



**COMMISSIONING PROTOCOL FOR INDEPENDENTLY
PRODUCED SOUTH AFRICAN PROGRAMMING**

Submitted to ICASA on 16 July 2010

1. INTRODUCTION

1.1 e.tv is South Africa's only commercial free-to-air television licensee and attracts, on the e.tv channel, the second largest audience with a market share of over 20%.

1.2 e.tv strives to appeal to as broad an audience as possible and to position itself as a unifying influence among its viewership. As a result, its audience profile fairly represents the demographics of South Africa with regard to race, age, income and gender.

1.3 e.tv makes a significant contribution to the development and broadcast of locally-produced programming which reflects the uniqueness of South Africa. e.tv has focused substantial resources on developing local programmes which have become the flagship audience drivers for the channel. Since 2001, more than 45% of the e.tv channel's programming between the hours of 5am and 11pm has consisted of local content. e.tv's programming reflects a wide diversity of South African cultures, languages and interests and are produced by independent producers.

1.4 e.tv's controlling shareholder, Hosken Consolidated Investments (HCI) is a leading black empowerment company listed on the JSE Limited (JSE). HCI is controlled by the South African Clothing and Textile Workers Union (SACTWU) and its social benefit trusts. The members of SACTWU comprise of some 80 000 clothing and textile workers. The beneficiaries of the trusts are these workers together with their dependents. A large portion of investment income is allocated to the SACTWU Welfare Programme to provide social benefits to SACTWU members and their dependants. The range of projects funded by the Welfare Programme primarily covers educational support, employment creation and protection projects, HIV-Aids, health care projects and housing. HCI is one of the few companies on the JSE where broadly based black empowerment

shareholders with substantial social responsibility initiatives have a major economic interest.

1.5 e.tv has committed itself to implement a strategy to ensure increased procurement from BEE contributors and to uphold the principles set out in the Broad-Based Black Economic Empowerment Act 53 of 2003. The Preferential Procurement policy of e.tv, attached as Appendix 1, is based on the following principles:

1.5.1 Ensuring an equitable distribution of financial resources in the most efficient manner

1.5.2 Ensuring that the quality of products and services to be supplied to e.tv is not compromised

1.5.3 Ensuring that the products and services to be supplied are provided on a cost-effective basis

1.5.4 Ensuring that, where possible, e.tv maximizes its purchases from genuinely black owned enterprises, and

1.5.5 Ensuring that all suppliers comply with the highest ethical standards in business practice.

1.6 This commissioning protocol lays out the internal policies and procedures in terms of which e.tv commissions programming from independent producers. The scope of the commissioning protocol does not extend to e.tv's licensing or acquisition of programming from third parties.

2. COMMISSIONING PROCESS

3.1 OBJECTIVES OF THE COMMISSIONING PROCESS

3.1.1. To enable a mutually beneficial commercial relationship between e.tv and local production companies.

3.1.2. To allow for the production of South African programming that engages and inspires the e.tv audience.

3.1.3. To promote participation by a range of independent producers in the commissioning process so that content is delivered which reflects South African society.

3.1.4. To ensure the strict adherence to e.tv financial and administrative policies, including preferential procurement.

3.2 TYPES OF COMMISSIONED CONTENT

3.2.1 There are three distinct types of commissioned content with which e.tv works:

- Content commissioned following the issuing of a brief by e.tv;
- Content commissioned following the unsolicited submission of a proposal by a producer; and
- Content commissioned following a proposal by an advertiser (Advertiser Funded Programme).

3.2.2 In all three cases, the content may either be funded fully by e.tv or may be co-funded by the producer or advertiser.

3.3 CONTENT COMMISSIONED FOLLOWING THE ISSUING OF A BRIEF BY E.TV

3.3.1 This is e.tv's preferred method of engaging with independent producers.

3.3.1.1 Briefs are published on the e.tv website and are sometimes accompanied by on-air TV promos, radio and print advertisements.

3.3.1.2 The brief details all information required by the independent producer and the information requirements contained in the brief must be strictly adhered to.

3.3.2 TYPICAL TIMETABLE – CONTENT COMMISSIONED AFTER BRIEF

3.3.2.1 e.tv strives to follow the timeframes detailed in the table below but this is not always achievable. The timetable below is therefore a guideline only.

	TARGET TIMEFRAME
1. Acknowledgement from e.tv	7 working days from receipt
2. Short listing notification to producers	Within a further 30 working days
3. Commissioning decision by e.tv	Within a further 30 working days
4. Notification to producer	Within a further 7 working days
5. Commencement of contractual negotiations	Within a further 14 working days
6. Conclusion of contractual negotiations	Within a further 30 working days
7. Progress reports from producer	As per agreement
8. Delivery of programmes	As per agreement
9. Payment	As per mutually agreed cash flow

3.4 UNSOLICITED CONTENT

- 3.4.1 On occasion, e.tv commissions programming following the unsolicited submission of programme proposals by independent producers.

- 3.4.2 Where an independent producer makes an unsolicited proposal, they must adhere to the following requirements:
 - 3.4.2.1 The proposal must clearly indicate which Genre/Category the proposal falls in.
 - 3.4.2.2 All submissions must be made in English. Illustrations in other languages may be included.
 - 3.4.2.3 All proposals must be typed. No handwritten proposals will be accepted.
 - 3.4.2.4 A detailed treatment must be included - strengths, purpose, strategy and most importantly what the producer is trying to achieve.
 - 3.4.2.5 A brief outline of the concept must be provided. No more than 500 words, should include proposed numbers of episode(s) and duration of programmes.
 - 3.4.2.6 All proposals must contain the name, address and telephone numbers of person representing the company for purposes of the proposal.
 - 3.4.2.7 Submissions must confirm whether or not the proposal has been submitted to any other South African broadcaster.
 - 3.4.2.8 A production budget must be included detailing how much it will cost to produce. Producers should refer to the sample budgets, cashflow and cost reports provided

on the e.tv website. Note that the budget templates of other broadcasters will not be accepted by e.tv.

3.4.2.9 All programme proposals from production companies must also include the following information:

- Name and registration number of production company;
- Registered address of the company
- Names, race and gender of shareholders of production company;
- Names, race and gender of directors of production company;
- Names, race and gender of senior personnel at the production company and their positions; and,
- Details of training initiatives engaged in by the production company over the past 12 months.
- A copy of the company's BEE verification certificate.

3.4.2.10 If the producer is not a company, s/he must provide detailed information of the race and gender of the personnel for the production.

3.4.2.11 All proposals are submitted at the producer's own risk and must be accompanied by a signed disclaimer. Please refer to Appendix 2.

3.4.3 Producers submitting unsolicited proposals should note that e.tv will not take responsibility for returning any submitted materials and that e.tv will only correspond with producers whose proposals we are considering pursuing.

3.4.4 TYPICAL TIMETABLE – UNSOLICITED CONTENT

3.4.4.1 e.tv strives to follow the timeframes detailed in the table below but this is not always achievable. The timetable below is therefore a guideline only.

	TARGET TIMEFRAME
1. Initial response from e.tv (only in cases where e.tv is considering pursuing the proposal)	Within 60 working days of receipt of the proposal
2. Commissioning decision by e.tv	Within a further 30 working days
3. Notification to producer	Within a further 7 working days
4. Commencement of contractual negotiations	Within a further 14 working days
5. Conclusion of contractual negotiations	Within a further 30 working days
6. Progress reports from producer	As per agreement
7. Delivery of programmes	As per agreement
8. Payment	As per agreement

3.5 ADVERTISER FUNDED PROGRAMMES

- 3.5.1 Another source of local programming is where advertisers elect to fund a programme to achieve their marketing objectives.
- 3.5.2 The role of the advertiser in such Advertiser Funded Programmes differs according to the property at hand but may extend to conceptualization and production.
- 3.5.3 Most proposals for Advertiser Funded Programmes are channeled through e.tv's Commercial Time Sales (CTS).
- 3.5.4 In cases where an advertiser or producer wishes to make a proposal for an Advertiser Funded Programme, without the involvement of CTS, the requirements in 3.4 must be followed.

3.5.5 TYPICAL TIMETABLE – ADVERTISER FUNDED PROGRAMME PROPOSALS

See 3.4.4

4 CONTACT DETAILS

- 4.1 All programme proposals, whether in response to a brief, unsolicited, or an Advertiser Funded Programme, must be addressed as follows:

Manager: Local Productions
e.tv
5 Summit Road

5 TERMS OF TRADE

5.1 In its agreements with its independent producers, e.tv requires:

- 5.1.1 Control over budgets;
- 5.1.2 Editorial control; e.tv has final editorial and creative control over the production including the name, content, format, style and presentation. e.tv shall be entitled to make such changes and edits to the production as it sees fit. Failure of the producer to comply with an instruction from e.tv in this regard shall be regarded as a material breach of the agreement;
- 5.1.3 That all rights associated with the video production be assigned to e.tv as the exclusive owner thereof (See paragraph 5.3 below); and
- 5.1.4 That e.tv be allowed the right to market and license the video production in all forms of media and across all platforms.

