

AATON Keylink 6.0

June 96

To download an Aaton
weblate, visit
[http://
www.alpes-net.fr/aaton](http://www.alpes-net.fr/aaton)

Keylink features set the current standards in dailies transfer; many of the world's top tv shows are using camera time-code, as are more top feature films than ever before



The control screen, the PC and the reader head

The "GreyFinder" Keylink option is the Rosetta Stone that bridges the film and video worlds.

GreyFinder® takes advantage of the Keylink 10 bit CCIR 601 keyer to calibrate telecines under the new Kodak «Telecine Transfer Evaluation Film» and to calculate the RGB values of grey cards.

The TTEF calibration, followed by measurement of a grey card photographed at the start of a take, gives the Director of Photography accurate sensitometric values called "Transfer Points". These TPs can be used as Printer Lights provided the constant difference (2 to 4 points), between TPs and PLs has first been established between the transfer facility and the printing lab.

Transfer facilities only have to install the GreyFinder® option to offer density monitoring to filmmakers who want to know more about their film exposure. The GreyFinder works with Version 6.0 on both Rank-Cintel and Philips-BTS telecines with either daVinci or Pogle controllers.



9 digital bargraphs for telecine calibration

TTEF telecine calibration

Switch the Pogle or daVinci DCPs to their «transparent» state for the RGB channels to be trimmed by telecine adjustments only.

Place the Kodak '3-Grey-Film' in the telecine gate, Keylink 601 keyer permanently measures its black, grey and white patches. The control screen nine bargraphs -- permanently monitoring the three patches -- make it fast to adjust the telecine to the TTEF settings: dark grey= 25, middle grey= 95, light grey= 170; these values are stored and will be later used to calculate TRANSFER POINTS - through rawstock specific look-up tables.



GREYFINDER measures a **small 18% grey card anywhere in the picture**

GreyFinder's two reading modes

- **On the fly** (non stop best-light transfer)

While the grey card appears on the image, the colorist keys [A] to momentarily recall: the «TTEF setup» of the DCP. A pointer flashes on the center of the video screen. Provided the pointer falls somewhere on the 18% grey card, it looks for an isochrome area and measures it.

- **Telecine on stop** (supervised transfer)

Using the keyboard arrow-keys the colorist moves the pointer toward the card; the GreyFinder permanently shows the sampled isochrome area with burned white lines, and displays its Printer Lights.

WebSlate® for the DPs

Whether on the fly or telecine on stop, both the absolute RGB values of the grey card and the difference to the colorist settings are recorded in the Keylink database (Aaton Patent Pending).

Through rawstock specific look-up tables, these values are converted into PRINTER LIGHTS and DIFFERENTIAL-PLs which are burned into the off-line images.

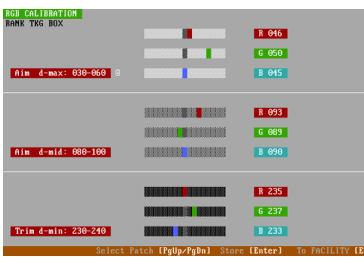
These transfer points are listed with the video and audio TCs then recorded into the ATN lists for the editing systems.

At the end of the transfer, all the GreyFinder images are converted into small vignettes, correlated to the transfer database, and then embedded under HTML (the Internet favorite format) into an Aaton WEBSLATE™ available for the DP through modem connection from any location in the world.

Evenness of illumination and color shading can also be controlled by taking multiple readings across the image area, making the GreyFinder an engineering tool as well.

The screenshot shows the Aaton WebSlate interface. At the top, there's a location bar with the URL 'http://www.alpes-net.fr/aaton/96_05_21.html'. Below that, the title 'Aaton Webslate' and 'Telecine Labs' are visible. The main content is a grid of 9 thumbnail images, each with associated technical data. The first row shows a woman holding a grey card, with data: R22 G21 B20 D-01-02+02 C1.0, VTC 01:00:02:15, ATC 18:25:15:14, 96/05/18, Sc 45 Tk 01. The second row shows a man holding a grey card, with data: R26 G28 B31 D+02-00+01 C1.1, VTC 01:08:12:04, ATC 11:45:04:06, 96/05/19, Sc 54 Tk 01. The third row shows a building, with data: R32 G34 B30 D-04-01-03 C1.0, VTC 01:17:53:22, ATC 14:28:29:03, 96/05/19, Sc 47 Tk 02. The fourth row shows a street scene, with data: R35 G32 B18 D-00-00-00 C1.2, VTC 01:20:01:12, ATC 18:34:18:23, 96/05/19, Sc 52 Tk 01. The fifth row shows another street scene, with data: R35 G32 B18 D-12-08+09 C1.2, VTC 01:22:48:19, ATC 18:34:18:23, 96/05/19, Sc 52 Tk 01. The interface also includes a 'Transfer date: 96/05/21A' and a 'Page 1 | 2 | 3' indicator.

