Unit 11, 20 Keon Parade
Thomastown
Victoria 3074
Australia

Phone +61 3 9460 2559
admin@tenpintec.com.au

MaskMatrixP3
Universal - for all Pinspotters and Pinsetters

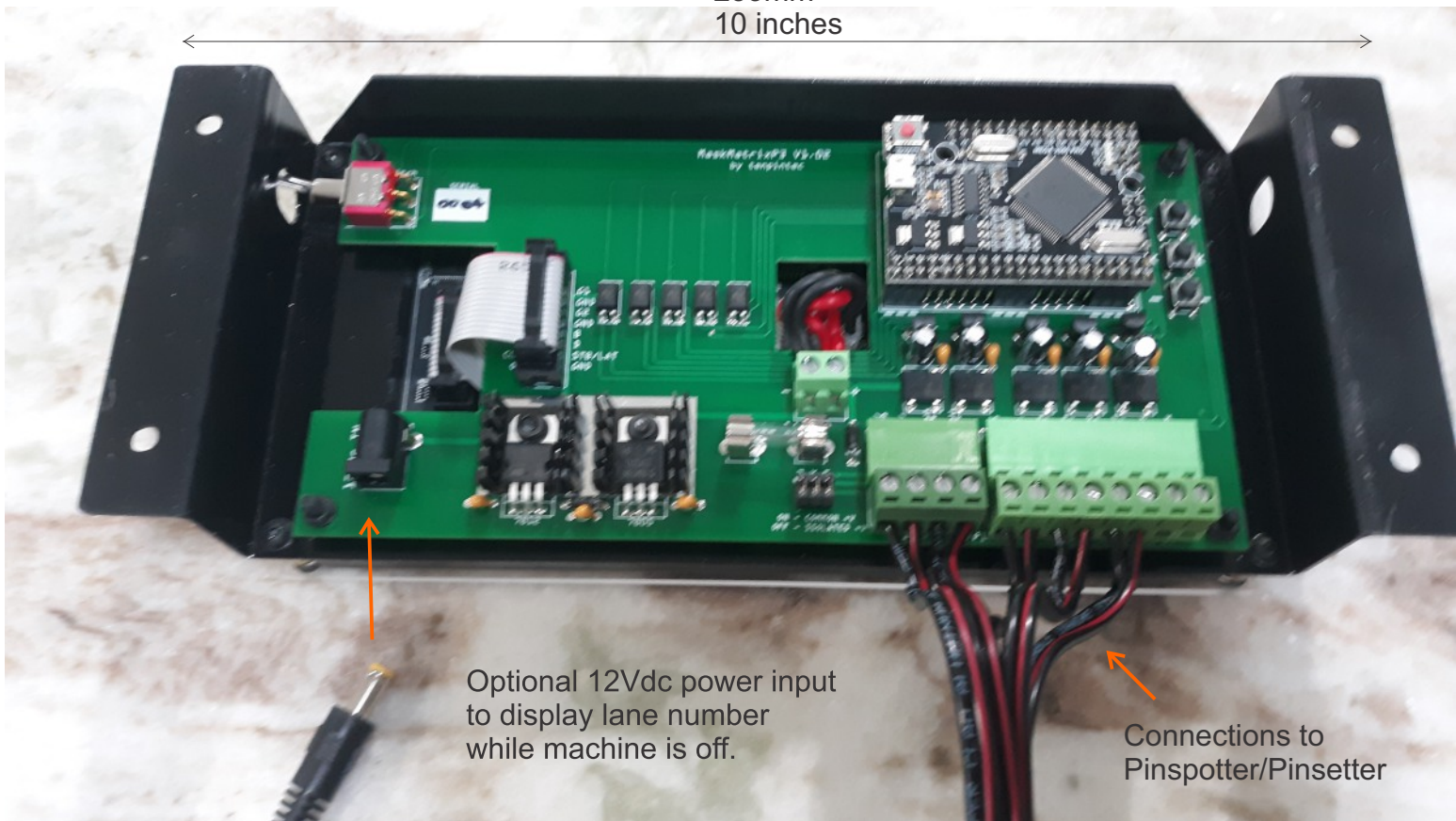tenpintec
tenpintec.com

Document rev 08 AUG 2023

Mask Switch

100mm
4 inches

1st Ball
2nd Ball
Colour and format
selectable via menu

Lane number
Colour selectable
via menu

253mm
10 inches

Optional 12Vdc power input
to display lane number
while machine is off.

