

2/6/85 Bz/Hz  
\*Bz/Hz

APRIL 1985



FBI LAW ENFORCEMENT BULLETIN

U.S. Department of Justice  
National Institute of Justice 98447-

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice.

Permission to reproduce this copyrighted material has been granted by

FBI Law Enforcement Bulletin

to the National Criminal Justice Reference Service (NCJRS)

Further reproduction outside of the NCJRS system requires permission of the copyright owner.



98447-  
1305486  
9845061

# Training and Evaluating the Police Communications Dispatcher

98447

Crime Problems

*EDITOR'S NOTE: Material published in the FBI Law Enforcement Bulletin is solely for the information and assistance of law enforcement personnel. While brand names and companies may be mentioned from time to time, this is done in a strictly objective manner to help present articles in their entirety from authoritative sources. In such instances, publication of the article in the BULLETIN should not, under any circumstances, be construed as an endorsement or an approval of any particular product, service, or equipment by the FBI.*

# VIDEO GAMES

## Concepts and Latent Influences

(Conclusion)

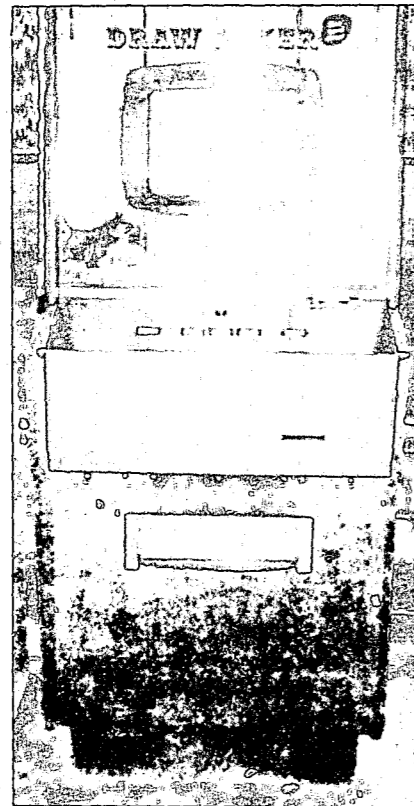
### Comparison of Amusement and Gambling Video Display Devices

The advanced nature of the electronic slot machine's microprocessor and the advances in computer technology of the mid-1970's led to the development of the electronic video display devices of today.

There are two types of video gambling devices—a casino-type device which dispenses coins and a noncasino-type which does not contain a hopper but registers credits awarded on a meter displayed on the video screen. Except for the payoff method, these two devices function identically.

The noncasino gambling device contains several operational characteristics not present on the casino-type device—knock-off switches, two meters, and a video display credit meter.<sup>11</sup> These items, which are built into the wiring harness by the manufacturer, enable the owner to monitor the operation of the device.

Since the casino-type device is already recognized by the judicial system and the gambling industry as a gambling device per se, only a comparison of the noncasino gambling device with the amusement video device will be addressed.



*This "Draw Poker" device is a casino-type gambling device which dispenses coins for winning combinations.*

By  
WILLIAM L. HOLMES  
*Special Agent  
Document Section  
Laboratory Division  
Federal Bureau of Investigation  
Washington, DC*



Special Agent Holmes

Video gambling devices and amusement devices use the same electronic components, such as printed circuits, ROMS, PROMS, EPROMS, microprocessors, and video screens. These devices differ in the program which reflects the nature of the game depicted on the screen. The characteristics of the game determine whether it is a game of chance or a game of skill.

#### Knock-off Feature

The knock-off feature, used only on gambling devices, removes any accumulation of credits left on the credit meter, thereby preventing a subsequent player from playing the device without charge or from being reimbursed for credits earned or accumulated by a different player. This knock-off function is performed by several methods, some of which are designed to disguise their true purpose. These methods include a button, a key-operated switch, a remote switch wired from the device to a remote location, or a switch activated by a radio frequency transmitter, such as a garage door opener. On the newer models, the knock-off function is performed by pressing a series of buttons in a predetermined sequence.

