

# INSTALLATION GUIDE

•

## OWNER'S GUIDE

---

### UNIVERSAL BYPASS MODULE • MODEL 781

---

#### CONTENTS

Universal Bypass .....	1
Before You Begin .....	1
Passkey (VATS) Installation (GM only) .....	1
Passlock I Installation (GM only) .....	1-2
Passlock II Installation (GM only) .....	2
Transponder Installation (all others) .....	2
Testing for Resistor Values (GM only) .....	2
Checking Resistance Values .....	3
Making Connections .....	3
Setting Dip Switches (For GM Only) .....	4
Troubleshooting .....	4
VATS Dipswitch Resistance Settings .....	4
Dipswitch Resistance Settings .....	5-8



#### Technical Assistance

All tech personnel are expertly qualified to answer any technical questions.  
Technicians are available Monday through Friday from 9:00 a.m. until 8:00 p.m. and Saturday 10:00 a.m. until 4:00 p.m.

#### Address

288 Canton Avenue • Wintersville, Ohio 43953

#### Telephone

Phone: 740-264-4710 • 800-878-8007 • Fax: 740-264-7306

# UNIVERSAL BYPASS MODULE 781

---

The Bulldog Model 781 interface module is used when installing remote starters in any vehicle equipped with an anti-theft system. This model allows easy interfacing while maintaining the OEM system's integrity.

## BEFORE YOU BEGIN

---

It will be necessary to open the 781 Module to remove the wiring harness. Simply insert a straight shank screwdriver into the two wide slots in the bottom of the module to separate the halves. Plug the wiring harness into the harness plug. **NOTE: If you are using the 781 Module as the transponder bypass you will first need to insert the spare ignition key inside the plastic ribbon (as illustrated on page 3) then snap both halves of the module back together. NOTE: Before making any connections, dipswitches must be set. Never set switches all to the "0" or in the "down" position.**

## PASSKEY (VATS) INSTALLATION (GM only)

---

**NOTE: Never connect the wiring to the bypass module without first setting the dipswitch positions. NEVER INSTALL A UNIT WITH ALL SWITCHES DOWN.**

### How it works.

This **STARTER SYSTEM** shutdown anti-theft system is based on a pellet (resistor) built into the steel shaft of the ignition key. When the key is inserted into the ignition switch, the **VATS** (vehicle anti-theft system) computer reads the value of the resistor to make sure that it matches the programmed code and then turns on the fuel system so the vehicle can be started.

1. Locate two (2) **WHITE** wires in an orange vinyl tube coming from the ignition switch cylinder. This orange tube will appear as an **ORANGE** wire in the ignition switch harness.
2. Cut either **WHITE** wire in two.
3. Strip about 1/2 inch of the insulation off the other **WHITE** wire.
4. Attach the **GREEN** wire to the key cylinder end of the cut **WHITE** wire. See Making Connections, page 3, figure 5.
5. Attach the **YELLOW** wire to the remaining end of the cut **WHITE** wire.
6. Attach the **BLUE** wire to the other stripped **WHITE** wire.
7. Attach the **RED** wire to constant 12V fused at 3 amps.
8. Connect the **WHITE** wire from the bypass module to the small **WHITE** wire on the remote starter or the 3-pin plug from the relay pack.
9. Set switches 11 and 12 to the "up" position.
10. The **ORANGE**, **PURPLE** and the **YELLOW WITH BLACK STRIPE** wires are not used on this installation.
11. To measure the resistance of the Passkey pillet in the key, see page 2, figure 1.
12. Look up the value on the VATS chart on page 11 and set the switches, remembering a (1) on the charts indicates a switch in the "up" position and (0) being "down".

## PASSLOCK I INSTALLATION (GM only)

---

**NOTE: Never connect the wiring to the bypass module without first setting the dipswitch positions. NEVER INSTALL A UNIT WITH ALL SWITCHES DOWN.**

This **FUEL SYSTEM** shutdown anti-theft system is based on a resistor built into the ignition switch. The system is recognized by a security light on the dashboard cluster,

1. Locate the harness coming from the ignition switch, find the three small wires **YELLOW**, **BLACK** and **WHITE** wire or (1) **BLACK WITH WHITE STRIPE** wire and (2) **BLACK** wires.
2. If your vehicle has the **WHITE**, **BLACK** and **YELLOW** wires, cut the **YELLOW** wire in two. If your vehicle has the **BLACK WITH WHITE STRIPE** wire and two (2) **BLACK** wires. Cut either **BLACK** wire in two.
3. Strip back a section of the uncut **BLACK** wire (approximately 1/2 inch).
4. With the key in the "on" position, use an ohm meter to measure the resistance from the key switch side of the cut **YELLOW** or **BLACK** wire to the stripped back section of the uncut **BLACK** wire. See page 7, figure 2. After the measurement is made, turn the key to the "off" position.
5. Attach the **GREEN** wire to the key cylinder end of the cut **YELLOW** or **BLACK** wire. See Making Connections, page 3, figure 6
6. Attach the **YELLOW** wire to the remaining end of the cut **YELLOW** or **BLACK** wire.
7. Attach the **ORANGE** wire to the stripped back section of the uncut **BLACK** wire.
8. Attach the **RED** wire to a constant +12V wire fused at 3 amps.
9. Attach the **PURPLE** wire to the bulb check wire, a 22 ga. **BLACK** wire in slot "D" or "E" coming from the ignition switch on the left hand side of the steering column. This wire shows ground only when cranking.
10. Attach the **WHITE** wire from the bypass module to the small gauge **WHITE** wire on the remote starter.
11. Attach the **YELLOW WITH BLACK STRIPE** wire from the module to the large **YELLOW WITH BLACK STRIPE** wire from the remote starter (**DO NOT CUT THIS WIRE IN TWO.**)

12. The **BLUE** wire is not used.
13. Look up the value read from the meter on the chart and set the switches remembering a (1) on the chart indicates a switch in the "up" position and (0) being "down". See page 4.
14. Set switches 11 and 12 to the "down" position.

