

PROXIMA ENCODER

Manual

VERSION 1.0

JULY 2015

MOST NOTABLE WORLDWIDE



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Revision Status

Version Number	Revision Date	Description
0.8	01/06/2015	The first version was created
0.9	09/07/2015	Cover page, Copyright page added
1.0	22/07/2015	V 1.0 was built and published in PDF format

TABLE OF CONTENTS

1	Introduction	5
	Trademark	6
	Operational environment	6
2	Setup	7
2.1	How to get the latest Proxima Encoder.....	7
2.2	How to install Proxima Encoder Software.....	8
2.3	How to uninstall.....	11
3	How to configure Proxima Encoder Software.....	13
3.1	Global setting and Channel setting	13
3.2	Global setting.....	13
3.3	Channel setting.....	15
4	How to operate Proxima Encoder	22
4.1	Startup and shutdown.....	22
4.2	Record Mode.....	23
4.2.1	VTR mode.....	25
4.2.2	Instant mode.....	27
4.2.3	Schedule mode	28
4.3	Play Mode	30
4.3.1	Back to back mode.....	31
4.3.2	Take Mode	35

1 Introduction

Proxima Encoder is a software application for Windows that allows you to build a video server with broadcast IO cards such as Blackmagic Decklink, Bluefish 444 and AJA boards.

You can use this software application when you want to digitize video signals into broadcast quality digital files and playback the digital files into broadcast signals.

This software provides the following functions;

- Recording baseband signal (such as SDI) to digital files.
- Playing back digital files to baseband signal.

Trademark

- Microsoft, Windows and Windows 7 are trademarks of Microsoft Corporation of the United States.
- Other names of companies and products are trademarks or registered trademarks of the respective companies.
- In these instructions, Microsoft® Windows®, Windows® 7 Professional and Windows®7 Ultimate are given as “Windows”, “Windows 7 Professional”, “Windows 7 Ultimate” respectively.

Operational environment

Hardware and operating system environment requirements for this software are as follow;

Hardware

CPU : Intel Xeon E5-2630 or higher. One CPU is required for 2 channels. To run 4 channels on one system, you need 2 CPUs.

Memory : 8GB or higher is recommended

HDD : You need 1 hard disk drive for one channel. To run 4 channels on one system, you may need 4 hard disks in stripe or RAID. Independent RAID subsystems are recommended.

Operating system

Windows 7 Professional 32bit/64bit

Windows 7 Ultimate 32bit/64bit

* This software may not support all operating systems(OS) provided after the release of this software.

* Note that an operating system(OS) guaranteed to work with this software will no longer be guaranteed in the future if any operating system(OS) specification changes.

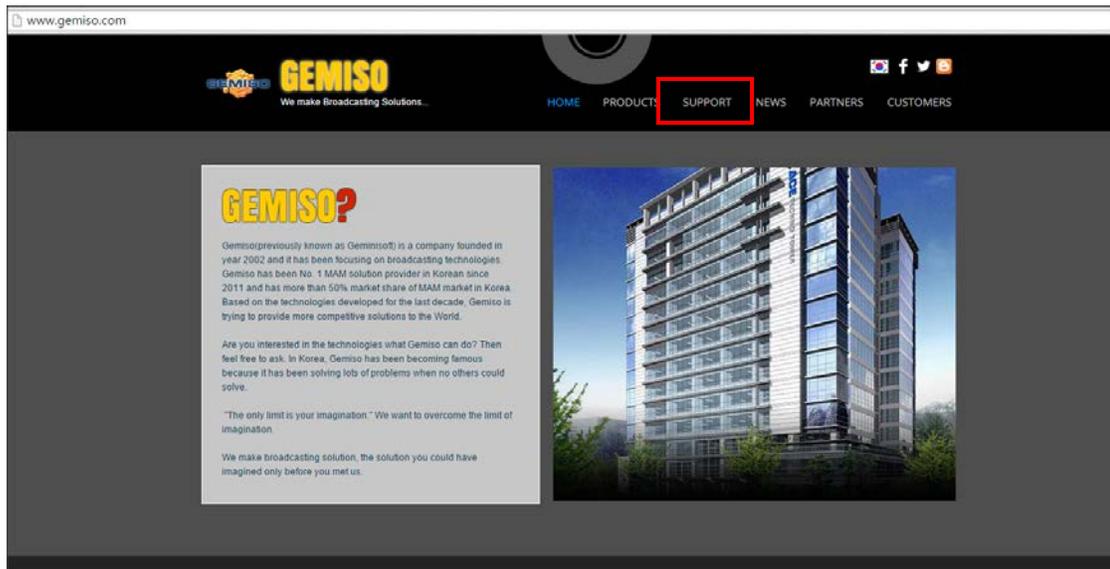
- Be sure to install the correct device driver for your IO card when you use a IO card or device.
- Ensure that your computer system will not go into standby mode or hibernation mode while using this software.
- If any other application is running simultaneously with this software, this software may not work normally due to insufficient system resources.

2 Setup

2.1 How to get the latest Proxima Encoder

As soon as there are new versions, we are putting the installation file on our server. What you need is just going to our website and download the latest version.

- Go to Gemiso website (<http://www.gemiso.com>) and open the support page. You will find “SUPPORT” page from Gemiso website and you can find the link to download page there. There must be several versions and the version you need to download is the latest version.



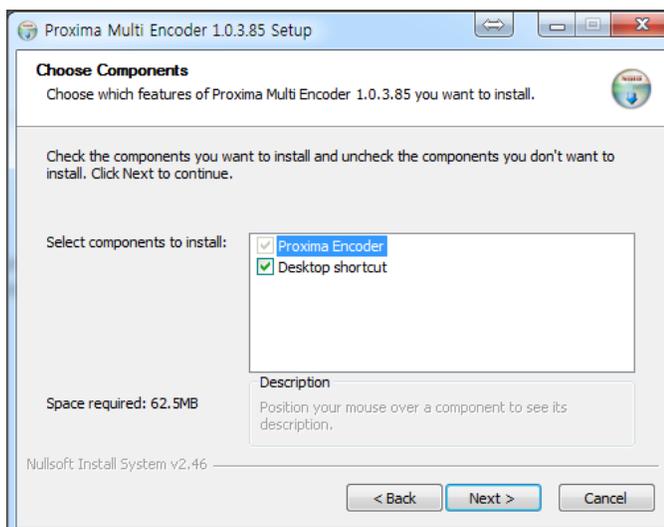
2.2 How to install Proxima Encoder Software

You must close all the other applications before installing this application. In addition, you must perform installation as a user with administrator rights.

