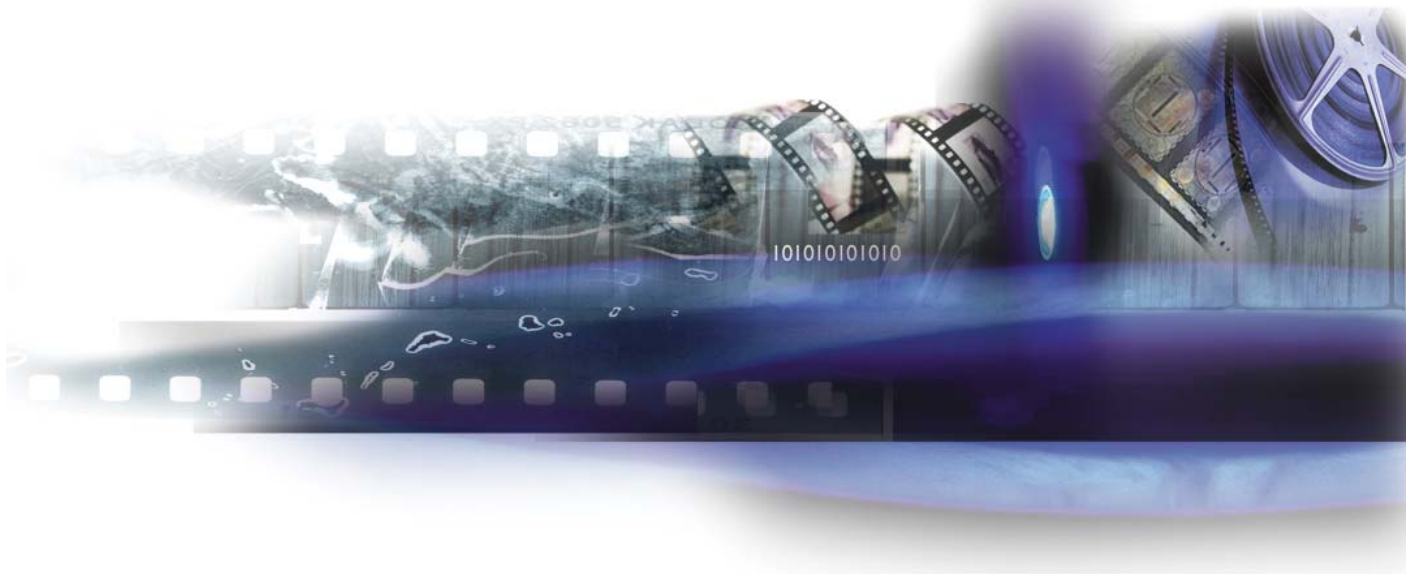


SAWA

Production guideline
for 35mm commercials
in cinemas



Screen advertising World Association

The Screen Advertising World Association (SAWA) is the worldwide trade body of Screen Advertising Companies and Associated Companies that supply services to the Screen Advertising Industry.

The role of SAWA is to develop international standards and practices for Screen Advertising and to improve communication between Screen Advertising Companies around the world and in so doing to facilitate the easier buying of the cinema medium for Advertisers. The demographics of the cinema medium are generally young, affluent and receptive. It is an ideal medium for many Advertisers, be it on the big screen or by using the many alternative media opportunities available within the Cinema environment. It is one of the fastest growing media, whereby the ad impacts on all those people who are exposed to it as they are a captive audience.

SAWA, now in its 54th year, has 70 different members across 35 countries including many leading suppliers to our Industry. The SAWA have Offices in London and Sydney and can be reached through the “contact us” page on www.sawa.com.

The benefits of being a SAWA Member are:

- The opportunity to communicate with and exchange information with existing SAWA Members on issues like marketing, sales methodology, exhibition, digital transmission and production formats and alternative revenue streams.
- Biennial Conventions have been held on the Medium of Cinema in London, South Africa, Argentina and France. Key speakers from Associated Industries present the latest in research, digital technology, ways to increase revenue streams through creative opportunities.
- A range of SAWA STANDARDS have been set for the medium to grow.
- All SAWA Members electronically receive a Bi-Monthly Newsletter covering topical issues and special features, including examples of Sales Success in certain countries and Case Studies on market segments.
- www.sawa.com also has a member's only section which carries Manuals on Digital Production, Sound in Cinema, 35mm Manuals, a Data Intelligence service for Members and Press Releases on new initiatives as they unfold.

