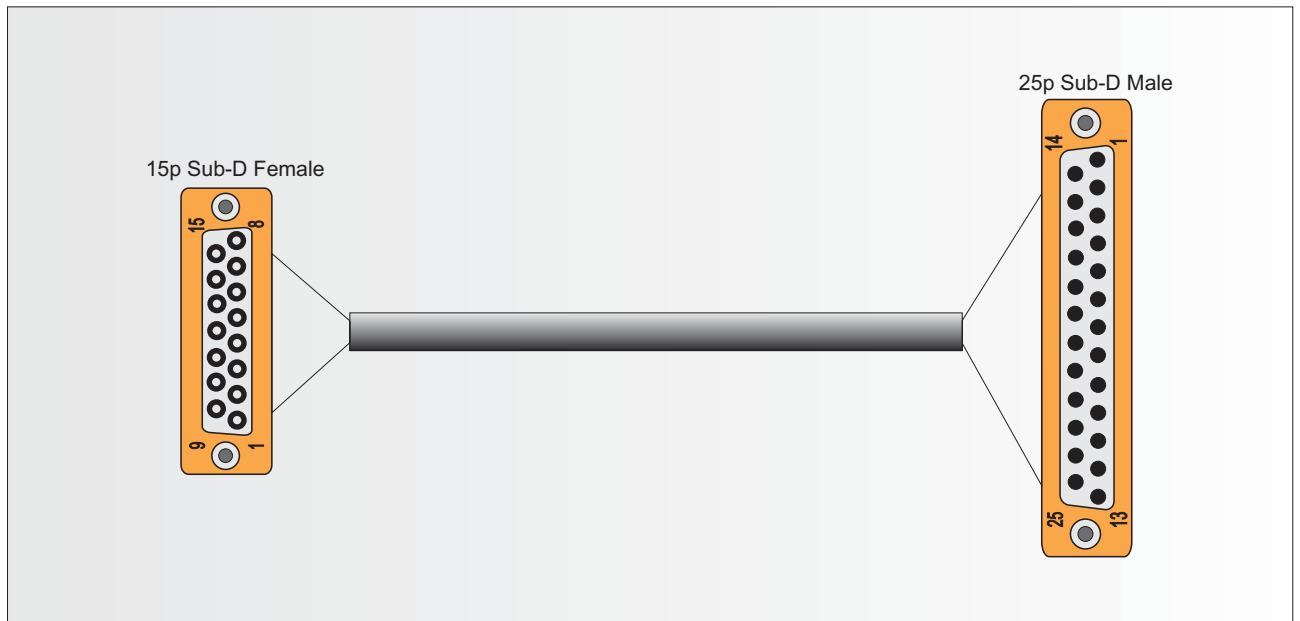


PINSETTER CONTROL CABLE configuration type Bowltrade

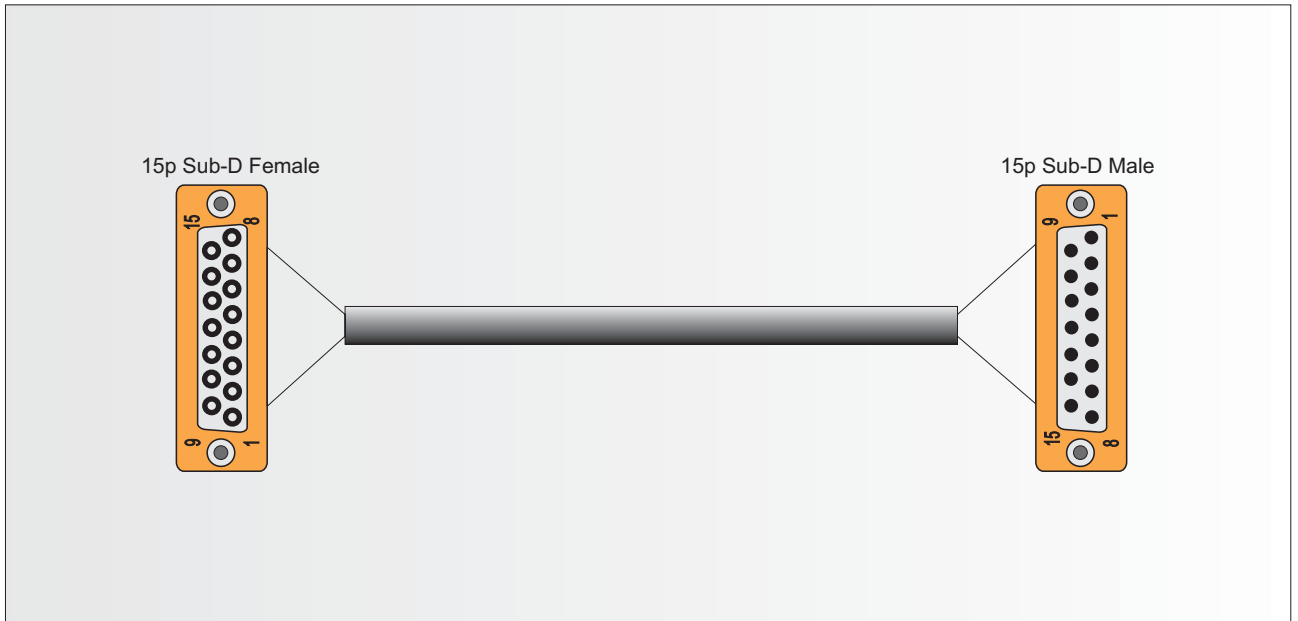
15p Sub-D Female ScoreMaster Interface	Color	25p Sub-D Male Pinsetter	Function
1	blue	1	pin 1
2	red	14	pin 2
3	black	2	pin 3
4	white	15	pin 4
5	pink	3	pin 5
6	purple	16	pin 6
7	brown	4	pin 7
8	green	17	pin 8
9	yellow	5	pin 9
10	gray	18	pin 10
11	white/yellow	6	1st. Throw
12	yellow/brown	19	2nd. Throw
13	white/green	21	Ballcontact / Data Valid
14	red/blue	7	Foul line
15	gray/pink & brown/green	12 & 24	+/-Vext ** (12-24Vdc)

