qualifying heats are 5 minutes duration. For duration Lower Finals and Main Final see 2.6. The use of a personal transponder is mandatory.
- 2 When the time is over, an audible signal is given. A car finishes when it passes the finish line after the finish-signal is given. The car must immediately return to the pits and may not hinder other cars still racing.
- 3 In case of doubt (on the finish-line when time is over), a car may race one more lap and finish. Whether he finishes or not when time was completed, is up to the Time-keepers and cannot be disputed.
- 4 After returning to the pits, the engine must be stopped immediately and the transmitter turned off and impounded if needed.

4.4. Qualifying, staggered start system:

- 1 There must be a minimum 3 min. gap between the end of one heat and the start of the next heat. Also a minimum of 2 minutes must be allowed between the issuing of the transmitters and the start of the heat.
- 2 An audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
- 3 From 30 seconds until 3 seconds the cars must be held at the starting boxes (this could also be the pit lane). If a car is not at the starting box at 3 seconds (due to unforeseen problems) the car may start from the pit lane after other cars have officially started. The race director and referees will monitor for the abuse of this procedure.
- 4 Cars are released in the right order for the Round by the starter.

- 4.5. RAIN PROCEDURE DURING QUALIFYING:
- 1 The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.
  - 2 On the result sheets the Race Director or the appointed official must mark a heat "WET" when the heat was raced under wet conditions (20% differences in lap times). On the corresponding record sheets, this must also be marked. The Race Director together with the Referees will decide in case of any doubt. Heats are generally considered to be 'WET' when there is any rain or moisture on the track and it is obvious to the Race Director that the cars cannot perform to their maximum capability. The Race Director may decide to postpone qualifying if it is likely that qualifying can be resumed within reasonable time.
  - 3 Due to the points system and when weather and time permits, the Race Director must try to complete as many Rounds as possible under equal circumstances.
  - 4 When continuation is judged to be senseless, or when other drivers should be offered a fair chance to drive under dry conditions, the Race Director together with the Referees may decide to end a heat or cancel a complete heat (4.8.1.)
  - 5 When 1 Round is finished under dry conditions, the Race Director can postpone the qualifying until the track is declared fully dry again. If it is likely that this will interrupt the qualifying for more than 1 hour, the Race Director may decide to open the track for controlled practice.
- 4.6. Qualification Order and Finals.
- 1 After all Qualifying Rounds have been completed the Qualification order is established, by taking the total counted points result of each driver.
  - 2 In case of more than one driver recording identical best results of qualifications the next best result is taken.
  - 3 In the case of more than one driver recording identical results in a Final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 5 is deemed to have the higher final placing.
  - 4 The Sub-Finals and Main Final are run according to the schedule printed in the official race program, which may only be changed by a team managers majority vote.
  - 5 After all Sub-Finals and Main Final are completed, a final result list is prepared based on laps and time, bearing in mind the Sub-Final order. In case of rain see 4.7.
- 4.7. Starting for Sub Finals and Main Final will be on a "Le Mans" type grid, with the faster Qualifier starting in front of the slower. During Sub Finals and the Main final, a trial lap can be made to avoid frequency problems and to check the transponders. Cars will be released one by one by the starter.
- Finals, Le Mans start grid:
- 1 There must be a minimum 3 min. gap between the end of one final and the start of the next final. Also a minimum of 2 minutes must be allowed between the issuing of the transmitters and the start of the final.
  - 2 An audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
  - 3 From 30 seconds until 3 seconds the cars must be held at the starting boxes. If a car is not at the starting box at 3 seconds (due to unforeseen problems)

the car may start from the pit lane after other cars have officially started. The race director and referees will monitor for the abuse of this procedure.

- 4 For all finals, from 10 seconds until 3 seconds prior to the start, a second by second count-down will be made in English.
- 5 For Le Mans Grid Starts: at 5 seconds prior to the start, the Starter will lower the starting flag and at 3 seconds the flag will be fully down. At this point, all cars must be released by the mechanics, who will all step back 1 meter. The cars must remain in the boxes, no part of the car touching the starting line.
- 6 From 3 seconds; the verbal count-down stops and the actual start-signal will be given by the Starter after a period of between 0 and 5 seconds has elapsed. If the grid is not to the satisfaction of the Starter, he may require a restart, re-commencing with the count-down from 30 seconds.
- 7 The official start signal will be audible by means of a 'hooter' (computer operated signal), operated by the Starter/Timekeeping supervisor. This signal will also start the Timing Systems.
- 8 Jump-starts, (i.e. any part of the car touching the starting line) will be penalised with a "STOP and GO" penalty. The time for this "STOP and GO" has to be set at the team managers meeting before the actual race starts and will have a maximum of 10 seconds. This penalty is issued by the Starting Official, Race Director or the Referee and must be announced immediately after the start. The penalty will be marked on the result-sheet.
- 9 Under no circumstances will the race be stopped due to a jump-start.
- 10 The Starter may only interrupt the race and make a restart in the event that he considers the starting procedure or the start was not carried out correctly.
- 11 Delayed start:

Providing the starter has not called 30 seconds (the trial lap, see 4.3 is part of the procedure after 30 seconds) for the cars to the start line, any participant of the semi-finals and final may request a delay of 10 minutes to carry out repairs on his car. This delay can be granted only once for each semi-final and the final.

  - the track is closed, if the delay is requested as a result of frequency or radio problems
  - the track is open, if the delay is requested for mechanical repairs or problems.

Any driver asking for a delay will start from the end of the grid (11th position to be painted on the track) or from the pit lane in case he is not within time at the grid.

#### 4.8. RAIN PROCEDURE Sub-Finals:

In case of different weather conditions during Sub-Finals, the final classification will be as follows: Place 4 of Sub-Final A and Place 4 of Sub-Final B will both be awarded place 11th equal in the general classification.

Place 5 of Sub-Final A and place 5 of Sub-Final B will both be awarded place 13th equal in the general classification ..... and so on.

When a race director declares the race to be wet, a second car can be used as a rain car. This car cannot be used (shared) by another driver/s in the same event. The rain car has to be scrutinised and be visibly marked as a rain car in due time before it is used. One rain car cannot be marked for several drivers. Multiple marking of the chassis is not allowed. Removing of existing marks to mark the chassis for another driver is not allowed and will be seen as violation of existing regulations. This rain car can only be used in wet conditions and not in dry conditions. This



car cannot be used when the heat or final has already started. Once you start (in time) with a rain car you must finish with this rain car.

4.9. RACE INTERRUPTIONS:

- 1 In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers (bad weather conditions with safety risks for all persons at the meeting), the referees together with the Race-director will decide whether to cancel or continue the meeting.
- 2 In the case of an interruption of a heat the entire heat will be re-run.
- 3 In the case of an interruption of a sub-final or main final the following procedure will be used:
  - A. If less than 10 minutes of a final has been run, the results will be cancelled and a new start given for the total time of the final. Vehicles may be repaired before the new start.
  - B. If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. The new start will be given for the time which remains to complete the final. Vehicles may not be repaired before the new start. The two results will be added to give the final and definitive placing. If the second start cannot be made for any reason, the results from the first part will be used as the final and definitive placing.
  - C. When the interruption takes place after 75% or more of the race is past, the results as at the time of the interruption becomes the final result. At the moment of the interruption of the race, the drivers will leave their vehicles on the start-line under the control of the Race Director. They may switch off the radio and stop the engine. There will be no repairs carried out to the vehicle or changing of tyres. Any driver who does not observe this rule will be immediately disqualified.

5. **GENERAL TECHNICAL SPECIFICATIONS**

All measurements referred in this appendix are minimum or maximum values. All measurements for the motor dimensions to be considered with 2 digits behind the comma, all other measurements to be considered 1 digit behind the comma. Measurements must be within their maximum or minimum values under all Circumstances.

5.1. TYRES/Rims:

Tyres must be black, except for writing on the side wall (exceptions only after EFRA agreement). Foam and/or rubber tyres can be used. Treatment of tyres with any type of additive is strictly not allowed.

A controlled tyre is mandatory for:- controlled timed practices (which are used for seeding), qualifying, and sub-finals, (8 sets based on 5 rounds).

Only EFRA chosen supplier controlled tyres can be used (Hand-Outs). The choice of the tyre brand is made by EFRA in communication with the organiser.

Definition of a controlled tyre: 1 brand, 1 diameter front, 1 diameter rear, 1 shore for front and 1 shore for rear.

Only EFRA registered brand (1.200 Euro registration fee) allowed. The prize for one set of tires will be fixed for the whole meeting.

Tire supplier is completely in charge of tire distribution and payments. The EFRA selected tire distributor needs to bring enough amount of sets to satisfy the needs of all competitors.

TYRE DIMENSIONS FOR 1/8th. :

Maximum width of rear tyre: 64.0 mm.

Diameters: 69.0 mm front, 76.0 mm rear.

Shore hardness for 1/8th: "32 front and 35 rear" (final number of shore after consultation with the organiser).

TYRE DIMENSIONS FOR 1/10th. :

Maximum width of front & rear tyre (across side-walls): 31.0 mm.

Diameters: 62.0 mm front, 64.0 mm rear.

Shore hardness for 1/10th: "37 front and 40 rear" (final number of shore after consultation with the organiser).

If the Hand-Out tyres have any visible defects (bad gluing, visible damage to tyre or rim) the affected tyre(s) can be exchanged before the race start by race control. Production tolerances (including shore hardness) will not be considered as a defect. Tyres must be used as they are supplied (no modification to the rims, except the axle hole and no shore meters can be used to select tyres) and will be given out and fitted in the controlled area. Drivers must use new tyres every Controlled Practice, Qualifying heat and Sub-Final.

Information about the tyre brand and shore must be available 8 weeks before the event.

Free practice tyres and additional tyres for drivers that 'move-up' (in sub-finals) and for the Final, must be purchased with cash at the trackside. Tyres for free practice can be purchased on site from Monday onwards when acknowledged in time to the organiser. For free practice, drivers have free choice of tyres used, but no treatment is allowed. From the start of controlled timed practice (used for seeding), drivers have to use the Hand-Out tyres.

Rain:- In case of rain (decided by the Race director after consultation with the Section Chairman), any alternative tyre can be used which has not been treated in any way, with the aim to get more or less traction.

EFRA will provide information about track preparation which will be mandatory for the event.

- 5.2. Fuel may only contain methanol (methyl alcohol, CAS number 67-56-1), lubricating oil, a small content of anti-corrosion chemicals and maximum 16% of nitro methane (Cas number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.87 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 16 can be used, but in case of failure with the Nitromax an official density meter must be used to control the specific gravity of the fuel including the temperature recorded during the test. A specific table will be produced to report the density (grm/cc) based on the temperature (from 0 to 50°C). The tolerance on the measurement will be +/- 0.5% based on the data reported in density table. Any violation with fuel which means any proof of the use of other additives as mentioned will mean 5 years of disqualification from any EFRA and IFMAR event.
- 5.3. All vehicles must be equipped with brakes and a clutch in such a manner, that the vehicle may be held stationary with the engine running.
- 5.4. Each motor must be equipped with an exhaust system and inlet silencer (INS-box) to reduce the amount of noise. A Registered muffler and Homologated INS-BOX is mandatory. In case of rain and on instruction of the Race Director, drivers can use something else as an INS box (In this case the INS box is not mandatory).

EFRA's definition of a noise level is always final. Any modification to the muffler or INS Box is forbidden.

- 5.5 Only EFRA registered mufflers are allowed at EFRA sanctioned events. The EFRA registered number must be engraved on the sidewall of the muffler. The tail pipe must be oriented on or below the horizontal Race directors have the right to measure at track side and take out cars that make too much noise. EFRA's definition of a noise level is always final.  
For 1/8<sup>th</sup>, a 3-chamber muffler is mandatory. For 1/10<sup>th</sup> a double chamber design, including silencer chamber, must be fitted.
- 5.6. The aerial must be flexible. Carbon, metal, etc. is not allowed.
- 5.7. The body and spoiler must be made of a flexible material and be painted properly. All windows must remain clear or be semi-transparent. When initially entered in a meeting the body must be neatly finished.
- 5.8. The minimum weight limit of the cars:  
1/8<sup>th</sup> Class: 2400 grams for 4WD cars, 2300 grams for 2WD cars.  
1/10<sup>th</sup> Class: 1650 grams.  
For both Classes: The weight limit will be checked with the cars ready to race but with empty fuel tanks and with transponder (personal or with battery). The weight will be checked on a digital scale balance and can be done before the start of the heat, sub-final, final or after the end of either.  
If the weight is found to be under the minimum weight the driver will be disqualified from the heat, sub-final or final.
- 5.9. Baseboard for checking the width of the car.  
1/8<sup>th</sup> Class: The car shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 267.0 mm apart and a length of 637.0 mm for Formula and Sports cars and 610.0 mm for GT cars which includes provision for checking the maximum height.  
1/10<sup>th</sup> Class: The cars shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 200.0 mm apart and a length of 460.0 mm x 175.0 height (incl. 10 mm spacer).  
For both Classes: Base-board and rails must be constructed of high quality board suitably stiffened to prevent distortion. The car must roll freely between the side rails with any steerable wheel set in the straight ahead position without any part of the wheels, bumpers, body shell or any other part of the car touching the side rails irrespective of the compression or extension of the suspension. Measurement of the wheel base may be made by simple measurement of axle centre distance, but Race Directors should be prepared to make more exact checks in case of doubt or protests. It is suggested that the wheels are removed and the wheel spindles firmly placed on V-blocks whilst accurate measurements are made. It is the responsibility of the driver to ensure that his car complies with the regulation at all times when it is on the track and the organiser may check any car for compliance with the regulations at any time during the race meeting. If a car is found to exceed the limits of dimensions on checking immediately after a race, positive proof of race damage may prevent disqualification.
- 5.10. Checks at the technical inspection:  
a) Before the race all cars will be checked and during the heats the following random checks will be made:  
- Weight limit.  
- Muffler & motor.  
- Body and wing/spoiler.

- Overall dimensions.

The chassis is to be indelibly marked before the race and if a driver wants to change it, he must present the new and the old to the inspection officer.

- b) During sub-finals, all cars moving up to the next final plus the next one are to be checked. In addition to the above mentioned checks the following are to be done during sub-finals:
  - Weight limit.
  - Muffler.
  - Body and wing/spoiler.
  - Overall dimensions.
  - Marking of the chassis.
  - Fuel tank capacity.
- c) The same checks must be made after the Main Final for the top 4 places.

5.11. Only two (2) servos are allowed.

5.12. It is not allowed to use any electronic parts for "Traction Control and/or braking control (ABS)" which can control the power of the transmission by means of a feedback system. It is not allowed to use any form of telemetry with active transmission.

5.13. List of approved equipment: All lists of approved equipment (i.e. bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the final list for that year and no changes will be made before the next year. Equipment registered and homologated during the year will not be put on the list until the 1st of March next year.

## **6 1/8<sup>th</sup> CLASS TECHNICAL SPECIFICATIONS.**

6.1. The engine may have a total capacity of not more than 3.50 cc. A maximum carburettor diameter of 9.00 mm.

6.2. The fuel tank including filter and fuel pipes up to the carburettor may hold a maximum of 125.00 ml. No loose inserts allowed. Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of approx. 15 minutes. This period of 15 minutes is only necessary if ambient temperatures are above 20° C.

6.3. Overall dimensions of the car:

Wheel base: 270.0 - 330.0 mm, overall width max. 267.0 mm

Overall width of the body max.: 267.0 mm, measured on top of the wing and on top of the sides and the lower front side. The lower sides between the two front and rear wheel arches will not be taken into account for technical inspection as long as they are not wider than 277 mm. If the body is wider than 277 mm on the lower sides the technical inspection has the right to take action with a warning for the first occurrence but disqualification from the race result for any further occurrences. For all finals: bodies must first pass technical inspection for verification and a first warning is not applicable.

6.4. Rims:

The rim must not exceed 54.0mm. An edge to reinforce the rim on the inside (car-side) of 2.0 mm thickness and 3.0 mm height is allowed, flange diameter max. 60.0 mm. Any fixing bolts or other equipment installed in the wheel rims may not extend beyond the exterior of the wheel rim.

6.5. The front of the vehicle must be equipped with a bumper in such a manner, that it will minimise an injury if it makes contact with other participants or members of the public. The bumper must be made from a flexible material with all corners and sharp edges radiused. The contour of the bumper will follow the contour of

the body with which it is being used. At no point may the bumper protrude more than 5.0 mm in front and 13.0 mm on the sides of the body.

- 6.6. If a rear bumper is fitted it must finish not more than 50.0 mm behind the rear axle.
- 6.7. All EFRA sanctioned events will be raced with open/closed cockpit prototypes/sportscars/can-am type/GT-P's/Group-C or similar cars. All lists of approved equipment, (i.e. Bodies, mufflers and batteries) must be available on EFRA's website from the 1st of March every year. These are the final lists for the year and no changes will be made before the next year. Equipment homologated/registered during the year will not be put on the list until 1st of March next year.
- 6.8. A realistic driver figure (minimum 3 colours) made to 1/8 scale must be fixed in the correct position in open cock-pit cars. The windscreen and windows must be translucent (i.e. Not completely painted-in)
- 6.9. All bodies must have the front and rear wheel arches cut out if the original was so designed.
- 6.10. CUT OUTS

- the windscreen must not be cut out. One hole of max. 6.0 sq. cm for cooling is permitted
- side windows and rear windscreen may be removed.

It is not allowed to bend windows to the outside - all parts of the vehicle must be covered, except:

- a) Cooling head of engine.
- b) Air filter.
- c) Aerial (max. 10.0 mm).
- d) Outlet pipe of muffler.
- e) Fuel filler cap.
- f) Roll-over bar.

Only if these parts are extending the body. Cut-outs for above mentioned parts are to have no more than 10.0 mm clearance. In addition to this, the following holes are allowed:

- g) For muffler outlet.
- h) For fuel filler cap (50.0 mm maximum, round, viewed from above and not combined with the hole from the roll-over bar, or oval 40 mm x 60 mm maximum and not combined with the hole for the roll-over bar).

Note: Hole for roll-over bar and fuel filler gap may not be combined.

The following rules refer to the GT-P/Group-C body:

In case of the Proto types or open cockpit cars, a clearance of 10 mm around the fuel filler cap is allowed.

- i) For radio switch (max. 10.0 mm).
  - j) For glow plug (max. 20.0 mm).
  - k) Fuel mixture valve (max 15.0 mm).
- 6.11. Specific body attributes:
    - a) Group C: Cars eligible for this class are those that have been used under "Group C" rules in the FISA Sportscar World Championship.
    - b) GT1/GT2-Cars: Cars eligible for this class are those that are or have been racing in FIA GT Class. This can be either GT1 or GT2 cars like McLaren F1, Porsche 968 GT1, Ferrari F40, Marcos etc. The cut-out of the body at the rear is free after the rear axle, but rear lights must be fitted if the original is equipped with these.

- c) GT-P cars, eligible for this class are those that are or have been racing in the FIA "GT-P" class (see Le Mans 1999), or the Petit Lemans Series in America.
- d) Proto type CAN-AM cars: eligible for this class are those that are of have been racing in any official championship.

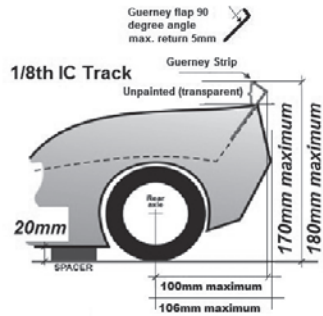
Homologation procedure: For all types of cars, the body shape behind the rear axle is not subject to control.

The outer edge of the wheels must be covered at the centre of the axles viewed from the top. All bodies must be homologated by EFRA. The homologation number of the body must to be visible, during the painting it will be possible to maintain transparent or semi-transparent the EFRA number.

6.12.

Wings and Spoilers:

Separate wings and spoilers are not allowed. Only a Gurney strip mounted on the rear of the body is allowed. The 'Gurney' should not be higher than 5mm with a 90 degrees angle (see drawing). Maximum height for the body, side and rear wing is 170mm with the chas-sis raised on 20 mm blocs. This maximum height with the Gurney Strip is 180 mm on a 20 mm spacer. The maximum overhang is 100mm measured from the rear axle centre point. See drawing.



Maximum dimensions: 1) Group "C", GT-P, Can-Am, GT1 and GT2 cars max. width: 267

mm max. height: 170 mm (on 20 mm blocs) Overall, maximum height including a Gurney strip 180 mm (on 20 mm blocs) max distance behind rear axle: 100 mm (110 mm for 2wd & flat chassis cars).

6.13.

4WD cars can be used without any technical restrictions except those listed in Section 5. The use of separate front wheel brakes, except through transmission is also not allowed (locking of a one-way bearing is allowed).

2WD cars are restricted to:

- Rear axle driven.
- Gearbox with maximum 2 gears.
- No front wheel brakes.
- No gas filled shock absorbers.

Specifications of flat chassis cars:

- Rear wheel propulsion only.
- One engine (one cylinder, 3.50 ccm air cooled).
- Brake on rear axle only.
- No gear box.
- No suspension, an articulated front end is allowed.

6.14

A roll bar may be fitted which must not project more than 30 mm above the cooling fins or roof, in case of, for instance a saloon car.

**7 1/10<sup>th</sup> CLASS TECHNICAL SPECIFICATIONS:**

7.1.

The engine may have a total capacity of not more than 2.11 cc. Engines will be air-cooled, with front rotary valve, two-stroke induction. The engines may have a maximum of four (4) ports in the liner, including the exhaust port, seen with the piston at lowest position. No form of forced induction is allowed. No form of variable port timing.

Only glow plug ignition is allowed. One additional gap in the bottom (skirt) of the piston is allowed. No additional holes in the piston are allowed. Additional slits or holes in the liner for cooling purposes are allowed as long as they do not reach the top of the piston at lowest position. Standard and conical glow plugs are allowed. Reference to 'hole' in this rule means any hole that is surrounded completely by material.

7.2. Engine internal modifications are allowed as long as they are within parameters of rule 7.1.

7.3. A maximum carburettor diameter of 5,50 mm.

7.4. The fuel tank including filter and fuel pipes up to the carburettor, may hold a maximum of 75.00 ml. No loose inserts allowed. Any tank found illegal (>75.00 ml) after a heat or final will be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the ambient temperatures are above 20° C.

7.5. Overall dimensions:

	Min. -	Max. (mm)
Wheelbase:	230.0	270.0
Width without body:	170.0	200.0
Width with body:	175.0	205.0
Length incl. body & wing:	360.0	460.0
Height of the top of the roof (measured with a 10 mm spacer under the chassis plate level):	20.0	175.0
Wing width incl. side dams:	125.0	200.0
Wing:		55.0
Side dams:		35.0 x 50.0
Wing overhang (at rear):		10.0.
Wheel dia. ( measured at tyre bead location):		
	46.0	50.0
Wheel width (incl. tyre bead) and tyre width (across side walls):		
Front:		31.0.
Rear:		31.0.

