

FIA CODE of CONDUCT

A Proposal dated 6th January 2005

Introduction

The Fibreoptic Industry Association membership comprises Companies, Organisations and Individuals, and therefore this Code of Conduct is drafted in generic format to suit the Membership as a whole.

It is expected that all Members will adhere to the Association's Rules, so this Code is for application to our day-to-day business activities.

Members using sub-contractors in any aspect of the supplies made to customers will ensure that these personnel are adequately skilled, and are made aware of this Code of Conduct.

Business Ethics

A prime requisite for professional business activity is that of honesty in all dealings. The FIA expects Members to exercise honesty in dealings with their staff, their customers, their suppliers, and with all others with or without business, official or casual connection.

The FIA strives to promote high quality in business dealings and deliveries, whether these involve products or services. FIA Members are expected to uphold this principle with full commitment.

Business activity is beset by legal requirements, many of paramount value but others of doubtful benefit in particular cases. The FIA Code of Conduct requires Members to comply with all relevant legislation in the most practical and considered manner; particular attention should be given to the Laws governing Employment, Health & Safety, and the Environment.

Finally in this section - respect for others. The FIA expects all Members to work in this industry with respect for staff, customers, suppliers, and all others who have contact with the Member's business from time to time. The same will apply to all property of others.

Technical Ethics

Designs for products or installations, content of training courses, and plans for consultancy projects, must reflect the commitment to quality already mentioned, and specifically be fit for purpose.

The FIA expects that no Members will undertake work for which they are unqualified, under-resourced, or unable to complete due to factors within their control.

With regard to fibre installation activities, including design, implementation and documentation, the FIA expects Member firms to comply with relevant International Standards to the fullest practical extent, and especially to the extent agreed with the customer.

Documentation of work done, or on products supplied, is of paramount importance. All Members should commit to the presentation of quality documentation on completion of work for customers,

The FIA expects that Members will ensure themselves and their staff and any subcontractors are suitably trained for the work to be carried out, and that complete training records will be maintained.

Environmental Ethics

The FIA expects that all Members, their staff and their sub-contractors will maintain strong and careful regard for environmental issues in the activities of procurement, delivery (including installation implementation) and waste disposal. All Members, and especially Installation Member firms will ensure that any hazardous waste is disposed of safely and through licensed disposal routes.

FIA Members will use their best endeavours to minimise adverse environmental impact.

Health and Safety

All Members and their staff and sub-contractors will ensure that work and the notification of any reportable incident are carried out in accordance with relevant Health and Safety Legislation. Always of key importance, H&S issues are of particular concern during fibre cabling installation activities. Installation Member firms will ensure compliance with the new Work at Height Regulations that apply whether fibre is being installed at height above the ground, at ground level, or below ground.

The FIA expects all Members to have in place a Health and Safety policy, to uphold it in principle and practice, and to keep it under routine review for improvement.

In order to properly manage Health and Safety, all Members will carry out adequate training and maintain records.

ends

Date: 5th December 2005
Our Reference: MG/MG/4743
Your Reference:

REPORT FOR FIA COUNCIL MEETING 8th DECEMBER 2005

OUTSTANDING ACTIONS

From last meeting

Write Treasurer / Tech Director report for AGM - **completed**

Send text of QS article out to NCN and NM re press releases - **completed**

Investigate new company of auditors - **completed**

Organise info on members for Networking + and put in place agreement for use - **completed**

Organise venue/speakers for seminar on 1st December – **completed**

QS

- Put list of manufacturers awards on website - **awaiting input from LF**
- Put university/academic courses info on website - **awaiting input from LF/JC**
- Put Krone awards on web site once received - **awaiting info from LF**
- Send text of QS article out to other mags and NM re press releases - **awaiting info from LF**

AIS

- Work further on AIS with PL - **ongoing**

General

- Re-edit FIA documents - **underway**
- Update text of benefits of m/ship leaflet - **ongoing**
- Organise venue/speakers for seminar on 31st January - **ongoing**

Web-site

- Finalise o/s web site issues - **final meeting arranged**
- Get members area of web site fully functional - **final meeting arranged**
- Re-issue e-guide - **final meeting arranged**
- Test new procedure for members to set own p/words - **final meeting arranged**

FINANCIAL

The draft audited accounts for the year 2004-2005 have been circulated. The formal figures show a P/L 2004/2005 profit of £1992 cf. a loss of £9658 in the previous year. The auditors removed from the management accounts £4500 of profit: £2500 in un-renewed memberships (see below) and £2000 in total; for audit fees.