- ** Connect pin 12 & 24 [+/-Vext] of the 25p male Sub-D connector or the gray/pink & brown/green wire to the + of an external power supply when open collector outputs are used. (NPN) (Bowltrade default = +24Vdc) (Pin inputs are switched to the common of Vext)
- ** Connect pin 12 & 24 of the 25p male Sub-D connector or the gray/pink & brown/green wire to the Vext common for sourcing inputs. (PNP) (Pin inputs are switched to +Vext)
- ** +/-Vext voltage ratings: 12 to 24 dc (+/- 20 %)



PINSETTER CONTROL CABLE configuration type Bowltrade/Mario

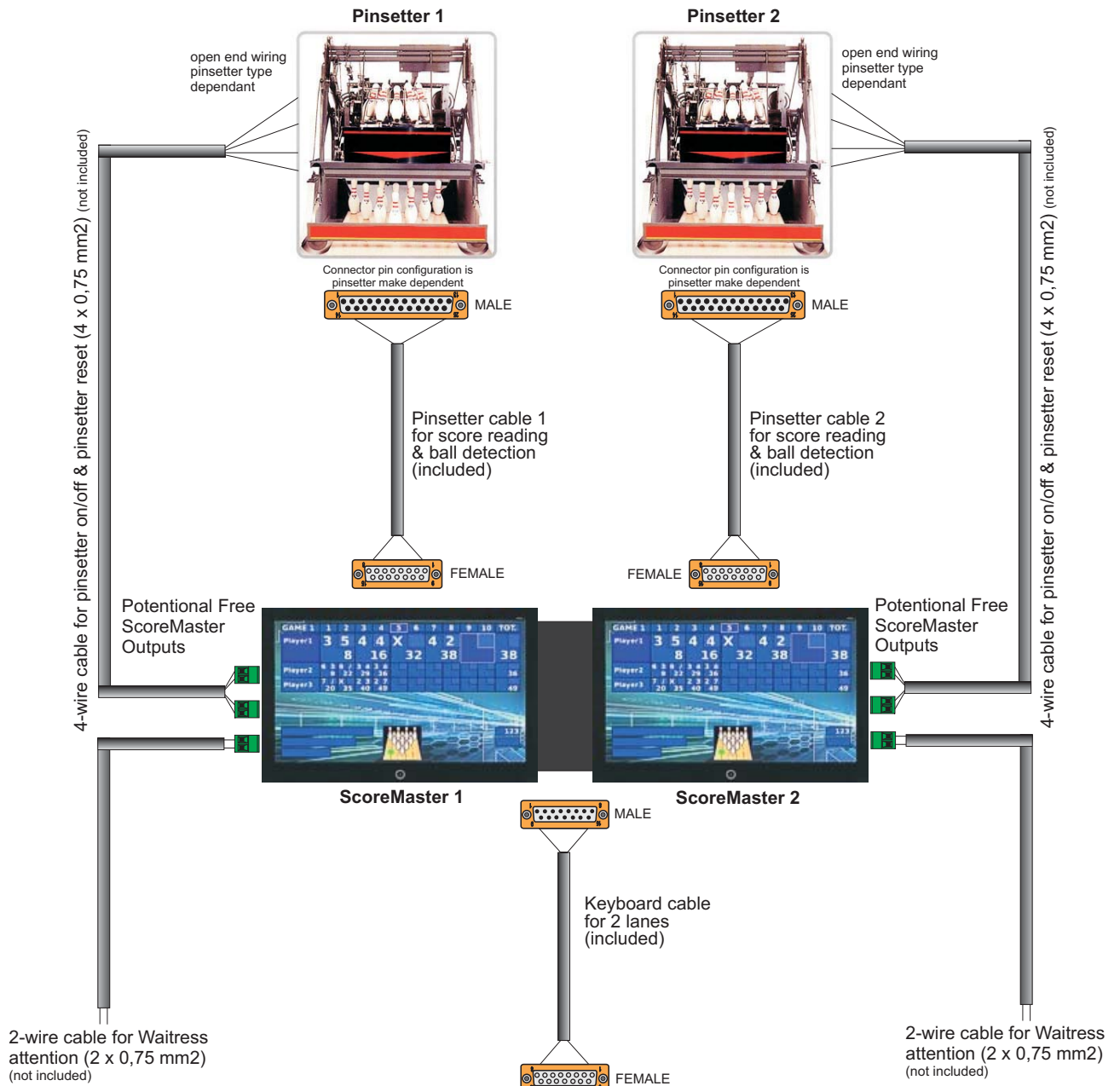
15p Sub-D Female ScoreMaster Interface	Color	25p Sub-D Male Pinsetter	Function
1	blue	14	pin 1
2	red	15	pin 2
3	black	16	pin 3
4	white	17	pin 4
5	pink	18	pin 5
6	purple	19	pin 6
7	brown	20	pin 7
8	green	21	pin 8
9	yellow	22	pin 9
10	gray	23	pin 10
11	white/yellow	7	1st. Throw
12	yellow/brown	8	2nd. Throw
13	white/green	9	Ballcontact / Data Valid
14	red/blue	?	Foul line
15	gray/pink & brown/green	13	+24Vdc