Although the wheel dia. at tyre bead mounting location must not exceed 50.0 mm diameter, an edge to reinforce the rim of 2.0 mm thickness and 3.0 mm height is allowed, giving an overall wheel diameter max. 56.0 mm.

7.6. Wheels must be fixed by a screw or nut. The screw or nut installed in the wheel rims may not extend beyond the exterior of the wheel rim. Quick change wheel systems are not allowed. No automatic / spring charged or electric system to change the wheels is allowed (only manpower).

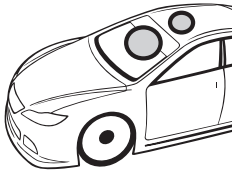
7.7. The front bumper must follow the body contour and must be constructed so as to minimise injury that may result from being hit by a car. The bumper must be made from foam rubber or a flexible plastic material.

7.8. Bodies:

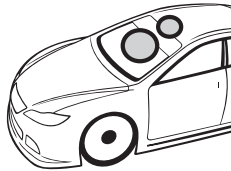
Bodies must be a 1/10 scale touring car in character, being a scale copy of vehicles that exist or have existed and must be comply to the GLOBAL BODY SPEC 1/10th IC Track. Bodies will be sent to the Body shell Homologation Officer for approval. The EFRA Registration Number has to be embossed in the body at an edge of the front window. For the EC-B; only one (1) body is allowed and will be chosen in an online voting system by actual B-drivers on the EFRA Web Page.

7.9. The rear of the body may not be cut higher than 50.0 mm measured with a 10.0 mm spacer under the chassis plate when level.

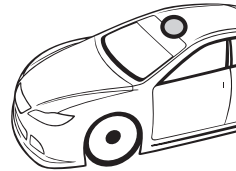
- 7.10. Details of all; front and rear lights, grills, air intakes and windows must be clearly contrasted from the surrounded paintwork. No parts of the car except the muffler outlet may protrude outside of the body shell, when viewed from above. No parts of the car except the antenna, body posts, transponder, may protrude outside the body shell, when viewed from the side wall. No additions or reshaping to the original moulded body shell (no body stiffeners allowed).
- 7.11. Cuts outs: Only the following holes and sizes are permitted in the body shells:  
One (1) cooling hole may be cut in the front windscreen with a maximum diameter of 60.0 mm. Re-fuelling hole: max. dia. 50.0 mm, the centre of this hole must be the centre of the fuel filler cap, viewed from above. Note: The cooling hole and re-fuelling hole in the front windscreen may not be combined. Minimum distance between the holes: 5.0 mm. A hole with max. dia. of 35.0 mm is allowed just above the engine cooling head for easy glow plug access but cannot be combined with any other hole, minimum distance between holes: 5.0 mm. Both front side windows and the rear window can be removed for ventilation, but not the side rear windows, which must remain intact. Small holes can be made for the body posts, transponder, carburettor adjustment and radio antenna (max. dia. of 10.0 mm). The hole for the exhaust pipe must be of reasonable size. No other holes are permitted. If the re-fuelling hole is part of the front windscreen, then that hole is to be considered also as the cooling hole with a max. dia. of 50.0 mm.



O.K. 1 hole max. 60 mm cooling in window, 1 hole max 50 mm refueling



NOT O.K. 1 hole 60 mm cooling and also 1 hole 50 mm refueling, both in window



O.K. 1 hole max. 50 mm for refueling in window/roof

- 7.12. Wings and spoilers: One wing and one spoiler may be mounted to any car (if the original full-size car had more, it is allowed to do the same). Wing and spoiler must be made from a flexible material and be painted. Wing and spoiler may not be fixed to body with piano wire (they must be mounted directly to the body). Wing and spoiler must not protrude outside the maximum height and width of the body (incl. the side dams). Rear wings must be mounted in the same place as was intended by the body manufacturer. The overhang must not exceed 10 mm at the furthest point, measured from the most rear point of the body. Side dams may be fitted but must be a reasonable representation of those fitted to the original car, fit in a rectangle with the measurements defined, and must not project above the height of the roofline. The height of the wing may be adjusted but the wing, incl. side dams must not extend higher than the roofline. Wings (excl. side dams) are to be of single moulded construction (no flat packs/bend your own).
- 7.13. 4WD and 2WD cars can be used without any technical restriction except those listed in Section 7. The use of separate front wheel brakes, except through transmission is also not allowed (locking of one way bearing is allowed).
- 7.14. Roll bars (roll over bars) must be kept under the body.



**8. A & B LICENCE:**

- 8.1. To qualify for an "A" licence, a driver must be placed 1-30 in the EFRA ranking system. (All other drivers will be classified EFRA "B" licensed). These drivers must be approved by their own National Association as having sufficient experience and skill to take part in an International competition. World Champion will retain "A" licence for the next 5 years. European Champion will retain "A" licence for the next 4 years. European Champion B-drivers will retain "A" licence for the next 3 years.

The EFRA ranking list is based on the last 2 EC's, the last WC and the best result of one GP in the past year. An EC result is the result of the EC-A. The total result of this list will decide upon A and B licence at the end of the season. For all the races involved in this ranking, points can be achieved for the result after the finals (see General rules points table section 3.3.6) and 50% of those points for the result based on the qualification. Both results will be added together for the racing result.

**9. PENALTIES**

- 9.1. Referees must issue a verbal blue flag warning to slower drivers or to make drivers that are not within the same lap as the car that is about to pass him, to make way and not to obstruct the passing car. This warning must be announced "ATTENTION DRIVER (Name)"
- 9.2. Failure to respond to the verbal blue flag will result in an official warning and the driver must make a mandatory pit-stop for 10 seconds. During this mandatory stop the Referee will administer the official warning directly to the driver. In the case that there is no possibility to call a driver for a stop and go penalty, the Referee and/or Race Director will announce a time penalty of 10 seconds.
- 9.3. Any driver who is given 2 (two) official warnings will be immediately disqualified from the race in progress. After 3 (three) warnings the driver will be disqualified from the entire event.
- 9.4. Deliberate waiting for other cars will be treated as a verbal blue flag offence and a "Stop/Go" penalty issued. The Referee will advise the driver that his behaviour has been noted and that he should race normally. Failure to follow the Referees instructions will result in immediate disqualification. In the case that there is no possibility to call a driver for a stop and go penalty, the Referee and/or Race Director will announce a time penalty of 10 seconds.
- 9.5. Deliberate obstruction of other cars in an attempt to influence the result of a race will lead to immediate disqualification and loss of his/her International Licence until after the next event of the same kind. (e.g. GP/EC/WC)

**10. GT TECHNICAL RULES.**

2 Basic versions, with a lot of differences. Italian rules with no scale bodies and wing incorporated and a lot of technical allowance. International rules, based on real off-road cars with scale bodies, separate wings (like large scale and electric touring car) and technical limitations (more standard).

	GT Cars, Italian Rules	GT Cars International / Roar Rules
<b>General</b>	GT/Rally cars with IC motor, 2WD or 4WD. Basic car was Off-Road, but drive train is different.	GT/Rally cars with IC motor, 2WD or 4WD. Basic car is Off-Road, with drive shafts, no belts allowed.
<b>Manufacturers</b>	There are a number of Italian brands for this class available and a single one outside Italy.	There are a number of International brands available from this type of car.
<b>Dimensions</b>	Length overall 730mm	Length: TBD
	Minimum width 290mm	
	Maximum width 310mm	Maximum width 310mm
	Wheelbase between 270-330mm	Wheelbase between 270-379mm
	Maximum height 340mm including wing with suspension fully compressed, chassis against the floor.	Maximum height 250mm including wing with suspension fully compressed, chassis against the floor.
		Wheels Mounting Bead diameter: Maximum:79.00 mm / 83.50 mm. Overall Diameter Maximum:88.50 mm. Width Maximum 44.45 mm. Tyres Diameter Maximum 119.22mm. Minimum 109.22 mm. Width Maximum 47.0 mm
<b>Weight</b>	4WD 3500 gram, 2WD 3400 gram	4WD 3500 gram
<b>Clutch</b>		Only buggy based 2, 3, or 4 shoes systems No radial type clutches (Centax)
<b>Transmission</b>	The transmission can be 2 or 4 wheel drive and must be mechanical (universal joints, belts, chains, etc.) Allowed is a gearbox with maximum two speed. It's forbidden to use one-way drive axle. The cars must be equipped with front differential axle and rear differential axle, which cannot be locked.	Any 1/8 scale Buggy or Truggy based shaft driven nitro powered vehicle. ( off-road conversion is OK) with front kick up. Chassis with Kick up cannot be altered to change original manufacturers design. Stock and factory optional chassis are permitted, but it must retain all the characteristics of the standard off-road chassis on which it's based. Chassis must be identical to their off-road counterparts in all dimensions except where it's necessary to convert the chassis for on-road use. Carbon fiber chassis are not permitted.

	GT Cars, Italian Rules	GT Cars International / Roar Rules
		<p>Transmission: Single speed or two-speed only. Single speed configurations must include a solidly mounted spur gear to a standard bevel gear centre differential or a solid spool (no one-way bearing). No other differential types will be permitted. Two-speed transmissions must use an automatic centrifugal shifting mechanism that is not remotely adjustable or programmable. Because of the nature of the two-speed transmission design, no centre differential is required, but the transmission must include a solid centre shaft that doesn't allow differential action between the front and rear drive assemblies</p>
		<p>A shaft-drive system with two gear-type open differentials are required. No one-ways, spools, locking "Torsion-type," or externally adjustable differentials are permitted. The gear diffs. can be tuned only with the use of silicone-based fluid. Identical F/R drive ratios are required – no F/R underdrive/overdrive permitted. A single speed mounted to a centre spool, or an included two-speed transmission are permitted. The drivetrain shall be a centre shaft system with ring and pinion gears driving the differentials. Shaft-drive only – belt driven cars are not permitted. The drive system must maintain the same features as used in the original off-road configuration except where noted, including the centre differential/two speed transmission with separate front and rear centre drive shaft's</p>
<b>Body</b>	<p>All models must be fitted with a 1/8th scale body that is similar of a car really existing with the exception of open cockpit cars. Allowed are replica's from ALMS, GT1 or GT2, Super GT, DTM, and V8 Supercar Cars. No homologation required, but EFRA can refuse bodies which are not within the spirit of this class. The body must be fixed on the integral parts of the chassis. The bodies must be made of flexible material and painted. No part of the model can protrude from the body with the exception of the roll bar.</p>	<p>Any commercially available factory licenced replicas of ALMS, GT1 or GT2, Super GT, DTM, and V8 Supercar Cars. Any GT like body.</p>

	GT Cars, Italian Rules	GT Cars International / Roar Rules
<b>Openings in the body</b>	<p>Opening for exhaust tail (pipe hole not exceeding 8 cm square cm on one side of the body). Openings for radio antenna (maximum diameter 10mm) , spark plug ( maximum diameter 25mm), carburettor (maximum diameter 10mm). The Cooling head of the motor must remain completely inside the body . One Hole with a diameter of 50mm maximum for refuelling. It Is allowed to have one opening in the front and rear with a maximum diameter of 50.0 mm each. Side window on each side can be removed. The windows cannot be folded outwards to get more air to the engine. It is also not permitted to have a system under the body for conveying air inside the body. All bodies must have the front and rear wheel arches removed.</p>	<p>All wheel wells must be cut out and rear of the bodies should maintain tail lamps and cannot be completely cut out. No wedge style Bodies. All body approvals will be subject to scrutiny of the respective or collective advisory committees regarding compliance to the "spirit of the rules." An objective evaluation shall determine the status of each submission based on the adherence to the said rule. Bodies must be factory licensed replicas of the aforementioned street or race cars, but no "race-only" bodies are permitted. Bodies based on Daytona Prototypes, or the odd Super GT cars that are not representative of a commonly available street car, are not permitted. Bodies must include full front and rear fascia's, and conform to the rules herein that limit openings in the body for the purposes of refuelling, starting, engine tuning, and antenna holes</p>
<b>Wing</b>	<p>The wing must meet the following requirements: Must be mounted on the body. Depth: 77 mm maximum , measured parallel to the inclination of the wing. Width: 310 mm maximum, measured parallel to the inclination of the wing.</p>	<p>Bodies must be fully detailed in order to compete in EFRA competition. The body must have visible window, body panel and trim markings, and the windows must be mostly clear. Some intrusion for creative painting purposes and tinting is permitted, but the windows must be transparent.</p>
		<p>Rear Wing Side dam Length Maximum: TBD. Height Maximum: TBD. Chord Maximum: TBD. Width Maximum: 217 mm</p>
<b>Bumper</b>	<p>All models must be equipped with bumpers made of flexible material, with no sharp edges and rounded, so as to minimize the consequences of a possible impact with the model. All models must be mounted on the front bumper a bumper that protrudes from each bumper. The complete bumper, must remain under the silhouette of the body.</p>	
<b>Tank</b>	<p>The tank can have a maximum capacity of 125.00 ml including filter and hose connection to the carburettor.</p>	<p>Up to 125cc max fuel capacity</p>

	GT Cars, Italian Rules	GT Cars International / Roar Rules
<b>Fuel</b>	The mixture may contain only methanol, nitro methane and lubricating oil with a maximum of 16% nitro and an SG of 0.87.	
<b>Engine</b>	The engine of the model car will have a total capacity of up to 3.50 cm <sup>3</sup> . The car must be fitted with an exhaust silencer system. Only 3 chamber EFRA registered mufflers can be used with EFRA registered INS boxes. The exhaust tailpipe must be directed towards the roadway or, at best, parallel to it.	Motor, 5-port 0.21, on or off-road based, 7mm carb. insert, internal modifications are legal. Pipes: EFRA List. Rubber extensions to stinger OK. No internal moving parts.
<b>Brakes</b>	Each model car must be fitted with clutch and brake system in such a way that it can be maintained stationary with the engine running. The brake must act on the transmission and must be of the mechanical type. The use of separate brakes on the wheels is not permitted	Only standard mechanical brakes are permitted – hydraulics are not permitted. Up to two brake discs are permitted anywhere on the centre driveshaft's. Brakes may not be located on the outboard axles.
<b>Wheels, tires</b>	The wheels, front and rear, must have a diameter of 78 mm + / - 2mm. The maximum width of the tyre (rim + pneumatic) cannot be more than 43 mm. The tyres of cars must be only of black colour and may have lateral writing of different colours. The tyres must be from moulded rubber, the pattern is free. Inserts are allowed. Wheels must use a 17mm hex hub consistent with the dimensions and function of the hubs used in 1/8 off-road racing. The wheel must be fixed by a 17mm wheel nut, threaded on to the hex hub. Quick change mechanisms are not permitted. No tyre or rim may protrude outside the body. In all races a controlled tyre is mandatory with different/more brands	Wheels must use a 17mm hex hub consistent with the dimensions and function of the hubs used in 1/8 off-road racing. The wheel must be affixed by a 17mm wheel nut, threaded on to the hex hub. Quick change mechanisms are not permitted. Dish wheels are not permitted. No more than 30-percent of the face of the wheel may be solid. The wheel "face" will be defined as all areas of the wheel between the mounting bead and the centre mounting hole. Tyres must be "production" tyres – hand cut tyres or those not available to the general public are not permitted. "Available" is defined as having been sold to consumers a minimum of 30 days prior to the official start of the event. Tyres must be moulded rubber – no foam tyres are permitted in any class. A controlled tyre is advised. All races must be completed on the same tyres used to start each race (qualifying and finals). Tyre changes are not permitted except when a wheel and/or tyre are determined by the race director or a EFRA official, to be damaged. Excessive tyre wear does not constitute damage

	GT Cars, Italian Rules	GT Cars International / Roar Rules
<b>Elec- tro- nics</b>	It is not allowed to use any electronic devices with the exception of: The two radio channels of the receiver which will be used to operate steering, throttle and brakes. A battery to power the receiver with any voltage regulator and the transponder as well as cables, connectors and/or a switch.	
<b>Tech- nical Exclu- sions</b>	Not more than two (2) servos. It is not allowed the use of additional electronic equipment for the Traction Control or braking (ABS). It is not allowed the use of any active telemetry system. 4 wheel brakes, or Independent controlled braking on the front wheels is not allowed. Liquid cooled engines. Hydraulic systems. No body or wheel flares extenders allowed and no Lola, wedge or open cock pit style bodies are allowed. Carbon fibre chassis are not permitted. Treatment of the tyres with additives is prohibited. Competitors found to be using additives will be disqualified from the event. No chassis mounted or Buggy/Truggy type wings allowed	

## APPENDIX 2

### 1/8th SCALE OFF ROAD CARS

#### 1. ALLOCATIONS FOR EUROPEAN CHAMPIONSHIPS

- 1.1. The number of drivers and the National Allocations for the European Championships will be decided upon at the EFRA AGM annually. According the following table.

	GP	EC B	EC A/EC A+	Open EC 40+	Euro-Indoor
Days	Fri./Sun.	Fri./Sun.	Tue./Sat.	Fri./Sun.	Fri./Sun.
Min/MaxNb of drivers	120/144 max	120/144 max	140/180	120/144	120/144 max
The Venue (Track, Rostrum, pits space, commodities, etc...) must be sufficient for all participants.					
Recommended Date	2nd week-end of the month	2nd week-end June	2nd week-end July	2nd week-end September	2nd week from November-February
Compulsory License	EFRA or National	EFRA	EFRA	EFRA	EFRA
Allocation	NO	YES	YES	NO	
Restrictions	NO	See 1.5	NO	NO	NO

- 1.2. EC A+ with more than 150 drivers can only be allocated to federations that have already organized a successful EC B or EC A in the precedent years. The National Federation must confirm the capacity of the organizer for an event with more than 150 drivers. In order to ensure the appropriate rotation in the venues of ECA & ECB, when considering applications for each kind of event, the venues who had not allocated one of those in the preceeding 3 years will have preference.
- 1.3. For allocation and re-allocation procedures see 3.6. and 6.2.
- 1.4. If a driver has not registered by midday on the first day of the event, then his place will be re-allocated unless that driver has contacted the organizer to explain his reason for not registering
- 1.5. A 4WD European Championship for B Class drivers may be organized each year. Entries will not be allowed for drivers who have already won that event or who have ranked in the first fifty (50) places of any of the preceding two (2) 1/8th Off Road EC A Championships and to any driver who has ever taken part in an EFRA European Championship A main final in any class of racing. To be run if possible the 2nd weekend of June.
- 1.6. Allocations lists with reallocations for EC A & B to be published on EFRA website: 5 weeks before the first day of the event.
- 1.7. a). An Open 40+ EC may be organized each year, Preferably Mid September. A designated tyre system may be used for this event following a decision made at the previous section meeting.  
 b) An Indoor EC may be organized each year, preferably from 2nd weekend of November to February.  
 c) The Indoor EC may also include Electric 1/8th models.  
 The Main final to be 3 races of 10 minutes duration.

1.8 All European Championship organizers must inform EFRA before 31 December the year before about the best tyre combinations for their track.

## **2. RACING FORMAT EUROPEAN CHAMPIONSHIPS AND G.P.**

2.1 The 3 days events, i.e. the GPs, the European Championship for B class drivers and the Open Entry EC Events will have the same format as specified in the following rules adapted to a 3 day event with only four (4) attempts at qualification, only two (2) to count, weather permitting. Entries will be limited to 120 drivers, special allowance can be given by the EFRA AGM Section Meeting up to a maximum figure of 144 drivers, and reseeding of the heats will only be done in case of clear necessity on the criteria of the R.D. and Referee. Order of the rounds will be always the same, from 1 to 12. With the fastest drivers into the last groups. At the GP held at the event intended to host the European Championships in the previous year and in the same year i.e. the warm up event, the full race program should be used and tested including the reseeding of heats after practice.

### **2.2. QUALIFICATION HEATS:**

- a) If the host country wants to, and the facilities can accommodate 180 drivers, qualifying rounds can be up to 15 cars. This decision will be made by the Section Chairman, the Referee and the Race Director no later than the GP prior to the event.
- b) Each driver should be entitled to a maximum of 5 attempts at qualification, weather permitting.

c) Starting for qualifying will be with 'Flying start'. The track will be opened with a 3 minute warning to the start, this will be announced through the sound system, you will also get the time "2 minutes to start", "1 minute to start", "30 seconds to start" and "10 seconds to start". Deliberate stops waiting for the signal at the track and cutting the track to find a better position in it are infringements to be penalized unless otherwise authorized by common decision of the Race Director and the Referees communicated at the Team Manager Meeting.

The announcement: "Clock is running" will indicate that the heat has started. All qualifying runs and finals are ran by "time plus next lap" system.

Qualifying heats are of 5 minutes duration.

The choice of general rule 9.3, a or b, will be done before the official start of the event by the Race Director and clearly stated at the Team Managers meeting.

d) All drivers will be entitled to a sub-final.

e) Heats will be run in the following sequence for the 5 qualifying rounds:

Round 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

Round 2: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3

Round 3: 7, 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6

Round 4: 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9

Round 5: 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

### **2.3. TIMED PRACTICE SYSTEM**

a) The practice for drivers will only be run in the way of rounds in heat order. On Tuesday there will be 4 rounds of practice, 1st, 2nd & 3rd of 5 minutes duration and a 4th one of 9 minutes track time. On Wednesday before the start of the 2 rounds of Controlled Practice there will be a "track shake-down round" early in the morning, only the Wednesday controlled practice rounds will count for reseeding These rounds will be of 10 minutes duration with the last 5 minutes timed. Announced as rule 2.2. Best 3 consecutive laps inside the whole 10 minutes or the complete last 5 minutes may be used



for reseeding purposes. The selection of the reseeding system is done by the race director and must be clearly advised before the start of practice. Results of the timed practices will be published (laps and times). Points will be awarded according to the result selected for reseeding in each round. The best single point result scored out of these two rounds will be used to sort drivers by performance and to reseed them before the real qualifying rounds. In event of a tie second point result will be taken into account to solve the tie.

- b) Reseeding: After timed practice and subject to frequencies and common sense the top 36 drivers will be placed in the first 3 heats with equal number of each country up to a maximum of 5 drivers in each heat. The first 3 drivers take 1st place in the first 3 heats, next 3 in second place at each heat and so on. Use this system to include 144/180 drivers and avoid small teams being placed in the same heat.

The sort out problems round after reseeding can be done alternatively wednesday afternoon after the opening ceremony or early thursday morning.

2.4. QUALIFYING SYSTEM

In each round drivers will score points based on laps and times achieved. For all rounds the maximum number of points given to the fastest driver will be equal to the number of drivers participating to the EC + 5 (five).

2nd fastest will score the maximum minus 2 (two) points.

3rd fastest will score the maximum minus 3 (three) points.

Down to the last position one by one.

If a driver has not completed a lap, no points will be awarded in that round.

In every round in the event of a tie the points will be equally awarded to each driver and the first driver not tying will get one point less.

In the case of two or more drivers having the same points score the next best score determines position. If still unable to resolve with the next best rounds then driver with fastest laps and times will determine position.