Connections to
Pinspotter/Pinsetter

by Cybernetic Solutions

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admin@tenpintec.com.au

Installation Notes:
Page 2 of 11

MaskMatrixP3

Universal - for all Pinspotters and Pinsetters

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Document rev 23 MAY 2023

MaskMatrix RGB LED Display for Mask Unit

Capable of displaying: Lane Number
1st Ball
2nd Ball
Strike
Foul
STOP

in multiple menu selectable colours and formats

(if the Pinspotter or Pinsetter has the correct outputs available)
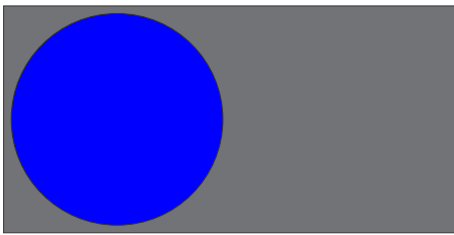
I/2 Ball indicator at LEFT
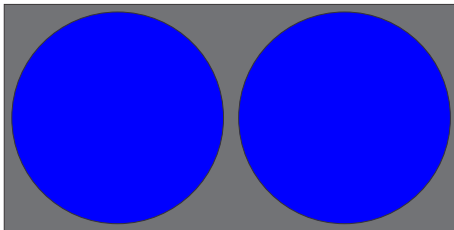
SOME EXAMPLES OF OPTIONS AVAILABLE FROM THE MENU SEE PAGE 11

I/2 Ball indicator at RIGHT

Document Contents

Product Features
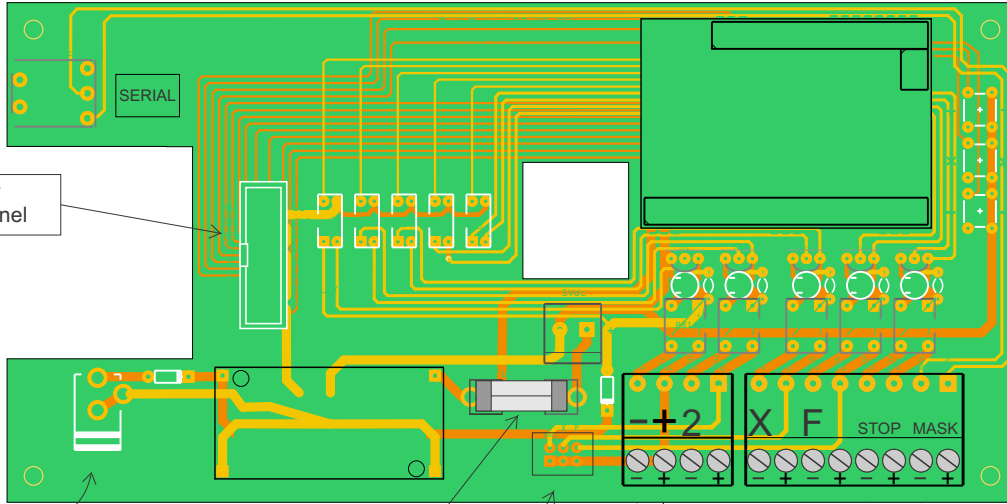
* Works on all Pinspotter and Pinsetter models
* Display lane number while machine is OFF
  (if optional plug pack is used)
* Use menu buttons on rear to set:
  lane number
  lane number colour for "machine ON"
  lane number colour for "machine OFF"
  set 1st and 2nd Ball indicator format and colour
  set STRIKE colour
* Dedicated inputs for:
  Machine power
  2nd Ball
  Strike
  Foul
  STOP

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Victoria 3074
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admin@tenpintec.com.au

MaskMatrixP3

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AMF 82-70 Pinspotters

Press **✱** to enter menu mode

Menu **+** button

Menu Select button

Menu **−** button

To exit menu keep pressing **✱** until you see the standard display

Connector to LED Panel

SERIAL

* OPTIONAL *
Power in from 12Vdc 2A plug pack

If used, this will allow unit to show lane number even while machine is off

Fuse 1A Fast

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

Chassis PM Plug type

	ELCO	CPC	
Ground	to chassis frame	33	
12Vdc (unfiltered)	E29	29	
Note: 1st ball PM terminal E24 is not used.			
2nd Ball	E25	25	GROUND SWITCHED
Strike	E26	26	GROUND SWITCHED
Foul	E27	27	GROUND SWITCHED
STOP -	12-30Vdc or Vac		
	Trouble Call/Pit Signal		
STOP +	12-30Vdc or Vac		
Mask Switch	E2	2	
Mask Switch	E28	28	

Very important - this wire must be connected to chassis ground. On CPC chassis, it may be possible to use a spare terminal for ground - for example, 33.

