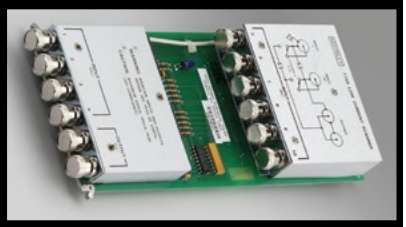
7158

Low Current Scanner Card

10-channel



- **Sub-picoamp offset current**
- **Maintains current path for unselected channel**
- **BNC connectors**

Ordering Information

7158 **Low Current Scanner Card**

Accessories Supplied

4801 **Low Noise Male to Male BNC Input Cable**

The Model 7158 provides quality low-current switching at an affordable price. The offset current error generated is specified <1pA, with typical performance at <30fA. When used with a voltage source and electrometer or picoammeter, this card can easily automate insulation resistance tests, reverse leakage tests on semiconductor junctions, or gate leakage tests on FETs.

The Model 7158 is designed to maintain the current path even when the channel is deselected. Input connectors are BNC for shielding of the sensitive measurements and for compatibility with low noise coaxial cables such as Keithley accessory cables Models 4801 and 4803. Two outputs are provided to allow for chaining several scanner cards to one measurement instrument, and an isolation relay in the output HI minimizes interaction between cards.

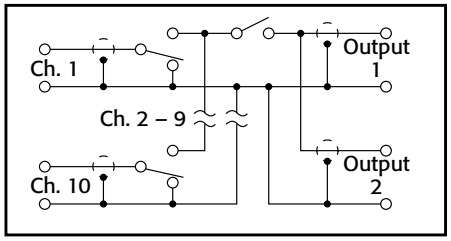
CHANNELS PER CARD: 10.
CONTACT CONFIGURATION: Single pole, simultaneous break and make for signal HI input. Signal LO is common for all 10 channels and output. When a channel is off, signal HI is connected to signal LO.
CONNECTOR TYPE: BNC.
RELAY DRIVE CURRENT: 100mA per card typical (regardless of channel closures selected).
MAXIMUM SIGNAL LEVEL: 30V, 100mA peak (resistive load).
CONTACT LIFE: $>10^6$ closures at maximum signal levels; $>10^7$ closures at low signal levels.
CONTACT RESISTANCE: <1Ω.
CONTACT POTENTIAL: <200μV.
OFFSET CURRENT: <1pA (<30fA typical).
3dB BANDWIDTH: 1MHz typical.
ACTUATION TIME: <1ms, exclusive of mainframe.
CHANNEL ISOLATION: $>10^{14}$Ω.
INPUT ISOLATION: Differential: $>10^9$Ω, <50pF.
Common Mode: $>10^9$Ω, <150pF.
COMMON MODE VOLTAGE: <30V maximum.

ACCESSORIES AVAILABLE

4801	Low Noise Male to Male BNC Input Cable
4802-10	Low Noise BNC to Unterminated Cable, 10 ft.
4803	Low Noise BNC Cable Kit for 7158

SERVICES AVAILABLE

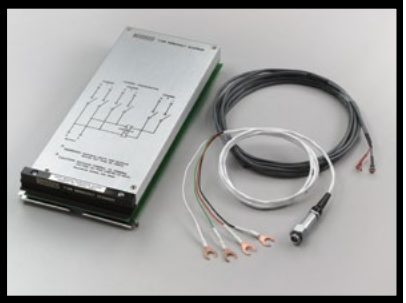
7158-3Y-EW	1-year factory warranty extended to 3 years from date of shipment



7168

Nanovolt Scanner Card

8-channel, 2-pole



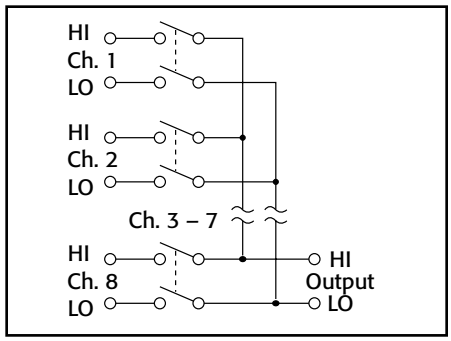
- **<30nV contact potential**
- **Bare copper terminal connections**

Ordering Information

7168 **8-channel Nanovolt Scanner Card**

The Model 7168 is an 8-channel, 2-pole card with <30nV of thermal offset. It will switch any one of eight signals to one output in less than 3ms. Channel offset leakage current is <50pA at 23°C. When the 7168 is used with the Model 2182A, the noise and drift performance of the 2182A is not degraded.

CHANNELS PER CARD: 8.
CONFIGURATION: Two poles per channel, input HI and LO.
CONNECTOR TYPE: Screw terminal to bare copper printed circuit pad.
MAX. SIGNAL LEVEL: 10V, 50mA peak (resistive load only).
CONTACT RESISTANCE: <12Ω.
CONTACT POTENTIAL (HI to LO) BETWEEN CHANNELS: <30nV when properly zeroed with supplied leads (see manual for recommended procedure). Typically <60nV without zeroing.
CONTACT TYPE: Solid state JFET switch.
ACTUATION TIME: <3ms, exclusive of mainframe.
INPUT LEAKAGE: <50pA per channel at 23°C.
INPUT ISOLATION: $>10^9$Ω, <40pF between any input terminals or between any input terminal and earth.
COMMON MODE VOLTAGE: 30V peak.
MAXIMUM VOLTAGE BETWEEN ANY TWO TERMINALS: 10V.
WARM-UP: 2 hours in mainframe for thermal stability.



OPERATING ENVIRONMENT: 0°–40°C; up to 35°C at 70% R.H.
STORAGE ENVIRONMENT: –25° to 60°C.

ACCESSORIES SUPPLIED

2107-4	Low Thermal Input Cable for 2182A (1 supplied)
7168-316	Low Thermal Input Cables for 7166 (8 supplied)

SERVICES AVAILABLE

7168-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

Use with 7001 and 7002 switch mainframes

SWITCHING AND CONTROL