

PIERO RELEASE NOTES

Welcome to the PIERO 20.5 Release Notes. Please read this document to find important information on areas of PIERO that may not be covered in the User Guide.

CONTENTS

- CONTENTS..... 1
- VERSION HISTORY 3**
- VERSION 20.5 – Nov 2025 3
- WHAT’S NEW..... 3
- IMPROVEMENTS..... 4
- BUGS ADDRESSED 4
- VERSION 20.4 – Oct 2025..... 5
- WHAT’S NEW..... 5
- IMPROVEMENTS..... 5
- BUGS ADDRESSED 6
- VERSION 20.3 – Aug 2025 8
- WHAT’S NEW..... 8
- IMPROVEMENTS..... 9
- BUGS ADDRESSED 10
- VERSION 20.2 – April 2025 11
- WHAT’S NEW..... 11
- IMPROVEMENTS..... 11
- BUGS ADDRESSED 12
- VERSION 20.1 – February 2025 13
- WHAT’S NEW..... 13
- IMPROVEMENTS..... 13
- BUGS ADDRESSED 13
- VERSION 20.0 – November 2024 16
- WHAT’S NEW..... 16
- IMPROVEMENTS..... 16
- BUGS ADDRESSED 17
- VERSION 19.7 – October 2024..... 18

WHAT'S NEW.....	18
IMPROVEMENTS.....	18
BUGS ADDRESSED	19
VERSION 19.6 – August 2024.....	21
WHAT'S NEW.....	21
BUGS ADDRESSED	22
VERSION 19.5 – July 2024	23
WHAT'S NEW.....	23
PERFORMANCE IMPROVEMENTS	24
BUGS ADDRESSED	24
GETTING HELP	25

VERSION HISTORY

VERSION 20.5 – Nov 2025

WHAT'S NEW

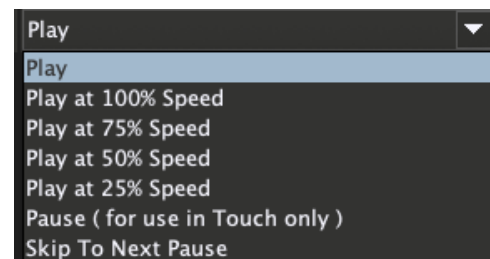
FILL AND KEY VIDEO OUTPUT

- PIERO can now produce native Fill and Key outputs for live workflows, allowing graphics and alpha to be delivered to downstream switchers and devices.
- Supported on both AJA and Matrox hardware.
- Fill and Key mode currently supports 2D Effects only.



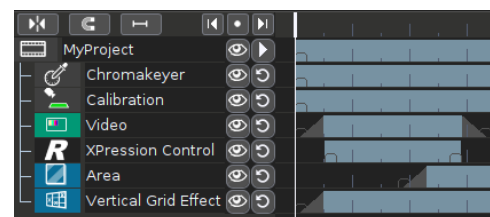
FILE IO PAUSE

- The Pause action in File IO has been updated to improve slow-motion playback and prevent frame jumps, ensuring smoother in/out transitions.
- Entering a duration of '0' allows a slow-motion without a pause.



XPRESSION CONTROL IN ANALYSIS

- The XPression Control Effect is now available in Analysis, allowing XPression RossTalk commands to be triggered directly from Analysis animations.



IMPROVEMENTS

- **BASKETBALL COURT MODELS**
 - A new 3 vs 3 court model has been added for Basketball.
 - A new US High School court model has been added for Basketball.
- **ASSET MANAGER**
 - The Asset Manager file browser now filters by supported filetypes, simplifying the selection of valid assets when importing.
 - The Advert Effect has been added to the 'Add' tab in the Asset Manager, with a template builder to enable custom advert positioning.

