Finding Aid to the
Williams Pinball Playfield Design Collection, 1946-1994, 2015

Summary Information

Title: Williams pinball playfield design collection
Creator: Williams Manufacturing Co., Williams Electronics, Inc., WMS Industries, Inc. (primary)
ID: 115.wms
Date: 1946-1994, 2015 (inclusive); 1946-1975 (bulk)
Extent: 48.25 linear feet (physical); 22.8 GB (digital)
Language: The materials in this collection are in English.
Abstract: The Williams pinball playfield design collection contains more than 200 large hand-drawn playfield sketches, as well as mechanical insert drawings and cabinet artwork. Digital images of playfields and insert drawings are also included. The materials range in date from 1946 through 2015, with the bulk of the materials from 1946-1975.
Repository:
Brian Sutton-Smith Library and Archives of Play at The Strong
One Manhattan Square
Rochester, New York 14607
585.263.2700
library@museumofplay.org

Administrative Information

Conditions Governing Use: This collection is open for research use by staff of The Strong and by users of its library and archives. Though the donors have not transferred intellectual property rights (including, but not limited to any copyright, trademark, and associated rights therein) to The Strong, they have given permission for The Strong to make copies in all media for museum, educational, and research purposes.
Custodial History: The Williams pinball playfield design collection was donated to The Strong in November 2015 as a gift from Williams Electronic Games, Inc. The papers were accessioned by The Strong under Object ID 115.4166 and were received from Williams Electronic Games, Inc. in two hanging vertical file cabinets and one box. Digital scans were received separately from Duncan Brown in November 2015.
Preferred citation for publication: Williams pinball playfield design collection, Brian Sutton-Smith Library and Archives of Play at The Strong
Processed by: Julia Novakovic and Dane Flansburgh, December 2015

Controlled Access Terms
Personal Names
• Ahlborn, Steve
• Anghelo, Python
• Brown, Duncan
• Clark, Norm
• Horlick, Gordon
• Kordek, Steve
• Mabs, Harry
• Oursler, Barry
• Ritchie, Mark
• Williams, Harry E.

Corporate Names
• Williams Electronics, Inc.
• Williams Manufacturing Co.
• WMS Industries, Inc.

Subjects
• Electronic games
• Indoor games
• Large-scale drawing
• Pinball machines
• Pinball machines--Drawings
• Pinball machines--History
• Video arcades
• Williams Electronics, Inc.
• Williams Manufacturing Co.

Historical Note
Harry E. Williams (1906-1983) was an American engineer, game designer, and entrepreneur who paved the way for the coin-operated pinball industry. Williams originally worked as a pinball operator in California during the early 1930s, but he soon began to design his own pinball games. He invented the tilt mechanism to prevent cheating in games, as well as the electronic action device which “kicked” the ball across the playfield. In 1943, he founded Williams Manufacturing Company in Chicago, Illinois—the American center for pinball production. His company rose to prominence as one of the most important arcade and pinball game manufacturers in the United States after World War II.

Williams pinball designers introduced many pinball innovations, including ramps, scoring reels, drop targets, and modern 3-inch flippers. The company was acquired and incorporated several times, resulting in company name changes (becoming Williams Electronics, Inc. in 1974 and WMS Industries in 1987). In 1988, WMS purchased competitor Bally/Midway. The pinball division of WMS closed in 1999, after more than 50 years of designing and manufacturing electro-mechanical and solid-state pinball machines.
Collection Scope and Content Note
The Williams pinball playfield design collection contains playfield drawings, mechanical insert drawings, original cabinet artwork, and digital scans of playfield and inserts drawings. The bulk of the materials are dated between 1946 through 1975, with some additional designs dated up through 1994. (The digital files were created in 2015 by scanning original playfield and insert drawings.) Additional scope and content information can be found in the “Contents List” section of this finding aid.

The Williams pinball playfield design collection is arranged into four series. The physical materials are housed in one archival document box, 12 map case drawers, and one oversized shelf in paper storage. The digital files are located on the internal network of The Strong and can only be accessed on-site; access-copy DVDs containing the scans are located in Box 1.

Related Materials
The International Center for the History of Electronic Games (ICHEG) holds more than 20 Williams pinball machines.

System of Arrangement
Series I: Williams pinball playfield drawings, 1946-1994
Series II: Mechanical insert drawings, 1957-1994
Series III: Cabinet and playfield artwork, 1983-1993
Series IV: Digital files, 2015
Contents List

Series I: Williams pinball playfield drawings, 1946-1994

Scope and Content Note: This series contains more than 200 large-scale pinball playfield drawings created by staff of Williams Manufacturing Company (later Williams Electronics, Inc.). Designers of these playfield drawings, as denoted by signatures or initials on the pages, include Harry E. Williams (likely “H.E.W.”), Gordon Horlick (“GTH”), Harry Mabs (“HJMabs” or “HMabs”), Steve Ahlborn, Steve Kordek, Norm Clark, Barry Oursler, Python Anghelo, and Mark Ritchie. The bulk of these playfield drawings are for Williams projects dated between 1946 and 1975, with some additional designs dated up through 1994. At some point in his tenure at Williams, Steve Kordek added permanent marker annotations to the pages to indicate project numbers and titles for pinball games; these were likely also organized in numerical order by Kordek. The Strong has retained the order of the drawings as transferred from Williams.

Many of these drawings were scanned in 2015 by Duncan Brown and are housed in Series IV.

