

**DOUBLE CHALLENGE™** ©2003 AMCOE INC.

PIN	PARTS SIDE	SOLDER SIDE	PIN
1	VIDEO RED	VIDEO GREEN	1
2	VIDEO BLUE	VIDEO SYNC	2
3	SPEAKER +	SPEAKER -	3
4			4
5			5
6			6
7	TICKET OUT BUTTON - panel		7
8	TICKET NOTCH - dispenser		8
9	<b>START / TAKE</b>		9
10	<b>STOP 2 (HOLD 2)</b>		10
11	<b>PLAY</b>		11
12	<b>STOP 3 / TAKE (INFO)</b>		12
13	<b>STOP 1 (HOLD 1)</b>		13
14			14
15			15
16	<b>ALL STOP</b>		16
17			17
18	COIN IN	NOTE IN	18
19	SERVICE IN		19
20	ACCOUNT / PRINTER SET UP	CONFIRM / MONITOR SET UP	20
21	HOPPER PAYOUT - panel	CLEAR / PRINTER PRINT - panel	21
22		*HOPPER SWITCH - hopper	22
23	COIN IN METER		23
24	NOTE IN METER		24
25			25
26			26
27	HOPPER METER		27
28	CLEAR / TICKET / PRINTER METER		28
29	<b>START / TAKE LAMP</b>		29
30	<b>STOP 2 LAMP</b>		30
31	<b>PLAY LAMP</b>		31
32	<b>STOP 3 / TAKE LAMP</b>		32
33	<b>STOP 1 LAMP</b>		33
34	<b>ALL STOP LAMP</b>		34
35			35
36	GND	GND	36

PIN	PARTS SIDE	SOLDER SIDE	PIN
1	GND	GND	1
2	GND	GND	2
3	+5V	+5V	3
4	+5V	+5V	4
5	+12V	+12V	5
6	+12V	+12V	6
7	TICKET DISPENSER ENABLE		7
8	HOPPER SSR		8
9	GND	GND	9
10	GND	GND	10

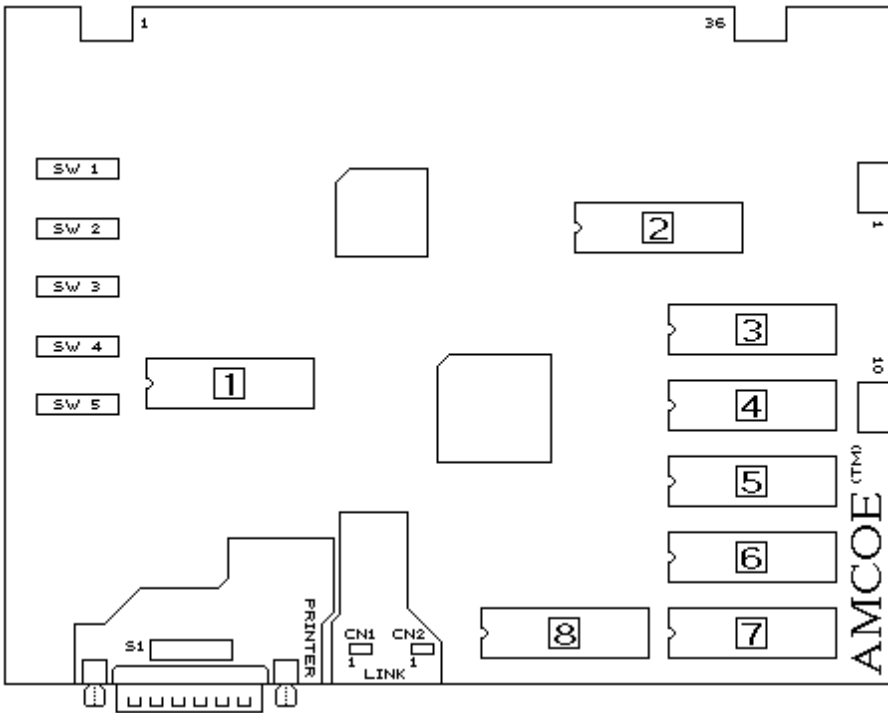
\* HOPPER SWITCH - auto detect normal low (mostly micro switch type) or normal high (mostly sensor type)  
 SHADED PIN OUTS ARE NOT AVAILABLE IN TEXAS VERSION

# DOUBLE CHALLENGE™ ©2003 AMCOE INC.

## New S2000 board

The new S2000 board is a powerful platform designed to give sophisticated performance, special visual effects, finer resolutions, communication capabilities, and to make it a more cost effective investment.

