

Getting Started.....

Flex Control Network SPS-4200 Playlist Automation System

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The SPS-4200 system is composed of a DC21 and the following Windows applications:

PLAYLIST CREATOR - The Playlist Creator Windows Application allows a user to easily create playlists without affecting on-air play out. A list can be created from scratch or a pre-existing list can be loaded for OFF-AIR editing.

PLAYLIST - The Playlist Windows Application allows for Program and Commercial play out or record on a single video server channel with optional secondary events. The application supports 4 play out / record channels, one playlist per channel.

The easy to use User Interface allows a user to view the list of available clips, drag & drop into playlist, change play out order and create & save playlists. Modify the playlist at any time edit, add and delete elements, append playlists even while the list is playing out.

DROPBOX - The Dropbox Windows Applications allows an operator to “Drop” a playlist or traffic list into a watched folder on a Windows computer and seconds later see it running on the automation system. The Playlist Windows Application runs on the Playlist Playout computer or any other Windows computer on the network. Simply Drop an updated playlist for today or tomorrow in its respective folder and it will then Automatically transfer to the playout channel with the next element to air cued up.

To effectively install the SPS4200 system please setup in the following order:

1. PC CONFIGURATION.
2. DC20 CONFIGRUATION.
3. CONFIGURING CLIP DATABASE ALLOCATION.
4. REBUILDING INGEST DATABASE.

Note: GTP-32's, DC20's and DC21's will be referred to as “**DC21**” for the remainder of this document.

PC CONFIGURATION

PLAYLIST CREATOR INSTALLATION

1. Create 2 folders on a local PC automation workstation. The first folder will contain the Playlist Creator software along with its configuration files provided by DNF. The second folder will contain the Playlist software along with its configuration files also provided by DNF.
2. Copy the playlister.exe and dnf_config.txt files to the Playlist Creator folder on your PC.

NOTE: Playlister.exe may be safely renamed for ease of use.

3. Open the dnf_config.txt file. Edit the config to match the IP address of your DC21. Please edit all lines in the config file to match the DC21's IP address. Here is an example of the format:

```
IP_1=192.168.0.21
CH_1=1
IP_2=192.168.0.21
CH_2=2
#IP_3=192.168.0.21
#CH_3=3
#IP_4=192.168.0.21
#CH_4=4
IP_5=192.168.0.21
CH_5=10
```

CH_1 – CH_4: represent the DC21 playout channels connected to the Video Server.

CH_5: represents the DC21 User Registers for secondary events.

4. Once complete, save the changes made to the dnf_config.txt file.

PLAYLIST INSTALLATION

1. Copy the playlist.exe and dnf_config.txt files to the Playlist folder on your PC.

NOTE: Playlist.exe may be safely renamed for ease of use.

2. Open the dnf_config.txt file. Edit the config to match the IP address of your DC21. Please edit all lines in the config file to match the DC21's IP address. Here is an example of the format:

```
[IP_1=192.168.0.21  
CH_1=1  
IP_2=192.168.0.21  
CH_2=2  
IP_3=192.168.0.21  
CH_3=3  
IP_4=192.168.0.21  
CH_4=4  
IP_5=192.168.0.21  
CH_5=1  
IP_6=192.168.0.21  
CH_6=2  
IP_7=192.168.0.21  
CH_7=3  
IP_8=192.168.0.21  
CH_8=4  
IP_9=192.168.0.21  
CH_9=10
```

CH_1 – CH_4: represent the DC21 playlist playout channels.

CH_5 – CH_8: represent the DC21 channels we will obtain the cliplist from. Typically these channels will be configured the same as CH 1-4.

CH_9: represents the DC21 User Registers for secondary events.

3. Once complete, save the changes made to the dnf_config.txt file.

DROPBOX INSTALLATION

1. Copy the dropbox.exe, dbx_start.exe and dropbox_config.txt files to the desired location on your PC.

NOTE: dbx_start.exe may be safely renamed for ease of use.

2. Open the dropbox_config.txt file.
3. Edit the pre-existing entry in the dropbox_config.txt file to match the DC21 IP address and channel number being used for the playout channel. Detailed

instructions for creating these entries are given below and at the top of the dropbox_config.txt file.

