

KEYSIGHT TECHNOLOGIES (AGILENT HP)

3488A

The Keysight (Agilent/HP) 3488A is a highly versatile, GPIB-programmable Switch/Control Unit designed for multi-channel signal routing and measurements in automated test systems. It features five module slots that can accommodate a wide array of multiplexer, matrix, VHF, microwave, and digital I/O modules, supporting signal switching from DC up to 26.5 GHz.

SPECIFICATIONS

General

Interfaces	HP-IB (IEEE-488.1)
Display	12-character alphanumeric vacuum fluorescent display (VFD) with status indicators
Configuration Storage Battery Backup	5-year minimum standby life

Physical

Power Supply	100 V / 120 V / 220 V / 240 V AC (+5%, -10%), 48 Hz to 66 Hz, 24 VA maximum
Operating Temperature	0°C to 55°C °C
Dimensions (W×H×D)	425.5 mm x 88.9 mm x 292.1 mm mm
Weight	5.2 kg kg

System Architecture & Capacity

Number of Module Slots	5 slots
Maximum Channel Capacity	Up to 50 channels (using 10-channel modules)
Configuration Storage	40 non-volatile memory registers plus state 0
Microprocessor Control	Built-in microprocessor control

System Control & Programming Interface

Remote Interface	HP-IB (IEEE-488.1)
HP-IB Interface Capabilities	SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0, E1
HP-IB Address Selection	Rear-panel DIP switch selectable (0 to 30)
External Trigger Input	BNC connector, TTL level, active low, minimum pulse width 2 microseconds
Channel Advance Output	BNC connector, TTL level, active low, pulse width 15 to 25 microseconds

Power Specifications

AC Line Voltage Selection Range	100 V / 120 V / 220 V / 240 V AC (+5%, -10%) via rear-panel slide switches
AC Line Frequency Range	48 Hz to 66 Hz
Power Consumption	24 VA maximum

Physical & Mechanical

Form Factor / Rack Units (U)	2U (Height)
Chassis Width	Standard full-rack width

Environmental & Reliability

Storage Temperature Range	-40°C to +75°C
Operating Humidity Limit	< 95% R.H. at 0°C to 40°C (non-condensing)

Supported Module Configurations

Option 010 Module	10-channel relay multiplexer module
Option 011 Module	10-channel general purpose relay module
Option 012 Module	Dual 4-channel VHF switch module (300 MHz)
Option 013 Module	4 x 4 matrix switch module
Option 014 Module	16-bit digital input/output module
Option 015 Module	Breadboard prototyping module
Option 016 Module	3-channel 18 GHz microwave switch driver / switch module
Option 017 Module	7-channel form-C relay module
Option 018 Module	1.3 GHz 50 Ohm multiplexer module
Option 019 Module	1.3 GHz 75 Ohm multiplexer module

Option 010 Multiplexer Performance

Option 010 Max Voltage	250 V AC / V DC
Option 010 Max Current	1 A
Option 010 Max Power	30 VA / 30 W

Option 011 General Purpose Relay Performance

Option 011 Max Voltage	250 V AC / V DC
Option 011 Max Current	1 A
Option 011 Max Power	30 VA / 30 W

Option 012 VHF Switch Performance

Option 012 Frequency Range	DC to 300 MHz
Option 012 Insertion Loss	< 1.5 dB at 300 MHz

Option 013 Matrix Performance

Option 013 Matrix Configuration	4 x 4 matrix (16 crosspoints)
Option 013 Max Voltage	250 V AC / V DC
Option 013 Max Current	2 A

Option 014 Digital IO Performance

Option 014 IO Lines	16 bi-directional lines
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Option 019 / 020 Performance

Option 019 Impedance	75 Ohm
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System Performance

Scanning Speed	Up to 33 channels/s
Command Execution Time	11 ms (CLOSE/OPEN)
Self-Test	Power-on self-test of RAM, ROM, and HP-IB interface

Electrical Isolation

Maximum Isolation Voltage	250 V AC rms / 350 V DC (any terminal to chassis)
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Option 010 (HP 44470A 10-Channel Multiplexer)