BUGS ADDRESSED

- **DOWN AND DISTANCE:** Fixed a bug causing the Down & Distance property sheet tabs to appear blank when first loading a saved project in Live mode.
- **LUCID TRACK CAMERA FEED:** Fixed a bug causing glitches in the Lucid Track camera feed. A new **Drift Tolerance** property has been added to improve stability across different network conditions. *Note, this tool is used for aligning Lucid Track.
- **OVERHEAD CAMERA:** Fixed an issue where keying remained active in Overhead Camera mode. Overlays, such as logos, now display correctly in non-keyed areas.
- **SHAPE ALIGNMENT TOOL:** Fixed multiple issues with the former Multi Shape effect in Live, including distortion handling, preset saving, invalid grid values, color blending, and stability. The Effect has been improved and renamed the **Shape Alignment Tool**.

VERSION 20.4 – Oct 2025

WHAT'S NEW

OVERHEAD CAMERA

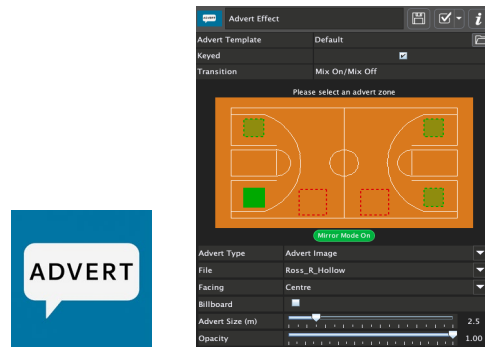
- A new Overhead Camera tool has been added to the center-bar array of tools, allowing users to place graphics from a top-down perspective, simplifying the process of placing Effects outside what is in shot.

Available in both PIERO Live and Broadcast.



NEW EFFECT: ADVERT EFFECT

- PIERO now has a dedicated Effect for advertising content, allowing “advert” assets to be placed on court in symmetrical patterns.
- Currently available only for basketball in Broadcast and Live. Support for other sports is coming soon.



TEXT SHADOWING AND TEXT OUTLINES

- Additional customization for the Text Effect, allowing users to add shadows and outlines to text, has been added.
- These options are also available in other Effects using text, such as the Caption and Down and Distance Effects.



VIRTUAL STADIUM OVERLAY CONTROLS

- The ability to customize the Virtual Stadium playing surface with an overlay, has been added to PIERO.



IMPROVEMENTS

- **PIERO CONTROL VIA ROSSTALK**
Control of PIERO via RossTalk simplifies Voyager + PIERO workflows and enhances usability for a range of other workflows.
- **DATALINQ**
DataLinq icons now illuminate yellow to warn of network issues and disconnections.
- **DOWN & DISTANCE**
The Down & Distance timer image now defaults to “Generic Timer” for both home and away.
- **EFFECT HANDLES**
A new slider has been added for Tracking Effects, allowing users to customize the handle line width.
- **IPAD APP IMPROVEMENTS**
A new version of the Piero iPad app will be available soon, via the App Store, including several new features and improvements:
 - VTR controls enable navigation between markers points and jump to video clip start.
 - User Profiles have been introduced, allowing button configurations to be saved for different users.
 - An accessible high-contrast icon theme has been added.
 - A new setting to turn off high frame rate video, helps reduce battery and network usage.
- **GLOWING FREE THROW LINE**
Following the introduction of the glowing three-point line in basketball, the glowing line style has now also been added for the free throw line.
- **PIERO PLUGIN**
An ability to lock the PIERO Remote from sending commands has been added, preventing PIERO from sending unwanted commands to Voyager when PIERO is not in use (in Voyager + PIERO integrations).
- **PROJECT LOADING**
The default behavior of project loading in file mode has been improved. Instead of loading at the previous time code, projects will now load at the start of a clip, enabling faster Touch workflows in live scenarios.
- **VIRTUAL STADIUM (BASKETBALL)**
The crowd can now be toggled on and off in the Basketball Virtual Stadium.
- **ZOOM EFFECT**
When keyframing the Zoom Effect, transitions between keyframes have been smoothed.

