

# 4701 Model

# Electromechanical - RF Switching System

## Features

1 - 18 GHz

**Bidirectional Non-Blocking Full Fan-Out Matrix:**  
n inputs by n outputs:

9x9, 10x10, 11x11, or 12x12

Local Control : *LCD Touch Screen Display*

Remote Control: *RS-232 / ENET or GPIB / RS-232*

## Part Numbers

4701 - 9/9 - \*

4701 - 11/11 - \*

4701 - 10/10 - \*

4701 - 12/12 - \*

\* ENET or GPIB

## Description

The 4701 Model is a Non-blocking Full Fan-Out (any input connected to any output simultaneously) coaxial switching system which operates from 1 GHz up to 18 GHz. The system is configured with maximum (12) N-type inputs and (12) SMA-type outputs. Furthermore, all inputs are outfitted with high linearity amplifiers in order to compensate for system insertion loss.

The 4701-series is equipped with Windows XP operating system (CPU), LCD touch screen display for local control, and redundant power supplies with LED monitoring on the front panel. Remotely, in addition to RS-232 it is either offered with Ethernet or GPIB control.

## Features and Control

Local control (on the front panel): All systems are equipped with

- >> 6" LCD Touch Screen Display
- >> Microsoft® Windows® XP Professional Operating System
- >> Removable Hard Drive
- >> Front Panel LED indicators for redundant power supplies

Remote Control (on the rear panel): All versions are equipped with

- >> RS-232 (DP9 female) connector with Baud Rate 9600 bps
- >> CANBus (DP9 male) connector
- >> SCPI commands

ENET (option):

- >> TCP/IP control via 802.3 protocol (Ethernet)
- >> Supports 10BASE-T/100BASE-T via RJ-45 connector.

GPIB (option):

- >> IEEE-488 with 26 pin female connector

## Environment

85-264 VAC, 47-63 Hz, 3-6 A, 250 W (max)  
Standard AC grounded power cable (removable, IEC 320 C19 to NEMA 5-15P)  
Fuse/Breaker: Externally accessible/replaceable  
Storage Temperature: -20 °C to +70 °C  
Operating Temperature: 0 °C to +60 °C  
Operating Humidity: 10-80% (non-condensing)

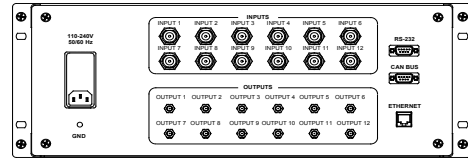


Photo: 4701-12/12-ENET

## Physical

Relay Type: Latching Multiposition  
Contact Material: Beryllium copper, gold-plated  
I/O Connector Type: N Female / SMA Female  
Dimensions: 19" wide standard rack mount  
4U maximum height (7")  
25" maximum depth  
Front Panel Color: Gray  
Weight (max): 85 lbs

## RF Characteristics

### Voltage Standing Wave Ratio (VSWR)

Frequency (GHz)	DC-4	4-8	8-16	16-18
Input	2.15:1	2.20:1	2.50:1	2.25:1
Output	1.60:1	1.80:1	2.15:1	2.11:1

Switching Speed: 50-100 ms (max)  
Operating Life: 1,000,000 cycles (Cold Switching)

Impedance	50 Ohms
Operating Frequency	1-18 GHz
Isolation (min)	60 dB input / input 65 dB input / output 50 dB output / output (Different Output) 18 dB output / output (Common Input)

Gain: 0 dB +/- 2 dB  
(defines minimum and maximum gain across the specified frequency band)

Input Power (max): +15 dBm

1 dB Compression Point (min): +5 dBm

2nd Order Output Intercept Point (IP2) min: +20 dBm

3rd Order Output Intercept Point (IP3) min: +10 dBm

Noise (max): 11 dB