Out of 5 completed rounds                      3 to count

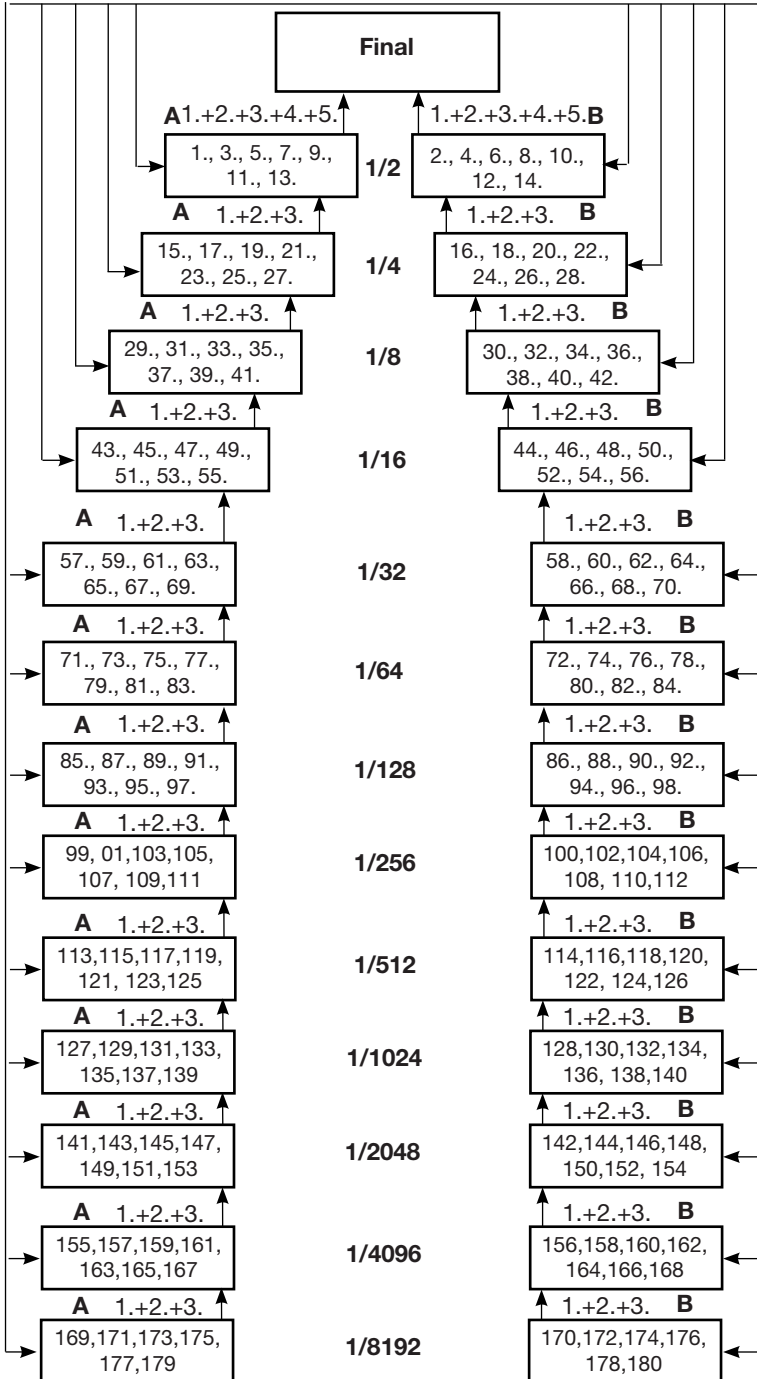
Out of 3 and 4 completed rounds            2 to count

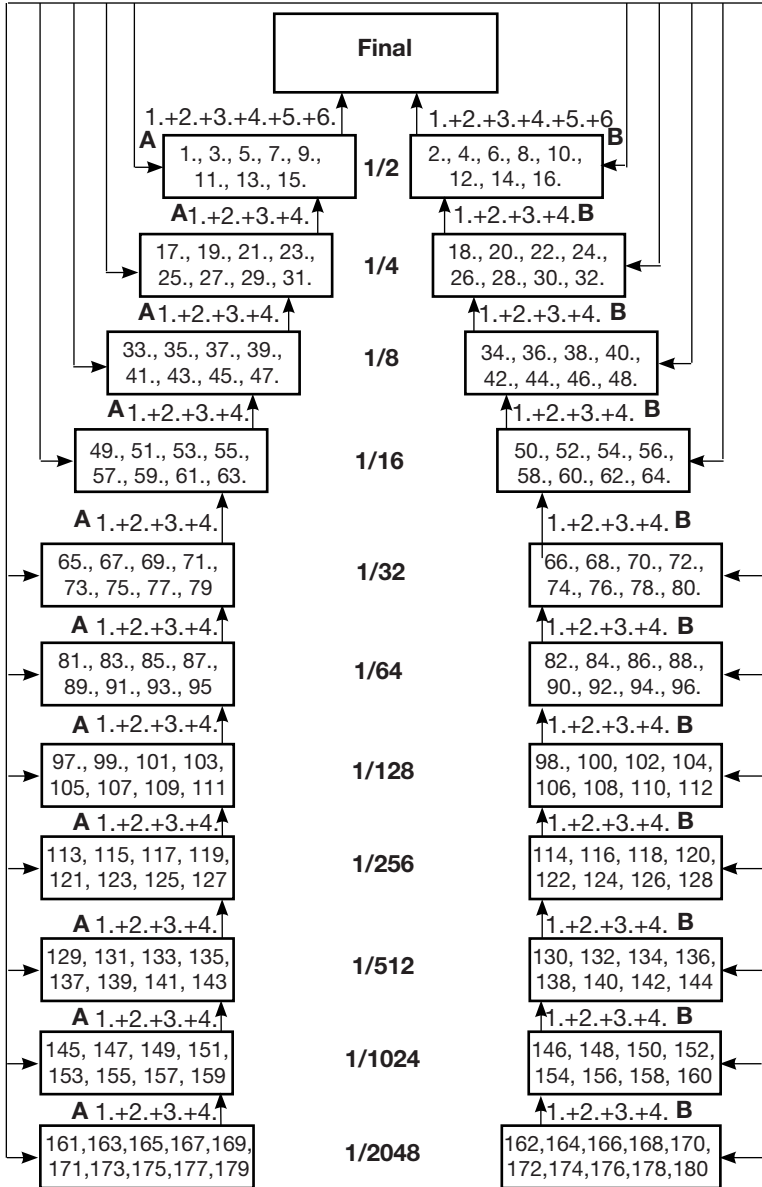
Out of 1 and 2 completed rounds           1 to count

2.5 FINALS

- a) All finals can be of 12 cars with 4 cars progressing to next final, and 6 cars from each semi final proceeding to Main A Final.

“A” series sub-finals will be composed of Odd places drivers following qualification. “B” series sub-finals will be composed of Even placed drivers after qualification. Every qualifying driver must progress to the main final in accordance with the accompanying Christmas tree. All sub-finals up to and including 1/128th A and B will be of 15 minutes duration. Then from 1/64th to quarter finals 20 minutes, Semi-final A and B 20/30 minutes, the final should be 45/ 60 minutes. The top 3 (three) / 4 (four) from each up to the quarter finals progressing to the next sub-final and the first 5 (five) / 6 (six) from each semi-final progressing to the Main Final. After the finish of the quarter finals each semi finalist (“A” and “B”) is entitled to 10 minutes practice time with numbers and appropriate radio frequencies (See attached Christmas tree). TQ driver after qualifying will have the right to practice in both semifinals. First semifinal to start no sooner than 15 minutes after the end of practices. If the first subfinal is 1/1024 or less then all subfinals will be 20 minutes duration. There will be an exhibition final for +40 drivers after the 2 semi finals and





before the main final, length of that final will be 20 minutes. Drivers will qualify for that final according to their result achieved at qualification rounds, top 10/12 will have the right to compete at this final except those who have reached the semi finals.

There will be an exhibition final for under 17 drivers after the 40+ final before the main final, length of the final will be 20 minutes. Under 17 final is for all drivers who are 17 or younger on the year of competition. Drivers will qualify for that final according to their results achieved in the qualification rounds, top 10/12 will have the right to compete in this final. In the case of no under 17 driver in the main final, then the winner of the under 17 final will be the European Junior Champion.

- b) Special rules for EUROINDOOR Championship:  
 Format of Euro B with the following modifications:  
 All subfinals will be of 15 minutes duration.  
 Main final on 30 minutes duration  
 there will be no +40 final.  
 TQ driver will classify directly for the main final. TQ driver will practice in both practise of semifinals, A & B.  
 Bump-up for the main final will be 5+5 (4+4 in event of a 10 drivers final), the remaining spot will be decided on a race of 10 minutes duration, after 15 minutes preparation time.

2.6. TIMETABLE

The timetable for E.C. shall be as follows: The Race Organiser should schedule all events for each day to be completed and the track closed by 18:30.

TUESDAY	A.M. Registration & Technical Inspection + 1st, 2nd & 3rd rounds Timed Practice (5 minutes) P.M. 4th round Timed Practice (9 minutes)
WEDNESDAY	Early in the morning shake-down round + from 10:00 2 rounds Controlled Practice (10 minutes) P.M. OPENING CEREMONY Reseeding of drivers from practice times. Top 36 in 1st 3 heats 37 - 72 in next 3 heats 73 - 108 in next 3 heats 109 - 144 in next 3 heats 145 -180 in last 3 heats 1 round of timed practice to sort out problems
THURSDAY	3 rounds qualifying
FRIDAY	A.M. 2 rounds qualifying P.M. 1/8192 Finals A & B (A is run first) 1/4096 Finals A & B 1/2048 Finals A & B 1/1024 Finals A & B 1/512 Finals A & B 1/256 Finals A & B 1/128 Finals A & B
SATURDAY	1/64 Finals through to "A" Final Final to commence 15.30

Official Prize Giving/Reception/Banquet to be held after Main Final at a time to be announced by the Organisers. Banquet Tickets to be sold in advance if such existing.

**3. TRACK**

Minimum Width: 4 metres  
 Minimum Length: 250 metres

**3.1 SURFACE**

Artificial surfaces should be of the same type used for road construction. They must not be potentially dangerous or pollutant.

Within the total length of the track 50 percent (50%) minimum must be from natural soil.

Any section made from artificial surface must not be longer than ten (10) metres. A natural soil section must always separate two (2) artificial surface sections.

At place of the lap counting antenna, there must not be any metallic structure. Deterioration of the natural soil area must not uncover obstacles in the transit area between natural soil and artificial surface (overlapping slope must be smooth and of sufficient length).

The track must be suitably drained.

**3.2 JUMPS AND OBSTACLES**

Their sizes must be in relation with the scale of the car.

**3.3 SAFETY**

Safety for everybody must be the most important aspect when designing a track and at every moment while race is on progress.

All non authorised people will have to leave the track area when the call 1 minute to start is given.

Press and media will be informed of this rule by the organizer when obtaining their press pass.

**3.4 MAINTENANCE**

The track surface may only be repaired at the following moments:

Any time at the end of any practice round during practice days, and after the practice and before the qualifying rounds.

At the end of day one of qualifying.

At the end of qualifying and/or at the end of the second day of qualifying.

The Race Director can authorise repairs, if he considers the track to be unsafe at any time with the agreement of the referees.

**3.5 OTHER TRACK SPECIFICATIONS**

**3.5.1** A pit lane must be provided that has a convenient and safe entrance and exit to and from the racing surface. It must be separated from the racing surface by a secure barrier. There must be a second barrier of at least the same specifications of the outer barrier between the pit lane and the working pit areas. The design of the pit lane access and exit must be done to prevent high speed racing at the pit-lane.

**3.5.2** All refuelling, repairing, or servicing of cars must be accomplished with the vehicle fully behind the barrier between the pit lane and the working pit area, and not in or over the pit lane. Cars may be placed on top of the pit wall for servicing provided the wall has been designed so that the car is secure and stable.

**4. RACE PROCEDURES**

Race procedures shall be as for sections 2&3&4 of Appendix 1 up to § 4.8 included. It is forbidden to cut the track during the warm-up minutes and it is forbidden to overtake while the formation lap is on progress (if existing). It is not allowed to the mechanics go to or to come back from the starting grid when count down has started, penalty for that is a 10 seconds stop & go.

In case a race cannot be completed for whatever reason the final ranking will be made as follow:

Ranking of sub finals will be used up to the level where the last pair of sub finals A & B have been run.

Above that level, for the remaining drivers, the qualification ranking will be used.

	<b>A</b>	<b>B</b>	
Final	Not Raced	Not Raced	↑ Ranking Qualification
....	Not Raced	Not Raced	
Sub Final N	Not Raced	Raced and void	
Sub Final N-1	Raced	Raced	↑ Ranking Sub finals
....	Raced	Raced	
Sub Final N-x	Raced	Raced	

Parc Ferme:

All cars of the the first semi-final will be impounded in parc ferme during the later semi-final. All cars of both semi-finals will be released at the same time.

Delayed Start:

As long as the starter has not called the cars to the start line (30 seconds to the start call), every participant of the semi-finals and the final may request a delay of ten (10) minutes for repairs on his car. The delay will be granted only once for each semi final and main final. The track shall be closed to all cars during the delay period. The driver that asked for the delay has to start last from the startgrid (11th or 13th position).

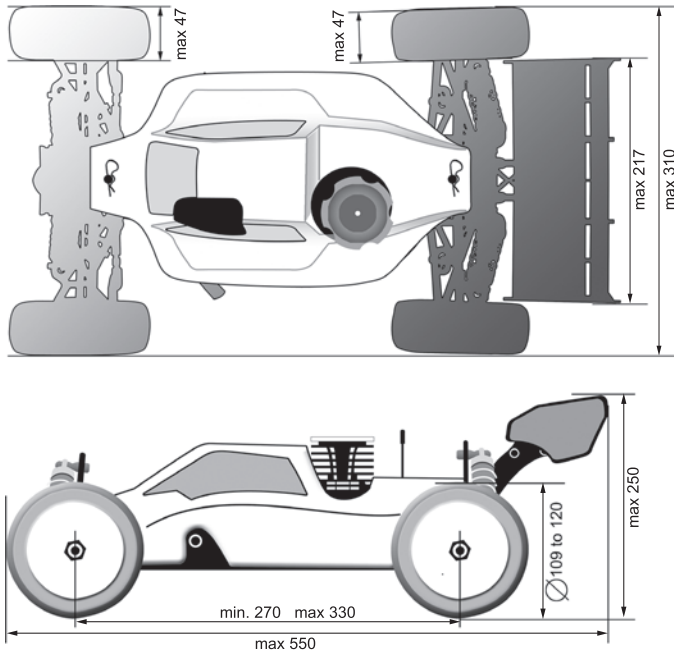
- 4.1 The track for a European Championship MUST be either new or repaired new before the day it is open for practice. Whether the track is a new track made for the event or an existing track it can not be open to drivers for practice before the day the official practice is scheduled. The National Federation and the organising Club must forbid any use of this track 4 weeks before the event.
- 4.2 For Electric 1/8th all finals will use a "Le Mans" or "F1" type grid start, with a minimum of 3 meter alternating intervals with two rows of cars. Cars must be placed forward facing to their markerline or start box.  
If F1 start is used, then the Top Qualifier shall choose if the first car on the grid shall start on either left or right side and shall be used for all finals.

**5. TECHNICAL SPECIFICATIONS**

4 WD 1:8 OFF ROAD CARS

5.1. GENERAL DIMENSIONS

- a) Overall length 550 mm maximum
- b) Overall width 310 mm maximum at any point of suspension travel.
- c) Wheelbase 270 - 330 mm.
- d) Overall height measured from the ground including rollbar with full suspension compression 250 mm. maximum (this measurement does not include the receiver aerial).
- e) Minimum weight is 3.200 kg for 4 WD.
- f) No other function than steering and throttle/brake are allowed to be operated with the Radio Control by the driver. Any other electronic system placed in the car different than the personal transponder and a possible switch on-off is not allowed.



- g) Wheel overall diameter must be between 109 and 120 mm. Wheel overall width 47 mm maximum.
- h) Measuring equipment for width, length and height should be constructed preferably from metal or alternatively high quality board. The materials will be of suitable thickness to eliminate any distortion.
- i) The front of the vehicle chassis must be equipped with a plastic bumper (no metal at all) in such a manner that it will minimise damage in the case of it entering into contact with other participants, marshals or any person. The bumper must be made from flexible material (plastic) with all corners and sharp edges rounded off. If a rear bumper is used it must follow the same principles.

## 5.2. ENGINES & TANK

- a) Internal combustion engines with maximum capacity 3.5 ccm.
- b) Fuel tank capacity: 125 ccm including all piping tubes and filter up to the carburettor.  
The tank shall be measured using the official EFRA measuring cylinder or in the event of damage to the official cylinder, a cylinder to DIN standard.
- c) The capacity of the fuel tank must not be adjusted by insertion of any loose object
- d) Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the track air temperature is above 20° C.

5.3. SILENCER

5.3.1 Each motor must be equipped with an exhaust system and an inlet silencer to reduce the amount of noise generated by the car.

The maximum noise level for a muffler with INS box is 83 dB's, measured at ten (10) metres distance and one (1) metre high for a single car.

EFRA's definition of a noise level is always final.

Only EFRA homologated mufflers published for the season are allowed on EFRA sanctioned events. The EFRA homologation number must be engraved on the sidewall of the muffler.

5.3.3 EFRA may noise test any car at any time during the event. EFRA noise testing equipment will make all tests regarding noise levels. EFRA's definition of noise is final. From 2017 when the noise trap is in use penalties may be given at qualifying (loss of the drivers best result) or finals (minus 1 lap on the final).

5.4. TYRES

All tyres must be black with the exception of side wall lettering. The application of any additives within the event perimeter is strictly forbidden. The penalty for that is immediate disqualification.

No spikes, tubes or additional items intended to increase traction may be either glued to the outside of tyres or passed through tyres from the inside.

All EFRA ECs on 3 days scheme can be run under a designated wheel (insert, tyre and wheel to be the same for all drivers) system, no use of tyre additives are allowed at all.

5.5. WINGS

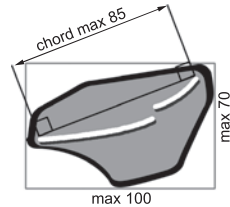
The rear wing with a maximum overall size 217 mm length and a chord of no more than 85 mm may be fitted.

-The multiplane wings are authorized

-The width of 85 mm is measured between the lower leading edge and the higher trailing edge.

The side dams of the wing must have a maximum horizontal width of 100 mm and a maximum height of 70 mm.(irrespective of the orientation)

- The single of multiplane wing must be registered inside the contour of the side dams. - The wing and the side dams must be made out of flexible material with angles rounded.



5.6. APPEARANCE

a) Cars shall be a reasonable representation of the style of car used for offroad, desert or trial racing.

b) Full bodysells of saloon style are permitted but may only be trimmed to expose a maximum of 50% of the tyres at full suspension depression. If such bodysells are fitted, provision for trimming shall be as in Section 5.6d.

c) Where a roll-cage is fitted, an open wheel style bodysell must be fitted underneath the cage so designed as to enclose R/C equipment and fuel tank with sufficient front and side areas to allow clear display of racing numbers.

d) Openings may be cut in the shell for the antenna and the pipe ends and to allow access to fuel filler, switch, and engine adjustments, and a maximum of a third of the wind screen to assist in cooling the engine if not already opened by the fuel tank access.

e) The car bodysell holding the car identification number must be fitted, if it becomes loose or detached it must be fixed in the immediate next lap.

Clearance around such items to be kept to a minimum.



"Acceptance of a saloon bodyshell by another EFRA Section shall be deemed to simply approval by the Off-Road Section for racing purposes."

- 5.7. Fuel may only contain methanol (methyl alcohol) CAS number 67-56-1), lubricating oil, a small content of anti-corrosion chemicals and maximum 25% of nitro methane (Cas number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.91 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 25 can be used , but in case of failure with the Nitromax an official density meter must be used to control the specific gravity of the fuel including the temperature recorded during the test. A specific table will be produced to report the density (gr/cc) based on the temperature (from 0 to 50°C) The tolerance on the measurement will be +/- 0,5% based on the data reported in density table. Any violation with fuel which means any proof of the use of other additives as mentioned will means 5 years of disqualification from any EFRA and IFMAR event.

**5.8 Electric 1/8th Technical**

5.8.1 Motors:

Can : Maximum overall length is 77.00 mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Motor mounting holes must be on 1.00- inch (25.40mm) centers.

Stator: Motor stator maximum outside diameter is 39 mm.

Rotor: External shaft diameter shall be 5mm. It may only be either a 2 pole or a 4 pole design with a maximum 12-slot stator.

5.8.2 Battery Cells : 14.8v lithium battery maximum

- 11.1v 3s Lipo
- 14.8v 4s Lipo
- If two 2s 7.4v Li-Poly packs are used, they must be the same brand and part #.

5.8.3 Transmission and drive:

- Single speed transmissions only
- 4WD

5.8.4 BodysHELLs

Body Style: The body has to be able to carry the EFRA Numbers at the front and both sides as high as possible. The body has to have a real car shape.

Body shell holes/vents: Only 9 holes with a maximum diameter of 10 mm and one hole for the antenna are allowed. Windows are not allowed to be removed. All Gears must be covered from above.

5.8.5 Special electric safety rules

At Technical inspection it will be checked that no battery shows any deformity or manipulation. Batteries have to be protected by the chassis or body.

Maximum voltage before any run 16:80 v before the start of the run.

**6. NATIONS CUP**

At every European Championship A&B EFRA will hold a Nations Cup, with drivers competing as a team representing their countries. Before the start of the official qualifying rounds each Team Manager will provide the Race Director with a maximum of four (4) names of drivers which will represent their country at this Nations Cup. Out of this four drivers the best result in points according to their final position achieved of the best three (3) of them will be added together and give the result of their National Team.

**7. TROPHIES**

The organizer must furnish, at least, the following trophies for the prize giving ceremony:

- Appropriate trophy for positions 1-2-3 at the 3 standard classifications, Absolute final, under 17 final and over 40 final.
- Trophy for positions 4-10/12 of the Absolute final classification.
- TQ Trophy, to be presented after classification is completed and returned for the final ceremony.
- 3 pairs of plates for the Mechanics of positions 1-2-3 of the Absolute final classification
- 3 set of 5 plates to the Nations Cup positions 1-2-3.
- 1 Trophy for the manufacturer of the winner car at the EFRA ECA
- 1 Trophy for the manufacturer of the winner engine at the EFRA ECA
- 1 Trophy for the manufacturer of the winner tires at the EFRA ECA

The Trophy of the Nations cup will be kept in deposit by the Winner national association and returned before the start of the next European Championship.

