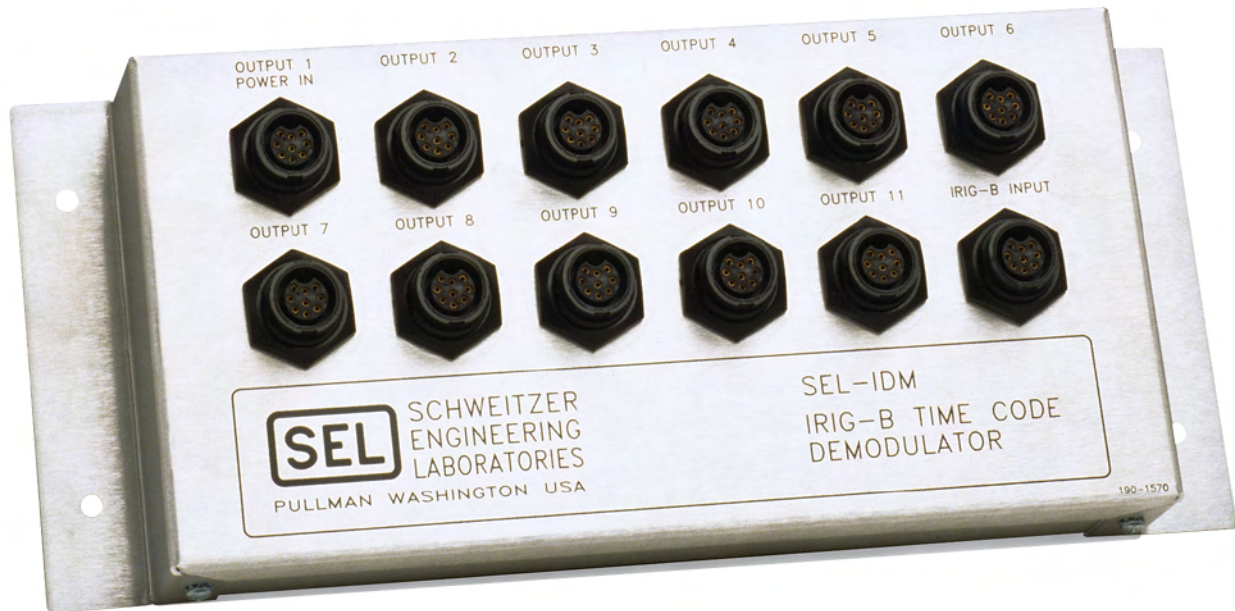




SEL-IDM IRIG-B Time-Code Demodulator Instruction Manual



General Features

- Converts Modulated IRIG-B Time-Code to Demodulated IRIG-B Time-Code
- Buffers Demodulated IRIG-B Time-Code
- Provides Eleven Outputs
- Easily powered by SEL relays or Protective Relay Terminal Unit, through time-code cable, or can be powered by external power supply, including the SEL-PSM Power Supply Module
- Designed for mounting inside switchboards; does not require panel space
- Ideal for use with SEL and other equipment requiring demodulated time-code

Specifications

Time-Code Input

- Available for modulated or demodulated IRIG-B time-code
- IDM 000-0 Modulated IRIG-B input
- IDM 000-1 Demodulated IRIG-B input (unit is configured as a buffer)
- Modulated input nominal levels:
 - logic “1”: 3.3 ± 0.5 volts peak-to-peak
 - logic “0”: 1.0 ± 0.2 volts peak-to-peak
- Modulated input carrier frequency: 1 kHz nominal
- Modulated input isolation: 1000 Vac rms isolation via audio transformer
- Demodulated input drive requirement: 2 standard LSTTL logic inputs

Outputs

Eleven TTL-level demodulated outputs:

- VH: 3.2 volts @ –15 mA
- VL: 0.4 volts @ 24 mA

Dimensions

127 mm x 299.72 mm x 39.12 mm (5" H x 11.8" W x 1.54" D)

Operating Temperature Range

–20° to +55°C (–4° to +131°F)

Power Requirements

+5 volts at 200 mA max.
 +12 volts at 20 mA max.
 –12 volts at 20 mA max.