Option 010 Configuration	Dual 1-of-5 or single 1-of-10 multiplexer
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Option 011 (HP 44471A 10-Channel GP Relay)

Option 011 Configuration	10 independent SPST relays (Form A)
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Option 012 (HP 44472A VHF Switch)

Option 012 Channel Configuration	Dual 1-of-4 multiplexer
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Option 014 (HP 44474A Digital I/O)

Option 014 Logic Compatibility	TTL compatible
Option 014 Max Sink Current	125 mA per line

Option 016 (HP 44476A Microwave Switch)

Option 016 Coaxial Switch Drive Capacity	Drives up to 3 coaxial switches
Option 016 Drive Voltages	+5 V, +24 V, or external drive

Option 017 (HP 44477A Form C Relay)

Option 017 Relay Configuration	7 independent SPDT relays (Form C)
Option 017 Max Voltage	250 V AC rms, 250 V DC
Option 017 Max Current	2 A
Option 017 Max Power	60 VA, 60 W

Option 018 (HP 44478A 1.3 GHz 50 Ohm Mux)

Option 018 VSWR	< 1.35 @ 1 GHz, < 1.5 @ 1.3 GHz
Option 018 Crosstalk Isolation	> 55 dB @ 1 GHz, > 50 dB @ 1.3 GHz
Option 018 Insertion Loss	< 1.9 dB @ 1.3 GHz

Option 019 (HP 44478B 1.3 GHz 75 Ohm Mux)

Option 019 Crosstalk Isolation	> 55 dB @ 1 GHz
Option 019 Insertion Loss	< 1.9 dB @ 1.3 GHz

Environmental

Maximum Operating Altitude	4,600 m (15,000 ft)
Maximum Storage Altitude	15,300 m (50,000 ft)

Option 010 (HP 44470A) Specifications

Option 010 Closed Channel Resistance	< 1 μ (initial), < 2 μ (end of life)
Option 010 Thermal Offset	< 3 μ V

Option 011 (HP 44471A) Specifications

Option 011 Closed Channel Resistance	< 1 μ (initial), < 2 μ (end of life)
Option 011 Thermal Offset	< 4 μ V

Option 012 (HP 44472A) Specifications

Option 012 VSWR	< 1.25 @ 300 MHz
Option 012 Characteristic Impedance	50 Ω

Option 013 (HP 44473A) Specifications

Option 013 Closed Channel Resistance	< 1.5 μ (initial), < 3 μ (end of life)
Option 013 Thermal Offset	< 3 μ V

Option 014 (HP 44474A) Specifications

Option 014 Handshake Lines	3 lines (Strobe, Flag, I/O Gate)
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Option 015 (HP 44475A) Specifications

Option 015 Available Voltages	+5 V (150 mA), +15 V (50 mA), -15 V (50 mA)
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Option 017 (HP 44477A) Specifications

Option 017 Thermal Offset	< 3 μ V
Option 017 Closed Channel Resistance	< 1 μ (initial), < 2 μ (end of life)

Option 018 (HP 44478A) Specifications

Option 018 Characteristic Impedance	50 Ω
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Option 019 (HP 44481A) Specifications

Option 019 VSWR	< 1.15 @ 500 MHz, < 1.35 @ 1.3 GHz
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Option 020 (HP 44482A) Specifications

Option 020 VSWR	< 1.25 @ 500 MHz, < 1.5 @ 1.3 GHz
Option 020 Crosstalk Isolation	> 80 dB @ 100 MHz, > 55 dB @ 1.3 GHz
Option 020 Insertion Loss	< 0.4 dB @ 500 MHz, < 0.9 dB @ 1.3 GHz

Inputs & Outputs

External Trigger Input Level	TTL compatible, negative edge triggered
Channel Advance Output Level	TTL compatible, active low pulse (> 10 ns)

Remote Interface

Programming Command Set	Device-dependent ASCII commands (non-SCPI)
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TECHNOLOGY

Electromechanical Relay Switching

APPLICATIONS

Automated Test Equipment (ATE), Multi-channel RF/Microwave Routing, General Purpose Signal Switching

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.