by Cybernetic Solutions

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admin@tenpintec.com.au

Installation Notes:
Page 4 of 11

MaskMatrixP3
Universal - for all Pinspotters and Pinsetters

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AMF 82-90XL Pinspotters

Press ✱ to enter menu mode

← Menu **+** button

← Menu Select button

← Menu **–** button

To exit menu keep pressing ✱ until you see the standard display

Connector to LED Panel

SERIAL

* OPTIONAL *
Power in from 12Vdc 2A plug pack

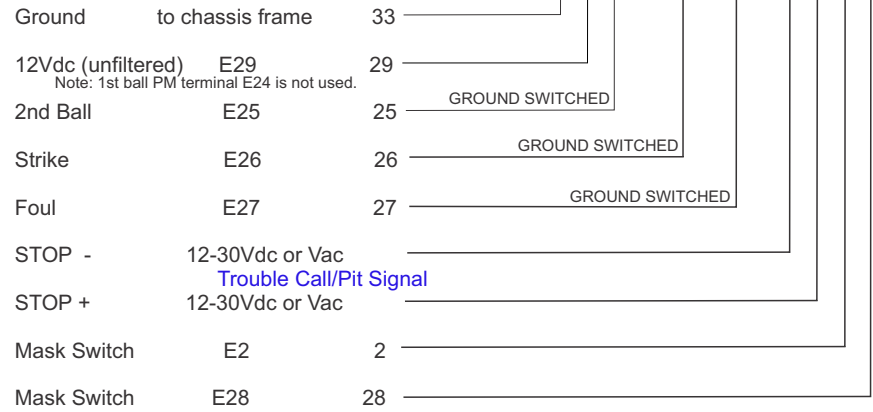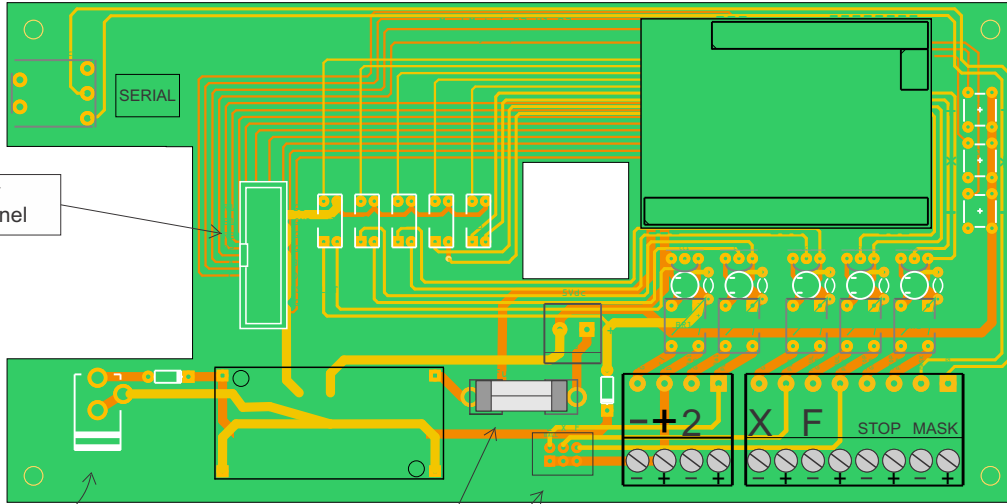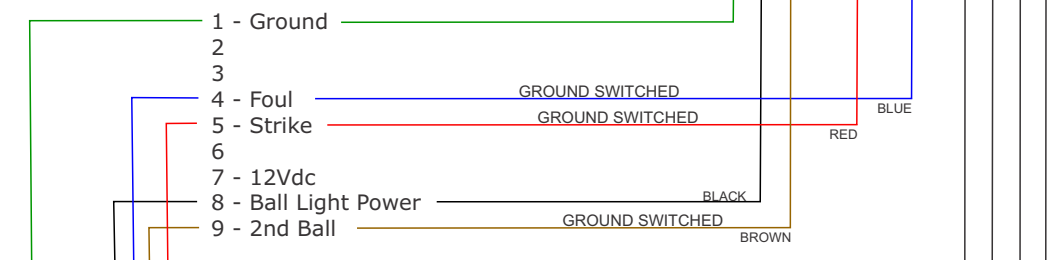If used, this will allow unit to show lane number even while machine is off

Fuse 1A Fast

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

– + 2   X F   STOP MASK

1 - Ground
2
3
4 - Foul   GROUND SWITCHED
5 - Strike   GROUND SWITCHED   BLUE
6   RED
7 - 12Vdc
8 - Ball Light Power   BLACK
9 - 2nd Ball   GROUND SWITCHED
                                          BROWN

CS-M05-ID9
Interface Cable
(available separately)

① ② ③ ④ ⑤
⑥ ⑦ ⑧ ⑨

View from front of male DB9

STOP - (Pit Signal/Trouble Call)
STOP + (Pit Signal/Trouble Call)
Mask Switch
Mask Switch

ORIGINAL AMF

090-005-750
Mask PCB

View from back of female DB9

① ② ③ ④ ⑤
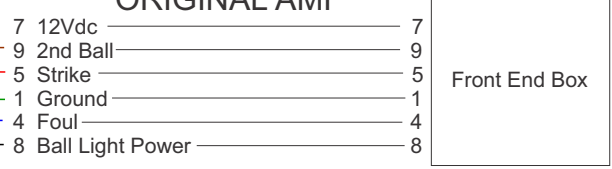⑥ ⑦ ⑧ ⑨

Most XL Pinspotters
090-005-734 Cable Front End Box
to Mask Board
090-005-750 Mask LED Board