KEYBOARD CABLE type SM-SES (standard cable included)

15p Sub-D Male ScoreMaster interface	Color	15p Sub-D Female Keyboard	Function
1	blue	1	key multiplexing
2	red	2	key multiplexing
3	black	3	key multiplexing
4	white	4	key multiplexing
5	pink	5	key multiplexing
6	purple	6	key multiplexing
7	brown	7	key multiplexing
8	green	8	key multiplexing
9	yellow	9	key multiplexing
10	gray	10	key multiplexing
11	white/yellow	11	key multiplexing
12	yellow/brown	12	key multiplexing
13	white/green	13	key multiplexing
14	red/blue	14	key multiplexing
15	gray/pink	15	key multiplexing

Pinsetter & Keyboard wiring example for 2 lanes: + Waitress attention contact



* All ScoreMaster outputs are potential free Relay contacts capable of switching up to 3 Amps at 50Vac/dc.

* Inputs are up to 30Vdc PNP or NPN compatible (Sourcing or Sinking)* 12 to 24Vdc, +/- 20%.

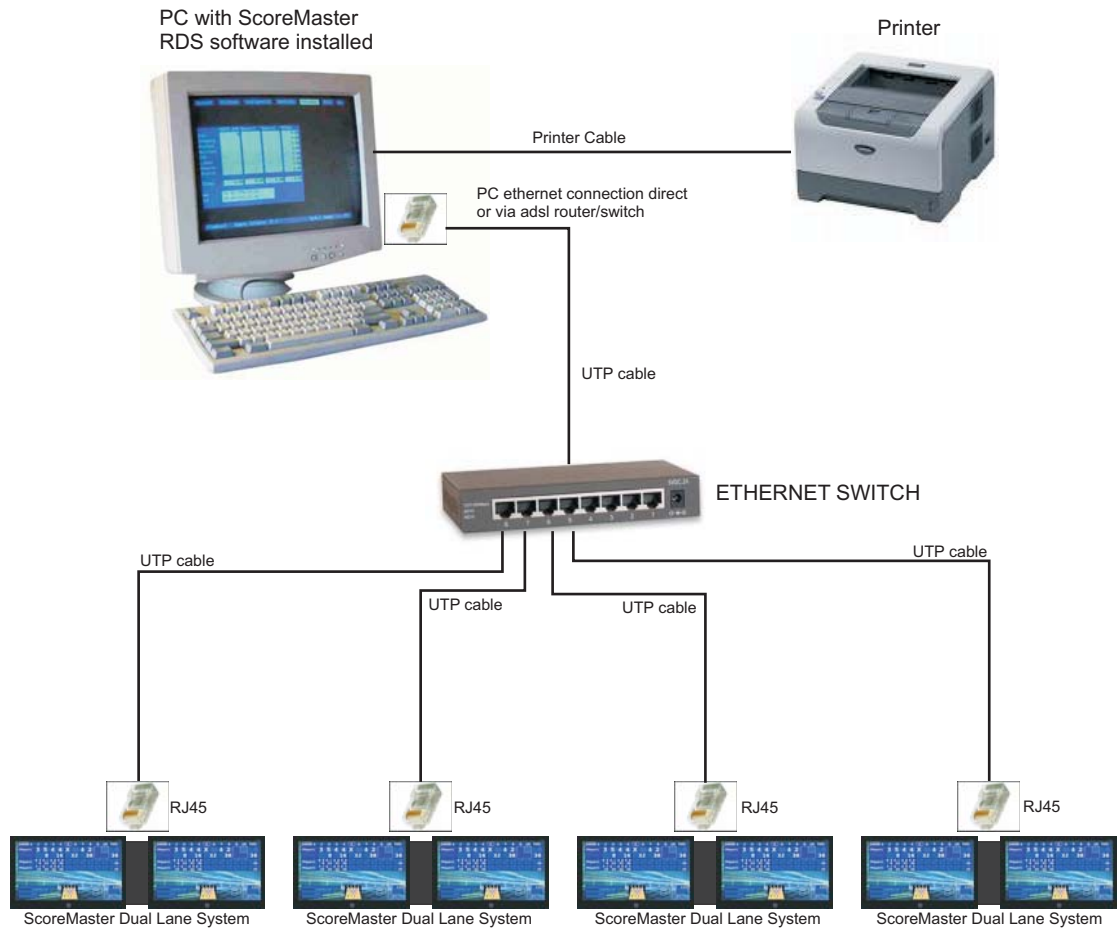


Keyboard
(1 cable for 2 keyboards)

IMPORTANT NOTE:

The ScoreMaster Monitors & Control Units should be connected to an earthed 230V mains supply.

