Air Manager Playlist Structure

A playlist loaded to AirManager Client Application is an XML file with the following structure (description valid since version 2.4.41):

```
<?xml version="1.0" encoding="UTF-8"?>
<castlist fps="25">
  <item uri="clip_1">
    <!-- The clip_1 element of the main playlist with embedded secondary events -->
    <item uri="graphics_1">
       <!-- The graphics_1 element from the Secondary Events block, anchored to clip_1 -->
    </item>
    <item uri="graphics_2">
       <!-- The graphics_2 element from the Secondary Events block, anchored to clip_1 -->
    </item>
  </item>
  <item uri="clip2">
    <!-- The clip_2 of the main playlist (no secondary events) -->
  </item>
  ....
</castlist>
```

Used frame frequency is specified in the “fps” attribute of the <castlist> tag.
Every <item> element is one playlist item. All item details are set through the <item> element attributes. The <item> element may have the following attributes:

Attribute	Description
uri	This element sets the media material for playback in case, if it is an independent resource, e.g. a file for playback at the video server. In many cases this attribute may be absent or have the “” value: for example, if playback will be implemented from an external line or VTR. Playback from a video server is basically the only case, when this attribute is required. The attribute “uri” value must have the following structure: “[proto://]addr”, where “proto” sets the protocol of access to the played media material, and “addr” sets a certain resource identifier specific for the used protocol. To get access to materials in the “stored” media database, use the “medb” protocol with the following address structure: “[server1[,server2[....]]/]<namespace>:<id>”. A construction with several servers is used in case of media databases backup. In this case, specify all media databases (comma separated), which may get the corresponding media material. In the “stored” media database every clip may have several identifiers, each of which may be used to search a clip. An identifier is selected by the “<namespace>” parameter. In every media database, the media material title is the “title” identifier. The “<id>” parameter sets the identifier value. Typical value of the uri attribute looks like this: “medb://192.168.0.10,192.168.0.11/title:DV_Shumaxer”.

Attribute	Description
player	Sets the source of material for main playlist events. Any number of playout devices may be configured in the automation system, such as video servers, VTRs and external lines. Every device gets a unique name (configured at the program channel External Lines tab). This name must be the attribute value. If the attribute is absent, the automation system implements automatic search of the matching playback device according to the type of media material set by the “tape_type” attribute. For secondary events, specify the sequence number of a graphic playlist for adding the executed event: 2 – CAST_LAY2, 3 – CAST_LAY3, ..., 9 – CAST_LAY9, LOGO – logo layer
start_type	Tye of start of a playlist element. The following types of start are currently supported for main events: • **Manual** – launching manually or via GPI. • **HardTime** – launching automatically at a certain moment, manual launch is possible. • **Seq** – launching at the end of the previous element, manual launch is possible. Types of start for secondary events: • **From Start** – launch will be anchored to the main event start. In the Start Time field, specify the launch delay relative to the main event start. This type is used, for instance, for Now Playing captions. • **From End** – launch will be anchored to the main end. In the Start Time field, specify the launch shift relative to the main event end. This type is used, for instance, for Coming Up Next captions. • **From Start Clamp** – similar to “From Start”, but does not trigger in cases, when duration of the main event is not enough to include the secondary event duration. • **From End Clamp** – similar to “From End”, but does not trigger in cases, when duration of the main event is not enough to include the secondary event duration. Feature of From Start Clamp and From End Clamp work. If a secondary event has already been launched, and the user presses Jump to move from the main event, the transition will not happen until the secondary event (Clamp) is over.
start_time	Setting the start time for elements with the “HardTime” type of start, may contain time only, or time and date. Time is set in julian days [1)]. The integer part sets the date, the fractional part sets the time. If the integer part is absent, it is considered that the date has not been set. If the field value is not specified, the “-1” value is set. Since a certain version, setting time is supported in the user-friendly format: start_time=“HH:MM:SS:FF” (in this case it may be used simultaneously with the start_date parameter).
start_date	Used for specifying a date in the user-friendly format: start_date=“YYYY-MM-DD”. The start_time field in this case must contain a zero value in julian days or be set in the user-friendly format.
orig_tc	Specifying a reference point, relative to which playlist InPoint and OutPoint values will be interpreted. It may be the clip beginning (value = None) – InPoint specified in the media database (InPoint in the playlist will be set to `00:00:00:00`), or a beginning of one of clip segments (Seg1...Seg100). Segments are set in the Segment Editor or Key Frames window.
in_point	The IN point (number of the first played frame of a media material).
out_point	The OUT point (number of a frame following the last played one in a media material).