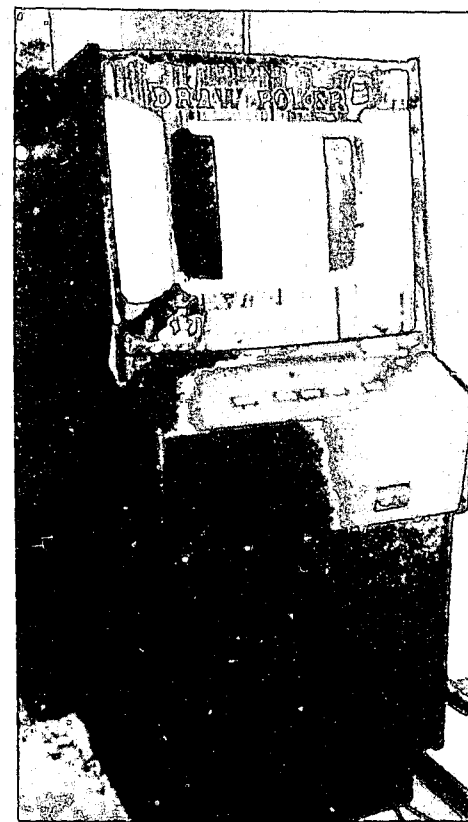
#### Meters

The noncasino-type device contains two six- or eight-digit meters. One meter records the number of coins inserted into the device; the other, unused credits removed from the credit meter.

On the early models, these meters were located inside the device. However, newer models display these meters on the video screen. To display the knock-off meter, buttons are pressed in a predetermined sequence. This coded

feature maintains the confidentiality of data.

An amusement device does not require a knock-off meter. It has but a single meter used to record coins accepted by the device.



This "Draw Poker" machine is a noncasino-type gambling device which records credits in lieu of dispensing coins for winning combinations.

#### Power Interrupt Circuit

Most of the noncasino video devices have a power interrupt circuit (PIC) which is activated when a power failure occurs. Without this feature, all accumulated credits recorded would be removed when power was restored. Since credits and coins have

value, loss of either would represent a large financial loss to the player. (The New Jersey Gaming Control Commission requires all electric gambling devices to have a PIC to protect the player from losing his wagers or winnings.)<sup>12</sup>

On amusement devices, there are no large accumulations of credits or games/replays. One exception is when the device will accept quarters only, and the player receives five plays or games per coin. Credits for these games will be recorded on a credit meter, but the player can use only one game or credit at a time. Each game is independent of all others, except for those devices which display the current highest score. A power failure would merely cause a delay in play, and at most, require the operator to reactivate the device to continue play. Theoretically, this would cost the operator the value of the consideration or cost of one game.

#### Multiple-coin Feature

Both noncasino video gambling devices and slot machines have multiple-coin features that allow the player to deposit several coins before play begins. These coins are translated into credits and are recorded on a credit meter. The player has the option of playing one or more credits on the next play.

An amusement device generally does not have a multiple-coin feature. A player can, as a rule, insert only one coin at the start of each play. However, there are two exceptions which would occur when the amusement device has additional provisions: 1) When two or more players play the same device at the same time, and 2) when the amusement device will accept more than one coin at a time,

even though the player can only play one coin or credit for each game. This is one of the more obvious differences between amusement and gambling devices.

#### Replay Versus Credit

A "replay" is defined as playing again or playing over and may be interpreted as a free game. Amusement devices use replays, meaning that the player will receive, as a bonus, all that an amusement device has to offer for the price of one play.

On the other hand, a "credit" can apply only to a gambling device. A player may accumulate credits and use one or several on each replay. Credits are used to increase payoff ratios and to activate additional features.

Both a replay and a credit have the same value as the coin used to initiate play whether it be an amusement or gambling-type game. However, replays are more commonly found on amusement devices and not on gambling devices. The term "replay" should not be used interchangeably with "credit."

#### Coins Versus Credits

"Credit," when used in conjunction with electronic video display gambling devices, is defined as something of value. When a coin is inserted into a device which does not have a ticket, token, or coin payout feature, a credit will be recorded on a meter displayed on the video screen.