4. Once complete, save the changes made to the dropbox_config.txt file.
5. Double click on the dbx_start.exe file to start the DropBox software.

DC20 CONFIGURATION

SERIAL DEVICE CONFIGURATION

1. After launching the web browser, enter the IP address of the DC21 to be setup. The DC21 home page will be displayed.
2. Click on the "Protocol Assignment" link at the top of the page. The Protocol Assignment Table will be displayed.
3. Click on the "Edit Protocol Assignment Table" link in the middle of the page. The Edit Protocol Assignment Table will be displayed.
4. Click on the down arrow in the Physical Connector field and select "Serial" for the control channel.
5. Click in the Channel Label field and type in a name for the control channel (up to 15 characters).
6. Click on the down arrow in the Currently Licensed Control Protocol field and select "VDCP".
7. Click on the SAVE button to complete the assignment. You will be returned to the Protocol Assignment Table page.
4. Click on "Edit" field under the "Device Configuration". An edit widow will be displayed.

Protocol Assignment Table

Channel Label	Ch	Control Protocol	Control Function		Device Internal Latency				Preroll Delay			
VDCP	1	vdcpl	Master Control		hour	min	sec	frame	hour	min	sec	frame
					00	00	02	00	00	00	05	00
					<input checked="" type="checkbox"/> Disk Preroll On							
VDCP Port	Extended IDs	Time Base	TSO PLUS	TSO MINUS	Server Type				Server IP address			
2	<input checked="" type="checkbox"/> Use Extended Clip IDs	NTSC-DF	% of PLAY	% of PLAY	Omneon							
<input type="checkbox"/> Close Port			10	10								

Omneon Configuration

MediaPort Name	MediaPort01
Clip Directory	/fs0/clip_dir
File Extension	.mov

- Select "**Master Control**" from the Control Function dropdown menu.

- In the "Device Internal Latency" field, enter the play latency, from the chart below, for your video server model.

DISK PREROLL Setup Chart for VDCP Protocol		
Server	Menu Settings	
	Disk Preroll	Play Latency
360 systems	ON	10 frames
Avid Airspeed	OFF	8 frames
Doremi	ON	16 frames
EVS XT	ON	2 frames
GV PDR, XP	ON	40 frames
GV K2	ON	10 frames
GV M-series	ON	20 frames
Leitch NX400	OFF	11 frames
Leitch NX3600, NX4200	OFF	6 frames
Omneon	ON	60 frames

- Check the "Disk Preroll On" box as indicated in the chart above.
- Click on field under "VDCP Port" and enter the VDCP port number.
NOTE: VDCP protocol requires that a Port number be assigned. This port number is defined by the video server manufacturer.
- Click on the dropdown arrow under "VDCP Port" and select INPUT for record channels and OUTPUT for playback channels.
- Check the "Extended IDs" box if the video server is configured to support clips names greater than 8 characters in length.
- Click on the dropdown arrow under "Time Base" and select DF or NDF.
Select the type of timecode used by the video server.
- Under the Server Type dropdown menu, select the model of video server that you are connected to. If your video server is not listed in the drop down menu, select Other.

13. If connecting to a video server over Ethernet, enter the IP address of the video server.

NOTE: Nexio and Omneon video servers support an Ethernet connection for maintaining the Ingest Database.

14. If using an Omneon video server, enter the name of the MediaPort you are connecting to, the clip directory assigned to that MediaPort, as well as the file extension being used.
15. Click on "SAVE" to save the entered values

OR

Click on "BACK" to exit without saving entered values.

PHYSICAL SERIAL (PHY) PORT CONFIGURATION

1. Click on the "Protocol Assignment" link at the top of the page. The Protocol Assignment Table will be displayed.
2. Click on "Edit" field under the "PHY Configuration". An edit window will be displayed.
3. Click on the drop down arrow under "Baud Rate" and chose "38400".
4. Click on the drop down arrow under "Stop Bit" and chose "1".
5. Click on the drop down arrow under "Parity" field and chose "ODD".
6. Click on the drop down arrow under "Char Size" field and chose "8".
7. Click on drop down arrow field under the "Operation Mode" field and chose "CONTROLLER". (If the video server port is configured as a controller port, then select "DEVICE".)
8. Click on "SAVE" to save the entered values

OR

Click on "BACK" to exit without saving entered values.