**Production guideline for 35mm commercials
in cinemas**

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Production guideline for 35 mm commercials in cinemas

Preface

The following information gives the most relevant details for producing high quality 35 mm commercials for the use in cinemas. It is addressed to interested circles of experts and gives key words with short explanations for each topic. In two parts, the first part provides an overview of the different topics; the second part serves as a short guideline for everyday work.

With this information we hope to assist in producing impeccable performances. An attractive performance in the cinema is influenced by lots of different factors: the technical standard and length of the entire compilation how each individual commercial interacts and matches with the quality of others in the compilation, sound levels and, not least of all, the content of the films shown play a big part.

PART 1 – OVERVIEW OF DIFFERENT TOPICS

1.1 Commercials in cinema

The commercial pre-show from beginning to its end has to be performed in one standard picture- and sound-format. The chosen aspect ratio is independent from that used by the main feature.

Please ask your national distributor which formats are required. Standard formats are as follows:

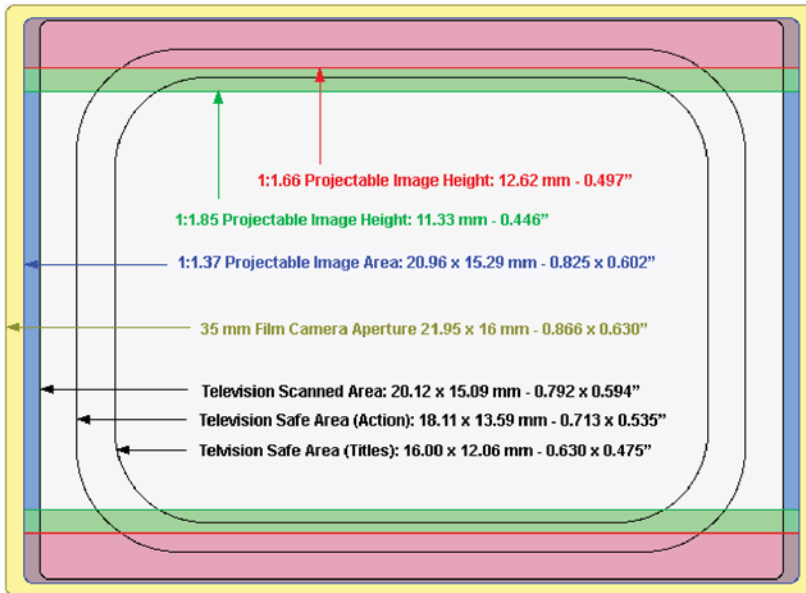
1.2 Aspect-ratio

Aspect-ratio of 35 mm film with 1 (height) to 1,85 (wide) = US-widescreen

1.3 Optical sound formats

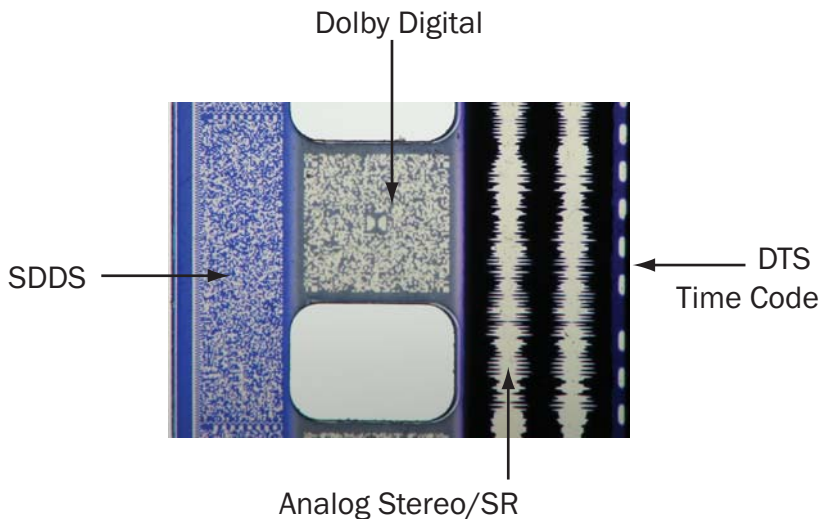
1.3.1 Overview

35 mm sound-negative with matrix-coded multi-channel optical sound in the formats DOLBY SR (4 channel analog) or DOLBY DIGITAL (5.1 six channel digital).