BUGS ADDRESSED

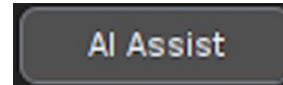
- **ASSET MANAGER:** A bug causing intermittent exceptions when importing assets has been fixed.
- **GLOW SPLINE:** Inconsistencies when applying the glow line style, for certain Effects, have been fixed.
- **IPAD APP:**
 - The Settings panel no longer disappears when users press outside the panel. Users should now press "Done" to save and close the panel.
 - Fixed a bug causing button configurations to be lost when app was used with no wi-fi connection.
- **RANGE EFFECT:** The property sheet now correctly displays all parameters.
- **VIRTUAL STADIUM:** Virtual stadium lines being too thin have now been addressed with the addition of a "Line Width" property.

VERSION 20.3 – Aug 2025

WHAT'S NEW

AI-ASSISTED CAMERA POSITIONING

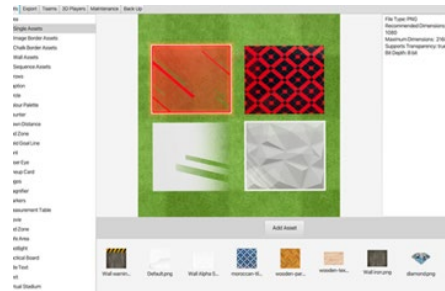
- For soccer-football, PIERO can now utilize AI technology to calibrate the field of play (using only the central camera position).
- AI camera positioning is an optional feature, installed separately from the PIERO application and can be accessed by contacting PIERO Support



AI Assistant Button PIERO

NEW ASSET MANAGER

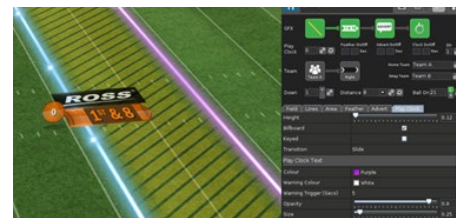
- The new Asset Manager features locally animated previews.
- The Importer validates asset files to meet PIERO's requirements.
- Even more effect components are customizable.



The New Asset Manager UI

DOWN AND DISTANCE IMPROVEMENTS

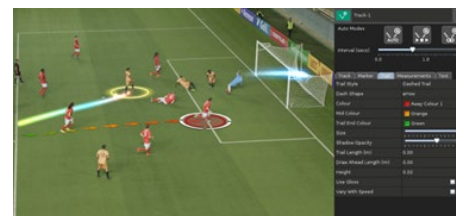
- 3rd Down Line color for CFL.
- Line Thickness customization.
- Advert Playlist/Rotation and Feather Advert placement have been introduced.
- Text Drop Shadow color customization.



Down and Distance Improvements

TRAIL FADE

- Trails such as those featured on the Track Effect and Virtual Ball, can now utilize three color sections and also be shortened to a customized length.



Multi Color Track Fade

IMPROVEMENTS

- **1080P 29.97**

PIERO now supports 1080p 29.97 video files.

- **BASKETBALL DATA MODULE**

The Basketball Data Visualisation Module now supports NCAA data.

- **KEYFRAMES**

Improvements have been made to tracked effects utilizing new style handles, with users now able to select a track handle even if it overlaps with the currently selected track handle.

- **LASER WALL IMPROVEMENTS**

The Laser wall can now be flipped to be used up and down the field.

- **MOVIE EFFECT**

The Animated Layered Asset effect style is now available for the Movie Effect. Speed, colors and fill area are customizable within PIERO.

- **NEW DEFAULT TEAM LINE-UP PLAYERS**

Updated player portraits have been added to the example team for the Team Line-Up Effect.

- **PIERO VOYAGER/UNREAL PLUGIN**

Player number visuals for each player appearing in a Team Line-Up has been added in the Piero/Voyager plugin.

Support added for Unreal Standalone Game mode.

Spotlight Effect: The Spotlight Effect base is now independently customizable, with the option to add custom assets.

- **TIME OF DAY IN TIMER EFFECT**

The Timer Effect can now display time of day timecode in both File IO and Video IO.

- **VERTICAL BALL EFFECT**

For the Vertical Ball Effect, a Shadow Opacity property has been added to the Trail tab for the 'Glow Line' and 'Tube' styles.