Shipping Weight

0.7 kg (1.5 pounds)

Package includes one SEL-IDM demodulator, a mating plug for each connector on the SEL-IDM demodulator, and two instruction booklets.

Installation

- Step 1. Determine if the SEL-IDM demodulator is to be used as a demodulator of modulated time-code (IDM000-0), or as a buffer of demodulated time-code (IDM000-1). Refer to the instructions for the time-code source to determine if a demodulated or modulated output is available. The time-code source output must match the type of SEL-IDM.
- Step 2. Remove the SEL-IDM demodulator cover screws, and check jumpers JMP 101, 102, and 103. Refer to the jumper table in *Figure 5* for the configuration of the SEL-IDM as either a demodulator or as a buffer. Change the jumper positions if required. Replace the cover and its screws.
- Step 3. Mount the SEL-IDM demodulator to a flat surface using hardware through the four mounting holes in the flanges.
- Step 4. Refer to SEL Drawing No. A7-0352 for cabling instructions for the SEL-IDM demodulator, and connect the cables between the source of time-code and the outputs of the SEL-IDM demodulator. Note that the SEL-IDM demodulator receives its power and outputs demodulated time-code on Port 1.
- Step 5. Verify that the demodulator operates satisfactorily by turning on the source of time-code, and using the IRIG command of the SEL relays to force synchronization. Alternatively, connect an oscilloscope to monitor Pin 2 of any output port, using the chassis as a reference. You should observe a pulse-width-modulated TTL-level output signal at a 1 kHz rate. The width of the pulses should be nominally 2, 5, and 8 ms.

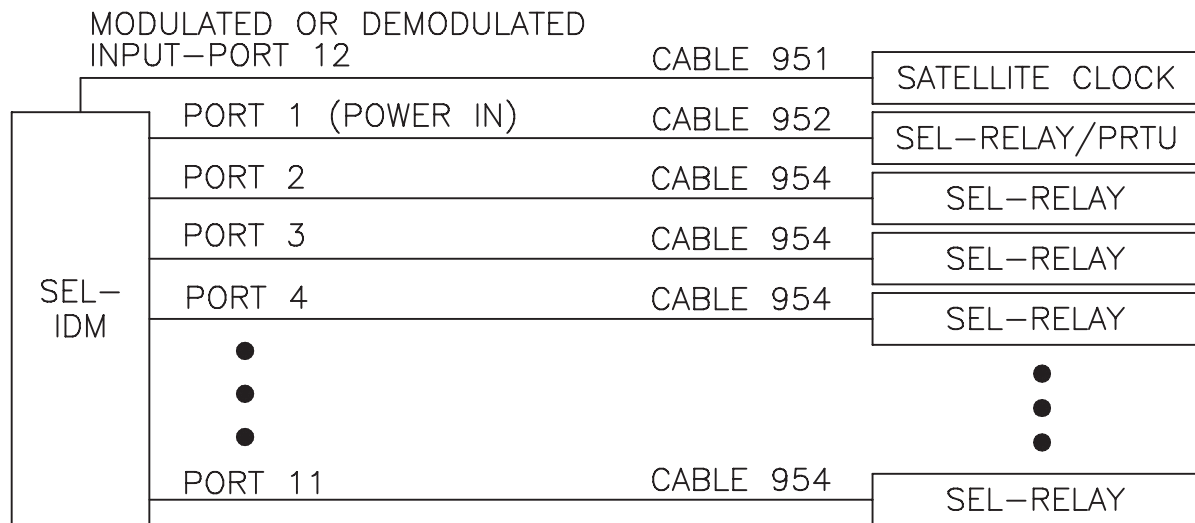
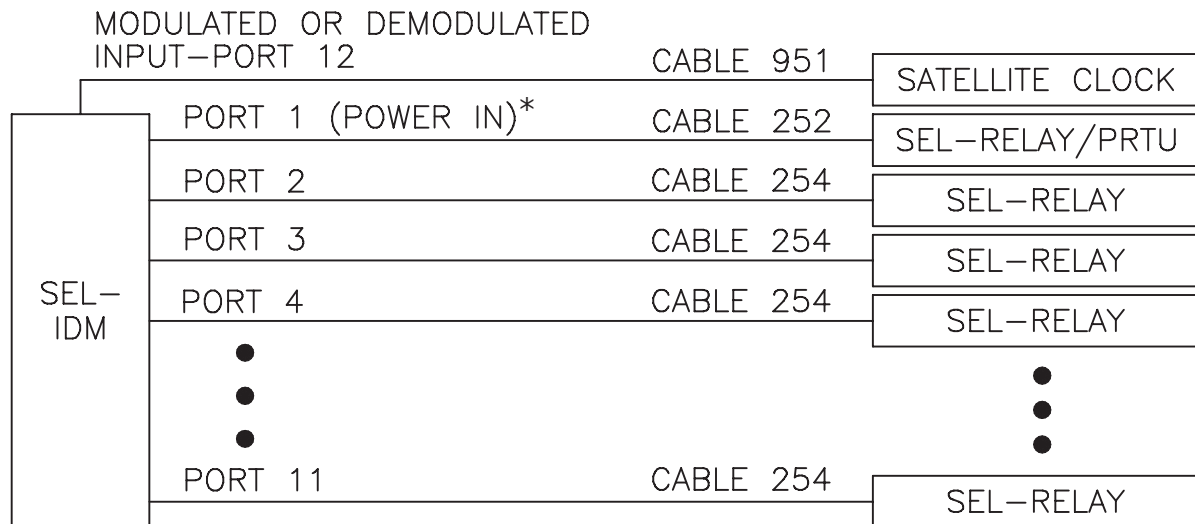


