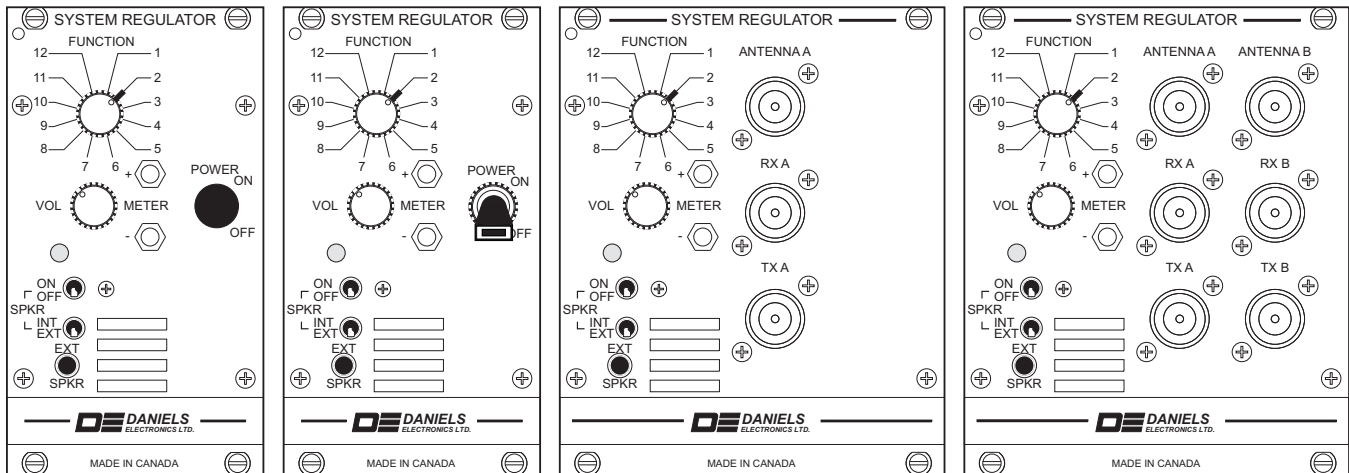


TN811 SM-3 System Regulator

The SM-3 system regulator is a plug-in module which provides voltage regulation, system metering and audio monitoring for an MT-3 or MT-4 radio system. The SM-3 includes the following features:

- High current +9.5 Vdc voltage regulator with an anti-latchup hysteresis circuit.
- Front panel switch selectable meter outputs to check supply voltages, carrier strengths, etc.
- Audio amplifier and loudspeaker.
- Relay drivers for optional antenna relays.



There are four different versions of the system regulator.

| | |
|----------------|---|
| SM-3-H0-014-00 | Standard SM-3 with no relays or switches (14 HP width) |
| SM-3-H0-014-01 | SM-3 with main power switch (14 HP width) |
| SM-3-H0-R1N-00 | SM-3 with single antenna relay on the front panel (21 HP width) |
| SM-3-H0-R2N-00 | SM-3 with dual antenna relays on the front panel (21 HP width) |

The System Regulators have a rotary switch on the front panel allowing the various functions to be selected for monitoring. Two front panel jacks are provided for monitoring of selected functions. An audio amplifier and loudspeaker allow for audio monitoring. Front panel controls allow for audio volume adjustment. Select the Receiver audio for monitoring using the rotary switch (position 3 for Receiver A, position 5 for Receiver B), and turn the speaker ON. An external speaker jack is also available. An LED indicator illuminates when the audio circuits are on. Receiver C, D and E can also be monitored when using the System Regulator in a Multiple Receiver Subrack. Jumpers JU15 - JU24 are installed for Multiple Receiver Subrack compatibility.

Backwards Compatibility

The SM-3 System Regulator is a direct replacement for the SM-3 System Monitor, however, the rotary switch positions for the front panel test points have been changed.

The simplex mode jumpers to connect the Transmitter PTT OUT signal line to the RX MUTE are now located on the new motherboard, but the System Regulators still contain the simplex mode jumpers for backwards compatibility with older motherboards.

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TN811 SM-3 System Regulator

System Regulator Testing

The System Regulator module is designed with a convenient and easy test point built in to the front panel. This test point allows a technician access to the DC supply and regulated voltages. Simply connect a standard Digital Volt Meter (DVM) to the METER jacks on the front panel of the System Regulator as shown in Figure 1. Turn the rotary switch to the desired position to measure the supply voltage, regulated voltage or audio output as shown in Table 1. Note that the RSSI requires a carrier and the audio output requires an audio tone injected into the receiver.

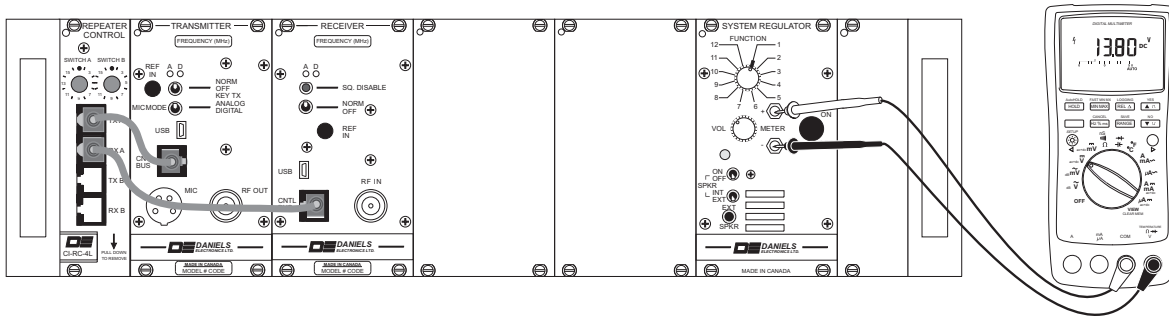


Figure 1: System Regulator Testing

Table 1: System Regulator Rotary Switch Functions

| Position | Function | Parameter |
|----------|-----------------------|---|
| 1 | Supply Voltage | +10 Vdc to +17 Vdc (+13.8 Vdc nominal) |
| 2 | +9.5 Volts Regulated | +9.5 Vdc (± 0.1 Vdc) |
| 3 | Rx A Audio | Receiver A Audio (NOT Rx Balanced Output) |
| 4 | Rx A Carrier Strength | 0 Vdc to +5.0 Vdc based on received signal strength |
| 5 | Rx B Audio | Receiver B Audio (NOT Rx Balanced Output) |
| 6 | Rx B Carrier Strength | 0 Vdc to +5.0 Vdc based on received signal strength |
| 7 | Rx C Audio | Receiver C Audio (NOT Rx Balanced Output) |
| 8 | Rx C Carrier Strength | 0 Vdc to +5.0 Vdc based on received signal strength |
| 9 | Rx D Audio | Receiver D Audio (NOT Rx Balanced Output) |
| 10 | Rx D Carrier Strength | 0 Vdc to +5.0 Vdc based on received signal strength |
| 11 | Rx E Audio | Receiver E Audio (NOT Rx Balanced Output) |
| 12 | Rx E Carrier Strength | 0 Vdc to +5.0 Vdc based on received signal strength |