- **VERTICAL GRID EFFECT**

Now available in Rugby, Tennis, Badminton, Beach Volleyball, Volleyball and Pickleball.

- **VIRTUAL STADIUM EFFECT**

In the Basketball Virtual Stadium, a new 'Basket Draw Order' property has been added, allowing Shot Trails to be drawn over or beneath the basket.

BUGS ADDRESSED

- **2D FREEHAND LINE**

A memory leak causing crashes has been fixed.

- **ANIMATE ON/OFF DELAY**

PIERO Live will now account for the delay time from the effect animate on/off.

- **CALIBRATION KEY ON MULTIPLE VIDEO INPUTS**

PIERO now shows the correct key when using multiple video inputs.

- **iPad Connection issue**

Inconsistent behavior when the iPad connects to PIERO, has been fixed.

- **Laser Eye Effect:** The "Return to Home" feature in the Laser Eye Effect has been reinstated.

- **Model Marker Clipping:** An issue where the Model Marker clips with other effects in the stack is now fixed.

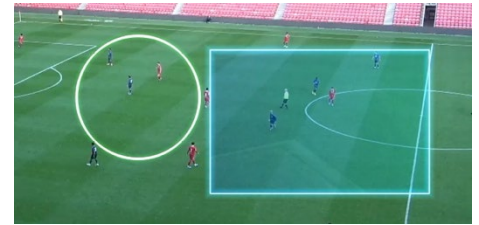
- **Trackless Caption Crash:** A crash occurring while using the Caption Effect without track, has been fixed.

VERSION 20.2 – April 2025

WHAT'S NEW

- **2D & Key Properties**

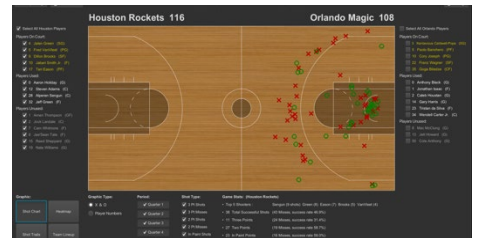
- Relevant Effects can now be used in 2D mode via the '2D' property in the property sheet. Additional 2D touch effects have also been added.
- The 'Keyed' property has now been expanded to a wider array of Effects to control keying. This property replaces any height based control of keying.



Circle and Area Effect with 2D enabled

- **NBA Data Module**

- A new basketball data module has been introduced, enabling integration for NBA data-driven graphics.



The NBA Data Visualisation Module

- **PIERO to XPression RossTalk Commands**

- PIERO can now send RossTalk commands, to remotely control XPression, simplifying the control of XPression graphics within PIERO.

IMPROVEMENTS

- **SMPTE 2110 support for PIERO Analysis:** IP SMPTE 2110 video inputs are now supported in PIERO Analysis as well as PIERO Live
- **Ice Hockey Virtual Stadium:** Overhead left and right camera presets for the Ice Hockey Virtual Stadium in Touch, have been updated.
- **Figure Skating Data Integration:** limited support for figure skating data has been implemented via DataLinq.
- **Trial Licenses:** A new trial license option has been added to grant more flexibility in trials, testing and training.

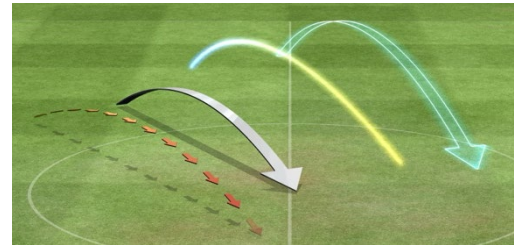
BUGS ADDRESSED

- **Graphic Borders:** Fixed an interaction bug between graphic borders and the pitch edge, when the graphic height is set to 1.1m or higher.
- **DataLinq:** Input timecode is now used when the DataLinq timecode option is in use.
- **Moveable Players:** Fixed a bug where Moveable players did not draw, when used with the default key.
- **Virtual Ball:** A bug causing the 3D Virtual Ball to render black in some sports has been fixed.