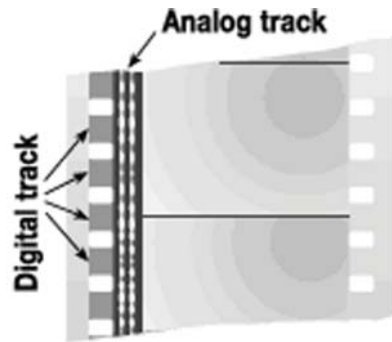
1.2 pic. Wikipedia, 35mm film (green = 1:1, 85 US-widescreen

35 mm audio tracks on print:



1.3 pic. Wikipedia, 35mm film

1.3.2 Dolby SR (analog) and Dolby Digital on 35 mm film:

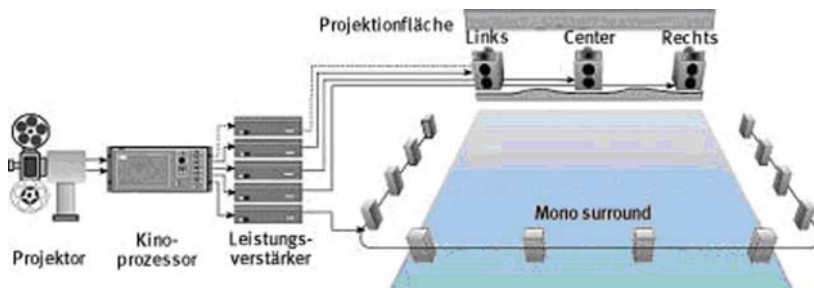


1.3.2 pic. Dolby laboratories

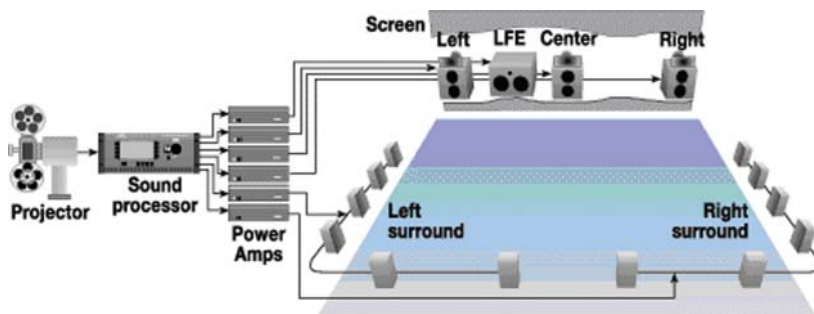
1.3.3 Dolby SR (spectral recording)

Here the matrix-encoded sound information for left, center, right and (mono) surround is placed on two optical tracks running parallel, which are scanned at the projector 20 frames before the picture – and then reproduced in the cinema by DOLBY cinema processor including noise-reduction.

Whilst a sound format in its own right, this 4-channel-format is now considered the backup for the highest quality DOLBY DIGITAL sound format. On every DOLBY DIGITAL print, according to the DOLBY standard, you will find the equivalent sound mix in DOLBY SR.



1.3.3 pic. DOLBY laboratories



1.3.4 pic. DOLBY laboratories

1.3.4 Dolby Digital

The digital sound by DOLBY DIGITAL is distributed by six discrete channels, which are known as 5 point 1 (5.1).

- 1 left
- 2 center
- 3 right
- 4 left surround
- 5 right surround
- .1 Subwoofer (LFE / low frequency effect)

1.3.5 Further optical sound formats

Beside the sound formats DOLBY SR and DOLBY DIGITAL there also are the formats SDDS and DTS.

Please ask your local distributor whether they are used in your own region.

1.4 Video-to-film-transfer (kinescope)

Motion-picture films are replayed at a frame-rate of 24 frames per second. In contrast video is replayed at a frame-rate higher than this:

PAL = 25 frames per second (50 fields line interlacing)

NTSC = 30 frames per second (60 fields line interlacing)

Any video-production is extended accordingly to this difference per second when shown in the cinema. In case of video-to-film-transfer you have to coordinate the running time of your video with the running time which is booked for the cinema.

Calculation running time video/cinema for PAL:

$$\boxed{\text{Video Running time in seconds}} \times \boxed{25} \div \boxed{24} = \boxed{\text{Cinema running time in seconds}}$$

Alternatively:

$$\boxed{\text{Video Running time in seconds}} \times \boxed{25} \div \boxed{24} = \boxed{\text{Cinema running time in seconds}}$$

Following is some practical advice so you get high quality results:

1.5 Video-to-film-transfer / picture

1.5.1 Length

Prior to the video-to-film-transfer, you can reduce a video-production to the booked-cinema-length by the cutting-down of single scenes, taking out single frames or completely new editing.

