



TENTACLE SYNC - WHITE PAPER

SYNCHRONIZING MEDIA BY TIMECODE
USING AVID MEDIA COMPOSER

USING TIMECODE IN MEDIA COMPOSER

In Media Composer clips can have multiple timecode tracks:

Start TC

The „Start TC“ is normally the native timecode of your clip. It has been generated by the camera or audio recorder. If your device does not write any timecode into the clip, Media Composer will always show them with a „Start TC“ of 1:00:00:00.

Auxiliary TC 1-5

In special cases you need to use auxiliary timecode tracks. For example when reading Audio-Timecode, Media Composer stores the read timecode in an auxiliary timecode track.

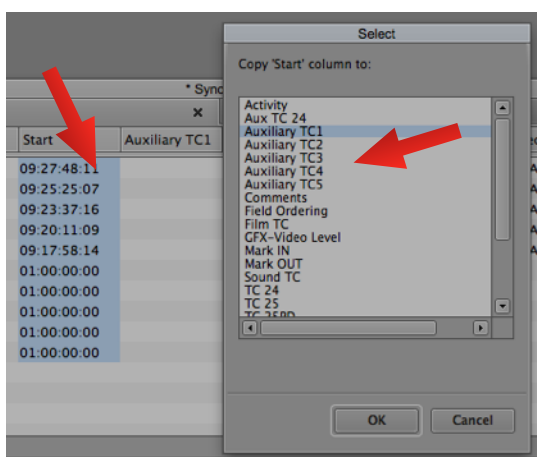
It's important to know that Media Composer only can synchronize clips with timecode of the same kind. You can sync clips all using the „Start TC“ but you can't sync clips where some using the „Auxiliary TC 1“ and others using the „Start TC“. You need to make sure the all clips use the same timecode track.

COPYING TIMECODE TRACKS

Because Media Composer demanding all clips using the same timecode track for syncing you sometimes need to copy timecode information of one track (for example „Start TC“) to another track („Auxiliary TC 1“).

You could do this by manually copying every value form one field to another, but there is a more convenient way to to this. Media Composer lets you copy a complete row of timecode information to another.

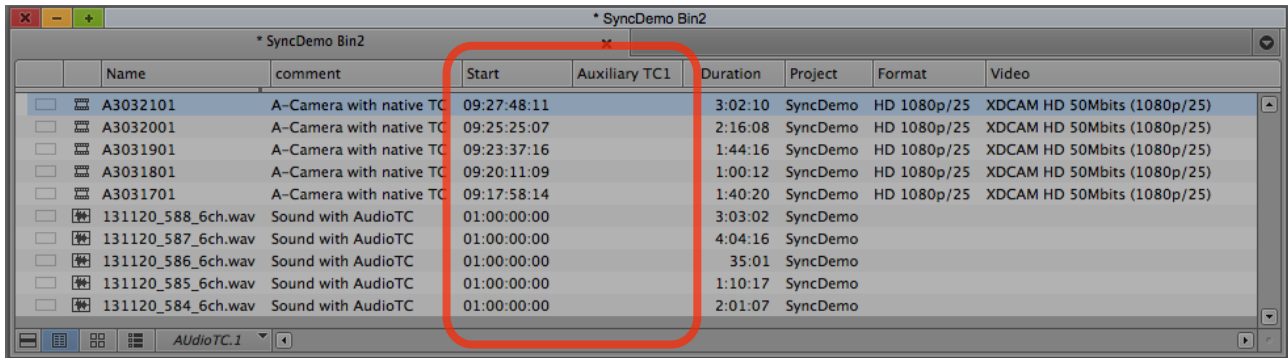
Here is an example of how you copy all „Start TC“ values to the „Auxiliary TC 1“ row:



- Select „Start-TC“ row by clicking on the „Start“ row header in the bin
- Press Ctrl-D (or CMD-D under OSX)
- A window should open. Here you are able to select the target row where you wish to copy the selected Timecode to. Select „Auxiliary TC1“ and hit ok

WORKING WITH AUDIO TIMECODE

Please note that the next step is only needed when working with Audio-Timecode Tracks. If you are using files with all feature native timecode you can skip this step and continue with „Syncing Clips by Timecode“



