

Washington State Gambling Commission



Mission Statement:

*“Protect the Public by Ensuring That
Gambling is Legal and Honest”*

Digital Video Recording

WAC 230-15-295

August 14, 2014



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What is an analog video recorder?

- Records video in analog format
- Accomplished using a video VHS tape deck
- Plays back recorded video from individual VHS tapes





VHS



What is a digital video recorder?

- Records video in a digital format
- Plays back recorded video from the digital recorder





Storage Space



Basic Digital Surveillance System



Basic Digital Surveillance System

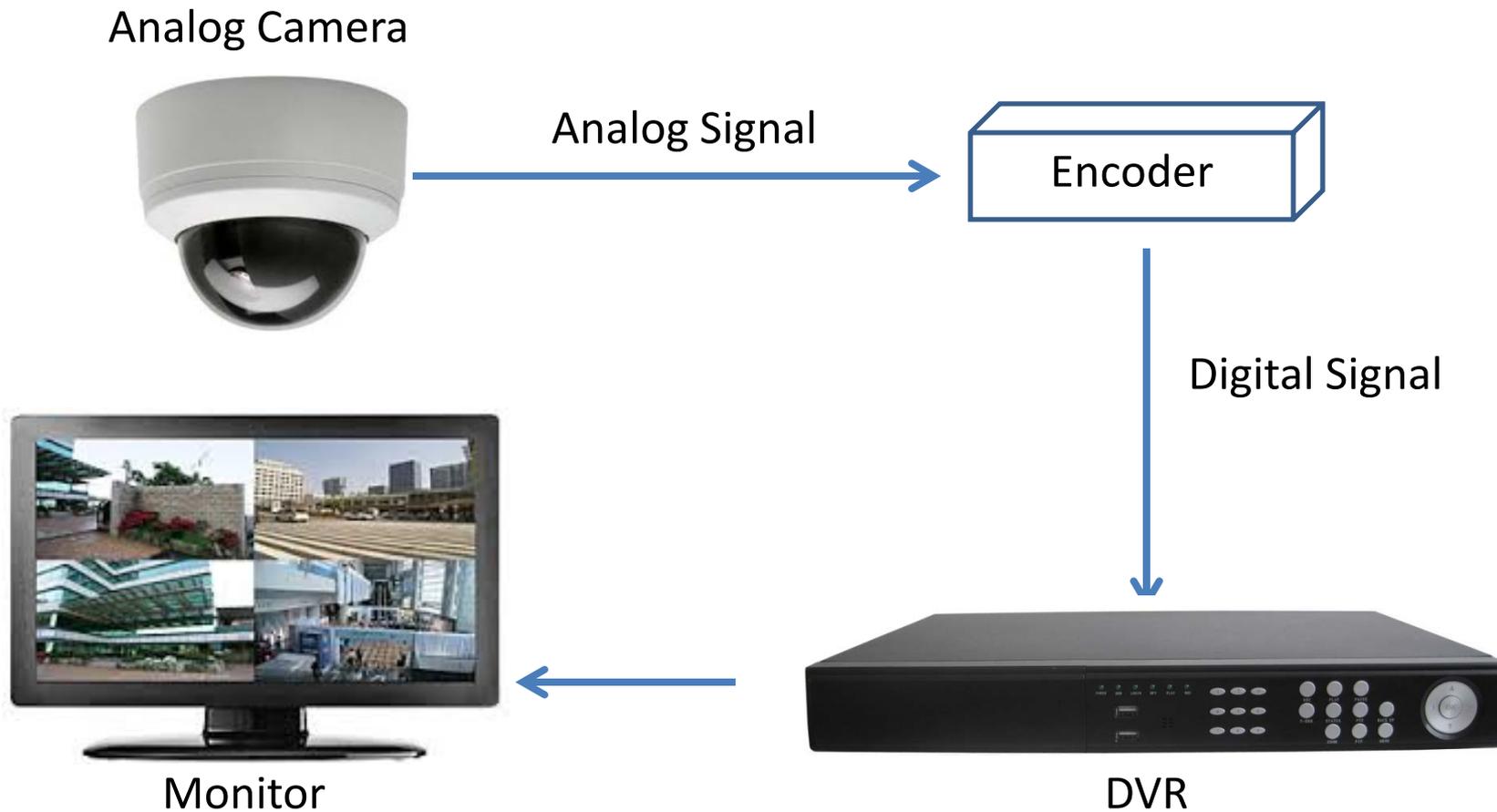
Three Types of Digital Surveillance Systems:

- Analog cameras only
- Digital cameras only
- Hybrid – both analog & digital cameras





Analog Camera





Digital Camera

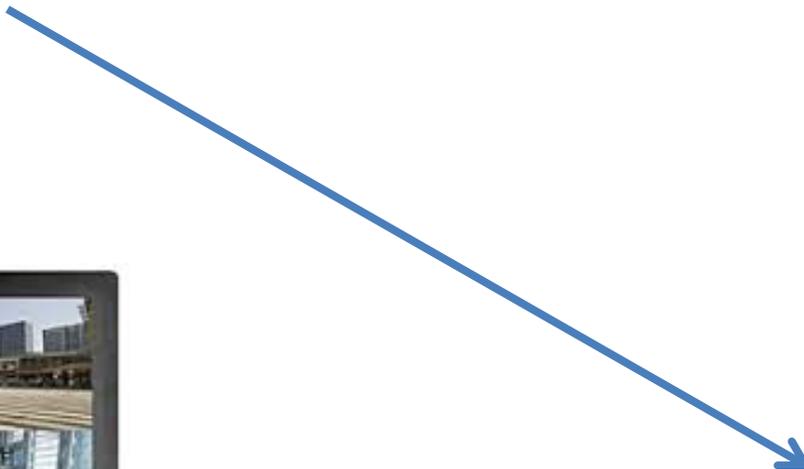
Digital Camera



Monitor



DVR





Both types of Cameras

Analog Camera



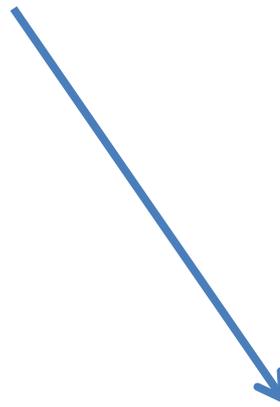