LIST CONFIG

1. Click on the "Protocol Assignment" link at the top of the page. The Protocol Assignment Table will be displayed.
2. Click on "Edit" link under the "List Config". An edit window will be displayed.
3. Click on the "Basic Options" link located at the top left of the window.

PLAYLIST OPTIONS TABLE, Device Channel 1

Assigned Playlist	Playlist Channel	Delete Mode	Keep Elements After Payout	Delete List After Payout	Start of Broadcast Day	Import Parser	
1	1	None	0	<input type="checkbox"/>	06:00:00:00	DNF_Native	
Recue Break on Stop	Skip Missing Elements	Drop Box Action	Timezone UTC Offset				DNF_Native Harris_Louth FIXED-222 FIXED-223 XML-184 XML-160 TEXT-136 BLOCK-134
<input type="checkbox"/>	<input type="checkbox"/>	Replace entire day and synch	0				

COLUMN	DESCRIPTION
Assigned Playlist	Shows currently assigned playlist.
Playlist Channel	Shows currently assigned playlist channel.
Delete Mode	None – Elements will not be automatically deleted after list payout. Delete Played Elements – An element will be deleted from the current running playlist after it has played out. Delete Prior Days - Elements from prior days will be deleted from the current running playlist after they have played out at the end of the broadcast day.
Keep Elements after Payout	Enter the amount of elements to keep in the current playlist after the last element has played out. Only applies if delete mode is set to “Delete Played Elements”.
Delete list after Payout	Select to delete all elements in the current list after last elements has played out.
Start of Broadcast Day	Select a time from the dropdown menu to be the start of broadcast day.
Import Parser	Select a parser from the dropdown menu. If using playlist creator to create a playlist use DNF_NATIVE. If using a 3 rd party playlist select the parser as instructed by DNF Controls.
Recue Break on Stop	When payout is stopped the list will automatically Recue to the element that follows the most recent Break.
Skip Missing Elements	Select to skip over missing elements in the current playlist. If not checked, the current list will continue playing through the missing element.
Drop Box Action	Replace entire day and synch – List upload replaces entire day and synchronizes list position to current LTC time. Replace day, do not synch – List upload replaces entire day and does not synchronize list position to current LTC time.

	<p>Replace time block and synch – List upload replaces LTC time block contained in the uploaded list and synchronizes list position to current LTC time.</p> <p>Replace time block, do not synch – List upload replaces LTC time block contained in the uploaded list and does not synchronize list position to current LTC time.</p>
Timezone UTC Offset	Select a UTC Offset value from the dropdown menu to be reflected in the current playlist.

Configuring Clip Database Allocation

If all channels on a DC20 connect to video server channels that share the same storage, the Clip Database Allocation table needs to be configured for "Single Shared Database".

Since each channel on the DC20 has the same clip list, the storage is shared, so only one storage is being managed. All of the allotted space to store clipnames are available for use.

To configure a "Single Shared Database"

1. Click on the "System" link at the top of the page. The System menu will be displayed.
2. Click on the "Configure Clip Database Allocation" link in the middle of the page. The Clip Database Configuration page will be displayed.
3. Click on the dropdown box in the Clip Database Allocation field and select "Single Shared Database".
4. Click on "Save" to save your selection. Reboot the DC20 to finalize

If any channel on a DC20 connects to a completely different server than the others, the Clip Database Allocation table needs to be configured as "4 Independant Database" or "8 Independant Database".

Since each channel on the DC20 has independent clip databases a four channel system each one has a quarter the capacity of the "single" version For an eight channel system each one has an eight the capacity of the "single" version.