There are 3 communication ports on the board. The RS232C is primarily used to drive printer to print tickets without any interface. It can also be used to download / upload data and instructions from / to PC. The other 2 communication ports (CN1 and CN2) are mainly for linking with other S2000 boards (and to central console with modem, if required). Application such as linking progressive bonus of all the machines together to display on screen in real time can be done efficiently. (SEE MANUAL OF LINKING)



To drive a printer to print ticket, simply connect with a 25 pin one-to-one cable to the serial port of the printer. Printer ticket set up can be done on screen (or download from PC - SEE MANUAL OF PC DOWNLOAD). Go to Account Screen and follow instructions. The following printer settings have to be adjusted on the printer: BAUD RATE = 9600, WORD LENGTH = 8 BITS, PARITY = NO.

## MONITOR ADJUSTMENT

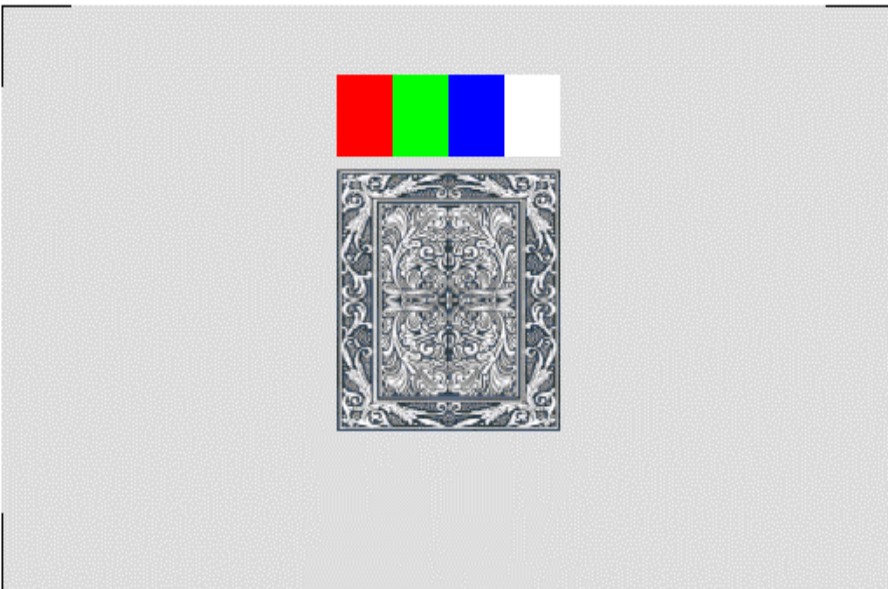
The resolutions of S2000 are 33.3% more than that of New Cherry '96. Sync, V-size, V-pos, H-pos,...etc. may have to be adjusted. After reset or existing Confirm Screen, a test screen (as left) will come up.

1/ Dip SW 5 # 1 - "OFF" Korean made (most USA brands) monitor; "ON" Taiwanese made.

2/ Adjust Sync to get a stable picture.

3/ Adjust V-size, V-pos, H-size, and H-pos such that all 4 white corner brackets (right-angle shape) can be seen and are a little bit away from the curving edges of monitor.

4/ Adjust color purity. Most monitors may look fine without further adjusting colors, but a re-adjustment will make sure true color representations, not only for the S2000 board but for all other games.



There are 4 color bands, a gray & white card, and 4 white corner brackets. The 4 color bands are (pure) red, green, blue, and white. Turn brightness on until background is no longer "black" and turn RGB to the lowest. Turn G up until flare comes out (like a shadow going outside the edge) on white; then, reduce gradually until the flare "just" disappears. Do the same thing with R and B one by one. Lastly, reduce brightness until background is "black".

