

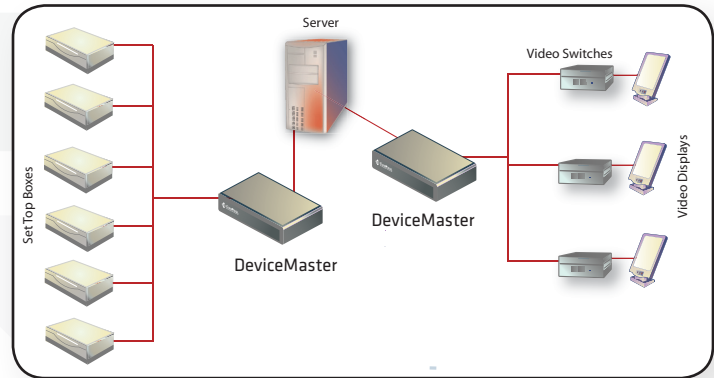


CUSTOMER SUCCESS STORY

Integrated Testing Equipment for Set Top Boxes

The task of testing diagnostic ports for set top cable boxes – devices that connect to a television and an external signal, turning the signal into content displayed on a television screen - is a crucial step in the manufacturing process for most cable companies.

Each set top box contains a testing diagnostic port, which is used to diagnose a problem if a failure occurs. After a set top box is manufactured, it undergoes a series of tests, one of which includes testing to ensure the diagnostic port is working properly before it is distributed to users.



To ensure that the appropriate testing was being performed with the utmost accuracy, a very large cable company partnered with a leading electronic testing service company to custom-build 85 electronic test systems. The testing system that was developed allowed for 12 set top boxes to be tested at a time. In creating this system, the electronic testing company needed a product that had both scalability and flexibility. Control's DeviceMaster serial hub was able to provide both of these qualities for the customized testing system. Two DeviceMaster serial hubs were placed into each test system. The first DeviceMaster was connected to 12 set top boxes, and the second DeviceMaster product connected multiple display monitors through video switches.

During the testing phase, a tester sends a command through the central server to Control's DeviceMaster product. The DeviceMaster relays the diagnostic test message to each of the 12 set top boxes, gathering the response data from each box. All this information is then passed back to the server through the DeviceMaster. The second DeviceMaster is connected to video switches, which are used to control multiple display monitors. The display monitors allow the tester to view different formats of diagnostic information that each set top box provides based on the command they were given. As the monitors display the appropriate information during the diagnostic testing, each set top box will pass this portion of the testing phase with complete accuracy.

In the end, the scalability and flexibility of Control's DeviceMaster product allowed the electronic testing company to provide the perfect solution of a flexible and responsive diagnostic test system for their customer.

To learn more about Control's DeviceMaster® products, visit www.control.com.

Continued on back

DEVICEMASTER SERIAL HUB SPECIFICATIONS



HARDWARE

Bus Interface Specification	10/100 BASE-T
Memory	
SDRAM	8 MB
Flash	4 MB
Enclosure	Black Finished Steel
Installation Method	Panel Mountable
LED Indicators	
100MB Ethernet, Collision, Ethernet Link/Activity, RX/TX per port, and Status	
Enclosure Dimensions	10.8" x 6.3" x 1.8"
Product Weight	77.1 oz

ELECTRICAL SPECIFICATIONS

Device	
DC Input Voltage	9-30VDC
Current Consumption at +24 VDC	132mA
Power Consumption (max)	3.2W
Control External Power Supply	
Output Voltage	9-30VDC
Output Current	+24VDC 500mA
Line Frequency	47-63 Hz
Line Voltage	90-264 VAC
ESD Surge Protection	
Provides minimum of 15KV for all serial lines, all Ethernet components are rated to 1.5KV magnetic surge protection	

ENVIRONMENTAL SPECIFICATIONS

Air Temperature	
System On	-37° to 74°C
System Off	-40° to 85°C
Operating Humidity	
(Non-Condensing) 5% to 95%	
Altitude	0 to 10000 Feet
Heat Output	10.9 BTU/Hr
MTBF (Mean Time Between Failures) 24.0 Years	

SERIAL COMMUNICATIONS

Connector Type	DB9M
Number of Ports	8
Supported Interfaces	RS-232
Baud Rates	300 to 230.4Kbps
Receive Buffer	1024 bytes
Transmit Buffer	256 bytes
Device Driver Data Control	
Data Bits	7 or 8
Parity	odd, even, or none
Stop Bits	1 or 2
Flow Control	
Hardware, Software, None	

ETHERNET SPECIFICATIONS

Network Protocols	
ARP, BOOTP, DHCP, HTTP, ICMP, Ping, RARP, RFC 1006 (ISO over TCP), RFC 2217, SNMP (MIB-II), TCP/IP & UDP socket services, Telnet, TFTP Supports IP multicast data transmission	

Connector Type	RJ45F
Number of Ports	2
EXPORT INFORMATION	
Packaged Shipping Weight	7.46lbs
Package Dimensions	19.63" x 4" x 14"
UPC Code	7-56727-99465-7
Country of Origin	USA
ECCN	5A991
Schedule B Number	8471.80.1000

DEVICE DRIVERS

Microsoft® Windows NT® 4.0
Microsoft® Windows Server® 2003
Microsoft® Windows® 2000
Microsoft® Windows® XP
Microsoft® Windows® 7
Microsoft® Windows® 2008 Server
Microsoft® Windows® Vista

FEATURES

SNMP Support	Monitoring Only
Event Notification and Watchdog	
Manufacturer's Warranty	5 Years

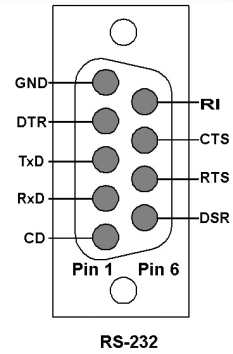
REGULATORY STANDARDS

Emissions	
CANADIAN EMC REQUIREMENTS	
ICES-003	
European Standard EN55022	
FCC PART 15 SUBPART B	
CLASS A LIMIT	
CISPR 22	
Immunity	
European Standard EN55024	
IEC 1000-4-2/EN61000-4-2: ESD	
IEC 1000-4-3/EN61000-4-3: RF	
IEC 1000-4-4/EN61000-4-4: Fast Transient	
IEC 1000-4-5/EN61000-4-5: Surge	
IEC 1000-4-6/EN61000-4-6: Conducted Disturbance	
IEC 1000-4-8/EN61000-4-8: Magnetic Field	
IEC 1000-4-11/EN61000-4-11: Dips and Voltage Variations	
Safety	
IEC 60950/EN60950 (Recognized)	
CSA C22.2 No. 60950/UL60950 Third Edition	

Regulatory Approvals



SERIAL CONNECTOR PIN ASSIGNMENTS



ORDERING INFORMATION

99465-7 DeviceMaster 8-Port Serial Hub



PRODUCT SUPPORT & SERVICE INFORMATION

Warranty Information

Control offers a 30-day satisfaction guarantee and 5-year limited warranty.

Sales Support

+1.763.957.6000
sales@comtrol.com

Technical Support

+1.763.957.6000
www.comtrol.com/support

Email, FTP, and Web Support

info@comtrol.com
ftp.comtrol.com
www.comtrol.com