To configure a "4 independant Database" or "4 Independant Database":

1. Click on the "System" link at the top of the page. The System menu will be displayed.
2. Click on the "Configure Clip Database Allocation" link in the middle of the page. The Clip Database Configuration page will be displayed.
3. Click on the dropdown box in the Clip Database Allocation field and select "4 Independant Database".
4. Click on "Save" to save your selection. Reboot the DC20 to finalize.

!!NOTE!!

DNF recommends that you configure your DC20 to ""4 Independant Database" or "8 Independant Database" if you encounter any issue with retrieving the clip list from the server.

Rebuilding Ingest Database

The rebuild process reads the list of clips on the video server and populates a local Clip Database in the DC21. Once the rebuild process is completed, The DC21 will automatically update the Clip Database as new clips are added to the video server, or existing clips are deleted.

If an Ethernet connection to the video server exists the rebuild process will occur immediately after powering up the DC20 Device Controller or when a reconnect to the server occurs.

If no Ethernet connection to the video server exists the rebuild process must be performed manually.

To manually rebuild:

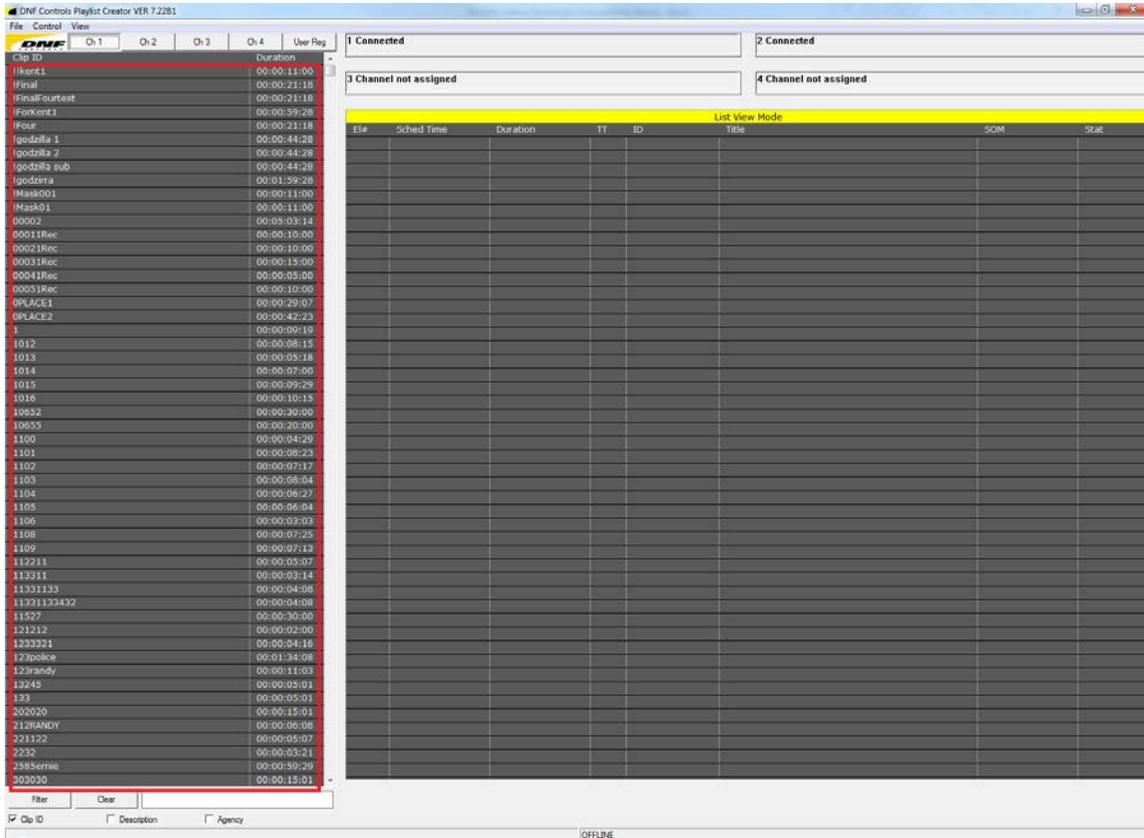
1. Open the playlist.exe windows application provided to you by DNF.
2. Select the "LIST" tab on the upper left hand corner of the window.
3. Select "Rebuild the clip list".