5.2 In consideration thereof, e.tv will:

- 5.2.1 Where required, pay a percentage of the production cost upfront and the remaining as per the approved payment schedule;
- 5.2.2 Pay designated and pre-identified costs included in the budget (sets, vehicles, props, legal services);
- 5.2.3 Support the producer by providing access to technical facilities; including sound stages, lighting technicians, cameramen, production specialists, marketing and promotions team and other types of technical and artistic services from time to time); as and when such facilities are available; and

5.2.4 Provide access to its library and international music publishing arm as and when such material is available.

5.3 The rights that e.tv requires include, but are not limited to exclusive:

- copyright in and to the production and its underlying concept;
- theatrical and non-theatrical rights
- format rights (if any);
- adaptation rights;
- film rights;
- merchandising rights;
- mobile rights (broadcast and non-broadcast);
- IPTV and VOD rights;
- internet and web rights;
- all language rights;
- terrestrial television rights;
- satellite television rights;
- cable television rights;
- DVD and videogramme rights;
- all pay and free-to-air television rights; and
- all ancillary rights (airlines, ships, rail and hotels)

and all other rights whether now in existence or created in the future, including both digital and analogue formats, which shall include the right to broadcast and own the production and the right to produce any further and future productions and the rights to exploit the production in any manner whatsoever including sub-licensing and distribution- which rights are granted irrevocably to e.tv.

5.3.1 The above rights collectively amount to a saleable chain of title that allows e.tv to market the production in question at international fairs and generally exploit the production on international markets.

5.3.2 As far as co-productions are concerned, where the producer/s co-funds the production, rights and profit shares are determined on a case by case basis, after negotiation with the co-producer.

6 EDITORIAL STANDARDS

6.1 e.tv retains editorial control of all content broadcast on its channel/s.

6.2 e.tv strives to broadcast programming that is:

- Creative
- Innovative
- Inspiring
- Informative & Entertaining
- Promotes diversity and is truly representative of our country
- Quality programming, relevant to our audience and which meets their expectations.

6.3 e.tv is a signatory to the Broadcasting Complaints Commission of South Africa (BCCSA) Code of Conduct to which it must adhere. Producers should be mindful of the content and requirements of the Code.

6.4 Where a producer seeks to deviate from agreed editorial specifications, the producer must obtain written permission from the Manager: Local

Productions, provided that there shall be no negative impact on final delivery obligations.

7 TECHNICAL STANDARDS

e.tv's technical requirements are laid out in Appendix 3. Please note that these technical requirements may change from time to time and producers should check the e.tv website to ensure they have the most recent version.

8 DETERMINATION OF PROGRAMME FEES

8.1 e.tv takes the following criteria into account in the determination of programme fees:

- Genre
- Potential revenue
- Potential for further exploitation
- Inflation, where applicable
- Market share and potential to grow audiences
- Relevance to content strategy and objectives for the channel at that point in time.
- Rights clearance

9 DISTRIBUTION ARRANGEMENTS

9.1 As part of its recoupment strategy for its investment in commissioned works, e.tv retains the right to market, promote, broadcast, distribute and advertise

the production in such a manner and according to such methods as it deems suitable and to enter into distribution agreements with third parties and/or sub-licensing agreements in respect of commissioned video productions with its affiliates in Africa and across the world.

9.2 As far as co-productions are concerned, the above rights will be negotiated and determined on a case by case basis.

9.3 Arrangements for any artists royalties payable with regard to repeats are dealt with on a case-by-case basis and are subject to commercial agreement.

10 COMPLAINTS HANDLING MECHANISM

10.1 Where an independent producer wishes to make a complaint about e.tv's commissioning process, such complaints shall be made in writing to:

Manager: Local Productions
e.tv
5 Summit Road
Dunkeld West
2196

10.2 Only substantive complaints will be dealt with and will be replied to within 30 working days.

10.3 Should the complainant not be satisfied with the outcome, the matter can then be referred to:

Head of Channels

e.tv

5 Summit Road

Dunkeld West

2196

APPENDIX 1

PREFERENTIAL PROCUREMENT POLICY

**PREFERENTIAL PROCUREMENT GUIDELINES for
e.tv, e.sat & NHU (the Company)**

1. B-BEE

Broad-based Black Economic Empowerment (B-BBEE) in a nutshell:

- Is an initiative launched by the government to address the restrictions that exist within the country for Black businesses and for individuals to participate fairly in the economy;
- Allows for the existence of the BEE %Codes of Good Practice+ which provide the structures for the Scorecards and certain rules associated with claiming BEE points;.
- Is essentially a buyersclub. If you have a BEE certificate then your customers can claim BEE points towards their BEE Scorecard for buying from your business.

You can get a different level BEE certificate (from Non- Compliant to 1) depending on what contributions you have made to black people e.g. employment equity, skills development, socio economic development, etc. The better the level of your BEE certificate the more points your customers can claim.

When customers choose which supplier to use, they are likely to consider price, quality, service and BEE score.

IT IS FOR THIS REASON THAT WE NEED TO BE CONSCIOUS OF THE BEE STATUS OF OUR SUPPLIERS.

2. DIFFERENT SIZED ENTITIES

The BEE Codes of Good Practice allow for three types of entities namely:

2.1. Exempted Micro Enterprises (EMEs)

- Any business with a turnover of R5 million and less p.a.
- it is exempted from being measured against the BEE scorecard
- Automatically qualifies as a Level 4 contributor (100% procurement recognition)
- If black ownership is more than 50%, qualifies for a Level 3 status (110% procurement recognition).

EMEs are still required to produce a certificate to prove that they are exempted.

2.2. Qualifying Small Enterprises (QSEs)

- Any business that turns over more than R5 million but less than R35 million per annum
- QSEs are scored against a QSE scorecard according which the entity can choose to be assessed on any 4 out of the 7 scorecard elements
- The targets and point allocations are different to the generic scorecard.

2.3. Generic Enterprises

- Any business with a turnover of more than R35 million per annum
- Gets measured against all 7 elements of the Generic BEE scorecard
- The targets and point allocations are different to the QSE scorecard.

3. THE 7 ELEMENTS OF THE BEE SCORECARD

1. Ownership
2. Management Control
3. Employment Equity
4. Skills Development

- 5. Preferential Procurement
- 6. Enterprise Development
- 7. Socio-economic Development

Each of the 7 elements is evaluated and scored separately. For example, e.tv is a Level 1 contributor in terms of Ownership but was rated as a Non-Compliant contributor for Skills Development.

Both e.tv and e.sat tv fall under generic enterprises and their current BEE status is **Level 4** and **Level 6** respectively. The objective of this document is to address means and strategies to maintain our status of Level 2 (e.tv) for Preferential Procurement if not achieve an improved rating.

Preferential Procurement in simple terms refers to ~~all~~ goods and services procured by the entity other than any portion specifically excluded which are measured to calculate the Total Measure Procurement Spend (TMPS)+

The procurement listed below is measureable within the Total Measured Procurement Spend **(Empowerlogic 2009)**

Description
Cost of Sales
Operational Expenditure

Capital Expenditure
Public Sector Procurement: all goods and services procured from organs of state and public entities listed in schedules 2 and 3 Public Finance Management act 1998
Monopolistic Procurement: all goods and services procured from suppliers that enjoy a monopolistic position are included in TMPS. Only procurement for organs of state or public entities that enjoy a statutory or regulated monopoly as listed below may be excluded
Third Party Procurement: all procurement for a third party where the cost of that procurement is recorded as an expense in the measured entity's annual financial statements.
Labour Brokers and independent contractors
Pension and medical aid contributions excluding any portions of such payments which are a contribution to a capital investment of the employee
Trade Commissions
Imports other than those excluded under permissible exclusions (see below)
Intra-group procurement: except where the procuring entity and the supplying entity form part of the same verification certificate

The following table lists **permissible exclusions** for TMPS:

Description	
A	Taxation
Public Sector Procurement	
B	<p>All goods and services procured from organs of state and public entities in Schedule 1 of the PFMA Act of 1999</p> <p>All goods and services from any organ of state or public entity that enjoys a statutory or regulated monopoly</p>
C	Salaries, wages, remuneration and emoluments
D	Pass Through Third party Procurement where such procurement is not recorded as an expense in the measure entity's annual statements
Empowerment Related Procurement	
E	<p>Investments in or loans to an associated enterprise</p> <p>Investment, loans or donations qualifying for recognition under Enterprise Development or Socio-economic Development</p>
Imports	
F	Imported capital goods or components for value-added production in SA provided that there is no local production and that importing promotes further value-added production in SA
G	Imported goods and services which carry a different brand to the locally produced goods or services
H	Imported goods and services that have different technical specifications to the locally produced goods or services.

We need **not** obtain BEE credentials for goods procured from this category of supplier.

4. INFORMATION THAT APPEARS ON A STANDARD BEE CERTIFICATE:

- Company name, vat number and address details
- Type of Certificate (Group/Entity/Division)
- BEE Category (QSE/Generic)
- BEE status
- BEE Procurement Recognition %
- Black Ownership %
- Black Women Ownership %
- Value Adding vendor (Yes/No)
- Certificate number, issue date and expiry date
- Verification agency

5. EFFECT/ADVANTAGE OF AN ENTITY'S BEE STATUS

An entity's BEE certificate is used by its customers to claim BEE spend when they procure goods or services from the entity.

e.g. If a supplier has a Level 1 BEE status (100%) then its customers can claim 135% points towards their BEE rating - see table below.