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DIP SW 5		1	2	3	4	5	6	7	8
MONITOR TYPE	KOREAN MADE TAIWANESE MADE	OFF ON	for most monitors used in USA						
UNIT ID SETUP FOR PROGRESSIVE LINK BONUS (Control board and link cables required. Program must be Link Version.)	NO LINK		OFF	OFF	OFF	OFF			
	UNIT 1		ON	OFF	OFF	OFF			
	UNIT 2		OFF	ON	OFF	OFF			
	UNIT 3		ON	ON	OFF	OFF			
	UNIT 4		OFF	OFF	ON	OFF			
	UNIT 5		ON	OFF	ON	OFF			
	UNIT 6		OFF	ON	ON	OFF			
	UNIT 7		ON	ON	ON	OFF			
	UNIT 8		OFF	OFF	OFF	ON			
	UNIT 9		ON	OFF	OFF	ON			
	UNIT 10		OFF	ON	OFF	ON			
	UNIT 11		ON	ON	OFF	ON			
	UNIT 12		OFF	OFF	ON	ON			
	UNIT 13		ON	OFF	ON	ON			
	UNIT 14		OFF	ON	ON	ON			
UNIT 15		ON	ON	ON	ON				
RESET DEFAULT	Regular								
	Texas								
	Coin=1, Clear=1							OFF	OFF
	Coin=5, Clear Unit=20							ON	OFF
	Coin=5, Clear Unit=100							OFF	ON
	Coin=25, Clear Unit=100							ON	ON
NO USE	MUST BE								OFF

All selections are made on screen or by PC DOWNLOAD except those listed in Dip SW 5.

Please go to Confirm Screen and following on screen instructions to adjust available selections. Different versions may have different available selections and selectable ranges. Whenever the S2000 board is reset by toggle switch, default settings will be loaded. Check Confirm Screen and make necessary adjustment to suit your operation.

Selections which can be adjusted on screen (**NOT** for all versions) are as follow:

**LEVEL OF DIFFICULTY:** Default is Level 6.

**COIN IN TO POINT:** It relates to 36 pin edge connector part side 18. 1 pulse in = ? (Only 5 and 25 in Texas Version. See Page 4.)

**NOTE IN TO POINT:** It relates to 36 pin edge connector solder side 18. 1 pulse in = ?

**COIN IN LIMIT:** Set the COIN IN limit.

**MIN PLAY TO START:** Min point(s) required to start to play a game.

**MIN PLAY FOR BONUS:** Min points required in order to get bonus features.

**MAX PLAY:** Max points which can be played in a game.

**CLEAR / TICKET UNIT:** It relates to 36 pin edge connector part side 28. Each pulse out = ? Point(s).

**TICKET OUT MODE:** It relates to above and regulates max ? pulse(s) out each game. Continuous = no limit.

**USE SCORE:** If yes, "SCORE" will appear on screen. All points won will be collected to "SCORE". Default = NO.

**SCORE OUT:** Manual (default) or Auto.

**TICKET OUT:** It can be Printer Direct\*, Ticket Dispenser Direct Drive (TDDD), or Interface.

**SHOW ACCOUNT:** If no, there is no account information on Account Screen.

**WITHOUT ODDS TABLE:** Show odds table on screen or not. YES = do not show; NO = show.

**LIMIT SCORE PER GAME:** Limit SCORE per game play to 10xplay or an equivalent of \$5 whichever is less. Recommend to use TX Version instead.

**PLAY REMAIN SCORE:** Only when "SCORE" appears on screen. Play directly from "SCORE" when no point in POINT column.

**COUNT GAME:** This is an advanced count game feature counting eligible pulses out based on TICKET OUT MODE.

**SPIN MODE:** NORMAL (default) or NON-STOP (press stop buttons required).

**STATE:** (for TX version only) Texas, Arkansas, Iowa.

**PRINTER TYPE:** Use one central printer via Link Control Unit (VIA LINK) or individual printer installed in machine (USE SELF).

**PRINTER COMMAND:** CBM1 (Citizen) (default), ESC/POS (Epson), STAR emulation, Ithaca 70.

**USE PASSWORD:** NO (default), Service Only, Adjust Only, Service and Adjust.

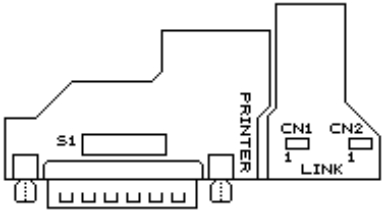
**HOPPER UNIT USE:** Use COIN IN or CLEAR / TICKET UNIT as reference.

