

2091 Megapower Code Converter

Installation Instructions

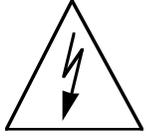
This Code Converter is for use with 1024 Switching Systems in which one or two 1024 Megapower "brains" are employed. It can also be used with 1995A, 1995B, and 1995C Megapower CPUs. The Code Converter converts data on the High Speed Data line to either Control Code used by American Dynamics Receiver Drivers or to RS-232 code which can be sent over networks and then converted to Control Code using a 1983. The Code Converter contains 64 Control Code outputs and indicators for both power and valid code that is being received from the Megapower CPUs via the data lines.

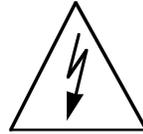
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The installation of this product should be made by qualified service personnel and should conform to all local codes.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVERS (OR BACK) . NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL</p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING To reduce the risk of fire or shock hazard, do not expose this product to rain or moisture.

UNPACKING AND INSPECTION

Unpack carefully. This is an electronic product and should be handled as such. Compare the items received with the packing list with your order.

Be sure to save:

1. The shipping cartons and insert pieces. They are the safest material in which to make future shipments of the product.
2. The IMPORTANT SAFEGUARDS sheet.
3. These Installation and Operating Instructions.

This equipment has been tested and found to comply with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation.

MAINTENANCE

User maintenance of this unit is limited to external cleaning and inspection. For specific recommendations refer to the IMPORTANT SAFEGUARDS sheet packaged with this product.

INSTALLATION AND SERVICE

If you require information during installation of this product or if service seems necessary, contact the Sensormatic Repair and Service Department at (800) 442-2225. You must obtain a Return Authorization Number and shipping instructions before returning any product for service.

Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified personnel.

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DESCRIPTION

The 2091 Megapower Code Converter receives high speed code from a 1024 CPU and converts the code into Control Code which is used by all standard American Dynamics receiver/drivers. The 2091 also filters camera switching information for monitors 1-8, when used with the American Dynamics' 1631 Switcher Follower.

The 2091 unit provides for 64 code outputs in four groups of 16. The codes provide for controlling pan/tilt, lens, zoom, focus, and iris; and auxiliaries at suitably-equipped camera sites.

Control signals are received via the DATA LINE (older systems used the term LAN). Each of the four groups can control a block of 64 cameras which is selectable via the dip switches located next to each group on the rear panel.

If conversion to RS-232 is required, a DIP switch, located on the main printed circuit board, is used to select the mode and the baud rate.

FEATURES

The 2091 Code Converter has the following features:

- ☛ SCREW TERMINAL WIRE CONNECTORS
- ☛ LED INDICATORS FOR "GOOD" CODE
- ☛ GREEN LED POWER INDICATOR
- ☛ DIP SWITCH SELECTION FOR CAMERA GROUP FOR CONTROL
- ☛ BAUD RATE SELECTABLE RS-232 OUTPUT FOR USE WITH MODEMS OR OTHER DEVICES
- ☛ UNIVERSAL MOUNT CABINET

IF YOU ENCOUNTER ANY PROBLEMS OPERATING THIS UNIT, OR NEED TECHNICAL ASSISTANCE, CALL OUR SERVICE CENTER AT:

within the United States: **1-800-442-2225**
outside the United States: **(845) 624-7600**

INSTALLATION**Power Sources**

System models with the 'AD' prefix are configured for 120V, 50/60 Hz primary power source. Models with the 'AD' prefix and "-1" suffix are configured for a 230V, 50/60 Hz primary power source, and are EU compliant. The 120 VAC units are supplied with a pendant 3-wire cord and plug for mating to the primary source outlet. The 230 VAC units are supplied with a Euro-style IEC 320 type inlet. A suitable, detachable cord should be connected between the IEC 320 inlet and the power source. The cord should conform to all national and local use code requirements.

The 2091 Megapower Code Converter does not contain an On/Off Switch. The LED on the rear panel labeled Power, will be lit when power is applied. Power consumption for the 2091 is approximately 7 watts.

Do not connect the equipment to the power source until ready to "POWER UP". The socket outlet shall be located near the equipment, and shall be readily accessible.