VERSION 20.1 – February 2025

WHAT'S NEW

- **AR Player Effect for all Sports**
 - The AR Effect has been added to all sports in both Analysis and Touch, enabling users to move player cutouts across the timeline.
- **Curved Arrow Effect for Analysis**
 - The previously Live-only Curved Arrow Effect has been introduced in Analysis.
- **Updated Lacrosse Graphics**
 - A new 2pt Arc Line has been created for the Lacrosse Pitch Zone Effect.
 - The Distance to Goal Effect has been added for Lacrosse.
- **Text Manager for Markers**
 - Text can now be added to markers.
- **Vectorscope Keyer**
 - The Vectorscope Keyer Effect has been added in Analysis for all sports, providing a more robust key in significant lighting changes.



Curved Arrow Effect



Lacrosse Two Point Zone



Text Manager for Markers

IMPROVEMENTS

- **Down & Distance / DataLinq:** Parsing for Down & Distance DataLinq fields have been improved, allowing for downs formatted as 1, 1st or first.
- **Editing Handles:** Editing handles have been enabled to work with custom plane angles, improving use for Effects like the Vertical Grid.
- **Magnify Tool Keyboard Shortcuts:** + and - (or - and = on reduced keyboards) can now be used to control the Magnifier Effect.
- **Sub-units for Measurement Table:** The Measurement table now supports sub-units for greater precision and flexibility.

BUGS ADDRESSED

Arc Effect: Piero no longer hangs when using the Arc Effect upright border.

Arrows: Fixed an Arrow animation issue, causing intermittent stutters during transition on.

Asset Manager: Asset requirements for the Asset Manager updated for better clarity.

Basketball:

- Fixed a bug causing 3pt line area presets to not load correctly.
- Fixed a bug where the NBA model calibration's 3pt line did not load consistently.
- Ability to remove outer lane lines and use inner lane lines, in the NCAA court model, has been fixed.

Caption Track: General refinements and fixes made to the Caption Track effect.

Calibration:

- Fixed a bug causing Calibration overlay to disappear when on air in PIERO Live.
- Exceptions in Texture Tracker Calibration, when deleting Area effects, fixed.

Keying:

- Key tab bug causing dropped frames, when double line-finding, fixed.
- Updating the key in the calibration, from a key in the stack, no longer causes dropped frames when on air.

Launcher: When File I/O and NDI is selected in the (Ubuntu) PIERO Launcher (when video card is absent) PIERO now correctly starts.

Magnifier:

- Bug fixed when using Magnifier Tool to zoom with Apple Mac trackpad.
- Using the scroll wheel now only changes the size of an Effect, instead of size and magnification level.
- Using the scroll wheel no longer affects the selected Effect's properties.
- Fixed a bug where using multiple Magnifiers broke the background.
- PIERO no longer hangs when using older Touch Magnifier presets, through the Touch API.

Moveable Player:

- Moveable Players no longer cause color artifacts when used with monochrome filters.
- When using the Moveable Player, the removed player now correctly mixes on/off during animate on/off transition.
- Moveable Players Effect interacts better with the pitch's outer lines.

Pause Effect: Adding a new preset in the Pause Effect no longer causes an exception.

Range Effect: Fixed a visual glitch caused by redrawn properties, when dragging the Range Effect through the screen.

Rugby League: Data module option removed in Launcher when choosing Rugby League.

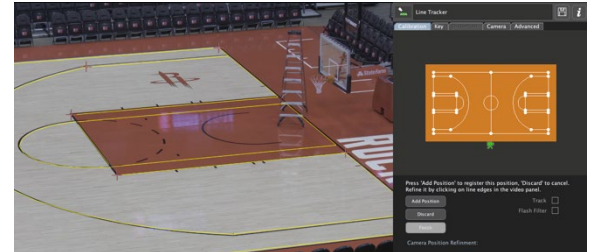
Text Effect: Text Effect positional property names have been updated for greater clarity.

VERSION 20.0 – November 2024

WHAT'S NEW

- **Live Basketball Optical Tracking**

- PIERO is now optimized for live basketball optical tracking.
- Optimization for the Shot Clock Effect and advert placement has been introduced.
- A new Keyer has been introduced for Calibration.