The Ingest Database only needs to be rebuilt when connecting to a video server for the first time.

OPERATION

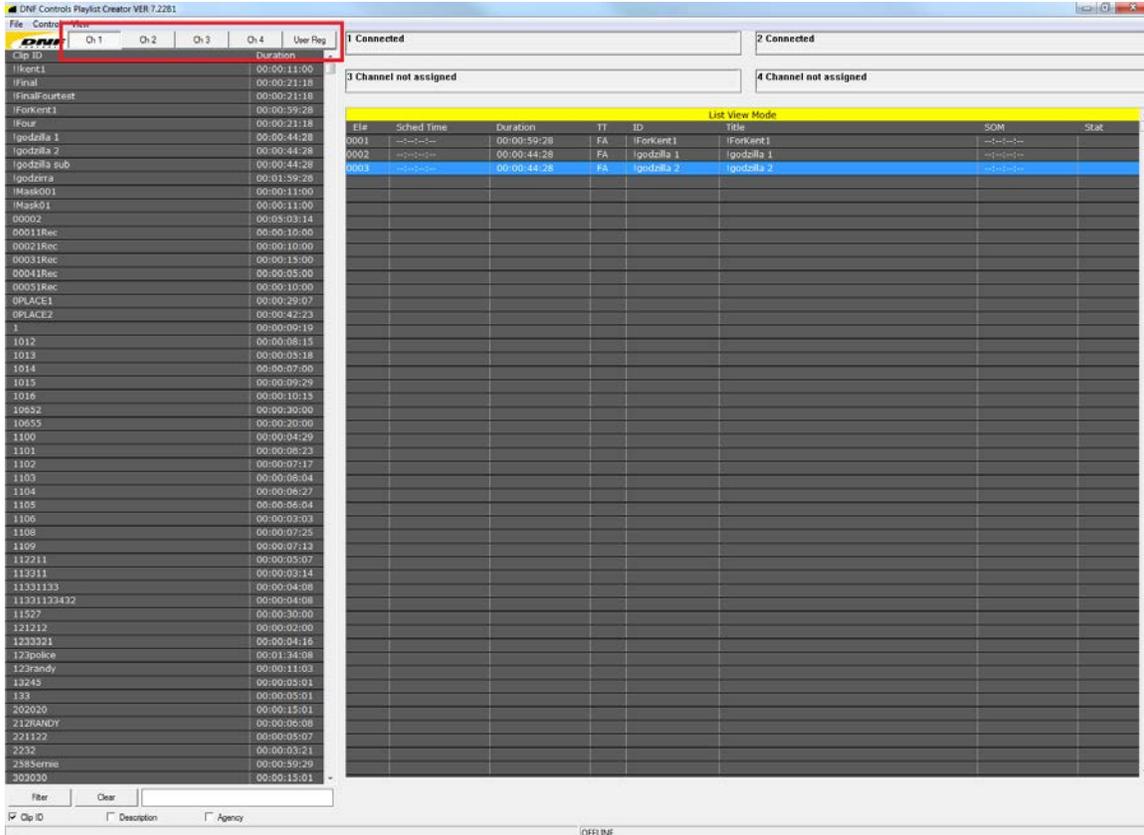
PLAYLIST CREATOR

1. Open the Playlist creator.exe. The list of clips should be present on the left window panel as seen highlighted in RED in the example below:



If clips are not present upon opening the playlist creator application please refer to the **Building Ingest Database** section in the manual.

- Select the channel you will be using to create your playlist. The channel selection bar is highlighted in RED in the example below. The right window contains the playlist being created.



Highlight Bar Color	Status
BLUE	Used to indicate selected element.
YELLOW	Cued element.
RED	Missing element.
PURPLE	Used to indicate a Comment.
LIGHT BLUE	Used to indicate a Break.

ADDING/INSERTING ELEMENTS

To ADD an element to your playlist simply drag and drop your clip into the right window panel.