MOUNTING

The universal cabinet may be surface or full-rack mounted in any convenient location with adequate ventilation.

As shipped, with the mounting ears flush with the front panel, the 2091 can be mounted into the front of a standard 19" rack.

The "ears" can be un-screwed and mounted so they fit flush with the rear panel. This configuration provides for mounting into a rack equipped with mounting channels located on the rear of the rack. The 2091 unit can also be mounted to the wall by mounting the ears so they are either up or down with the top and bottom covers of the unit.

Optimally, the 2091 should be located near the 1024 CPU and 1024 switching bays.

Avoid heat sources or poorly ventilated racks. For proper ventilation allow at least 3 feet (1m) from the rear of the racks to any wall and 1 EIA rack height, 1 3/4", between units. The 2091 operates properly between +32 degrees and +140 degrees Fahrenheit (0 to +60 degrees Centigrade).

Operating power voltages must be held within 230V and 250V for 'AD/-1' units.

Safeguards must be taken to avoid unintentional operation by employees and maintenance personnel working about the premises, by falling objects, by customers, by building vibration, and by similar causes.

CONNECTIONS

CONNECTIONS

 Use NEC Class 2 wiring only for all external pin connections. The wiring shall also conform with all local codes.

Data Line Connection

The DATA LINE is run from the DATA LINE OUT BNC on the matrix bay to the top DATA LINE IN BNC on the rear panel of the Code Converter. (Older 1995 systems used the term LAN IN/OUT). Use a good grade RG-59 video cable (Belden 8241 or equivalent). The DATA LINE OUT BNC of this pair must be fitted with a termination 75 ohm BNC terminator or if used to loop to other DATA LINE-controlled equipment, terminated at the end of the run.

The LED labeled CODE 1 will light when "good" code is received on DATA LINE ONE. The DATA LINE 2 BNC pair is used in systems which contain more than 64 monitors or in video switching systems using more than one Megapower CPU (See Figure 1).

Control Code Line Connections

The control line connections to Control Code receivers must be shielded 2-wire twisted pair (Belden 8760, for plenum, use Belden 88760 or equivalent).

Four groups of four, 12-conductor connectors on the rear panel provide a maximum of 64 Control Code lines. These connectors are supplied with mating screw terminal connectors for ease of connecting the code lines to the 2091.

The 6-position DIP switches, associated with each group of four connectors, are shipped with all switches in the the OFF position. In the OFF state, all receivers in a system will respond to cameras 1-64. If one 2091 is to control more than one block of cameras (a block contains 64 cameras) see Table 1 to set the dip switches.

Table 1
CODE GENERATOR/DISTRIBUTION UNIT
CAMERA SELECT GROUP
0 = OFF, 1 = ON

<u>P/T GROUP</u>	<u>SELECT</u>					
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Cam 1-64	0	0	0	0	0	0
Cam 65-128	0	0	0	0	0	1
Cam 129-192	0	0	0	0	1	0
Cam 193-256	0	0	0	0	1	1
Cam 257-320	0	0	0	1	0	0
Cam 321-384	0	0	0	1	0	1
Cam 385-448	0	0	0	1	1	0
Cam 449-512	0	0	0	1	1	1
Cam 513-576	0	0	1	0	0	0
Cam 577-640	0	0	1	0	0	1
Cam 641-704	0	0	1	0	1	0
Cam 705-768	0	0	1	0	1	1
Cam 769-832	0	0	1	1	0	0
Cam 833-896	0	0	1	1	0	1
Cam 897-960	0	0	1	1	1	0
Cam 961-1024	0	0	1	1	1	1

Each 12-pin connector provides black (B), white (W), and shield (S) pins for four individual Control Code lines.

Insert the three wires of a control code line into the slots of the rear panel mating connectors and tighten the hold-down screws. When all lines have been connected, insert the 12-pin connectors into the rear panel mating connectors. See Figure 2.