If such shortening isn't possible, you must change your media plan and book the longer length in the cinema.

1.5.2 Quality

You will have best results in the video data-to-film-transfer with formats as following:

- *Single pictures (TIFF) with 2048 x 1107 pixel (2K), numbered according to the correct order, on a data carrier, including HighRes titles.*

Alternatively, the following must be considered minimum quality:

- *Digi-Beta 16:9, anamorph, progressive-frame mode.*

Delivery of video in progressive-frame-ode avoids the otherwise necessary de-interlacing process which causes picture artefacts known as jaggies.

The advertisement features a central graphic with the title "BIBI BLOCKSBERG und das Geheimnis der blauen Leuchten" in a stylized font. Below the title are three product covers: a Maxi-Single, a Hörspiel (audiobook), and a Soundtrack. The background is a dark, magical scene with a witch flying on a broom. Text at the bottom reads "Maxi-Single +++ Hörspiel +++ Soundtrack JETZT IM HANDEL!". Logos for Constantin Film, BAVARIA FILMVERLEIH- UND PRODUKTIONS-GMBH, and KIDDINX are visible.

1.5.3 Cropping

To avoid possible cropping during the screening, please observe the title-safe-area as shown below for titles, logos or legal-lines. Title-safe cinema = minus 20% from the edges.

Outer region (light gray) Not safe

Middle region (medium gray)

Action-Safe (-10%)

Inner region (dark gray)

Title-Safe (-20%)

1.5.4 Titles

Horizontal running titles on screen need more time than on TV because of the large size of the cinema screen. If they run too fast, they might also be illegible due to shutter-effect on screen.

1.5.5 Technology

There are several generations of instruments in use today which expose 35 mm film negative to video-data. The standard is the cathode-ray-tube exposing machine (Solitaire III for instance). On the high-end side there is the ARRI-laser machine, which produces high speed transfers with extraordinary sharpness and brilliance.

1.5.6 Some more advice

To guarantee a consistent high quality of prints, the exposing of no more than 500 prints per 1 transfer-negative is recommended. In this way you can avoid the standard process of intermediate positive / duplicate negative, which includes generation loss.

By using the ARRI-laser-exposing you can have polyester based negative material (Kodak ESTAR for instance) instead of the traditional triacetate-negative. Unfortunately polyester based negative can't be used for reel band negative editing. With an ARRI-laser it is possible to expose directly on intermediate positive, which will save one processing step for the laboratory.

1.6 Video-to-film-transfer / sound

The multi-channel sound mix of commercials is a part of the creative concept by the agency/production company. The peculiar aspects of the cinema environment need sound mixes to be carefully made for such environment and also to make full use of the

powerful surround sound system on offer in standard cinemas.

Also, SAWA has a special loudness standard rule for the production of commercials. It was developed in cooperation with DOLBY laboratories and is a maximum of 82 dBLeq(m) (loudness equivalent level) measured by DOLBY Model 737. It is only this standard which offers a consistent solution to avoid harmful sound volumes.

The sound-mixing of cinema commercials is only possible with consideration of the special properties of the Model 737 sound measurement metric.

The peak levels achievable in DOLBY DIGITAL requires a special loudness limitation. A simple peak-limiting in practice would have led only to a high dynamic-compression at the border of permitted maximum. To prevent this, DOLBY laboratories invented a measurement method with the so called DOLBY 737 loudness-meter, which takes a frequency depending evaluation over time. Thus it is possible to create dynamic multi-channel-mixes with significant loudness in the peaks with bearable overall loudness. Frequencies in the middle range which appear louder in the context of hearing-physiology as well as pre-compressions will also be punished by the Leq(m) loudness measurement, which results in a non-contextual regulation of the whole mix. Therefore, the permitted highest measurement of 82 leq provides excellent interoperability and regulation between each cinema commercial whilst avoiding every commercial in the cinema to appear to be the same volume.