To INSERT an element to your playlist simply drag and drop your clip into the right window panel. The element will be added below the yellow highlight bar.

DELETING ELEMENTS

Highlight an element by selecting it with a PC mouse. To select multiple elements press and hold the SHIFT key on the PC keyboard while making your selection.

Once all of your elements have been selected press DELETE on the PC keyboard to remove selected elements from the playlist.

MOVING ELEMENTS

To move the location of an element in a list, simply drag and drop your element into the new row location. The element will be added below the yellow highlight bar.

EDITING ELEMENTS

The PC keyboard is used to edit element fields— adding/ editing text, time, and trigger type fields. To edit the contents of an element in your playlist press and hold the CTRL key on the PC keyboard while making selecting the column field you wish to edit.

The displayed list of function keys shows the available functions for the current mode of operation:

PC Keyboard Operation

KEY	ACTION
TAB,	Move cursor forward to next field
←→↓↑	Move cursor within field
Type Characters	Overwrite/ replace existing data
→ and type characters	Append characters to existing data
↔ in Trigger Type field	Step forwards and backwards through available trigger types: CT Comment BR BREAK MP Manual Play TT Time Triggered Payout GP Secondary Event FA Follow Along TR Time Triggered Record (does not overwrite existing clip.) TO Time Triggered Record (overwrites existing clip.)
Backspace	Use backspace key to clear time field to 00:00:00:00. Backspace again to use default clip times (—:—:—:—)

INSERTING BREAKS AND COMMENTS

To insert a BREAK or COMMENT to your playlist:

Break

1. Select the control tab from the available menu tabs.
2. Select "Insert a Break" to add a BREAK to your playlist.

Comment

3. Select the control tab from the available menu tabs.
4. Select "Insert a Comment" to add a COMMENT to your playlist.

VALIDATING The LIST

The "Validate the List" function highlights the missing clips found within the playlist.

1. Select the control tab from the available menu tabs.
2. Select "Validate the list".

After validation, playout elements whose clip ID is missing will be highlighted RED.
Record Elements whose clip ID is already in use will be highlighted RED.

RIPPLING THE LIST

The "Ripple the List" function will automatically calculate the scheduled time for Follow Along (FA) elements that occur after a Time Trigger (TT).

1. Select the Control tab from the available menu tabs on the Playlister.exe.
2. Select "Ripple the list".
3. The Follow Along (FA) elements will now display a scheduled time.

SAVE/LOAD LIST

To **LOAD** a list:

1. Select the File tab from the available menu tabs.
2. Select "Load List". Navigate to the location of your list.
3. Click open to load your list.

To **SAVE** a list:

1. Select the File tab from the available menu tabs.
2. Select "Save List". Navigate to the destination where you want to save your list.
3. Create a name for the list and click save to save your list.