## APPENDIX 3 ELECTRIC CARS

### A GENERAL

#### 1. RACETRACK SPECIFICATIONS for electric classes

- 1.1.1 For EFRA-sanctioned events, where non-permanent tracks are used, the track plans have to be submitted to the Section Chairman for approval.
- 1.1.2 Track-design must include both right and left-hand turns and one or more straights.
- 1.1.3 Minimum track length: 120 meters.
- 1.1.4 Outside barriers must provide a positive means of stopping a car that misses a corner or runs out of control.
- 1.1.5 Track marking equipment must be such a shape and size to prevent the entrapment of a car or the drivers view becoming obscured. 'Horizontally laid triangular column' shaped barriers and 'Bot dots' are not to be used.
- 1.1.6 Farthest point of the track must not be more than 50 meters away from driver's rostrum.
- 1.1.7 Time-keeping: preferable on a slow part of the track to enable accurate counting.
- 1.1.8 Marshall positions based on car numbers must be equally spread around the track. It should be clear which part of the track the specified position is responsible for.
- 1.1.9 A 220-volt electrical supply must be available at EC meetings with one outlet for every four drivers in close proximity to their pitting area. All safety precautions must be observed.
- 1.1.10 For the EFRA staggered start system one start line must be marked across the track, preferably close to the time-keeping's pick-up loop position (otherwise two).
- 1.1.11 All finals will use a "F1" type grid start with a minimum of 2 meter alternating intervals with two rows of cars. Cars must be placed forward facing to their markerline or startbox.
- 1.1.12 Wherever possible the start line(s) must be accessible without crossing any other part of the track.
- 1.1.13 The start line will be white or yellow coloured, have a minimum width of 5cm and shall cover the total width of the track and will also be marked on the barriers. There shall be marked boxes for the final F1 grid.
- 1.1.14 Top Qualifying driver may choose his starting position on the grid either left or right, this then to be the configuration for all remaining finals.
- 1.1.15 Marshall intervention must be minimised by using smooth obstacles such as dots or cones, of appropriated heights.
- 1.2. Specific track requirements for 1/12 & 1/10 Touring class tracks
- 1.2.1 Indoor track surface must be needle carpet with smooth joints properly attached to the floor.
- 1.2.2 For onroad racing, only smooth surfaces will be allowed.
- 1.2.3 Indoor Limits: minimum track width 2 meters between the marking lines. At the start line the track must be at least 3 meters in width as far as the first turn. Marking lines must be either white or yellow, minimum width of 2.5 cm, and must be at least 20 cm away from the edge of the racing surface or track barrier.
- 1.2.4 The track surface for 1:10 Electric Saloon Cars can be both asphalt or needle carpet.
- 1.2.5 The track surface for 1/12th electric sports cars must be indoors on needle carpet.
- 1.3 Specific track requirements for 1/10 Off Road class tracks
- 1.3.1 Width: 3 metres minimum.

- 1.3.2 The spirit of scaled down off Road racing must be adhered to. (Modified On-Road tracks are not considered suitable).
- 1.3.3 If two Classes (2WD & 4WD) are to be held on the same track, it is preferred that the track should be significantly different for the two Classes. Reverse operation is acceptable. If tracks contain permanent jumps/features that cannot be easily changed or used in the reverse direction, then it is permissible to use the same track layout for both Classes (2WD & 4WD), subject to agreement with the Section Chairman at least two (2) months prior to the event.
- 1.3.4 Maximum track length: 250 meters.
- 1.4 Requirements for time-keeping equipment
- 1.4.1 The main timing PC must automatically announce the following in clear English:
  - 2 minutes to the start of the race
  - 30 Seconds to the start of the race (& start order for staggered starts at this point)
  - 10 second countdown and start 'Sound' for line starts (i.e. finals)
  - 10 second countdown and call the cars off the line in case of staggered starts
  - Time calls and race order every 2 minutes
  - Cars finished & race over

## 2. MOTORS FOR ELECTRIC SCALE CARS:

All EC and GP events will clearly state which class of motors to be used. From May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the Electric Classes.

### 2.1 MODIFIED BRUSHLESS MOTORS:

- 1 Sensorless as well as sensed motors are allowed.
- 2 The motor has to be rebuildable . Ball bearings are allowed.
- 3 If the motor is sensed:
  - It must use a six position JST ZH connector model number ZHR-6 or equivalent connector with 6JST part number SZH-002T- P0.5 26-28 AWG contacts or equivalent.
  - Wire sequence must be as follows:
    - Pin #1 - Black wire ground potential
    - Pin #2- Orange wire phase C
    - Pin #3- White wire phase B
    - Pin #4 - Green wire Phase A
    - Pin #5- Blue wire temp control, 10K thermistor referenced to ground potential
    - Pin #6- Red wire +5.0 Volts DC +/-10%
  - Compatible speed control must use the 6 position JST header part number X-6B-ZR-SMX-TF (Where the X denotes the stile of header), or equivalent.
  - The power connector has to be clearly marked A, B, C:
    - A for phase A, B for phase B and C for phase C
- 4 "05" Size specifications
  - Can: Overall maximum diameter is 36,02mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires. Overall minimum diameter is 34,0mm measured at whatever point yields the minimum dimension, excluding solder tabs or lead wires. Maximum length is 53,0mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Minimum length is 50,0mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires.

Motor mounting holes must be on 1,00 inch (25.0 - 25.4mm) centres.

Stack/Stator: The stack or backiron must be continuous. The laminations have to be one after the other without anything in between. Stack/backiron minimum length 19.3mm, maximum 21.0mm. The thickness of the stack/backiron laminations is 0.35 +/- 0.05mm. All laminations must be of the same material. Inside diameter of stack or windings equals the central space between the laminations or assembly of windings and must accept 'plug' gauges of 12.5mm minimum, 16.0mm maximum. These dimensions to be measured with the centre of the 'plug' gauge in-line with the centre of the motor can. (ie. concentric to can).

Winding: Delta and Y wounded stators are permitted. Only circular (round) pure copper is permitted. There is no turn limit.

Rotor: Output shaft diameter must be 0,125" (3.175mm). Only one piece, two poles Neodymium or Ferrite magnetic rotors are permitted. The rotor will be identified with the manufacturers name or logo and the unique part number. Applies to all rotors in new motors or new optional rotors starting from 1st. April 2015 onwards.

Magnet: Minimum length 23,0mm. Maximum 27,0mm. Magnet minimum diameter 12,0mm, maximum 15,5mm.

- 5 All motors must have the original manufacturer's logo or name permanently marked by the manufacturer into the end bell or end-plate.
6. If the stator cannot be easily removed from the assembled motor for technical verification of sizes or construction, then the Can/Sleeve must have:-  
Slots or holes that will allow measurement of the stator length.  
Slots or holes to allow visual appraisal of the laminates used in the stator.  
Rule to be applied to any new range of motor starting 01.01.12. Existing motors without these features are not excluded.
7. No hybrid motors allowed (mixing of parts from different manufacturers), with the exception of Rotors in Modified Motors only.

## 2.2 'SPEC' BRUSHLESS MOTORS (21.5,T, 17.5T, 13.5T and 10.5T 'wind' limit)

The following rules have been agreed by various International organisations.

- 1 Only sensored motors are allowed in the Spec. classes.
- 2 The motor has to be rebuildable. Ball bearings are allowed. The motor must be constructed to allow easy replacement of the; rotor, bearings and front End-Bell.

- 3 Sensor connection requirements:

The motor must use a six-position JST ZH connector model number ZHR-6 or equivalent connector with 6 JST part number SZH-002T-P0.5 26-28 awg. contacts or equivalent.

Wire sequence must be as follows: -

Pin #1 - Black wire ground potential

Pin #2 - Orange wire phase C

Pin #3 - White wire phase B

Pin #4 - Green wire phase A

Pin #5 - Blue wire temp control, 10kThermistor referenced to ground potential

Pin #6 - Red wire + 5.0 volts d.c. +/- 10%.

Compatible speed control must use the 6 position JST header part number X-6B-ZR-SMX-TF (where the X denotes the style of the header), or equivalent.

The motor power connectors have to be clearly marked A, B, C.

A for phase A. B for phase B. C for phase C

It is not mandatory that sensored Speed Controls have to be used, or that the sensor 'harness' has to be connected.

- 4 The Can. (Based on `05` size specifications).  
The overall dimensions of the assembled motor do not include: - solder tabs, lead wires or the original manufacturer's logo or name.  
Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension. Overall minimum diameter is 34.0 mm measured at whatever point yields the minimum dimension. Maximum length is 53.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Minimum length is 50.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Motor mounting holes must be on nominal 25.0/25.4 mm centres.
- 5 The Stack/Stator: Slot-less stators are not allowed. The stator must be continuous laminations having the same overall shape, being one after the other without anything in between. The laminations must be of one homogeneous material without cut-outs, holes or hollow sections other than for the three slots of copper coil wires and the three grooves for the screws used to hold the entire assembly together. Stator minimum length 19.3 mm, maximum 21.0 mm. The thickness of the stator laminations is 0.35 +/- 0.05 mm. The Inside diameter of the stator must accept a 'plug gauge' of 14.50 mm +0/-0.005 diameter, clearing the stator, plus its windings and the electrical collection ring at any end of the stator.
- 6 The Winding: Only three slot (phase "Y" (star) wound stators are allowed. No delta wound stators allowed. Only circular (round) pure copper magnet wire permitted. The three slotted stator must be wound with:  
21.5T Class:- 21.5 turns of -- 2 wires at: 0.724 mm. maximum wire dia.  
17.5T Class:- 17.5 turns of -- 2 wires at: 0.813 mm. maximum wire dia.  
13.5T Class:- 13.5 turns of -- 2 wires at: 0.724 mm. maximum wire dia.  
                  and -- 2 wires at: 0.574 mm. maximum wire dia.  
10.5T Class:- 10.5 turns of -- 2 wires at: 0.813 mm. maximum wire dia.  
                  and -- 2 wires at: 0.643 mm. maximum wire dia.  
Dimensions are before lacquer coating.  
The electrical circuit through the windings can only be from the ends of the wires forming the designated number of turns.  
NOTE: The above metric wire diameter sizes are direct equivalents to the nominal AWG sizes previously shown. (Reference to AWG sizes removed for simplicity).
- 7 The Rotor: Shaft diameter must be 3.175mm where the pinion gear locates. Only one piece, two pole Neodymium bonded or sintered, or Ferrite (ceramic) magnetic rotors are permitted. Magnet length will be 25.00 +/- 1.00mm, not including any non-magnetic balancing aids. Magnet outside diameter will be 12.20/12.51 mm (min./max. with no further tolerance) for the entire length of the magnet. The shaft outside diameter where the magnet is mounted will be 7.25mm +/- 0.15mm, with this diameter extending beyond the magnet to facilitate measurement. The rotor will be identified with the manufacturer's name or logo and the unique part number. Applies to all rotors in new motors or new optional rotors from 1st. April 2015 onwards.
- 8 All motors must have the original manufacturer's logo or name moulded/engraved into the end bell/plate. A unique marking or feature that is difficult to remove must be incorporated into the assembled motor to identify the motor is either a 21.5T, 17.5T, 13.5T or 10.5T Spec. Class motor. Motors introduced from 2011 onwards must have the 'wind' # etched/engraved onto the outer surface of the motor on a part of the motor that cannot easily be separated from the stator windings.

- 9 If the stator cannot be easily removed from the assembled motor for technical verification of sizes or construction, then the Can/Sleeve must have :- Slots or holes that will allow measurement of the stator length. Slots or holes to allow visual appraisal of the laminates used in the stator.(Rule to be applied to any new range of motor starting 01.01.12. Existing motors without these features are not excluded.)
  10. No hybrid motors allowed (mixing of parts from different manufacturers).
- 2.3 BRUSHLESS MOTOR HOMOLOGATION PROCEDURE:
- As agreed AGM 2015, EFRA will homologate '05' size Brushless Motors. Competitors at EC and GP events in 1/12th., 1/10th. Touring Cars and 1/10th. Off-Road Classes can only use '05' size Brushless Motors that are included on the EFRA Homologation Lists, starting 01.06.16.
- 1 Motors must comply with the following rules:  
 Modified Brushless Motors -- All requirements of App.3 Rule 2.1.  
 'Spec' (stock) Brushless Motors -- All requirements of App.3 Rule 2. 2.  
 All 'Spec.' (stock) motors must have a unique Part Number which will be included on the homologation lists.  
 Any optional rotors must be submitted for approval. Only optional rotors listed will be allowed at EC and GP events.
  - 2 When a motor (or rotor) has been approved and included on the relative list, the manufacturer must not change the; technical specification, visual appearance or description. Any changes will require a new Part Number and the motor (or rotor) will have to be resubmitted for approval.
  - 3 New motors will NOT be added to the homologation lists within the four weeks preceding any EC event for any Class at which the motor (or rotor) can be used. Sample motors must be received by the homologation officer a minimum of six weeks before any event, to allow time for all technical checks and records to be completed.
  - 4 Motors (or rotors) must be commercially available throughout the EFRA countries before being added to the homologation lists. Therefore availability must be confirmed when samples are submitted.
  - 5 Sample motors for homologation will only be accepted from the original manufacturer or an appointed distributor within the EFRA countries.
  - 6 New motors have to be submitted to the EFRA Motor Homologation Officer as listed in the EFRA Handbook. Minimum one (1) sample must be submitted for each motor class requiring approval (Modified, Spec. - 10.5T, 13.5T, 17.5T, 21.5T).
- The homologation fee for each class of motor will be as shown in General Rule 3.5.7.

### 3 BATTERIES

EFRA approved cells will be Lithium based (LiPo/LiFe). Each Electric Section will define the number of cells and/or nominal rated voltage.

3.1.1 Lithium Based (LiPo/LiFe) Batteries can be approved, but must conform to the following :-

1. Lithium Based (LiPo/LiFe) battery packs must have a hard, protective case that completely envelopes the cell(s). The case should be made from ABS or a similar material. The two halves of the case must be factory sealed in a way that any attempt to open the case will destroy the case. The only opening in the case that is allowed, is for exit wires or pin type connections. Batteries to comply with the weights specified on the EFRA homologation list, (maximum tolerance for manufacturers is +/- 4%).

The maximum case sizes are as follows:

4S Batteries: Length: 139.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 48.2mm (Chassis location features additional to this dimension are allowed).

2S Batteries: Length: 139.0 mm, Width: 47.0 mm, (the max. width includes any side exit wires), Height: 25.10 mm ( Chassis location features additional to this dimension are allowed).

Saddle-Pack cells are allowed, but must comply with the above dimensions. Saddle-Pack cells must have a combined dimension of 139.0mm max when placed end to end.

1S Batteries: Length: 93.0mm, Width: 47.0mm (Side exit wires are allowed outside this dimension), Height: 18.5mm (Chassis location features additional to this dimension are allowed).

2. Individual cells used in the construction of the battery pack shall be rated with a nominal voltage of no more than (LiPo 3.7/LiFe 3.3). Individual cells may be wired in parallel.

For 4S Packs:- the maximum connection "In Series" is four, to give a Final pack voltage of (LiPo 14.8v/LiFe 13.2v) nominal.

For 2S Packs, the maximum connection "In Series" is two, to give a maximum Final pack nominal voltage of (LiPo 7.4v/LiFe 6.6v).

For 1S Packs, cells can only be connected in parallel to give a maximum Final pack nominal voltage of (LiPo 3.7v/LiFe 3.3v).

NOTE: Cells with a nominal voltage of no more than 3.8v may be used starting 1st. April 2017, providing that a significant number of manufacturers have them available. The maximum charging cut-off will remain at 4.20v per. cell.

3. The battery pack shall have leads extending from the case for the positive and negative electrical connections using wire of adequate size to handle discharge rates acceptable to racing applications.

Alternatively, the case shall have internal connection points for these wires clearly marked positive and negative so the user can apply the lead wires. Any type of metal connections that are incorporated in the battery pack must be substantially below the major surface of the plastic casing, to prevent any "short circuit" if placed on a conductive surface.

4. The case must have the original suppliers label intact, stating:- the Part # of the pack, the rated voltage, the chemistry (Lipo/LiFe), the rated energy capacity of the pack in Wh. and the "C" rating of the pack. The Brand name/logo shall be easily readable.



NOTE: For 2017 onwards, Saddle Pack batteries supplied as two individual batteries (not hard wired together), will show the nominal battery voltage for each battery on the labels, not the combined voltage.

5. All LiPo/LiFe packs must be charged with a LiPo/LiFe-capable charger using the industry standard CC/CV (Constant Current/Constant Voltage) charge profile.
6. 4S LiPo/LiFe batteries may be charged to a maximum of 16.80v (LiPo) resp. 14.80v (LiFe).  
2S LiPo/LiFe batteries may be charged to a maximum of 8.40v (LiPo) resp. 7.40v (LiFe).  
1S LiPo/LiFe batteries may be charged to a maximum of 4.20v (LiPo) resp. 3.70v (LiFe).  
Overcharging is a serious safety hazard and will not be tolerated.
7. Any competitor found to be charging cells using a charger that is not specifically designed for LiPo/LiFe cells, or using a charge profile other than the industry standard CC/CV, will be penalised at the event.  
Any competitor found to have charged LiPo/LiFe cells to above the values detailed in rule 3.1.2 (6) above will be penalised. The different guidelines for use and homologation of LiPo/LiFe-Batteries are published on the EFRA webpage ([www.EFRA.ws](http://www.EFRA.ws)). A copy of the guidelines for the end-user must be included in the driver's packages for EC's.
8. LiPo/LiFe drive batteries must be charged in a 'Lipo sack' at all times. Anybody not doing this, will be penalized at the event.  
LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.
9. Modifications to the original battery case, by removal of material or any modification that could be deemed to affect safety is not allowed.

### 3.2. Battery Approval Processes.

#### 3.2.1 Lithium based batteries:

NOTE: Approval of 4S Batteries does not start until 1st. Dec. 2016 for use 1st. April 2017 onwards.

4S Batteries -- A minimum of one individual battery has to be received by 1<sup>st</sup> Dec.

2S Batteries -- A minimum of one individual battery has to be received by 1<sup>st</sup> Dec.

1S Batteries -- A minimum of one individual battery has to be received by 1<sup>st</sup> Dec.

Each individual battery sample must be supplied with :

- (a) Lithium based batteries must be covered by their safety test certification in accordance with UN Manual of Test and Criteria ST/SG/AC.10/11/Rev.5, Part 3, Sub-Section 38.3, Tests T1 to T8.
- (b) Technical Spec. sheet detailing the recommended charging rate, the maximum voltage when charging, case material, case thickness and method of sealing the case, the battery weight (max tolerance +/- 4%).

New batteries have to be submitted to the EFRA Battery Homologation Officer for approval. Subject to the Officer being satisfied that the new cell conforms with technical specifications and commercial availability, the cell will be legal for use from:

- 4S Batteries - the following April 1<sup>st</sup>.

- 2S Batteries - the following April 1<sup>st</sup>.

- 1S Batteries - the following March 1<sup>st</sup>.

Cells received after the above submission dates (1<sup>st</sup>. Dec.) will not be included on the EFRA approved list for the following year. Any changes to the technical

specifications or visual appearance of the battery or casing after the original approval will require re-approval.

- 3.3 1/12th Cars will be driven by batteries with a maximum of 3.7 volt nominal. Receiver batteries are allowed.
- 3.4 1/10 Touring scale & Formula 1 cars will be driven by a lithium based (LiPo/LIFE) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed. .
- 3.5 1/10 Offroad scale cars will be driven by a lithium based (LiPo/LIFE) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed.
- 3.6 Batteries may not be charged nor changed during a race
- 3.7 Only batteries appearing on the official EFRA website will be legal for use in EFRA sanctioned meetings.
- 3.8 All previously approved batteries may be used for their lifetime or until their specifications no longer comply with the original one that was approved. It is the driver's responsibility to prove the legality of his cells in case of doubt

#### **4. ELECTRONIC DRIVING AIDS**

- 4.1 The radio control receiver in the car may operate steering and motor management. A separate battery supply for the powering of the timing equipment is allowed. Using the receiver to capture electrical signals from sensors carried in the car is prohibited, be it wireless or not.
- 4.2 Automated steering, gyroscopes to control car movement, traction control, active suspension are not allowed
- 4.3 The speed controller may have a device to limit the current/voltage passed from the batteries to the drive motor (e.g. timed delay, current limiter, keyboard programs) as well as a passive data recording device but setting or programming of these devices must only be possible whilst the car is stationary.
- 4.3.1 Events that are designated for using 'Spec. Class Brushless motors' will only allow a Speedo that has a 'zero timing profile', that does not alter the preset mechanical timing of the motor in any way and disables any advanced motor control; functions (ie. Boost, Cheat mode, Turbo etc.). This profile is known as ' Boost 0'. The commutation sequence is limited to "6-step" type and commutation of the Speed control must follow the motors hall sensor signals 1:1. Therefore no change of timing (either advance or retard) is allowed at any RPM." When the "Boost 0" profile is activated, it will be identified by a blinking LED while the ESC is armed and in neutral position.

- 4.4 No other signals than these for the official lap counting transponder may be sent from the car.
- 4.5 Any competitor found in contravention of the spirit or fact will be disqualified from the meeting. The race organiser has the right to inspect any car, its components and transmitter at any time during the race event.
- 5. DRIVER PROCEDURE**
- 5.1 Before your heat, and if hand out equipment is available and needed, collect the auto timing equipment from dispatch and fix it to the car.
- 5.1.1 When hand out auto-timing equipment is used, it is the driver's responsibility to fit it appropriately to the car and to remove it after timed heat if required.
- 5.2 When a personal transponder is used the driver is entirely responsible for the efficient functioning of the device.
- 5.3 As soon as race control allows, collect your transmitter, switch on and drive car to the start line.
- 5.4 When your heat has finished. Return transmitter, retrieve your car, switch off and bring it to scrutining with the handout auto timing equipment if required.
- 5.5 Marshal the heat following your own at the numbered position corresponding to your car number.
- 5.6 Collect your car from scrutining after marshalling.
- 5.7 The race director may demand the drivers to stand on the indicated positions on the rostrum.
- 5.8 The race director has absolute authority at the meeting but refer to your team manager if you encounter problems.
- 5.9 It is not allowed to enter/access the rostrum until the previous race is declared over by race control. It is not allowed to leave the rostrum before the race is declared over by race control. Penalties can be applied to competitors that do not adhere to this procedure.
- 7. EUROPEAN CHAMPIONSHIPS**
- 7.1 European Championships will take place every year there is no World Championship in the concerned class held within Europe. However the general meeting can decide otherwise if deemed to be in the interest of the sport.
- 7.1.1 European Championships are held in the following classes:  
 1/10 Off-Road Modified, 2WD & 4WD as separate Classes.  
 1/12 Modified & 1/12 using 13.5 T Spec. Brushless  
 1/10 Touring Cars Modified & 1/10 Touring Cars using 10.5T Spec. Brushless  
 1/10 Formula One using 21.5T Spec. Brushless.  
 Starting May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the above Classes.
- 7.2 ALLOCATIONS
- 7.2.1 The country allocations for the EFRA European Championships will be established by the section meeting and published in the minutes.
- 7.2.2 Allocation and re-allocations are according to the general rules.
- 7.2.3 If available all countries receive re-allocated places in order of the allocation list, unless stated otherwise in this list. Any Federation requiring to be considered for re-allocations should put their request in writing to the Section Chairman no later than 1st January.
- 7.2.4 100 entrants for 1/12 and 130 for 1/10 Off-Road (One may consider up to 150 participants if timetable and facilities i.e. driver tables etc, permit) are to be accepted for European Championships and GP's.  
 For 1/10 Touring Car Modified & 1/10 Touring Car 10.5T Spec. Brushless up to 150

entrants have to be accepted for European Championships and GPs. The allocations 1/10 Touring Car modified will be decided at the section meeting first. When all allocations are confirmed the remainder of unfilled entries made available as open entry for the 1/10 Touring spec class.