For "Fat Chassis" see page 5

ORIGINAL AMF

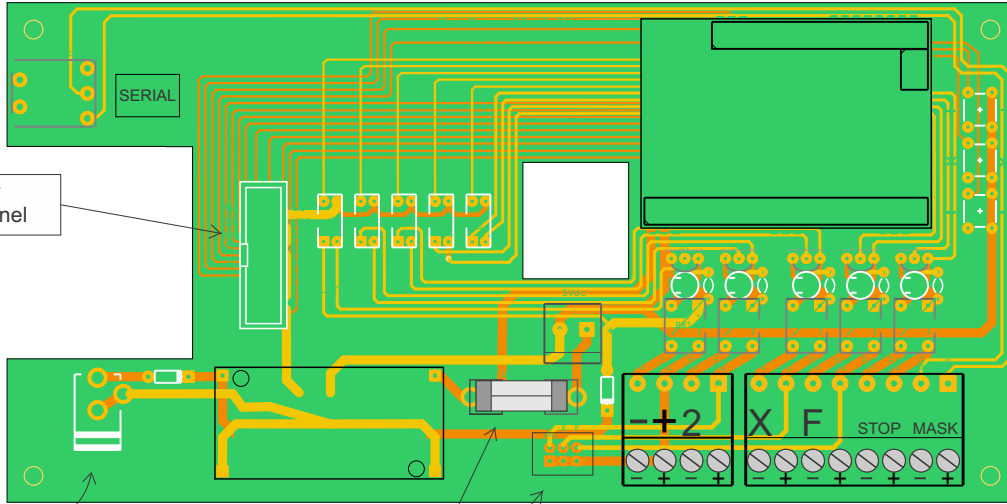7 12Vdc   7
9 2nd Ball   9
5 Strike   5   Front End Box
1 Ground   1
4 Foul   4
8 Ball Light Power 8

090-005-734
D9-D9 cable

Drawing 090-005-178 82-90 with EPO
Drawing 090-008-141 82-90 no EPO

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Thomastown
Victoria 3074
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Phone +61 3 9460 2559
admin@tenpintec.com.au

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AMF 82-90XL Pinspotters ("Fat Chassis")

SERIAL

Connector to LED Panel

Press * to enter menu mode

← Menu + button

← Menu Select button

← Menu − button

To exit menu keep pressing * until you see the standard display

* OPTIONAL *
Power in from 12Vdc 2A plug pack

If used, this will allow unit to show lane number even while machine is off

Fuse 1A Fast

− + 2   X F   STOP MASK

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

Mask Switch
Mask Switch
STOP + (Pit Signal/Trouble Call)
STOP - (Pit Signal/Trouble Call)

GROUND SWITCHED
GROUND SWITCHED
GROUND SWITCHED
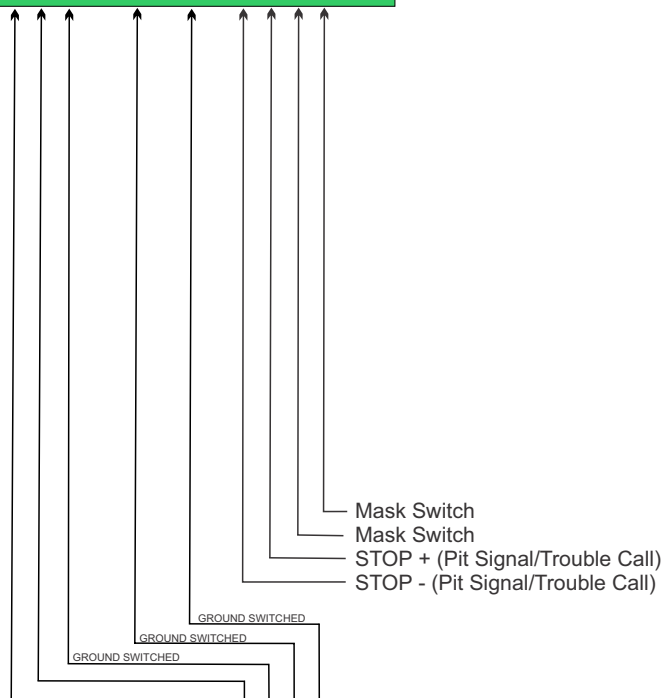
Drawing 090-004-015
Chassis

ODD MASK		
2	Mask Sw	NC
3-23	Pindication etc	
24	12Vdc	5
25	2nd Ball	7
26	Strike	14
27	Foul	4
28	Mask Sw	COM
33	Ground	J