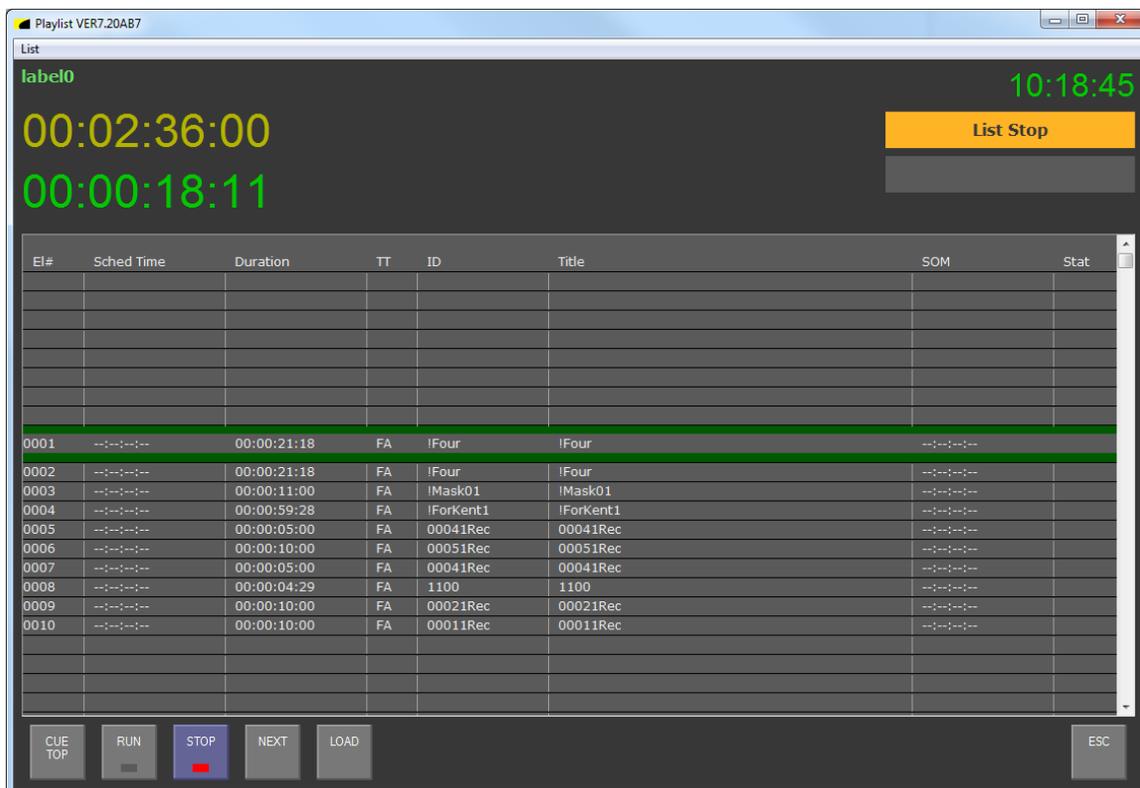
PLAYLIST

1. Open the Playlist.exe. To view a playlist, click the appropriate List button. To view the the cliplist associated with a payout channel, click the appropriate Clips button:



If clips are not present upon opening the Clip window please refer to the **Rebuilding Ingest Database** section in the manual.

2. Load a list by using the "Replace Today with File" selection or create a list from scratch by dragging and dropping elements from clip panel into the List Window. See example below.



- The element enclosed by two green bars is the element that is currently cued to play:

Click the **<RUN>** button to play the loaded playlist, starting at the currently cued element.

Click the **<STOP>** button to stop an element that is currently in PLAY.

Click the **<CUE TOP>** button to cue to the first element in the list. This function will only work when list in in STOP mode.

Click the **<NEXT >** button to skip to the next element in the list. If list is in PLAY while NEXT is select, the next element will automatically roll.

Click the **<LOAD>** button to load an element that has been highlighted by the blue selection bar.

Highlight Bar Color	Status
BLUE	Used to indicate selected element.
YELLOW	Cued element.
RED	Missing element.
GREEN	Element is ON-AIR
LIGHT BLUE	Used to indicate a Break
PURPLE	Used to indicate a Comment

ADDING/INSERTING ELEMENTS

To ADD an element to your playlist simply drap and drop your clip into the right window panel.

To INSERT an element to your playlist simply drap and drop your clip into the right window panel. The element will be added below the yellow highlight bar.

DELETING ELEMENTS

Highlight an element by selecting it with the PC mouse. To select multiple elements press and hold the SHIFT key on the PC keyboard while making your selection.

Once all of your elements have been selected press DELETE on the PC keyboard to remove selected elements from the playlist. Only elements that are currently visible can be deleted.

Click **<Delete Selected Element>** from the list tab of the Playlist.exe to delete the currently highlighted element.

Click <**Delete Above**> from the list tab of the Playlist.exe to delete the element above the currently highlighted element.

Click <**Delete Below**> from the list tab of the Playlist.exe to delete the element below the currently highlighted element.

Click <**Delete List**> from the list tab of the Playlist.exe to delete the element above the currently highlighted element.

EDITING ELEMENTS

The PC keyboard is used to edit element fields— adding/ editing text, time, and trigger type fields. To edit the contents of an element in your playlist press and hold the CTRL key on the PC keyboard while making selecting the column field you wish to edit.