Attribute	Description
duration	The event duration in frames. If the duration value does not coincide with out_point-in_point, playback of the media material will be cycled until it gets the needed duration. The “-1” value equals infinite duration.
purge_date	Date of clip deletion from the media database in the “DD/MM/YYYY” format. After playing the clip, the specified date is placed to the “Delete At…” attribute.
amix	Configuring the audio mixer individually for every playlist item: `AirManager→Broadcast window→Right-click menu→Audio Mixer…` Format example: `1+50,2+50/1+50,2+50/3+100/4+100/5+100/6+100/7+100/8+100/9+100/10+100/11+100/12+100/13+100/14+100/15+100/16+100` (Set in the example: In1:50%+In2:50%⇒Out1, In1:50%+In2:50%⇒Out2, In3:100%⇒Out3, In4:100%⇒Out4…)
key1_mode	Switching keyer 1 after transitioning to this playlist element. The following values are possible: • AsIs – leave keyer overlaying with no changes • Show – activate keyer overlaying • Hide – turn off keyer overlaying
key1_speed	The speed of transition to a new status for keyer 1. The following values are possible: Instant, Fast, Medium, Slow.
key2_mode	Same as key1_mode, but for keyer 2.
key2_speed	Same as key1_speed, but for keyer 2.
key3_mode	Same as key1_mode, but for keyer 3.
key3_speed	Same as key1_speed, but for keyer 3.
key4_mode	Same as key1_mode, but for keyer 4.
key4_speed	Same as key1_speed, but for keyer 4.
trans_mode	Setting a transition type for the program mixer. The following values are possible: “Cut”, “VMix”, and “Xmix”
trans_speed	Transition speed of the program mixer. The following values are possible: “Fast”, “Mid” and “Slow”.
trans_wipe	The bitmap name with a transition gradient for the program mixer.
lead_out	Setting duration of leaving the playlist event in case of forced ending of this element.
gpi1	Setting the 1 GPI line value in a playlist item in case of a transition; the following values are possible: “On”, “Off” and “AsIs”.
gpi2	Same as gpi1, but for line 2.
gpi3	Same as gpi1, but for line 3.
gpi4	Same as gpi1, but for line 4.
gpi5	Same as gpi1, but for line 5.
gpi6	Same as gpi1, but for line 6.
gpi7	Same as gpi1, but for line 7.
gpi8	Same as gpi1, but for line 8.
transparency	Setting the transparency mode for graphic layers of the video server. The following values are possible: “On”, “Off” and “AsIs”.
title	Playlist event title. The field contains information for the on-air operator and does not affect the playlist execution.
comment	Comment to the playlist event. The field contains information for the on-air operator and does not affect the playlist execution.
group	The group name. The field is filled when grouping clips in the playlist.

Attribute	Description
type	Type of a playlist event. The field contains information for the on-air operator and does not affect the playlist execution.
tape_name	Marking the tape that must be inserted to the corresponding tape-recorder by the on-air operator.
gpi1_v	Setting the string parameter transmitted along with the GPI 1 signal.
gpi2_v	Same as gpi1_v, but for line 2.
gpi3_v	Same as gpi1_v, but for line 3.
gpi4_v	Same as gpi1_v, but for line 4.
gpi5_v	Same as gpi1_v, but for line 5.
gpi6_v	Same as gpi1_v, but for line 6.
gpi7_v	Same as gpi1_v, but for line 7.
gpi8_v	Same as gpi1_v, but for line 8.
item_id	Playlist event identifier: does not affect playlist execution; used by the playlists composing system to track executed playlist lines by automation system journals.
aud_transp	Setting the value of decreasing the sound level of clips played in lower playlists, in percentage terms.
end_mode	The type of event end: • **Normal** – regular event end, with a transition to processing the next event. • **Hold** – at the end, the event switches to the Hold status, waiting for a finishing command from the operator (usually used when planning “live” events). • **Group** – at the end of the element, automatic transition to the first playlist element with the same Group column value. This allows looping a group of playlist elements. (Added in version 2.2.46)
tape_type	The type of media material; used for auto choice of a playout device. The following values are possible: “tape_bsp”, “tape_dv”, “tape_imx”, “tape_vhs” and “digital”.