## PASSLOCK II INSTALLATION (GM only)

**NOTE: Never connect the wiring to the bypass module without first setting the dipswitch positions. NEVER INSTALL A UNIT WITH ALL SWITCHES DOWN.**

1. Locate the three (3) 18 ga. wires in the ignition switch harness coming from the ignition switch. Trucks, vans and SUVs will have a **RED WITH A WHITE STRIPE** wire, an **ORANGE WITH BLACK STRIPE** wire and a **YELLOW** wire. GM cars will have a **YELLOW** wire, a **BLACK** wire and a **WHITE** wire.
2. Cut the **YELLOW** wire in two, strip back a section on the **ORANGE WITH BLACK STRIPE** wire (on the trucks) or the **BLACK** wire (on the cars) so that a section of the wire is exposed, this will be used when testing for the resistance value.
3. With the key in the "cranking" position, use an ohm meter to measure the resistance from the key cylinder side of the cut **YELLOW** wire to the stripped back portion of the **ORANGE WITH BLACK STRIPE** wire (on trucks) or the **BLACK** wire (on cars), see figure 3 below. Do this several times, making sure you have the correct resistance value.
4. Attach the **GREEN** wire from the module to the switch end of the cut **YELLOW**. See Making Connections, page 3, figure 7.
5. Attach the **YELLOW** wire to the remaining end of the cut **YELLOW** wire.
6. Attach the **BLUE** wire to the **ORANGE WITH BLACK STRIPE** wire (on trucks) or the **BLACK** wire (on cars).
7. Attach the **RED** wire to +12V constant fused at 3 amps.
8. Connect the **WHITE** wire to the (-) **WHITE** 16 ga. (thin wire) on the 3-pin harness coming from the relay pack on the RS102, 202 or 602E and on the RS1100, 1200E and 1300E, connect this **WHITE** wire to the **WHITE** (-) negative ignition out wire in the 16-pin harness.
9. The **ORANGE**, **PURPLE** and the **YELLOW WITH BLACK STRIPE** wires are not used.
10. Look up the value read from the meter on the chart and set the switches remembering a (1) on the chart indicates a switch in the "up" position and (0) being "down". To check resistance values at the dip switch, see page 8, figure 3.
11. Set switches 11 and 12 to the "up" position.

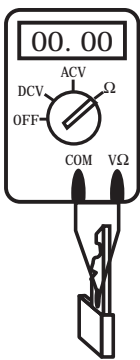
## TRANSPONDER INSTALLATION

**GM TRANSPONDER, Ford TRANSPONDER, Chrysler products with grey keys and all import transponder keys**

1. You must have a spare transponder key, if not you must get one from your dealer. You will need to insert this spare key inside the module. See page 3, figure 8 for this procedure.
2. The wiring loop needs to be positioned so that there are five loops around the ignition switch. Slide the heat-shrink tube up toward the ignition switch to tighten the loops - you can heat the heat-shrink or use tape to hold in place. Keep as close to the key hole as possible.
3. All vehicles, except GM, connect the **YELLOW WITH BLACK STRIPE** wire from the module to a +12v constant fused at 3 amps. On GM vehicles, attach to the large gauge **YELLOW WITH BLACK STRIPE** wire from the remote starter.
4. Attach the **WHITE** wire from the bypass module to the thin **WHITE** wire on the remote starter.
5. Plug the loop wire into the **WHITE** plug inside the module or to the supplied harness plug coming out of the unit.

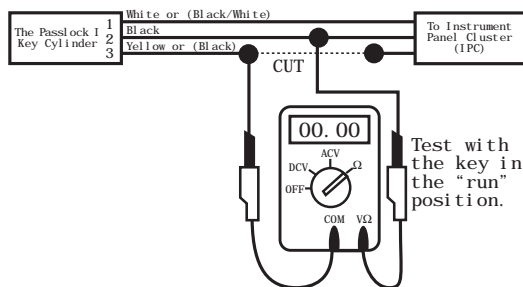
## TESTING FOR RESISTOR VALUES (GM ONLY)