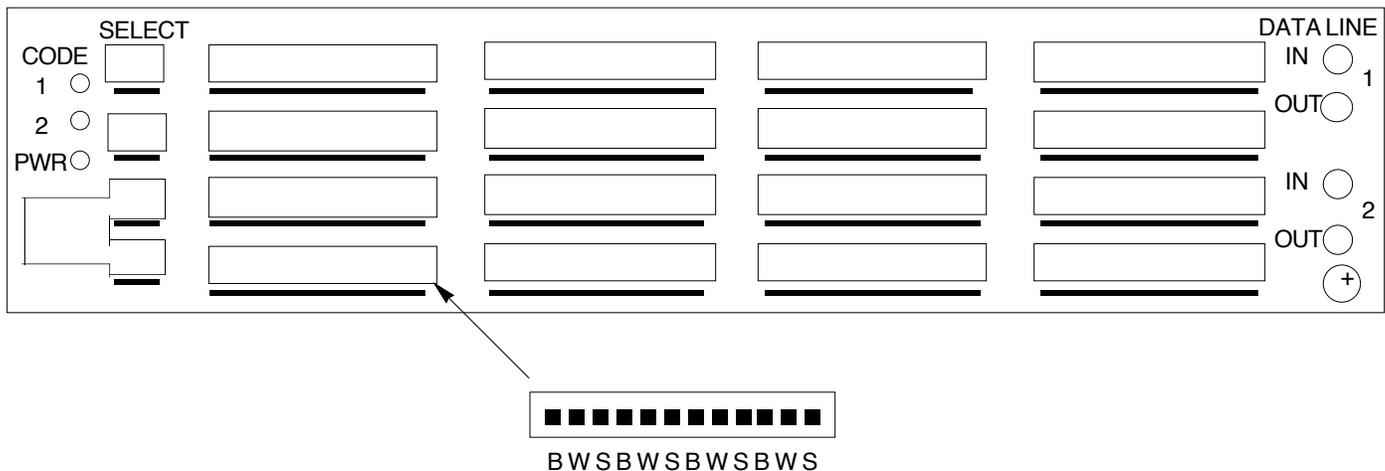


Figure 1 - Control Code Generator Rear Panel

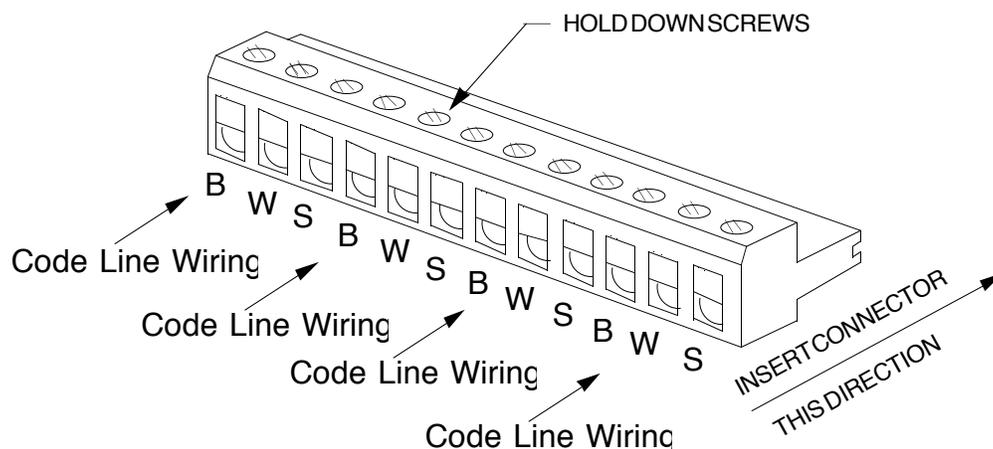


Figure 2 - 12-pin CONTROL CODE Connector

POWERING UP

After making all connections to the 2091, (DATA Lines and Control Code lines) and setting the camera blocks whose pan/tilts are to be controlled, plug in the unit.

If valid dataline is being received the green LED for the Dataline(s) (Code 1 or Code 2) will light and glow steadily. If the light flickers there may be a problem with the code line.

RECEIVERS

Various models of 1680 and 1640 Series Receivers are available for control of pan/tilt; lens zoom, iris and focus; and auxiliaries at suitably-equipped camera sites. See 1640 and 1680 series data sheets available from your dealer to determine which model will suit your needs. For older model 1680 Receivers, the control words may need filtering, as described in Filter Selection, page 4.