BEE Status ¹	BEE Procurement Recognition Level
Level 1 (≥ 100)	135%
Level 2 (≥ 85 & < 100)	125%
Level 3 (≥ 75 & < 85)	110%
Level 4 (≥ 65 & < 75)	100%
Level 5 (≥ 55 & < 65)	80%
Level 6 (≥ 45 & < 55)	60%
Level 7 (≥ 40 & < 45)	50%
Level 8 (≥ 30 & < 40)	10%
Non-compliant (< 30)	0%

6. PROCESS

6.1. The Company's procurement policy is based on the following principles:

- 6.1.1. Ensuring an equitable distribution of financial resources in the most efficient manner;
- 6.1.2. Ensuring that the quality of products and services to be supplied to the Company is not compromised;
- 6.1.3. Ensuring that the products and services to be supplied are provided on a cost effective basis;
- 6.1.4. Ensuring that, where possible, the Company maximizes its purchases from genuinely black-owned enterprises; and,
- 6.1.5. Ensuring that all suppliers comply with the highest ethical standards in business practice.

6.2. All suppliers of goods and services in respect of whom this policy applies will be required to supply the Company with their BEE certificate. In the absence of such document, the supplier will be required to complete a questionnaire setting out all relevant information relating to their BEE status and future BEE plans including the following:

- 6.2.1. Type of entity (e.g. private company, public company, close corporation, partnership, one person business/sole trader);
- 6.2.2. all contact details e.g. address, fax, telephone, e mail;
- 6.2.3. VAT number;
- 6.2.4. principal business activities;
- 6.2.5. other business activities;
- 6.2.6. total annual turnover
- 6.2.7. business activities in respect of which they want to be/remain a supplier;
- 6.2.8. total number of years that they have been in business whether under the existing name or any other name (which should be supplied);
- 6.2.9. any civil judgments awarded against them in the past five years;
- 6.2.10. details of any civil litigation in which they are currently involved;
- 6.2.11. full names of all shareholders and/or members;
- 6.2.12. if the company is a public company, then the majority shareholders should be listed;
- 6.2.13. if the entity trades as a partnership, the names of the partners;
- 6.2.14. the names of all persons operating as a business entity, other than the above, or operating as sole traders;
- 6.2.15. insofar as may be applicable, the full names of all directors;
- 6.2.16. in respect of all of the above (i.e. shareholders, partners, directors, etc.), the suppliers should supply name, identity number and citizenship. The latter to be both in respect of directorship and ownership and should include information such as whether or not female, date ownership acquired, percent equity owned and percent voting. Insofar as companies are concerned, if they are owned by a holding company, the information should be supplied also in respect of that company;
- 6.2.17. the number of permanent staff members employed by them on both a full-time and part-time basis as well as their employment equity profile;
- 6.2.18. employment equity targets relating to composition of board of directors, management, partners, staff and the like;
- 6.2.19. details of employee training programmes;
- 6.2.20. details of employee share participation or profit-sharing schemes;
- 6.2.21. social responsibility record;
- 6.2.22. and any other relevant information.

6.3. Each supplier **must** provide the Company with an updated BEE certificate every year on expiry of the existing certificate.

6.4. Suppliers that do not have a BEE certificate are required to confirm and/or update the above information (f to z) on an annual basis. Suppliers will also be required to supply any additional information required by the Company to satisfy the requirements of the ICT Charter as updated from time to time.

6.5. All gathered supplier information must be forwarded to Beverly Fasser in the COO's office.

- 6.6.** The aforesaid information will be evaluated to ensure that the Company achieves its targets as set out in this policy subject to recognising that in order to acquire the best possible service at the best possible price, exceptions may need to be made which may affect the Company achieving these targets from time to time.
- 6.7.** It is the responsibility of the procuring manager to acquire his/her suppliers BEE certificate and/or ensure the suppliers details are updated. In determining the vendor with whom the Company will conduct business, the final decision will be based primarily on price and quality of service. Where two entities both offer a similar level of service and pricing the Company will select the company with the superior BEE profile.

May 2010

APPENDIX 2

DISCLAIMER

1. While the copyright of all scripts submitted to e.tv vests with the author, similarities in ideas, concepts, plots and scripts often occur. Accordingly, e.tv will not compensate you if materials similar to yours are subsequently commissioned or produced by e.tv or any of its affiliates which are not based on your script. In the event that e.tv wishes to option or develop your script, it will enter into negotiations with you for the conclusion of a standard commissioning agreement which will cater for the acquisition and exploitation of copyright.
2. The author acknowledges that all proposals submitted to e.tv are non-confidential and are submitted to at his/her own risk. e.tv accepts no responsibility therefore including any responsibility for loss or damage to scripts

Signed

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APPENDIX 3

TECHNICAL REQUIREMENTS

1.Scope of Document

These technical specifications outline the delivery requirements and define the technical standards for programs that have been commissioned by e Group as well as for programme makers and technical service suppliers to e Group. It is the responsibility of all such parties to be aware of all relevant sections of this document during the production process.

While this document deals primarily with material for transmission, there are other factors to take into account such as re-versioning, these will be also be dealt with in this document.

This document must also be used as a guide for operational staff within e Group

Advances in production techniques and changes in operational requirements will necessitate review of this content from time to time.

2. Introduction

Meeting all aspects of this document throughout the broadcasting chain from camera to transmitter is extremely difficult but all are expected to be as near as possible for the majority of the time.

The purpose of this document, and associated material is to set out the technical requirements to ensure that material delivered is of a satisfactory standard, it is part of our role to advise on the avoidance of production equipment or techniques that we know to be technically inferior or contentious and we then need to find a practical way forward that is acceptable to all parties.

Prior to acceptance all programme material will be technically assessed to ensure that it meets e Group delivery requirements and it will be graded using a ITU-R five point quality scale.

If defects are discovered the tape will either be returned to the supplying company for repairs or the rectification will be carried out by e Group and the cost recovered from the supplier. This costing will be made available on request.

Special circumstances may arise where material of a lower ITU grading may be accepted due to historical or artistic merit or where special production requirements apply. In these cases prior approval must be sought from the Transfers department who in turn will seek exemption if appropriate. Below factors will be taken into consideration see page 8 under 3.3.1

QC Review will always look at the below criteria:

Technical Requirements:

These sections describe the technical standards required to deliver material to e Group, these are broadly pass / Fail objective measurements.

Quality Requirements:

Quality Requirements deal with broadly subjective quality issues with the pictures and sound. Careless shooting, inappropriate production methods and faulty or substandard equipment can cause avoidable impairment to sound or vision. The 5 point grading system will be used see Pg 14 (5.1)

Operational Requirements:

All material delivered must be to the correct standard, be accompanied by the correct line up sequences and accompanied with the correct information for the “ingest” or tape delivery process, this will be dealt with under Operational Requirements later in this document

There are aspects that fit into more than one category for example the requirements on avoiding the use of material that cause photosensitive epilepsy in the audience.

Due to the rapid rate of technical development use of specific equipment is constantly under review, the document will be subject to periodic updates to reflect this reality.

Remember that the technical assessment does not affect the quality grades given material could have pass QC grades but still be rejected due to technical issues.

3. Technical Responsibilities for Programmes

3.1 General Responsibilities

Transfers Department is required to ensure that broadcast technical quality is maintained to a satisfactory standard for both SD and HD programmes

This document is the responsibility of the Transfers Manager, tel +27 21 481 4724 (kobus.kruger@etv.co.za)

3.2 Technical Liaison

For all Technical Liaison contact the Transfers Department to assist you in all matters – (including non tx reports) they will also be able to re-direct you if need be.

3.3 Relaxation of Standards

All programmes are expected to meet our required technical standards. The recognised exemption categories are tightly constrained and will not be invoked for the general convenience of programme makers. Where programmes fail to meet full broadcast technical specifications and fall outside these categories it will be necessary to apply for special exemption. Any proposal to deliver programme material which does not conform to the technical standards in these guidelines must be agreed beforehand with the Station Manager at e Group. Copies of any written agreements must then be supplied with the transmission tape to assist the QC Person. This will allow discussions to proceed at an early stage and, although in no way guaranteed, it will reduce the likelihood of subsequent difficulties.

3.3.1 There are five recognised categories for technical exemption.

Artistic interest: Innovative or experimental productions which are made, of necessity, by those who do not have access to equipment or facilities meeting broadcast quality standards.

Historic interest: News or programmes of a documentary nature which show historic events taking place or whose subject matter requires the use of archive material.

Actuality material: News, features or documentaries of an actuality nature where better quality has not been possible because of limitations placed on the format or physical size of equipment used. Such limitations are those incurred as a result of shooting in difficult areas such as war zones, isolated locations, confined spaces or other difficult environments.

Early television and cinema: Excerpts from historical archives where low technical quality was due to the then current performance of equipment used in its creation or where quality is now lower than at the time of original showing because of film or video ageing.

Domestic equipment: Programmes which employ excerpts made using domestic equipment in which the context requires that it is used.

NOTE: This is not permissible in HD masters.

4. General Technical Requirements

Technical requirements must be met so that programme material is in the required format, which can be used reliably without any user intervention and can be passed through systems without noticeable impairment to the viewer.