Live Basketball Optical Tracking

- **ST-2110 Support for PIERO Live**

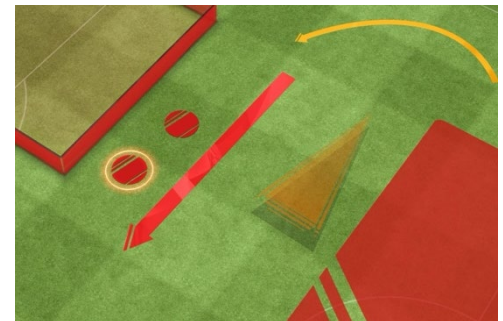
- PIERO Live now supports ST-2110 video as an input. Compatible hardware required.

- **New Default Asset Themes**

- Two sets of default graphical assets have been added for users to freely use: Flat Lines and Alpha Stripes

- **New Effect Handles**

- New and improved Effects handles make it easier for users to manipulate effects and find buried effects.



Flat Lines Asset Theme

IMPROVEMENTS

- **Caption Effect (Touch):** Options for both tracked and non-tracked caption effects are available in Touch.
- **OPTA Data Visualization:**
 - Added Support for Competition IDs in OPTA Plugin granting access to new leagues.
 - Added AFC World Cup Qualifiers to OPTA Plugin.
- **Line Tracker:** Under-the-Hood improvements to optimize Line Tracking.
- **PIERO Voyager/Unreal Plugin:** Team Lineup player numbers can now be added in the PIERO Voyager plugin.
- **Presets:**

- Graphical indications on Effects presets will specify if presets are unable to load correctly.
- Improved error reporting when invalid presets are loaded.
- **Virtual Grid Effect:** It is now possible to 'select all' markers on the Vertical Grid Effect to edit simultaneously.
- **MainConcept:** Upgraded to 15.1.



Select All in Virtual Grid Effect

BUGS ADDRESSED

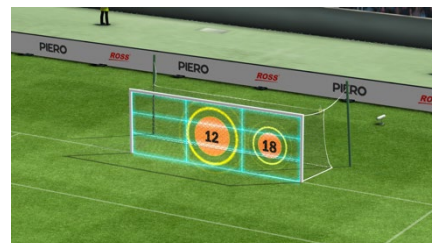
- American Football: bug fixed where FCF field model caused discrepancies with other field models.
- Batter Plate Calibration: fixed a bug where incorrect elements were displayed in the Advanced Tab.
- Incorrect Help/Info details updated.
- Key Tab: fixed a bug where selections weren't being correctly saved.
- KLT Cable Cam: exceptions when deleting the KLT Cable Cam calibration from the stack fixed.
- Texture Tracking: fixed tracking anomalies in the Texture Tracker.

VERSION 19.7 – October 2024

WHAT'S NEW

• Vertical Grid Effect

- The Vertical Grid Effect allows vertical analysis both inside and outside the goal.
- Supported by the PIERO/Voyager plugin.
- Supports OPTA data for Soccer/Football.
- Available currently for Soccer/Football and American Football.



In Vertical Grid Effect

IMPROVEMENTS

• Down & Distance Effect

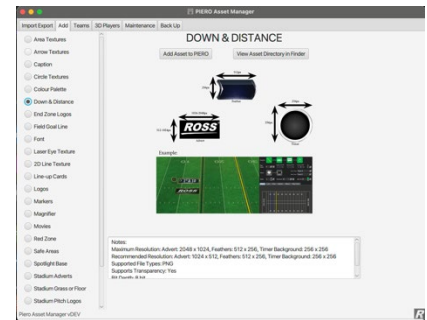
- TGA Sequences can now be used to animate D&D Feathers, utilizing looping points.
- DataLinq network handling improvements have been implemented.
- Red Zone Effect improvements:
 - A new 'Auto Animate' function enables automatic on/off animating of the Red Zone, according to ball-on yardage in the Down & Distance Effect.
 - New Red Zone Perimeter Line functionality draws a line around the perimeter of the Red Zone, when enabled.
- Auto text field selection has been added to the D&D text UI properties to speed up data entry.
- Advert Logging has been added to log the duration adverts are animated on air.
- Down and Distance Live Shortcut: F8 will now select the Down and Distance Effect in PIERO Live.