Map Case 1, Drawer 2
Folder 1  #2 - “Dynamite,” unidentified artist/designer, 1946
Folder 1  #3 - “Amber,” unidentified artist/designer, n.d. [c. 1946?]
Folder 1  #4 - “Smarty,” unidentified artist/designer, n.d. [c. 1946?]
Folder 1  #5 - “Show Girl,” unidentified artist/designer, 1946
Folder 1  #6 - “Tornado,” unidentified artist/designer, 1947
Folder 2  #7 - “Cyclone,” unidentified artist/designer [“H.E.W.”?], 1947
Folder 2  #8 - “Torchy,” unidentified artist/designer [“WMS”?], 1947
Folder 2  #9 - “Flamingo,” unidentified artist/designer, n.d. [c. 1947?]
Folder 2  #11 - “Ginger,” unidentified artist/designer [“GTH”?], 1947
Folder 3  #18 - “Yanks,” unidentified artist/designer [“H.E.W.”?], 1948
Folder 3  #31 - “Freshie,” unidentified artist/designer, 1949
Folder 4  #32 - “Quarter Back,” unidentified artist/designer [“GTH”?], 1949
Folder 4  #33 - “De-Icer,” unidentified artist/designer [“H.E.W.”?], 1949
Folder 4  #36 - “Dreamy,” unidentified artist/designer, n.d. [c. 1949?]
Folder 4  #38 - “Sweet Heart,” unidentified artist/designer [“H.E.W.”?], 1949
Folder 4  #39 - “Lucky Inning,” unidentified artist/designer [“GTH”?], 1950
Folder 5  #44 - “Nifty,” unidentified artist/designer [“H.E.W.” and “GTH”?], 1950
Folder 5  #46 - “Shoo-Shoo,” unidentified artist/designer [“GTH”?], 1951
Folder 5  #49 - “Control Tower,” unidentified artist/designer [“H.E.W.”?], 1951
Folder 5  #50 - “Harvey,” unidentified artist/designer [“H.E.W.”?], 1951
Folder 5  #52 - “Arcade,” unidentified artist/designer, n.d. [c. 1951?]
Folder 6  #53 - “Snooks,” unidentified artist/designer [“GTH”?], 1951
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Folder 6  #184-2 - “Naples,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 7  #185 - “Arrowhead,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 7  #187 - “Kings,” unidentified artist/designer [“E.J.C.”?], 1957
Folder 7  #188-1 - “Top Hat,” unidentified artist/designer [“E.J.C.”?], 1957
Folder 7  #188-2 - “Top Hat,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 7  #190-1 - “Reno,” unidentified artist/designer, n.d. [c. 1957?]
Folder 7  #190-2 - “Reno,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 8  #191 - “Steeple Chase,” unidentified artist/designer, 1957
Folder 8  #193 - “Jig Saw,” unidentified artist/designer, n.d. [c. 1957?]
Folder 8  #194 - “Sea Wolf,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 8  #195-1 - “Kick Off,” S. Ahlborn, 1958

Map Case 1,
Drawer 4
Folder 1  #195-2 - “Kick Off,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 1  #197 - “Gusher,” unidentified artist/designer, 1958 [also c. 1957?]
Folder 1  #197 - “Gusher,” unidentified artist/designer [“H.E.W.”?], 1957
Folder 1  #198 - “4 Star,” unidentified artist/designer, n.d. [c. 1957?]
Folder 1  #199 - [no title], unidentified artist/designer, n.d. [c. 1957-1958?]
Folder 2  #199-1 - “Satellite,” unidentified artist/designer, n.d. [c. 1957?]
Folder 2  #199-2 - “Satellite,” H. Mabs, 1957
Folder 2  #201 - “Casino,” H. Mabs [and “C.R.” and “S.A.”?], 1958
Folder 2  #206 - “3D,” H. Mabs [and “C.R.”?], 1958
Folder 3  #206 - “3D,” unidentified artist/designer [“HMabs,” “S.A.,” and (illegible)?], 1958
Folder 3  #208 - “Tic Tac Toe,” unidentified artist/designer [“C.W.R.” and “S. Ahlborn”?], 1958
Folder 3  #211 - “Crossword,” unidentified artist/designer [“C.R.,” “HMabs,” and “S. Ahlborn”?], 1958
Folder 4  #214 - “Club House,” unidentified artist/designer [“S. Ahlborn”?], 1959
Folder 4  #215 - “Spot Pool,” unidentified artist/designer [“C.R.” and “S.A.”?], 1959
Folder 4  #224-1 - “Rocket,” unidentified artist/designer [“C.R.” and “S. Ahlborn”?], 1959
Folder 4  #224-2 - “Rocket,” unidentified artist/designer [“H.E.W.”?], 1959
Folder 5  #227 - “Spelling Bee,” unidentified artist/designer [“H.E.W.” and “H.J.M.”?], 1959
Folder 5  #228 - “Golden Gloves,” H.J. Mabs, 1959
Folder 5  #228 - “Golden Gloves,” unidentified artist/designer [“C.R.,” “HJMabs,” and “S.A.”?], 1959
Folder 5  #231 - “ Fiesta,” H.J. Mabs, 1959
Folder 5  #231 - “ Fiesta,” unidentified artist/designer [“C.R.” and “S. Ahlborn”?], 1959
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#233 - “21,” unidentified artist/designer [“H.J.M.” and “S. Ahlborn”?], 1959
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#234 - “Nags,” unidentified artist/designer [“J.J.” and (illegible)?], 1959
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Folder 6
#236 - “Darts,” unidentified artist/designer [“S. Ahlborn”?], 1960
Folder 6
#238 - “Music Man,” unidentified artist/designer [“J.J.” and “S.A.”?], 1960
Folder 7
#239 - “Jungle,” H.J. Mabs, 1959
Folder 7
#239 - “Jungle,” unidentified artist/designer [“J.J.” and “S. Ahlborn”?], 1960
Folder 7
#241 - “Viking,” unidentified artist/designer [“J.K.S.” and Steve Ahlborn?], 1960
Folder 7
Folder 8
Folder 8
#244 - “Magic Clock,” H.J. Mabs, 1960
Folder 8
#244 - “Magic Clock,” unidentified artist/designer [“CHN”? and “S. Ahlborn”?], 1960
Folder 8
#245 - “Bo-Bo” [crossed-out “Tri-Score”], Steven F. Kordek, 1960
Folder 8
#245 - “Bo-Bo,” unidentified artist/designer [“J.J.” and “S. Ahlborn”?], 1960
Folder 9
#246 - “Caravelle,” unidentified artist/designer [“HJM” and “S. Ahlborn”?], 1960
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#247 - “High Ways,” Steve Kordek, 1960
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#247 - “High Ways,” unidentified artist/designer [“J.K.S.” and “S. Ahlborn”?], 1960
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#248 - [no title], Steve Kordek, 1960-1961
Folder 9