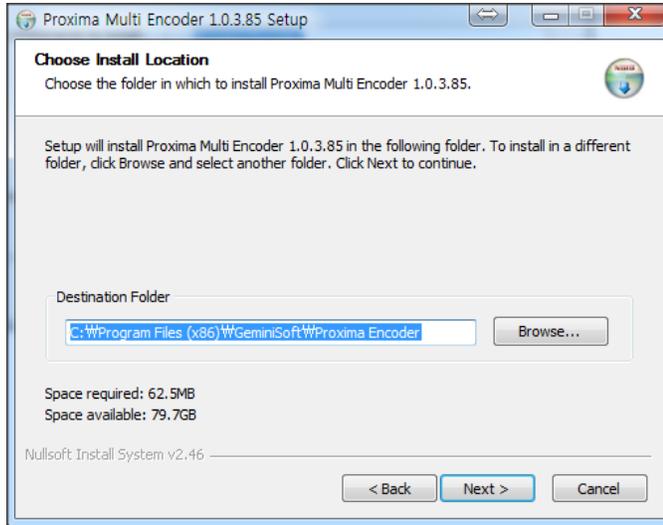
1. File “installPEncoder.X.X_yymmdd.exe” is generated when you finish downloading.
2. The following screen appears when the installation is started. Click [Next] button to continue.



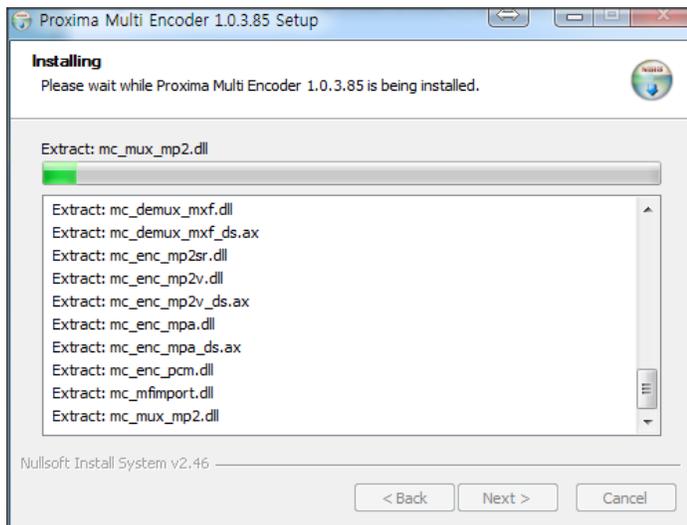
3. Choose Components screen appears. If it is good to go, click [Next] button to continue.



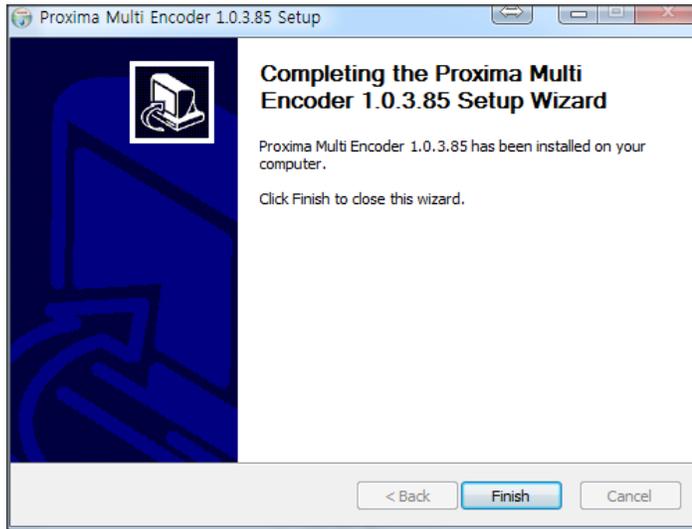
4. Choose Install Location screen appears. If you want to change the install folder, change the folder using [Browse] button. We recommend not to change the destination folder if there's no specific reason. Once choosing install location is done, click [Next] to continue.



5. The Installation progress is displayed.

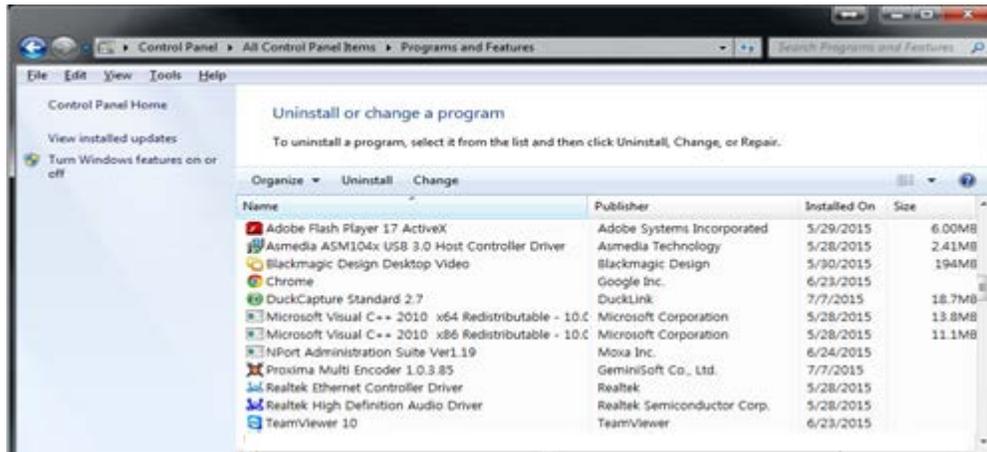


6. A dialog box appears indicating the installation is finished. Click [Finish] button to complete the installation.

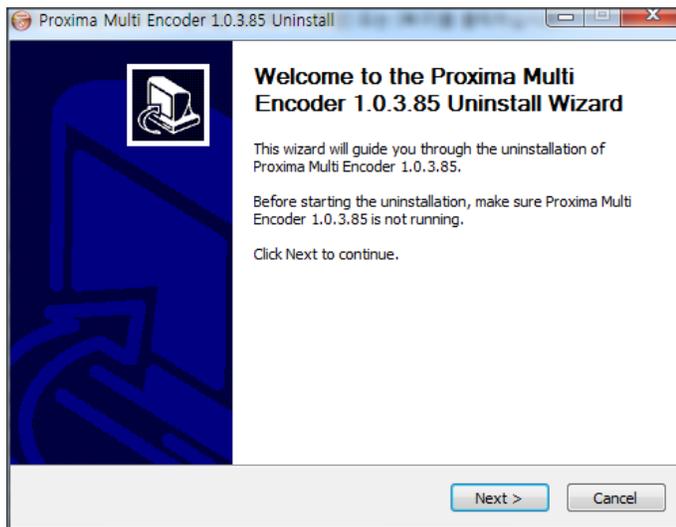


2.3 How to uninstall

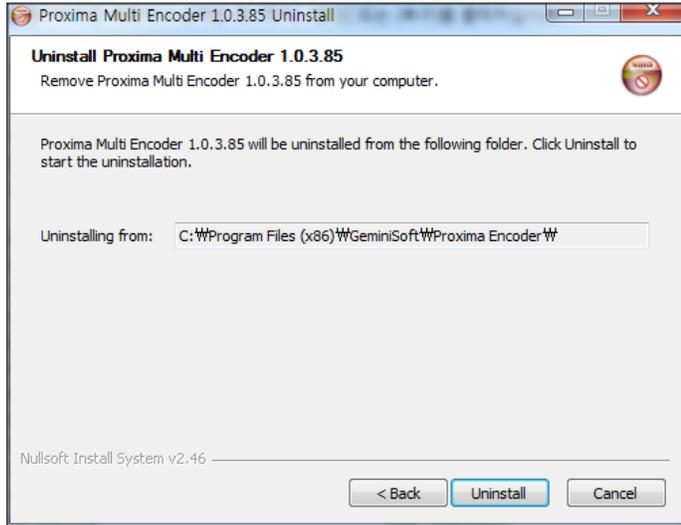
1. Use [Programs and Features] to uninstall the software. Select [Proxima Multi Encoder] from the list, and then click the [Uninstall] button in the screen.