Receivers are controlled by Control Code signals received from the code generator/distributor via code lines or other simplex communication links such as phone, laser, microwave, radio, etc. Code lines are NEC Class 2, low voltage circuits. Where local codes permit, installation conduit is not required. Avoid installation near high voltage sources or other potential interference sources. Code lines must be terminated in 120 ohms. Check the final code-controlled unit on each code line and, if a 120-ohm termination is not present, add one.

Up to five Control Code control devices may be “daisy-chained” on a single code line. When devices are “daisy chained” intermediate devices must not terminate the control line. Be sure to check that the intermediate equipment does not contain a 120-ohm terminating resistor. If it does, remove it. See figures 3 and 4 for “STAR” and “DAISY CHAINED” configurations.

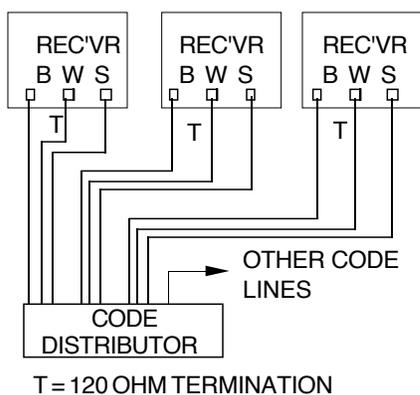


Figure 3 - "Star" Code Line Configuration

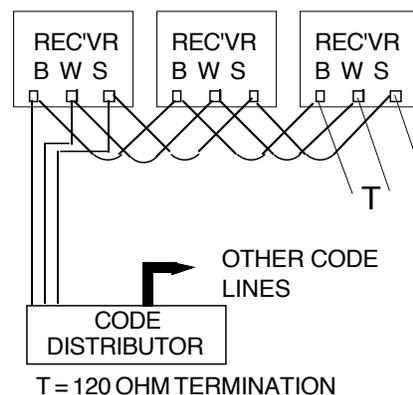


Figure 4 - "Daisy-Chain" Code Line Configuration

RS-232 OUTPUT and BAUD RATE SELECTION

RS-232 OUTPUT

The 2091 can also be configured to convert the Data Line input to RS-232 code which can be sent to receivers via a modem or a 1983CS536, RS-232 to Control Code converter, or connected directly to a 1640 "S" Series Receiver (e.g., 1641S-1).

The RS-232 connector is an 8-pin modular phone type connector, marked COM on the rear panel of the unit. The breakout box that is connected to this port has the pinouts shown in Table 2. See figure 5 for the pin locations on the breakout box.

Table 2 - RS-232 Breakout Box Pinouts

<u>PIN</u>	<u>FUNCTION</u>
1	No Connection
2	GND
3	No Connection
4	XMIT
5	RCD
6	No Connection
7	GND
8	No Connection

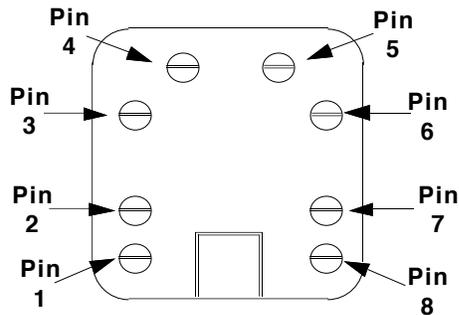


Figure 5 - RS-232 Breakout Box

BAUD RATE SELECTION

The 2091 has four selectable baud rates: 1200, 2400, 4800, and 9600. By setting a baud rate, the code converter will be placed into the RS-232 mode and Control Code conversion will no longer take place.

To select a baud rate:

1. Unplug the code converter.
2. Remove the seven screws which hold down the top cover.
3. Find the eight position dip switch which is located at the rear of the main printed circuit board (marked S5, see Figure 6).
4. Set the baud rate according to Table 3.
5. After making a baud rate selection, replace the top cover.
6. Wire the breakout box as diagramed in Figure 5.
Now you can "POWER UP" the unit.