- 7.2.5 For EC's any countries allotment is in no case to be higher than 33% of the total number of allocated entries ("No-Show's" and last minute cancelling drivers are not to be considered).
- 7.2.6 a) The preceding year's European Champion will automatically be allocated a place from the EFRA allocation for the World Championships.  
b) The reigning World Champion, if European, will automatically be allocated a place in the following two European Championships.  
c) The reigning European Champion will automatically be allocated a place in the following European Championship
- 7.2.7. Drivers that finished in the Top 10 at an 1/10 Touring Car European Championship (indoor or outdoor) in the last 2 years are not allowed to participate at the 1/10 Touring Cars Modified 10.5T Spec. Brushless European Championship. At the 1/10 Touring Car modified & 1/10 Touring Car 10.5T Spec. Brushless European Championships drivers are only allowed to enter one of the two classes.

## **8. TIME TABLES:**

- 8.1 The Race Organiser must schedule all events for each day to be completed and the track closed by 18.30 hours. The pit area must be available for 1:30 hour after the last race. For 1/2th scale events it is recommend to complete each day by 19.30. It is recommended to end the last day early enough to allow participants to start their return journey.
- 8.1.1. 1/12th EUROPEAN CHAMPIONSHIP:  
Friday: 1-2 Rounds of un-timed practice (organizers discretion)  
2 Rounds of timed practice  
Opening Ceremony (a limited heat re-seed, based on average lap times of timed practice 1 & 2, will be carried out while the opening ceremony is taking place)  
1-2 Rounds of timed practice in new heat format  
1 Round of qualifying (In heats used for the last 2 rounds of controlled practice). Total of 5 or 6 rounds of qualifying to be run depending on amount of participants). 6 rounds of qualifying recommended to be run.  
Saturday: 1 Round of controlled practice in heats (warm-up) 4-8min recommended  
5-6 Rounds of Qualifying (depending if one round was run on Friday already)  
Sunday: 1 Controlled practice for A-final  
3 rounds (legs) of all finals
- 8.1.2. 1/10th Touring & 1/10th Formula One EUROPEAN CHAMPIONSHIP:  
THURSDAY: 09:00 Registration Open and a minimum 2 timed practice, 2 rounds of controlled Practice and 1 Qualifying Round  
FRIDAY 09:00 1 timed practice (minimum) and 4 Qualifying Rounds  
SATURDAY 09:00 1 Practice Final (minimum) and 3 finals for all  
There will be a minimum of 10 min between start of round.  
Based on the numbers of participants, this timetable can be changed by the organiser with agreement by the section chairman.
- 8.1.3. 1/10 E off-road EUROPEAN CHAMPIONSHIP:

MONDAY: Free practice 2WD, Registration and Technical Inspection

TUESDAY: Controlled Practice and Qualifying Rounds 1-3

WEDNESDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4

Qualifying Rounds 4-5, Finals and Prize Ceremony

THURSDAY: Free practice 4WD, Registration and Technical Inspection

FRIDAY: Controlled Practice and Qualifying Rounds 1-3

SATURDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4.

Qualifying Rounds 4-5, Finals and Prize Ceremony

The Race Organiser can change the above timetable providing he does so well in advance. ALL changes to the Schedule or alterations to times of any Heats/ Finals must be clearly identified to all Team managers and Officials in written form, at least one hour before such changes take place, if any procedures are being brought forward.

## 8.2 TIMETABLE FOR GRAND PRIX MEETINGS

8.2.1 The timetable for Grand Prix will be left to the discretion of the Organisers taking into consideration the number of competitors in each class. Organiser can determine the Timetable for all racing

## 9. RACING FORMAT EFRA EUROPEAN CHAMPIONSHIPS AND GRAND PRIX

### 9.1 PRACTICE

9.1.1 Free practice for E.C. events must be allowed as stated in the concerned timetable. No practice or racing is allowed on the track for 7 days preceding this (see also General rule 8.1.).

9.1.2 For all EC's: 2 series of organised practice with cars grouped in heats will be held with at least one using the official time-keeping system.

9.1.3 During controlled practice the driver must be present and his transmitter switched on for checking radio interference.

9.1.4. Practice heats at 1/10 Touring Car & 1/10 Touring Car 10.5T Spec. Brushless European Championships must not be longer than 6 minutes. Inbetween two heats there has to be a break of 3 minutes.

### 9.2 START PROCEDURE

9.2.1 There will be a minimum of seven (7) minutes between the starts of heats, (10) ten for 1/12th.

9.2.2 Qualifying heats: the delayed start procedure (Staggered Start) will be used and a verbal start signal, mentioning the car number, will be given for each car. Cars must start when directed by the Start Official. Cars not starting when directed may start after the last car has crossed the lap counting loop

9.2.3 Finals: After the 30 seconds signal, cars not on their start grid must be placed at the rear of the grid.

An audible signal generated by the timing equipment will be given after the "ten seconds" in a random delay of between 1 and 5 seconds.

9.2.4 Jump-starts (after 10-second signal) -front wheels crossing start line or their marked startbox - 10-second penalty. Front wheels crossing the line or box by one-meter: 1 lap penalty. Jumpstarts are no reason for a re-start.

### 9.3 RESTART PROCEDURE

9.3.1 The Race Director or the Assistant Director, in absence of the race director, may order a restart.

9.3.2 In the event of an aborted start procedure; race must restart at least from the "30

seconds" before the start" announcement.

9.3.3 If the race is stopped before the first car has completed a full lap of the track then the race will be immediately re-started after the reason for the stoppage has been cleared. If the race is stopped after the first car has completed a full lap then the race will be re-run at a convenient time allowing for the recharging of batteries.

9.4 QUALIFYING

9.4.1 1/12 Track:- The Qualifying Heats and Finals will be 8 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. The Round by Round point system will be used. This system awards points to all drivers based on their finish position against all others for each round individually.

When the 'Round by Round' qualifying method is used, the number of Qualifying Rounds to count are as follows :-

Number of Rounds completed	1	2	3	4	5	6
To count - 1/12	Void	1	2	2	2	3

If less than two Rounds are completed the event is declared null and void.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count.

Fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round).

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded

If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format as the table above.

9.4.2 1/10 Off-Road:- The Qualifying Heats and Finals will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. The Round by Round point system will be used. This system awards points to all drivers based on their finish position against all others for each round individually.

When the 'Round by Round' qualifying method is used, the number of Qualifying Rounds to count are as follows :-

Number of Rounds completed	1	2	3	4	5
To count :- 1/10 Off-Road	Void	1	2	2	2

If less than two Rounds are completed the event is declared null and void.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count.

Fastest competitor (based on laps & time) in each Round will score zero (0)

points, second place 2 points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded

If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format as the table above.

- 9.4.3 1/10 Touring Cars & 1/10 Formula 1: The Qualifying Heats and Finals will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds

At the start of the event at Team Managers Meeting (on Friday morning) it will be decided if the Qualification Rounds will be declared dry or wet based on the weather conditions.

- 9.4.3a If Qualifying Rounds are declared to be dry, then the Round by Round point system will be used. The number of Rounds to count are as follows:

Number of Rounds completed	1	2	3	4	5
To count:- 1/10 Touring Car	Void	1	2	2	3

If less than two Rounds are completed the event is declared null and void.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count.

Fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded

If the intended maximum number of Rounds cannot be completed, due to weather

or unforeseen circumstances, the number of Rounds to count will follow the same format as the table above.

9.4.3b If Qualifying Rounds are declared to be wet, then each competitor's 2 fastest times will be added together to decide the Final Qualifying order.

Any Qualifying Round has to be completed for the times of any Heats in that Round to be used.

If it is impossible to complete all qualifying heats under the same weather conditions, (wet, semi wet or total dry) the following rule will become effective:- Before the start of every heat the race director has to announce if it will be a dry heat or a wet heat.

The Race Director is also allowed to declare during a Heat, that the Heat is "now running under wet conditions". After a Heat has been completed, the Race Director can declare that the specific Heat was run under wet conditions if he/she decides the average lap times during the heat (or part of the Heat) were more than 20% slower.

If every Heat (Group) has at least one dry race in the Qualifying Rounds completed, then the 2 fastest times from all completed Rounds will be used. If any Heat (Group) does not have a dry race, then only the 2 fastest times from the wet Rounds will be used to decide the Final Qualifying order.

9.4.4 If the Round by Round system is used:- Then any driver incurring a penalty which results in his time and therefore points in any Round being disallowed, then all drivers below the disallowed position will move up one place. (In the event the penalized driver is a tie on obtained points the one with the best time will be lost).

9.4.5 The qualifying heats will be a maximum of 10 drivers and where possible equal number of drivers in each.

9.4.6 Cars will start in one line across the track in staggered start mode for the qualifying heats.

9.4.7 During the first round of qualifying, heat-starting order will be determined by the driver's performance in controlled practice based on his 2 best consecutive laps during the last round of controlled practice. During further rounds, heat-starting order will be by the fastest time of drivers in the heat from any previous rounds results used for qualifying positions. This will apply whether the Fastest Time Qualifying System or Round by Round System is used.

9.4.8 In order to give drivers an equal chance during qualification, organiser may reseed these drivers that are obviously way above or under the average in their group into a more suitable heat whenever possible.

9.4.9 Off road heats will be run in the following sequence for the 5 qualifying rounds:

Round 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Round 2: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 1, 2, 3

Round 3: 7, 8, 9, 10, 11, 12, 13, 1, 2, 3, 4, 5, 6

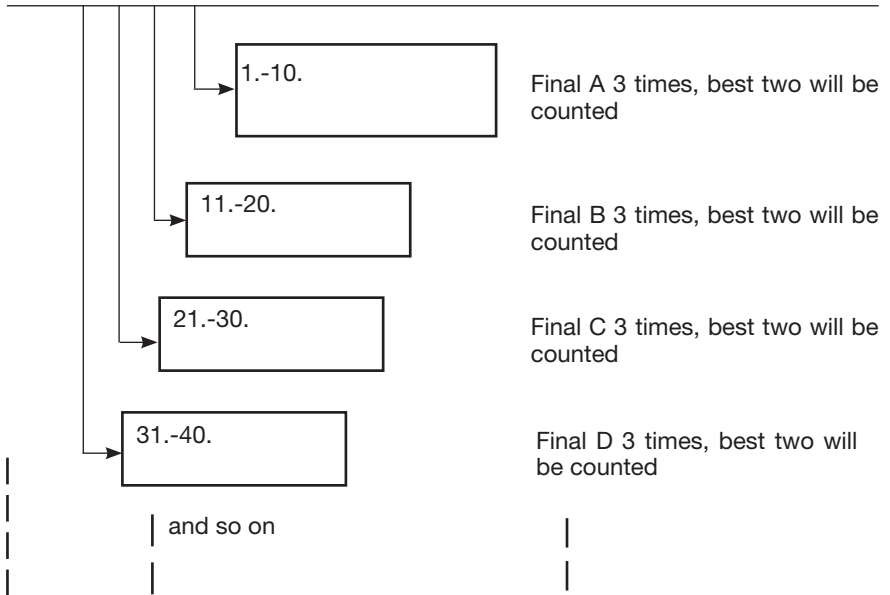
Round 4: 10, 11, 12, 13, 1, 2, 3, 4, 5, 6, 7, 8, 9

Round 5: 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

On road heats will always be run from 1 to 15.

9.4.10 If the number of Heats differs from the format detailed in 9.4.9, or if the event is





planned with more/less Rounds, a sequence following this general theme has to be used.

- 9.4.11 The qualifying results will determine the composition of all finals with the top 10 proceeding to the "A" final and so on down.
- 9.4.12 Off road: One round of controlled practice using the official time keeping will be organized for the A finalists. On road: A controlled practice will be applicable to all finals.
- 9.4.13 Qualifying results will be published after each round

**10 FINALS**

- 10.1 There will be 10 drivers in all finals where possible. Finals will be organized for all competitors.
- 10.1.1 If the lowest Sub-Final has less than 4 drivers, they will be mixed as equally as possible in the next Sub-Final, respecting their qualifying position for their start order
- 10.2 The winner determined from the combined A finals will be the champion. If the A finals cannot be completed, the awards will be made based on the final Qualifying positions.
- 10.3 Off Road: The "A" final will be run in three legs. All other Finals will be one leg. Each race of the main "A" final will be considered a separate race. The finals will be run from slow to fast with the 3 legs of the "A" final in between.  
On Road: All finals will be run in 3 legs from slow to fast.
- 10.4 If three leg finals are run, then the best 2 out of 3 to count.
- 10.5 The winner of a final gets 1 point; the second gets 2 points and so on up to 10 points for the 10th driver. In the event of a tie regarding time in a Final, the points will be equally awarded to each driver and the next driver not tying will be two points more.

- 10.6 In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared. The driver with the fastest laps and time total will be awarded the tie. In the case of a continuing tie, then the times from the second best position will be compared.  
When some drivers of a final do not run a final, they will be awarded the remaining points in the order of their car numbers.
- 10.7 Cars, which do not pass the start/finish line after the prescribed race time, will be classified according to the number of laps recorded. The "A" finalist with the lowest number of points will be the European Champion or the winner of the grand prix.
- 10.8 All final results will be published at least 10 minutes before prize giving.
- 10.9 There will be awards at least for all "A" finalists, and the winners of any other final. If no round of Final(s) are completed the results of the event are taken on qualifying positions.
- 11. TECHNICAL INSPECTION**
- 11.1 All cars may be called for technical inspection at any time but must always be presented for scrutinizing. (11.4 remains in force).
- 11.2 Failure to meet the technical rules will result in loss of the concerned heat result.
- 11.3 Non-compliance obviously resulting from race incidents will not be accounted for at scrutinizing
- 11.4 After "A" finals the cars must be collected and impounded by organiser's staff ("park fermée").
- 11.5 The motors of the top 3 finishers may be dismantled in order to check their conformity with the rules.
- 11.6 It is allowed to change the chassis of the car, providing the replacement is of the same design, specifications and material as the original item that was registered prior to the start of racing. The new chassis has to be registered and presented to the authority.
- 12. GENERAL REQUIREMENTS FOR COMPETITION CARS IN ELECTRIC CLASSES**
- 12.1 Cars must be realistic and when initially entered in the meeting have neatly finished and complete body shells.
- 12.2 Open cockpit cars must have a realistic driver figure fitted in an appropriate position at all times when racing. This consists of at least a driver's head/helmet and should be painted in a realistic appearance, colour and garb.
- 12.3 The body and chassis must be securely joined at all times when the car is on the track. Driving on the track without body is not to be allowed at any time.
- 12.4 All cars shall have identifying numbers in at least three positions, right, left and on front of the car.  
The numbers must be put on the body shell so the numbers are easy seen by the referee or race director.
- 12.5 No car shall be constructed so as to be dangerous or damage the track surface or other competitor's cars.
- 12.6 The cars must allow fitting a time keeping transponder in a suitable position with the correct orientation.
- 12.7 Any type of speed controller, not causing interference's of any kind to lapcount, computers, transmitters etc., may be used, but it must be contained within the car and not protrude through the body shell.

- 12.8 All cars must have a transparent windscreen. Open or painted windscreens are not allowed except for models of prototypes that did not have windscreens.
- 12.9 Side or rear windows must be clear. The driver may have his name on the side window in the same scale as the car.
- 12.10 Openings in the body must be appropriate to the full size prototype (Scoops, vents etc.).
- 12.11 Wheel arches must be cut out if the prototype ran that way.
- 12.12 Tyres must be black except sidewall detailing.
- 12.13 Openings for wing mount or antenna shall provide no more than 10 mm clearance.
- 12.14 Definition of a wing: A wing is an additional item attached to the car.
- 12.15 Definition of a Spoiler: A spoiler is that which is moulded in the body.
- 12.16 Spoiler and side dam dimensions include that which is moulded into the body.
- 12.17 Bumpers are not required. If fitted, bumpers must be constructed so as to minimise injury that may result from being hit by a car. The overall width may not exceed the overall width of the front of the car, including wheels.
- 12.18 Wire bumpers shall be made of wire between 2.5 mm and 4 mm in diameter. Bumpers made from sheet type material shall be between 2.5 mm and 6.5 mm thick, with all exposed edges smooth and well rounded. Closed cell foam (i.e Pu-RIM) bumpers may be 2cm thick  
Rigid blade-like bumpers made of hard, non-resilient material such as metal, brittle plastic, plywood, masonite etc., are not allowed.
- 12.19 All weight minima are applicable to cars equipped with fixed personal transponder as well as for those using (hand-out) auto-powered transponders. The later are to match the minima including transponder.(whatever the type)

## **B REQUIREMENTS FOR ELECTRIC ON ROAD CLASSES**

### **1. GENERALITIES**

- 1.1 On carpet tracks a minimum ground clearance of 3mm (excluding spur gear) for 1/12 and 5mm for 1/10 is mandatory at the start of each heat and final.
- 1.2 Up to a maximum of two chassis may be submitted to Technical inspection, either of these chassis may be used at any time during the event. The second chassis may be approved after the event has started.

### **2. BODIES:**

- 2.1 Any newly homologated bodies must have the part number moulded into the front windscreen. For 1/10 Formula One Spec class, no body homologation is required.
- 2.2 Body cannot be trimmed higher than lower body trim lines.
- 2.3 No portion of chassis, wheels and tyres, or equipment may extend beyond body except to the rear. (Exception -Formula car suspension chassis and abbreviated bodies with no engine cover).
- 2.4 No more than 1.5 mm of wheel outside diameter may be exposed on the outside of the wheel (i.e. not covered by the tyre). If wheel discs are used they should be secured by a screw or clip.
- 2.5 In all classes where possible, an 8th scale number must in addition be placed on the roof of the body (NASCAR style) for absolute best identification. Numbers on front windscreens must be avoided
- 2.6 The organizers will supply the numbers.

### **3. ROLL-OVER MASTS:**

- 3.1 A rollover mast may be fitted. If so, it must have a blunt end for safety reasons, terminate in a closed loop at least 4.75 mm O.D. or a ball or button not less than 8 mm in diameter.
- 3.2 If a rollover mast and radio antenna is fitted, the antenna must be part of the mast along its length. Max. Height from ground 35 cm.

### **4. BUMPERS**

- 4.1 All cars may run a rear bumper, which must be behind rear tyres.
- 4.2 If used, front bumpers must be flat; parallel to the ground in all directions.

### **5. TYRE ADDITIVES / TRACTION IMPROVING TREATMENTS:**

- 5.1 All Tyre treatments, governed by health, nuisance and track damage considerations will be at the discretion of the organisers and EFRA. I.e. Normally only odourless tyre cleaners or traction additives will be allowed.
- 5.2 It is down to the organiser / section chairman to specify the additive to be used at an event.  
(1/12 scale only) A list of legal additives will be maintained by the section chairman and published at least 1 month prior to each event. Only tyre additives on the published list may be used. New additives may be added during a season, subject to approval by the section chairman.  
The use of tyre treatments is the user's responsibility. EFRA draw organiser's attention to the possible hazard created by large numbers of competitors using tyre treatments in a confined space. EFRA recommend that the competitor adheres to the methods of usage as stated by the supplier of the treatment.
- 5.4 European Championships: A list of allowed substances or products will be published with the entry form.
- 5.5 It is recommended that the chemical components of these products must be harmless for people and environment.  
Liability at the use of tyre additives lies at the user and manufacturer.

**6. PARTICULAR TO 1/12th SPORTS CARS****6.1 BODIES:**

6.1.1 Body shells must be submitted to the EFRA Body shell Homologation Officer for approval. A list of homologated bodies must be sent with the drivers package and to the organisers and be available on the EFRA website.

The following is the specification for approval of 1/12 Prototype Sports car body shells. They should be used by the Homologation officer to enable clear and consistent application of standards for future approvals,

Lower body cut line is to be used as the reference plane for all height dimensions.  
Minimum cockpit height – Closed cockpit – 55mm (Excluding any air scoops / air boxes)

Minimum cockpit width – Closed cockpit – 70mm (Measured at the point it intersects with the side pod)

Minimum cockpit width - 55mm (measured at the lower window line)

Minimum Roll bar height – Open cockpit – 55mm

Maximum distance from Drivers helmet to top of roll bar – Open cockpit -11mm

Minimum cockpit width – Open cockpit – 65mm (Measured at the point it intersects with the side pod)

Minimum front wheel arch height – 46mm (Including vents) (measured at a point 15mm from edge of body)

Minimum rear wheel arch height – 50mm (measured at a point 10mm from edge of body)

Maximum overall width – 174mm

Minimum overall width – 168mm

Max. wing / spoiler height – 65mm

Max. front overhang (From centre of front wheel)– 70mm

Max. rear overhang (from centre of rear wheel) – 70mm

Max. length overall – 340mm

Minimum side pod height – 30mm

The side dam must blend fully (disappear) into the main body shape within 110mm of the rear edge of the body/side dam.

Max side dam height – 72mm

The body side forward of the side dam must have a radiused edge, no lips or upward extensions are acceptable

Bodies must be a reasonable representation of a full size LMES / ALMS / LMP / WSC prototype.

Open cockpit cars to have twin roll bars as current LMES / ALMS

Open cockpit cars must have a representative drivers helmet and cockpit opening

The name of the prototype must be used for the homologation process.

The name of the prototype does not have to be used for general sales and marketing.

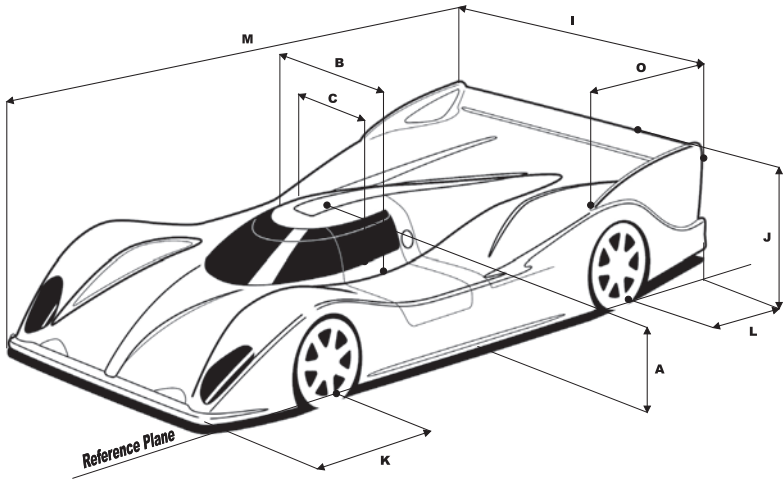
Only fins or strakes that are present on the full size prototype will be allowed.

