DL480
DL4 to DL1275 Adjusting Converter
Owners Manual

The DL4 to DL1275 Adjusting Converter converts the pulse oriented DL4 input to a DL1275 output. A payout adjustment can be applied during the conversion. The adjustment can be configured to either multiply or divide the payout by a set factor, or to give a fixed quantity of tickets instead of the normal payout. The inputs and outputs can also be individually configured to use standard or inverted polarity.

Configuration

The DL480 has 2 push buttons and a set of 4 DIP switches that are used to configure it. Configuration settings are not changed until the entire procedure is completed. If you make a mistake, remove and reapply power, and then start over.

1. Connect the DL480 to power.

2. To enter programming mode. Press both buttons the same time. The LED will come on.

3. Set the DIP switches for the adjustment mode.

Table 1: Adjustment Mode

1	2	3	4	Mode
OFF	OFF	OFF	x	MULTIPLY
on	OFF	OFF	x	DIVIDE – round down (drop remainder)
OFF	*on*	OFF	x	DIVIDE – keeps remainder
OFF	OFF	*on*	x	DIVIDE – round up
on	*on*	OFF	x	FIXED

OFF = switch open, *on* = switch closed, x = either (not used).

4. Press either button to read the DIP switches. If the switch setting is valid the LED starts slowly blinking. If it does not start blinking check the switches and press the button again.

5. Set the DIP switches for the adjustment value to use (see Table 2). Be sure to use the column in that corresponds to the adjustment mode you selected in step 3.

Table 2: Adjustment Value

1	2	3	4	Multiply Mode	Divide Modes	Fixed Mode
OFF	OFF	OFF	OFF	0	2	1
on	OFF	OFF	OFF	1	3	2
OFF	on	OFF	OFF	2	4	3
on	on	OFF	OFF	3	5	4
OFF	OFF	on	OFF	4	6	5
on	OFF	on	OFF	5	7	6
OFF	on	on	OFF	6	8	7
on	on	on	OFF	7	9	8
OFF	OFF	OFF	on	8	10	9
on	OFF	OFF	on	9	11	10
OFF	on	OFF	on	10	12	11
on	on	OFF	on	11	13	12
OFF	OFF	on	on	12	14	13
on	OFF	on	on	13	15	14
OFF	on	on	on	14	16	15
on	on	on	on	15	17	16

OFF = switch open, *on* = switch closed.

6. Press either button to read the DIP switches. The LED will blink faster.

7. Set the DIP switches for signal polarities and sample period (see Table 3). Then press either button to read the DIP switches. The polarities feature allows the DL480 to be used with games and dispensers which use non-standard signal polarities to prevent their use with standard equipment.

Table 3: Polarities and Sample Period

Function	DIP Switch	OFF (open)	ON (closed)
Enable Signal Polarity	1	Standard	Reverse
Notch Signal Polarity	2	Standard	Reverse
DL4 Polarity	3	Standard (N.O.)	Reverse (N.C.)
Sample Period	4	1 second	5 seconds

The sample period controls how much time must elapse without receiving additional pulses before the board concludes that the payout session has ended and dispenses any remaining tickets. It is only used for *Divide – Round Down* and *Divide – Round Up* modes. Most games will be fine with 1 second, but some games give out tickets so slowly that the longer period is needed.

Help Mode

If the DL480 detects a problem it enters Help mode. In Help mode the LED blinks quickly. The most common problem is running out of tickets. After fixing the problem, press the button near the socketed chip. As long as power was not removed the DL480 will then dispense any tickets that are owed.

While in Help mode the DL480 returns signals to the game so that the game does not enter an error mode. If the game does detect an error then the DL480 is hooked up incorrectly.

For technical help call (215) 997-8616.

DL4 INPUT

P3-1
P3-2
P3-3
P3-4
P3-5
P3-6

2N4401
Q4
1 K
R11

R2
220
U2A

R22
10 K

+12V
+5V

LTV827M

+5V

R1
220

LED1

C3 0.1 uf
+5V

10 K
R23

U1
VDD
RA0/AN0
RA1/AN1
RA2/AN2/VREF
RA3/AN3/CMP1
RA4/TOCKI/CMP2
RA5/MCLR/VPP
RA6/OSC2/CLKOUT
RA7/OSC1/CLKIN
VSS

RB0/INT
RB1/RX/DT
RB2/TX/CK
RB3/CCP1
RB4/PGM
RB5
RB6/T1OSO/T1CKI/PGC
RB7/T1OSI/PGD

PIC16F648AP

+12V

10 K
R3

Q5
2N4401

1 K
R12

ENABLE

+12V

10 K
R25

NTR4003N
Q3

DL-1275 OUTPUT

WHITE
P1-4

RED
P1-3

BLACK
P1-2

BLUE
P1-1

NOTCH

+12V

1N4001
D3

6.8 uf
C5

MCP1702-E/TOB
IN OUT
GND
VR1

+5V

6.8 uf
C6

1N914 D8
1N914 D9
1N914 D7
1N914 D6
1N914 D5
1N914 D4

S1
S2

DIP_SW

MOTOR ENABLE FOR DL-1275 OUTPUT
Standard Polarity
MOTOR OFF   MOTOR ON   MOTOR OFF
Reverse Polarity
MOTOR OFF   MOTOR ON   MOTOR OFF

NOTCH signal from DL-1275 OUTPUT
Standard Polarity
Reverse Polarity

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