The transfer of a TV-stereo-mix to its multi-channel cinema version can be done to DOLBY standards either as a minimum sound-mastering or better as an original sound mix for the cinema by using the unprocessed source elements as single tracks. Technical advice to the supply with sound-data:

Data media:

- *Audio CD, CD-R, DVD-R, DAT, DTRS (Hi8), ProTools sessions.*

Sound formats:

- *AIFF, WAV, SD2 – without pre-compression. 44,1 kHz, 48 kHz, 96 kHz. 16 or 24 bit PCM. Single tracks must be synchronised to the picture, starting with a 1-frame sine-tone 1 kHz (Beep) 48 frames before the spot starts. TV-Stereo-Mix is required for reference.*

At the end of any multi-channel cinema sound-mix-production an official approval of the customer is necessary.

1.7 Laboratory and printing

In preparing the bulk-printing of commercials, the film laboratory records the delivered sound mix on 35 mm optical-sound negative.

As opposed to the traditional silver based soundtrack there is the more environmentally friendly alternative of cyan-dye-track. Its correct reproduction in the cinema requires sound scanning in the cinema by red light instead conventional white light.

Parallel to the optical sound transfer, the film lab accomplishes a light balancing/grading of every delivered 35 mm picture negative. Experienced lab-workers examine the brightness and colour values from each scene by using analyzer and assigning filter values (red – green – blue). These values are entered in the printing machine and control the printing from negative on positive film, whereby the desired look of the answer print is achieved.

Therefore it is necessary to accompany the delivered negative for printing with an approved answer print as reference.

After the light balancing/grading process, the picture and the sound negatives will be printed together to get the first answer print.

The answer print is approved by the customers in a special screening – maybe with correction wishes regarding light balancing and grading.

It is recommended a brand new picture negative is required for every 500 prints. Usually the necessary duplicate negatives will be produced with an intermediate positive from the original negative before starting the printing process. In this case some minimal losses of picture quality are unavoidable.

1.8 Age-rating

In many countries a neutral examination and rating of ages for every commercial is needed to guarantee youth-protection. This rating can change media plan and number of prints. One has to await the result of this examination before the printing is started.

1.9 Manufacturing and distribution

Supply of single prints with run-up and run-off material in labelled single spot boxes.

1.10 Digital cinema

Digital cinema as the latest technical development in the cinema industry will

replace all the 35 mm film based printing technique mentioned before.
Various international commissions are working on this topic.

While the technical suppositions for

- **Aspect ratio: US widescreen 1:1.85**
- **Sound format system: DOLBY DIGITAL (SR/SRD) with max. Loudness 82 sBL_{eq} (m)**

the practical beginning already exist, the financing models and business plans still are in fundamental discussion.

- **Up to 500 copies:**
 - 1 picture negative (1:1.85)**
 - 1 sound negative (DOLBY SR/SRD)**
 - 1 answer print as reference to mastercopy**
- **More than 500 copies in addition:**
 - 1 picture negative for every additional 500copies**
 - 1 additional sound negative**

Please ask your local distributor if they have any digital play-out systems or pilot-projects usable today.

- **Length of video (25fps) corresponds to a 4% additional length of the 35mm cinema copy. (see appendix 1)**
- **Important: Title_safe for logo/typography (see appendix 1)**

- **Standard:**
 - Video production in Digi-Beta OR Beta-SP**
- **Optimized:**
 - Digi-Beta 16:9, full frame modus or sequentially numbered single-TIFF files with include title in high resolution in 2048 x 1107 pixel on DVD**

2 PART 2 – SHORT GUIDELINE

2.1 Short information: Bulk copy printing 35 mm for cinemas

2.1.1 Copy printing scenario I:

You deliver to us the complete printing-kit of 35 mm negatives.

2.1.2 Copy printing scenario II:

You deliver to us a video production or animation data-files to be transferred to 35 mm film incl. new cinema sound mix and the subsequent bulk printing.

Delivery of picture for video/data-to-film transfer:

Delivery of sound files for cinema mix/
mastering:

- **Standard:**

TV–stereo–mix (25fps) seperately on DAT or CD

- **Optimized:**

In addition all single tracks as .aif–files (beep48 frames before start) for the new cinema mix after layout–stereo–mix or complete Pro–Tools–session.

2.1.3 Post-production after delivery:

Additional post production—for example insertion of high–res titles, shorten film length, aspect–ratio adjustment, sound recording etc — only after previous agreement/quotation in writing

2.2 Contact:



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Now in its 54th year, SAWA has over 70 Members across 35 Countries. Among its activities, SAWA hosts a major Convention every two years to review how to best advise Media Buyers and Advertisers to make the decision to buy cinema.

www.sawa.com