**Map Case 1,**

**Drawer 5**
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#250 – “Ten Spot,” Steve Kordek, 1960
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#251 – “Double Barrel,” Steve Kordek, 1961
Folder 1
#253 – “Reserve,” Steve Kordek, 1961
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Folder 1
Folder 2
#258 – “Kismet,” unidentified, ca. 1961
Folder 2
Folder 2
#261 – “Coquette,” Steve Kordek, 1961
Folder 2
#262 – “3 Coins,” Steve Kordek, 1961
Folder 2
#262-2 – “3 Coins,” unidentified, 1961
Folder 3
Folder 3
#266, “Valiant,” Steve Kordek, 1961
Folder 3
Folder 3
#271-x – “Kingpin,” unidentified artist/designer, 1961 [not built]
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#271 – “Kingpin #2,” Steve Kordek, 1962
Folder 4
Folder 4
Folder 4
Folder 4

January 2016
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**Map Case 1,**

**Drawer 6**

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<td>“Pit Stop,”</td>
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<td>“Jolly Roger,”</td>
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**Map Case 1, Drawer 7**

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Map Case 1,

Drawer 8
Folder 1  #60.020 - “Pinball Circus,” Python Anghelo and Ortega, 1992-1993 [18 sheets]
Folder 2  Playfield template drawings, unidentified artist/designer, 1966-1978 [3 sheets]

Separated oversized drawings:
Room B9, Unit 41, Level 3
Folder 1  #519 – “Joust B,” Barry Oursler, 1983
Folder 1  #571 – “Diner,” Mark Ritchie, 1989-1990
Folder 1  #573 – “Police Force,” Barry Oursler, Mark Ritchie, Python Anghelo, 1988-1989
Folder 1  #50.017 – “Indiana Jones,” Mark Ritchie, 1993
Folder 1  # 50.030 – “Dirty Harry,” Barry Oursler, 1994

Series II: Mechanical insert drawings, 1946-1994
Scope and Content Note: This series houses mechanical design drawings of pinball machine inserts. These were retained by Steve Kordek while at Williams. Many of these drawings were scanned in 2015 by Duncan Brown and are housed in Series IV.

Map Case 1,

Drawer 9
Folder 1  “Insert drawings, 190s,” 1957 [8 sheets]
Folders 2-5  “Insert drawings, low 200s,” 1958-1961 [38 sheets]

Map Case 1,

Drawer 10
Folders 1-4  “Insert drawings, high 200s,” 1962-1964 [48 sheets]

Map Case 1,

Drawer 11
Folders 1-4  “Insert drawings, low 300s,” 1963-1967 [36 sheets]
Folders 5-6  “Insert drawings, high 300s,” 1968-1970 [20 sheets]

Map Case 1,

Drawer 12
Folders 1-6  “Miscellaneous insert drawings,” 1953-1994 [100 pages]
Series III: Cabinet and playfield artwork, 1983-1993

Scope and Content Note: This series holds artwork for several later Williams pinball machines. Of the four games represented, only Cyclone (1988) and Hurricane (1991) went into large-scale production. (Rat Race was never mass-produced, and only two prototype machines of Pinball Circus were made.)

Map Case 1,
Drawer 13
Folder 1 “Cyclone,” unidentified artist, c. 1988
Folder 2 “Hurricane,” unidentified artist, c. 1991
Folder 3 “Pinball Circus,” unidentified artist, c. 1993
Folder 4 “Rat Race,” unidentified artist, c. 1983
Series IV: Digital files, 2015

Scope and Content Note: Digital scans of materials in Series I and II comprise this series, which can be accessed via hard-copy DVD or The Strong’s internal network. The more than 800 files in this series include grayscale scans of playfields, bitonal scans of playfields, color scans of select playfields and inserts, grayscale scans of inserts, and bitonal scans of inserts. File names of scans were kept as originally received from Duncan Brown.