CAUTION - Due to the presence of non-insulated components with hazardous voltages, the following internal adjustments should be performed by qualified service personnel only.

Table 3 - DIP Switch S5 Baud Rate Settings

<u>Switch Position set to ON</u>	<u>Switch Position set to OFF</u>	<u>Baud Rate</u>
8	1,2,3,4,5,6,7	1200
7	1,2,3,4,5,6,8	2400
6	1,2,3,4,5,7,8	4800
5	1,2,3,4,6,7,8	9600

Note: Positions 1 - 4 on the 8-position dip switch are always set to OFF. (Except for Filter Selection, as described below). If any of the above baud rate DIP switches (positions 5 - 8) are set to ON (RS-232 mode), the conversion of DATA LINE code to Control Code will not function, and only RS-232 is generated via the COM port.

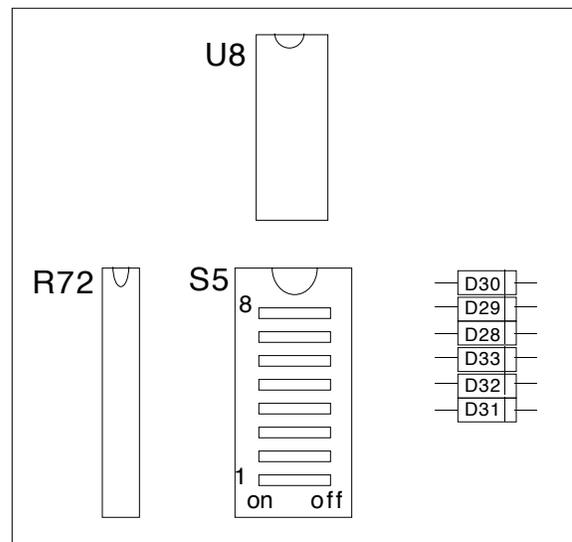


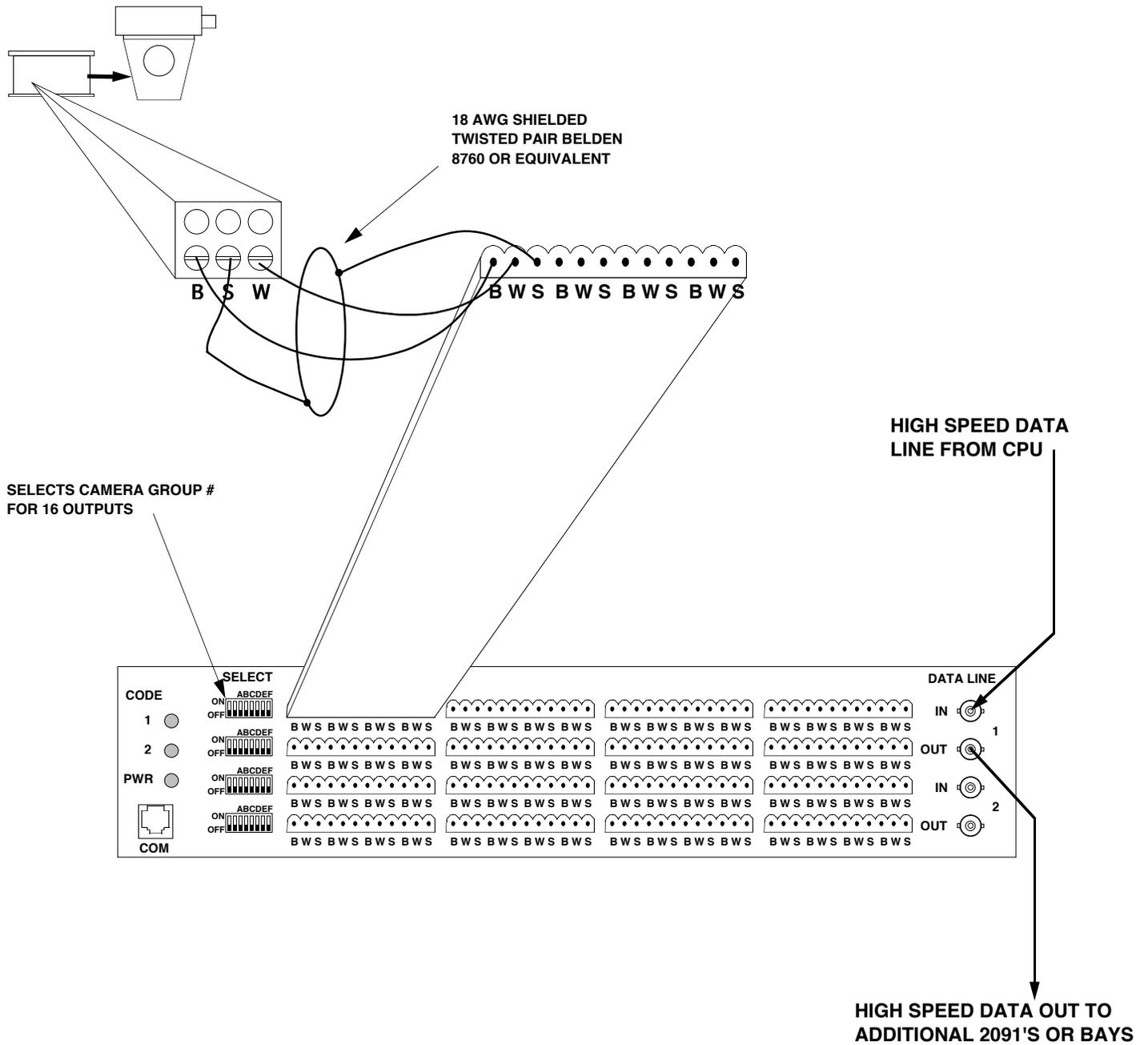
Figure 6 - DIP Switch Layout

FILTER SELECTION

When the 2091 is installed into existing systems using older model 1680 receivers, there may be erratic control of the pan/tilt units. This is due to the variable speed control words sent by newer controller systems and not interpreted by the older receivers. These words can be "filtered" out by setting the fourth switch position of S5 to the ON position. This setting will filter out all variable speed control words on the Control Code or RS-232 code outputs.

APPENDIX

TYPICAL SYSTEM CONNECTIONS 2091 CODE GENERATOR/DISTRIBUTOR



NOTE : THESE CONNECTIONS ARE TYPICAL OF ONE RECEIVER.