**FIGURE 1 • Passkey (VATS) System**

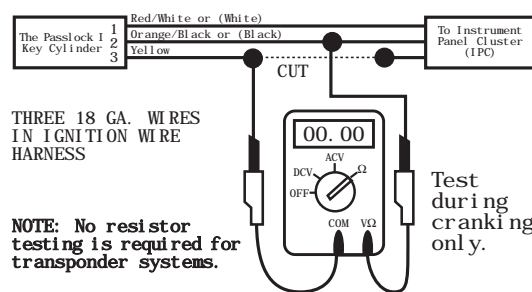


**NOTE:** Test probes should be placed on each side of the pill embedded in the key to read the resistance.

**FIGURE 2 • Passlock I**

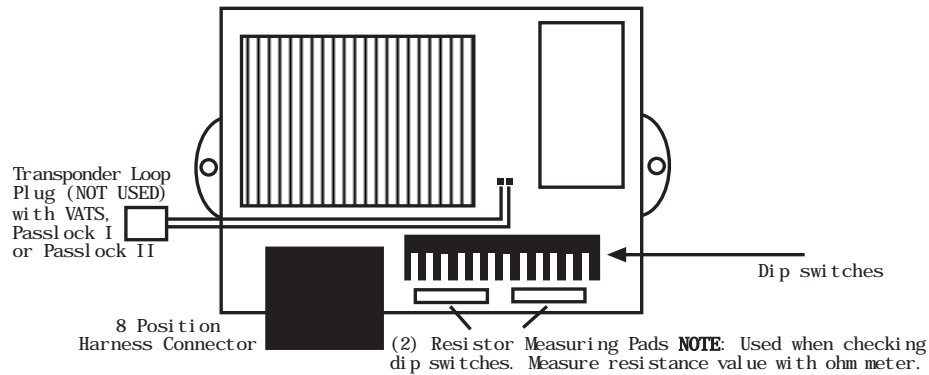


**FIGURE 3 • Passlock II**



# CHECKING RESISTANCE VALUES

FIGURE 4 • PASSKEY (VATS), PASSLOCK I and PASSLOCK II



## MAKING CONNECTIONS (Non-transponder)

FIGURE 5 • PASSKEY (VATS) SYSTEM

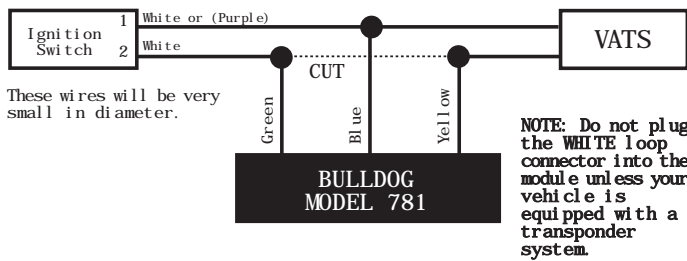


FIGURE 6 • PASSLOCK I SYSTEM

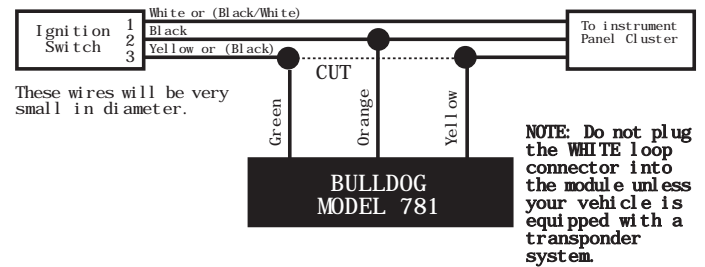
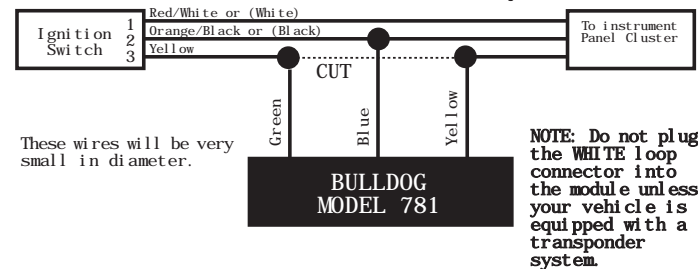
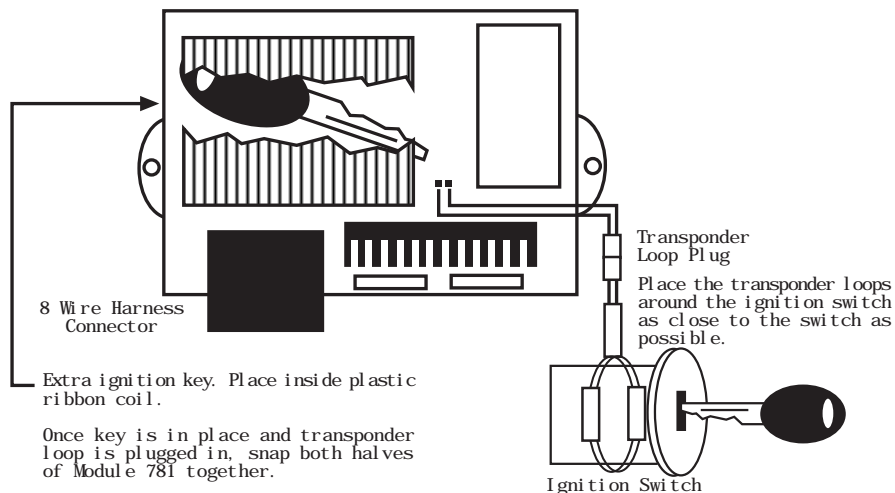


FIGURE 7 • PASSLOCK II SYSTEM (GM only)



## MAKING CONNECTIONS (Transponder)

FIGURE 8 • TRANSPONDER BYPASS



# SETTING DIP SWITCHES

**NOTE: Switches must be set before installation;**

**CAUTION: Never set switches 1-10 all to (0) "down" when installed.**

Switches 1-10 control the resistor value as shown in the chart. A "1" in the chart indicates the switch is in the "up" position. Switches 11 and 12 control the timing of the "bulb check". The "bulb check" is necessary for the car's computer start sequence. The setting of switch 11 or 12 depends on the wiring of the start wire and is described below.

The module has 10 dipswitches that are used to select the proper resistor value. Read across the row to determine the settings for switches 1-10 with the desired resistance. If the selected resistor value does not work in the vehicle, try the next higher or lower setting. If that still does not work, re-measure the resistor value. **NOTE: To double check the resistance value of the dipswitches, measure across the 2 resistor measuring pads. See page 8, figure 4. The system may lock up if the wrong resistor value is used. In that case, the vehicle will not start, even if the key is used.**

## TROUBLESHOOTING PASSLOCK I & II (GM only)

If the vehicle starts and then stalls immediately:

1. Turn the key to the "run" position.
2. Is the "Theft System" light on the dash flashing or on solid?
  - If on solid, go to step 3
  - If flashing, go to step 4
3. Make sure the engine will start using the key. If it does,
  - A. Make sure that the **PURPLE** wire is properly connected to the "bulb check" wire. (Passlock I only)
  - B. Make sure that the **ORANGE** wire is properly connected to the **BLACK** uncut Passlock wire. (Passlock I only)
  - C. Make sure that the second ignition is powered.
  - D. Make sure that the **GREEN** and the **YELLOW** wires are not reversed.
  - E. One or more of the correct wires are not connected.
4. Turn the key to the "run" position and leave the driver's door open until the "Theft System" light stops flashing and comes on solid (about 10 minutes). Re-test the Resistance Code to make sure you have properly measured it. Double check the resistor setting you are using. It must be within 10% of the measured value for the Passkey (VATS) and 5% for the Passlock I and Passlock II Correct if necessary.
5. Try to start the vehicle using the remote transmitter.

## VATS DIPSWITCH RESISTANCE SETTINGS (PASSKEY - VATS ONLY)

DIPSWITCH SETTINGS (0=DOWN, 1=UP)											RESISTANCE VALUES	
1	2	3	4	5	6	7	8	9	10	11	12	
1	1	1	1	0	0	0	0	0	0	1	1	392
0	0	1	0	1	0	0	0	0	0	1	1	523
1	1	0	1	1	0	0	0	0	0	1	1	681
0	1	0	0	0	1	0	0	0	0	1	1	887
0	0	1	1	0	1	0	0	0	0	1	1	1130
1	0	0	1	1	1	0	0	0	0	1	1	1470
0	1	1	0	0	0	1	0	0	0	1	1	1800
0	0	1	1	1	0	1	0	0	0	1	1	2370
1	0	1	0	1	1	1	0	0	0	1	1	3010
1	0	0	0	1	0	0	1	0	0	1	1	3740
0	0	0	1	1	1	0	1	0	0	1	1	4750
0	1	0	1	0	1	1	1	0	0	1	1	6040
1	0	0	0	0	1	0	0	1	0	1	1	7500
0	0	0	0	1	1	1	0	1	0	1	1	9530
0	0	0	1	0	0	1	1	1	0	1	1	11800

**NOTE:** This chart gives the 15 VATS resistor values, if your vehicle is equipped with Passkey (VATS), use the value that is closest to the resistance value found on your key.