**GRAHPICS:** ANIMAL or FRUIT.

\* When using Printer Direct, please go to Account Screen then Printer Ticket Set Up. Remember to do Printer Ticket Set Up again after reset of board!

SHADED ADJUSTMENT SELECTIONS ARE NOT AVAILABLE IN TEXAS VERSION.

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	RS232C	1	2	3	4	5	6	7	8
Model S2000	PRINTER PORT &	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
Model S2000 A/B	PC DOWNLOAD	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

\*PRINTER: BAUD RATE = 9600, WORD LENGTH = 8 BITS, PARITY = NO.  
 (Dip SW settings of Citizen iDP3540/3541 = DS1 # 1,8 ON; DS2 # 2,5,6,7 ON)  
 (The alarm light of 3550/3551 has to be ON all the time in order to print. With above settings and program version 2.0~, 3540/3541/3550/3551 alarm light can be ON all the time)  
 In Printer Ticket Set Up, there are 3 entries which need to be done carefully. (Others are mainly text messages.)

**POINT VALUE:** It is the \$ value of each point. Immediately after reset, program will detect coin in setting and use the following COIN MODE table to assign the \$ value of each point. It can be changed If not using LIMIT SCORE.

**TICKET LIMIT:** Default is \$00.00, meaning no limit. The maximum \$ value of a single ticket can be limited from \$1 to \$99. (CAUTION: do not set TICKET LIMIT-except \$00.00-less than POINT VALUE.)

**PRINT \$ OR POINT ON TICKET:** Select between DOLLAR or POINTS (default).

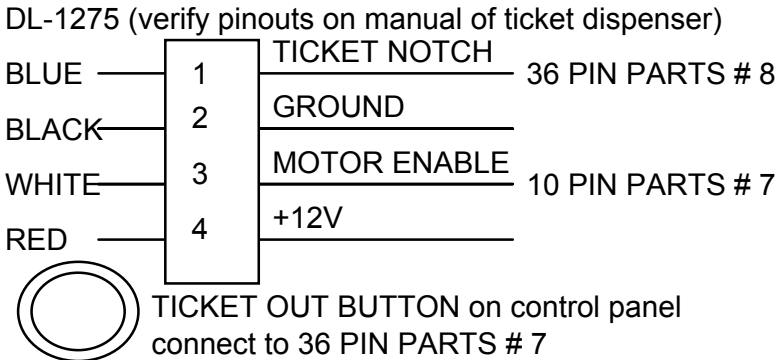
**Adjust Ticket Setting and Game Setting by PC DOWNLOAD**

S2000 PC DOWNLOAD PROGRAM is distributed FREE. It runs on PC with Windows 95/98. You may obtain a free copy on a 3.5" disk or by downloading it from the internet\*. A HELP file will come up the first time you use it after installation. You will find all necessary information on how to adjust BOTH Ticket Setting and Game Setting of your board by PC. PC Download Program will be especially useful in printer ticket set up. Typing name, address, machine number...etc. will be much faster on a computer than through on screen input. On your S2000 board, go to Account Screen and press <DOUBLE> to go to PC download mode. Also, remember to set Dip SW S1 (near RS232C port) of your board to PC download mode during PC download. Press <TAKE> to exit PC download mode.

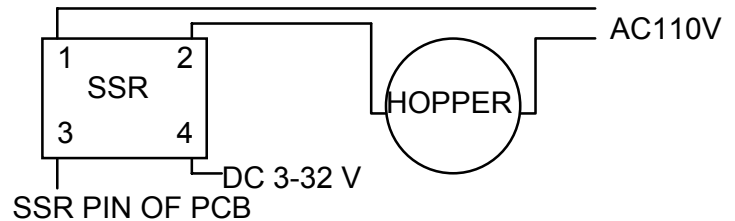
\* <http://www.amcoe.com>

COIN MODE	COIN IN SETTING	BILL ACCEPTOR SELECTION		\$1 = ? POINTS	LIMIT SCORE
		\$1 = 1 PULSE	\$1 = 4 PULSES		MAX \$5 = ? POINTS
\$1 = 1 PT.	1	YES		1	DO NOT USE
\$0.50 = 1 PT.	2	YES		2	10
\$0.25 = 1 PT.	1		YES	4	20
	4	YES			
\$0.10 = 1 PT.	10	YES		10	50
	5		YES		
\$0.05 = 1 PT.	20	YES		20	100
	25		YES		
\$0.01 = 1 PT.	100	YES		100	500