4.1 Origination Material

- All origination SD material must be shot on 2/3" 3x CCD Cameras, PAL 625 4:3 Aspect ratio
- e Group accepts, only by prior permission, material originated on cameras with CCD smaller than 2/3" or single chip cameras. Also, how the material is used in the program, must be cleared by e Group. This material will be limited in duration depending on the nature of material.
- SD Material originated using HD Cameras ex. XD Cam HD Cam, HD CamSR, DVCPRO HD or AVCIntra on 2/3" or 1/2 " 3x CCD cameras is acceptable for e Group's SD transmission. This material must be converted to PAL 625 4:3 Aspect ratio (Letterbox, Zoomed or Pan and Scanned) for delivery, using broadcast acceptable down conversion methods..
- All other systems require prior approval from e Group. Eg DV, Mini DV, HDV, AVCHD cameras.

4.2 Video General Technical Requirements

Although some of the programming is now produced and delivered digitally, the signals must still be compliant with analogue standards. For example excessive (illegal) levels are likely to cause severe picture disturbances when copied to analogue tape formats such as Betacam SP.

4.2.1 Video Standard

All signals and recordings supplied shall be of the Pal 625/50 interlaced 4x3 standard unless agreed otherwise beforehand. Tape Format System will be DVCPRO 50 Large cassette. Composite material shall meet PAL System I in all aspects of timing, frequency response and bandwidths. At this stage we do not accept Digital file base delivery.

4.2.2 Video Levels and Gamut (illegal signals)

Video levels including any line-up shall be received within the specified limits so that the programme material can be used without adjustment. Video levels are based on the PAL System I which specifies 0 to 100% RGB Limits. We require that signals meet the easier EBU Recommendation R103-2000: Luminance limits -1% and 103% Chrominance 105% max - RGB values to not exceed limits -5% to +105%

Overshoots can be ignored by the use of a low pass IRE filter. Single lines with larger errors caused by vertical processing such as aperture correction and aspect ratio conversion are permitted if they do not exceed the -1% Luminance limit.

4.2.3 Line-Up

Line-up signals serve to identify individual signal channels and to provide reference levels to confirm that the programme transmitted is likely to be within the signal level limits and will be as the producer intended. Preferred line-up signals are given under 4.2.3 for recordings . Programme video and audio signal levels must be accurately related to their associated lineup signals but not exceed the limits set in 4.1.2. The maximum deviation of programme levels from that indicated by the line-up signals shall be: Video Luminance 3% and Video Chrominance 5%

Line blanking level shall be used as a black reference for the programme.

See Operational Requirements, section 6.2.1, for usage of Line-up signals.

4.2.4 Video Signal Timings

Digitally delivered pictures are considered to have a nominal active width of 702 pixels starting on the 10th pixel and ending on the 711th pixel in a standard REC 601 (720 sample) width. A minimum width of 699 pixels within these limits must be achieved. Additional active pixels outside the above limits must be an extension of the main picture. Vertical Blanking must not exceed 26 lines per field. Line 23 may contain a whole line of picture, be totally blanked, or the last half may contain picture relevant to programme. Line 23 must not contain any form of signalling as it is likely to appear in picture during letterbox style presentation. Likewise picture content in line 623 is also optional, but if present it must be related to the programme.

4.2.5 Aspect Ratio

Programmes will be for 4:3 Standard presentation. Delivery of 16:9 Full Frame (Anamorphic) programmes is not acceptable, prior arrangement can be made so this can be converted at cost. Format changes within the programme to maintain the 16:9 presentation should not be required. Active picture width is 702 pixels. All aspect ratio calculations are based on this. Any processes based on 720 pixel width may introduce unwanted geometry or safe area errors.

4.2.6 Safe Areas for Action and Captions

Captions and action shall be within the safe areas specified for delivery. There is only one standard safe area defined for e Group transmission, currently we only broadcast in 4:3 so all programmes should be 4:3 title and video safe. In the event of a programme being approved to be in 16:9 letterbox then it should still be 4:3 title safe.

4.2.7 Time-code

Vertical interval time-code (VITC) is mandatory and shall occur on lines 19/21 and 332 /334. Longitudinal (LTC) is mandatory and shall be 8 field locked to the relevant video source and be phase accurate to less than 10mS ($\frac{1}{2}$ field) error. The time information in VITC and LTC must match.

4.2.8 On air Bugs

All programs must be bug (Graphics) safe. e Group has two bugs on screen – jpeg available on request and can be emailed

- i The e logo top left of screen. (Appendix 1)
- ii The age restrictions bug top left of screen. (Appendix 1)
- iii During the end credits we put up a next up strap (Appendix 2)

4.3 Audio General Technical Requirements

4.3.1 Audio Standards

Programmes shall be delivered in Stereo Format as required. The use of pre-emphasis and/or noise-reduction schemes during acquisition and post production is acceptable. However, the programme for final delivery should have no pre-emphasis or noise reduction scheme applied unless specifically required.

Ch 1 Stereo. Mix L Channel

Ch 2 Stereo Mix R Channel.

Ch 3 M/E For international Acquisition

Ch 4 M/E For international Acquisition

M/E Track will only be required when delivering for international delivery.

Mono shall be in Dual Mono format with identical and coherent audio on both Left and Right channels. This is so that it may be used amongst stereo programmes.

Finished programme material intended for transmission with stereo sound, whether recorded on videotape or for live transmission, must carry sound in A/B (Left/Right) form. M/S (Mid/Side) is not acceptable for delivery.

4.3.2 Audio Level, Reference Level and Measurement

Programme audio levels shall always be measured by digital meters. The Maximum or Peak Programme Level shall be measured with Digital meter and shall never exceed -6 dB

Digital Audio Reference level is defined as -18dBfs per EBU recommended practice R68.

Program average loudness not to excessively exceed reference loudness.

4.3.3 Line-up Tones

Line-up Tones serve to identify individual signal channels and to provide Reference Levels to indicate that without adjustment the programme transmitted will be within the signal level limits specified in 4.3.2 and will thus be broadcast as the producer intended. All tones must have been sourced to a tolerance of +/- 0.1dB.

Mono Line-up Tone shall be at a frequency of 1kHz +/- 100Hz and represent 8dB less than the maximum allowable peak.

For Stereo sources, Stereo Line-up Tone shall be provided at a frequency of 1kHz +/- 100Hz and shall indicate the Left and Right programme legs: namely, EBU / ITC Stereo Tone at - 18dB (PPM 4 / Zero Level) with only the left leg identified by breaks.

All tones must be sinusoidal, free of distortion and shall be phase coherent between channels. Optionally, Step Tone sequences may be provided but if so then all tones must have been sourced at the same level and be phase coherent on Stereo feeds / tracks. See Operational Requirements for specific usage of tones.

4.3.4 Stereo Balance and Phase

The two stereo legs, when sending identical programme (Mono), shall match within 0.5dB and be phase coherent to less than 15 degrees at 10kHz (-20 dB for an “S” reading meter / 4us delay). Note: one sample of 48kHz is 75 degrees at 10kHz.

4.3.5 Sound to Vision Synchronisation (Lip-synchronisation)

The relative timing of sound to vision should not exhibit any perceptible error. Sound should not lead or lag the vision by more than 10ms.

This synchronisation must be achieved at the last point at which the programme supplier, or their facility provider, has control of the signal.

5. General Quality Requirements

5.1 Technical Quality Grading

Subjective quality of pictures and sound is difficult to assess. The ITU / CCIR 5 point scale for impairment is given below:

5	Imperceptible impairment	Acceptable
4	Perceptible but not annoying impairment	Acceptable
3	Slightly annoying impairment	Borderline
2	Annoying Impairment	Not Acceptable
1	Very annoying impairment	Not Acceptable

Newly commissioned programmes shall meet a minimum grade 4. In other cases, the absolute minimum is grade 3, unless there are valid reasons for exemption. Any program receiving a grade 1 or 2 must be fixed and resubmitted before it is cleared for TX.

5.2 General Vision Quality Requirements

A competent resource provider should be able to give advice on achieving good quality results. The expectation of the picture quality is set out below.

In general:

a) The picture must be sharp and well lit (unless artistic considerations require otherwise).

b) The video signal must be free of excessive black crushing and highlight compression. Transient response shall be such that streaking, ringing, smear, echoes and overshoots are not noticeable. Moiré, and other patterning shall not be visible. Hum, cross-talk and other spurious signals must not be apparent.

c) Colour rendition, especially skin tones, must be a realistic representation of the scene portrayed unless artistic considerations require otherwise.

d) Widescreen production shall always use component video techniques.

e) Video processing (e.g. effects devices) must not introduce unintentional changes to luminance and chrominance levels nor cause perceptible timing shifts on entry or exit from the effect.

f) Appropriate audio or video delay must be used to compensate for lip-sync errors.

g) There must be no visible contouring / artefacts caused by multiple D-A and A-D conversions or compression. Quantisation Noise shall not be apparent. In general, recordings made “off-air” from digital sources should not be incorporated into new programming as these signals have already been significantly compressed.

h) In certain circumstances, for example shooting actuality material or where a high level of mobility is required, the use of a “palmcorder” type camera may be considered acceptable for acquisition. Specific agreement from the Station Manager / Transfer Department must

be sought before using this. Where use of this format is agreed we require particular attention to be given to sound and lighting considerations.

i) Material will be assessed at 625/50 interlaced. If material originating in other formats is incorporated, care must be taken to achieve the overall quality required.

j) Many DV and DVCam camcorders offer a menu option labelled "Widescreen" which creates a Widescreen image by discarding horizontal strips of the 4:3 picture (25% of the vertical picture information is lost). Use of this mode should be avoided. Shooting 4:3 is required.

k) In order to aid trail production and reversioning, cuts in material must happen on frame boundaries (i.e. between field 2 and field 1). Motion on frame based material such as film or 'progressive scan' video should occur between field 2 and field 1 (i.e. field 1 dominance).

l) Only one programme per tape, each episode must be on its own master.