# DIP SWITCH SETTINGS

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	0	0	0	0	0	0	0	0	0	0000
1	0	0	0	0	0	0	0	0	0	26
0	1	0	0	0	0	0	0	0	0	51
1	1	0	0	0	0	0	0	0	0	77
0	0	1	0	0	0	0	0	0	0	102
1	0	1	0	0	0	0	0	0	0	128
0	1	1	0	0	0	0	0	0	0	153
1	1	1	0	0	0	0	0	0	0	179
0	0	0	1	0	0	0	0	0	0	205
1	0	0	1	0	0	0	0	0	0	231
0	1	0	1	0	0	0	0	0	0	256
1	1	0	1	0	0	0	0	0	0	282
0	0	1	1	0	0	0	0	0	0	307
1	0	1	1	0	0	0	0	0	0	333
0	1	1	1	0	0	0	0	0	0	358
1	1	1	1	0	0	0	0	0	0	384
0	0	0	1	0	0	0	0	0	0	412
1	0	0	1	0	0	0	0	0	0	438
0	1	0	1	0	0	0	0	0	0	463
1	1	0	1	0	0	0	0	0	0	489
0	0	1	0	0	0	0	0	0	0	514
1	0	1	0	0	0	0	0	0	0	540
0	1	1	0	0	0	0	0	0	0	565
1	1	1	0	0	0	0	0	0	0	591
0	0	0	1	1	0	0	0	0	0	617
1	0	0	1	1	0	0	0	0	0	643
0	1	0	1	1	0	0	0	0	0	668
1	1	0	1	1	0	0	0	0	0	694
0	0	1	1	0	0	0	0	0	0	716
1	0	1	1	0	0	0	0	0	0	745
0	1	1	1	0	0	0	0	0	0	770
1	1	1	1	0	0	0	0	0	0	796
0	0	0	0	1	0	0	0	0	0	825
1	0	0	0	1	0	0	0	0	0	851
0	1	0	0	1	0	0	0	0	0	876
1	1	0	0	1	0	0	0	0	0	902
0	0	1	0	0	1	0	0	0	0	927

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	0	1	0	0	1	0	0	0	0	953
0	1	1	0	0	1	0	0	0	0	978
1	1	1	0	0	1	0	0	0	0	1004
0	0	0	1	0	1	0	0	0	0	1030
1	0	0	1	0	1	0	0	0	0	1056
0	1	0	1	0	1	0	0	0	0	1081
1	1	0	1	0	1	0	0	0	0	1107
0	0	1	1	0	1	0	0	0	0	1132
1	0	1	1	0	1	0	0	0	0	1158
0	1	1	1	0	1	0	0	0	0	1183
1	1	1	1	0	1	0	0	0	0	1209
0	0	0	0	1	1	0	0	0	0	1237
1	0	0	0	1	1	0	0	0	0	1263
0	1	0	0	1	1	0	0	0	0	1288
1	1	0	0	1	1	0	0	0	0	1314
0	0	1	0	1	1	0	0	0	0	1339
1	0	1	0	1	1	0	0	0	0	1365
0	1	1	0	1	1	0	0	0	0	1390
1	1	1	0	1	1	0	0	0	0	1416
0	0	0	1	1	0	0	0	0	0	1442
1	0	0	1	1	0	0	0	0	0	1468
0	1	0	1	1	0	0	0	0	0	1493
1	1	0	1	1	0	0	0	0	0	1519
0	0	1	1	1	0	0	0	0	0	1544
1	0	1	1	1	0	0	0	0	0	1570
0	1	1	1	1	0	0	0	0	0	1595
1	1	1	1	1	0	0	0	0	0	1621
0	0	0	0	0	0	1	0	0	0	1650
1	0	0	0	0	1	0	0	0	0	1676
0	1	0	0	0	1	0	0	0	0	1701
1	1	0	0	0	1	0	0	0	0	1727
0	0	1	0	0	0	1	0	0	0	1752
1	0	1	0	0	0	1	0	0	0	1778
0	1	1	0	0	0	1	0	0	0	1803
1	1	1	0	0	0	1	0	0	0	1829
0	0	0	1	0	0	1	0	0	0	1855
1	0	0	1	0	0	1	0	0	0	1881

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	1	0	1	0	0	1	0	0	0	1906
1	1	0	1	0	0	1	0	0	0	1932
0	0	1	1	0	0	1	0	0	0	1957
1	0	1	1	0	0	1	0	0	0	1983
0	1	1	1	0	0	1	0	0	0	2008
1	1	1	1	0	0	1	0	0	0	2034
0	0	0	1	0	1	0	0	0	0	2088
1	0	0	1	0	1	0	0	0	0	2113
1	1	0	0	1	0	1	0	0	0	2139
0	0	1	0	1	0	1	0	0	0	2164
1	0	1	0	1	0	1	0	0	0	2190
0	1	1	0	1	0	1	0	0	0	2215
1	1	1	0	1	0	1	0	0	0	2241
0	0	0	1	1	0	1	0	0	0	2267
1	0	0	1	1	0	1	0	0	0	2293
0	1	0	1	1	0	1	0	0	0	2318
1	1	0	1	1	0	1	0	0	0	2344
0	0	1	1	0	1	0	0	0	0	2369
1	0	1	1	0	1	0	0	0	0	2395
0	1	1	1	0	1	0	0	0	0	2420
1	1	1	1	0	1	0	0	0	0	2446
0	0	0	0	0	1	1	0	0	0	2475
1	0	0	0	1	1	0	0	0	0	2501
0	1	0	0	1	1	0	0	0	0	2526
1	1	0	0	0	1	1	0	0	0	2552
0	0	1	0	0	1	1	0	0	0	2577
1	0	1	0	0	1	1	0	0	0	2603
0	1	1	0	0	1	1	0	0	0	2628
1	1	1	0	0	1	1	0	0	0	2654
0	0	0	1	0	1	1	0	0	0	2680
1	0	0	1	0	1	1	0	0	0	2706
0	1	0	1	0	1	1	0	0	0	2731
1	1	0	1	0	1	1	0	0	0	2757
0	0	1	1	0	1	1	0	0	0	2782
1	0	1	1	0	1	1	0	0	0	2808
0	1	1	1	0	1	1	0	0	0	2833
1	1	1	1	0	1	1	0	0	0	2859

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	0	0	0	1	1	1	0	0	0	2887
1	0	0	0	1	1	1	0	0	0	2913
0	1	0	0	1	1	1	0	0	0	2938
1	1	0	0	1	1	1	0	0	0	2964
0	0	1	0	1	1	1	0	0	0	2989
1	0	1	0	1	1	1	0	0	0	3015
0	1	1	0	1	1	1	0	0	0	3040
1	1	1	0	1	1	1	0	0	0	3066
0	0	0	1	1	1	1	0	0	0	3092
1	0	0	1	1	1	1	0	0	0	3118
0	1	0	1	1	1	1	0	0	0	3143
1	1	0	1	1	1	1	0	0	0	3169
0	0	1	1	1	1	1	0	0	0	3194
1	0	1	1	1	1	1	0	0	0	3220
0	1	1	1	1	1	1	0	0	0	3245
1	1	1	1	1	1	1	0	0	0	3271
0	0	0	0	0	0	1	0	0	0	3300
1	0	0	0	0	0	1	0	0	0	3326
0	1	0	0	0	0	1	0	0	0	3351
1	1	0	0	0	0	1	0	0	0	3377
0	0	1	0	0	0	1	0	0	0	3402
1	0	1	0	0	0	1	0	0	0	3428
0	1	1	0	0	0	1	0	0	0	3453
1	1	1	0	0	0	1	0	0	0	3479
0	0	0	1	0	0	0	1	0	0	3505
1	0	0	1	0	0	0	1	0	0	3531
0	1	0	1	0	0	0	1	0	0	3556
1	1	0	1	0	0	0	1	0	0	3582
0	0	1	1	0	0	0	1	0	0	3607
1	0	1	1	0	0	0	1	0	0	3633
0	1	1	1	0	0	0	1	0	0	3658
1	1	1	1	0	0	0	1	0	0	3684
0	0	0	0	1	0	0	1	0	0	3712
1	0	0	0	1	0	0	1	0	0	3738
0	1	0	0	1	0	0	1	0	0	3763
1	1	0	0	1	0	0	1	0	0	3789
0	0	1	0	0	1	0	0	1	0	3814