Digital Camera



Monitor



DVR





Camera Types

Analog Camera



Digital Camera





Fixed Camera





Fixed Camera





Pan-Tilt-Zoom (PTZ) Camera

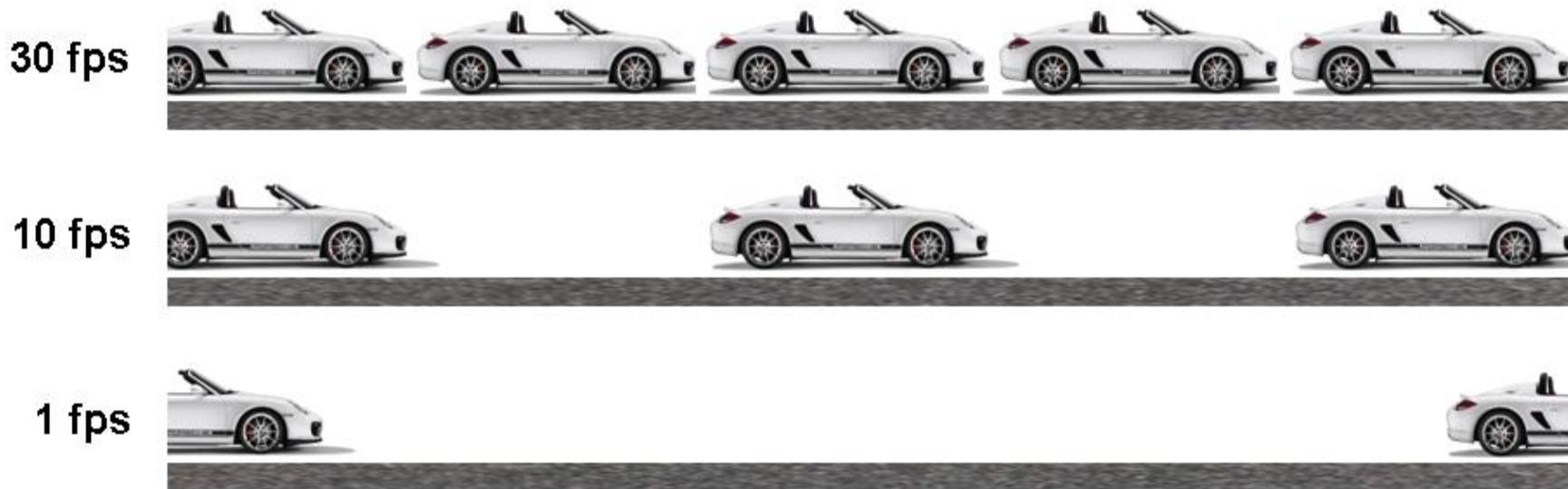




Recording Speed

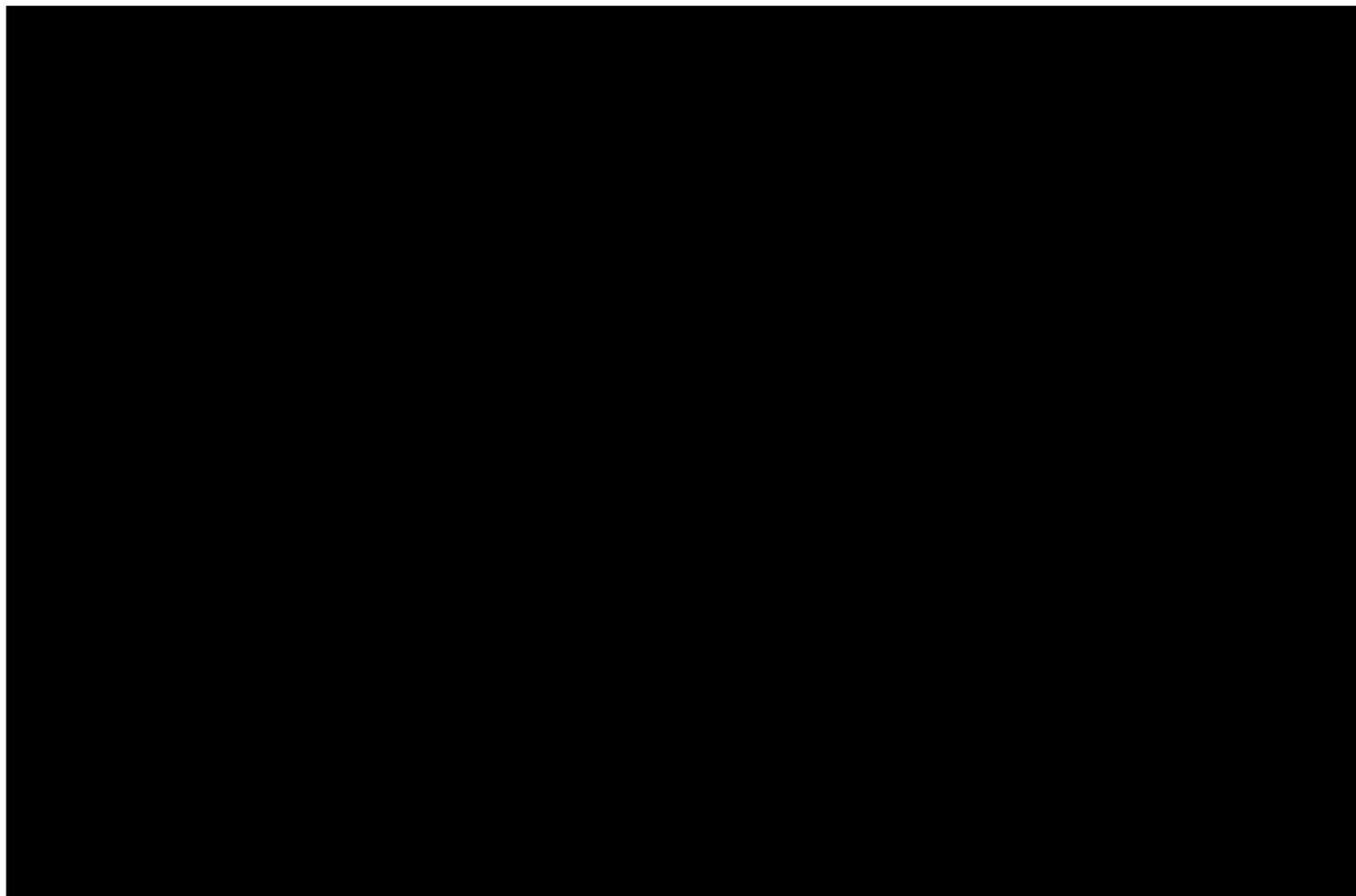
Frames per second (fps):