612-362-070
Pindication PCB

6	12Vdc	5
2	Strike	3
5	Ground	4
1	Foul	2
3	2nd Ball	6
4	Ball Light Common	1

612-362-068
Strike/Foul PCB

255-001-136
Strike/Foul Jumper

090-003-721
Pindication Cable

EVEN MASK

SAME AS ODD MASK

MaskMatrixP3
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AMF 90XLi and XLi EDGE Pinspotters
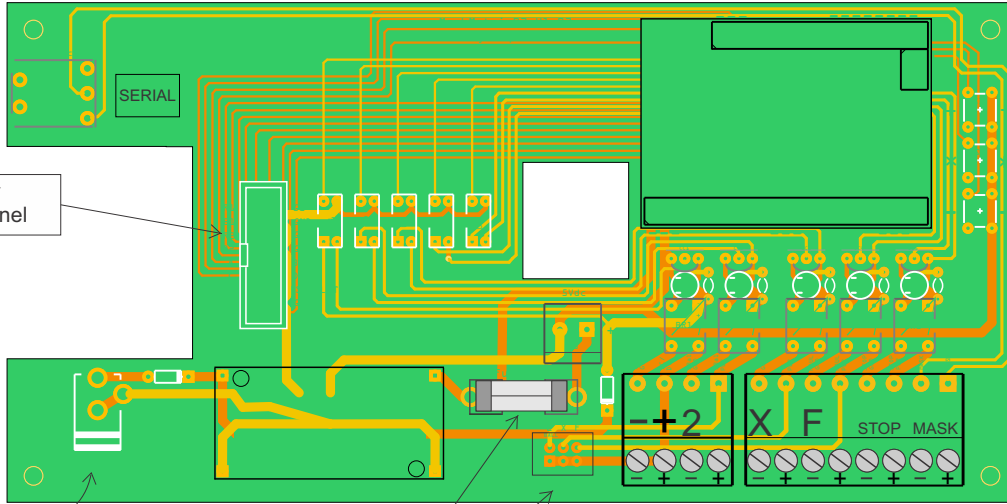
SERIAL

Connector to LED Panel

Press **✲** to enter menu mode

← Menu **+** button

← Menu Select button

← Menu **−** button

To exit menu keep pressing **✲** until you see the standard display

−+2 X F STOP MASK

ODD LANE MASK

Fuse 1A Fast

* OPTIONAL *
Power in from 12Vdc 2A plug pack

If used, this will allow unit to show lane number even while machine is off

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul use the same power supply as the main Ball Light Power (most machines) (circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul are separate two-wire circuits

1 - Ground
2 -
3 -
4 - Foul
5 - Strike
6 -
7 - 12Vdc
8 - Ball Light Pwr +
9 - 2nd Ball

View from front of male DB9

① ② ③ ④ ⑤
⑥ ⑦ ⑧ ⑨

View from back of female DB9

① ② ③ ④ ⑤
⑥ ⑦ ⑧ ⑨

CS-M05-ID9
Interface Cable
(available separately)

STOP − (Pit Signal/Trouble Call)
STOP + (Pit Signal/Trouble Call)
Mask Switch
Mask Switch

QAMF Part # **088-000-017** Mask Signal Cable
Connects XLi chassis to 2 x D9 female.
The pinout of each D9 matches XL type chassis and QAMF # 090-005-750 Mask PCB.
Left lane D9 only shown in this diagram.

Even Gnd	Odd Gnd	Even Spare	Even 2nd Ball	Even Foul	Even Strike	Odd 2nd Ball
14	13	12	11	10	9	8
7	6	5	4	3	2	1
Odd Foul	Odd Strike	Odd Spare	Even 12Vdc		Odd 12Vdc	

12 Vdc on this connector is from the logic supply.
The GND connections are looped through the 'Spare Relay' connector so the mask LEDs will switch On & Off with each machine.

EVEN LANE
MASK
NOT SHOWN

MASK LED FOUL DETE...

14   8
7   1

5   1

SPARE RELAY   BUMP RELAY
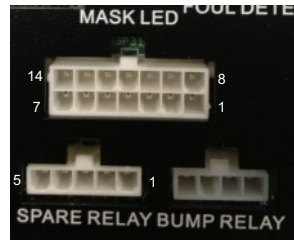
NOTE:

Some XLi
Are set up to do 1st Ball, 2nd Ball, X, F
090-005-750 LED Mask Board
088-000-017 Cable Assy

or

Other XLi and XLi Edge
Are set up to do only 1st Ball and 2nd Ball
260-001-157 Masq 1-2 Ball Light Assy
088-000-197 Cable Assy

by Cybernetic Solutions

Unit 11, 20 Keon Parade
Thomastown
Victoria 3074
Australia

Phone +61 3 9460 2559
admin@tenpintec.com.au

MaskMatrixP3

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QubicaAMF TMS String Pinspotters