Figure 1 SEL-IDM Connection Diagram for Use With Modulated or Demodulated IRIG-B Input and 100 Series Relay (Typical)



*The SEL-IDM requires a separate power source on this port when used with the SEL-321 Relay

Figure 2 SEL-IDM Connection Diagram for Use With Modulated or Demodulated IRIG-B Input and 200/300 Series Relay (Typical)

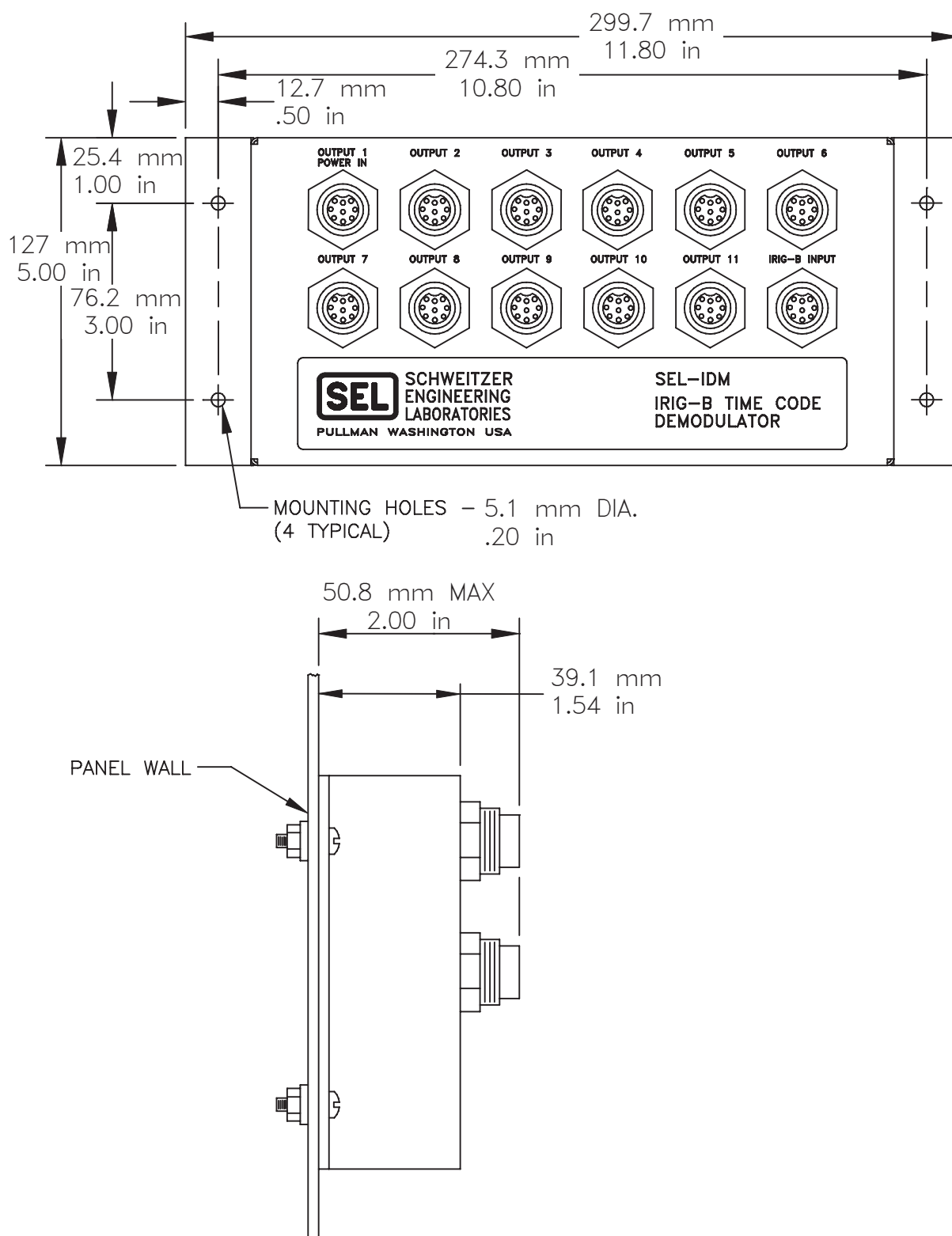


Figure 3 SEL-IDM Mounting Diagram

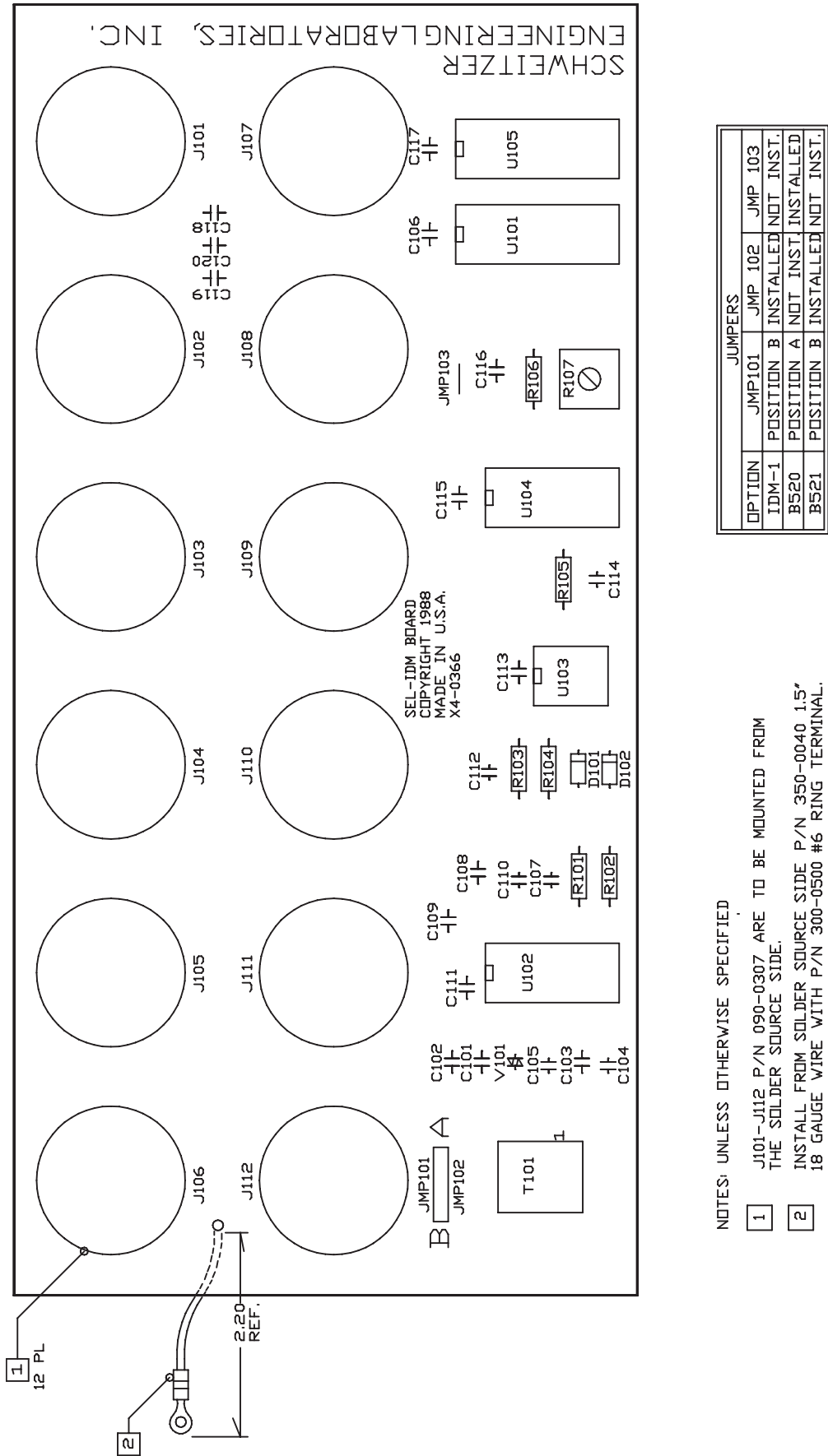


Figure 4 SEL-IDM Parts Placement Diagram

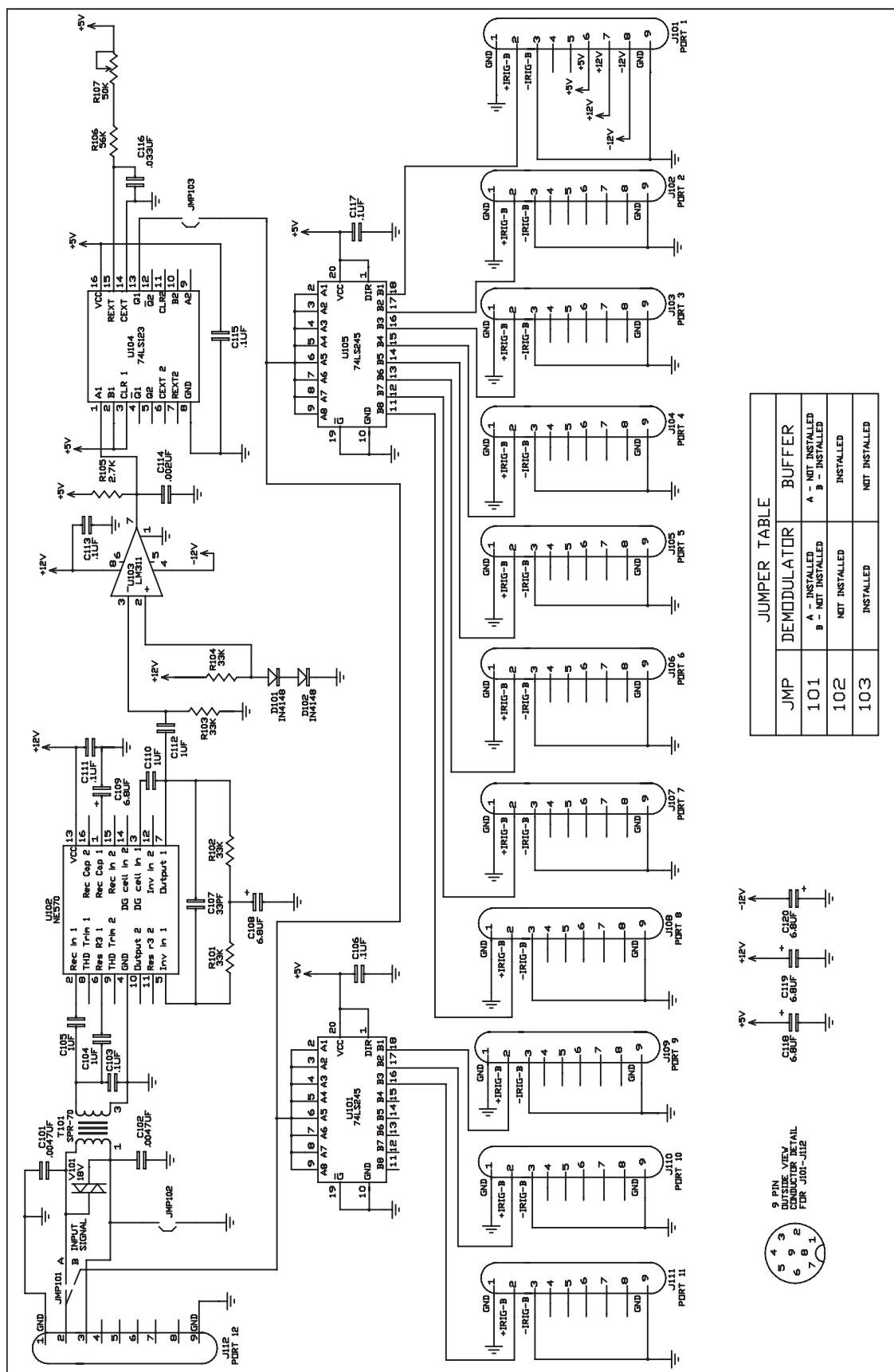


Figure 5 SEL-IDM Schematic

Factory Assistance