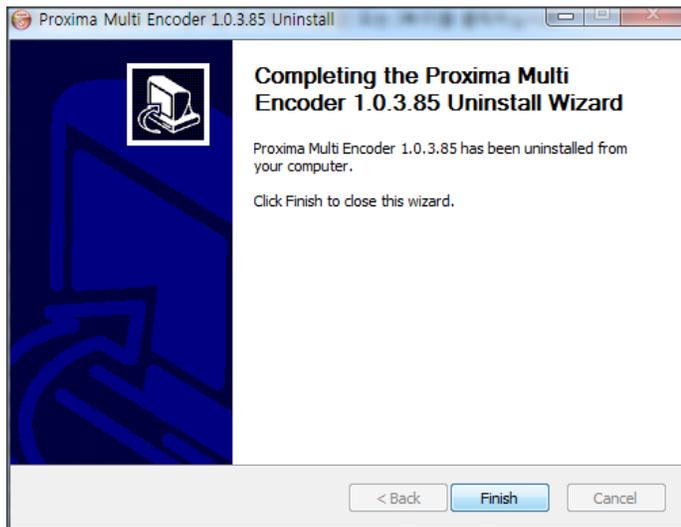
2. The [Welcome to Uninstall Wizard] window appears. Click [Next] to begin.



3. The [Uninstall Proxima Multi Encoder] page appears. Click [Next] to continue.



4. The uninstallation progress is displayed and it will be completed in seconds. The [Completing the Uninstall Wizard] page appears. Click [Finish] to complete uninstallation.



3 How to configure Proxima Encoder Software

3.1 Global setting and Channel setting

Global setting is the setting which affects to the whole software and channel setting is the setting which affects to the specific channel only.

The difference between global setting and channel setting are as follow;

- Global setting : Language setting, channel number and the common capture folder.
- Channel setting: Format, codecs, Video/Audio Signals and other channel related settings.

3.2 Global setting

1. You can open global setting by clicking [Config] button in the right-upper corner of the software.



2. The [CONFIG] window appears.

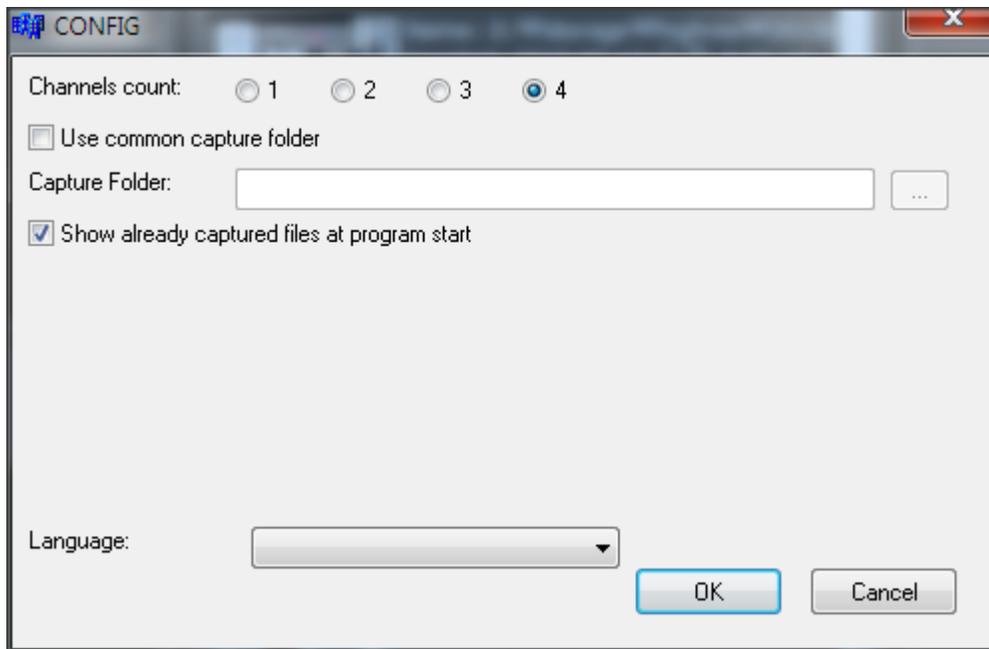
Channels count: You can specify how many channels you have on your IO card such as Bluefish 444 or Blackmagic Decklink card.

Use common capture folder: If you check this checkbox, whole recording channel will record files on this folder. You need to be sure that the performance of the disk which common capture folder resides.

Capture Folder: If you click [...] button, a folder dialog box appears where you can specify the target folder for recording. You can select the folder from the dialog box.

Show Already Captured files at program start: With this option, you can see the all recorded files from Media Browser panel.

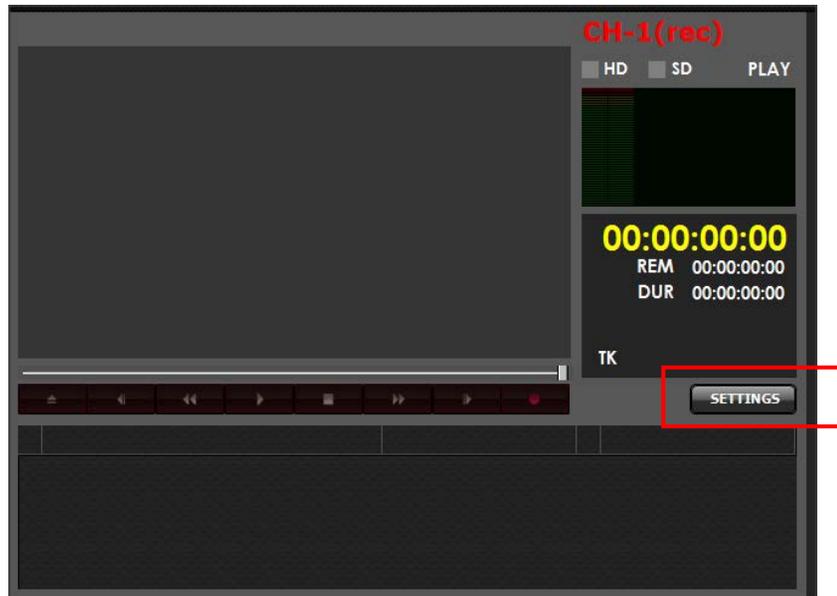
Language: The pull-down list for language shows up the supported languages for Proxima encoder interface.