Cancelled membership removed from accounts as compared with August management accounts (and added back into current management accounts)

- 125 - INTEGRATED FIBRE SERVICES LIMITED - CORPORATE A
- 556 - FUJIKURA- CORPORATE B
- 127 - KMH COMMUNICATIONS - CORPORATE B
- 405 - W T PARKER - CORPORATE B
- 557 - ZYCKO - CORPORATE C

I have distributed (on 5th December) updated accounts for October 2005 that reflect the modified accounts at Y/E 2005. This shows a YTD profit of £475 with liquidity slightly above last years figures. A proper analysis will be applicable once we have the November accounts which will allow the Y/E effects to work through the system.

WEB-SITE REPORT

fia-online.co.uk remains functional at a 97% level. We are still working through the last series of issues before the final 3% can be achieved.

A new e-Guide was published and not previously advised (01/08/05).

All documents have been updated to feature the correct web-address. If Council Members find any more that require amendment let me know.

For the information of Council Members:

- all Council Meeting Minutes, attachments and lists of actions can be found at **fia-online.co.uk/maa.htm**;
- access without password to all Members services is achieved at **fia-online.co.uk/default2.htm**.

TECHNICAL REPORT

TECHNICAL MATTERS

The article prepared for Networking+ together with the content of the presentation made the FIA Seminar on 1st December (<http://www.fia-online.co.uk/pdf/Presentation/L4757d.pdf>) will be developed into a detailed White Paper.

TECHNICAL SUPPORT GUIDES

The re-edit of all documents is underway.

The next documents that are in process are:

- TSD-2000-4-5: OPTICAL FIBRE CABLING: User Guide Template
- TSD-2000-2-3: OPTICAL FIBRE CABLING: COMPONENTS: Cords
 - this is already underway but will need to be expanded to include reference cords, mode conditioning cords and mode controller cords

Substantial changes have to be made to:

- TSD-2000-1-1: OPTICAL FIBRE CABLING: LAN Application Support Guide
- TSD-2000-4-2-1: OPTICAL FIBRE CABLING: TESTING - Installed cabling attenuation using LSPM equipment
- TSD-2000-2-3: OPTICAL FIBRE CABLING: TESTING - Installed cabling attenuation using OTDR equipment

I have not yet decided how to address the new approaches to 1G/10G Ethernet cabling developed by The Cabling Partnership within CLC for data centres. However, this will have to be included soon

PRODUCT SPONSORSHIP SCHEME

Standards are now in the final stage of publication. The Technical and Commercial Directors need to contact ICS to determine plans for discounted sales to FIA members of the mode controller cords (with reference terminations). The FIA need to determine their plans for advertising the availability of the cords.

SEMINARS

The seminar on 1st December (Hammersmith, London) went very well indeed producing a net profit of £610. The room was full (19 delegates) and the topics presented created a good deal of discussion. All presentations are now on the FIA web-site at <http://www.fia-online.co.uk/epresentations.htm>.

Another is planned for the 31st January 2006.

ARTICLES

I have produced two articles (attached in Annex A) for Networking+. One covered the Qualifications Scheme, the other 10Gig over copper vs. fibre.

One further article is in the system with a deadline of 08/12/05. This will cover

- 'Testing times ahead'

A new series of topics needs to be agreed.

NEWSLETTER

Issue 80 is ready to go. It focuses on the changes to the Council and the AGM. Technical topics covered include the imminent publication of ISO/IEC 14763-3 "Testing of optical fibre cabling" which includes the concept and requirements for the mode controller cords developed under the PSP.

We need to make all installers aware of the changes and the need to use reference connectors on their test cords. We also need to find out which our distributors can provide reference connectors/terminations in accordance with the standards.