Ticket Dispenser Connection Diagram



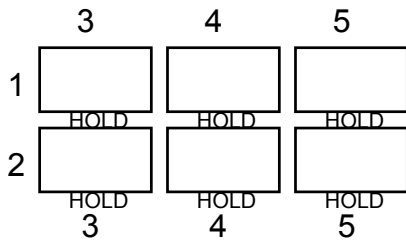
Hopper Connection Diagram



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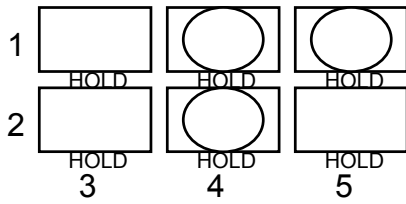
Double Challenge is a 5-line-6-reel game. Graphics, either animal or fruit, can be selected.

The unique characteristic of the game is not constituted by the game features, such as hidden bonuses, free spins and bonus game, but by the nature that preference and choice of different players can yield different game results.

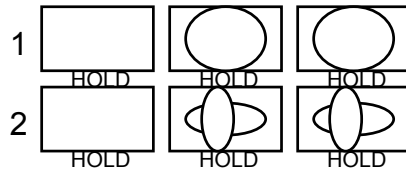


There are two horizontal lines and three vertical lines. There are 3 symbols (reels) in the horizontal line and only 2 symbols (reels) in the vertical line. The odds of all the lines are the same.

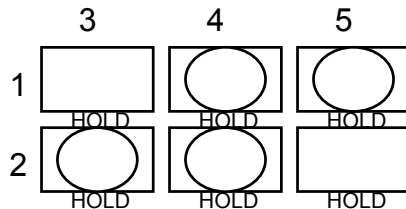
If there are *two similar symbols in a horizontal line* and there is *no winning in that horizontal line*, these two similar symbols can be held for the next game, regardless of any vertical line winning.



For example, vertical Line 4 has winning and horizontal Line 1 has no winning but two similar symbols. Player can hold the two similar symbols in Line 1 for the next game.



Here, both Line 1 and Line 2 have two similar but different types of symbols. The Player has the choice of holding (1) both lines, (2) only Line 1 or (2) only Line 2. Holding both lines, most beginners will do that, will actually block vertical Line 4 and Line 5 from any winning in the next game. The best way is to hold either one line only. Choosing what type of symbol to be held and keep on holding for how many games before switching will affect subsequent game results. A player can specifically target for symbols that give free spins, higher odds, lower odds, or higher chances of REPEAT WIN. The variables are numerous and a player can learn from his experience and vary his preference under different circumstances. The player has the choice.



What is REPEAT WIN?

Both horizontal lines have no winning and both have two similar symbols of the same type. In example here, Line 4 has winning. Holding both horizontal lines will guarantee the winning of Line 4 in the next game. A player can keep on

holding and winning vertical Line 4 until he does not want to or until either horizontal line is won and he cannot keep on holding both lines any further. The odds of REPEAT WIN vary with how many subsequent games being played. Actual repeat win points will be shown (above repeat vertical line) during game play. In general, repeat win points will be 1(the same), 1/2(one half), 1/4(one quarter), 1/6(one sixth), 1/8(one eighth), 1/10(one tenth)...etc. of the original odd until reaching X1, which is the lowest.

The beauty of Double Challenge is that the "feeling of the game" can be transformed into different formats by different players. In the long run and after his own learning cycle, a player may develop his own game according to his method and preference. He will feel differently from the other players when he is playing his own way.

## Other features:

1/ **HIDDEN BONUSES:** There are two hidden bonuses, namely BONUS 1 and BONUS 2. Bonus points will not be shown on the screen during game play. When hit, the actual winning points will be shown. Bonus Points are within the range of 2000 to 8000. Three koalas (bears) in a horizontal line will win hidden bonus.