The credits recorded for coins inserted and credits awarded for winning combinations accumulate on the same meter. Therefore, since no distinction is made, they must be of the same value, namely, the value of the coin required to begin play.

One exception to the process is if

the device accepts only one coin at a time. The credit for this coin is recorded on the bet meter. If the player wins, the credits awarded are recorded on the credit display meter. When the player makes additional bets, these credits are subtracted from the credit display meter and recorded on the bet meter. Although the recording process differs, the value of the credit equals that of the coin inserted to initiate play since both the coin credit and awarded credit are recorded on the bet meter when a wager is made.

#### Time of Play

Characteristically, play on a noncasino video gambling device, as well as other types of gambling devices, is of short duration. Gambling devices are designed to operate on a timed cycle, the length of which is determined by the nature of the game. Once the device is activated, the player cannot alter the time cycle.

Some video gambling devices, such as a "Draw Poker" device, have multiple time cycles. There is no limit on how long a player may take between activating the "play" or "bet" button and the "deal" button. Once the deal button is pressed, the images of five cards appear on the screen. This is a timed cycle and cannot be altered or extended by the player. The player then decides which cards (images) to discard—a procedure that is not timed. Once the discards are chosen, the draw button is pressed and a second timed cycle begins.

This illustrates that time of play on a video "Draw Poker" gambling device appears to be extended by the action of the player when long pauses are used between the start of each phase of play. This time extension is not a result of a player's skill, but

merely a result of inactivity.

A video amusement device will begin a sequence of events once a coin is inserted, depending upon the type of game. For instance, in Pac-Man, an image manipulated by the player moves through a maze devouring dots and avoiding monster images. When the Pac-Man image devours a "blinking" dot, it turns and devours monster images and scores points for each one devoured. An average player can play 4 to 5 minutes for a single coin.

If a player paused while playing an amusement device such as Pac-Man, time of play would tend to be shorter since the Pac-Man image would probably be overtaken by the monster, thereby ending that phase of the game. With this type of strategy, very few points would be scored by the player.

An amusement device also has a timed cycle. However, it differs from a gambling device's timed cycle in that a player can extend or interrupt the cycle of an amusement device by, for example, manipulating the Pac-Man image through the maze to devour the dots and avoid being devoured by the monsters. Thus, a player's ability will affect the outcome of play. In addition, the more an individual plays an amusement device, the more skilled he or she is likely to become. On a gambling device, which always employs an element of chance essentially beyond the control of the player, a player will reach a certain level of ability, but from that point on, will not become a better player regardless of the frequency of play.

#### Skill Factor

The element of skill becomes a primary factor in determining whether an electronic video device is a gam-

### CHARACTERISTICS OF SLOT MACHINES, VIDEO GAMBLING GAMES, AND VIDEO AMUSEMENT GAMES

Characteristics	Slot machine	Video gambling device	Video amusement device
Multiple-coin Feature.....	Yes	Yes	No
Multiple-play Options.....	Yes	Yes	No
SKILL—Play Can Influence Final Outcome of Play.....	No	No	Yes
Time of Play.....	Short	Short	Varies
Payoff Method.....	Coins	Coins	None
	Credits	Credits	
House Percentage of Retention Ratio.....	Yes	Yes	No
Number of Meters.....	1 or 2	2 or more	1
Knock-off Feature.....	Some	Yes	No
Power Interrupt Circuit.....	Yes	Yes	No
Gives Player All Game Has to Offer for One Coin.....	No	No	Yes
Interaction*.....	No	No	Yes
Fixed Payoff (Same Reward for Identical Combinations).....	Yes	Yes	No
Casino-type Game (Retains All Losing Decisions).....	Yes	Yes	No
Game Specifies Winning Combinations.....	Yes	Yes	No

\*Interaction occurs where the action of one player influences the action of another player relative to play.

bling device. The term "skill" has several definitions and interpretations, all of which conclude that an activity is skillful if a player can significantly affect the final outcome of play as a result of his own actions. A gambling device, however, is based wholly or predominantly on chance, which would preclude the player's ability from significantly affecting the final outcome of play.