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	0	1	0	1	0	0	1	0	0	3840
0	1	1	0	1	0	0	1	0	0	3865
1	1	1	0	1	0	0	1	0	0	3891
0	0	0	1	1	0	0	1	0	0	3917
1	0	0	1	1	0	0	1	0	0	3943
0	1	0	1	1	0	0	1	0	0	3968
1	1	0	1	1	0	0	1	0	0	3994
0	0	1	1	0	0	1	0	0	0	

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	0	0	1	0	1	0	0	1	0	7706
0	1	0	1	0	1	0	0	1	0	7731
1	1	0	1	0	1	0	0	1	0	7757
0	0	1	1	0	1	0	0	1	0	7782
1	0	1	1	0	1	0	0	1	0	7808
0	1	1	0	1	0	0	1	0	0	7833
1	1	1	0	1	0	0	1	0	0	7859
0	0	0	0	1	1	0	0	1	0	7887
1	0	0	0	1	1	0	0	1	0	7913
0	1	0	0	1	1	0	0	1	0	7938
1	1	0	0	1	1	0	0	1	0	7964
0	0	1	0	1	1	0	0	1	0	8015
1	0	1	0	1	1	0	0	1	0	8040
0	1	1	0	1	1	0	0	1	0	8066
1	1	1	0	1	1	0	0	1	0	8092
0	0	0	1	1	0	0	1	0	0	8118
1	0	0	1	1	0	0	1	0	0	8143
0	1	0	1	1	1	0	0	1	0	8169
1	1	0	1	1	1	0	0	1	0	8194
0	0	1	1	1	0	0	1	0	0	8220
1	0	1	1	1	0	0	1	0	0	8245
0	1	1	1	1	0	0	1	0	0	8271
1	1	1	1	1	0	0	1	0	0	8300
0	0	0	0	0	1	0	1	0	0	8326
1	0	0	0	0	1	0	1	0	0	8351
0	1	0	0	0	1	0	1	0	0	8377
1	1	0	0	0	1	0	1	0	0	8402
0	0	1	0	0	1	0	1	0	0	8428
1	0	1	0	0	1	0	1	0	0	8453
0	1	1	0	0	1	0	1	0	0	8479
1	1	1	0	0	1	0	1	0	0	8505
0	0	0	1	0	0	1	0	1	0	8531
1	0	0	1	0	0	1	0	1	0	8556
0	1	0	1	0	0	1	0	1	0	8582
1	1	0	1	0	0	1	0	1	0	8607
0	0	1	1	0	0	1	0	1	0	8633
1	0	1	1	0	0	1	0	1	0	8658

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	1	1	1	0	0	1	0	1	0	8684
0	0	0	0	1	0	1	0	1	0	8712
1	0	0	0	1	0	1	0	1	0	8738
0	1	0	0	1	0	1	0	1	0	8763
1	1	0	0	1	0	1	0	1	0	8789
0	0	1	0	1	0	1	0	1	0	8814
1	0	1	0	1	0	1	0	1	0	8840
0	1	1	0	1	0	1	0	1	0	8865
1	1	1	0	1	0	1	0	1	0	8891
0	0	0	1	1	0	1	0	1	0	8917
1	0	0	1	1	0	1	0	1	0	8943
0	1	0	1	1	0	1	0	1	0	8968
1	1	0	1	1	0	1	0	1	0	8994
0	0	1	1	1	0	1	0	1	0	9019
1	0	1	1	1	0	1	0	1	0	9045
0	1	1	1	1	0	1	0	1	0	9070
1	1	1	1	1	0	1	0	1	0	9096
0	0	0	0	0	1	1	0	1	0	9125
1	0	0	0	0	1	1	0	1	0	9151
0	1	0	0	0	1	1	0	1	0	9176
1	1	0	0	0	1	1	0	1	0	9202
0	0	1	0	0	1	1	0	1	0	9227
1	0	1	0	0	1	1	0	1	0	9253
0	1	1	0	0	1	1	0	1	0	9278
1	1	1	0	0	1	1	0	1	0	9304
0	0	0	1	0	1	1	0	1	0	9330
1	0	0	1	0	1	1	0	1	0	9356
0	1	0	1	0	1	1	0	1	0	9381
1	1	0	1	0	1	1	0	1	0	9407
0	0	1	1	0	1	1	0	1	0	9432
1	0	1	1	0	1	1	0	1	0	9458
0	1	1	1	0	1	1	0	1	0	9483
1	1	1	1	0	1	1	0	1	0	9509
0	0	0	0	1	1	0	1	0	0	9537
1	0	0	0	1	1	0	1	0	0	9563
0	1	0	0	1	1	0	1	0	0	9588
1	1	0	0	1	1	0	1	0	0	9614

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	0	1	0	1	1	0	1	0	0	9639
1	0	1	0	1	1	0	1	0	0	9665
0	1	1	0	1	1	0	1	0	0	9691
1	1	1	0	1	1	0	1	0	0	9716
0	0	0	1	1	1	0	1	0	0	9742
1	0	0	1	1	1	0	1	0	0	9768
0	1	0	1	1	1	0	1	0	0	9793
1	1	0	1	1	1	0	1	0	0	9819
0	0	1	1	1	1	0	1	0	0	9844
1	0	1	1	1	1	0	1	0	0	9870
0	1	1	1	1	1	0	1	0	0	9895
1	1	1	1	1	1	0	1	0	0	9921
0	0	0	0	0	0	1	1	0	0	9950
1	0	0	0	0	0	1	1	0	0	9976
0	1	0	0	0	0	1	1	0	0	10001
1	1	0	0	0	0	1	1	0	0	10027
0	0	1	0	0	0	1	1	0	0	10052
1	0	1	0	0	0	1	1	0	0	10078
0	1	1	0	0	0	1	1	0	0	10103
1	1	1	0	0	0	1	1	0	0	10129
0	0	0	1	0	0	1	1	0	0	10155
1	0	0	1	0	0	1	1	0	0	10181
0	1	0	1	0	0	1	1	0	0	10206
1	1	0	1	0	0	1	1	0	0	10232
0	0	1	1	0	0	1	1	0	0	10257
1	0	1	1	0	0	1	1	0	0	10283
0	1	1	1	0	0	1	1	0	0	10308
1	1	1	1	0	0	1	1	0	0	10334
0	0	0	0	1	0	0	1	1	0	10362
1	0	0	0	1	0	0	1	1	0	10388
0	1	0	0	1	0	0	1	1	0	10413
1	1	0	0	1	0	0	1	1	0	10439
0	0	1	0	1	0	0	1	1	0	10464
1	0	1	0	1	0	0	1	1	0	10490
0	1	1	0	1	0	0	1	1	0	10515
1	1	1	0	1	0	0	1	1	0	10541
0	0	0	1	1	0	0	1	1	0	10567