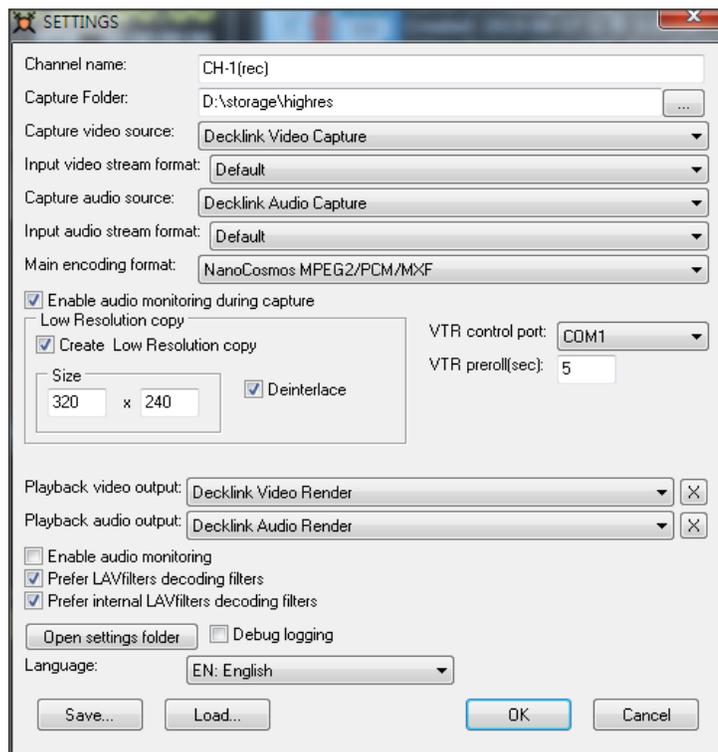
3. You can save the settings you have made by pressing [OK] button. If you want to discard all the changes, press [Cancel] button.

3.3 Channel setting

1. You can open channel setting by pressing [Settings] button on each channel. Settings button is located on the right side.



2. [Channel setting] window appears. You can set up everything about channel in this channel setting window.

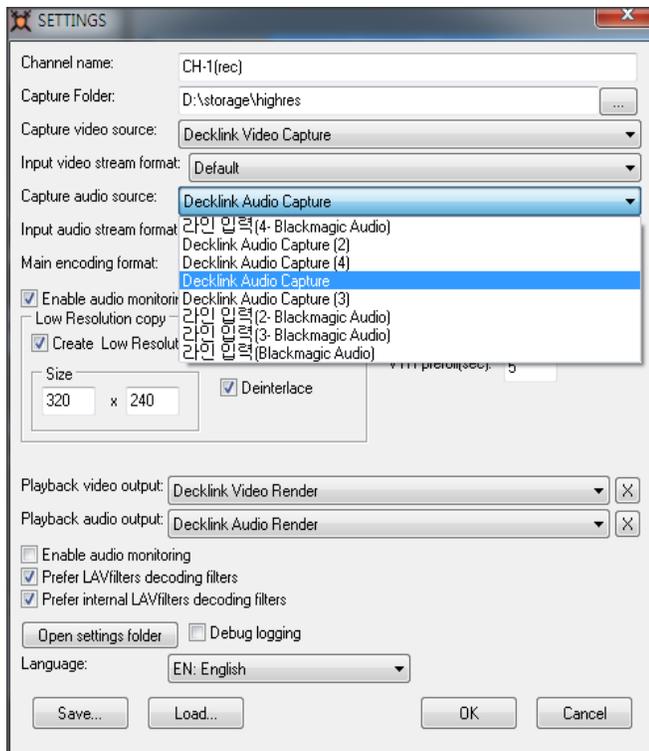


Channel name: You can define the channel name to distinguish this channel to the others.

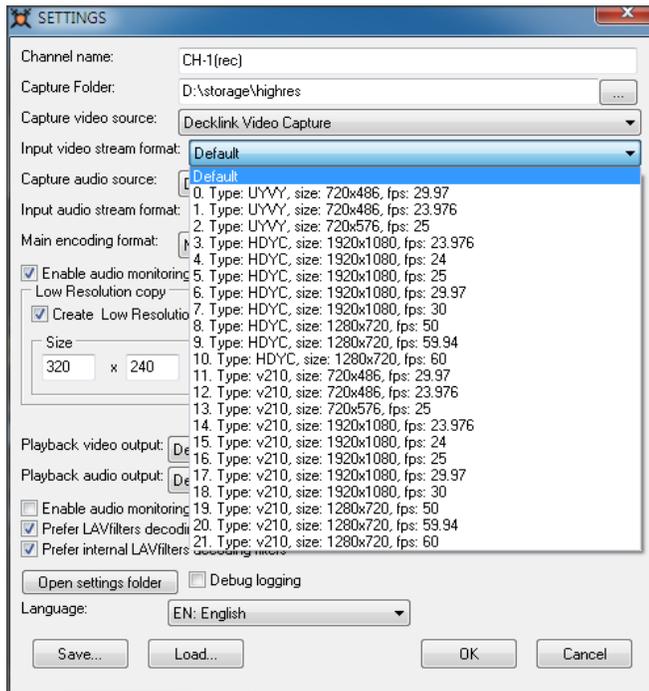
Capture folder: Capture folder is the directory you can record the data directly. You can use a local hard disk drive, a local RAID or SAN. This folder is for this channel only.

Note: It is very important that you need to provide very powerful system to Proxima Encoder software. Proxima Encoder highly depends on the system performance, you must be careful for the HDD performance and CPU performance.

Capture video source: Pull-down list shows up the possible video source list.



Input video stream format: Pull-down list shows up the possible video source stream format. Selecting video stream format will define the resolution, color space and framerates. Please consult your local resellers to find the proper setting for you, because each board may have different settings or naming. The following picture is based on Blackmagic Design Decklink.



Note: If you are using BMD Decklink, please use one of the following values.

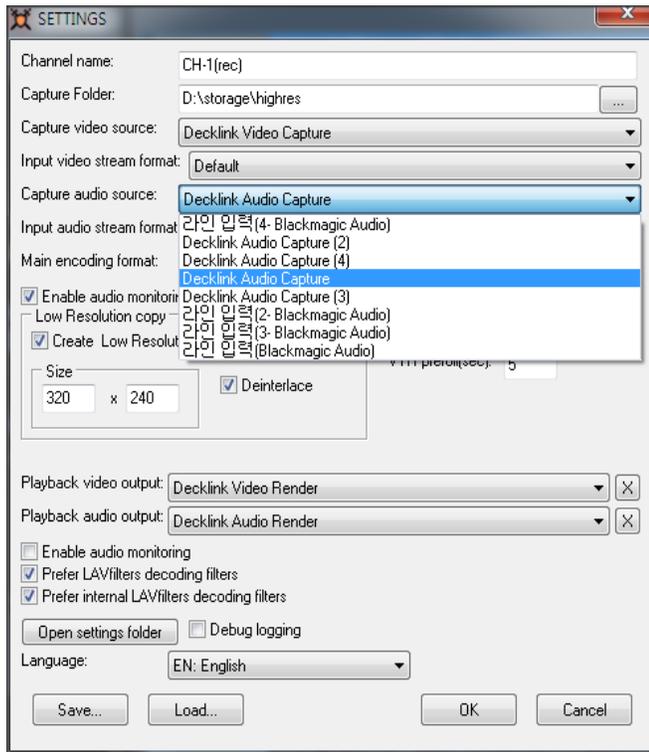
SD NTSC- 0. Type: UYVY, size: 720x486, fps:29.97