APPROVED INSTALLER SCHEME

I have built all the documents produced by Peter Lythgoe on to an Access database.

QUALIFICATION SCHEME

Web-site complete as far as possible.

The database for trainers, learners etc. has been developed and used to record the early data received.

STANDARDS ACTIVITY

BSI GEL 86: TECHNICAL MANAGEMENT COMMITTEE: FIBRE OPTICS

Last meeting: 6th October 2005: the FIA were thanked for their involvement in the development of modal power distribution standards for testing installed cabling and were encouraged to seek out further component-based topics for consideration.

Next meeting 29th March 2006 - M. Gilmore to attend.

BSI GEL 86/1: SUB-COMMITTEE: CABLES

Next meeting: 9th March 2006 - M. Gilmore to attend.

BSI GEL 86/2: SUB-COMMITTEE: CONNECTING HARDWARE

Next meeting 15th February 2006 - M. Gilmore to attend.

BSI GEL 86/3: SUB-COMMITTEE: SYSTEMS

Next meeting: 22nd March 2006 - M. Gilmore to attend.

BSI TCT7

Next meeting postponed until 10th January 2006 – M. Gilmore to chair, L. Funnell to attend (please note change of date). Please make Ian Richardson aware of the change in e-mail address for Lee Funnell.

BSI TCT7/-1

Next meeting 14^h December 2005 - M. Gilmore to chair.

Following meetings:

- 17th January 2006 - M. Gilmore to chair;
- 15^h March 2006 - M. Gilmore to chair.

BSI TCT7/-2

NTR.

BSI TCT7/-3

Last meeting 19th October 2005.

This group has now completed the draft to be submitted to TC215 WG1 as the basis for the revision of EN 50174-1 (to be in line with the structure of BS 6701:2004).

No further meetings planned at this time.

CLC TC215 WG1

Last meeting 29th/30th November 2005, London - M. Gilmore chaired.

Next meeting 6th/7th April 2005, Stockholm - M. Gilmore to chair.

All four parts of EN 50173 (-1, -2, -4 and -5) have now been circulated for formal 6MP comment. These have been placed on the FIA web-site for comment.

In November TC215 WG1 approved :

- the draft amendment of EN 50173-1 for circulation as Secretariat Enquiry to include Class E_A and F_A channels;
- the draft amendment of EN 50173-99-1 for circulation as Secretariat Enquiry to cover 10Gig support over copper;
- the draft revision to EN 50346 for circulation as 6MP to reflect the new testing requirements for OF;
- the draft revision of EN 50174-1 for circulation as Secretariat Enquiry.

A new item is to be created for cabling using multi-fibre connectors. This will include the polarity maintenance work of the FIA amended to support the new solution proposed (under free-licence) by SYSTIMAX® Solutions..

CLC TC215 WG1 PTIP

The planned next meeting was been cancelled due to the overwhelming support in ISO/IEC for the CD 24702 (see below). The European version of CD 24702, EN 50173-3 will be accelerated directly to 6MP stage as soon as it is ready.

CLC TC215 WG2

Mike Gilmore has been asked to temporarily convene this group due to the ill health of the current convenor. WG2 is responsible for the revision of the existing EN 50174-2.

Next meeting 25th/26th January 2005, Bordeaux - M. Gilmore to chair.

ISO/IEC JTC1 SC25 WG3

Next meeting 6th/10th February 2006, Buenos Aires - M. Gilmore to attend.

Following meeting September 2006, Berlin, Germany - M. Gilmore to attend.

ISO/IEC JTC1 SC25 WG3 IPTG

Next and last meeting: 7th/8th February 2006, Buenos Aires - M. Gilmore to chair.

Mike Gilmore

Annex A: Articles for Networking+

10GBASE-T - optical fibre fights back

The volume market in commercial premises cabling is the horizontal cabling i.e. to the desk. In comparison, backbones comprise a small fraction of components. Data centres may contain substantially more cabling than the backbone systems. The market to fight over is therefore the horizontal and the data centre. This is to some extent quite convenient for the copper cabling guys - they cannot compete to deliver the high data rates over the extended lengths of campus and backbone cabling sub-systems but it is a relatively small market so who cares - let the optical fibre guys keep that market. Instead, the battlelines are drawn in the dust of the office floor and the data centre.