5.3 Standards Conversion

5.3.1 Standard Definition

Where preparation of programme material has been produced in the 525/60 (NTSC) standard, conversion to 625/50 (PAL) can introduce undesirable and visible artefacts. There are 3 categories of converters commercially available for use. In order of quality / expense:

a) **"Interpolating" converters.** Ranging from the simplest and earliest converters, the interpolation process inevitably produces multiple images and periodic blurring on

movement. Interpolation is most noticeable on fast panning material such as motor racing or on scrolling credits. Interpolating converters are not capable of maintaining Grade 4 impairment.

b) **“Motion predictive”, “Motion vector”, “Motion Compensated” or “Frame integrity” converters.** These are significantly better at preserving the original picture quality than Interpolation. Low impairment (Grade 4+) programming shall use these methods as a minimum requirement.

c) **converters for *film originated material*.** These are specialist converters designed for converting telecine transfers of film shot at the standard 24 fps. They remove the artefacts of the 3:2 pull down “NTSC” telecine process and produce a conversion result equivalent to running the film at 25 fps. High quality film originated programming (Grade 4+) shall use these methods as a minimum requirement.

Note that “3:2” converted programmes will run fast: their duration will be shorter by exactly 4%.

Progressive footage typically results in a more cinematic, illusionary and formal feel to images. Motion can be jerky at certain speeds.

- Progressive footage **can** be technically converted to interlaced in postproduction, however the “film look” is retained.
- Interlaced footage typically results in a “live”, “real life” feel to images. Motion is smooth.
- Interlaced footage **cannot** be successfully changed to progressive in postproduction without significant loss of resolution.
- Progressive scan images can be more stable and sharp than interlaced, when shown on a progressive scan screen, however with interlaced screens there is no benefit.

It is better to use professional, high quality interlaced to progressive converters at the broadcaster's premises than to place the de-interlacing task on Consumer displays or set-top boxes. More about this later under the HD section

5.5 General Audio Quality Requirements

- a) The audio shall be free of spurious signals such as noise, hum and cross-talk.

- b) Sibilance and distortion, wow and flutter shall not be apparent.

- c) The audio shall not show dynamic and frequency response artefacts as a result of the action of noise reduction or low bit rate coding systems.

- d) Audio compression should be used as little as possible as the effects of compression used for broadcast distribution and transmission can exacerbate impairments.

- e) Dynamic range shall not be excessive. It shall be suitable for the whole range of domestic listening.

- f) Care shall be taken when incorporating background music and effects with dialogue, as people with a hearing impairment and poor listening conditions can find the dialogue difficult to hear. Inaudibility is a common complaint from viewers.

6. Specific Requirements for tape Delivery

The video and audio shall also meet all General Technical and General Quality Requirements specified in this document.

6.1 Specific Technical Requirements for Tape Delivery

6.1.1 Technical Acceptance Procedures

Every programme submitted on tape for transmission on e Group must pass a Technical Review carried out on e Group equipment to ensure the programme meets the requirements set out in this document. Any programme not meeting the required standard will be returned to the supplier for repair. A subsequent review will then be carried out to check that the work has been done satisfactorily. These reviews are currently not chargeable back to the supplier but this might change in future.

6.1.2 Videotape Format

Delivery of new commissions shall be on DVCPRO50 formats. All tapes must be supplied with the record lockout "on" and "double rewind". This ensures an even tape pack.

There must be labels on the cassette and on the tape itself, ensuring that they do not obstruct the spool.

Tapes shall be of the highest professional quality, recent manufacture, "first usage", of a type appropriate to the format used and shall be protected by suitable packaging. During

the production process the highest technical standards must be maintained so that the delivered programme achieves the required standards.

6.1.3 Audio Track Allocation

Audio track allocation must conform to the following standards unless otherwise stated in the programme contract.

For transmission on e Group

Track 1	Track 2	Track 3	Track 4
Programme		For International Distribution	
Left A	Right B	M/E	M/E
Final mix on tracks 1 and 2 must be phase coherent		These tracks may have content but will not be transmitted	

For Monophonic programmes, tracks 1 and 2 must contain identical audio and be phase coherent so that they can be transmitted through a stereo infrastructure - "Dual Mono".

6.1.4 Time-code and control track

Both longitudinal time-code (LTC) and vertical interval time-code (VITC on VBI lines pairs 19 and 21, and 332 and 334) must be recorded throughout the line-up and programme and comply with EBU specification N12-1994 (SMPTE 12M-1995).

Time-code must be contiguous and continuous and not pass through zero at any point from the start of the first countdown clock to beyond the end of the programme. LTC and VITC must have identical times. Time-code and control track must have the correct phase

relationship with the corresponding video signal. Assemble edits should not be used between the start of the clock and the end of the programme. Programme start should be at timecode 01:00:00:00. See 6.2.1 for further details

6.2 Specific Operational Requirements for Tape Delivery

6.2.1 Line-up Test Signals, Clock and Leader

The start of programme and any subsequent part should be preceded by a countdown clock with the following information:

- programme I.D. number with the appropriate suffix
- programme title
- programme subtitle
- episode number
- part number
- programme aspect ratio (4:3 or 4x3 letterbox 16:9,14:9)
- contact telephone number for production company

The clock must provide a clear countdown of at least 20 seconds, see below:

The clock must appear round when viewed on a display set to the same format as the programme i.e. for a widescreen programme the clock should be round on a 16x9 display.

Time-code	Picture	Audio 1	Audio 2
00.58.00.00	Black	Mute	Mute
00:58:30:00	EBU Bars 75% (NTSC converted bars are	Coherent tone (step tone optional) 1kHz	

	not acceptable)		
00.59.30.00	Ident and Clock		
00.59.58.00	PIP mark		
00.59.58.01	Black	Silence	Silence
01:00:00:00	Programme start	Stereo. Mix L Channel	Stereo. Mix R Channel

01.00.00.00* Programme Audio Left Audio Right

Mono derived from Stereo shall be to the M6 practice where the Mono signal is derived according to: "Mono = (L+R) - 6dB"

Please note: At the end of the programme, sound must end naturally or be faded to be out by the end of the programme. There should be a freeze or living hold for 10 seconds, and at least 60 Seconds of black

6.2.2 Recordings spanning more than one tape

Time-code	Picture	Audio 1	Audio 2
01.58.00.00	Black	Mute	Mute
01:58:30:00	EBU Bars 75% (NTSC converted bars are not acceptable)	Coherent tone (step tone optional) 1kHz	
01.59.30.00	Ident and Clock		

01.59.58.00	PIP mark		
01.59.58.01	Black	Silence	Silence
02:00:00:00	Programme start	Stereo. Mix L Channel	Stereo. Mix R Channel

Should a program be longer than 2 hours then,

Time-code	Picture	Audio 1	Audio 2
02.58.00.00	Black	Mute	Mute
02:58:30:00	EBU Bars 75% (NTSC converted bars are not acceptable)	Coherent tone (step tone optional) 1kHz	
02.59.30.00	Ident and Clock		
02.59.58.00	PIP mark		
02.59.58.01	Black	Silence	Silence
03:00:00:00	Programme start	Stereo. Mix L Channel	Stereo. Mix R Channel

If a programme is supplied on more than one tape the following must be observed:

- no overlap of material must be provided

- Reel 1 must end at a suitable cut point into Reel 2. This should be at a fade to black or scene change.
- The Last frame / First frame time codes must be clearly documented. The timecodes on Reel 2 must be later than Reel 1 and preferably the first frame will be 02:00:00:00. See Pg 18

6.2.3 Recording Reports

Every tape submitted must be accompanied by a completed recording report. The report must include full details of the programme supplier and recording facility house, programme title / subtitle. It must also include technical information including the origination format, time-code of first frame of picture (FFOP) and details of the aspect ratio and safe areas used. The recording report must provide clear references to any part of the programme content that may attract low grades (especially below grade 3). The report shall also draw attention to any programme content which may cause photosensitive epilepsy in some viewers as described in section 5.4. This report is in addition to the sheet required in 6.2.5

6.2.4 TX Tape Delivery

All TX masters must be delivered to Programming, Library CT together with

Detailed Final control sheet. (Appendix 3)

Music Cue Sheet

Vernacular Report. (If required)

6.2.5 Final Control Sheet

A Final control Sheet must be filled in for every programme delivered to e Group for TX (appendix 3) The producers is required to fill in all the parts in red.

