PokerGFX

RFID Video Poker Table

User Manual

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Introduction

PokerGFX is a powerful video titling software suite that generates real time poker graphics for video overlay. Used with the RFID Reader, it will automatically detect hole and community cards with no human intervention – however it can also be used with a conventional 'hole cam' table by entering card information manually.

In RFID mode, a USB cable (or WIFI link for completely wireless operation) connects the table to a Windows computer which runs the PokerGFX Server software. The server communicates with the table to track the movement of RFID-enabled playing cards between players, and converts this information to a graphical display which is superimposed on video of the game.

Tracking of betting action is possible by having the dealer or another observer enter player actions, using a convenient touch screen wireless tablet interface or by using a mouse/keyboard. In this mode, all graphics required for a TV broadcast or livestream are generated in real time.

Game video and player actions can be recorded for post-production and streamed live with an optional delay.

All technology is completely invisible to players, and special RFID-enabled playing cards have exactly the same look and feel as high quality acetate style cards.

Evaluation Mode

PokerGFX requires a USB security dongle for normal use. The dongle can be plugged into the RFID Reader or an available USB on your PC, & is automatically detected when PokerGFX is connected to an RFID table. When purchased without an RFID Reader for use with a hole cam table or in MultiGFX Secondary mode, the dongle is shipped as a separate item, and must be plugged into the PC running PokerGFX at all times.

If no dongle is detected, PokerGFX runs in evaluation mode. In this mode, no features are restricted however the software will shut down after 10 minutes.

License Tiers

PokerGFX has three separate licenses: Basic, Pro, Enterprise

Basic - This license is intended for hobbyists looking to stream a home game for friends and family. Any kind of commercial use of this license is strictly prohibited.

Pro - This license is required for licensees broadcasting or streaming from stand-alone card rooms and card clubs not located within a casino. This license unlocks all PokerGFX features with the exception of Live API Access and SDI/NDI Output.

Enterprise - For media teams who need full-feature production tools for serious broadcasting and streaming work. This license unlocks **all** features in the PokerGFX Software Suite. Note: This license is *required* for any licensee who produces broadcasts or streams relating to poker tours, online poker platforms, or poker rooms located inside a casino. Also required for any licensee who manages and/or produces poker events for third parties.

**All Basic features are included with a Pro License, and all Basic & Pro features are included with an Enterprise License.

Feature Summary

RFID Technology

- Operates with an RFID enabled table or a conventional hole cam table
- Guaranteed 100% accurate read rate of all cards on the table < 0.7 secs (Omaha), < 0.4 secs (Hold'Em)
- Connection via USB, WIFI or both (auto failover to WIFI if the USB cable is unplugged)
- Strong encryption protects link between RFID Reader and PokerGFX
- Hole cards can be stacked in any orientation
- No additional thickness added to table
- Standard or double size hole card reading area for each player

Game

- Texas Hold'Em, 6 Plus (Short Deck) Hold'Em, Omaha, Omaha Hi/Lo, Pineapple, 5 Card Omaha, 5 Card Omaha Hi/Lo, Courchevel, Courchevel Hi/Lo, 6 Card Omaha, 6 Card Omaha Hi/Lo, 5 Card Draw, 2-7 Lowball Draw, 2-7 Lowball Triple Draw, A-5 Lowball Triple Draw, Badugi, Badeucy, Badacey, Seven Card Stud, Seven Card Stud Hi/Lo, Razz (Pro version)
- Fixed Limit, No Limit, Pot Limit, Capped Games

- Cash Games & Tournaments supported
- Unlimited levels, blinds (0, 1, 2 and 3 blind games) and straddles. Standard, button and BB antes. Button blind
- Bomb Pots
- 'Run It Twice'
- The Nit (stand up) game
- Single, Double & Triple boards
- Player ID cards auto track player position
- No interference to normal game play

Video

- GPU hardware accelerated video mixing and graphics rendering and encoding
- Up to 2160p UHD resolution
- Frame rates up to 60 fps
- Vertical video (9x16) format supported
- Mixing of up to 16 video sources supported
- Adjustable cross-fading between sources
- Most USB webcams supported
- Built in configuration for all webcam property adjustments
- Support for NDI sources
- HD/UHD capture cards supported including Blackmagic Intensity & Decklink
- Network cameras (http, rtsp etc) supported
- Automatic camera switching follows the action
- Automatic Flop Cam switching
- Static and camera cycle modes
- Automatic camera switching control of Blackmagic ATEM video switchers (Pro version)
- Split and full screen layouts
- Automatic split screen when Heads Up
- Green, blue, yellow and magenta background support for external chroma key
- Key & fill output supported by Blackmagic devices for external keying
- Live preview, full screen and secondary displays supported
- Multiple simultaneous live and delayed program out to Blackmagic Design Decklink devices and NDI streams (Enterprise version)
- Audio sync adjustment