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	0	0	1	1	0	0	1	1	0	10593
0	1	0	1	1	0	0	1	1	0	10618
1	1	0	1	1	0	0	1	1	0	10644
0	0	1	1	1	0	0	1	1	0	10669
1	0	1	1	1	0	0	1	1	0	10695
0	1	1	1	1	0	0	1	1	0	10720
1	1	1	1	1	0	0	1	1	0	10746
0	0	0	0	0	1	0	1	1	0	10775
1	0	0	0	0	1	0	1	1	0	10801
0	1	0	0	0	1	0	1	1	0	10826
1	1	0	0	0	1	0	1	1	0	10852
0	0	1	0	0	1	0	1	1	0	10877
1	0	1	0	0	1	0	1	1	0	10903
0	1	1	0	0	1	0	1	1	0	10928
1	1	1	0	0	1	0	1	1	0	10954
0	0	0	1	0	1	0	1	1	0	10980
1	0	0	1	0	1	0	1	1	0	11006
0	1	0	1	0	1	0	1	1	0	11031
1	1	0	1	0	1	0	1	1	0	11057
0	0	1	1	0	1	0	1	1	0	11082
1	0	1	1	0	1	0	1	1	0	11108
0	1	1	1	0	1	0	1	1	0	11133
1	1	1	1	0	1	0	1	1	0	11159
0	0	0	0	1	0	1	0	1	0	11189
1	0	0	0	1	0	1	0	1	0	11213
0	1	0	0	1	0	1	0	1	0	11238
1	1	0	0	1	0	1	0	1	0	11264
0	0	1	0	1	0	1	0	1	0	11289
1	0	1	0	1	0	1	0	1	0	11315
0	1	1	0	1	0	1	0	1	0	11340
1	1	1	0	1	0	1	0	1	0	11366
0	0	0	1	1	0	1	0	1	0	11392
1	0	0	1	1	0	1	0	1	0	11418
0	1	0	1	1	0	1	0	1	0	11443
1	1	0	1	1	0	1	0	1	0	11469
0	0	1	1	1	0	1	0	1	0	11494
1	0	1	1	1	0	1	0	1	0	11520

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	1	1	1	1	1	0	1	1	0	11545
1	1	1	1	1	1	0	1	1	0	11571
0	0	0	0	0	1	1	1	1	0	11600
1	0	0	0	0	1	1	1	1	0	11626
0	1	0	0	0	0	1	1	1	0	11651
1	1	0	0	0	0	1	1	1	0	11677
0	0	1	0	0	0	1	1	1	0	11702
1	0	1	0	0	0	1	1	1	0	11728
0	1	1	0	0	0	1	1	1	0	11753
1	1	1	0	0	0	1	1	1	0	11779
0	0	0	1	0	0	1	1</			

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	1	0	0	1	0	1	0	0	1	15413
1	1	0	0	1	0	1	0	0	1	15439
0	0	1	0	1	0	1	0	0	1	15464
1	0	1	0	1	0	1	0	0	1	15490
0	1	1	0	1	0	1	0	0	1	15515
1	1	1	0	1	0	1	0	0	1	15541
0	0	0	1	1	0	1	0	0	1	15567
1	0	0	1	1	0	1	0	0	1	15593
0	1	0	1	1	0	1	0	0	1	15618
1	1	0	1	1	0	1	0	0	1	15644
0	0	1	1	1	0	1	0	0	1	15669
1	0	1	1	1	0	1	0	0	1	15695
0	1	1	1	1	0	1	0	0	1	15720
1	1	1	1	1	0	1	0	0	1	15746
0	0	0	0	1	1	0	0	1	1	15775
1	0	0	0	1	1	0	0	1	1	15801
0	1	0	0	0	1	1	0	0	1	15826
1	1	0	0	0	1	1	0	0	1	15852
0	0	1	0	0	1	1	0	0	1	15877
1	0	1	0	0	1	1	0	0	1	15903
0	1	1	0	0	1	1	0	0	1	15928
1	1	1	0	0	1	1	0	0	1	15954
0	0	0	1	0	1	1	0	0	1	15980
1	0	0	1	0	1	1	0	0	1	16006
0	1	0	1	0	1	1	0	0	1	16031
1	1	0	1	0	1	1	0	0	1	16057
0	0	1	1	0	1	1	0	0	1	16082
1	0	1	1	0	1	1	0	0	1	16108
0	1	1	1	0	1	1	0	0	1	16133
1	1	1	1	0	1	1	0	0	1	16159
0	0	0	1	1	1	0	0	1	1	16187
1	0	0	1	1	1	0	0	1	1	16213
0	1	0	0	1	1	1	0	0	1	16238
1	1	0	0	1	1	1	0	0	1	16264
0	0	1	0	1	1	1	0	0	1	16289
1	0	1	0	1	1	1	0	0	1	16315
0	1	1	0	1	1	1	0	0	1	16340

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	1	1	0	1	1	1	0	0	1	16366
0	0	0	1	1	1	1	0	0	1	16392
1	0	0	1	1	1	1	0	0	1	16418
0	1	0	1	1	1	1	0	0	1	16443
1	1	0	1	1	1	1	0	0	1	16469
0	0	1	1	1	1	1	0	0	1	16494
1	0	1	1	1	1	1	0	0	1	16520
0	1	1	1	1	1	1	0	0	1	16545
1	1	1	1	1	1	1	0	0	1	16571
0	0	0	0	0	0	1	0	1	1	16600
1	0	0	0	0	0	1	0	1	1	16626
0	1	0	0	0	0	1	0	1	1	16651
1	1	0	0	0	0	1	0	1	1	16677
0	0	1	0	0	0	1	0	1	1	16702
1	0	1	0	0	0	1	0	1	1	16728
0	1	1	0	0	0	1	0	1	1	16753
1	1	1	0	0	0	1	0	1	1	16779
0	0	0	1	0	0	1	0	1	1	16805
1	0	0	1	0	0	1	0	1	1	16831
0	1	0	1	0	0	1	0	1	1	16856
1	1	0	1	0	0	1	0	1	1	16882
0	0	1	1	0	0	1	0	1	1	16907
1	0	1	1	0	0	1	0	1	1	16933
0	1	1	1	0	0	1	0	1	1	16958
1	1	1	1	0	0	1	0	1	1	16984
0	0	0	0	1	0	1	0	1	1	17012
1	0	0	0	1	0	1	0	1	1	17038
0	1	0	0	1	0	1	0	1	1	17063
1	1	0	0	1	0	1	0	1	1	17089
0	0	1	0	1	0	1	0	1	1	17114
1	0	1	0	1	0	1	0	1	1	17140
0	1	1	0	1	0	1	0	1	1	17165
1	1	1	0	1	0	1	0	1	1	17191
0	0	0	1	1	0	1	0	1	1	17217
1	0	0	1	1	0	1	0	1	1	17243
0	1	0	1	1	0	1	0	1	1	17268
1	1	0	1	1	0	1	0	1	1	17294