Press ✳ to enter menu mode

← Menu + button

← Menu Select button

← Menu – button

To exit menu keep pressing ✳ until you see the standard display
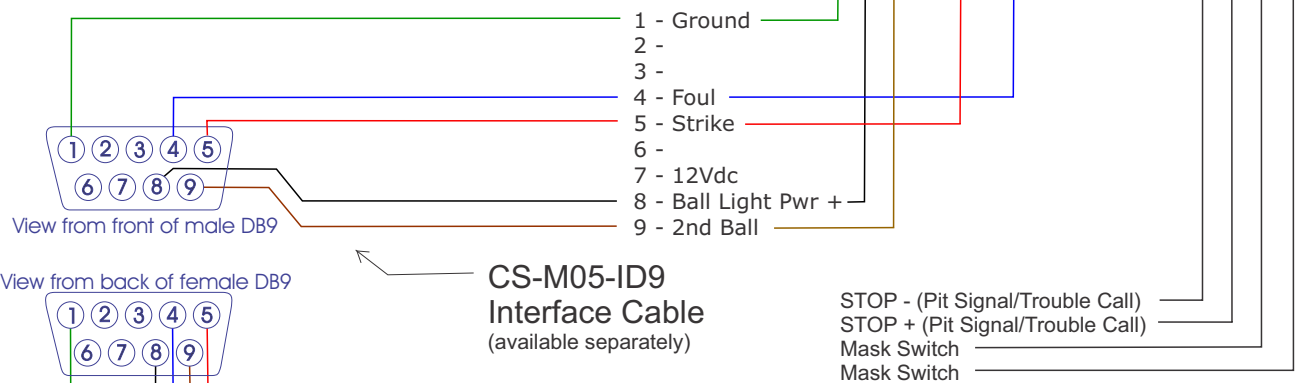
Connector to LED Panel

ODD LANE MASK

Fuse 1A Fast

* OPTIONAL *
Power in from 12Vdc 2A plug pack

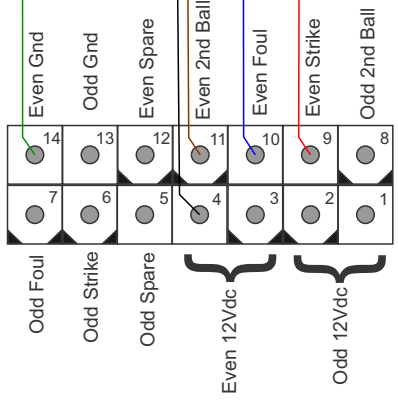If used, this will allow unit to show lane number even while machine is off

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

ODD LANE

BALL LIGHT 1

BALL LIGHT 2

EVEN LANE

BALL LIGHT 1

BALL LIGHT 2

STOP - (Pit Signal/Trouble Call)
STOP + (Pit Signal/Trouble Call)
Mask Switch
Mask Switch

Note:
Original Masq 1-2 Ball Light Assy
260-001-157
and original cable assy
151-010-007
allows for display of
1st and 2nd Ball only

MASK MASK STOP STOP F X   2 + GND

EVEN LANE MASK

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Thomastown
Victoria 3074
Australia

Phone +61 3 9460 2559
admin@tenpintec.com.au

MaskMatrixP3
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QubicaAMF EDGE String Pinspotters

SERIAL

Connector to LED Panel

Press ***** to enter menu mode

← Menu **+** button

← Menu Select button

← Menu **−** button

To exit menu keep pressing ***** until you see the standard display

Fuse 1A Fast

* OPTIONAL *
Power in from 12Vdc 2A plug pack

If used, this will allow unit to show lane number even while machine is off

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

Odd Lane Mask

ODD LANE MASK

- + 2   X F   STOP MASK

Replace original Masq cable assy 151-010-007 with
XLi Mask Signal Cable 088-000-197 (see note below)

1 - Odd lane +12Vdc
2 - Odd lane +12Vdc
3 - Even lane 12Vdc
4 - Even lane +12Vdc
5 -
6 - Odd lane Strike
7 - Odd lane Foul
8 - Odd lane 2nd Ball
9 - Even lane Strike
10 - Even lane Foul
11 - Even lane 2nd Ball
12 -
13 - Odd lane GND
14 - Even lane GND

STOP - (Pit Signal/Trouble Call)
STOP + (Pit Signal/Trouble Call)
Mask Switch
Mask Switch

Even Gnd	Odd Gnd	Even Spare	Even 2nd Ball	Even Foul	Even Strike	Odd 2nd Ball
14	13	12	11	10	9	8
7	6	5	4	3	2	1
Odd Foul	Odd Strike	Odd Spare	Even 12Vdc		Odd 12Vdc	

Note:
Original Masq 1-2 Ball Light Assy
260-001-157
and original cable assy
151-010-007
allows for display of
1st and 2nd Ball only

MASK MASK STOP STOP   F X   2 + GND

EVEN LANE MASK

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Unit 11, 20 Keon Parade
Thomastown
Victoria 3074
Australia

Phone +61 3 9460 2559
admin@tenpintec.com.au

Installation Notes:
Page 9 of 11

MaskMatrixP3

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Brunswick A/A2 Pinsetters

Press ✱ to enter
menu mode

← Menu **+** button

← Menu Select button

← Menu **–** button

To exit menu
keep pressing ✱
until you see the
standard display

Connector
to LED Panel

SERIAL

–+2   X F   STOP MASK

* OPTIONAL *
Power in from
12Vdc 2A plug pack

If used, this will
allow unit to show
lane number even
while machine is off

Fuse 1A Fast

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
are separate two-wire circuits

Independendent source
can be 6 - 35V AC or DC
ISOLATE SWITCH = OFF

Machine connections
(electrical box)

TS2-1	24Vac AC Common/Ground
TS2-4	24Vac Power 1st and 2nd Ball
TS2-7	1st Ball AC hot (not used)
TS2-8	2nd Ball AC hot

