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# 7001 High Density Switch System

## SYSTEM

**CAPACITY:** 2 plug-in cards per mainframe.

**MEMORY:** Battery backed-up storage for 100 switch patterns.

**SWITCH SETTLING TIME:** Automatically selected by the mainframe for each card. Additional time from 0 to 99999.999 seconds can be added in 1ms increments.

**TRIGGER SOURCES:**

External Trigger (TTL-compatible, programmable edge, 600ns minimum pulse, rear panel BNC).

IEEE-488 bus (GET, *TRG)

Trigger Link

Manual (front panel)

Internal Timer, programmable from 1ms to 99999.999 seconds in 1ms increments.

**STATUS OUTPUT**: Channel Ready (TTL-compatible signal, rear panel BNC). Low going pulse (10µs typical) issued after relay settling time. For two different switch cards, 7001 will be set to the slowest relay settling time.

**SWITCHING SEQUENCE:** Automatic break-before-make.

**MAINFRAME DIGITAL I/O:** 4 open-collector outputs (30V maximum pull up voltage, 100mA maximum sink current, 10Ω output impedance), 1 TTL compatible input, 1 common.

**RELAY DRIVE:** 700mA maximum for both card slots.

**CARD SIZE:** 32mm high × 114mm wide × 272mm long (1¼ in × 4½ in × 10¾ in).

**CARD COMPATIBILITY:** Fully compatible with all 7XXX cards.

## THROUGHPUT

**EXECUTION SPEED OF SCAN LIST**[1]

| | 7011 Card | 7015 Card |
|---|---|---|
| Individual channels: | 130/second | 500/second |
| Memory setups: | 125/second | 450/second |

**TRIGGER EXECUTION TIME (maximum time from activation of Trigger Source to start of switch open or close**[2]**):**

| SOURCE | LATENCY | JITTER |
|---|---|---|
| GET[3] | 200 µs | <50 µs |
| *TRG[3] | 5.0 ms | |
| Trigger Link | 200 µs | <13 µs |
| External | 200 µs | <13 µs |

1 Rates include switch settling time of cards: 3ms for 7011 and 500µs for 7015 cards.

2 Excluding switch settling time.

3 Assuming no IEEE-488 commands are pending execution.

## IEEE-488 COMMAND EXECUTION TIME

| | EXECUTION TIME[1] | |
|---|---|---|
| COMMAND | DISPLAY OFF | DISPLAY ON |
| OPEN (@1!1) | 7.5 ms | 8.5 ms |
| CLOS (@1!1) | 7.5 ms | 8.5 ms |
| MEM:REC M1 | 5.0 ms | 6.0 ms |

1 Measured from the time at which the command terminator is taken from the bus to the time at which the relay begins to open or close.

## ANALOG BACKPLANE

**SIGNALS:** Four 3-pole rows (Hi, Lo, Guard). These signals provide matrix and multiplexer expansion between cards within one mainframe.

**MAXIMUM VOLTAGE:** 250V DC, 250V RMS, 350V AC peak, signal path to signal path or signal path to chassis.

**MAXIMUM CURRENT:** 1A peak.

**PATH ISOLATION:**

$>10^{10}\Omega$, <50pF path to path (any Hi, Lo, Guard to another Hi, Lo, Guard).

$>10^{10}\Omega$, <50pF differential (Hi to Lo or Hi, Lo to Guard).

$>10^{9}\Omega$, <75pF path to chassis.

**CHANNEL CROSSTALK:** <–65dB @ 1MHz (50Ω load).

**BANDWIDTH:** <3dB loss at 100MHz (50Ω load).

## IEEE-488 BUS IMPLEMENTATION

**STANDARDS CONFORMANCE:** Conforms to SCPI-1990, IEEE-488.2 and IEEE-488.1.

**MULTILINE COMMANDS:** DCL, LLO, SDC, GET, GTL, UNT, UNL, SPE, SPD.

**UNILINE COMMANDS:** IFC, REN, EOI, SRQ, ATN.

**INTERFACE FUNCTIONS:** SH1, AH1,T5, TE0, L4, LE0, SR1, RL1, PP0, DC1, DT1, C0, E1.

## GENERAL

**DISPLAY:** Dual-line vacuum fluorescent.

1st line: 20-character alphanumeric.

2nd line: 32-character alphanumeric.

**REAR PANEL CONNECTORS:**

IEEE-488

8-pin micro DIN connector for digital I/O

8-pin micro DIN for Trigger Link

8-pin micro DIN for Trigger Link expansion

BNC for External Trigger

BNC for Channel Ready

**POWER:** 100V to 240V RMS , 50/60 Hz, 50VA maximum.

**EMC:** Complies with to European Union Directive 89/336/EEC, EN61326-1.

**SAFETY:** Conforms to European Union Directive 73/23/EEC, EN61010-1.

**EMI/RFI:** Meets VDE 0871B and FCC Class B.

**ENVIRONMENT:**

**Operating:** 0°–50°C, <80% relative humidity (0°–35°C).

**Storage:** –25° to +65°C.

**DIMENSIONS, WEIGHT:** 89mm high × 216mm wide × 375mm deep (3½ in × 8½ in × 14¾ in). Net weight 3.4kg (7½ lbs).

Specifications subject to change without notice.

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