SD PAL- 2. Type: UYVY, size: 720x576, fps:25

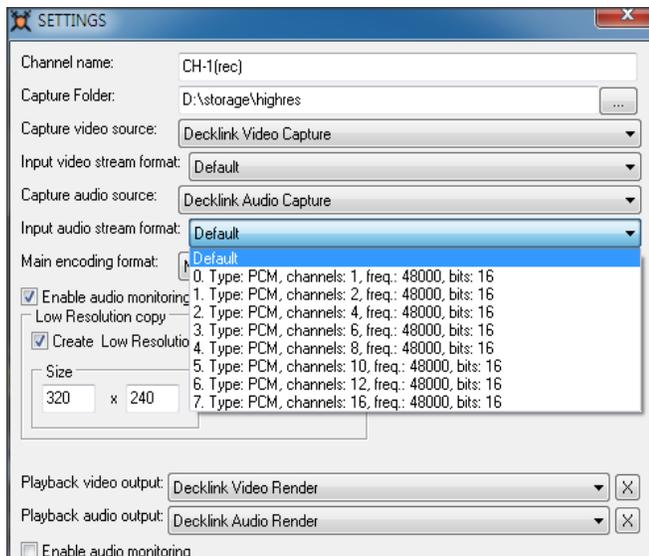
HD 60i- 17. Type: v210, size: 1920x1080, fps:29.97

HD 50i- 16. Type: v210, size: 1920x1080, fps:25

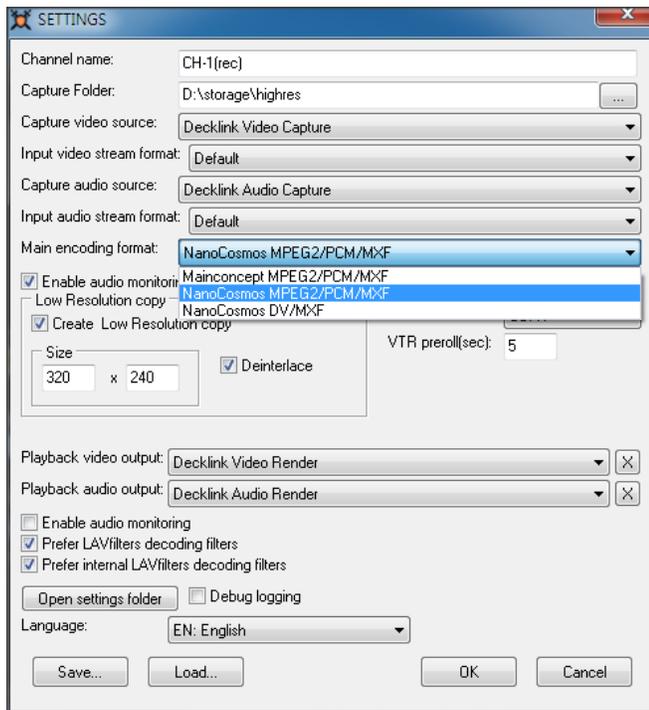
Capture audio source: Pull-down list shows up the possible audio source list. You must not choose one of the “Line input.”



Input audio stream format: Pull-down list shows up the possible audio source format. Selecting audio stream format will define input bits and number of audio channels.



Main encoding format: Pull-down list shows up the available encoding formats for high resolution format. Currently Nanocosmos MPEG2/PCM/MXF codecs are the main codec and it supports SONY compatible XDCAM HD 422 format for HD resolution and IMX D-10 format for SD resolution.



Enable audio monitoring: You can hear the audio from your encoding PC speaker if this option is checked.

Note: PC speaker means the speaker connected to your encoding system's sound card. It does not mean that beeper speaker of mainboard.

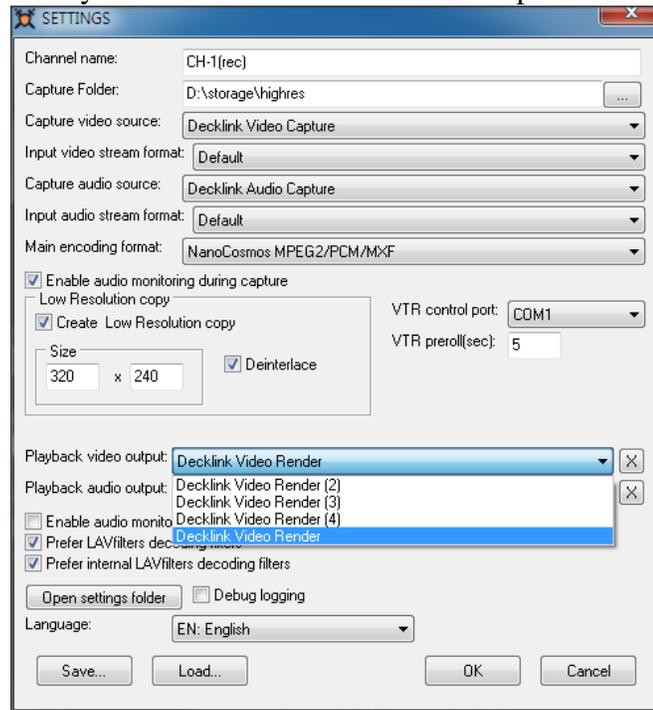
Low Resolution copy: Proxima Encoder creates a low resolution proxy file at the same time when high resolution video is being recorded.

- * **Size:** resolution of low resolution proxy files can be changed. Using big value may give a burden to the encoding system.
- * **Deinterlace:** Proxima will deinterlace for the low resolution file to have a better quality on PC.

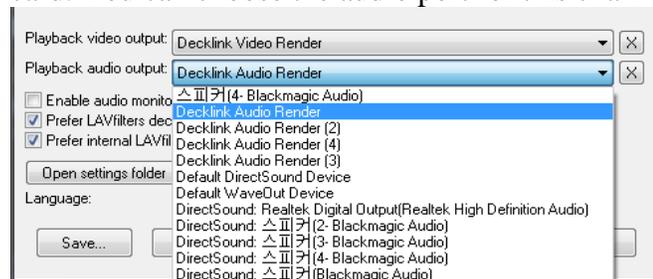
VTR control port: This pull-down list shows all your available COM ports on your encoding system. If the encoding system has a VTR connected using a RS422 cable, Proxima Encoder will control the VTR through the specified COM port.

* **VTR preroll(sec):** you can set up the preroll time for your VTR. The default value is 5 seconds.

Playback video output: This drop-down box lists all available video output ports from your IO card. You can choose the port for this channel.



Playback audio output: This shows all available audio output ports from your IO card. You can choose the audio port for this channel.