Animated Feather

- **Asset Manager**

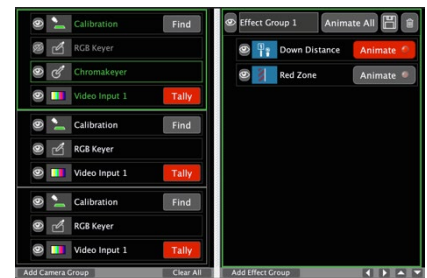
- Calibration Preset support: The Asset Manager can now backup calibration presets.
- The 'Add' tab has been updated to make file requirements clearer.
- Asset examples are illustrated, to better convey how an asset is used.



Asset Manager UI Improvments

- **PIERO Live**

- An 'eye' icon has been added for all effects in the Live UI, to hide individual effects within groups while live.
- Calibration rows can be moved to different camera groups.
- Improved PIERO Live Keyboard Shortcuts: Improvements to calibration shortcuts and in/out transitions. See "Shortcuts" help page in the PIERO Settings tab for details.
- Improved default positions added for Virtual Camera.



Live Interface Improvements

- **Dual Text Lines:** Text Effects including Range and Timer can now have an additional line of text.
- **Marker:** Anti-clockwise rotation has been reinstated for all Marker types supporting spin speed.
- **Virtual Ball:** Keyframe navigation has been added for the Virtual Ball.

BUGS ADDRESSED

- Fixed an issue on AJA systems where an intermittent color bars flash was introduced to the SDI video stream.
- Caption Track: bug causing Caption Track to not display on output in HDR (Slog3) fixed.

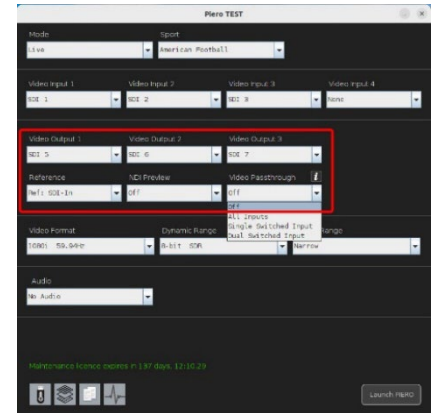
- Caption Touch Effect: unresponsive properties within the Caption Touch Effect fixed.
- Non-fatal exception caused when setting effect IN point shortcut fixed.
- Laser Spline and Spotlight interaction artifacts fixed.
- Text Effect: fixed a bug where text size unintentionally changed when updating preset.

VERSION 19.6 – August 2024

WHAT'S NEW

• **3 in 3 out Video I/O**

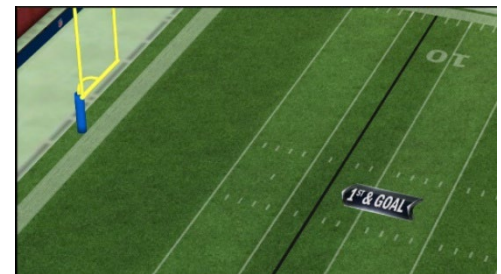
- Users can now have three video inputs and three video outputs on supported hardware. Video passthrough is now available too.



3 in / 3 out

• **Down & Distance (American Football)**

- Advert per down change' has been added to the "Advert Type" property of the Down & Distance effect. This new property changes the advert every time the down number changes.
- Auto-switch to "Goal": If ball yardage to the end zone is ten yards or less, the feather distance has been automated to read "Goal", whether set manually using the Down & Distance property sheet, or via DataLinq.
- Calibration click-find: In the live calibration effect pressing the 'D' key will automatically select a point on the model, based on the ball-on yardage value of the Down & Distance effect.