Poker is recognized as a game of skill because factors come into play when interaction occurs with other players, which can determine the success ratio of a "skilled" player. The skill of a poker player is usually gauged by the amount of money he or she won by the end of a playing session and not by the number of times he or she had a winning hand. This monetary success ratio depends on

the betting strategy of the skilled player, which includes the choice of not playing bad hands as well as betting appropriately on good hands.

Five elements constitute poker skill: 1) Knowledge of the game's mathematics, 2) money management, 3) psychological deception, 4) card memory and analysis, and 5) betting courage.<sup>13</sup> However, only knowledge of a game's mathematics may assist a player of video gambling devices to increase his winning percentage.

For example, if a player has a pair, the odds are 6 to 1 against improving his hand to two pairs, 8 to 1 against improving his hand to three of a kind, etc. Knowledge of the law of probability gives the player insight as to what type of hand he has the best chance of obtaining. The result of the draw is still a product of chance and

will not guarantee him a consistent winning ratio. If a player uses this knowledge consistently, the results will occur in an unpredictable sequence due to the random nature of the device.

The number of times a knowledgeable player wins does not necessarily result from knowledge (expertise). For example, if a player discarded one card in an attempt to draw a straight or flush and drew a card which gave him a winning pair, this does not result from a player's skill, since the intent was to fill a straight or flush.

To be effective, knowledge of the law of probability as it applies to the game of draw poker must be used in conjunction with the other four skill factors mentioned previously. However, play of an electronic video gambling device does not involve interaction which includes the other four skill factors. Since video draw poker devices are preprogrammed to retain a certain percentage of all coins inserted into the devices and/or credits won, the effect of a player's knowledge of the law of probability is reduced in the final outcome of play. A player of an electronic video draw poker device will attain only limited success regardless of skill, because of the lack of interaction and the limitations of the device.

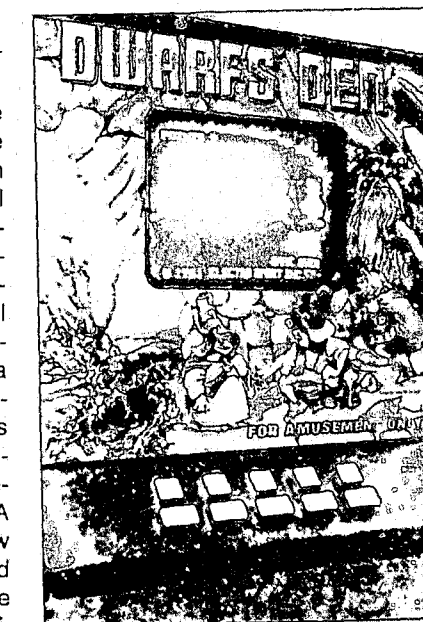
On the other hand, an amusement device allows the player to apply skill by manipulating levers, buttons, balls, and flippers relative to visual interpretation of images and fields of play. The level of skill a player demonstrates significantly affects the final outcome of play.

#### Plays or Diversions

The use of plays or diversions is just as prevalent today as it was in

1902. Manufacturers of noncasino video gambling devices disguise their devices as amusement devices in order that they won't be classified as gambling devices.

Mislabeling is one type of ploy used extensively by owners and manufacturers. Most video gambling devices bear labels which state "for amusement only." True amusement devices do not need and are not labeled as such. The label "skill points"



"Dwarfs Den" uses images of dwarfs in place of cards.

merely describes the credits awarded for winning combinations because, in fact, little or no skill is actually required to win these credits.

A popular but less obvious ploy is to change the primary appearance of the game while retaining all of the original characteristics of play. Manufacturers are replacing the images of cards with images of dwarfs, castles, roman tallies, balloons, etc.

For example, a video display device identified as "Dwarfs Den" displays images of 5 dwarfs consisting of 4 different color groups numbered 1-13. The 4 groups of 13 dwarfs have obvious similarities with a deck of 52 cards consisting of 4 suits. The characteristics of play of "Dwarfs Den" are identical to those of the video draw poker device. When a player places a bet of one or more coins or credits, five images are displayed on a video screen, and the player chooses his discards, which are replaced with new images. Tables 3 and 4 illustrate the operational, display, and play characteristics of the "Dwarfs Den" device compared with those of a video display draw poker device.