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	0	1	1	1	0	0	1	0	1	17319
1	0	1	1	1	0	0	1	0	1	17345
0	1	1	1	1	0	0	1	0	1	17370
1	1	1	1	1	0	0	1	0	1	17396
0	0	0	0	0	1	0	1	0	1	17425
1	0	0	0	0	1	0	1	0	1	17451
0	1	0	0	0	1	0	1	0	1	17476
1	1	0	0	0	1	0	1	0	1	17502
0	0	1	0	0	1	0	1	0	1	17527
1	0	1	0	0	1	0	1	0	1	17553
0	1	1	0	0	1	0	1	0	1	17578
1	1	1	0	0	1	0	1	0	1	17604
0	0	0	1	0	1	0	1	0	1	17630
1	0	0	1	0	1	0	1	0	1	17656
0	1	0	1	0	1	0	1	0	1	17681
1	1	0	1	0	1	0	1	0	1	17707
0	0	1	1	0	1	0	1	0	1	17732
1	0	1	1	0	1	0	1	0	1	17758
0	1	1	1	0	1	0	1	0	1	17783
1	1	1	1	0	1	0	1	0	1	17809
0	0	0	0	1	1	0	1	0	1	17837
1	0	0	0	1	1	0	1	0	1	17863
0	1	0	0	1	1	0	1	0	1	17888
1	1	0	0	1	1	0	1	0	1	17914
0	0	1	0	1	1	0	1	0	1	17939
1	0	1	0	1	1	0	1	0	1	17965
0	1	1	0	1	1	0	1	0	1	17990
1	1	1	0	1	1	0	1	0	1	18016
0	0	0	1	1	1	0	1	0	1	18042
1	0	0	1	1	1	0	1	0	1	18068
0	1	0	1	1	1	0	1	0	1	18093
1	1	0	1	1	1	0	1	0	1	18119
0	0	1	1	1	1	0	1	0	1	18144
1	0	1	1	1	1	0	1	0	1	18170
0	1	1	1	1	1	0	1	0	1	18195
1	1	1	1	1	1	0	1	0	1	18221
0	0	0	0	0	1	1	0	1	1	18250

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	1	1	0	1	18276
0	1	0	0	0	0	1	1	0	1	18301
1	1	0	0	0	0	1	1	0	1	18327
0	0	1	0	0	0	1	1	0	1	18352
1	0	1	0	0	0	1	1	0	1	18378
0	1	1	0	0	0	1	1	0	1	18403
1	1	1	0	0	0	1	1	0	1	18429
0	0	0	1	0	0	1	1	0	1	18455
1	0	0	1	0	0	1	1	0	1	18481
0	1	0	1	0	0	1	1	0	1	18506
1	1	0	1	0	0	1	1	0	1	18532
0	0	1	1	0	0	1	1	0	1	18557
1	0	1	1	0	0	1	1	0	1	18583
0	1	1	1	0	0	1	1	0	1	18608
1	1	1	1	0	0	1	1	0	1	18634
0	0	0	1	0	1	0	1	1	0	18662
1	0	0	1	0	1	0	1	1	0	18688
0	1	0	0	1	0	1	1	0	1	18713
1	1	0	0	1	0	1	1	0	1	18739
0	0	1	0	1	0	1	1	0	1	18764
1	0	1	0	1	0	1	1	0	1	18790
0	1	1	0	1	0	1	1	0	1	18815
1	1	1	0	1	0	1	1	0	1	18841
0	0	0	1	1	0	1	1	0	1	18867
1	0	0	1	1	0	1	1	0	1	18893
0	1	0	1	1	0	1	1	0	1	18918
1	1	0	1	1	0	1	1	0	1	18944
0	0	1	1	1	0	1	1	0	1	18969
1	0	1	1	1	0	1	1	0	1	18995
0	1	1	1	1	0	1	1	0	1	19020
1	1	1	1	1	0	1	1	0	1	19046
0	0	0	0	1	1	1	0	1	1	19075
1	0	0	0	1	1	1	0	1	1	19101
0	1	0	0	1	1	1	0	1	1	19126
1	1	0	0	1	1	1	0	1	1	19152
0	0	1	0	0	1	1	1	0	1	19177
1	0	1	0	0	1	1	1	0	1	19203

DIPSWITCH SETTINGS 0=DOWN / 1=UP										RESISTANCE VALUES
1	2	3	4	5	6	7	8	9	10	
0	1	1	0	0	1	1	1	0	1	19228
1	1	1	0	0	1	1	1	0	1	19254
0	0	0	1	0	1	1	1	0	1	19280
1	0	0	1	0	1	1	1	0	1	19306
0	1	0	1	0	1	1	1	0	1	19331
1	1	0	1	0	1	1	1	0		



DIPSWITCH SETTINGS										RESISTANCE
0=DOWN / 1=UP										VALUES
1	2	3	4	5	6	7	8	9	10	
1	1	0	1	1	1	1	0	1	1	23119
0	0	1	1	1	1	1	0	1	1	23144
1	0	1	1	1	1	1	0	1	1	23170
0	1	1	1	1	1	1	0	1	1	23195
1	1	1	1	1	1	1	0	1	1	23221
0	0	0	0	0	0	1	1	1		23250
1	0	0	0	0	0	1	1	1		23276
0	1	0	0	0	0	1	1	1		23301
1	1	0	0	0	0	1	1	1		23327
0	0	1	0	0	0	1	1	1		23352
1	0	1	0	0	0	1	1	1		23378
0	1	1	0	0	0	1	1	1		23403
1	1	1	0	0	0	1	1	1		23429
0	0	0	1	0	0	1	1	1		23455
1	0	1	0	0	0	1	1	1		23481
0	1	0	1	0	0	1	1	1		23506
1	1	0	1	0	0	1	1	1		23532
0	0	1	1	0	0	1	1	1		23557
1	0	1	1	0	0	1	1	1		23583
0	1	1	1	0	0	1	1	1		23608
1	1	1	1	0	0	1	1	1		23634
0	0	0	0	1	0	0	1	1		23662
1	0	0	0	1	0	0	1	1		23688
0	1	0	0	1	0	0	1	1		23713
1	1	0	0	1	0	0	1	1		23739
0	0	1	0	1	0	0	1	1		23764
1	0	1	0	1	0	0	1	1		23790
0	1	1	0	1	0	0	1	1		23815
1	1	1	0	1	0	0	1	1		23841
0	0	0	1	1	0	0	1	1		23867
1	0	0	1	1	0	0	1	1		23893
0	1	0	1	1	0	0	1	1		23918
1	1	0	1	1	0	0	1	1		23944
0	0	1	1	1	0	0	1	1		23969
1	0	1	1	1	0	0	1	1		23995
0	1	1	1	1	0	0	1	1		24020
1	1	1	1	1	0	0	1	1		24046