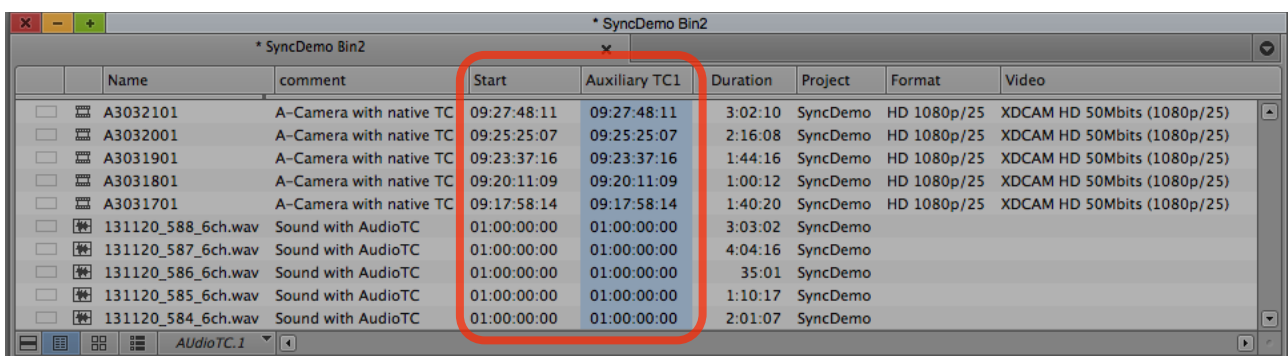
	Name	comment	Start	Auxiliary TC 1	Duration	Project	Format	Video
<input type="checkbox"/>	A3032101	A-Camera with native TC	09:27:48:11		3:02:10	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3032001	A-Camera with native TC	09:25:25:07		2:16:08	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031901	A-Camera with native TC	09:23:37:16		1:44:16	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031801	A-Camera with native TC	09:20:11:09		1:00:12	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031701	A-Camera with native TC	09:17:58:14		1:40:20	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	131120_588_6ch.wav	Sound with AudioTC	01:00:00:00		3:03:02	SyncDemo		
<input type="checkbox"/>	131120_587_6ch.wav	Sound with AudioTC	01:00:00:00		4:04:16	SyncDemo		
<input type="checkbox"/>	131120_586_6ch.wav	Sound with AudioTC	01:00:00:00		35:01	SyncDemo		
<input type="checkbox"/>	131120_585_6ch.wav	Sound with AudioTC	01:00:00:00		1:10:17	SyncDemo		
<input type="checkbox"/>	131120_584_6ch.wav	Sound with AudioTC	01:00:00:00		2:01:07	SyncDemo		

Here is a typical example of how to use Audio-Timecode for syncing. In this example we have video of a Canon C300 camera which has native timecode. The audio comes from a Tascam DR680 which is a 6 channel audio recorder without native timecode capabilities. Here timecode has been recorded as an audio signal onto one audio track (which sounds like a strange noise).

If you look at the clips in the bin, all of them have a Start-Timecode but the audio clips start always with 1:00:00:00. That is because they don't have a native timecode track embedded, they are using Audio Timecode instead. For syncing, you have to convert the Audio-Timecode into a native timecode track.

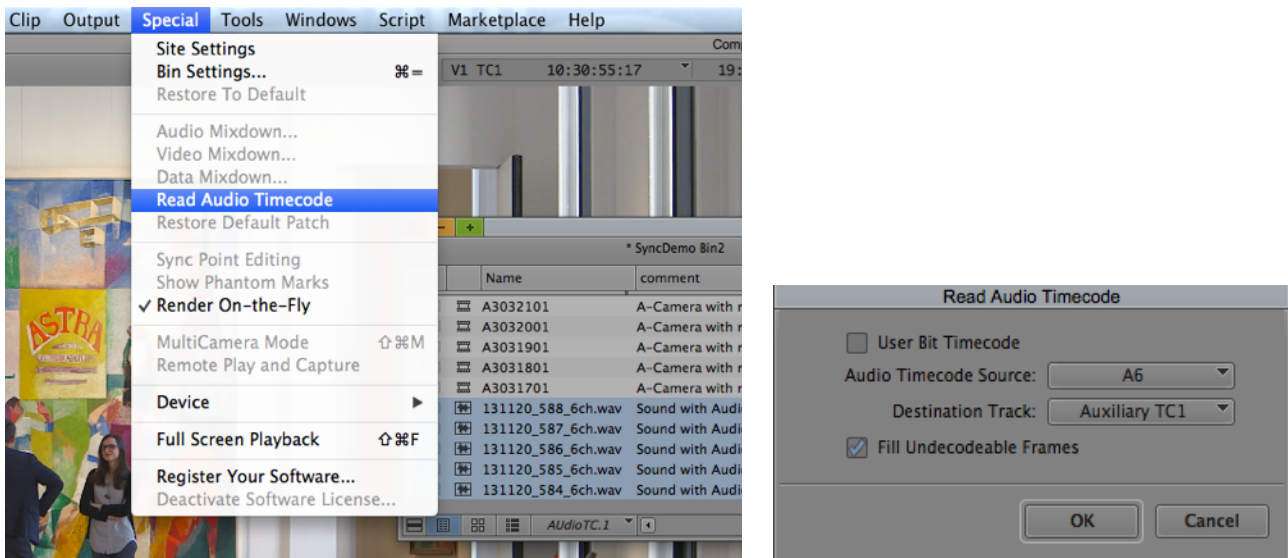
Reading Audio-Timecode can only be done to auxiliary tracks in Media Composer. But when doing so, you would not be able to sync the audio clips with „Auxiliary TC“ to the video clips with „Start TC“. So when using media with native „Start TC“ timecode you have to copy the timecode of this clips to the „Auxiliary TC“ row first. How this can be done is explained in „Copying Timecode Tracks“ above.