6.2.6 Time Frame for tape deliveries

TX tapes intended for broadcast shall be delivered at least 10 days prior to the first TX date. Tapes that are non-tx will only be sent back AFTER a new TX master have been received.

For special exception from this please contact the e Group Station Manager, to obtain the necessary permission to deliver a tape late. He in turn will inform transfers as well as library of the new delivery time and date.

7. SD Deliveries (International)

Programmes earmark for International deliveries (**all Local**) must comply to all of the above specifications as well as the below

7.1 Textless cover shots

Must be attached to the end of the master, unless there are more than 15 (fifteen) texted shots per commercial hour of duration, in which case a separate text less version with opening and end credits of the entire Program must be delivered to e Group.

Clean non-texted video of all texted shots, including lower thirds/locators, graphics, maps, titles including opening title sequence, embedded credit sequence and credit roll (if produced). Texted Element List with Program running time reference of all texted shots must be enclosed with each texted Program master tape.

Each cover shot is to be preceded by and followed with: 10 second segment of black. All elements must be suitable for non-English graphic customization for the international market and for promotional and Program editing.

This TEXTLESS master should still have the original English Opening Titles and credits, with matching text less elements at the end of the program tape.

Please ensure that all English text captions and English graphic text are included in the time-coded script that will be delivered with the completed program.

7.2 If Program(s) shot in 16:9 letterbox:

All Material intended for International Distribution should be delivered on DVCPRO 50 format.

A DVCPRO50 PAL broadcaster tape, 16:9 letterbox, texted with text less backgrounds- all text less images cut-to-cut, first/last shots without fades. Including episode and series title shots, lower thirds, maps, graphics, and credit bed background.

Please deliver master with 4:3 (80%) texts protect.

Program Master tapes and Audio Master tapes must be delivered seamless without commercial breaks or implication of commercial breaks.

7.3 Additional Delivery Materials

- Complete "As Broadcast" Scripts for each episode
- Music Cue Sheets for each episode
- Final Main and End Credit List for each episode (*include timings, locations, and any requirements governed by guild or contract agreements*)
- Series/Season/Episode Synopses
- 15-20 high resolution images (.jpeg format) for publicity
- Show logo (.jpeg format)
- Any existing sales brochures, 1 sheets, or posters used for promotion
- Any promo / trailer / sales reels delivered on DVCPRO 50

DELIVERY FOR HD MATERIAL

All programme acquisitions for HD are required to deliver to the specifications as in set out in this document.

It is essential that high definition programmes also fully meet the Group standard definition delivery requirements for, audio and video levels, line up signals, programmes leader and paperwork requirements etc. are available in this document. This document is a summary of the key requirements for high definition delivery. Its aim is to highlight the differences between the requirements for high definition delivery and the requirements for standard definition.

Generally there is a problem with HD standards conversion. Whereas it is normal to achieve good quality pictures when standards converting between 625-line and 525-line standards, high quality motion compensated standards converters are available for High Definition standards but they are very expensive. So the results of converting from 1080/50i to 1080/59.94i are generally unsatisfactory, when not using professional transcoding equipment.

General conclusions on HDTV delivery

In principle, the highest quality for the viewer will result if the highest quality is used for programme production, and the most efficient format used for compression of broadcasting, bearing in mind viewer's display capabilities.

The highest quality HDTV can be provided for normal viewers using display sizes up to about 50 inch, if programme production is in the 1920x1080p/50 format, and broadcasting is in the 1280x720p/50 format.

If 1920x1080p/50 format production is not available (as is the case today), the highest viewer picture quality will be achieved for scenes with motion critical content by 1280x720p/50 programme production and 1280x720p/50 delivery. This will deliver the

best quality for 'events' HDTV television, and the best trade-off between bit rate required and quality delivered to the home.

If 1920x1080p/50 format production is not available, and the programme content has very little movement (i.e. with movies), the highest potential viewer quality will be achieved for viewers with 1920x1080p/25 production and 1920x1080psf/25 delivery. This will deliver the best quality for 'drama'.

If 1440 or 1920x1080i/25 programme production is used, conversion to 720p/50 for broadcasting will not significantly improve the picture quality, because the efficiency gains of progressive scanning for compression will not be available, although professional standards converters can improve quality. The viewed picture may be slightly better because of the improved sophistication of the interlace-to-progressive conversion. It is better to use professional, high quality interlaced to progressive converters at the broadcaster's premises than to place the de-interlacing task on Consumer displays or set-top boxes

8. Delivery Format

- 8.1** Programmes must be delivered on one of the following **HDCAMSR, HDCAM , DVCPRO HD** tape.
- 8.2** High definition programmes must be acquired, post produced and delivered in high definition. Programmes must contain a minimum of 75% native high definition material. Up to 25% of the programmes duration can come from standard definition sources. Standard definition sources are defined in section 2.1 below.
- 8.3** High definition programmes should in general be clean of noise, well lit and sharp (unless artistic considerations require otherwise)

- 8.4** It is not always possible to control the light levels of events in the open or in locations where there is only natural lighting or lighting is controlled by others. Wherever possible little or no camera gain should be used.
- 8.5** In studio and outside broadcast where the lighting levels are fully under the control of the programmes lighting director, camera gain should be limited to a maximum of 3dBs
- 8.6** Particular care should be taken up-converting standard definition material to include in high definition programmes. Only high quality up-conversion equipment should be used. Use of “in VTR” up-converters or up-conversion using non-linear editing software is not acceptable. This requirement protects the standard definition viewer who will see the standard definition material after multiple conversions.
- 8.7** When stereo sequences are included in surround programmes, it is acceptable to “up-mix” the audio. Any audio treated this way must down-mix without any noticeable degradation and must be fully stereo and mono compatible. It is not permissible to up-mix entire programmes

9. Standard Definition and HD Cameras

9.1. Standard definition

The following formats are considered to be standard definition:

- All standard definition video formats
- HDV / AVCHD from all manufactures
- Cameras with image sensors under 1/2"
- Frame based (intra-frame) recording formats below 100Mbps
- Inter-frame based recording formats below 50Mbps
- Super16 film whether transferred to tape in high definition or not
- 35mm film transferred to or copied from standard definition tape formats
- Non linear editing codecs with bit rates below 160Mbps
- Live contributions links of less than 60Mbps (MPEG2)
- 720 line equipment with the exception of the Panasonic Varicam range and the Panasonic AJ-HDX900 range
- Other 720 line equipment may be acceptable but must be discussed prior to use

9.2 Cameras

Currently e Group approve and use the below cameras, please ensure BEFORE production start that that camera you intend using does comply with e Group standards.

Preferred setup files on some of the below are available on request.

- Panasonic 500 (Might not be in spec anymore)
- Panasonic 3700 (Varicam)
- Panasonic HDX 900
- Panasonic 'Varicam' HDC27F & H
- Panasonic HPX 2100, 2700 & 3000
- Sony HDW 750
- Sony HDW 790
- Sony HDW F900R
- Arri D21
- Panavision Genesis
- Thompson Viper
- Red One

10. Video Standards

- The Group will accept high definition programmes acquired using either of the Following:
1920 x 1080 interlace at 25 frames a second (now called 1080i25) or
1920 x 1080 progressive at 25 frames a second (now called 1080p25)
1280 x 720 progressive at 50/60 Frames per second (now called 720p50/60)
- Cameras that pre-filter to 1440 x 1080 are currently acceptable but this document does *not* guarantee this format will always be acceptable for new high definition commissions.
- This document cannot be used as a guarantee that any camera using the 720 line high definition format will always be acceptable for acquisition of high definition programmes. It should be noted 720 line cameras will not be accepted for new commissions after the acceptance of an equivalent 1080 line camera. Contact the Station Manager for details.
- All delivered high definition master tapes must be 1080i25 (4:2:2) whether the programme was acquired using 1080p25 or 1080i25. Rollers, moving captions and DVE moves must be added in 1080i25 to prevent unacceptable judder.
- Most High Definition cameras can capture in both Interlace and Progressive modes. It is *not* acceptable to add film effect to high definition images for high definition delivery. Where film motion is a requirement, progressive capture is the preferred method.

10.1 Technical standards are fully detailed in the following documents

- **EBU Tech 3299-E** (Systems 2 & 3) "High Definition (HD) Image Formats for Television Production.
- **SMPTE S274-2008** "Television - 1920 x 1080 Image Sample Structure, Digital Representation and Digital Timing Reference Sequences for Multiple Picture Rates" (Revision of SMPTE 274M-2005).
- **ITU-R BT.709-5** "Parameter values for the HDTV standards for production and international programme exchange.

11. Action and Caption safe areas

Action and caption safe areas for High Definition programmes are the same as the safe areas for standard definition delivery:

- **Action** should be protected for 16:9 display.
- **Captions** should be protected for 4:3 display.

Action and caption measurements should be made using the down converted output.

12. Audio

There are no changes to the general audio requirements for delivery. Line-up, levels and audio to video synchronisation remain the same as the requirements for standard definition delivery. There are two possible audio delivery options though:

12.1. Stereo delivery

There is no change to the audio delivery requirements for high definition programmes delivered in stereo.

- Tracks 1&2 - Stereo main audio Left (A1) and Right (A2).
- Tracks 3&4 - Not required but may contain an M&E track.