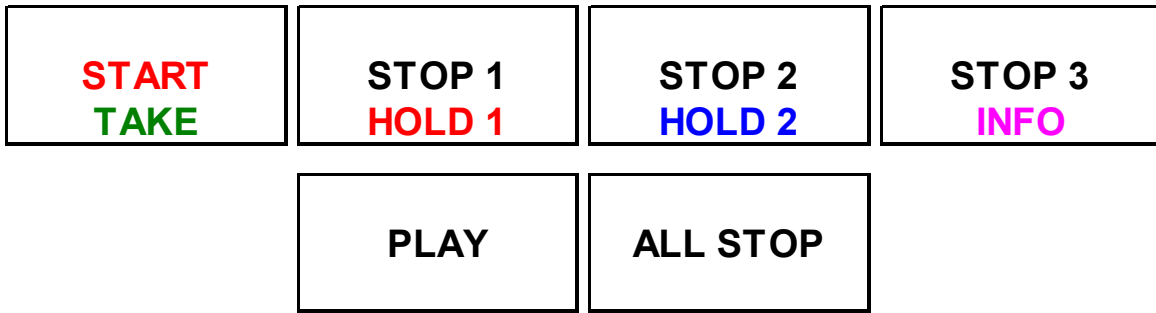
2/ **FREE SPIN:** Three melons/tigers, bells/telescopes, or cherries/dogs in a horizontal line will get nine free spins. Thus, the maximum free spins from two horizontal lines will add up to 18 free spins.

3/ **BONUS GAME:** Each koala (bear), regardless of winning hidden bonus or not, will get one Bonus Game and each Bonus Game will have 4 chances of win (x2, x5, x8, x10) and 1 chance of quit. During each Bonus Game, the koala (bear) will climb up a tree and fetch a yellowish beehive like fruit. A Bonus Game will end when the koala (bear) touches a real beehive.

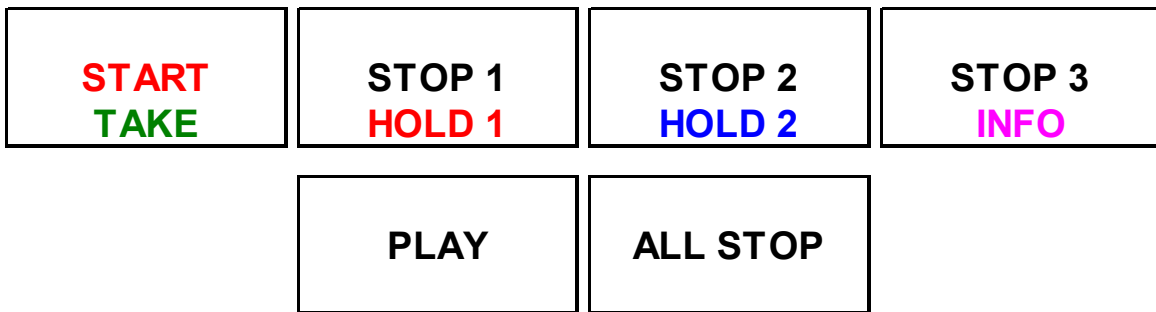
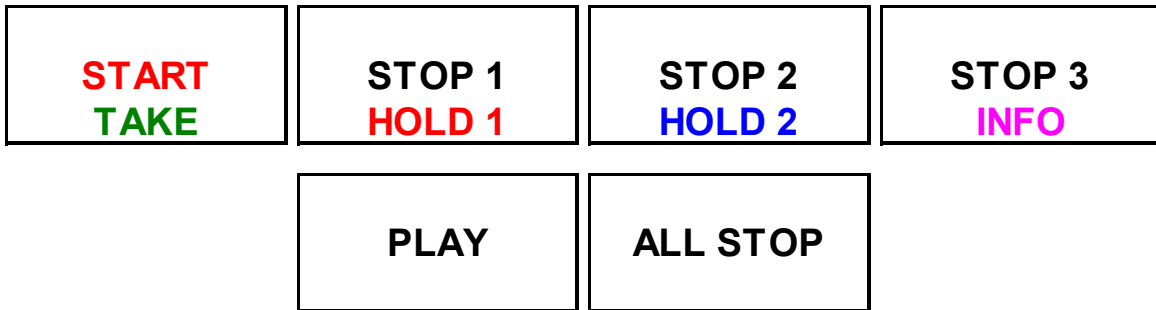
Link Bonus: When in link, all 6 CROWNS OF THE SAME COLOR will get Link Bonus.

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PUSH BUTTON LEGEND



START BUTTON ALSO ACTS AS TAKE BUTTON



START BUTTON ALSO ACTS AS TAKE BUTTON