- 30 fps = Real Time (smooth full rate)
- 15 fps = Perceived Real Time (won't see choppy motion)





Recording Speed – 30 FPS





Recording Speed – 12 FPS





Image Resolution



- Live video is stored, retrieved, and burned
- In order to create efficiencies trade-offs are made between minimizing the bit rate by compression and maximizing the recorded quality.



Image Resolution

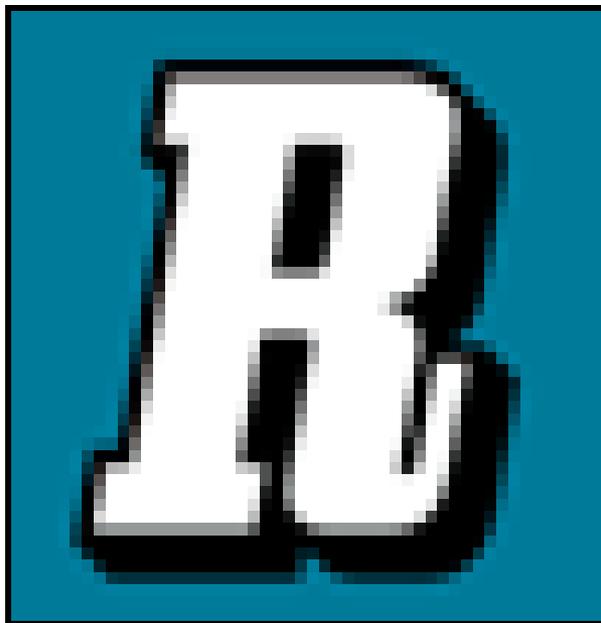
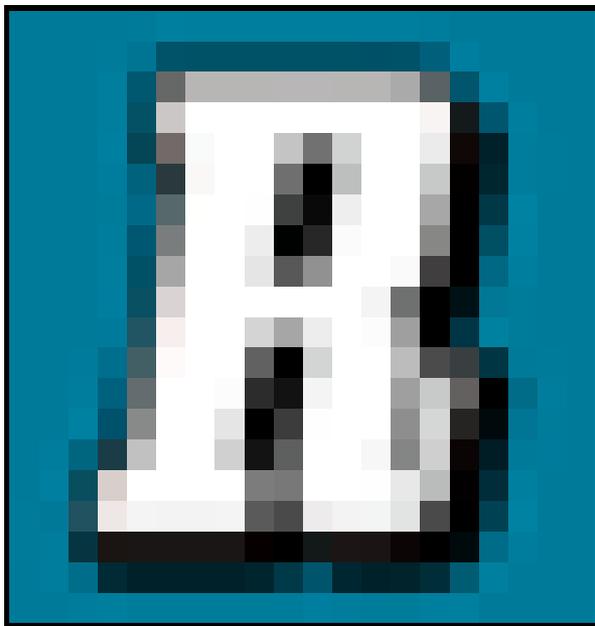




Image Resolution





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Section 1: *“Record all images on a hard drive; and”*

- If the licensee cannot record required activities, they cannot operate.
- Operators should consider having backup hard drives in case of hard drive failure.



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Section 2: *“Lock so that access to the erase and reformat functions and system data files is restricted to persons authorized in the internal controls; and”*

- Licensees are to maintain tight security protocols on their digital system to prevent possible corruption and/or loss of original recorded surveillance data.
- There should be separate levels of system users and unique log-in passwords.
- An operator’s internal controls will name the administrator.



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Section 3: *“Provide uninterrupted recording of surveillance, during playback or copying. Licensees may use motion-activated recording; and”*

- A system must continuously record to the Digital Video Recorder (DVR) regardless of what activities the observer is performing on the system.



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Section 4: *“Be capable of copying original images maintaining the original native format; and”*

- DVR recordings are in a format unique to the manufacturer (native format).
- When the recordings are transferred to a storage medium, the native format must be maintained.
- The “player” program from the manufacturer should be included with every copy of a recording made from the system.
- If the file is converted to a non-native format the quality of the recording will be degraded.
- This requirement ensures the original, unaltered recording is preserved.