Time-code	Picture	Audio 1	Audio 2
09:58:00.00	Black	Mute	Mute
09:58:30:00	EBU Bars 75%	Coherent tone (step tone optional)	

	(NTSC converted bars are not acceptable)	(100Hz, 900Hz and above 10kHz)	
09.59.30.00	Ident and Clock		
09.59.58.00	PIP mark		
09.59.58.01	Black	Silence	Silence
10:00:00:00	Programme start	Stereo. Mix L Channel	Stereo. Mix R Channel

12.2 Audio Format

All stereo shall be fully mono compatible. Fully mono compatible requires that when the left and right stereo channels are actively combined to mono there is no discernible change in audio level or fidelity.

Program masters may be supplied with audio in the following configurations.

Sony HDCAM SR Master Audio Assignment:

- Ch 1 Stereo Program Full Mix Left
- Ch 2 Stereo Program Full Mix Right
- Ch 3 Full Mix Minus Narration Left
- Ch 4 Full Mix Minus Narration Right
- Ch 5 Music Left
- Ch 6 Music Right
- Ch 7 Effects Left
- Ch 8 Effects Right
- Ch 9 Dialogue Left
- Ch 10 Dialogue Right
- Ch 11 Narration Left
- Ch 12 Narration Right

12.3. Multi-channel (5.1) Delivery for HDCamSR

- When multi-channel audio is required it must be encoded using Dolby E.
- Tracks 1&2 - Stereo main audio Left (A1) and Right (A2).
- Tracks 3&4 – Dolby E encoded.
- Within the Dolby E stream the tracks must be ordered as follows:

Dolby Track Audio Track

- Track 1 Front Left
- Track 2 Front Right
- Track 3 Centre
- Track 4 LFE
- Track 5 Surround Left
- Track 6 Surround Right
- Track 7 Not Used
- Track 8 Not Used

Dialnorm settings between -22 and -27 are acceptable.

Tracks 5-10 on an HDCamSR tape must either be mute or may carry discrete surround sound in the order above.

Tracks 11-12 on HDCamSR may carry audio description if it is required by other broadcasters.

This track layout will be subject to change as international standards for 8 and 12 track tape formats are agreed and implemented.

12.4. Multi-channel (5.1) timing on tape

The Dolby E encoded signal should be in sync with the stereo signal ON TAPE. This positioning allows further processing to be done to the final tape if required. The DolbyE signal will be advanced by 1 frame in the playout chain to compensate for the Dolby decoder delay – see section 7 for more details.

12.5. Dolby E Stream

The Dolby E stream on audio tracks 3 & 4 should be continuous from -30 seconds (30 seconds before start of programme) until 10 seconds after the end of the programme.

12.6. Surround Sound line-up (BLITS TONE)

BLITS is a set of tones designed for television multi track audio line-up. BLITS tone has three distinct sections as shown in the diagram below.

The first section is made up from short tones at -18 dBFS to identify each channel.

Left and Right front - 880 Hz

Centre - 1320 Hz

LFE - 82.5 Hz

Left and right surrounds - 660Hz.

The second section identifies front left and right channels only. Tone at -18 dBFS is interrupted four times on the left channel and is constant on the right. This pattern of interrupts has been chosen to prevent confusion with GLITS tone after stereo mix down.

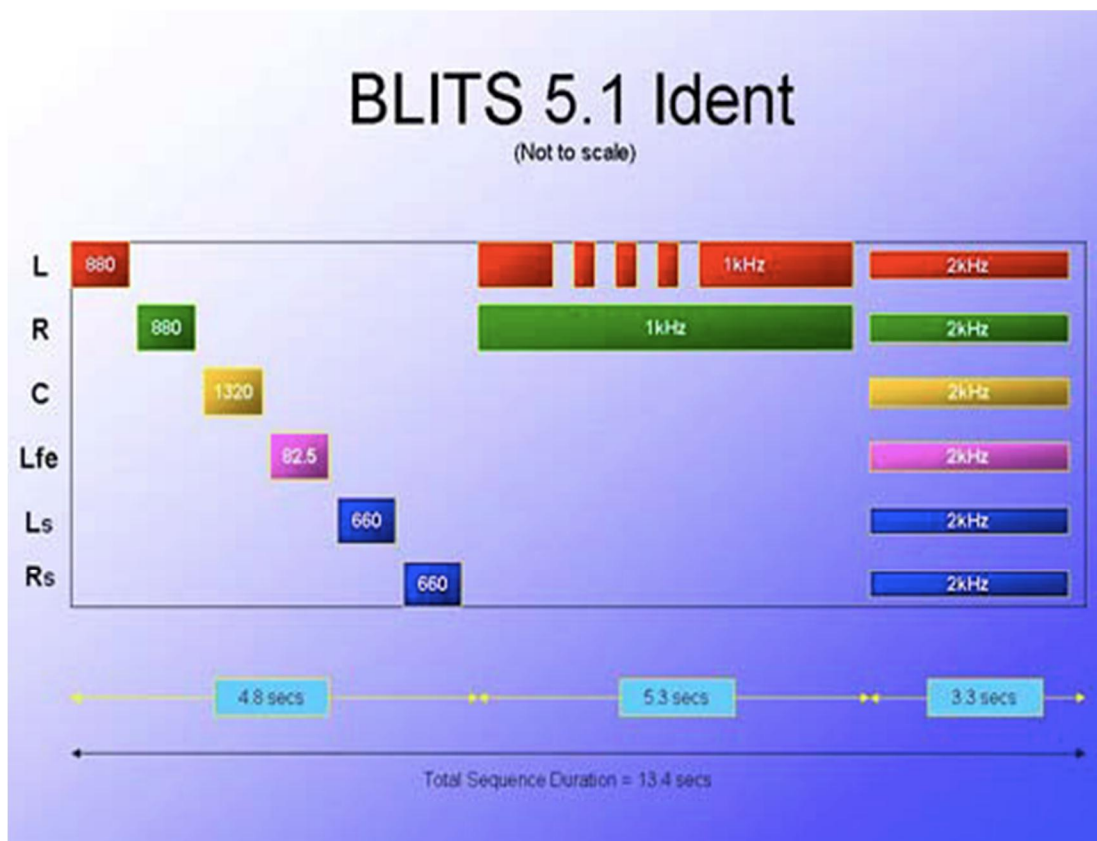
The last section has 2kHz tone at -24dBFS on all six channels. When the tone summed to stereo using default down-mix values this section should produce tones of approximately -18 dBFS on each channel.

The BLITS sequence repeats roughly every 14 seconds.

Note: The BLITS signal is still going through the process of ratification as a standard for surround sound line-up. Changes may be made during the process and any changes agreed by the standards bodies must be applied to all programmes that have a *delivery* date after the standard document has been published. The BBC will make every effort to publicise these changes as soon as they are made but it is advisable to make sure the audio facility is aware of the possibility of changes being required.

Where ever possible BLITS tone should be used as the line-up tone on surround sound programmes. If BLITS is used it must meet the specification in section 9 of this document and may only be used on the surround sound tracks.

BLITS may be used on stereo track that have been created by down-mixing a surround sound track to stereo. In this case the mix-down option on a BLITS generator must be used.



13. Delivery and Technical Review

13.1. Technical Review process for HD programmes

The enhanced clarity of HD images means that there is even less room for complacent focusing. Therefore, attention to sharp focus and control over depth of field is a critical element of HD production. Back-focus adjustment should be checked at regular intervals throughout shooting.

The enhanced clarity and contrast of HD images also means that every last detail – even unwanted detail – will be captured on screen. Therefore, picture content must be scrutinized carefully to ensure that things like makeup, costumes and set design are exactly right.

Pictures should be appropriately stable and free of camera shake and bumps. This does not mean that hand-held cameras should not be used, but rather that image stability should be appropriate to the style and location of the film being made. Movement of the camera and movement of object across the frame should be smooth.

The large physical size of HD screens means that image instability can become much more disturbing than on a smaller SD screen. Therefore, HD cameras should be proportionately more stable than in a SD situation and pans should generally be slower and smoother, particularly if a progressive format is used.

It may sometimes be appropriate to alter normal camera focus, contrast, image stability and use electronic processing for artistic effect. However this should be discussed and agreed in advance with the Executive Producer before any images are captured.

Computer generated graphics (CGI) should be appropriately sharp and clear and exhibit smooth movement. Titles and credits should be legible and exhibit smooth movement, particularly vertical credit rolls.

The enhanced resolution of HD images means that much smaller fonts may be used. However, all titles and credits should be checked in an SD environment, because use of a smaller font may result in down-converted material to be illegible. This would be a case for rejection.

HD programmes will be reviewed using the same criteria as standard definition programmes. In addition the amount of standard definition content will be checked for compliance with the 25% limit.

Currently it is acceptable to use a SONY SR “on board” down-converter to produce standard definition copies of high definition programs

Captions and titles will be checked for compliance with the standard definition guidelines.

PSE testing is carried out on the standard definition signal produced from the inbuilt HDCamSR down converter.

Audio for programmes delivered in stereo will be reviewed to the same standards and requirements as standard definition programmes.