* You should not set the “DirectSound speaker(Blackmagic Audio)”. DirectSound port is not for the broadcast purpose.

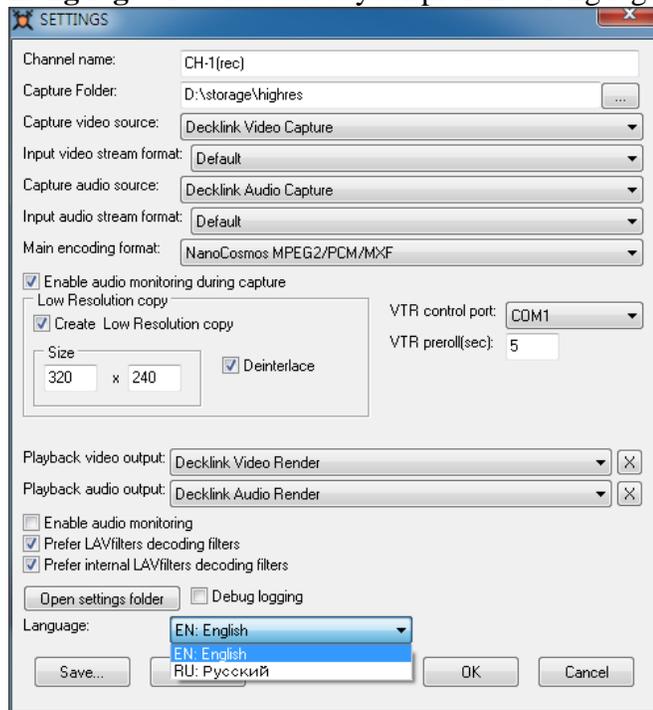
Enable audio monitoring: You can hear audio through your PC speaker if you check this option.

Note: PC speaker means the speaker connected to your encoding system's sound card. It does not mean that beeper speaker of mainboard.

Prefer LAVfilters decoding filters: You can hear audio through your PC speaker if you check this option.

Prefer internal LAVfilters decoding filters: You can hear audio through your PC speaker if you check this option.

Language: You can select your preferred language for interface.



3. You can save the new settings by pressing [OK] button. If you want to discard all the changes, press [Cancel] button.

[Save...] button saves the settings to a file for later use. It can be used for backup for channel settings. [Load...] button loads the settings from a file.

4 How to operate Proxima Encoder

4.1 Startup and shutdown

How to start up the software

You can start up the software in the following ways;

- Double-click the [Proxima Multi Encoder] shortcut on the desktop.
- From the Windows taskbar, select [Start] → [All Programs] → [Geminisoft] → [Proxima Multi Encoder].

How to shut down the software

You can shut down the software by clicking the [X] button located in the title bar.



4.2 Record Mode



Recording mode is the very basic mode of Proxima Encoder. Proxima Encoder is providing most of functions you need to ingest from baseband signals. Proxima Encoder supports recording modes as follow.

Global setting is the setting which affects to the whole software and channel setting is the setting which affects to the specific channel only.

The difference between global setting and channel setting are as follow;

- VTR mode: Proxima Encoder controls VTR using RS422 connection from Encoding PC to SONY compatible VTR.
In VTR mode, You can control the VTR from the Proxima Encoder interface. Eject, Rewind, Play, Pause, Fast Forward and other functions are working same as the VTR. It controls VTR to play the video from Tape and encodes the video into Digital file.

- Instant mode: In instant mode, you just start recording and stop recording using buttons without any control to the outer systems.
- Schedule mode(expected to be released): You can make schedules to start recording and stop recording.

4.2.1 VTR mode

You can use the VTR mode to control the VTR for the ingest source. Proxima Encoder is able to control the VTR using SONY protocol via RS422(or 232 in some case) connections.

In VTR mode, there are quite number of buttons related to the VTR control. You can see the difference easily.



- ① VCR Shuttle – Only shown in VTR mode.
- ② VCR Control Buttons: Eject, Frame backward, Rewind, Play, Stop/Pause, Fast Forward and Frame forward. Order from left to right.
- ③ Record start
- ④ LTC of the VTR – Only shown in VTR mode.
- ⑤ State of the VTR – Only shown in VTR mode.
- ⑥ In/Out function Buttons: Go to [In point], [In point], [Out point] and Go to [Out point]. Order from left to right. – Only Shown in VTR mode.
- ⑦ Set [In point], Set [Out point]. Order from left to right. – Only Shown in VTR mode.

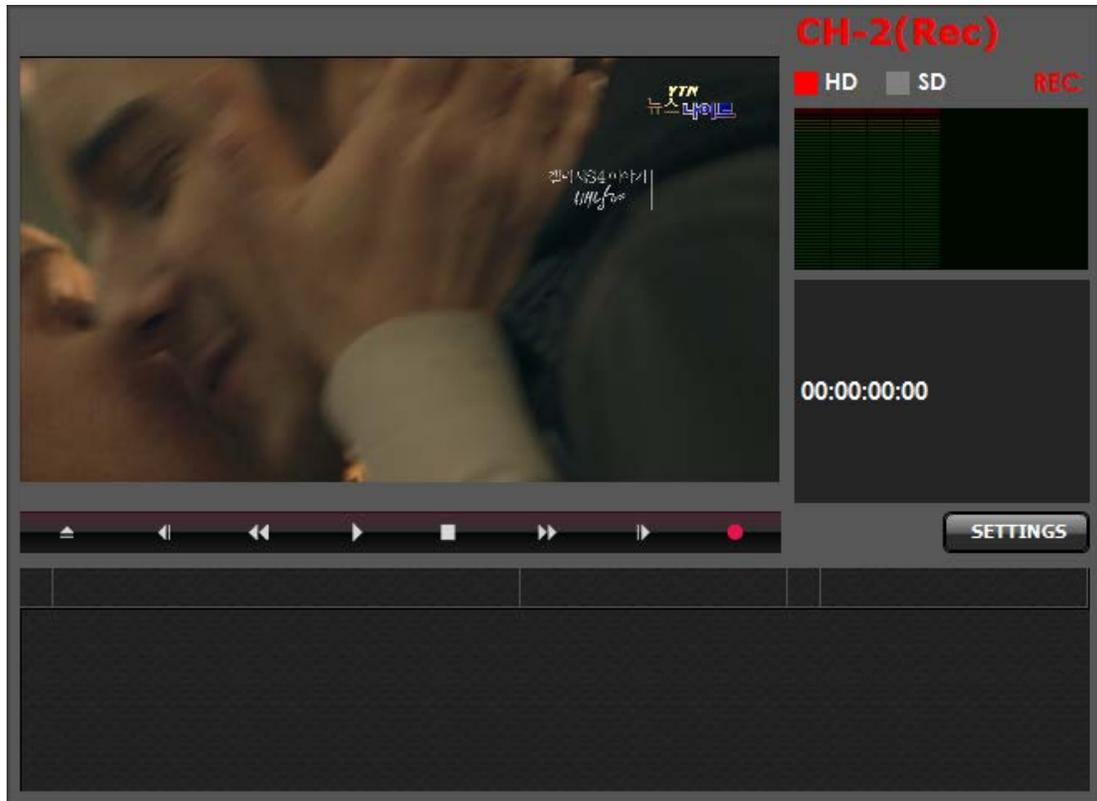
To encode files from VTR, you can simply follow the following steps.