We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

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Fax: +1.509.332.7990
Internet: www.selinc.com

⚠CAUTION

Equipment components are sensitive to electrostatic discharge (ESD). Undetectable permanent damage can result if you do not use proper ESD procedures. Ground yourself, your work surface, and this equipment before removing any cover from this equipment. If your facility is not equipped to work with these components, contact SEL about returning this device and related SEL equipment for service.

⚠WARNING

Operator safety may be impaired if the device is used in a manner not specified by SEL.

⚠DANGER

Contact with instrument terminals can cause electrical shock that can result in injury or death.

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This product is covered by the standard SEL 10-year warranty. For warranty details, visit www.selinc.com or contact your customer service representative.

⚠ATTENTION

Les composants de cet équipement sont sensibles aux décharges électrostatiques (DES). Des dommages permanents non-décelables peuvent résulter de l'absence de précautions contre les DES. Raccordez-vous correctement à la terre, ainsi que la surface de travail et l'appareil avant d'en retirer un panneau. Si vous n'êtes pas équipés pour travailler avec ce type de composants, contacter SEL afin de retourner l'appareil pour un service en usine.

⚠AVERTISSEMENT

La sécurité de l'opérateur peut être compromise si l'appareil est utilisé d'une façon non indiquée par SEL.

⚠DANGER

Tout contact avec les bornes de raccordement de l'appareil peut causer un choc électrique pouvant entraîner des blessures ou la mort.

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