The body must not be cut above the lower cut line

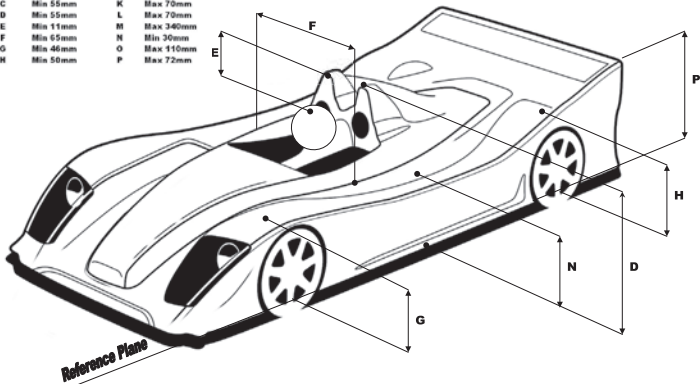
Cut-outs in the shell will be allowed only if clearly defined on the full size prototype

Once Homologated there must be no changes to the design, trim lines, detail lines or any feature of the body. All changes will require resubmission for approval and an additional revision letter added to the part number- Example 15001A - Original - 15001B for a 2nd Rev. Etc

The manufacturer's part number must be clearly marked on the shell alongside the windscreen area



A	Min 55mm	I	165 to 176mm
B	Min 70mm	J	Max 85mm
C	Min 55mm	K	Max 70mm
D	Min 55mm	L	Max 70mm
E	Min 11mm	M	Max 340mm
F	Min 15mm	N	Min 30mm
G	Min 46mm	O	Max 110mm
H	Min 50mm	P	Max 72mm



All new homologation must meet the above criteria.

6.1.2 Wheel cut-outs may not be more than 15 mm larger than tyre radius (Exception - scale size and/or shape wheel cut-outs). Wheel wells must be cut out if those on the original car were cut out.

6.1.3 Only one wing is allowed on the car unless the actual car had a second wing. The second wing must be scale within 10% in size and location. The wing may be not closer than 6.5 mm to any part of the body other than the tail fins or side dams.

6.2 MEASUREMENTS AND WEIGHTS

Maximum overall width of the car: 172 mm (Excluding shell)

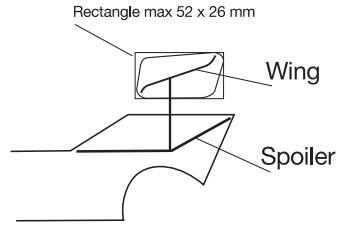
Minimum weight: 730 grams.

Wing: Maximum width: 172 mm, the wing profile has to fit in a rectangle of 52 mm (height) x 26 mm

Spoilers: Max. Spoiler height: 25 mm, max length 35 mm. These dimensions include the moulded in portions of the body, the use of a gurney flap to extend the wing length is acceptable.

Bumper: May extend 6.5 mm beyond side of body or to 172 mm whichever is less. May extend 13 mm forward of body, but in same shape as body.

Wheel rim diameter: Minimum 29 mm and Maximum 38 mm. (Including all non-rubber parts of the wheel and tyre). Wheel nuts and/or axles must not protrude more than 1.5 mm beyond the wheel/tyre outside face.



6.3 TYRES

6.3.1 All tyre sizes apply at the start of the race.

6.3.2 Tyres Minimum width 13 mm. Maximum width 40 mm. The tyre width is measured at the widest part of the tread or sidewall.

6.3.3 Any tyre diameters will be allowed. The diameter must be maintained over at least the minimum width of the tyre.

6.3.4 Tyres must not be wet or greasy from additive at the start of a heat or final.

6.3.5 Technical Inspection can demand to check the tyres prior to each start

**7. PARTICULAR TO 1:10 ELECTRIC SALOON CARS**

7.1 BODIES:

7.1.1 Only bodies that comply to the body guideline for 1:10 electric touring car bodies as per drawings in this handbook of real touring cars that have a minimum length of 4200mm in the original car are allowed. No GT or Sports car bodies allowed. All Touring car bodysHELLS to be submitted to the EFRA BodysHELL Homologation officer for approval.

7.1.2 The rear bumper cut-line to be maximum 35 mm from track surface, as detailed in GBS drawings. This will be measured with the chassis on a 15.0 mm block, so based on a 5 mm ground clearance the dimension used will be 45.0 mm.

7.1.3 A wing may be fitted to the rear of the body but not on the roof or above the roofline.

7.1.4 The wing may overhang the rear of the body of the car by 10 mm.

7.2 MEASUREMENTS AND WEIGHTS

(NOTE: Heights measured with chassis on 15.0 mm block, based on 5 mm ground-clearance)

Maximum overall width (with body)	195 mm
Maximum overall width (without body)	190 mm
Minimum height (to top of the roof)	115 mm (ready to run)
with chassis on 15mm block	125 mm (ready to run)

Rear bumper 'cut-line' height  
(with chassis on 15 mm block) 45 mm (maximum)

Maximum wheelbase 270 mm

Minimum weight 1350 gram

Wing: maximum width 190 mm.

Wing: chord dimension (inc. any extensions) 40 mm. (max.)

Wing end-plates/side-plates 20 mm (height) max.  
x 40mm. max.

Maximum wheel rim diameter (excl. ribs) 50 mm

Wheel nuts and/or axles must not protrude more than 2.0 mm beyond the wheel/tyre outside face.

The use of multiple-speed transmissions (gearboxes) and slipper clutches is not allowed.

All cars must have independent suspension operating on all four wheels (no PRO 10 cars allowed).

Only a fixed single ratio transmission is allowed and it may not include a mechanical device/s between the drive motor output and the gearbox input for the purposes of controlling torque (e.g. slipper clutches).

7.3 TYRES

7.3.1. Only moulded tyres are allowed (no sponge tyres).

Maximum tyre width 28 mm

Minimum tyre width 24 mm

7.3.2. At EC's it is only allowed to use the tyres that were agreed by the section meeting at the EFRA AGM together with the race organiser (race organiser will make their recommendation). For dry weather racing there will be a single control slick tyre with insert and will come pre-glued to the wheel (insert, tyre and wheel to be same for all drivers) and commercially available via model/hobby shops. For wet/damp conditions there will also be a pre-glued control set of tyres. For use at the EC, the tyres must be bought from the organiser. For each competitor there must be at least 1 set of dry and wet weather tyres available to be bought for practice at the EC.

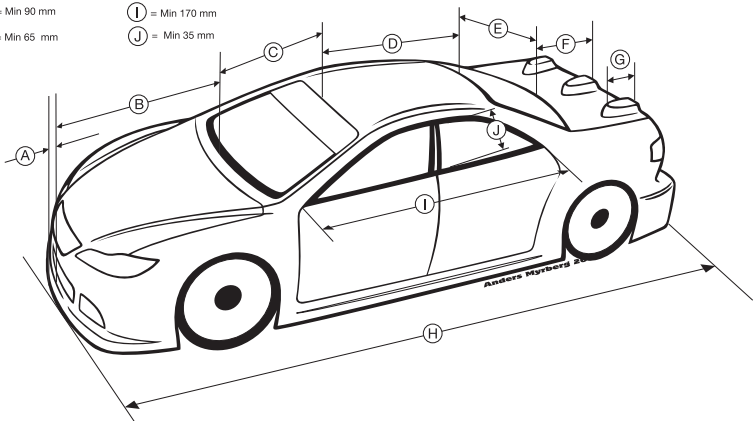
Price fixed for each EC event at 60.- E for 3 dry weather sets, this price only for tires used at event.

7.3.3. 2 sets of 4 dry weather tyres are allowed for qualifying, and 1 additional set of 4 dry weather tyres is allowed for finals. Tyres from qualifying may be used in the finals. 1 set of 4 wet weather tyres is allowed to be used for both qualifying and finals.

For Modified only: 5 sets of 4 dry weather tyres are allowed for qualifying, and 1 additional set of 4 dry weather tyres is allowed for finals. Tyres from qualifying may be used in the finals. 1 set of 4 wet weather tyres is allowed to be used for both qualifying and finals.

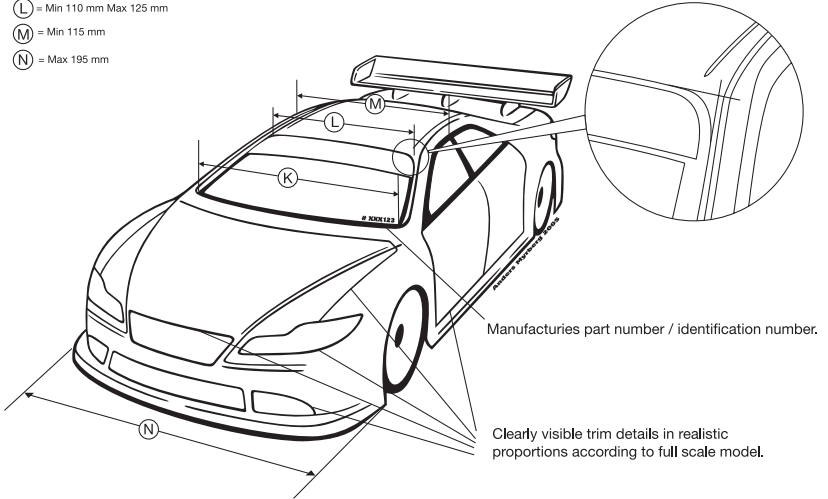
GLOBAL BODY SPEC ( GBS for Electric Sedans )

- (A) = Max 10 mm
- (B) = Min 105 mm
- (C) = Max 85 mm
- (D) = Min 90 mm
- (E) = Min 65 mm
- (F) = Max 65 mm
- (G) = Max 25 mm ( Max 3 posts )
- (H) = Min 410 mm
- (I) = Min 170 mm
- (J) = Min 35 mm

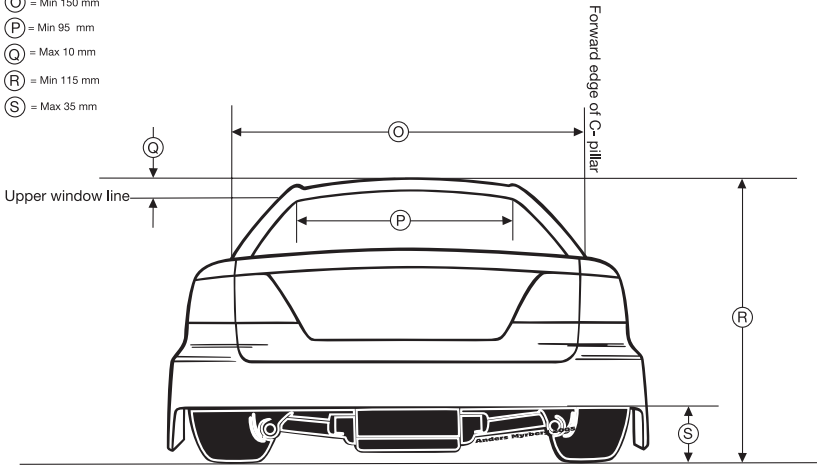




- (K) = Min 140 mm Max 155 mm
- (L) = Min 110 mm Max 125 mm
- (M) = Min 115 mm
- (N) = Max 195 mm



- (O) = Min 150 mm
- (P) = Min 95 mm
- (Q) = Max 10 mm
- (R) = Min 115 mm
- (S) = Max 35 mm



To assist competitors maintain consistent heights when using different wheels/tyres, dimensions R and S will be measured with the chassis on a 15.0 mm block. Dimensions will be based on a 5 mm ground-clearance and will therefore be :- R = 125 mm, S = 45 mm.

- 7.3.4. Tyres from qualifying may be used in the finals
- 7.3.5. For wet/damp conditions a treaded tyre may be used but only when the Race Director gives his permission. This treaded wet tyre does not form part of the limited number of sets.
- 7.3.6. Tyres/wheels may not be modified. Changing of tires between drivers is not allowed. Drivers must have their wheels and tyres marked by Technical Inspection and this marking can be done at any time.
- 7.3.7. The Technical Inspector must mark wheels/tyres before being presented to Technical Inspection for qualifying heats and finals.
- 7.3.8. Unmarked wheels/tyres may not be used on the car during qualifying heats and finals but are allowed for practice.
- 7.3.9. Technical Inspection shall be responsible for recording the number of tyres used by each driver.
- 7.3.10. No extra sets are allowed for a re-run of a heat.
- 7.3.11. All set of tyres for qualification have to be returned by the driver by the end of each qualification day to the organizer (tyre impound). Not returning the tyres in the announced time by the organizer will be punished with the lost of the best heat. The not returned set of tyres have to be checked and released for further use by the technical inspection.
- 7.4. 1/10 Touring Cars 10.5T Spec. Brushless**
- 7.4.1. Only 10.5T Spec Brushless motors according to App. 3A 2.2 are allowed.

## **8. Particular to 1/10 Formula One Spec Cars**

- 8.1. Cars specification  
Maximum width: 190 mm  
Front independent king pin, coil spring suspension is allowed. Suspension pick up points must be mounted inside the body. Independent front shocks are not allowed. The main chassis plate must not protrude from the body when viewed from above.  
Minimum weight = 1050 grams including personal transponder.
- 8.2. Tires:  
The tires will be decided by the section chairman early in the season and will remain in use for a minimum of one year. Tires can be warmed up with the appropriate equipment. Amended: Tyres to be chosen as per. Touring Car procedure for selection (Rubber type tyres, no foam)
- 8.3. Additive:  
Only odourless additive is allowed (as per. rules)
- 8.4. Bodies:  
Only Formula 1 body styles are allowed. Body must be painted in a race inspired theme. Single color themes are allowed but you must the included sticker sheet to detailed the car.  
All cars must have a drivers figure installed in the cockpit.
- 8.5. Wings:  
Front and rear wings must be made of a moulded ABS Style plastic similar to a Tamiya Style wing. Front and rear wings made of Lexan material will not be allowed (this includes bolt on Lexan front wings over a smaller ABS plastic wing). Wings equipped with any type of remote adjustment or DRS are not allowed.
- 8.6. Speed controller rules to be the same as current Spec. Touring Car rules.  
Only 21.5T Spec Brushless motors according to App. 3A 2.2 are allowed.

## C PARTICULARS for 1/10 OFF ROAD

### 1. GENERALITIES:

- 1.1 Cars entered for off-road competitions should be reasonable representations of the style of full size cars generally accepted as being suitable for rally-cross, rallying or desert racing.
- 1.2 There are two classes of cars: 2WD and 4WD. Both must be run and drivers are allowed to enter both classes.
- 1.3 All open gears must be enclosed or protected so as to prevent injuries.
- 1.4 Any modification to the car is allowed.
- 1.5 A differential may include a mechanism for apportioning torque over the axle/s (e.g. limited slip differential). This mechanism must only be capable of adjustment manually whilst the car is stationary

### 2 MEASUREMENTS AND WEIGHTS:

Maximum overall length:	460 mm
Maximum overall width:	250 mm (At any point of suspension travel)
Maximum overall height:	200 mm (to be measured with the suspension fully compressed)
Minimum weight 2WD cars:	1.474 gram
Minimum weight 4WD cars:	1.588 gram
A maximum of two (2) wings can be used, one at the front and one at the rear of the car:	
Maximum size of Front Wing:	127.0 mm wide with chord 63.5 mm. max.
Maximum size of Rear Wing;	177.8 mm wide with chord 76.2 mm max.
Maximum size of Wing side-dam:	Height 50 mm, length 100 mm
Maximum overall diameter of wheel & tyre:	Drawing Below 90 mm
Wheel sizes:	
Min bead mounting diameter:	41,28 mm
Max bead mounting diameter:	55,88 mm

Bead mounting dimensions are measured at the point where the internal tyre bead meets the wheel.

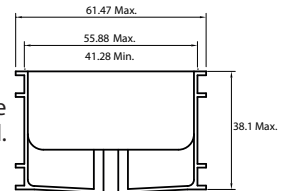
Max wheel diameter:	61,47 mm
Max wheel width:	38,10 mm

Wheel width is measured at the circumference of the wheel where the tyre is retained, the centre of the wheel maybe outside this dimension.

'Venting' holes in the internal rim of the wheel are allowed – maximum of two (2) holes, of maximum 6.0 mm diameter.

Measuring equipment for width, length and height should be constructed preferably from metal or alternatively high quality board. The materials will be of suitable thickness to eliminate any distortion.

Design of the equipment to allow all points of the car to be measured.



### **3 TYRES**

- 3.1 Grand Prix: Any combination of commercially available 1/10th scale wheels and tyres may be used.
- 3.2 European Championships: The organizer will propose 1 type of tyre for each of the driven axles for 2WD and 4WD (2WD and 4WD do not have to be the same type of tyre). The manufacturer and full description of the tyres chosen must be given, but there remains free choice of compound. The proposed tyre choice will be ratified at the EFRA section AGM prior to the EC and provided always that the chosen tyres are commercially available throughout the EFRA Nations. The manufacturer(s) of the chosen tyres will be notified which specific tyre has been chosen as soon as the decision is finalised.

#### **Valid from 2016:**

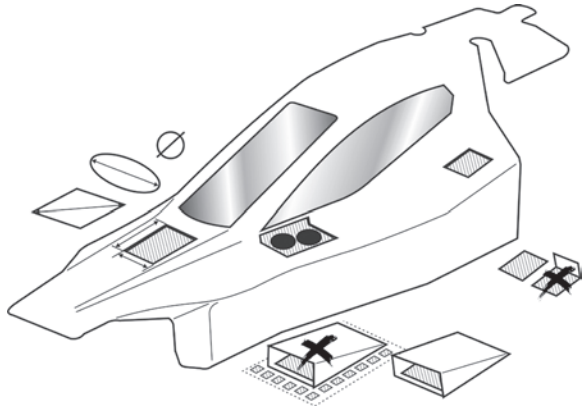
- European Championships: The organizer will propose 1 type of tyre for each of the driven axles for 2WD and 4WD. The manufacturer and full description of the tyres chosen must be given, compound and inserts will be controlled, and will only available in a restricted area and should be sold to the driver by the organiser and if possible at a lower price. The proposed tyre choice will be ratified at the EFRA section AGM prior to the EC and provided always that the chosen tyres are commercially available throughout the EFRA Nations. The manufacturer(s) of the chosen tyres will be notified which specific tyre has been chosen as soon as the decision is finalised. Rule applies from 2016 onwards
- 3.3 No metal or hard plastic may be used for spikes
- 3.4 Modifications to tyre tread patterns and 'location beads' are allowed by trimming or removal, but the addition of any material is prohibited excepting the glue used to retain the tyre to the wheel. 'Cut and Shut' is permitted at Grand Prix only and even so if the parts of one or more different tyres are glued together, provided always that the constituent parts are all recognisable as coming from commercially available 1/10th scale tyres.
- 3.5 No sponge or foam tyres are allowed except for foam inserts completely enclosed within the sidewalls.
- 3.6 Only cleaning of the tyre bead where the tyre is glued to the wheel is allowed. No tyre additives other than water are allowed on any of the other surfaces of the tyre, inside or outside of any tyre. No additives are allowed to be applied to any tyre insert. Excess of glue deemed to alter the performance of the tyre is not allowed. The use of any additives that is deemed by officials for the purpose of improving the tyre performance will result in disqualification from the event.

### **4 RAIN PROCEDURE for QUALIFYING**

- 4.1 The Race Director and the Referees are jointly responsible for the decision to stop racing in the event of adverse weather conditions. If in doubt or they do not agree they can consult the EFRA rep. or his deputy ( if at the meeting ) for advice.
- 4.2 When Racing is suspended as per the rule above, then racing will recommence, when weather permits, with the heat that was next to be run prior to the interruption. If the serie of heats / round cannot be completed the same day that particular round will be cancelled and next day will start with a new (complete) round.
- 4.3 Every effort should be made by the Race Director / organizing club to make necessary repairs to the racing surface prior to recommencement of racing to give the racers in the next heats an more or less equal chance to qualify compared to the heats raced before the meeting was stopped.  
If that is not possible racing should be re-started with the next qualifying round.

**5 Body shell holes/vents:**

The front and rear ends of the shell must retain some of the original profile of the two ends of the shell. Front and rear facing areas within the body shell surface which are 'marked' with the intention of removal to form "air scoops/ vents" are allowed to be removed, within a maximum dimension of 10mm in any direction regardless of the manufacturers marking. If no "marked" air scoops/vents are designed in the original mould to assist airflow to the motor or ESC, then material may be removed to a maximum of 10 mm. in any direction within a maximum square area of developed size 30 mm x 30 mm, in two places only. Windows are not allowed to be removed or include holes, other than for the purpose of the antenna.



## APPENDIX 5

### LARGE SCALE I.C. RULES

#### 1. RACE FORMAT

- 1.1 There will be two annual events called European Championships to determine the European Champion in:
- 1:5 Scale Touring Cars
  - 1:6 Scale Off Road Cars 2WD + 4WD + Short Course
  - a single Formula 1 European Championship 2016 to be organized a week before Touring Car EC, starting from Thursday till Saturday. Formula 1 Euro-pean Championship 2016 to be open for non European drivers. Formula 1 class will be driven in the reverse direction to the Touring cars.

There will not be a 1;5 touring car European Championship event held in the same year as an IFMAR World Championship event held in Europe, the 4 EFRA GP's will determine the European Champion in Touring car with the 3 best results counting. The Formula 1 Championship will be run in conjunction with the 4 EFRA GP's, with 3 results held for the attribution of the Champion Title. For the F1 Championship the point system according to rule 1.4 will be used. For an event used as a drop result the TQ point will not count.

- 1.2 The results of the EFRA-GP's will give the EFRA ranking list. The Ranking list will be a continually updated one, for every new EFRA GP, the oldest one will be deleted.

- 1.3 The number of drivers per event is limited for GP's to 110 and for EC's to 150. There are 2 classes at a GP (TC and F1), in case of more than 110 attendees wants to subscribe the numbers must be limited for each section to 76 TC and 34 F1 = 110 drivers in total. With permission from the Chairman, the track and facilities being suitable, the maximum number of drivers at a GP can be increased.

A minimum number of 25 participants from 3 different countries in a class at an EC is required for that class to be officially classified as a European Championship and a European Champion title given to 1st place.

If 2 weeks before an EFRA GP one class is oversubscribed and the second class does not reach the allowed number, these places can be given to the drivers on the waiting list in the other class.

- 1.4 Qualification for the European championships and World championships 1:5th Touring Cars and F1:

20 places for the European championships and 7 places for the World Championships for the following year's meeting/s will be offered to the highest ranked drivers competing in the large scale EFRA gp series. The remainder will be split as per normal between countries as outlined in general rule 3.6.

Only the EFRA GP meetings will count for the points system, with the drivers best 3 meetings out of the 4 to count. If there are less than 4 EFRA GP's then they will all count.

Points system to use: 1 = 150, 2 = 147, 3 = 145, 4 = 144, 5 = 143, ... 10 = 138, 11 = 135, 12 = 134 ... TQ = 1 extra point.