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Section 5: *“Be stored at a rate of not less than twenty-five images per second; and”*

- Television is shown at about 25 frames per second. Continuous or fast movements are easier to view at the 25+ frames per second settings. Movement that is too quick for the human eye to see, is easier to observe at the higher frame rates on playback in slow motion.



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Section 6: *“Record images at a minimum resolution of 320 x 240 and display during playback at a minimum resolution of 640 x 480 or meet (11)(d) below; and”*

- When the recording is played back, some recordings are clearer than others. Resolution settings alone may meet the WAC standard, but if the playback is not of sufficient quality to view, the players, cards, wagers, and designated gambling activities, the system or recording may not meet the requirements of WAC 230-15-280.



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Section 7: *“Store images in a format that is readable by our computer equipment; and”*

- Operators should include the current “player” program from the manufacturer on every copy of a recording made from the system.



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Section 8: *“Store images in a format that we can verify and authenticate; and”*

- A manufacturer’s verification or authentication must indicate when a recording has been altered from the time it was created.



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Section 9: *“Include the accurate time and date the video was originally recorded on the recorded images; and”*

- The DVR will insert the date and time on recordings which must be visible on playback.



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Section 10: *“Be equipped with an uninterruptible power source to allow a proper system shutdown.”*

- Attaching DVRs and associated computers to a uninterruptible power source (UPS) or a battery back-up will allow surveillance staff time to safely shut down the system.
- If the licensee has a back-up generator, the UPS will allow the system to continue operating until the power transfers to the generator.
- The casino cannot operate gambling activities without a surveillance system.



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Section 11: Applies to:

- New Class F and HBCR must also meet
- Existing Class F and HBCR installing new equipment must also meet
- New owners can keep same equipment, but must meet standards if they install new equipment



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Section 11 (a): *“Each user must have a sign in with a unique ID and password that is not shared with other users; and”*

- This is the minimum security requirement for ANY COMPUTER NETWORK regardless of function.
- Administrator only allows each user “permission” to perform certain functions.
- Paper sign in logs only identify who is in the room, not who is manipulating the digital surveillance system.
- Paper sign in logs have been left blank/altered/falsified.



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Section 11 (b): *“Have an audio or visual indication of a malfunction, and”*

- Standard feature in current systems.
- The DVR racks are not usually in front of the operators, so they may miss the lights changing on a DVR.



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Section 11 (c) (i) through (v):

- Equipment must log the following functions
- Most systems already do the logs
- Logs must be available to WSGC and administrator
- Logs accessed through a menu button



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Section 11 (c) (i): *“Date and time users log in and out; and”*

- This is the most important and first step to all other logs.
- Lets administrator know who performed what functions.



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Section 11 (c) (ii): *“Date and time when video signals from gaming cameras are interrupted and when connection is restored; and”*

- Paper logs have been altered/falsified.
- Staff may not notice malfunction.



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Section 11 (c) (iii): *“Date, time, and user when video is recorded to removable storage media along with the date, time, and camera being copied; and”*

- Liability: Lets administrator know who made a video (i.e. unauthorized release).
- Documented source of evidence created.



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Section 11 (c) (iv): *“Date and time when the equipment fails to record video or audio when required; and”*

- Paper logs have been altered/falsified.
- Administrator can do regular checks to verify system is operating as required.



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Section 11 (c) (v): *“Date and time when remote access to equipment begins and ends along with the ability to identify the person or organization accessing, the equipment and the files accessed during the remote access.”*

- This is most dangerous time for entire system.
- If system becomes compromised or infected, you can track source.
- Will show connections to internet.