Recording

- H264/MP4 video format
- All hand information stored in a database for later review and post production

- Split feature chops up a saved game into individual video files for each hand

Graphics

- Hole cards, community cards & pot equity displayed with no human intervention required
- Multiple hole cards reveal modes (Immediate, After Action, End of Hand, Showdown-Tourney, Showdown-Cash, Never)
- Bets, calls, raises & pot size displayed in Action Tracker mode
- Chip count and player statistics (VPIP%, PFR%, AGRfq%, WTSD%, Cumulative Cash Win, Payouts) display in Action Tracker mode
- Fully customizable scrolling ticker
- Auto highlight of winning cards
- Outs shown for drawing players (True and Theoretical)
- Player position (SB, BB, UTG, HJ, CUT, BTN etc)
- Skin system in the Pro version allows fully customizable player and board graphics, fonts & styles
- Multilingual support – customization of all on-screen text (Pro version)
- Player photos (Pro version)
- Player country flags (Pro version)
- Choice of multiple transitions: Slide, Pop, Expand, Fade (in & out)
- Transition type per graphic element (Pro version)
- Payouts for final tables (Pro version)
- Configurable transition times (in & out)
- Multiple Horizontal & Vertical player and board layouts to choose from
- Multiple player reveal modes (Immediate, On Action, After 1st Bet)
- Blinds, Ante and Hand Number graphic
- FIELD graphic shows tourney entrants and players remaining
- STRIP graphic shows players and chip counts across the top of the display
- Heads-Up hand history graphic
- Rabbit Hunt graphic
- Configurable 'safe zone' margins
- Support for Elgato Stream Deck to control Leaderboard graphics.

Streaming

- VCAM streaming supports live streaming via OBS, XSplit or other streaming application to all popular streaming services including YouTube, Twitch and Facebook.
- Live and delayed streams supported
- Delayed stream supports any delay period from 1 minute to several hours

- Dynamic Delay for auto removal of tourney breaks
- Customizable delayed stream countdown logo
- AutoStream feature automatically starts streaming when the first hand is detected, then shuts the stream down after a configurable period of inactivity
- Media player for inserting pre-recorded video clips into the live stream
- Built-in Twitch ChatBot for automated game information updates to Twitch viewers (Pro version only)

Security

- All network communication fully encrypted
- Preview window lockout password
- Action tracker remote tablet lockout password
- Settings lockout password
- Settings analysis & recommendations on start up
- Secure Delay feature hides live hole cards when a delayed stream is running

Picture In Picture

- Live screen capture from tourney clock in between hands
- Configurable time displayed
- Configurable size, border, location & opacity
- Auto show after each hand, or manual show from Action Tracker

Action Tracker

- Separate application used to enter live betting information
- Enter hole cards when not used with the RFID table
- Easy to use interface optimized for wireless touch tablets
- Statistics console showing player chip counts and statistics
- Statistics console displayed in Delayed mode, synced with delayed stream (Pro version)
- Directors console showing active players
- Remote player name & photo entry supported
- Tag hands with notes during a live game for quick identification in post
- Table status display

Commentary Booth (Pro version)

- Separate application allows remote commentary over the local network
- High quality audio and video preview of gameplay
- Commentator audio and camera overlay in-stream

- Player statistics console with full hand history with the ability for the commentator to display statistics on stream
- Live or delayed commentary
- 100% network based, no AV cables or infrastructure required
- All communications encrypted for maximum security

Studio (Pro version)

- Review, playback and edit recorded games
- Change the start and stop time of a hand, and the times at which each individual action occurs within a hand
- Remove unwanted hands
- Add new hands that weren't originally recorded
- Work with multiple videos and seamlessly move hands between them
- Render graphics over pre-recorded video footage or green screen for chroma key
- Export hand database to text file

MultiGFX

- Run unlimited multiple copies of PokerGFX from a single table, for multiple video streams each with their own individual graphics and stream delay settings (requires multiple PokerGFX licenses)

Action Clock

- Stand-alone, lightweight Windows app that is a fully featured shot clock
- Integrates with PokerGFX to show the countdown timer on screen

Live API (Enterprise version)

- Real time JSON data export of hand histories for third party developers and integration with third party applications

Common Usage Scenarios

A wide range of configurations are supported to suit many applications, however there are 3 common scenarios for using PokerGFX:

GFX + INTERNAL VIDEO MIX	Up to 8 cameras are connected directly to the Server PC. PokerGFX automatically switches cameras to follow the action around the table and mixes video internally. No camera operators or external vision mixer required. PokerGFX adds graphics, records & streams with an optional security delay.
GFX + EXTERNAL VIDEO MIX	PokerGFX Server generates real time graphics which are keyed onto a live pre-mixed video feed from an external switcher. PokerGFX can ingest the program feed for internal keying of graphics, or output graphics only for external keying using chroma key or separate key & fill outputs. PokerGFX can record and stream with an optional security delay. ***PokerGFX can control an external Blackmagic ATEM video switcher to automatically follow the action around the table (Pro license required).***
POST	All cards and player actions for an entire game are recorded in a live database. The Studio feature is then used to fit the hands to the timeline of the final edit of the game video. When the timeline is finished, the graphics are automatically rendered onto the video to produce the final output in post-production. ***(Pro license required)***

Supported Hardware

Performance & Recommended PC Specifications

PokerGFX is fully GPU pipelined, which means all video capture, mixing, encoding and rendering is offloaded onto the graphics card.

Minimum PC requirements will depend greatly upon your intended use of the system. Higher video output sizes and frame rates require more processing power; recording and delayed streaming consume additional resources. Performance is heavily dependent upon the graphics card.

The minimum recommended system specifications for mixing up to 8 sources, streaming with a delay and recording at 4K at 60 fps are as follows:

- Windows 11
- Intel Core i9 13900K CPU
- 32 GB system RAM
- NVIDIA RTX3070 with 8GB RAM
- 1 Tb SSD or M.2 storage with a write-speed of 1500 mb/sec

The PokerGFX Server, Action Tracker and Commentary Booth applications require Windows 10 or later 64-bit.

Video sources may be any combination of USB webcams, HD/UHD video capture devices and network cameras. Most Windows DirectShow-compatible devices are supported.

USB Webcams

Most USB webcams consume too much bandwidth on the USB controller for more than 1 or 2 to work reliably, and are not recommended.

For multiple webcams, the Logitech C920 is the only model that has been tested and is officially supported. This webcam offers decent picture quality, the widest viewing angle, and MJPEG compression technology that reduces the amount of USB bandwidth required.

- ***For maximum reliability, it is recommended to install multiple USB controller cards in the server PC, and connect no more than 2 webcams to each.***

Capture Devices

Any video capture device that is compliant with Windows DirectShow WDM may be used, however there is optimized support for Blackmagic Decklink cards, and these are recommended for best reliability and picture quality.

- ***A Blackmagic Decklink Duo 2 card will provide 4 full HD inputs at 1080p60, and is the recommended capture device for broadcast quality systems.***

Network cameras

Remote network cameras that support RTSP or HTTP streaming protocols are supported and may be used in the same way as any other capture device.

NDI sources and outputs

NDI (Network Device Interface) is a technology that enables video and audio to be sent and received over a network, eliminating the need for dedicated AV cabling and other infrastructure. It is high quality, frame accurate and suitable for use in a live production environment. NDI is supported by many camera and switcher vendors.

PokerGFX supports NDI natively for both input and output:

- Ensure the external NDI source is active on the local network before starting PokerGFX Server. Available NDI sources will show up as regular camera sources on the Sources Settings tab.

- [Enterprise] Live or delayed stream output can be sent to NDI receivers on the local network simply by selecting the 'NDI Renderer' option from the 'Output Device' dropdown box in the Outputs Settings tab.

Getting Started

Software Installation

 See 'Performance & Minimum PC Specifications' for information on which versions of Windows can be used with PokerGFX.

- Download and run the PokerGFX software from:

  www.pokergfx.io

If you're using PokerGFX without an RFID table it is recommended that you jump straight to the Action Tracker section near the end of this manual, and then read the Settings section.

RFID Reader Module

The RFID Reader collects data about the position of RFID enabled playing cards on the table and sends that information to PokerGFX Server.

- Connect power to the RFID Reader via the supplied power adapter.

  It is essential that you use only the power adapter that is supplied with the table. Using another adapter, or no adapter at all, will cause the table to function unreliably and could cause permanent damage.

- Connect the table to the PokerGFX Server PC with a USB cable.

  When using a USB Extender, please make sure you use one that requires a power source. A USB to Ethernet extender is available for purchase on the website, or can be purchased from 3rd party retailers.

- Double click the PokerGFX Server icon to start the server application.