If a concourse competition is held at an EC, only cars and bodies that are used in the race are eligible.

#### 2. RACE PROCEDURE

- 2.1. Duration of the races:

Free practice	max. 8 minutes
Heats	10 minutes (plus the last lap and time of the last lap)

Sub-finals	min. 15 minutes, max. 20 minutes up from the 1/32 final
Semi-Finals	30 minutes (plus the last lap and time of the last lap)
Final Saloon	30 minutes (plus the last lap and time of the last lap)
Final Formula 1	50 minutes, 1 single fuel stop (plus the last lap and time of the last lap)

**SPECIAL REGULATIONS F1**

Single EC

2 rounds of timed practise

Qualification heats:

3 heats 10 minutes (plus the last lap and time of the last lap) Rolling starts.

Half finals 30 minutes, 1 single fuel stop (plus the last lap and time of the last lap).

- 2.2.
- a) The EFRA Christmas Tree will be used.
  - b) All other drivers are allowed to race a sub-final.
  - c) Sub-Finals: The first 3 drivers from each sub-final progress up to the next final.  
Semi-final: The first 5 drivers from each semi final will progress up to the main final
  - d) It is not allowed to drive a model car on any other place than the track and the marked track pit lane.

2.3a Number of drivers:

Heat: 10 to 15 drivers (only 1:5), track and facilities permitting.

Sub-finals and finals: Maximum 10 drivers

Final F1 EC Maximum 10 drivers

Final F1 EFRA GP's: Maximum 15 drivers, if the team managers agree

The race format will be notified in the event information and invitation material.

2.3b In the event that the transponder loop is before the exit to pit lane any car than should start from pit lane will start from position 11 on the grid.

**2.4 TIME SCHEDULE for EC**

EC Tracks must be closed for Large Scale Racing, two weeks prior of the event.

No cars are allowed on the track before Monday morning.

General qualification format for EC's:

There will be a Minimum of 4 and a Maximum of 6 series of 10 minutes heats depending on the number of drivers. The number of series, time schedule and heat order to be announced prior to the first round of qualification.

If there are 60 drivers or less, 6 rounds.

If there are >60 - <80 drivers, 5 rounds.

If there are more than 80 drivers, 4 rounds.

The event starts on Monday morning.

Monday 09:00-18:00 Free practice (in full heats made by the organiser)

Tuesday 09:00-18:00 Free practice (in full heats made by the organiser)

Wednesday 09:00-18:00 Timed practice /tech inspection/heats (a minimum of the car/body checked and marked, engine marking is optional)/heats

Thursday 09:00-18:00 Qualification heats

Friday 09:00-18:00 Qualification heats, lower finals

Saturday 09:00-17:00 Sub-finals and Final. Prize giving ceremony

**2.5 STARTS**

(see also General Race Procedures Chapter 8).

The arrangement of the free practise heats will be created from drivers previous meeting results, known ability and common sense by the organiser. The arrangement of the heats and numbering will be done using common sense and a drivers

best 3 consecutive laps. The drivers must stand adjacent to their numbers on the rostrum, the mechanics must remain in their boxes along the pit lane. For all finals, drivers with the lowest starting numbers may choose their position on the rostrum and the mechanics must stand under the driver where this is possible.

- 1 There must be a 3 min. gap between the end of one heat and the start of the next heat. Also a minimum of 2 minutes must be allowed between the issuance of the transmitters and the start of the heat.
- 2 During qualifying an audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
- 3 For all sub finals and main finals, a "Formula 1" type grid start will be used with each grid start position spaced a minimum of 5 meters apart.
- 4 For all finals, the track will be opened 5 minutes prior to the start of the final. At 2 minutes to go all cars will be called back into the pit lane and re-fueling is allowed. At 45 seconds to go the cars are called to the start line, all cars will leave the pits in number order and drive round the track to their respective starting positions. The 10 second count-down will commence within 5 seconds of all cars being stationary in their correct grid position. If a car has not left the pit lane at 30 seconds due to unforeseen problems, the car may start from the pitlane after the other cars have officially started. The race director and referees will monitor the pitlane for the abuse of this facility.
- 5 From 10 seconds until 3 seconds prior to the start a second by second count-down will be made in English.
- 6 From 3 seconds the verbal count down stops and the actual start-signal will be given by the Starter after a period of between 0 and 5 seconds has elapsed. If the grid is not to the satisfaction of the Starter, he may require a re-start, re-commencing the count down.
- 7 The official start signal will be audible by means of a hooter, operated by the Starter. This signal will also start the Timing Systems.
- 8 Early starts (i.e. any part of the car touching the starting line), will be penalised. (10 sec. up to 1lap) This penalty is issued by the Starting Official or the Time- keeping official and must be announced immediately after the start. The penalty will be marked on the resultsheet.
- 9 Under no circumstances will the race be stopped due to a jump start.
- 10 The Starter may only interrupt the race and make a re-start in the event that he considers the starting procedure or the start was not carried out correctly.
- 11 Delayed start. As long as the starter has not called the cars to the start line, any participant of the semi-finals and final may request a delay of 10 minutes to carry out repairs on his car. This delay can be granted only once for each semi final and final. - the track is closed, if the delay is requested as a result of frequency or radio problems - the track is open, if the delay is requested for mechanical repairs or problems. If a driver is asking for a delay on frequency problems, the mechanics are only allowed to turn off engine and receiver. They are not allowed to make any repairs including change of tyres. At the end of the 10 minute delay period, a complete new warm up time and start procedure will begin.
- 12 When the starter calls the main final to the start line, the mechanics are not allowed to refuel the cars.
- 13 The driver asking for the delay for what ever reason, except an error in frequencies of the race control, must start from the pit lane.



### 2.5.1 STARTING PROCEDURE OF HEATS

For qualifying heats no stop between practice time (warming up) and start of the heat. Just start the clock when practice time is over. (Flying start.)

- 1 If the number of heats differ from 10, or if the event is planned with more/less rounds, a sequence following this general scheme has to be used.

Round 1: 1,2,3,4,5,6,7,8,9,10

Round 2: 4,5,6,7,8,9,10,1,2,3

Round 3: 7,8,9,10,1,2,3,4,5,6

Round 4: 10,9,8,7,6,5,4,3,2,1

Starting for Sub Finals and Final will be on a Formula 1 grid depending on the track layout, with the faster Qualifier starting in front of the slower.

### 2.5.2.

- 1 When the time is over, an audible signal is given. A car finishes when it passes the finish line after the finish-signal is given. The car must immediately return to the pits and may not hinder other cars still racing.

- 2 In case of doubt (on the finish-line when time is over), a car may race one more lap and finish. Whether he finishes or not when time was completed, is up to the Time-keepers and cannot be disputed.

- 3 After returning to the pits, the engine must be stopped immediately and the transmitter turned off and impounded.

### 2.5.3. Qualification Order and Finals.

- 1 After all series have been completed the Qualification order is established, by taking the best result of each driver.

- 2 In case of more than one driver recording identical best results of qualifications the next best result is taken.

- 3 In the case of more than one driver recording identical results in a final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 5 is deemed to have higher final placing.

- 4 The sub-finals and final are run according to the schedule printed in the official race program, which may only be changed by teammanagers majority vote.

- 5 Starting order for the drivers who moved up to the final is based on number of laps and time.

In different circumstances it will be number 1 from the A-final who gets the number 1 and the number 1 from the B-final who gets the number 2 etc.

### 2.5.4

During the warm-up period, or at any other time of a race in progress, deliberate stopping a car on the race track will lead to be penalised with a 10 second "stop and go" after the start of the race. Consecutive stopping on the race track will lead to immediate disqualification.

## 2.6. RAIN SITUATION

In case of different weather conditions during subfinals the final classification will be as follows: Place 4 of subfinal A and Place 4 of subfinal B will both be awarded place 11th equal in the general classification. Place 5 of subfinal A and place 5 of subfinal B will both be awarded place 13th equal in the general classification ..... and so on.

## 2.7. RACE INTERRUPTIONS

- 1 In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers, the jury will decide whether to cancel or continue the meeting.

- 2 In the case of an interruption of a heat the entire heat will be re-run.

- 3 In the case of an interruption of sub-final or a final the following procedure will be used:

- A. If less than 10 minutes of a final has been run, the results will be cancelled and a new start given for the total time of the final. Vehicles may be repaired before the new start.
- B. If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. The new start will be given for the time which remains to complete the final. The two results will be added to give the final and definitive placing. If the second start cannot be made for any reason, the results from the first part will be used as the final and definitive placing.
- C. When the interruption takes place after 75% or more of the race is past, the results as at the time of the interruption becomes the final result. At the moment of the interruption of the race, the drivers will leave their vehicles on the start-line under the control of the Race Director. They may switch off the radio and stop the engine. There will be no repairs carried out to the vehicle or changing of tyres. Any driver who does not observe this rule will be immediately disqualified.

**2.8.1. RAIN PROCEDURE DURING QUALIFYING**

- 1 The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.
- 2 On the result sheets the Race Director or the appointed official must mark a heat "WET" when the heat was raced under wet conditions. On the corresponding record sheets, this must also be marked. The Race Director together with the Referees will decide in case of doubt. Heats are generally considered to be "WET2" when average lap times are approximately 20% slower than before, due to rain or moisture on the track.
- 3 When all drivers have had at least one dry heat, all results will be counted.
- 4 When weather and time permits, the Race Director may decide to offer an extra heat to those drivers who did not have a chance to drive a heat dry (i.e. when most drivers had 2 resp. 3 dry runs, a 2nd. resp. 3rd. run may be offered to those who had only 1 resp. 2 dry runs).
- 5 When not all drivers have had a chance to run a dry heat, only the wet results will be counted.
- 6 When continuation is judged to be senseless, or when other drivers should be offered a fair chance to drive under dry conditions, the Race Director together with the Referees may decide to end a heat or cancel a complete heat (2.7.-1.)

**2.9. ACCIDENTS/CRASHES**

- a) A yellow flag situation will be announced, if an accident occurs. (This must be a yellow flashlight combined with an audible signal, that can be operated by the referees and the race-director) During the yellow period overtaking other cars is not allowed. Cars are required to slow down so that they can stop immediately.  
Disregarding this rule will be penalised by deducting one lap from the result of the driver concerned in that particular heat, sub-final or final. An official warning has also to be issued. Racing will recommence at racing speed following display of a green flag or the official announcement "track is clear". Signals given by flags have to be visible for all drivers.
- b) Mechanics are allowed to enter the track to save the car of their driver. The mechanic may restart the engine (3x) beside the track, but not repair the car. The mechanic may not disturb the progress of other cars in the race. Mechanics or Spectators entering the track from outside the pit lane to save

a car will produce a penalty for that particular car. ( Penalties can be given as stop and go or one lap penalty. The referees will inform the Team Managers about the sort of penalties given.)

If served by a spectator then this car should remain stationary until touched by the mechanic to save a penalty given.

The duration of a stop and go penalty given must be always as long as decided by the Referees and announced during the Team Managers meeting prior to the race-meeting. It is not allowed for any of the race officials to change the time of the stop and go penalties during the race meeting.

The driver have three laps time to come in.

Three stop and go penalties for one car during one race will lead to disqualification (black flag).

**3. TRACKS**

3.1.1 Tracks for Large Scale racing will be inspected by EFRA Officials with regard to safety provisions for drivers, mechanics, race officials and spectators. EFRA Officials have the authority to ask for improvements to be carried out before racing starts.

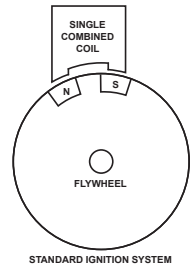
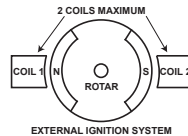
3.1.2 A monitor must be placed in the pit area or under the rostrum during all international races. (WC/EC/GP)

**4. GENERAL Technical Specifications**

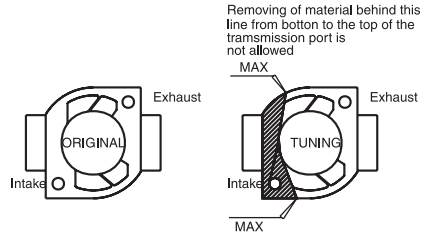
**4.1. ENGINE and FUEL**

For Formula 1, Off Road and Fifth Scale Saloon:

1. Only one marked engine allowed. In case of rain situation, a second engine could be allowed during the time of wet track. The race director (or his substitute) may decide an engine replacement of the same type or repair in case of failure. The replaced engine will be kept in race control till the end of the event. A driver changing engine will receive an automatic stop and go in his first final. Each driver is only allowed to use a maximum of 2 engines per event.
2. The engine to be a single cylinder, 2 or 4 stroke, maximum 23 ccm, maximum 26 ccm for F1, ,2wd, 4wd and maximum 30 ccm for short course pull starter or external electric starter. Electric starters can only be used in the pitlane and under no circumstances to be used on the race-track. There must be a secure protection on the flywheel cover to prevent people touching the flywheel or moving parts.
3. No Turbo charging, Fuel injection, Supercharging, Wankel or rotary valve/ distribution engines are allowed.
4. All ignition must be mechanically fixed, only manual static adjustment is allowed. The flywheel can only have 1(one) pair of magnetic poles (ie one north and one south). There can only be a maximum of 2 coils (either a single combined LT and HT coil with the standard type ignition or two LT coils with the external ignition systems) working with the flywheel/rotor.



6. Only open deck admission ports are allowed. The removal of material is free as long as the modified shape of the transfer/admission port walls are in the direction of the cylinder bore at all times.
7. The Cylinder block must be of a single casting. no independent liners or slipping liners are allowed.
8. The maximum numbers of admission ports is limited to 4.
9. Engine must be air cooled. The air being driven directly by the flywheel.
10. The crankshaft must be of split shaft configuration, with enclosed big end. No half crankshafts allowed.
11. An air filter must be fitted to the carburettor.
12. The maximum venturi diameter of the carburettor is limited to 13 mm.
13. Only fuel admitted will be petrol normally available at street petrol stations. The fuel must be bought at a fuel Station within the vicinity of the event. Details of the fuel station location and opening times should be provided by the race organiser prior to the event commencement, Fuel testing should begin prior to the start of qualification. Special fuel's like Avgas, race fuel etc. are strictly forbidden. The only additive allowed is mass production two stroke oil.



Technical inspection may ask for a sealed bottle of that oil, to check it.

If a fuel is found suspect, the driver will be asked to mix his fuel at technical inspection, so it can be verified.

If an organiser is able to provide fuel at the track, all competitors have to use this fuel. The price of this fuel must not exceed the normal street price by more than 5%. Fuel tests may be made at random during the race. If a fuel is found illegal, the driver will be disqualified from the particular event, he may lose his EFRA licence for up to ten years. The fuel tester must be available to the competitors during the event.

If a driver wants to protest that decision, he has to make a written protest to EFRA with a deposit of 500.- EUR.

14. All drivers that qualify for the semi finals will have their fuel tank capacity tested prior to the semi finals. After testing the fuel tank will be emptied, the drivers fuel container will be marked and remain in technical inspection (facilities permitting) until the driver/car is preparing to go out on track for their semi final and main final warm up. Only fuel from the drivers own marked fuel container is allowed to be used.

#### 4.2. EXHAUST/NOISE REDUCTION

4.2.1 Maximum noise level is 81dB (A) measured at 10 metres, 1 metre above the track. The race director has the authority to decide a different method of measuring (using the EFRA noise trap) as long, as the result will be the same.

If a cars average over 10 or more laps exceeds +2 dB (A) for On Road cars and +5 dB(A) for Off Road cars higher than the limit at any time during the qualifying then the driver will lose their best qualifying result. If this level is exceeded during a final then the penalty is a 1 lap deduction at the end of that final. Under exceptional circumstances common sense will be used.

Both the Race Director and Referee's can decide if any car producing excessive noise is allowed to race.

Exhausts have to be of minimum three chamber type. No open exhausts or pipes are allowed.

The total exhaust must be inside the body, with the exception of the tailend of the pipe, which may protrude the body by no more than 10 mm.

No adjustable or moving parts are allowed in the manifold or muffler. The body may be cut out at that point max. 20 mm more than the tailend diameter.

Max. inside diameter tail end 13 mm.

- 4.2.2 All cars to be equipped with an air - box to reduce the intake noise of the carburettor. The air box must change the direction of air entering the carburettor by 90 degrees(or more) and be made of a rigid material. The exhaust must have a second muffler (if a two chamber exhaust is used) or be a three chamber type muffler. All three chambers must be designed so that the exhaust fumes will pass through and have to change direction twice to get the maximum possible noise reduction.

The design of that additional silencer is free, but with both systems together, the max. noise level must not be over 81 dB (A).

- 4.2.3 No refuelling allowed during racing for all cars in 1:5 Touring Cars and Off Road. Refueling is allowed only in Formula 1.

- 4.2.4 The Engines adjustments and warming are strictly forbidden in pits and working areas. They are allowed only on protected tables supplied by the Organisers, and in the proximity of pit lane, and of the Rostrum.

**4.3. CAR**

- a. The car has to have a functioning brake, which has to be capable of keeping the car stationary whilst the engine is running.
- b. A mechanical failsafe has to be fitted to the carburettor which returns the throttle to a closed position in case of breaking of the throttle linkage.
- c. Variable ratio transmission is not allowed.
- d. Only 2WD (rear-wheel drive) In class Offroad 4WD only fourwheel-drive cars are allowed.
- e. No other function than steering and throttle/brake are allowed to operate with radio control by the driver. Any other electronic or hydraulic systems are not allowed in the car, with the acceptance of electronic failsave to stop the car in case of radio failure and the hydraulic brake system. Movable upper formula1 wing (DRS) can be operated together with brake or throttle function. A separate radio channel to operate DRS is not allowed.
- f. The use of an electronic failsafe system is highly recommended.
- g. The ignition kill switch must be on his original place on the engine and the window on this side must be cut. The position must be market with an E (size 20 mm) on the bodyshell. To create more safety, it is allowed to have a second kill switch fixed near the rear window to allow easy access. This kill switch should be away from hot or moving parts.



**4.4 TYRES**

Tyres have to be black. The design of the tyre profile is free. It is not allowed to treat the tyres in the pit area. This means it is clearly forbidden. But if someone use it at home, it is recommended that the chemical components of these products must be harmless for people and environment. Liability at the use of tyre additives

lies at the user and manufacturer. Oil of wintergreen, paragon and other strong smelling products are prohibited.

**5. SPECIAL TECHNICAL SPECIFICATIONS**

**5.2. LARGE SCALE FORMULA**

Only Formula one cars following the FIA 2000/1 (or younger) Formula One Regulations are allowed. Bodies must be the model of a existing car from the season 2000/1 or younger. Paintwork and colour is free. The design of the visible suspension parts must have the same appearance than the original F1 cars.

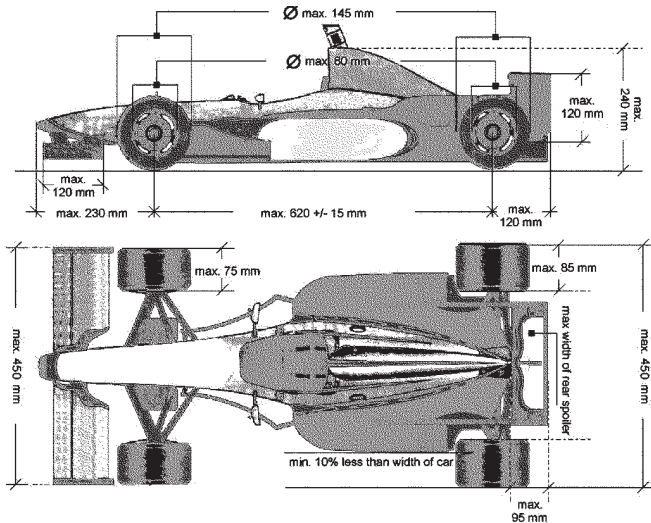
All cut-outs must exist also in the full size car. Cut outs for the engine and fuel tank are allowed in the area of the tank seal, starting device and adjusting screws for carburettor i.e. choke, neutral gear etc.

For Formula cars the side pods have to be used for the starting number. About the design of the Car numbers see 5. General Requirements EFRA Events 5.2.4

**5.2.1 TECHNICAL SPECIFICATIONS**

Minimum weight dry	10.000 g
Width Formula maximum	450 mm (incl. tyres)
Height maximum	250 mm
Wheel base	620 mm +/-15 mm
Fuel tank - capacity	Maximum 700 cm <sup>3</sup> with the fuel filter, fuel pipe and without any removable pieces inside
Tyres front diameter	142 mm +/- 5% = 134,9-149,1mm
Tyres rear diameter	142 mm +/- 5% = 134,9-149,1mm
Tyre width front minimum	60 mm, max. 75mm
Tyre width rear maximum	85 mm, rear wheels must be min. 5 mm wider than the front wheels
Rims outside diameter	80mm +/-5mm, indicators must be the same on tyres and rims.

No mixture of +/- is allowed on the wheels and tyres. No tire will be measured after the race.



- 5.2.2 **TYRES**  
 Tyres must be semi-pneumatic rubber.  
 They must be molded in one piece  
 In case of rain the use of rain tyre can be allowed by the race director.  
 Only 2 complete sets of tyres are allowed for the heats and will be marked by technical inspection with the registration number of the driver.  
 For EC Series during EFRA GP's only one set of marked tyres is allowed during the three rounds of qualification.
- 5.2.3 **FRONT SPOILER**  
 Max width 450 mm max. cord 120 mm. The front spoiler must be fixed at the chassis, so that it can bend up or down in case of an accident.
- REAR WING**  
 The rear wing must fit into a side profile box of 95x120 mm. The number of added wings inside is free. The rear wing must not be wider than the space between the rear tyres.  
 The front part of the car should not overhang the centre of the front wheel by more than 230 mm. The rear wing and a the diffuser should not overhang the car by more than 120 mm.  
 The width of the side-pods must be min. 10% less than the overall width. They should not be higher than the tyres.
- 5.2.4 **TANK SIZE, ENGINE RULES, AIR BOX, MUFFLER ETC.**  
 Air box, muffler, engine rules, etc have to follow Large Scale General Technical Specifications.  
 Exhaust outlet pipes must exit within the body shell side pods and point down to the track.
- 5.2.5 **F1 WINGS**  
 Front and rear wing are part of the bodyshell of a F1 car and must be repaired immediately if they get damaged or come off the car.
- 5.3 1:5 Scale TOURING CARS**  
 There is one series recognized in accordance to the 1:1 scale series namely the Touring Car Championship Series, following FIA class 2 Super Touring Car, FIA Group N and Touring Cars Super 2000.  
 Touring cars raced in national series like Australian V8 Supercars, CTCC ;German Procar, Italian Super Stars will also be allowed with the only restriction that rear wing has to follow 5.3.5.
- 5.3.1 **GENERAL SPECIFICATIONS**  
 The carbody has to comply with the calculated scale dimensions 1:5 with the allowance of using the following tolerances.
- |                               |  |
|-------------------------------|--|
| Length:                       | within scale +/- 5%  |
| Width:                        | max. 395 mm measured at the widest point of the bodyshell                          |
| Height:                       | within scale +/- 5%  |
| Tank capacity:                | 700 cm <sup>3</sup> (including pipes to and from the carburettor and any fittings) |
| Minimum weight, without fuel: | 10.000 g   |
| Maximum weight, without fuel  | 12.000 g   |
- 5.3.2 All 1:5 cars have to be genuine scale in all details and proportions and be a fully detailed model of an existing 1:1 touring race car. If the allowed tolerances are used, then all parts of the model in that particular view have to be within the same sign (wheelbase-, length,- //wheelbase+, length+). Mixtures of car design's

are not allowed.