Keylink WebSlate: TPs, ΔTPs and grey-card images for the director of photography



TKG telecine calibration



TKG's central grey card reading

The TKG alternative

telecine calibration

A Rank-Cintel TKG voltmeter installed in a Rank telecine sends Keylink a stream of RGB values every four frames. The TKG sampling window is in a fixed position in the middle of the picture. To calibrate the telecine PECs to a fixed preset value, the colorist successively moves the three TTEF patches into the center of the gate. While the *d-min* TTEF patch is being scanned, the PECs voltage should be trimmed to read 235 in each RGB channel. The *d-mid* then the *d-max* patches being scanned, the voltages should be 80-100 and 30-60 respectively. The PECs response curves are interpolated from these values and will later be used to calculate grey card TRANSFER POINTS during film transfer.

grey card reading

The colorist keys [R] to on-the-fly read the samples taken by the TKG voltmeter in the center of the image. The RGB values, correlated to TTEF calibration, are then converted into TPs which appear in a burnin window and in the ATN transfer list.

Present and future Keylink users will hereunder find some Version 6.0 rather useful improvements... as well as a reminder about Keylink unique features.



3Line VITC

Keylink pioneered the first 3LINE VITC inserter in both analog and 601 channels. 3line VITC carries Video TC in a first line, Keycode in a second line and Camera/Snd TC plus camera ID in a third line; as the film transfer codes are burnt into the video images themselves, the 3Line system can eliminate floppy disk handling. It is currently operational on Lightworks editing systems, and will be available on Avid Film Composers by July 96. *(The Aaton Sorter-III post-keyer decodes and reinserts 3Line Vitc during 16/9 master to "letter-boxed" 4/3 copy - see under.)*

23.98 fps film with no time drift

NEW
V 6.0

Shooting film at 23.98 fps is a filmmaker's dream when video monitors appear in the scene (e.g. music videos); or when a perfect correlation between film images and video-assist with time code insertion is required for rough editing from the video tap. To fulfill this requirement which is rapidly gaining acceptance for many applications, the camera must run at 23.98 fps with drop frame timecode recording. That is why Keylink is now the only code reader able to handle the time code of 23.98 fps exposed films transferred to NTSC with 0 % pitch shift. *As the 23.98 film camera time code is recorded REAL TIME (no time drift), exposure at 23.98 will no longer put a burden on the sound engineer who will record non drifting Smpte timecode at 29.97d.f.*

24 fps film in the PAL25 world

Shooting at 24fps has many advantages (NTSC compatibility, no down denaturing of voices in theaters, etc...) but in Europe transferring 24fps films to the PAL25 domain induces headaches for post-production people. Thanks to the Keylink 24&1 compensation system there is no need to accelerate audio tapes, all playback machine are usable, the video tapes show real-time images and can be easily used for sound sweetening in the video environment.

To add an image every second, the telecine duplicates a field after film images 12 and 24. Keylink uniquely identifies the first twelve images (A to L) as A1A2 to L1L2L3 fields, and the following twelve (M to X) as M1M2 to X1X2X3 fields.

Ready to Roll

This Aaton patented system displays the identification number of the audio tape box containing the sound of the take being transferred.

Fourteen windows

NEW
V 6.0

Keylink offers an infinite choice of windows which can be burned *in any position* within the picture: • Keycode • Foot & fr. • Video TC • Parity • 3&2 pulldown identifiers • 24&1 pulldown identifiers • Camera TC • Camera date • Camera ID • Audio roll ID • Auxiliary TC • Video reel ID • Lab reel ID • RGB PLs and ΔPLs.

Virtual Slate™

The VIRTUAL SLATE shows all data attached to a take on its first "A" frame. Being totally frame accurate the Virtual Slate perfectly identifies all following frames. This feature is invaluable to complete 3Line VITC when it comes to recording a 16/9 master tape on which it is impossible to permanently burn image-destructive windows.



Virtual Slate

Keycode Catch

NEW
V 6.0

Keycode reading now shares the Aatoncode «CATCH» function which insures that Keycode stays «CAUGHT» during prerolls, meaning an accurate value appears at the «in-point», even before the first printed Keycode. Edge numbers belonging to the preceding roll will no longer appear. To simplify the colorist's work, the system «uncatches» at the end of the take and CATCHES again with revalidation of both AatonCode and Keycode as soon as a new take is detected.

