Switch Matrix

Renaissance’s Switch Matrices are designed to meet system specification without inducing perturbations to fundamental signals. Signal conditioning, as required, is performed by High-Rel components like 10 million life cycle switches or hermetic switches. Matrices are designed to system architecture, price points and are available in all standard interfaces with GUls and supporting software.

Company Profile

For over two decades Renaissance Electronics Corporation (REC) has been servicing the RF, Microwave, and Millimeter Wave community Creating Shared Value (CSV) for economic success. We have created policies and practices that enhance the competitiveness of our business. We are prepared to meet the needs and challenges of our customers with our Four Product Groups that service Military and Commercial applications. With over 350 years of combined higher level engineering expertise, we provide individual standard components to custom integrated sub-systems and systems.
MARKET APPLICATION

Antenna Switching
- High Power Radios Keying into antennas using N x N Relays.
- Satellite receiver switching N antennas to M receivers using low loss solid state switches.
- Redundant Transceiver (Tx/Rx) Switching using SNMP protocols.
- DVB Network Switching.
- BTS switching.

Test and Measurement
- Multiple Characterization Tests requiring multiple test equipment connecting to a single or many DUT in N x M configuration.
- Cellular Emulation (Fading, Multipath, etc) Testing requiring switching between nodes.
- Phased Array Testing, Amplitude/phase measurements.
- Chipset testing

MODULAR SWITCH MATRIX

REC has developed “state of the art” designs to keep up with the trends in the industry. Our dedicated team of engineers has come up with Modular Switch Matrix design that will meet the changing demands of the test and measurement industry. Besides easy scalability and cost effectiveness the advantages are the following:

- Flexible system architecture
- Modular design for ease of upgrades
- Common command and control systems
- Field upgradable firmware
WHAT IS UNIQUE ABOUT REC’s SWITCH MATRIX?

• High reliability, repeatability and signal linearity due to high quality components
• Optimized design for excellent signal quality and ultimate performance
• Very low insertion loss and high isolation
• Higher power handling capability
• Low VSWR
• Frequency capability, DC to 40 GHz
• Guaranteed life of more than 5 million cycles
• Fast switching speed
• Ethernet, GPIB, RS 232, RS 485 interfaces
• Custom and standard GUI

WHY A SWITCH MATRIX FROM RENAISSANCE?

• Design experience of more than 20 years
• Highly reliable in-house manufacturing capability of components
• Well established testing & quality systems
• Fully integrated CAD system
• Excellent customer service with quick response to all issues
• Highly satisfied customers who place repeat orders

CHALLENGES FOR DESIGNING AND DEVELOPING A RF SWITCH MATRIX:

• RF and Microwave Design
• Mechanical Design
• Power supplies & Control Systems
• Software Drivers
• User’s manuals & Documentation
• After Sales Service Plans

www.rec-usa.com  978-772-7774  sales@rec-usa.com
SWITCH MATRIX SPECIFICATION FORM

Date: _______________

Please fill out the form and send the RFQ to: sales@rec-usa.com or fax to: 978 772 7775.

CONFIGURATION
Block diagram/Schematic provided: Yes _____ No _____
{ } Blocking (each input to one output at a time)
{ } Non-blocking (each input to any/all outputs)
# of inputs _______ # of outputs _______
Fan in or Fan out? ______
Bi Directional or Uni-Directional _____________________________
Any Gain Expected (i.e. Any amplified path) ____________________

MECHANICAL SPECIFICATION
What platform is requested. (i.e., VXI, MMS, System II, custom, or accept manufacturer’s standard?) _______________________
Size/Space/Weight constraints: _____________________________________
Connectors requested: ____________________________________________
RF: _______ Other: _______
Connector type, locations and layout constraints (i.e., front or rear):
Input: _______ Output: _______
Auxiliary components required? ________
Need rack slides? { } Yes { } No
Flanges: { } Yes { } No { } with handles { } without handles
Environmental testing required? { } Yes { } No If yes specify: ________
Environmental specs required? { } Yes { } No
If yes specify: _______________________

INTERFACE
User Interface: ____________________________________________
Type of switch driver: _________________________________________
Indicators required? { } Yes { } No
Special layout/mechanical/electrical requirements: _______________________

Customer Name: ___________________________________________
Contact Information: _________________________________________

POWER SUPPLY
US or International ___________________________________________
Voltage _______ Current _______

RF SPECIFICATION
Frequency range: ___________________________________________
Insertion loss/gain: __________________________________________
Input power per channel _______________________________________
If available, please provide us a block diagram.
VSWR: _______ Are unused I/O’s terminated? _______
Isolation between ports: ______________________________________
Reflective or non-reflective type _____________________________
Linearity of intermodulation, if any ___________________________
Operating temperature ____________________________
Switching time ____________________________
Quantity ____________________________

Contact us today!
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www.rec-usa.com