Box 1
Object 1  Grayscale scans of playfields, Disk 1, 2015
Files include:
- gpf002_dynamite_01
- gpf003_amber_01
- gpf004_smarty_01
- gpf005_showgirl_01
- gpf006_tornado_01
- gpf007_cyclone_01
- gpf008_torchy_01
- gpf009_flamingo_01
- gpf011_ginger_01
- gpf012_bonanza_01
- gpf014_sunny_01
- gpf015_stormy_01
- gpf017_virginia_01
- gpf018_yanks_01
- gpf031_freshie_01
- gpf032_quarterback_01
- gpf033_deicer_01
- gpf036_dreamy_01
- gpf038_sweetheart_01
- gpf039_lucky_inning_01
- gpf044_nifty_01
- gpf046_shoo_shoo_01
- gpf049_control_tower_01
- gpf050_harvey_01
- gpf052_arcade_01
- gpf053_snoocks_01
- gpf054_sse_01
- gpf055_hayburners_01
- gpf056_nags_01
- gpf057_jalopy_01
- gpf058_spark_plugs_01
- gpf059_shoot_the_moon_01
- gpf060_sea_jockeys_01
- gpf061_hoss_feathers_01
- gpf061_2_hoss_feathers_01
- gpf062_daffy_derby_01
- gpf065_horse_feathers_01
- gpf067_sportsman_01
- gpf069_majorettes_no2_01
- gpf070_slugfest_01
- gpf071_olympics_01
- gpf072_domino_01
- gpf073_handicap_01
- gpf074_caravan_01
- gpf075_long_beach_01
- gpf081_fairway_02
- gpf084_times_square_02
- gpf092_struggle_buggies_02
- gpf097_nine_sisters_02
- gpf104_screamo_02
- gpf107_skyway_02
- gpf110_daffy_derby_02
- gpf125_race_the_clock_03
- gpf128_bandwagon_02
- gpf131_three_deuces_01
- gpf134_jolly_joker_01
- gpf135_can_can_01
- gpf139_snafu_02
- gpf142_royal_crown_01
- gpf145_piccadilly_01
- gpf147_yukon_01
- gpf147_yukon_shuffle_board_01
- gpf171_commodore_01
- gpf173_fun_house_01
- gpf174_1_perky_01
- gpf174_2_perkey_01
- gpf177_shamrock_01
- gpf178_gay_paree_01
- gpf184_1_naples_01
- gpf184_2_naples_01
- gpf185_arrowhead_01
- gpf187_kings_01
- gpf188_1_top_hat_01
- gpf188_2_top_hat_01
- gpf190_1_reno_01
- gpf190_2_reno_01
- gpf191_steeple_chase_01
- gpf193_jig_saw_02
- gpf194_sea_wolf_01
- gpf195_1_kick_off_01
- gpf195_2_kick_off_01
- gpf197_1_gusher_01
- gpf197_2_gusher_01
- gpf198_4_star_02
- gpf199_0_satellite_01
- gpf199_1_satellite_01
- gpf199_2_satellite_01

Object 2  Grayscale scans of playfields, Disk 2, 2015
Files include:
- gpf201_casino_01
- gpf203_short_stop_01
- gpf206_3d_1_01
- gpf206_3d_2_01
- gpf208_tic_tac_toe_02
- gpf209_1_sea_wolf_01
- gpf209_2_sea_wolf_01
- gpf211_crossword_01
- gpf214_club_house_1
- gpf215_spot_pool_01
- gpf219_golden_bells_01
- gpf224_1_rocket_01
- gpf224_2_rocket_01
- gpf227_spelling_bee_01
- gpf228_1_golden_gloves_01
- gpf228_2_golden_gloves_02
- gpf231_1_fiesta_01
- gpf231_2_fiesta_01
- gpf233_21_01
- gpf234_nags_01
- gpf234_nags_02
- gpf235_serenade_01
- gpf236_darts_01
- gpf238_1_music_man_01
- gpf238_2_music_man_01
- gpf239_1_jungle_01
- gpf239_2_jungle_01
- gpf241_viking_01
- gpf242_1_black_jack_01
- gpf242_2_black_jack_01
- gpf244_1_magic_clock_01
- gpf244_2_magic_clock_01
- gpf245_1_bo_bo_01
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- gpf246_caravelle_01
- gpf247_1_highways_01
- gpf247_2_highways_01
- gpf248_1_hollywood_01
- gpf248_2_hollywood_01
- gpf250_ten_spot_01
- gpf251_double_barrel_01
- gpf253_reserve_01
- gpf255_metro_02
- gpf256_space_ship_02
- gpf258_kismet_01
- gpf260_tradewinds_01
- gpf261_coquette_01
- gpf262_1_3_coins_01
- gpf262_2_3_coins_01
- gpf263_skill_ball_01
- gpf266_valiant_01
- gpf270_jolly_jokers_01
- gpf271_king_pin_01
- gpf271_x_king_pin_01
- gpf272_tom_tom_01
- gpf274_4_roses_01
- gpf276_friendship_7_01
- gpf277_mardi_gras_01
- gpf278_vagabond_01
- gpf279_big_deal_01
- gpf280_jumpin_jacks_01
- gpf282_swing_time_01
- gpf283_skill_pool_01
- gpf284_el_toro_01
- gpf287_big_daddy_01
- gpf288_oh_boy_01
- gpf291_merry_widow_01
- gpf292_soccer_01
- gpf293_san_francisco_01
- gpf295_heat_wave_01
- gpf297_palooka_01
- gpf298_stop_n_go_01
- gpf299_river_boat
- gpf300_whoopee_01
- gpf302_double_play_01
- gpf303_eager_beaver_01
- gpf304_zig_zag_01
- gpf305_pretty_baby_01