Ethernet wiring example for 8 lanes:



* All ScoreMaster outputs are potential free Relay contacts capable of switching up to 3 Amps at 50Vac/dc.

* Inputs are up to 30Vdc PNP or NPN compatible (Sourcing or Sinking)* 12 to 24Vdc, +/- 20%.

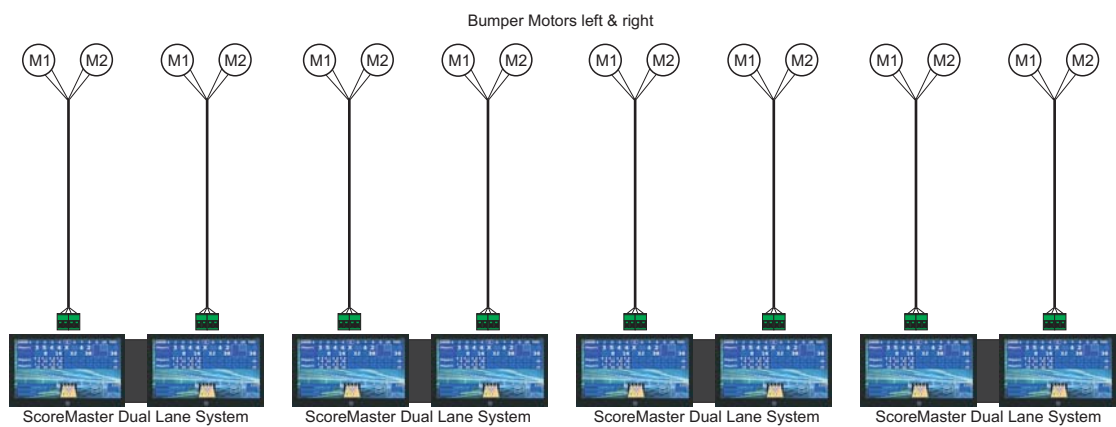
IMPORTANT NOTE:

The ScoreMaster Monitors & Control Units should be connected to an earthed 230V mains supply.

Bumper wiring example for 8 lanes:



4-wire cable for 24Vdc Motor Bumper Control per lane (= for 2 bumpers 4 x 0,75 mm²) (not included)



**Bumper control per player is available as a standard menu option with the ScoreMaster ses bowling entertainment system, but is only effective if motorized bumpers and the bumper control option is installed.

ScoreMaster ses outputs for bumper control are available as an option and are thermally over current fused, latched & resettable by a manual operated switch or push button.
This option includes an integrated 24Vdc Power Supply capable of sourcing 2 lanes (4 bumpers) with motor drives.