If outputs are available on Pinsetter
Strike - (can be 6 to 32Vac or Vdc)
Strike + (can be 6 to 32V ac or Vdc)
Foul - (can be 6 to 32Vac or Vdc)
Foul + (can be 6 to 32Vac or Vdc)

STOP - (Pit Signal/Trouble Call)
STOP + (Pit Signal/Trouble Call)
Mask Switch
Mask Switch

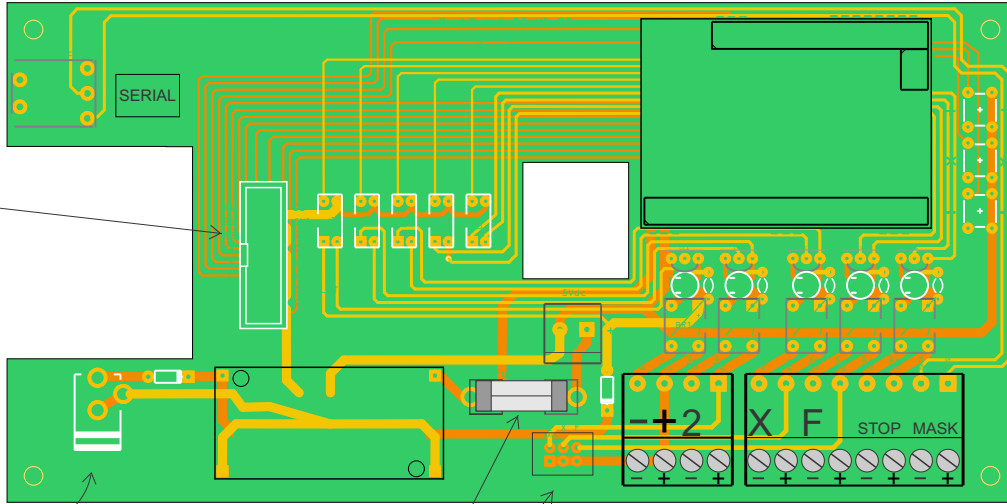# MaskMatrixP3

Universal - for all Pinspotters and Pinsetters

tenpintec.com
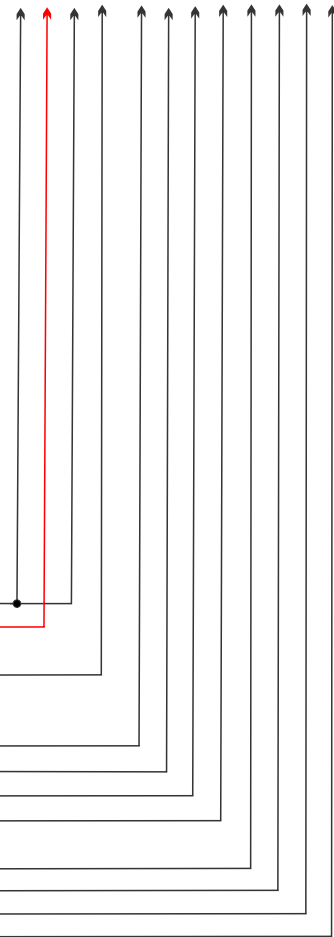
Brunswick GS Pinsetters

Press ✱ to enter menu mode

← Menu + button

← Menu Select button

← Menu − button

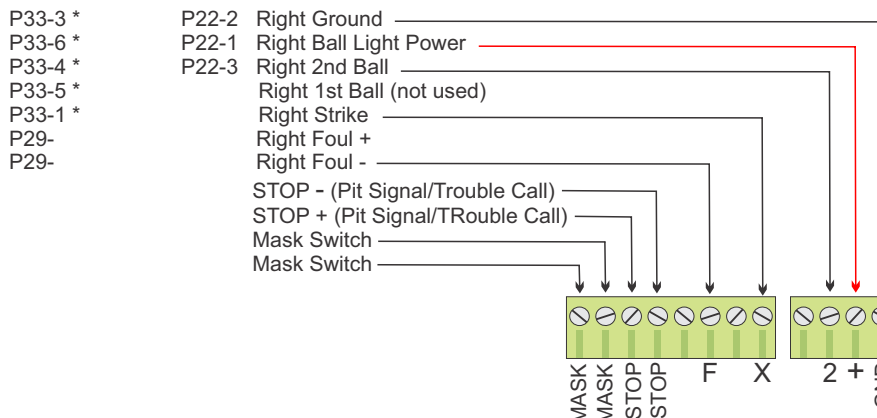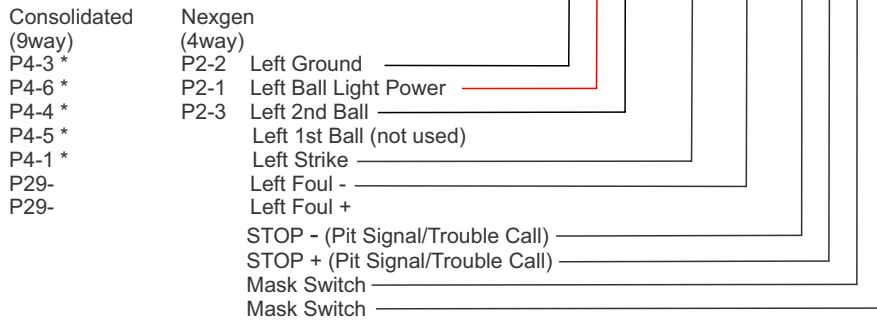To exit menu keep pressing ✱ until you see the standard display