 □ UP TO THREE RECEIVERS MAY BE CONNECTED IN A DAISY CHAIN □
 □ CONFIGURATION FROM EACH CODE OUTPUT.

DECLARATION OF CONFORMITY

According to ISO/IEC Guide 22 and EN45014

Manufacturer's Name: Sensormatic Electronics Corporation

Manufacturer's Address: 1 Blue Hill Plaza
2nd Floor
Pearl River, New York, 10965 USA

Declares, that the product listed below:

Name/Type: MegaPower Code Converter

Model Number: AD2091-1

complies with all applicable directives as demonstrated by conformance to the following Product Specifications:

Safety: EN 60950: 1992

EMC: EN 50130-4: 1995
EN 55022: 1994 , Class B
EN 61000-3-2: 1995
EN 61000-3-3: 1995
EN 61000-4-2: 1995
EN 61000-4-3: 1996
EN 61000-4-4: 1995
EN 61000-4-5: 1995
EN 61000-4-6: 1996
EN 61000-4-11: 1994

Supplementary Information:

The products herewith comply with the requirements of the Low Voltage Directive, 73/23/EEC as amended by 93/68/EEC, and the EMC Directive, 89/339/EEC as amended by 93/68/EEC.

Pearl River, NY, USA 15 December, 2000



Harold D. Johnson, Ph.D.
Director of Engineering

European Contact: Sensormatic France S.A.
7, rue Alexis de Tocqueville, Parc de Haute Technologie, 92183 ANTONY CEDEX

SPECIFICATIONS:

Input: AD2091 120 VAC, 50/60 Hz, 8 W
AD2091-1 230 VAC, 50/60 Hz, 40 mA, EU Compliance

Mounting: Surface Mount or Rack Mount

Weight: 7.0 lbs.

Finish: Shadow Gray

Size: 17 " W x 7.75 " D x 3 .5" H

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