Object 3  Grayscale scans of playfields, Disk 3, 2015
Files include:
- gpf310_alpine_club_01
- gpf312_moulin_rouge_01
- gpf313_pot_o_gold_01
- gpf314_lucky_strike_01
- gpf317_eight_ball_01
- gpf318_teachers_pet_02
- gpf319_big_chief_01
- gpf320_1_a_go_go_01
- gpf320_2_a_go_go_01
- gpf321_full_house_01
- gpf322_derby_day_01
- gpf324_beat_time_01
- gpf325_hot_line_01
- gpf328_casanova_01
- gpf329_magic_city_01
- gpf331_apollo_01
- gpf333_shangri_la_01
- gpf335_touchdown_02
- gpf339_ding_dong_01
- gpf341_ladyLuck_01
- gpf342_pit_stop_01
- gpf343_jolly_roger_01
- gpf348_doozie_01
- gpf349_daffie_01
- gpf350_student_prince_01
- gpf351_1_olympic_hockey_01
- gpf354_4_aces_01
- gpf356_miss_o_01
- gpf358_paddock_01
- gpf359_cabaret_01
- gpf360_hayburners_ii_01
- gpf361_suspense_01
- gpf363_smart_set_01
- gpf366_expo_01
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- gpf390_doodle_bug_01
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- gpf461_valencia_01
- gpf488_pokerino_02
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- gpf519_joust_c_01
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- gpf527_rat_race_01
- gpf532_rat_race_ii_01
- gpf571_diner_01
- gpf573_police_force_01
- gpf2001_truck_stop_01
- gpf50002_machine_01
- gpf50017_indiana_jones_01
- gpf50017_indiana_jones_upper_01
- gpf50030_dirty_harry_01
- gpf60020_pinball_circus_1_01
- gpf60020_pinball_circus_ring2_01
- gpf60020_pinball_circus_ring3_2_01
- gpf60020_pinball_circus_switch_detail_01
- gpinball_playfield_master_dwg_1_01
- gpinball_playfield_template_11r_195_01
- gpinball_playfield_template_11r_195_1_01

Object 4  Grayscale scans of insert drawings, Disk 1, 2015
Files include:
- gins000_bullseye_01
- gins000_treasure_island_01
- gins190_reno_01
- gins193_jigsaw_01
- gins194_sea_wolf_01
- gins195_kick_off_01
- gins197_gusher_01
- gins199_satellite_01
- gins201_casino_01
- gins203_short_stop_01
- gins204_vanguard_01
- gins206_3d_01
- gins208_tic_tac_toe_01
- gins209_sea_wolf_01
- gins211_cross_word_01
- gins211_cross_word_02
- gins214_club_house_01
- gins215_bank_shuffle_01
- gins216_hercules_01
- gins217_pinch_hitter_01
- gins218_spot_pool_01
- gins219_golden_bells_01
- gins224_rocket_01
- gins225_titan_01
- gins227_spelling_bee_01
- gins228_golden_gloves_01
- gins231_fiesta_01
- gins232_official_baseball_01
- gins233_21_01
- gins234_nags_01
- gins235_serenade_01
- gins236_darts_01
- gins238_music_man_01
- gins239_1_jungle_01
- gins239_2_jungle_01
- gins240_stock_market_01
- gins241_viking_01
- gins242_black_jack_01
- gins243_space_glider_01
- gins244_magic_clock_01
- gins245_bobo_01
- gins246_caravelle_01
- gins247_highways_01
- gins249_batting_champ_01
- gins250_ten_spot_01
- gins251_double_barrel_01
- gins252_batting_champ_void_01
- gins253_reserve_01
- gins255.Metro_01
- gins256.1_spaceship_01
- gins256.2_spaceship_01
- gins260.tradewinds_01
- gins261.coquette_01
- gins262.3_coins_01
- gins263.skill_ball_01
- gins266.1_valiant_01
- gins266.2_valiant_01
- gins270.jolly_jokers_01
- gins271.king_pin_01
- gins272.tom_tom_01
- gins273.extra_inning_01
- gins273.extra_inning_02
- gins274.4_roses_01
- gins275_world_series_01
- gins276.friendship_7_01
- gins277.mardi_gras_01
- gins278.vagabond_01
- gins279.big_deal_01
- gins280.jumpin_jacks_01
- gins282.swing_time_01
- gins283.skill_pool_01
- gins284.el_toro_01
- gins285.1963_major_league_01
- gins285.1963_world_series_01
- gins286.1963_big_inning_01
- gins287.big_daddy_01
- gins287.big_daddy_02
- gins288.oh_boy_01
- gins290.1_beat_the_clock_01
- gins290.2_beat_the_clock_01
- gins291.merry_widow_01
- gins292.soccer_01
- gins293.san_franccisco_01
- gins294.1964_grand_slam_01
- gins295.1_heat_wave_01
- gins295.2_heat_wave_01
- gins296.1964_tenth_inning_01
- gins297.palooka_01
- gins298.stop_n_go_01
- gins299.river_boat_01
Object 5  Grayscale scans of insert drawings, Disk 2, 2015
Files include:
- gins300_whoopee_01
- gins302_1965_baseball_01
- gins303_eager_beaver_01
- gins305Pretty_baby_01
- gins306_zig_zag_01
- gins308_driving_range_01
- gins310_2_alpine_club_01
- gins310_alpine_club_01
- gins312_moulin_rouge_01
- gins313_pot_a_gold_01
- gins314_lucky_strike_01
- gins317_8_ball_01
- gins318_teachers_pet_01
- gins319_big_chief_01
- gins320_a_go_go_01
- gins321_full_house_01
- gins324_beat_time_01
- gins325_hot_line_01
- gins328_casanova_01
- gins329_magic_city_01
- gins331_apollo_01
- gins332_1966_pitch_and_bat_01
- gins333_shangri_la_01
- gins334_1966_big_league_01
- gins335_touchdown_01
- gins336_big_strike_01
- gins337_magic_town_01
- gins338_blast_off_01
- gins339_ding_dong_01
- gins339_ding_dong_02
- gins340Smarty_01
- gins341_lady_luck_01
- gins342_pit_stop_01
- gins343_jolly_roger_01
- gins344_arctic_gun_01
- gins345_base_hit_01
- gins347_kickoff_not_used_01
- gins348_doozie_01
- gins348_dooze_02
- gins349_daffie_01
- gins353_aqua_gun_01
- gins358_paddock_01
• gins361_suspense_01
• gins363_smart_set_01
• gins367_gay_90s_01
• gins368_post_time_01
• gins377_aces_and_kings_01
• gins379_mini_bowl_01
• gins383_ringer_01
• gins385_tramway_01
• gins386_dipsy_doodle_01
• gins387_fan_tas_tic_01
• gins389_straight_flush_01
• gins390_doodle_bug_01
• gins391_solids_and_stripes_01
• gins393_travel_time_01
• gins397_jack_pot_01
• gins399_sniper_01