1. Insert Video Tape into VTR. The VTR should be set as “REMOTE” mode for Proxima Encoder to control it.
2. Use ① VCR Shuttle track bar, ② VCR Control Buttons In VTR mode in order to find the start position.
3. Set the [In point] using ⑦ Set [In point].
4. Use ① VCR Shuttle track bar, ② VCR Control Buttons In VTR mode in order to find the end position.
5. Set the [Outpoint] using ⑦ Set [Out point].
6. If you have another parts to encode, then press “+” button to make the batch.
7. When you finish setting in/out points, then press ③ Record start button to start encoding.

4.2.2 Instant mode

You can use the Instant mode to do a crash recording. In instant mode, Proxima Encoder does not control anything but to support only start/stop recording.

In Instant mode, you can see lots of buttons are disappeared.



4.2.3 Schedule mode

Schedule mode will be added in the near future.

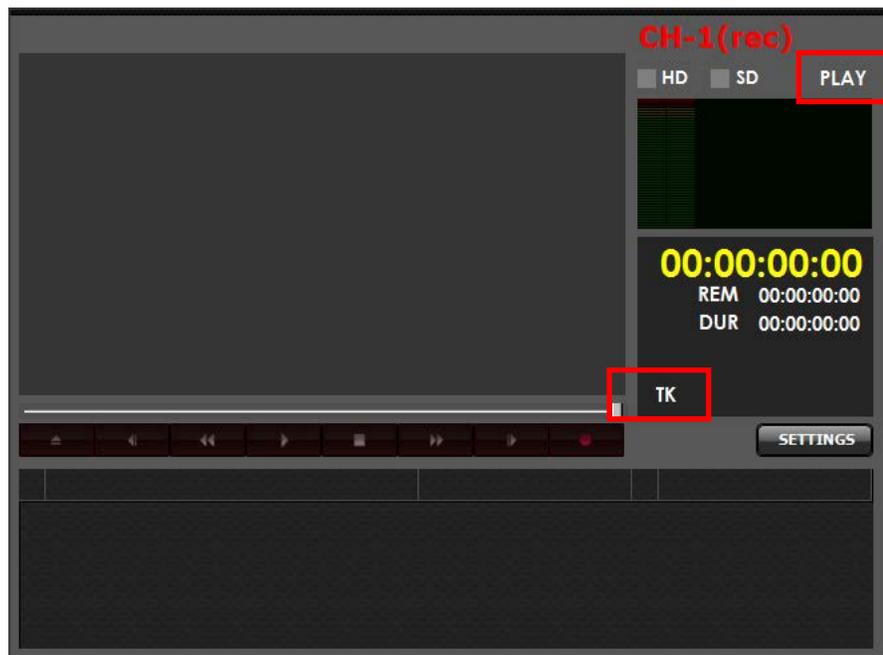
4.3 Play Mode

Play mode is one of the features that make Proxima Encoder unique. Play is one common feature for any video server, but Proxima Encoder has very powerful functions to be useful in Studio Control Room or Master Control Room.

Remember the Play mode of Proxima Encoder is not a main function to play 24x7. But it is designed more likely for the emergency backup for the professional video players.

Proxima Encoder has mainly 2 play modes.

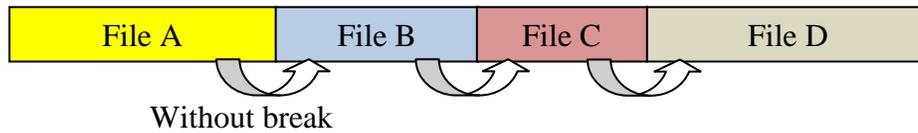
- Back to back mode: The video files loaded on the playlist will be played continuously. Files will be linked and played seamlessly as one file.
- Take mode: The video files loaded on the playlist will be played one by one. Take mode is very useful when you are using Proxima Encoder in Studio Control Room to play “Insert Video” for news.



If you click “Play”, Proxima Encoder will be changed into “Record” mode. If you click “REC” again, Proxima Encoder will return to “Play” mode.

Proxima Encoder will be in back to back mode, if you click “TK”. This label button will work as toggle button to change modes.

4.3.1 Back to back mode



Proxima Encoder plays video files seamlessly in back to back mode. Files in playlist will be played without any stopping and will be played as one file. Proxima Encoder loads every file in the list to play seamlessly.

- Loop mode
Loop mode is only available in back to back mode. If you are using loop play back mode, the playlist will be played forever until you stop.



BB means [Back to back] and LP means [Loop] in the picture above.

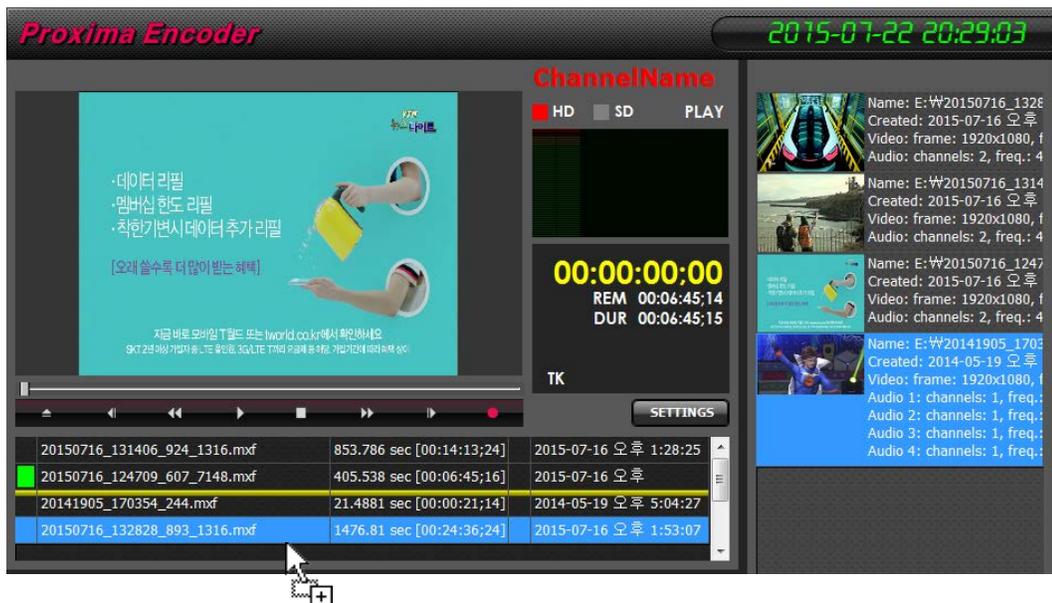
- One Time mode
The playlist will be played only once in one time mode.



You can see that the above channel is PLAY channel in [back to back] and [one time]. So when the playing is over, it will not go back to play again.