After copying the „Start TC“ of the video files with native timecode to the „Auxiliary TC 1“ the bin should look like this:



	Name	comment	Start	Auxiliary TC 1	Duration	Project	Format	Video
<input type="checkbox"/>	A3032101	A-Camera with native TC	09:27:48:11	09:27:48:11	3:02:10	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3032001	A-Camera with native TC	09:25:25:07	09:25:25:07	2:16:08	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031901	A-Camera with native TC	09:23:37:16	09:23:37:16	1:44:16	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031801	A-Camera with native TC	09:20:11:09	09:20:11:09	1:00:12	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	A3031701	A-Camera with native TC	09:17:58:14	09:17:58:14	1:40:20	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
<input type="checkbox"/>	131120_588_6ch.wav	Sound with AudioTC	01:00:00:00	01:00:00:00	3:03:02	SyncDemo		
<input type="checkbox"/>	131120_587_6ch.wav	Sound with AudioTC	01:00:00:00	01:00:00:00	4:04:16	SyncDemo		
<input type="checkbox"/>	131120_586_6ch.wav	Sound with AudioTC	01:00:00:00	01:00:00:00	35:01	SyncDemo		
<input type="checkbox"/>	131120_585_6ch.wav	Sound with AudioTC	01:00:00:00	01:00:00:00	1:10:17	SyncDemo		
<input type="checkbox"/>	131120_584_6ch.wav	Sound with AudioTC	01:00:00:00	01:00:00:00	2:01:07	SyncDemo		

READING AUDIO-TIMECODE



To extract Audio-Timecode of clips and convert it into a native timecode track you just have to select the respective clips and use the „Read Audio Timecode“ function of the „Special“ menu. A window will open where you are able to select the following settings:

- „Audio Timecode Source“ selects the audio track on which the Audio-Timecode will be read.
- „Destination Track“ selects the native timecode destination track on which the timecode will be written to. Here you should select „Auxiliary TC1“
- „Fill undecodable Frames“ fills automatically timecode gaps with valid timecode. It should be activated.

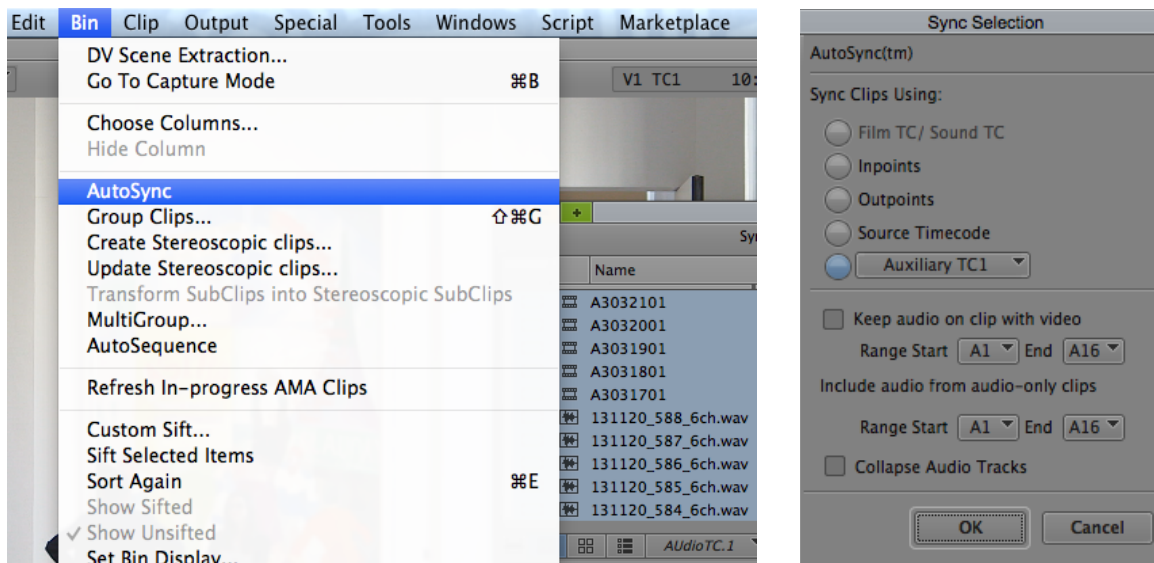
„Read Audio Timecode“ could take some time to execute.