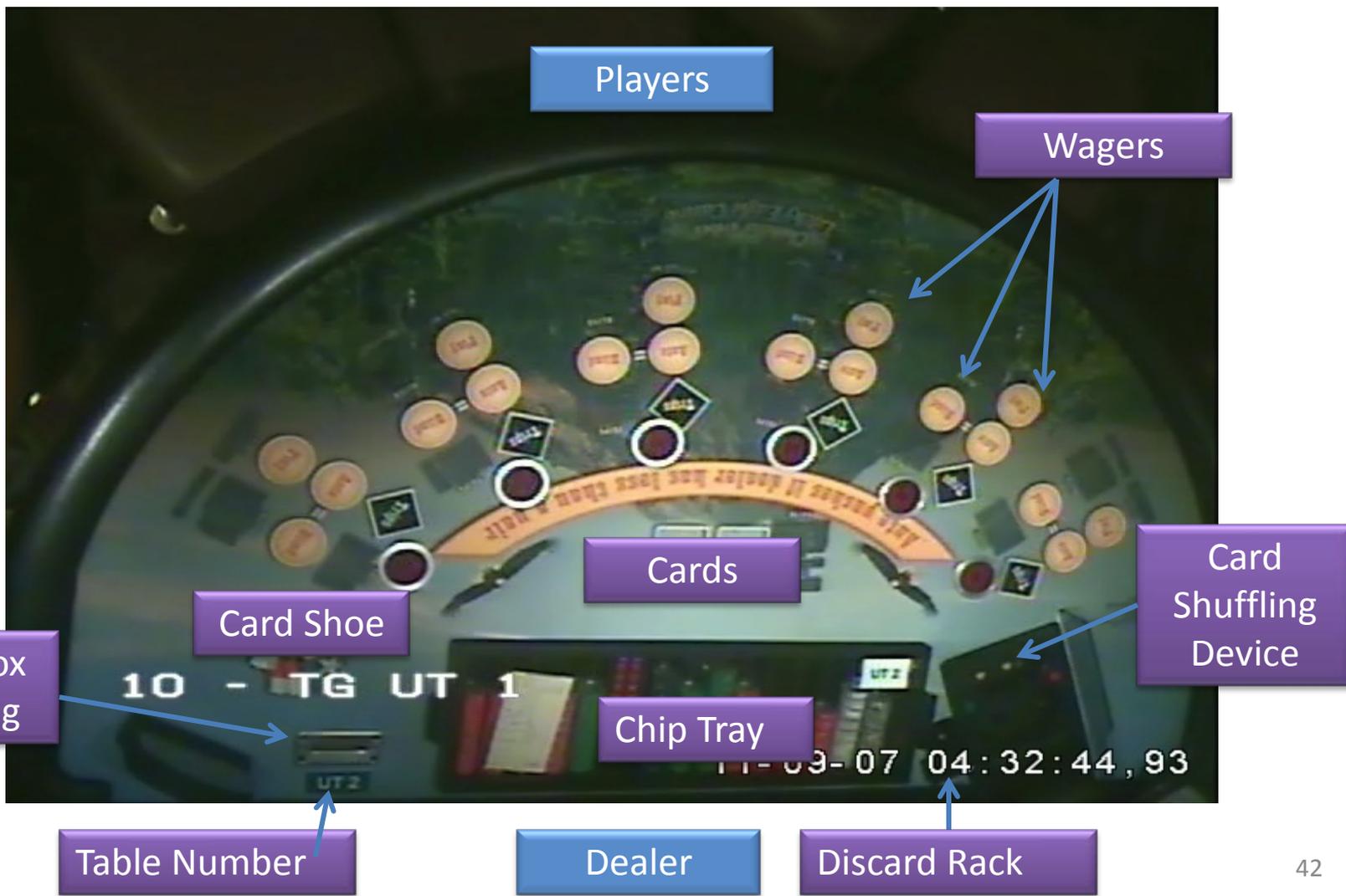
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Section 11 (d): *“Record and playback images with sufficient magnification and clarity that shows fluid motion and allows the viewer to clearly distinguish the value of currency, coins, gaming chips, playing cards, and outcome of the game and effectively monitor in detail all required areas”*

- WAC 230-15-295 (5) and (6) were the original attempts to draw a line as to what meets standards.
- The new rule attempts to remove technical requirements that may become obsolete definitions.
- The new rule specifies the system must be good enough to meet WAC 230-15-280.



WAC 230-15-280





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- When WAC 230-15-295 is met, it does not mean you have a useful image. The standards currently in WAC aren't the only variables that will affect video evidence.
- Even a system that can meet requirements can be configured to fail to meet standards.
- Language comes from other regulatory bodies and is already in use.



Contact Information

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