An XML structure example of a playlist CLF file (up-to-date playlist can be manually downloaded from AirManager: `AirManager→File→Save Broadcast list`):

playlist.clf

```
<?xml version="1.0" encoding="UTF-8"?>
<castlist fps="25">
  <item uri="Robots 1"
        player="player"
        start_type="HardTime"
        start_time="11:11:00"
        start_date="2018-11-10"
        tc_orig="Seg1"
        in_point="0"
        out_point="337"
        duration="674"
        purge_date="2018-11-12"
amix="1%2b50%2c2%2b50%2f1%2b50%2c2%2b50%2f3%2b100%2f4%2b100%2f5%2b100%2f6%2b100%2f7%2b100%2f8%2b100%2f9%2b100%2f10%2b100%2f11%2b100%2f12%2b100%2f13%2b100%2f14%2b100%2f15%2b100%2f16%2b100"
        key1_mode="Show"
```

```
        key1_speed="Fast"
        key2_mode="Show"
        key2_speed="Fast"
        key3_mode="Show"
        key3_speed="Fast"
        key4_mode="Show"
        key4_speed="Fast"
        trans_mode="VMix"
        trans_speed="Mid"
        trans_wipe="mixwipe"
        lead_out="2"
        gpi1="On"
        gpi2="On"
        gpi3="On"
        gpi4="On"
        gpi5="On"
        gpi6="On"
        gpi7="On"
        gpi8="On"
        transparency="Off"
        title="Robots 1"
        comment="comment"
        group="group"
        type="type"
        tape_name="tape"
        gpi1_v="gv1"
        gpi2_v="gv1"
        gpi3_v="gv3"
        gpi4_v="gv4"
        gpi5_v="gv5"
        gpi6_v="gv6"
        gpi7_v="gv7"
        gpi8_v="gv8"
        item_id="id"
        aud_transp="19"
        end_mode="hold"
        tape_type="digital">
        <item uri="rss"
              start_type="FromStart"
              start_time="00:00:00"
              start_date=""
              tc_orig=""
              in_point="0"
              out_point="0"
              duration="-1"
              trans_mode="Cut"
              trans_speed="Cut"
              lead_out="0"
              title="rss"
              end_mode="none"
              tape_type="digital">
```

```
      </item>
  </item>
  <item uri="medb://192.168.0.101,192.168.0.102/title:DV_Shumaxer"
      player=""
      start_type="Seq"
      start_time="-1"
      orig_tc="no"
      in_point="0"
      out_point="220"
      duration="220"
      key1_mode="AsIs"
      key1_speed="Instant"
      key2_mode="AsIs"
      key2_speed="Instant"
      key3_mode="AsIs"
      key3_speed="Instant"
      key4_mode="AsIs"
      key4_speed="Instant"
      trans_mode="Cut"
      trans_speed="Fast"
      trans_wipe=""
      lead_out="0"
      gpi1="AsIs"
      gpi2="AsIs"
      gpi3="AsIs"
      gpi4="AsIs"
      gpi5="AsIs"
      gpi6="AsIs"
      gpi7="AsIs"
      gpi8="AsIs"
      tape_type="digital"
      transparency="AsIs"
      title="DV_Shumaxer"
      comment=""
      group=""
      type=""
      tape_name=""
      gpi1_v=""
      gpi2_v=""
      gpi3_v=""
      gpi4_v=""
      gpi5_v=""
      gpi6_v=""
      gpi7_v=""
      gpi8_v=""
      params=""
      item_id="">
  </item>
  <item uri="medb://192.168.0.101,192.168.0.102/title:LIVE"
      player=""
      start_type="Seq"
```

```
        start_time="-1"
        orig_tc="no"
        in_point="0"
        out_point="0"
        duration="-1"
        key1_mode="AsIs"
        key1_speed="Instant"
        key2_mode="AsIs"
        key2_speed="Instant"
        key3_mode="AsIs"
        key3_speed="Instant"
        key4_mode="AsIs"
        key4_speed="Instant"
        trans_mode="Cut"
        trans_speed="Fast"
        trans_wipe=""
        lead_out="0"
        gpi1="AsIs"
        gpi2="AsIs"
        gpi3="AsIs"
        gpi4="AsIs"
        gpi5="AsIs"
        gpi6="AsIs"
        gpi7="AsIs"
        gpi8="AsIs"
        tape_type="digital"
        transparency="AsIs"
        title="LIVE"
        comment=""
        group=""
        type=""
        tape_name=""
        gpi1_v=""
        gpi2_v=""
        gpi3_v=""
        gpi4_v=""
        gpi5_v=""
        gpi6_v=""
        gpi7_v=""
        gpi8_v=""
        params=""
        item_id="">
    </item>
</castlist>
```

1)

Recalculation of Calendar Time to Julian Day and Back