Only the surround sound audio tracks will be fully reviewed for programmes required to deliver surround audio. The stereo audio will be checked as follows:

For programmes required to make a clone, the stereo audio will be fully monitored as the tape is copied. The stereo audio on the clone will be spot checked at the end of the booking.

For programmes not required to make a clone:

The programme must undergo a full two pass technical review, the first pass will be to monitor Video and the second pass for Stereo Audio.

14. Audio Sync markers

Surround sound, combined with the use of Dolby E encoding and programmes having multiple main audio tracks on the same tape, has increased the difficulty of maintaining A/V sync.

Traditionally broadcasters have required A/V sync to be within +10ms to -20ms. However as domestic equipment can also introduce A/V sync errors, broadcasters will either have to tighten the tolerance allowance or apply far more rigorous enforcement of the current tolerance allowance.

It is not a requirement of delivery that the leader includes a sync plop, but if a programme leader does contain one it must meet the following conditions:

1. The sync plop must be between timecode 09:59:57:06 and 09:59:57:08 or 00:59:57:06 and 00:59:57:08
2. The audio tone must be 1kHz on all tracks at -18dB (standard zero level)
3. The duration of the vision flash must be 2 frames to allow it to pass through standards conversion successfully
4. The audio tone must be synchronous across all audio PCM audio tracks and with the video flash (within the +10ms -20ms tolerance allowance)

5. The Dolby E encoded audio tone must be synchronous across all Dolby E encoded audio tracks and the Dolby E encoded stream must be correctly positioned as previously described.

6. If an end sync plop is used it must be no closer than 10 seconds to the end of the programme and comply with 2-5 above

15. Flashing Images / Visual Patterns - Photosensitive Epilepsy (PSE)

Currently only international and HD tape delivery will be checked

Flickering or intermittent lights and certain types of repetitive visual patterns can cause serious problems for some viewers who are prone to photosensitive epilepsy. Children & teenagers are a group where photosensitive epilepsy is considered to be a particular problem. Television is by nature a flickering medium (because of the 50 Hz refresh rate of typical receivers and the 25Hz effects of interlaced scanning) and it is therefore not possible completely to eliminate the risk of television causing convulsions in viewers prone to photosensitive epilepsy. However steps can be taken to reduce unnecessary risks and to reduce the incidence of seizures to an acceptable level, **although they cannot remove the risk entirely.**

15.1 PSE Guidelines

The following guidance on the major factors involved is provided for reference.

- Rapidly flickering images should not change at a fast rate (i.e. less than 9 frames between each flash).
- If brightness changes for a given area of a picture are less than 25% of screen maximum brightness then that area may be discounted.

- In marginal cases such images should be avoided if they are positioned near the centre of the screen.
- Changes in colour are not a problem unless they affect the red channel substantially.
- Prominent and regular patterns which cover a large proportion of the picture area should be avoided, especially if they represent bars, spirals, or 'dartboard' patterns. Moving or flickering regular patterns are particularly hazardous.
- Care needs to be taken also with computer generated images, which, if highly detailed, can cause a high degree of 25Hz inter-line flicker in the displayed television picture.
- Video luminance level as measured on a waveform monitor does not simply equate to screen luminance (brightness) and cannot be used to assess brightness without correcting for Gamma.

15.2 PSE Checking

PSE checking is performed throughout the Technical Review using a "**FPA Harding**" machine. This device identifies material that may cause risk. The parameters measured by the FPA Harding machine are: Luminance, Saturated Reds, Spatial Patterning and Extended failure, using the current version of software - **Digital Version 2.5**.

If a programme fails the FPA Harding check, the material which breaches the guidelines will have to be repaired and pass another review before it can be accepted for transmission.

17. Publicity and other materials

Two PAL free Zone MPEG2 DVD of the Program(s):

- The DVD should be provided in the original language and/or subtitled in English if others languages are spoken on the program.
- No test patterns or countdown at the beginning of the DVD.
- No extra materials running at the end of the DVD (For instance no text less elements)
- Should it be several episodes, please provide one DVD per episode.
- DVDs of the original film/every episode with Burnt-in Time Code (BITC).
- The DVD should match the final, seamless and international version of the Program.
- The DVD has to be authored with the same aspect ratio than the final, seamless and international version of the master.

Music Cue Sheet:

An electronic copy of the of music cue sheet detailing all music contained in the Program(s), including the title of each composition, the names of composers, publishers, and copyright owners, the usage (whether instrumental, instrumental-visual, vocal-visual or otherwise), the place and number of such uses in the Program(s) and in/out cues and running time for each cue, the performance rights society involved, and any other information customarily set forth in music cue sheets;

One cast and credit listing

An electronic copy

Program Script

An electronic copy of the complete time-coded English language broadcast script that is an accurate transcription of Program master with corresponding running time code referencing specific photographic action and transcribed audio. Script has to be complete, verbatim of final master and for the avoidance of doubt including 'non-scripted' interviews.

All scripts flush left with following information

- Shot-by-shot time code matching master
- Shot-by-shot video description and on-screen titles
- Shot-by-shot dialogue and narration

Shot Description

All scripts should include exact matching time code to the delivered master - use your discretion with requirements for "shot-by-shot". (e.g. a fast cutting montage, just describe montage as one shot).

Program Description (Synopsis)

an electronic copy of a description of 350 words or more per format and per episode for the Program(s);

Promotional Images

- Required electronic format of images:
- Must be scanned to proper 5x7 inches dimensions @ a minimum of 300dpi, in TIFF format, RGB.
- Minimum of 10 (ten) professional quality, 35mm colour slides, per Program or minimum of 5 (five) professional quality slides per episode if there are more than 6 (six) episodes in a series.
- All materials should be cleared for use in all media, all markets worldwide in perpetuity.
- Said images shall depict different scenes from the Program(s) and principal "player".
- All digital photographs should be delivered on a CD with a photograph information sheet.
- Information sheet should have the name of the photograph, name of photographer location, and a clear caption detailing the event or occurrence, and copyright information.

Press and Promotional Materials

as available;

Acquired Footage/Stills License Log:

- Log footage that has been acquired for the Program in the order as it appears in the Program master tape.
- Please note if any Footage and/or Stills are not available for promotion of the Program on the Log.

Releases:

Producer agrees to obtain all personal appearance releases and location releases, for those persons appearing in the Program.

Certificate of Origin,

as available;

Copyright Certificate,

as available;

Full chain of title,

as available;

Access to all original film and audio track elements,

as necessary and as available;

Proof of music clearance for worldwide use, all rights;

Any Flyers and/or artwork,

as available;

Any duplication DVD copies,

as available

Biographies of Producer/Director and other crew or other on camera talent, like for example

but not limited to any scientists or hosts that have a large part to play in the documentary, upon request by Producer.

18. Examples of common rejection points

- Incorrect tape format.
- Incomplete labeling.
- Incorrect bars / tone / slate information.
- RGB gamut / luminance errors.
- Editing errors such as, flash frames and blanking errors.
- Incomplete, or temporary VFX shots.
- Any break up of picture is unacceptable i.e. video drop out, pixelisation or dead pixels.
- Excessive amounts of up-converted Standard definition or noisy material.
- Text out of title safe.
- High / distorted audio levels.
- Dipped audio on Mix minus Narration tracks.
- Dialogue without host sync.
- Incorrect audio, excessive hiss, clicks, dropout and sound out of sync.

Technical standards - Appendix 1



Technical Standards - Appendix 2



Technical Standards - Appendix 3



e.tv Final Control Sheet

TX Number #: _____ FR Number #: _____
 Title/Series: _____ Episode number #: _____
 Sub-title: _____ Date & Time: _____
 TX Date: _____ Tape _____ of _____

Distributor/ Production House: _____ Producer: _____

QC/Transferred by: _____ Contact #: _____

PB Format: _____ Rec Media: _____ Source # _____ Rec # _____ Audio: _____ Segments: _____

Segment 1	Hours	Min.	Seconds	Frames
Static				
End tc				
Durtation				

Segment 2	Hours	Min.	Seconds	Frames
Static				
End tc				
Durtation				

Segment 3	Hours	Min.	Seconds	Frames
Static				
End tc				
Durtation				

Segment 4	Hours	Min.	Seconds	Frames
Static				
End tc				
Durtation				

Segment 5	Hours	Min.	Seconds	Frames
Static				
End tc				
Durtation				

Check list: 5 = Excellent. 4 = Good. 3 = Fair. 2 = Poor. 1 = Bad

VIDEO Luminance: _____ Chroma: _____
 Blacks: _____ Low Grade: _____
 High Noise: _____ Dropouts _____
 Line Tearing: _____ Video Cut offs: Yes/ No
 Clocks: Yes/ No Format 4:3 /16:9
 Black edit out: Yes/ No

AUDIO Dynamic Range: _____ Phasing: Yes/ No
 Quality: _____ Sync: _____
 Audio Drop out: _____ Pops: _____
 Audio Breakup: _____ Over modulating: _____

Extra Comments: _____

ACKNOWLEDGMENT

e.tv's Technical Standard's document was compiled with extracts from documents from various Specifications published around the world. In alphabetical order.

BBC

Animal Planet

APT

CBC

CTVglobemedia

Discovery

FAL

Ieee.tv

NZFC

Publitalia

Quebec

Sverige

SVT

VisionTV