Top of the list of advantages ascribed to optical fibre is bandwidth. However, we will soon see balanced cabling provide 10 Gigabit Ethernet (10GBASE-T) over 100 metres as compared to the 300 metres maximum achieved by the best multimode optical fibres. Not so different?

Further down the list of advantages comes “freedom from inter-element crosstalk”. However, one principle advantage not listed is the ability to support large numbers of connections. We will return to these advantages later in the article.

The one advantage that optical fibre can never claim is cost. The success of optical fibre as transmission medium does not depend upon the comparative costs of cabling which is on a par with balanced cabling systems. It is the cost of the optical fibre transmission equipment that defines the cost equation which suggests the use of optical fibre only where there is no alternative.

Networks targeted at the desktop are first standardised over copper cabling. Conversely, applications initially destined for use in the backbone are first standardised over optical fibre. Why? - because balanced cabling has an unfair advantage - it conducts electricity - and that advantage is becoming more, not less, prominent. The IEEE 802.3af standard ensures that pairs in a balanced cable can provide up to 13W of power at the end of the 100 metre horizontal channels. There is serious work underway in IEEE to increase this power thereby widening the range of devices that could be powered or re-charged. So the principal reason why fibre-to-the-desk will not become mainstream is not a question of data rate but of the delivery of power to IP-devices.

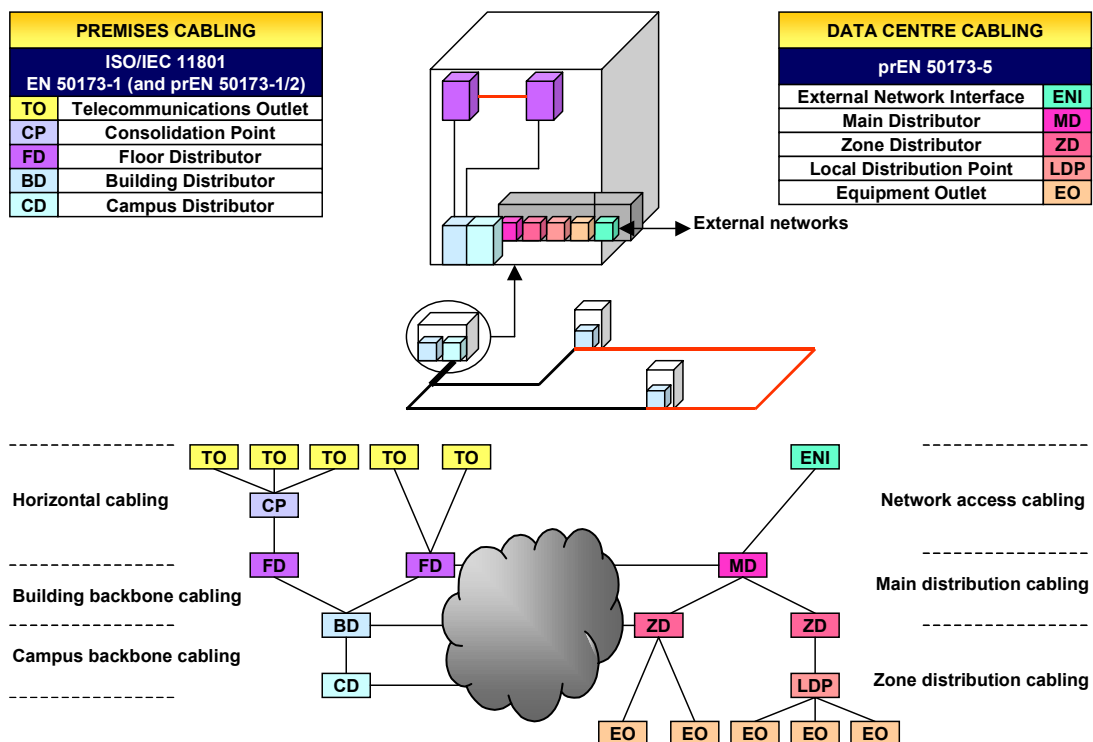


Figure 1 – Cabling structures

A data centre contains switching equipment at the zone and main distributors that connects the premises distribution cabling to data sources inside the building (i.e. servers) and the outside world (i.e. broadband connections).