The Bin will now look like this:

The image shows a screenshot of the 'SyncDemo Bin2' window. It contains a table with columns: Name, comment, Start, Auxiliary TC1, Duration, Project, Format, and Video. The 'Start' and 'Auxiliary TC1' columns are highlighted with a red box. The table lists several clips, including camera footage and audio files, with their respective timecode values.

Name	comment	Start	Auxiliary TC1	Duration	Project	Format	Video
A3032101	A-Camera with native TC	09:27:48:11	09:27:48:11	3:02:10	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
A3032001	A-Camera with native TC	09:25:25:07	09:25:25:07	2:16:08	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
A3031901	A-Camera with native TC	09:23:37:16	09:23:37:16	1:44:16	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
A3031801	A-Camera with native TC	09:20:11:09	09:20:11:09	1:00:12	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
A3031701	A-Camera with native TC	09:17:58:14	09:17:58:14	1:40:20	SyncDemo	HD 1080p/25	XDCAM HD 50Mbps (1080p/25)
131120_588_6ch.wav	Sound with AudioTC	01:00:00:00	09:27:46:17	3:03:02	SyncDemo		
131120_587_6ch.wav	Sound with AudioTC	01:00:00:00	09:23:37:03	4:04:16	SyncDemo		
131120_586_6ch.wav	Sound with AudioTC	01:00:00:00	09:21:33:23	35:01	SyncDemo		
131120_585_6ch.wav	Sound with AudioTC	01:00:00:00	09:20:03:06	1:10:17	SyncDemo		
131120_584_6ch.wav	Sound with AudioTC	01:00:00:00	09:17:49:11	2:01:07	SyncDemo		

SYNCING CLIPS BY TIMECODE

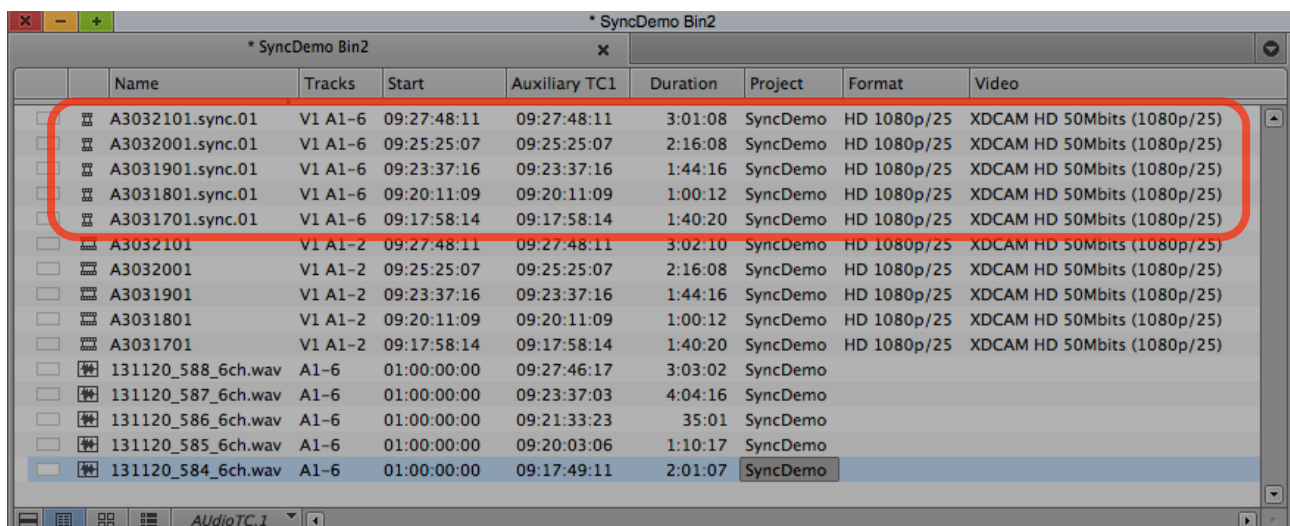


Now we are ready to sync all clips automatically via Avid's AutoSync Function.

Just select all clips and choose „AutoSync“ out of the Bin Menu. A small window should open. Select „Sync Clips by Using: Auxiliary TC1“ if you are using Audio-Timecode. In all other cases use: „Sync Clips by Using: Source Timecode“.

There are also options which Audio-Tracks to keep or exclude in the finally synced clip. Hit ok and all the clips should be automatically synchronized by Timecode. This is done by creating new subclips. These clips will have a „sync.01“ Suffix.

Finally your Bin should look like this:



The Clips with the „sync.01“ Suffix are the synced clips which you can now use for editing.