Configuration protection

NEW
V 6.0

Transfer parameter configurations can now be described by the operator himself, furthermore they are totally protected from unwanted modifications or accidental erasure. Alphabetical film title sorting is also available.

Operator's audio offset

Keylink generated Audio LTC, Audio VITC, Audio Windows and database recordings can be offset to compensate for DigiSlate false entries and drifting audio recorders.

Border Mover & Overlap Terminator

The Border Mover makes it possible to shift in/out points of all takes by incre-menting Video TC, Keycode & Audio

TC on A fr	Cam/Snd TC	Aux TC	Keycode	Cam/Date
002 01:00:08:10	02:00:00:10	01:00:08:10	KL000000 0012+15	cam A
01:00:15:10	02:00:07:10	01:00:15:10	KL000000 0023+07	96 03 14
Scen	Take	CamR	SnR	δ/CamTC 10
R27 022 B29				
003 01:00:15:24	03:00:00:10	01:00:15:24	KL000000 0023+12	cam A
01:00:22:04	03:00:06:20	01:00:22:04	KL000000 0033+04	96 03 14
Scen 4B	Take Z	CamR 7B	SnR 10Z	δ/CamTC 10
R27 022 B30	Day for night			
004 01:00:22:00	04:00:00:11		KL000000 0033+07	cam A
01:00:27:00	04:00:05:11		KL000000 0040+15	96 03 14
Scen	Take	CamR	SnR	δ/CamTC 10
R21 024 B10				
005 01:00:27:14	05:00:00:14		KL000000 0041+04	cam A
01:00:31:04	05:00:04:04		KL000000 0046+12	96 03 14
Scen	Take	CamR	SnR	δ/CamTC 10
R25 017 B16				

TC together. This feature coupled with the new Overlap-Terminator which removes or prevents overlaps between

Border Mover & Overlap Terminator

takes, makes Keylink the most powerful list editing and transfer data management system around.

Script Link data handling

Script supervisor comments entered into the Aaton ScriptLink laptop computer, are incorporated into transfer lists for automatic logging.

Transfer files Merge

Files from different video reels can be merged prior to their conversion into FleX or ATN lists. Acmade and Keycode fields are handled together, and Auxiliary TC can be swapped with Camera TC.

PassOne/PassTwo transfer

Under PASSONE the operator fast shuttles between edit points, «CATCHES» the codes, sets color corrections, enters GPIs, TPs and comments which are recorded in the PassOne database. Then during PASSTWO non-stop transfer, the PASSONE database is correlated with the Video TC generated by the recording-VTR: VITC, windows and Virtual Slates are accurate from the very first frame of the takes.

GreyFinder option*

Version 6.0 offers free evaluation of this new feature. The differential Printer Lights and the WebSlate are not installed, but the colorist can familiarize himself with the TTEF telecine calibration and the GreyFinder handling.

* needs the presence of a digital 601 keyer board

Notice for new comers to the business of Film-to-Video code reading

Keylink is the one and only CONTACT FREE Keycode reader and the only one which gives the colorist a permanent control over both telecine and VTR operation (it is even used as a trouble-shooting instrument in the telecine room).

It is the only one which reads the patented AatonCode matrixes recorded in Panavision, Moviemcam, Arri 35 BLs and Aaton cameras as well as handling the signals generated by ArriCode reader heads.

Sorter-III

Companion of Keylink, SORTER reads 3lineVITC (with Keycode and AudioTC) and decodes Keylink transfer databases. It handles three unique functions:

- 1 - PostKeyer** a Vitc reader extracts VIDEO TC, KEYCODE and AUDIO TC from the 3lineVitc recorded on the master video tape (16/9 anamorphic or not). This data - trimmed by the Keylink database - is sent through a selectable delay to the keyer which burns Windows, Virtual Slates™ and 3LineVITC into the re-recorded video signal (4/3 letter-boxed or not, analog or digital).
- 2 - SoundChase** feed by the 3Line Vitc reader an audio Ltc generator drives the chasing playback machine. This insures sync-sound dailies (frame accurate sound on the very first frame of each take), with no waste of telecine time. This function can be used for XTR's color video tap sound syncing also.
- 3 - EdiBridge** working under 32bit DOS, EdiBridge delivers a CMX list using the Video TCs of the second transfer after comparison of the AatonBase of the first transfer and the EDL delivered by the editing system.

* Version 6.0 is freely available to facilities under valid software maintenance contract only.