#### Latent Influences

Computer technology has affected all facets of society—business, science, medicine, commerce, military, education, law, and recreation—by modernizing operational concepts to produce efficiency and economy. The evolution of video technology in conjunction with the computer concept had a most noticeable impact upon the automatic coin-operated vending machine industry. The high resolution video graphics and programmable capabilities of microprocessors provided the means to produce a generation of video display devices depicting games of "skill" (amusement devices) and "chance" (gambling devices).

The explosive growth of high-tech industry has created a formidable self-interest group with great financial resources and the potential for influencing public attitudes relative to video displays devices.

The potentially detrimental aspects of the phenomenal popularity of video games has fostered dissenting public opinion which is pitted against

Table 3  
OPERATIONAL CHARACTERISTICS

"Dwarfs Den"	"Draw Poker"
1. Five images of dwarfs, four colors, each color numbered 1 through 13, total 52 dwarfs.	Five images of cards, four suits, aces through ten, Jack, Queen, King, total 52 cards.
2. Five "ZAP" buttons used to discard choice of dwarfs.	Five "DISCARD" buttons used to discard choice of cards.
3. "PLAY POINTS" button to play 1 to 8 credits per play.	"BET/ANTE" button to bet 1 to 8 credits per hand.
4. "START" button used to display 5 dwarfs.	"DEAL" button used to display 5 cards.
5. "REPLACE" button used to replace dwarfs discarded.	"DRAW" button used to replace cards discarded.
6. "UNZAP" button used to cancel choice of dwarfs to be discarded.	"CANCEL" button used to cancel choice of cards to be discarded.

The operational characteristics of "DWARF DEN," though labeled differently, perform the identical functions as the operational features of the video "DRAW POKER" device.

the pro-video, self-interest group. Because of the enormous profit potential of this industry, a confrontation of these factions has created a potential breeding ground for public corruption.

The National Foundation for the Study and Treatment of Pathological Gambling has made a preliminary assessment of the effects of the video game craze. Important questions arise as to whether intensive video game playing will influence the future gambling behavior of youths. Will there be an increase in the number of pathological gamblers a few years hence? Is this effect the same for the adult video game participant? Current data suggest a potentially harmful influence on young people's behaviors and various societal problems.<sup>14</sup>

#### Judicial and Law Enforcement System

Video game technology has placed the law enforcement community in a tenuous position. The sophisticated nature of these devices has hindered the police officer in categorizing them relative to existing statutes. The judicial system does not clearly define the elements which denote a gambling device. For example, the "reward" element defines a "free

game" as having no value, when in fact it has the same value as the initial consideration.<sup>15</sup> Another statute uses the phrase "any piece of money, coin, token or other object representative of and convertible into money";<sup>16</sup> a credit or free game is not defined within this definition. These inconsistencies compound the problems for the law enforcement community.

Police agencies are experiencing the negative influence of the video game concept in the form of a rising crime rate, i.e., thefts, burglaries, robberies, muggings, and occasionally, loss of life. In most instances, the perpetrator of the crime admits that the criminal act was committed to support a video game habit.

Complaints from parents, spouses, school administrators, and occasionally, video arcade and bar owners increase the involvement of police agencies in the video game issue. Truancy, vandalism, theft, loss of paychecks or welfare checks, and public disturbance charges have been increasing police agencies workloads and manpower allocations.<sup>17</sup>

The adverse publicity regarding video games prompted local governments to legislate stringent controls

regulating the location and operating hours of arcades, the number of arcades permitted to operate in a specified area, and age limits of customers allowed on the premises, as well as food and beverage guidelines.

Computer technology is widely used by private industry, law enforcement, and the judicial system, primarily for administrative and scientific functions. The familiarity implied by this popularity has not been applied to the legislative process relative to enacting new laws, revising existing statutes, or interpreting these statutes.

Existing statutes do not specifically address the legal issue of the electronic video display gambling device. The language of these gambling statutes is often vague and provides a wide latitude for interpretation by the courts and prosecuting attorneys.