Object 6  Color scans of select playfields and inserts, Disk 1, 2015
Files include:
• cins204_vanguard_01
• cins238_music_man_01
• cins344_magic_clock_01
• cins_251_double_barrel_01
• cins60020_pinball_circus_1_01
• cpf017_virginia_01
• cpf060_sea_jockeys_01
• cpf081_fairways_02
• cpf084_times_square_02
• cpf092_struggle_buggies_01
• cpf097_nine_sisters_02
• cpf174_2_perky_01
• cpf195_kick_off_01
• cpf206_3d_1_01
• cpf206_3d_2_01
• cpf236_darts_01
• cpf247_1_highways_01
• cpf250_ten_spot_01
• cpf251_space_ship_01
• cpf260_tradewinds_01
• cpf261_coquette_01
• cpf262_1_3_coins_01
• cpf263_skill_ball_01
• cpf266_valiant_01
• cpf271_king_pin_01
- cpf276_friendship_7_01
- cpf277_mardi_gras_01
- cpf519_joust_01
- cpf527_rat_race_01
- cpf527_rat_race_plastics_01
- cpf573_police_force_01
- cpf2001_truck_stop_01
- cpf50017_indiana_jones_01
- cpf50017_indiana_jones_upper_01
- cpf60020_pinball_circus_ring3_3_01
- cpinball_playfield_master_dwg_1_01
- cpinball_playfield_template_11r_195_1_01