The list below shows the available field columns on the Playlist.exe :

FIELD	DESCRIPTION
El#	Displays the element number in the current running playlist.
Sched Time	Display the scheduled start time for each element.
Duration	Displays the duration for each element.
TT (Trigger Type)	Displays the available trigger types.
ID	Displays the clip id.
Comment	Displays the user entered comment.
SOM	Display the Start of Message time.
STAT	Displays status of the current element, If an element is missing in the current running playlist the column will display "MISS".

The displayed list of function keys below shows the available functions for the current mode of operation:

PC Keyboard Operation

KEY	ACTION
TAB,	Move cursor forward to next field
←→↓↑	Move cursor within field
Type Characters	Overwrite/ replace existing data
→ and type characters	Append characters to existing data
↔ in Trigger Type field	Step forwards and backwards through available trigger types: CT Comment BR BREAK MP Manual Play TT Time Triggered Payout GP Secondary Event FA Follow Along TR Time Triggered Record (Does not overwrite existing clip.) TO Time Triggered Record (Overwrites existing clip.)
Backspace	Use backspace key to clear time field to 00:00:00:00. Backspace again to use default clip times (—:—:—:—)

INSERTING BREAK AND COMMENTS

To insert a BREAK or COMMENT to your playlist:

Break

4. Select the control tab from the available menu tabs.
5. Select “Insert a Break” to add a BREAK to your playlist.

Comment

6. Select the control tab from the available menu tabs.
7. Select “Insert a Comment” to add a COMMENT to your playlist.

REPLACE TODAY/TOMORROW WITH FILE

The “Replace today with file” and “Replace tomorrow with file” allows a list to be added to a running playlist.

To load a file:

Use “Replace today with file” to load a playlist for payout on the current day.

1. Select the LIST tab on the Playlist.exe.
2. Select "Replace today with file". Navigate to the location of today's list.
3. Click open to load your list into the Playlist.exe.

Use "Replace tomorrow with file" to load a playlist for playout on the next day.

1. Select the LIST tab on the Playlist.exe.
2. Select "Replace tomorrow with file". Navigate to the location of tomorrow's list.
3. Click open to load your list into the Playlist.exe.

Loading a list replaces all current scheduled elements for that day.

DROPBOX APPLICATION

CONFIGURATION

The DropBox application can manage multiple folders on a single PC. Each folder that will be used must be configured as a separate entry in the list below. For each folder entry, there are 5 fields that must be filled in. All fields are separated with a comma. Spaces may be used after commas to space out the fields for readability.

The entry must follow the following order:

<Filename Filter>, <Filename Format>, <Dropbox Folder Path>, <DC20 IP Address>, <DC20 Channel #>

Sample Entry: test*.txt, test%m%d%y.txt, C:\DropBox_Example\, 192.168.10.217,1

1. **<Filename Filter>:** This field specifies the filter that will be used to determine if a list should be processed or rejected within that folder. This includes filtering of the filename extension. * is used to specify parts of the name that are not checked for filtering.

Example: test*.txt -> The filename must begin with "test", and must have the extension ".txt" Any characters that follow after "test" and before the extension will not be checked for filtering.
2. **<Filename Format>:** This defines the naming convention for a playlist file, including the scheduled date. Use %m to define two characters within the filename format that will be used to determine the month. Use %d to define two characters that will be used to determine the day. Use %y to define two characters that will be used to determine the year. For more information on determining a naming convention, please contact DNF Customer Support.

Example: test%m%d%y.txt (This defines the filename format as test<month><day><year>.txt)
3. **<DropBox Folder Path>:** This defines the location on the local PC that the DropBox folder is kept.

Example: C:\DropBox_Test\
4. **<DC20 IP Address>:** This determines which DC20 the playlist will be updated to when a playlist is processed.

5. **<DC20 Channel #>**: This determines which channel on the DC20, 1 through 4 the playlist will be uploaded to when it is processed.

EVENT LOGGING

The DropBox application maintains event logs of all activity within the software. The event logs are stored at C:\Documents and Settings\\Application Data\DNF Controls\dropbox\event_log. Please include copies of these event logs when reporting technical issues to DNF Controls.