Figure 2 – The world of data centres

Structurally, as can be seen in Figure 1, data centre cabling systems are the mirror image of the premises distribution cabling. While conventional premises cabling is designed to produce channels by reconfiguration of fixed cabling links with changes undertaken at patching fields. In contrast data centres can, and regularly do, evolve by the addition of equipment, cabinets and even rows of cabinets. This demands additional cabling links rather than reconfiguration of existing ones. Enabling this type of growth very quickly, avoiding massive disruption and risk of service provision failure is a key objective of the top data centre designers.

Optical fibre is a “non-radiating transmission medium”, it provides “freedom from electromagnetic interference and from inter-element crosstalk”. In a high data rate, high density cabling environment where cables are packed tightly together these advantages are critical. Not only does optical fibre cabling reduce the electromagnetic signature within the data centre, it can provision multiple circuits in a single cable without risk of interference thereby reducing the size and weight of the cabling. Optical fibre, using MPO and similar connections, can deliver twelve circuits in a connection no bigger than the end of your little finger. 10GBASE-SR can support at least ten mated connections over lengths of up to 200 metres (with some cabling system suppliers offering even greater support). While such complexity is rarely needed in even the most resilient building backbone constructs the data centre is a different world altogether.

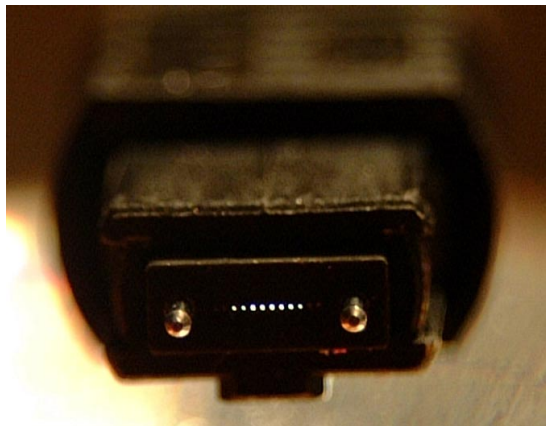


Figure 3 – High density interconnects

Standards-compliant 10GBASE-T networking products are expected to ship in 2006 and, according to IEEE, are aimed initially at data centres with eventual migration to the desktop. 10GBASE-T cabling requires defined cabling performance, generally meeting the requirements of Class E (Category 6 in the USA) extended 500MHz to that frequency. The exact details of the channel performance are largely irrelevant because whatever they are, existing Category 6 cabling is not guaranteed to meet them. Here the story gets more complicated because there are two separate performance specifications being developed – one to confirm that existing cabling can support 10GBASE-T, the other for a new Augmented Category 6_A/Class E_A product set.

Major cabling system suppliers are intent on selling the latter products - and the telecommunications cabling consulting companies are pleased to be able to tell their clients something new.

It is interesting, not to say unnerving, that the characterisation of cabling in support of 10GBASE-T has to address, for the first time, the issue of alien crosstalk (AXT) - the electromagnetic interference between adjacent cables (“inter-element crosstalk” for optical fibre). Control of AXT is “mission critical” since random signals originating external to the channel cannot be cancelled by the digital signal processing. Unfortunately, it will be virtually impossible to measure AXT on an

installed system. The number of connections in the 10GBASE-T channel will still be limited to four with AXT a key concern at those panel connections.

With all these issues still being addressed it hardly seems feasible that 10GBASE-T cabling will be considered as a credible replacement for optical fibre in the most critical areas within data centres of the type described above.

In reality, 10GBASE-T cabling is targeted at a horizontal cabling market that might not need it, while the data centre market that could use it - probably won't. In the data centre environment, any serious designer knows that there is no such thing as a cost-reliability balance. If you need reliability in the five 9's region then the cost to deliver it is not a primary issue. If you need high density interconnects, low cabling volumes and plug-and-play evolution, cost is not a primary issue.