If the statute contains language that is relevant, the court may interpret the phraseology literally. For example, if a "Sweet Shawnee" device is the subject of litigation, one of the elements of the violation may state:

"Any so-called slot machine or any other machine or mechanical device, an essential part of which is a drum or reel with insignia thereon."<sup>18</sup>

A court, using a literal interpretation, may rule that this device does not have a drum or reel; therefore, this device would not fit within the criteria established by an element of this statute. The fact that the device uses an electronic reel as opposed to a mechanical reel does not alter the concept or final results of play because the electronic reel performs the same function as the mechanical reel.

#### Conclusion

Video technology has been and

will remain an important factor affecting all facets of society—business, science, medicine, commerce, military, education, law, and recreation. In all of these areas except recreation, video technology is only one element of a total system. This one element produces a more efficient, and therefore, more productive system.

In the area of recreation, video technology becomes the system, and as such, efficiency and productivity are in doubt. Uniqueness and easy accessibility of video games (amuse-

ment and gambling) caused a surge of unanticipated popularity, and as with any explosive occurrence, problems developed.

The first problematic symptom was a rise in the crime rate, which affected the judicial and law enforcement systems. A second wave of problematic symptoms, which affected the mental and physical health systems, appeared as an addiction to play video games. The major concern of this symptom is that the elements of this alleged addiction are similar in

nature to those of a problem gambler.

The video game industry is dynamic. Constant change is necessary to retain the high interest level it now enjoys. If the interest factor subsides to the level of other amusement-type devices, the initial problem area may disappear. However, the video gambling device will remain an issue until these devices are defined, using this concept's technical terminology relative to the existing statutes or the re-drafting of new legislation.

FBI

Table 4  
DISPLAY CHARACTERISTICS

"Dwarfs Den"	"Draw Poker"
1. Four-digit display meter, upper left-hand corner of screen, records credits for each coin inserted.	Four-digit display meter, upper left-hand corner of screen, records credit for each coin inserted.
2. Two-digit display meter, upper right-hand corner of screen, records credits played per game.	Two-digit display meter, usually lower right-hand corner of screen, records credits bet per hand.
3. "Wild Dwarfs" come into play when specific number of credits played.	"Wild Jokers" come into play when specific number of credits are bet.
4. Designated winning combinations:	Designated winning combinations:
Thin Twins.....	Pair Aces
Double Twins.....	Two Pair
Triplets.....	Three of a Kind
Green Brothers.....	Flush
Lavender Gang.....	Flush
Blues Brothers.....	Flush
Red Brothers.....	Flush
Generation.....	Straight
Family.....	Full House
Quadruplets.....	Four of a Kind
Solid Generation.....	Straight Flush
Quintuplets.....	Five of a Kind
Fat Generation.....	Royal Flush

The display and play characteristics of "Dwarfs Den," though labeled differently, are identical and perform the same function as those of an electronic video display "Draw Poker" device.

#### Footnotes

<sup>11</sup> The majority of noncasino devices can be converted to the casino type with minimal modification.

<sup>12</sup> B. Lampa, "Security and Control of the New Microprocessor Slots," *Public Gaming Magazine*, July 1982, pp. 15-17.

<sup>13</sup> J. Scarme, *Scarme's New Complete Guide to Gambling* (New York: Simon and Schuster, 1979).

<sup>14</sup> L.B. Nadler and T. Meeland, "Pathological Gambling and Military Readiness: Its Nature, Prevalence, Impact and Resolution," *National Foundation for Study and Treatment of Pathological Gambling*, September 1982.

<sup>15</sup> *Commonwealth of Pennsylvania v. Two Electronic Poker Games*, Pa. Sup. Ct. J#133-83, p. 2, which gives only free games as a reward for successful play are nevertheless gambling devices *per se* when they also possess a knockdown button and a meter to record the number of free games knocked down.

<sup>16</sup> Art. 27, Annotated Code of Maryland, sec. 264B.

<sup>17</sup> B. Kurtz, "Our Arcades: Troublemakers? Use Sugar Instead of Vinegar," *Play Meter Magazine*, August 15, 1982.

<sup>18</sup> 15 USC, 1171-143-1.

**END**