Connector to LED Panel

SERIAL

* OPTIONAL *
Power in from 12Vdc 2A plug pack

If used, this will allow unit to show lane number even while machine is off

Fuse 1A Fast

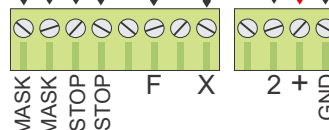− + 2   X F   STOP MASK

ODD LANE MASK

Circuit Isolate Switch

Switch ON (up) where
2nd Ball and/or Strike and/or Foul
use the same power supply as the main
Ball Light Power (most machines)
(circuits switch to GND)

Switch OFF (down) where
2nd Ball and/or Strike and/or Foul
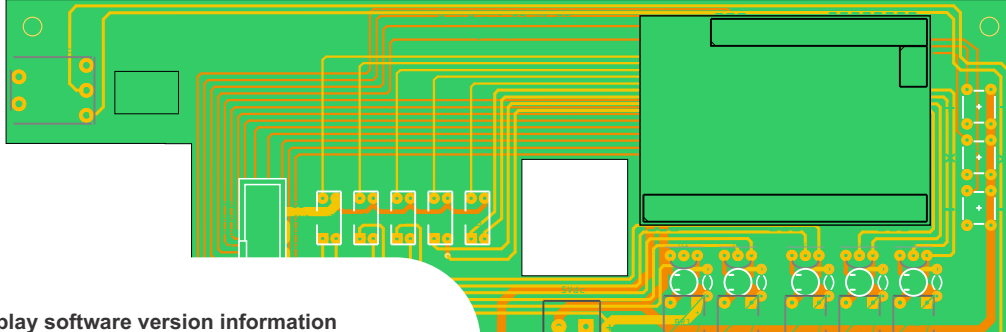are separate two-wire circuits

Mask Unit Connector

Consolidated (9way)	Nexgen (4way)	
P4-3 *	P2-2	Left Ground
P4-6 *	P2-1	Left Ball Light Power
P4-4 *	P2-3	Left 2nd Ball
P4-5 *		Left 1st Ball (not used)
P4-1 *		Left Strike
P29-		Left Foul -
P29-		Left Foul +
		STOP - (Pit Signal/Trouble Call)
		STOP + (Pit Signal/Trouble Call)
		Mask Switch
		Mask Switch

P33-3 *	P22-2	Right Ground
P33-6 *	P22-1	Right Ball Light Power
P33-4 *	P22-3	Right 2nd Ball
P33-5 *		Right 1st Ball (not used)
P33-1 *		Right Strike
P29-		Right Foul +
P29-		Right Foul -
		STOP - (Pit Signal/Trouble Call)
		STOP + (Pit Signal/TRouble Call)
		Mask Switch
		Mask Switch

MASK MASK STOP STOP   F   X   2 +   GND

EVEN LANE MASK

by Cybernetic Solutions

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Menus and Option Selection

Press **✱** to enter menu mode

← Menu **+** button

← Menu Select button

← Menu **−** button

To exit menu keep pressing **✱** until you see the standard display

Press + to display software version information

Press ✱ to enter Menu Level 1

Menu Level 1 - Set 1/2 Ball display Left or Right
    Press + to switch 1/2 Ball to Left and Lane Number ro Right
    Press - to switch 1/2 Ball to Right and Lane Number to Left

    Press **✱** to enter Menu Level 2
        (auto saves 1/2 Ball display Left/Right)

Menu Level 2 - Set Lane Number
    Press + to increase Lane Number
    Press - to decrease Lane Number

    Press **✱** to enter Menu Level 3
        (auto saves selected Lane Number)

Menu Level 3 - Set Lane ON Lane Number Colour
    Press + to cycle up through available options
    Press - to cycle down through available options

    Press **✱** to enter Menu Level 4
        (auto saves Lane ON Lane Number Colour)

Menu Level 4 - Set Lane OFF Lane Number Colour
    Press + to cycle up through available options
    Press - to cycle down through available options

    Press **✱** to enter Menu Level 5
        (auto saves Lane OFF Lane Number Colour**)**

Lane OFF displays only if optional power supply is used to provide power to the unit when lane is OFF

Menu Level 5 - Set 1st & 2nd Ball Display
    Press + to cycle up through available options
    Press - to cycle down through available options

    Press **✱** to enter Menu Level 6
        (auto saves 1st & 2nd Ball Display)

Menu Level 6 - Set Strike Display
    Press + to cycle up through available options
    Press - to cycle down through available options

    Press **✱** to exit Menu