The FIA Qualification Scheme

The FIA Qualification Scheme, launched September 2005, adopts a revolutionary but highly integrated approach to personal qualifications, training course provision and training provider quality assurance within the fibre optics industry. The scheme has the principal aim of improving the levels of expertise within industry and seeks to deliver benefits, both tangible and intangible, to all involved. The details of the scheme and all the associated documentation are to be found on a designated area of the FIA web-site at www.fia-online.co.uk/equals01.htm.

The Qualification Scheme addresses three inter-related areas: learner development, via a series of qualification stages with associated status "Awards" that reflect increasing levels of education and skill levels; training courses, via the approval of specific agendas and assessment systems to enable the progression of learners from one stage to the next and, finally, training provision via the appointment of Certified Trainers employed by Approved Training Providers.

A key feature of the FIA approach is its flexibility to adapt to the relevant skills required for a job function. One's job should not prevent anyone from achieving any level of FIA Award and no irrelevant training needs to be undertaken in order to that award.

The qualifications comprise a base, Level I, award but concentrate on four higher level awards. Learners at Level II have Technician status and will have obtained a basic qualification (such as City & Guilds 3466/3666) plus a recognised industry award and an appropriate health and safety qualification. Learners can progress from this to higher levels of award by a combination of attendance and successful assessment on FIA Approved Course Units and, in the case of the highest levels, submission of a thesis and oral examination. The status awards for the higher levels are Level III: Specialist, Level IV: Engineer and Level V: Expert.

The scheme encourages the approval of new course units and even allows the development of new, alternative, routes to higher level awards. This flexibility is essential to ensure to meet the needs of a diverse industry. Without such a flexible approach, high level qualifications would either be absent, due to the relatively small numbers of learners, or inappropriate to many learners. Training providers are encouraged to submit the agenda/syllabus and assessment criteria for each of the courses they operate for inclusion at the appropriate level within the Qualification Scheme.

In order to maintain the FIA Award status achieved by successfully completing the high level awards, a minimum of eight hours continuing professional development must be registered each year based on a wide range of technology orientated events and training courses.

Organisations providing the principal courses/units are required to be FIA Approved Training Providers and use FIA Certified Trainers to deliver the training.

Certified Trainers have to be knowledgeable in all aspects of fibre optics to a level beyond that required to pass the City and Guilds 3666 scheme. They also have to be qualified, trained or experienced as trainers and practically experienced in the field of fibre optics. After 31st October 2005, Certified Trainers are required to pass a written FIA examination and to have a qualification to show that they have achieved a suitable level of expertise as a trainer. There are a number of trainer qualifications and certification schemes that will satisfy the FIA requirements and in order to encourage the uptake of such professional qualifications the FIA is allowing significant periods of grace in this area. The Certified Trainer is provided with a Photo ID Card that requires renewal every two years.

FIA Approved Training Provider status is renewed annually and in order to gain and retain this approval, the organisation is required to be an FIA Corporate Member and commit to using only FIA Certified Trainers on any course units leading to awards that are recognised within the FIA Qualification Scheme. In addition, applicants shall be either a City & Guilds Centre approved for the delivery and assessment of 3666 or 3662 series qualifications or, alternatively, be willing to undergo and successfully complete an initial and subsequent annual audit by FIA staff.

Learners completing course units as part of their career progression are required to provide feedback, covering the quality of both training and facilities to the FIA Qualification Scheme Directorate. This provides effective quality assurance controls for the entire system.

The immediate benefits for FIA members include free enrolment for Personal Members and a number of web-based listings of companies supporting the Qualification Scheme, FIA members with "Certified" employees and separately, pending employers permission, "Certified" personnel including those Level V Award "experts" for clients requiring consultants in specialist areas.

The more intangible benefits include improved job prospects and increased competitiveness through the use of "Certified" personnel. Corporate members are able to use the Qualification Scheme logo

on corporate letterheads and promotional literature. "Certified" personnel are able to feature the relevant Qualification Award "status" on their business cards.