Object 7  
Bitonal scans of playfields and inserts, Disk 1, 2015  
Files include:
- ins000_bullseye_01
- ins000_treasure_island_01
- ins190_reno_01
- ins193_jigsaw_01
- ins194_sea_wolf_01
- ins195_kick_off_01
- ins197_gusher_01
- ins199_satellite_01
- ins201_casino_01
- ins203_short_stop_01
- ins204_vanguard_01
- ins206_3d_01
- ins208_tic_tac_toe_01
- ins209_sea_wolf_01
- ins211_cross_word_01
- ins214_club_house_01
- ins215_bank_shuffle_01
- ins216_hercules_01
- ins217_pinch_hitter_01
- ins218_spot_pool_01
- ins219_golden_bells_01
- ins224_rocket_01
- ins225_titan_01
- ins227_spelling_bee_01
- ins228_golden_gloves_01
- ins231_fiesta_01
- ins232_official_baseball_01
- ins233_21_01
- ins234_nags_01
- ins235_serenade_01
- ins236_darts_01
- ins238_music_man_01
- ins239_1_jungle_01
- ins239_2_jungle_01
- ins240_stock_market_01
- ins241_viking_01
- ins242_black_jack_01
- ins243_space_glider_01
- ins244_magic_clock_02
- ins245_bobo_01
- ins246_caravelle_01
- ins247_highways_01
- ins249_batting_champ_01
- ins250_ten_spot_01
- ins251_double_barrel_01
- ins252_batting_champ_void_01
- ins253_reserve_01
- ins255_metro_01
- ins256_1_spaceship_01
- ins256_2_spaceship_01
- ins260_tradewinds_01
- ins261_coquette_01
- ins262_3_coins_01
- ins263_skill_ball_01
- ins266_1_valiant_01
- ins266_2_valiant_01
- ins270_jolly_jokers_01
- ins271_king_pin_01
- ins272_tom_tom_01
- ins273_extra_inning_01
- ins274_4_roses_01
- ins275_world_series_01
- ins276_friendship_7_01
- ins277_mardi_gras_01
- ins278_vagabond_01
- ins279_big_deal_01
- ins280_jumpin_jacks_01
- ins282_swing_time_01
- ins283_skill_pool_01
- ins284_el_toro_01
- ins285_1963_major_league_01
- ins285_1963_world_series_01
- ins286_1963_big_inning_01
• ins287_big_daddy_01
• ins288_oh_boy_01
• ins290_1_beat_the_clock_01
• ins290_2_beat_the_clock_01
• ins291_merry_widow_01
• ins292_soccer_01
• ins293_san_franncisco_01
• ins294_1964_grand_slam_01
• ins295_1_heat_wave_01
• ins295_2_heat_wave_01
• ins296_1964_tenth_inning_01
• ins297_palooka_01
• ins298_stop_n_go_01
• ins299_river_boat_01
• ins300_whooppee_01
• ins302_1965_baseball_01
• ins303_eager_beaver_01
• ins305_pretty_baby_01
• ins306_zig_zag_01
• ins308_driving_range_01
• ins310_1_alpine_club_01
• ins310_2_alpine_club_01
• ins312_moulin_rouge_01
• ins313_pot_a_gold_01
• ins314_lucky_strike_01
• ins317_8_ball_01
• ins318_teachers_pet_01
• ins319_big_chief_01
• ins320_a_go_go_01
• ins321_full_house_01
• ins324Beat_time_01
• ins325_hot_line_01
• ins328_casanova_01
• ins329_magic_city_01
• ins331_apollo_01
• ins332_1966_pitch_and_bat_01
• ins333_shangri_la_01
• ins334_1966_big_league_01
• ins335_touchdown_01
• ins336_big_strike_01
• ins337_magic_town_01
• ins338_blast_off_01
• ins339_ding_dong_01
• ins340_smarty_01
- ins341_lady_luck_01
- ins342_pit_stop_01
- ins343_jolly_roger_01
- ins344_arctic_gun_01
- ins345_base_hit_01
- ins347_kickoff_not_used_01
- ins348_doozie_01
- ins349_daffie_01
- ins353_aqua_gun_01
- ins358_paddock_01
- ins361_suspense_01
- ins363_smart_set_01
- ins367_gay_90s_01
- ins368_post_time_01
- ins377_aces_and_kings_01
- ins379_mini_bowl_01
- ins383_ringer_01
- ins385_tramway_01
- ins386_dipsy_doodle_01
- ins387_fan_tas_tic_01
- ins389_straight_flush_01
- ins390_doodle_bug_01
- ins391_solids_and_stripes_01
- ins393_travel_time_01
- ins397_jack_pot_01
- ins399_sniper_01
- ins60020_pinball_circus_2_01
- pf002_dynamite_02
- pf003_amber_05
- pf004Smarty_02
- pf005_showgirl_01
- pf006_tornado_01
- pf007_cyclone_01
- pf008_torczy_01
- pf009_flamingo_01
- pf011_ginger_01
- pf012_bonanza_01
- pf014_sunny_01
- pf015_stormy_01
- pf017_virginia_01
- pf018_yanks_01
- pf031_freshie_01
- pf032_quarterback_01
- pf033_deicer_01
bullet pf036_dreamy_01
bullet pf038_sweetheart_01
bullet pf039_lucky_inning_01
bullet pf044_nifty_01
bullet pf046_shoo_shoo_02
bullet pf049_control_tower_02
bullet pf050_harvey_01
bullet pf052_arcade_01
bullet pf053_snooks_01
bullet pf054_sse_01
bullet pf055_hayburners_01
bullet pf056_nags_01
bullet pf057_jalopy_01
bullet pf058.spark_plugs_01
bullet pf059.shoot_the_moon_01
bullet pf060_sea_jockeys_01
bullet pf061_1_hoss_feathers_01
bullet pf061_2_hoss_feathers_01
bullet pf062_daffy_derby_01
bullet pf065_horse_feathers_01
bullet pf067_sportsman_01
bullet pf069_majorettes_no2_01
bullet pf070_slugfest_01
bullet pf071_olympics_01
bullet pf072_domino_01
bullet pf073_handicap_01
bullet pf074_caravan_01
bullet pf075_long_beach_01
bullet pf081_fairway_01
bullet pf081_fairway_02
bullet pf084_times_square_02
bullet pf092_struggle_buggies_02