Adding Files into Playlist

Files in playlist can be added anytime even it is in play. Files can be dragged into the playlist from the Media Browser in the center or Windows File Explorer.

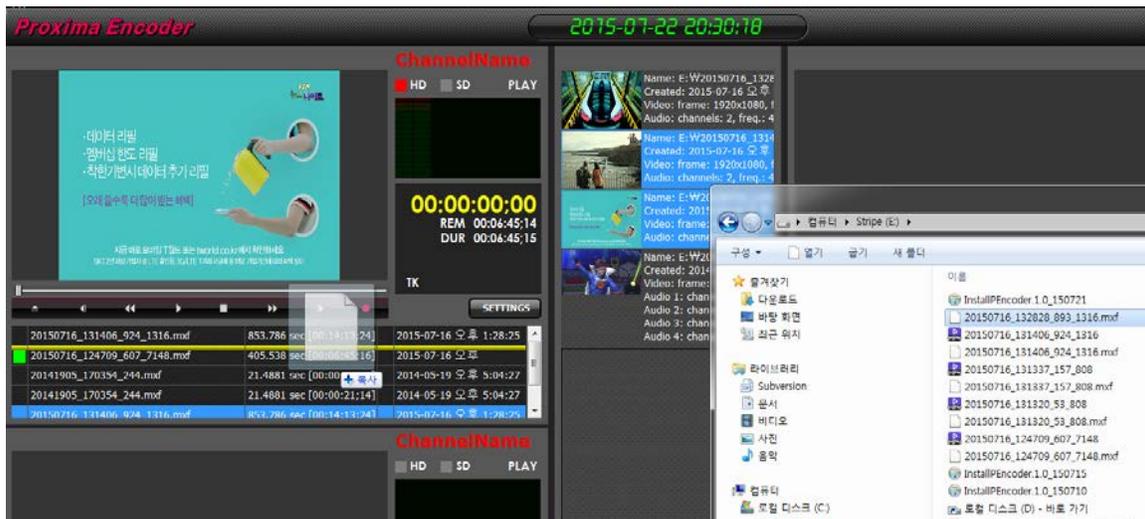


The picture above is showing how you can add a video from the Media Browser to the playlist.

- Select a video file from Media Browser.
- Drag it to the playlist.
- Drop it on the playlist.

You can simply select a video file, drag it to the playlist and drop. Yellow line appears to show you where the file will be inserted in the list.

You can also import files from Windows File Explorer. Basically it is same what you did using Media Browser in the center of Proxima Encoder.



- Select a video file from Windows File Explorer.
- Drag it to the playlist.
- Drop it on the playlist.

You can select a video file from Windows File Explorer, drag it to the playlist and drop. It is same as adding file from Media Browser. Yellow line will appear again to show where the file will be located.

Adding files into playlist is working same in [Back to back] mode and [Take] mode.

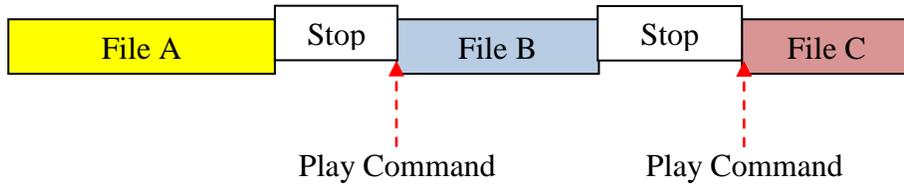
Track bar style in [Back to back] mode

The track bar will be changed into timeline style. This shows you how the files are organized in your playlist and also play position in play list.

File Name	Duration	Position
20150716_131406_924_1316.mxf	853.786 sec [00:14:13;24]	2015-07-16 오후 1:28:25
20150716_124709_607_7148.mxf	405.538 sec [00:06:45;16]	2015-07-16 오후
20141905_170354_244.mxf	21.4881 sec [00:00:21;14]	2014-05-19 오후 5:04:27
20150716_132828_893_1316.mxf	1476.81 sec [00:24:36;24]	2015-07-16 오후 1:53:07

In the above time line, the 4 segments are showing there are 4 files loaded on the playlist. It also shows the ratio of each file with the length, you can understand the playlist easily.

4.3.2 Take Mode

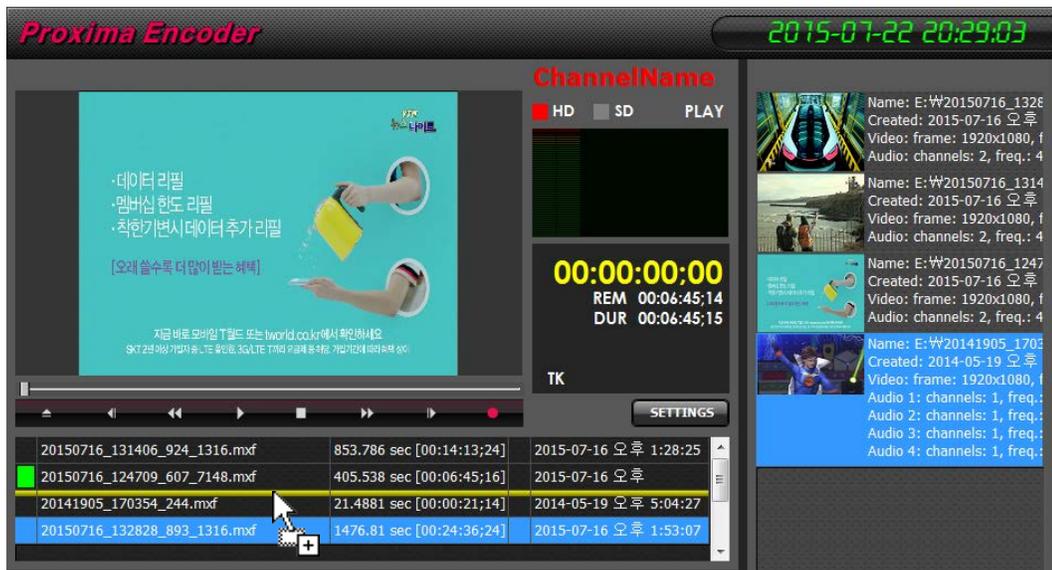


Proxima Encoder stops playing video files whenever it plays until the end of file and waits for [Take command] to play a next file. This mode is very useful for using Proxima Encoder in Studio Control system.

Take command can be initiated by clicking [Play] button and pressing [Space Bar] from your keyboard.

Each playlist is built separately and [Take Command] only applies to the channel you are focusing on.

Files in playlist can be added anytime even it is in play or stop state. Files can be dragged into the playlist from the Media Browser in the center or Windows File Explorer. It is same as [Back to back mode].



The track bar in [Take mode] is showing the loaded file only. Unlike the [Back to back] mode, the track bar does not show the whole playlist but only shows one file to be played in the next [Take].



In the picture above, you cannot find any separated segmentations on the track bar. It only shows the length of the loaded file to be played in the next [Take]. The cued file is the file with Green mark in front of file name.