The Fibreoptic Industry Association

www.fia-online.co.uk

FIA Qualification scheme – STATUS Report

7th December 2005

FIA Learner No.	Name	Qualification	Status	Remarks
FIA 050001	Mike Gilmore TCP – Corp member	Level V Certified Optical Fibre Expert	Enrolment fee paid. List of possible topics sent re thesis. Thesis agreed: 'Multimode fibre bandwidth – its true value in high bit rate networks within plug-and- play data centre infrastructures'	
FIA 050002	Grant Anthony Sauls Falcon Electronics (Pty) Ltd. – Overseas Corporate member	Level III – Certified (Optical Fibre) Design Specialist	Enrolment fee paid. Awarded 19/09/05 On database – expires 01/10/06 Certificate paid for and sent. Pic received and OK to publish in next NL	On 27 th Sept rec from Mr. Sauls – 3 x unit feedback forms – awaiting advice from JC/LF Replied via email to GS on 26/10/05 – units not registered but confirm they are proof of CPD
FIA 050003	David O'Hara Alpha Network Solutions Ltd. – Corporate member	Level II – Certified (Optical Fibre) Cabling Technician	Enrolment fee paid. Awarded 20/09/05 On database – expires 01/10/06 Certificate – not requested. Asked for pic for DB and NL – nothing received – chased again on 21/11/05	

FIA Learner No.	Name	Qualification	Status	Remarks
FIA 050004	Ingemar G. Watson Falcon Electronics (Pty) Ltd. – Overseas Corporate member	Level II – Certified (Optical Fibre) DesignTechnician	Enrolment fee paid. Awarded 06/10/05 On database – expires 06/10/06 Certificate paid for and sent. Pic received and OK to publish in next NL	

FIA Certified Trainers – via grand-fathering rights:

CTTS	M. Cook J. Pywell P. Gorman	£41.13 fee paid each	Acceptance letter sent 19/08/05 Certificates & badges sent 16/09/05	Approval for photos on w/site & NL given RENEWAL DATE: 31/07/2007
LUCID Optical Services Ltd.	J. Colton N. Haigh D. Gallivan S. Dobson	£41.13 fee paid each	Acceptance letter sent 22/08/05 Certificates & badges sent 16/09/05	Approval for photos on w/site & NL given RENEWAL DATE: 31/08/2007
CableNet Training	K. Matless E. McVeigh	£41.13 fee paid each	Acceptance letter sent 23/11/05 Certs & badges TO SEND	Have photos - AWAITING APPROVAL to put on w/site & NL RENEWAL DATE: 30/11/2007
CableNet Training	C. Snook	£41.13 fee paid	Acceptance letter sent 1/12/05 Certs & badges TO SEND	Have photo - AWAITING APPROVAL to put on w/site & NL RENEWAL DATE: 30/11/2007

Royal School of Signals	Tim Rigby	£41.13 fee paid	Acceptance letter sent 23/11/05 Certs & badges TO SEND	Have photo - Approval for photo on w/site & NL given RENEWAL DATE: 30/11/2007
Royal School of Signals	Alan Brooks	£41.13 fee paid	Acceptance letter sent 23/11/05 Certs & badges TO SEND	Have photo - Approval for photo on w/site & NL given RENEWAL DATE: 30/11/2007
Royal School of Signals	Brian Hilton	£41.13 fee paid	Acceptance letter sent 23/11/05 Certs & badges TO SEND	Have photo - (too small – have requested larger one) Approval for photo on w/site & NL given RENEWAL DATE: 30/11/2007
EXFO	Mike Harrop	£41.13 fee paid	Acceptance letter sent 28/11/05 Certs & badges TO SEND	AWAITING PHOTO - Approval for photo on w/site & NL given RENEWAL DATE: 30/11/2007

TOTAL Communications – have spoken to Chris Atkins this week – he apparently sent forms etc. in on 26th October – these have never been received. I have sent him more CT forms and he says he will complete and give to me at the AGM (together with relevant fee).

07/12/05

Peter Lythgoe report – currently missing – to be added.