DIPSWITCH SETTINGS										RESISTANCE
0=DOWN / 1=UP										VALUES
1	2	3	4	5	6	7	8	9	10	
0	0	0	0	0	1	0	1	1	1	24075
1	0	0	0	0	1	0	1	1	1	24101
0	1	0	0	0	1	0	1	1	1	24126
1	1	0	0	0	1	0	1	1	1	24152
0	0	1	0	0	1	0	1	1	1	24177
1	0	1	0	0	1	0	1	1	1	24203
0	1	1	0	0	1	0	1	1	1	24228
1	1	1	0	0	1	0	1	1	1	24254
0	0	0	1	0	1	0	1	1	1	24280
1	0	0	1	0	1	0	1	1	1	24306
0	1	0	1	0	1	0	1	1	1	24331
1	1	0	1	0	1	0	1	1	1	24357
0	0	1	1	0	1	0	1	1	1	24382
1	0	1	1	0	1	0	1	1	1	24408
0	1	1	1	0	1	0	1	1	1	24433
1	1	1	1	0	1	0	1	1	1	24459
0	0	0	0	1	1	0	1	1	1	24487
1	0	0	0	1	1	0	1	1	1	24513
0	1	0	0	1	1	0	1	1	1	24538
1	1	0	0	1	1	0	1	1	1	24564
0	0	1	0	1	1	0	1	1	1	24589
1	0	1	0	1	1	0	1	1	1	24615
0	1	1	0	1	1	0	1	1	1	24640
1	1	1	0	1	1	0	1	1	1	24666
0	0	0	1	1	1	0	1	1	1	24718
1	0	0	1	1	1	0	1	1	1	24743
0	1	0	1	1	1	0	1	1	1	24769
1	1	0	1	1	1	0	1	1	1	24794
0	0	1	1	1	1	0	1	1	1	24820
1	0	1	1	1	1	0	1	1	1	24845
0	1	1	1	1	1	0	1	1	1	24871
1	1	1	1	1	1	0	1	1	1	24900
0	0	0	0	0	0	1	1	1	1	24926
1	0	0	0	0	0	1	1	1	1	24951
0	1	0	0	0	0	1	1	1	1	24977
1	1	0	0	0	0	1	1	1	1	25009
0	0	1	0	0	0	1	1	1	1	25028

DIPSWITCH SETTINGS										RESISTANCE
0=DOWN / 1=UP										VALUES
1	2	3	4	5	6	7	8	9	10	
0	1	1	0	0	0	1	1	1	1	25053
1	1	1	0	0	0	1	1	1	1	25079
0	0	0	1	0	0	1	1	1	1	25105
1	0	0	1	0	0	1	1	1	1	25131
0	1	0	1	0	0	1	1	1	1	25156
1	1	0	1	0	0	1	1	1	1	25182
0	0	1	1	0	0	1	1	1	1	25207
1	0	1	1	0	0	1	1	1	1	25233
0	1	1	1	0	0	1	1	1	1	25258
1	1	1	1	0	0	1	1	1	1	25284
0	0	0	0	1	0	1	1	1	1	25312
1	0	0	0	1	0	1	1	1	1	25338
0	1	0	0	1	0	1	1	1	1	25363
1	1	0	0	1	0	1	1	1	1	25389
0	0	1	0	1	0	1	1	1	1	25414
1	0	1	0	1	0	1	1	1	1	25440
0	1	1	0	1	0	1	1	1	1	25465
1	1	1	0	1	0	1	1	1	1	25491
0	0	0	1	1	0	1	1	1	1	25517
1	0	0	1	1	0	1	1	1	1	25543
0	1	0	1	1	0	1	1	1	1	25568
1	1	0	1	1	0	1	1	1	1	25594
0	0	1	1	1	0	1	1	1	1	25619
1	0	1	1	1	0	1	1	1	1	25645
0	1	1	1	1	0	1	1	1	1	25670
1	1	1	1	1	0	1	1	1	1	25696
0	0	0	0	0	1	1	1	1	1	25725
1	0	0	0	0	1	1	1	1	1	25751
0	1	0	0	0	1	1	1	1	1	25776
1	1	0	0	0	1	1	1	1	1	25802
0	0	1	0	0	1	1	1	1	1	25827
1	0	1	0	0	1	1	1	1	1	25853
0	1	1	0	0	1	1	1	1	1	25878
1	1	1	0	0	1	1	1	1	1	25904
0	0	0	1	0	1	1	1	1	1	25930
1	0	0	1	0	1	1	1	1	1	25956
0	1	0	1	0	1	1	1	1	1	25981

DIPSWITCH SETTINGS										RESISTANCE
0=DOWN / 1=UP										VALUES
1	2	3	4	5	6	7	8	9	10	
1	1	0	1	0	1	1	1	1	1	26007
0	0	1	0	1	1	1	1	1	1	26032
1	0	1	1	0	1	1	1	1	1	26058
0	1	1	1	0	1	1	1	1	1	26083
1	1	1	1	0	1	1	1	1	1	26109
0	0	0	0	1	1	1	1	1	1	26137
1	0	0	0	1	1	1	1	1	1	26163
0	1	0	0	1	1	1	1	1	1	26188
1	1	0	0	1	1	1	1	1	1	26214
0	0	1	0	1	1	1	1	1	1	26239
1	0	1	0	1	1	1	1	1	1	26265
0	1	1	0	1	1	1	1	1	1	26290
1	1	1	0	1	1	1	1	1	1	26316
0	0	0	1	1	1	1	1	1	1	26342
1	0	0	1	1	1	1	1	1	1	26368
0	1	0	1	1	1	1	1	1	1	26393
1	1	0	1	1	1	1	1	1	1	26419
0	0	1	1	1	1	1	1	1	1	26444
1	0	1	1	1	1	1	1	1	1	26470
0	1	1	1	1	1	1	1	1	1	26495
1	1	1	1	1	1	1	1	1	1	26521