The minimum length of a Super Touring Car is 4.200 mm that gives a minimum length of 798 mm in scale including max.-tolerance.

All recognized cars must have a minimum length of 4,200 mm/165.35 in. All bodies that are produced world-wide, descend from a original touring car racing and are commercially available, under consideration of Paragraph 5.3, will be allowed. Only bodysHELLS that are approved by EFRA will be allowed to race in EFRA sanctioned events. The EFRA-homologation number has to be permanently engraved or moulded in within the space normally used for car-registration numbers at the rear end of the model.

5.3.3 BODY

Bodies have to follow the description in point 5.3.2. They have to be properly fixed to the chassis and must cover the outer edge of the wheels at the centre of the axle when viewed from the top.

It is not permitted to cut the windscreen out. The side and rear windows may be cut out for cooling. It is not allowed to open them by cutting out only some holes. Also it is not allowed to mould air channels into the side windows to guide air into the interior. The body shells have to be painted and all windows to remain clear.

All parts of the car have to be covered by the body. Only the radio antenna is allowed to come outside. All openings in the body have also to be in the existing 1:1 race car.

It is not allowed to modify the car-body by cutting it over the marked trim lines or to widen it by heating it or parts of it.

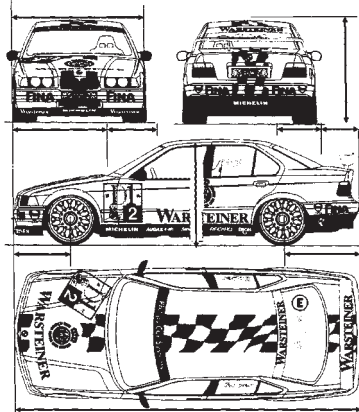
The start numbers must be placed according to the drawing (and the corresponding picture). About the design of the Car numbers see 5. General Requirements EFRA Events 5.2.4.

If the race-meeting has started, a competitor is only allowed to change the body shell in case of damage to a body shell of the same brand and car design.

Only allowed for manufactures:

Aerodynamic modifications at the front, the sides and the rear below the wheel hub centre are free subject to the requirements for ground clearance, overall length and overall width.

The modifications have to correspond to the original. The materials have to be the same as that of the bodysHELL. The homologation number has to be engraved. A photo of the modification 1:1/1:5 have to be sent to the responsible Homologation Officer.



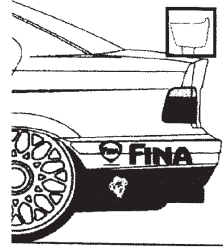


5.3.4 GROUND CLEARANCE

The measurement of the body shell height will be made with 6mm ground clearance.

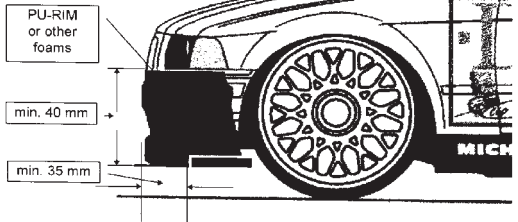
5.3.5 WING/SPOILER

A single rear wing is permitted as long as it does not exceed the front view profile and the length of the car. The wing has to fit in a side "profile box" measuring 60 mm x 60 mm per side and should not overhang the end of the car.



5.3.6 BUMPER

A bumper has to be fitted to the chassis. Bumpers have to be designed in a way that they fill the front of a car body completely and be a minimum height of 40mm. The material used has to be flexible like PU-RIM or other foams, that are used in



1:1 car construction to absorb impact energy.

At no point may any part of inflexible material for body shell mounting protrude from the body more than 10mm.

5.3.7. TYRES

- Rim Diameter max.: 107 mm
- Rim and fitted tyre Diameter: max.: 136 mm
- Rim and fitted tyre width - front max.: 75 mm
- Rim and fitted tyre width - rear max.: 80 mm

Only semi pneumatic rubber is allowed. Foam tires are not allowed.

**5.4 Large Scale Off - Road Rules**

Technical requirements for Large scale off road racing with 2WD and 4WD.

5.4.1 Technical classes and weight

All cars have to be large scale

Only rear wheel drive allowed in the 2wd class

Minimum weight limit 10kg for 2wd & 4wd, and 14kg for short course.

Weight limits for a race ready car with transponder / PT but no fuel load

Modifying or self builder cars are allowed, as far as those fulfil the technical rules mentioned

[5.4.2 Deleted]

5.4.3 Exhaust: Exhaust as per General Technical Specifications, 4.2 Exhaust/Noise Reduction, except:

The exhaust end pipe may be outside the shell. This pipe must be fitted rearward or to the ground and within the size of the car.

5.4.4 Fuel tank and fuel

The max content of the fuel tank till the carb is 700 cc for 2WD and 800 cc for 4WD.

The allowed fuel may only exist of Lead-free gasoline, oils and additives.

Forbidden are all special fuels and extra's as Avgas, octane boosters and race fuel.

- 5.4.5 Only 2 wheel rear drive is allowed in 2WD-class. Only all-wheel drive is allowed in 4WD-class.  
Cars with electric drive, propellers or rocket-fuel drive are not allowed  
Cars can only have 1 gearing: no multispeed transmissions allowed
- 5.4.6 Clutch and brake: The model cars must have a working clutch and brake system.  
Other than Active ABS systems there are no restrictions for brakes.
- 5.4.7 Bum Bumper: All models must have a front bumper, a rear bumper is allowed but not mandatory. Bumpers must be made from a flexible material. The front bumper must have a minimum width of 100mm, a maximum size of 220 mm width, and 300 mm minimum width for short course. A rear bumper can have a max size of 300 mm width .
- 5.4.8 Tires and wheels  
Wheels : maximum diameter 160mm and maximum width 75mm.  
Tires: maximum diameter 190mm and maximum width 85mm.  
Only wheels and tyres designed and made for large scale off road use are allowed and they must be commercially available .  
The tyres have to be on the market a minimum of 4 weeks before the event starts.  
The tyres must have been sold to everybody, who wanted to buy them.
- 5.4.9 Chassis, Body measurements  
Only large scale lexan body shells are allowed  
The body must be fully painted except for the windows  
Motorstop access must be easy .  
The chassis must be flat underneath and no screws may extend  
Car size  
2wd & 4wd buggy:  
Max length 820 mm  
Max with 480 mm with full compressed suspension  
Max height 360 mm with full compressed suspension.  
Short course truck:  
Min length 850 mm  
Max length 1000 mm  
Min width 480 mm  
Max width 530 mm with full compressed suspension#  
Min height 300 mm  
Max height 350 mm with full compressed suspension  
Min wheel base 600 mm  
Max wheel base 650 mm.
- 5.4.10 Wing  
The wing must be made from a flexible material  
2WD Max size 300 mm x 140 mm offroad.  
Overhang max 150 mm from the middle of the rear drive shafts  
4WD 315 mm x 140 mm  
Overhang max 230 mm from the middle of the rear drive shafts
- 5.4.11 Race  
The European Championship will be run as a single event ( large scale euro rules),  
This rule is valid from 2010  
Racers with equal points: the racer with the highest single finish will be rewarded  
the tie: if still tied, the second best finish position etc. In case of a continue tie  
the tie will be rewarded to the highest finish the last race both drivers entered.
- 5.4.12 Marshalls have to be 16 years of age minimum. If not they need to have an experienced substitute.

- 5.4.13 Race procedure's as in EFRA Large scale except;  
Semi final duration will be 20 minutes.  
The top 5 from each semi final will be promoted to the main final  
QUALIFYING SYSTEM: In each round drivers will score points based on laps and times achieved. For all rounds the maximum number of points given to the fastest driver will be equal to the number of drivers participating the the EC + 5 (five). 2nd fastest will score the maximum minus 2 (two) points. 3rd fastest will score the maximum 3 (three) points. Down to the last position one by one. If a driver has not completed a lap, no points will be awarded in that round. In every, round in the event of a tie the points will be equally awarded to each driver and the first driver not tying will get one point less. In the case of two or more drivers having the same overall points score the next best score determines position. If still unable to resolve with the next best rounds then the driver with fastest laps and times will determine position. Out of 5 (five) completed rounds 3 (three) to count. Out of 3 (three) and 4 (four) completed rounds 2(two) to count. Out of 1 (one) and 2 (two) completed round 1 (one) to count.
- 5.4.14 Tracks
- a) Size: Minimum preferred total length: 200 meter.  
Minimum preferred width between marking/lanes: 3.5 meter for GP's 4 meter for an EC.  
The point most far away from the middle of the drivers rostrum can be 60 meters
  - b) The track design can be made by the organiser. Obstacles as trees, etc cannot be inside the track area. The drivers view to the track must be free without obstacles of any sort.  
The track must be made with a reasonable variety of small and large corners, left as well as right handed. The straights must have different lengths.
  - c) Marking  
The lanes must be clearly viewable by the competitors on the rostrum and the track markers must be chosen in such way the cars will not be damaged if they hit the track markers. The track markers must be solid enough not to be moved by a single contact.
  - d) Track markings  
The organiser must make sure a car can never come into the public. Safety of the public, drivers, mechanics and race directors / assistants must be maintained all time by a save and functional track surrounding.  
The track markers must be situated so that corner cutting is highly impossible and cars cannot enter another lane easily. Track markers can be made of wood, fire hoses filled with sand, rubber hoses etc.  
By choosing the track markers the safety of the public is far more important as preventing damage to the cars.
  - e) Start / Finish  
There must be a clearly visible start/finish line. On the finish line the timing loop must be placed in such way the cars may not damage it. In case of a loose track surface the markings for start finish can be made on the track markers.
  - f) Pits: It needs to be separated from the track Pits entrance and exit needs to be at least 1 meter width.
  - g) The drivers preparation area needs to be within a reasonable distance of the track. It needs to have pit tables for all drivers and 220 volts available. Only drivers, mechanics and race officials can enter the pit area. They have to show ID cards, made available by the organiser to identify. Each driver

- should receive a card for himself and 2 cards for mechanics
- h) Only weather resistant track surfaces to be used at European Championships from 2014 on.
- 5.4.15 All warnings and instructions must be clear to hear for all competitors and mechanics
- 5.4.16 Adequate sanitary must be available during the event.



Maximum width 395mm

tolerance in length, wheelbase +/- 5%

Max. width to be taken at the widest point of the body except side mirrors

Producer / type	Measurements original-racecar				Measurements model scale 1:5				
	min. length 4200mm		height		width		height -5%		Homologation No.
FIA Super Production / Super 2000	wheelbase	length	width	height	wheelbase	length	width	height -5%	
Audi A4 2.0 BTCC 15	2811	4716	1826	1320	562	943	365	251	5061/11
3er BMW 320si E90 WTCC 08-13	2760	4535	1845	1310	552	907	369	249	5051/06.5052/06.5057/08.
BMW M3 Superstars	2761	4615	1880	1310	552	923	376	249	5058/08.5063/14
Chevrolet Cruze WTCC 15	2709	4633	1852	1377	542	927	370	261	5062/14
Citroen C-Elisée WTCC 14	2700	4577	1950	1346	540	915	390	255	5059/10.5066/15
Honda Civic WTCC 14, TC 2000	2595	4285	1934	1320	519	857	386	250	5060/11
Honda Civic Tourer BTCC 14	2595	4535	1870	1360	519	907	374	258	
Vauxhall Insignia BTCC 12	2700	4850	1858	1405	540	970	372	267	
Ford Focus WTCC 12	2840	4358	1840	1400	523	872	365	266	
LADA Vesta WTCC 15	2635	4410	1807	1435	527	882	361	272	
Toyota Avensis BTCC 12	2700	4710	1810	1395	540	942	362	265	5062/13
MG 6 GT BTCC 12	2705	4651	1850	1400	541	930	368	266	
Volvo S60 WTCC 16	2776	4635	1939	1424	555	927	387	270	
VW Passat CC BTCC 15	2710	4798	1897	1400	542	959	379	266	
SEAT Leon WTCC 05	2600	4328	1820	1338	520	866	364	254	

All informations without guarantee. Source material: information material of manufacturers, race-car magazines and web-pages from various touring car race series around the world. This list will be continued.  
Cars written in *italics* not yet available as models with EFRA-Homologation updated: **January, 27th 2016**

## APPENDIX 8

# HOMOLOGATION OF MUFFLERS

### 1. GENERAL

Each motor must be equipped with an exhaust system and an inlet silencer to reduce the amount of noise generated by the car. The noise level is a combination of RPM, motor design and performance, muffler, manifold, gearing and body. The better the combination, the more performance and more RPM. Since EFRA can only check 2 of these items (muffler and INS box) there is no way to control the noise in a good way on a track without extra measurements. The only solution is measurement on the track by means of a so called "Noise Trap. For the future we will talk about registration of mufflers and no longer about homologation, simply to avoid interpretations as that a homologated muffler is always OK. The legal noise level within the European Community is 83 dB's, without the need for extra personal protection. EFRA's definition of a noise level is always final.

For 1/8th IC track races only EFRA registered mufflers with a minimum of 3-chambers are allowed on EFRA sanctioned events. The EFRA registration number must be engraved on the sidewall of the muffler.

For 1/8th Off Road, only EFRA registered with a minimum of 3-chamber mufflers are allowed. The EFRA registration number must be engraved on the sidewall of the muffler. For 1/10th IC track, only EFRA registered 2-chamber mufflers list are allowed on EFRA sanctioned events. The EFRA registration number must be engraved on the sidewall of the muffler. The sections will use a so called "noise trap" to check noise level on the events. Depending on the track layout the noise trap will be installed and used to take out cars that make too much noise. The final noise limit for an event must be set prior to timed practice.

All mufflers on the 2013 list that are still sold and manufactured must be registered again before March 1st 2014 to be able to be used for the 2014 season. The registration period will be limited to 2 years and needs to be renewed after that period. Mufflers that were allowed in 2013, EFRA 2103 till 2109 do not need registration for 2014, including the RCE mufflers with the double wall and rear muffler outlet. WHY REGISTRATION. Registration is needed to be sure mufflers are made according to specific dimensions. Registration is needed to make sure there is a product available in the shops Registration is needed to avoid self made mufflers used at club level. Registration is needed to control the design and weight which are part of the noise production.

### 2. REGISTRATION FEE

will be: see General Rules 3.5.7. > 120 euro (60 euro for Assoc. Members).

### 3. REGISTRATION NUMBER:

Every accepted muffler is issued with an EFRA registration number which must be indelibly pressed or milled on the sidewall.

### 4. TECHNICAL DETAILS

A very important factor in the control of the noise level of a muffler is the design of the mandatory 2nd and 3rd chamber and the total length of the outlet pipe. The outlet pipe for 1/8th scale may have a maximum of 8.00mm diameter. For 1/10th the maximum is 5.20 mm

### 5. TOLERANCES

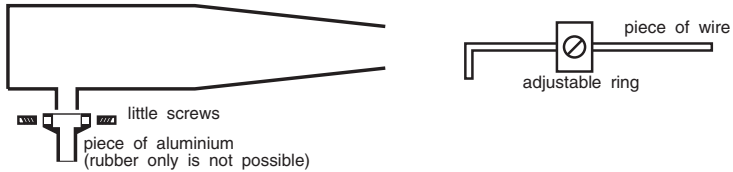
Recognizing that the component parts of a muffler are joined together, it is quite clear, that there may be some slight differences in total measurements. This will

not lead to dramatic noise level variation, but one important point must be mentioned: The 2nd cone must be in line with the outlet pipe, if this is a feature of the original design. The outlet pipe may have a minus-tolerance of 2 mm. To check the total length of the outlet pipe use a tool similar to that shown below.

**6. PRACTICAL TIP**

Some drivers cut the outlet pipe, because they fear damage during the race. Of course this is not allowed. To help in such a case, here is a tip:

**7. EFRA REGISTERED MUFFLERS**



Updated lists of mufflers which are registered each years will be found on the EFRA-website.

**8. INS box dimensions.**

The performance of the INS box is based on its form and measurements. Therefore it is strictly forbidden to change anything on its internal dimensions. The INS box for 1:8 and 1:10 are the same, only the foam filter has another dimension to fit the carburetor. A list of the approved INS-Box will be published on the EFRA webpage.

## **APPENDIX 9 PROCEDURE FOR BODY-APPROVAL (1/8 TRACK, 1/10 TRACK, ELECTRIC TRACK & LARGE SCALE)**

1. Any manufacturer, who wishes to submit a bodyshell for homologation must first contact the EFRA Treasurer who will invoice them the required amount and forward to them, together with the invoice, the EFRA Bodyshell Homologation Form. Sanction Fee will be set at the EFRA Annual General Meeting.
- 1.a Bodies for 1:10th, 1:8 class and Electric Track.  
Anyone who wishes to have a body tested and homologated must submit 2 samples before January 31<sup>th</sup> to the body homologation officer.  
Bodies will be checked and verified between December 1<sup>st</sup> and february 28<sup>th</sup> and will be put on the EFRA webpage for publication on March 1<sup>st</sup>.  
After publication no other bodies will be added to the list before the end of the running year.
2. All manufacturers must submit the following to the EFRA Homologation Officer (DO NOT SEND BODY SHELL TO THE TREASURER):
  - a) The completed EFRA Homologation Form
  - b) Pictures of original 1/1 car body from two of the following three elevations.
    - top
    - front end
    - rear end
    - side
  - c) Any other information that may be necessary  
e.g. Race results for real car races  
Manufacturers data for production cars
  - d) TWO examples of the model body from the final tool with all character lines and other elements present. This will be retained for referral. All wings custom designed for the body must be included.
  - e) For Large Scale models it is only necessary to send 1 (one) example of the body shell. Drawings and photographs will be retained by the Homologation Officer as proof of the homologation. Bodyshell must be clearly marked (stamped or engraved) with the homologation number.
  - f) All Bodies currently on the EFRA approved list will remain legal for five years or earlier removed.
3. Upon receipt of the above items, the Manufacturer will receive a confirmation from the Homologation Officer with the date of receipt. If any of the above items are missing, or photographs or other data are considered by the Homologation Officer to be of insufficient quality, homologation will be refused. The reason for refusal will be given.
4. Within one month of confirmation of receipt, subject to confirmation from the EFRA Treasurer that the sanction fee has been paid, the Homologation Officer will either:-
  - a) Approve the body, when the model body is an acceptable representation of the original.OR
  - b) Refuse homologation, when the differences from the original are too great. If the body shell is refuse the reason for refusal will be stated.Each homologated body will have a unique EFRA number, even if the same type of bodyshell is already approved for a different manufacturer. The EFRA number



- must be set in an area immediately adjacent to the cockpit, preferably in front of the windscreen. Body homologation number must be visible at time of technical inspection. Therefore manufacturers must place the number in an area of the body which will not be cut out. (Bonnet in front of the driver, front spoiler, windscreen) All shells with separate customised wings must have the homologation number moulded into all parts of the wing as well as the body. The wing must be submitted for homologation at the same time as the body for which it is intended to be used. The wing may only be used with the shell with which it was homologated.
5. The homologation period lasts for five years, after which the body may be resubmitted, provided it still satisfies all regulations concerning the individual body class and is still in use.
  6. The manufacturer may, if he wishes send a preliminary example of the model body to the Homologation Officer for interim advice. The body need not be taken from the final tool but all character lines and other details must either be moulded on or marked on the body in pen. Photographs etc. must be enclosed as in the full homologation procedure. The Homologation Officer will give a non-prejudicial opinion on whether the body would be homologated in finished form. If he decides that the body would not be approved, he may, if he wishes, give specific reasons. A fee to cover expenses will be charged for this service. Fee to be set at the EFRA Annual General Meeting.
  7. Once approved, the tool must not be modified in any way. Should the tool be modified, the EFRA number must be filled in and an example of the modified body submitted to the Homologation Officer for full re-submission.
  8. All information and examples of 1/8 scale bodies sent to the Homologation Officer will be retained during the homologation period of five years. All examples of large scale bodies sent to the Homologation officer will be sent back to the manufacturer with the homologation number engraved in. The manufacturer has to retain the example body during the homologation period of five years. If the Homologation Officer suspects that a body has been modified post-homologation he may anonymously purchase an example of the body for checking. If he finds that the body has been modified it will be immediately removed from the approved lists.
  9. All bodies currently on the EFRA approved list will remain legal for five years from date of homologation.
  10. EFRA Homologation Officer:  
See List on page 8 in the address section
  11. Special Homologation rules for 1:8 scale.  
The body must be a replica from an original race car.  
Cars must have raced in either Sports Can Am classes, Proto-type, Group-C, Le Mans, American Le Mans or GT1/GT2 classes.  
Bodies must be a 1:8 scale in character reproduction of vehicles that exist or have existed in the last five years. There will be an allowance of tolerance in all dimensions.  
Once homologated by the homologation officer the name of the body can be changed to a name or production reference from the manufacturer. This name or reference will be used at the EFRA body list.  
The rear of the body after the rear axle is free and does not have to be within the measurements of the original.

Overall dimensions of the car:

Wheel base: 270.00-330.00 mm, overall width max 267.00 mm

Overall width of the body max.: 267.00 mm, measured on top of the wing and on top of the sides and the lower front side.

The lower sides between the two front and rear wheel arches will not be taken into account for technical inspection as long as they are not wider as 277 mm.

The following differences from the original are allowed;

Side dams on the model after the rear axle may not be higher than 40 mm.

Side dams from the front axle till the rear axle may have the following dimensions;

From front axle over the first 150 mm, not higher than 8 mm and not more than 20 mm over the next 100 mm.

Behind the driver the body may be adapted to suit fuel tank. Driver may be moved slightly to the front or to the left or right to avoid conflicts with tank. Driver may not be cut because of fuel tank opening.

All bodies will have the EFRA number engraved into the body at such a place that it is visible all the time.

For minor changes the body will get an extension on the number, for instance, EFRA2004001 will be EFRA2004001A after the changes. After a second change it will be EFRA2004001B.

All changes must be submitted to the homologation officer and need to be accepted by EFRA and will be charged with 40% of the original homologation fee.

Different bodies with the same number are not possible.

After 5 years a body will disappear from the list unless the manufacturer asks for a license for another period of 5 years. The fee for an extra period is 40% of the normal homologation fee.

Bodies must be presented to the homologation officer latest end of January and will be published on a list on March 31st the latest.

**12. Body lists**

Lists of the approved bodies will be published on the EFRA webpage.



# EFRA

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