Auto-switch to "Goal"

• **Pause Effect change**

- A 'Duration property has been introduced for the Pause effect, which allows the duration to become pre-settable in both file IO and video IO (SDI).

- **Quick Start Guide**

- In the Documentation shortcut in the Launcher, a new PIERO Quick Start Guide can be found to help new users learn their way around PIERO.

- **Zoom Effect Keyframing**

- It is now possible to keyframe the position of the zoom effect as the user wishes.



Zoom Effect Keyframing

BUGS ADDRESSED

- Fix for when live NFL calibration click find causes the pitch to sometimes disappear
- Fixed bug where using certain obscure characters passwords prevented the use of sync setup
- Fixed invalid Texture bug when using layered graphics on Movable Players.
- Fixed an issue where Matrox users could not use the Launcher shortcut to access new PIERO Releases.

VERSION 19.5 – July 2024

WHAT'S NEW

- **All New M9 Platform**

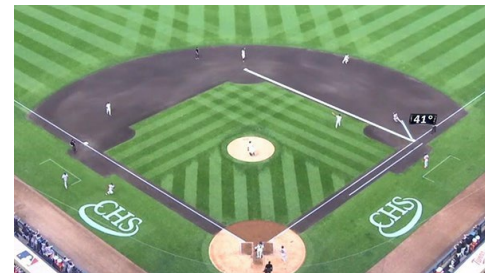
- The New M9 1RU Hardware brings increased performance to PIERO as well as providing options for both SDI-3G and SDI-12G.



M9 Hardware

- **Baseball Rounding Effect**

- The Caption Effect now offers a 2D arrow to provide more creative flexibility. The Caption Effect also supports TGA animations now.



Baseball Rounding

- **New and Improved Caption Effect**

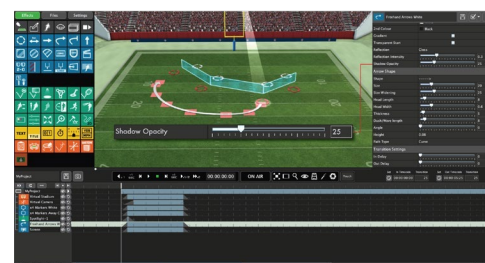
- The Caption Effect now offers a 2D arrow to provide more creative flexibility. The Caption Effect also supports TGA animations now.



Caption Effect

- **Effect Parameter Slider**

- A new and improved Effect Parameter Slider provides the ability to manually input values.



Effect Parameter Slide

PERFORMANCE IMPROVEMENTS

- TGA loop properties are now available for the following effects: Area Circle, Layered Area, Laser Eye, Magnifier, Layered Arrow, and all animated Markers.
- The Magnifier Effect can now be keyframed.
- The following PIERO Keyboard shortcuts have been added for marking in and out:
 - Ctrl + I Set the current effect in Time
 - Ctrl + O Set the current effect out timecode
 - Ctrl + Shift + I Set the current effect IN Transition time
 - Ctrl + Shift + O Set the current effect OUT Transition Time
- Pickle Ball is now an available sport in PIERO.

BUGS ADDRESSED

- Launcher: A fix for PIERO Launcher logging on Ubuntu has been implemented.
- Movie Effect: Fixed a bug where the Movie Effect did not consistently resize correctly.
- Opta Module: Fixed an issue leading to Opta Module discrepancies in PIERO.
- NDI: Fixed a bug causing a Transport Control crash when using NDI as a main source NDI optimization also applied.

GETTING HELP

- Product's Online Help system opens in your default web browser.
- Our 24-hour hotline service provides access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel.
- During business hours (Eastern Standard Time), technical support personnel are available by telephone.
- After hours and on weekends, emergency technical support is available. A telephone-answering device will provide the names and phone numbers of technical support and field service personnel who are on call. These people are available to react to any problem and to do whatever is necessary to ensure customer satisfaction. For serious issue which need urgent attention and tracking, please ensure you are given a ticket number and refer to this in future communications.
 - **Technical Support: (+1) 613-652-4886**
 - **After Hours Emergency: (+1) 613-349-0006**