bullet pf097_nine_sisters_02
bullet pf104_screamo_01
bullet pf107_skyway_01
bullet pf110_daffy_derby_01
bullet pf125_race_the_clock_01
bullet pf128_bandwagon_01
bullet pf131_three_deuces_01
bullet pf134_jolly_joker_01
bullet pf135_can_can_01
bullet pf139_snafu_03
bullet pf142_royal_crown_01
bullet pf145_piccadilly_01
• pf147_yukon_01
• pf147_yukon_shuffle_board_02
• pf171_commodore_03
• pf173_fun_house_02
• pf174_1_perky_01
• pf174_2_perky_01
• pf177_shamrock_01
• pf178_gay pareja_01
• pf184_1_naples_01
• pf184_2_naples_02
• pf185_arrowhead_01
• pf187_kings_01
• pf188_1_top_hat_01
• pf188_2_top_hat_01
• pf190_1_reno_01
• pf190_2_reno_01
• pf191_steeple_chase_01
• pf193_jig_saw_02
• pf194_sea_wolf_01
• pf195_1_kick_off_01
• pf195_2_kick_off_01
• pf197_1_gusher_01
• pf197_2_gusher_01
• pf198_4_star_02
• pf199_0_satellite_01
• pf199_1_satellite_01
• pf199_2_satellite_01
• pf201_casino_01
• pf201_casino_02
• pf203_short_stop_01
• pf206_3d_1_01
• pf206_3d_2_01
• pf208_tic_tac_toe_02
• pf209_1_sea_wolf_01
• pf209_2_sea_wolf_01
• pf211_crossword_01
• pf214_club_house_1
• pf215_spot_pool_01
• pf219_golden_bells_01
• pf224_1_rocket_01
• pf224_2_rocket_01
• pf227_spelling_bee_01
• pf228_1_golden_gloves_01
• pf228_2_golden_gloves_02
- pf231_1_fiesta_01
- pf231_2_fiesta_01
- pf233_21_01
- pf234_nags_01
- pf234_nags_02
- pf235_serenade_01
- pf236_darts_01
- pf238_1_music_man_01
- pf238_2_music_man_01
- pf239_1_jungle_01
- pf239_2_jungle_01
- pf241_viking_01
- pf242_1_black_jack_01
- pf242_2_black_jack_01
- pf244_1_magic_clock_01
- pf244_2_magic_clock_01
- pf245_1_bo_bo_01
- pf245_2_bo_bo_01
- pf246_caravelle_01
- pf247_1_highways_01
- pf247_2_highways_01
- pf248_1_hollywood_01
- pf248_2_hollywood_01
- pf250_ten_spot_01
- pf251_double_barrel_01
- pf253_reserve_01
- pf255_metro_02
- pf256_space_ship_02
- pf258_kismet_01
- pf260_tradewinds_01
- pf261_coquette_01
- pf261_coquette_01
- pf262_1_3_coins_01
- pf262_2_3_coins_01
- pf263_skill_ball_01
- pf266_valiant_01
- pf270_jolly_jokers_01
- pf271_king_pin_01
- pf271_x_king_pin_01
- pf272_tom_tom_01
- pf274_4_roses_01
- pf276_friendship_7_01
- pf277_mardi_gras_01
- pf278_vagabond_01
- pf279_big_deal_01
- pf280_jumpin_jacks_01
- pf282_swing_time_01
- pf283_skill_pool_01
- pf284_el_toro_01
- pf287_big_daddy_01
- pf288_oh_boy_01
- pf291_merry_widow_01
- pf292_soccer_01
- pf293_san_francisco_01
- pf295_heat_wave_01
- pf297_palooka_01
- pf298_stop_n_go_01
- pf299_river_boat
- pf300_whooppee_01
- pf302_double_play_01
- pf303_eager_beaver_01
- pf304_zig_zag_01
- pf305.pretty_baby_01
- pf310_alpine_club_02
- pf312_moulin_rouge_01
- pf313_pot_o_gold_01
- pf314_lucky_strike_01
- pf317_eight_ball_01
- pf318_teachers_pet_02
- pf319_big_chief_01
- pf320_1_a_go_go_01
- pf320_2_a_go_go_01
- pf321_full_house_01
- pf322_derby_day_01
- pf324_beat_time_01
- pf325_hot_line_01
- pf328_casanova_01
- pf329_magic_city_02
- pf331_apollo_01
- pf333_shangri_la_01
- pf335_touchdown_01
- pf339_ding_dong_02
- pf341_lady_luck_01
- pf342_pit_stop_01
- pf343_jolly_roger_01
- pf348_doozie_01
- pf349_daffie_02
- pf350_student_prince_02
• pf351_1_olympic_hockey_01
• pf351_2_olympic_hockey_01
• pf354_4_aces_01
• pf356_miss_o_01
• pf358_paddock_01
• pf359_cabaret_01
• pf360_hayburners_ii_02
• pf361_suspense_01
• pf363_smart_set_01
• pf366_expo_01
• pf367_gay_90s_01
• pf369_roto_01
• pf371_strike_zone_01
• pf372_seven_up_01
• pf373_set_up_01
• pf376_grid_iron_02
• pf377_aces_and_kings_01
• pf378_big_star_01
• pf380_jive_time_02
• pf385_1_tramway_01
• pf385_2_tramway_01
• pf386_dipsy_doodle_01
• pf387_art_gallery_01
• pf387_fan_tas_tic_01
• pf388_winner_01
• pf389_straight_flush_01
• pf390_doodle_bug_01
• pf391_solids_n_stripes_01
• pf394_zodiac_01
• pf458_little_chief_01
• pf461_valencia_01
• pf488_pokerino_01
• pf519_joust_01
• pf519_joust_a_01
• pf519_joust_b_01
• pf519_joust_c_01
• pf521_firepower_ii_02
• pf527_rat_race_01
• pf527_rat_race_plastics_01
• pf532_rat_race_ii_01
• pf571_diner_01
• pf573_police_force_01
• pf2001_truck_stop_02
• pf50002_machine_01
- pf50017_indiana_jones_02
- pf50017_indiana_jones_upper_01
- pf50030_dirty_harry_01
- pf60020_pinball_circus_1_01
- pf60020_pinball_circus_2_0 copy
- pf60020_pinball_circus_ring2_01
- pf60020_pinball_circus_ring2_2_01
- pf60020_pinball_circus_ring3_1_02
- pf60020_pinball_circus_ring3_2_01
- pf60020_pinball_circus_ring3_3_01
- pf60020_pinball_circus_switch_detail_01
- pinball_playfield_master_dwg_1_01
- pinball_playfield_template_copy
- pinball_playfield_template_11r_195_1_01