The older version of the Reader Module (v1) was discontinued as of January, 2018. This older version of the hardware may no longer work with our updated software. If you are using a v1 Reader Module, please contact PokerGFX to arrange a replacement with the new v2 version.

The V2 RFID Reader can be configured differently depending on your installation requirements:

USB	The RFID Reader connects via a mini USB cable to the PokerGFX Server PC.
WIFI	The RFID Reader connects via WIFI to an access point that is networked with the PokerGFX Server PC. No physical cable required to connect to the PokerGFX Server. (WiFi Readers are no longer available for purchase. All new Readers are USB only.)
USB + WIFI	The RFID Reader connects via a USB cable to the PokerGFX Server PC and is also connected to a WIFI access point. If the USB cable connection is removed or damaged, the RFID Reader will automatically fail over to WIFI mode, and switch back to USB when the USB cable has been restored. (WiFi Readers are no longer available for purchase. All new Readers are USB only.)

- Configure WIFI settings (Optional) - open PokerGFX Server System Settings and click the 'Setup WIFI' button. Enter the WIFI SSID and password, activate the 'Enable' checkbox and click the 'Update' button. ****WiFi will only work on a 2.4 GHz band connection.**

  - ***For security, WIFI settings can only be modified while the RFID Reader is connected via USB.***

  - ***Only WIFI networks that are secured with WPA2 are supported.***

  - ***To protect the integrity of the game, the RFID Reader uses strong encryption when communicating with PokerGFX Server in both USB and WIFI modes.***

  - When operating in WIFI-only mode, remove the USB security key from the RFID Reader and plug it directly into the PokerGFX Server PC. This will prevent PokerGFX from dropping into evaluation mode. Don't lose the key! It contains your software license and cannot be replaced.

  - It is highly recommended that you always connect your USB security key (which contains your PokerGFX license) directly into a USB port on your PC.

After WIFI settings have been configured, click the ‘Reset’ button. When WIFI has been enabled in the RFID Reader:

USB cable connected	The RFID Reader will use the USB connection to communicate with the Server. If the USB cable is removed, the RFID Reader will automatically switch to WIFI to ensure the game is not interrupted and no data is lost. When the USB connection is restored, the RFID Reader automatically switches back to USB mode.
No USB cable	WIFI mode only. The RFID Reader will communicate with the Server wirelessly. For completely wireless operation, a USB battery pack can be used to power the RFID Reader. Approximate run-times on USB battery pack power are as follows (assumes battery is fully charged):

Battery Capacity	Run Time
6,000 mAh	16 hours
15,000 mAh	40 hours

Calibrate Table

When a table is powered up for the first time, the RFID Reader must be calibrated. This procedure is necessary to ‘teach’ the RFID Reader about how the table is configured.

Once this procedure is complete, the configuration is stored permanently in the RFID Reader. This means that you never need to carry out the procedure again, even when re-installing PokerGFX on another computer.

- Ensure that there are no playing cards on the playing surface.
- In the Server application, click the ‘Settings’ button to reveal the settings panel. Click the ‘System’ tab. Locate the ‘Calibrate Table’ button and click it.
- You will be asked to place any playing card on each player antenna in turn, followed by the muck antennas, and finally the board (community card) antennas.

Depending on the hardware configuration of the table, there may be 2-10 player antennas, 1-4 board antennas, 1 or 2 muck antennas and 1-10 player UPCARDS antennas.

- Follow the instructions on screen, and move the card (any playing card) to each antenna as requested.

- Press the ‘Skip’ button to move to the next antenna group to suit the table configuration. For example, the software supports up to 10 players, but your table has only been built for 8 players. When the software asks you to move the card to player #9 (which you can’t do since there are only 8), press the ‘Skip’ button. Players 9 and 10 will be skipped, and the sequence will move on to the muck antennas. Similarly, if only 1 muck antenna has been provided in the table, press the ‘Skip’ button again when prompted to move the card to muck antenna #2, and it will be ignored.

- Each antenna position can be installed as either standard (1 antenna) or double (2 antennas acting together to create a double sized reading area). Ensure the ‘Double Antenna’ checkbox is set accordingly before moving the playing card, as instructed, to the next position.

- Tables can be optionally configured with Player UPCARDS antennas. An UPCARDS antenna is an optional second antenna for each player, used to automate the reading of player cards that are dealt face up in a STUD game (if UPCARDS antennas are not installed, face up cards must be entered manually using Action Tracker). If UPCARDS antennas are not installed, click ‘Skip’ when prompted to move the card to the PLAYER 1 UPCARDS ANTENNA to finish the calibration procedure.