EX7000-OEM

LXI CLASS A UNIVERSAL RELAY DRIVER AND I/O

EXPERIENCE THE MODULARITY OF LXI

product longevity

VTI Microwave integrates the EX7000-OEM into all LXI RF/Microwave products in support of our commitment to provide products based on open-system platforms and ensure long-term viability. The EX7000-OEM is the natural solution for engineers who wish to leverage an open-platform architecture for internal requirements, and provide a common infrastructure that can be reused for future application needs.

unmatched performance and modularity

The EX7000-OEM is controlled via a standard Ethernet interface and conforms to all the powerful features of LXI Class A, which includes an industry standard discovery method, LVDS triggering and IEEE-1588 for precise time-based synchronization with other LXI devices. An EX7000-OEM provides 72 driver channels capable of sinking 410 mA, 12 reset/control lines, and a 32-bit TTL port; all designed for controlling virtually any type of RF/Microwave relay or component.

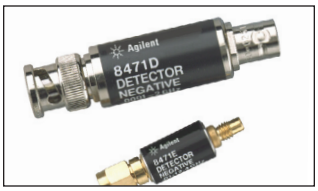
Up to seven expansion driver boards (EX7000-72) can be added for designs that require additional drive control for a maximum of 576 high-current sink channels, 96 reset/control lines and 256 TLL I/O ports.

reduced costs through standardization

The greatest value that the EX7000-OEM brings any organization is its ability to eliminate the need to rely on a proprietary software driver and communications interface during application code development, which can result in a unique implementation for every configuration. Application programs can simply command the RFIU or assembly utilizing “path-level” IVI programming (C or COM) on either Linux or Windows machines. A powerful, very intuitive, on-board JAVA applet used in conjunction with VTI Microwave’s on-line “Best in Class” sourcing database enables the EX7000-OEM to be adapted internally for any mix of components that need to be programmatically controlled.

sustained global service and support

One of the biggest challenges often presented by an in-house development occurs years later when it is time to service or reproduce the hardware. Poor documentation and lack of access to the original designers can result in costly roadblocks that must be cleared. The EX7000-OEM allows users to maintain design-critical information, including component attributes and links to datasheets, and access this information from anywhere in the world. Relay cycle counts, which can assist in preventative maintenance, and fault indicator circuitry available on some components can also be monitored remotely to further reduce system downtime.



SCALABLE
OPEN-ARCHITECTURE
MICROWAVE SOLUTIONS

FEATURES

- Reduce corporate-wide software overhead and time to production
- Standardize on ONE common, open-platform interface for all internal RF/Microwave or power projects
- Modular design allows for scalable solutions in increments of 72 high-current sink, 12 reset/control and 32 TTL I/O channels
- Design based on Industry Standards (LXI Class A and IVI drivers) to ensure interoperabilty and ease of use
- Graphical web-based command and control simplifies RF/Microwave system design and debug
- Enhanced maintenance capability through tracking of relay cycle counts and remote monitoring of fault conditions

RELAY ODOMETER
Tracks cycle count of each relay coil. Assists preventative maintenance programs by monitoring for relay end-of-life.

EXCLUDE LISTS
Prevents undesirable combinations of relay closures. Prevents unsafe conditions such as shorting sources to ground or source to source.

SCAN LISTS
Removes the burden of managing and synchronizing the sequencing of up to 16k switch states from the host controller to speed up test execution. Sequences can be advanced via LXI Class A Trigger Events or the GP digital I/O port.

CONFIGURATION TABLE
Store 128 known configurations for quick recall during test. Power-up state automatically configures box to default state once power is applied.

PROGRAMMABLE MBB AND BBM
The application code can globally define whether or not the relays “break-before-make” or “make-before-break” when sequencing through relay setups.

LATCHING/NON-LATCHING CONTROL
Continuous current sink for driving non-latching component types or pulsed current mode for control of latching components.

NON-RELAY COMPONENT CONTROL
Any of the 72 drive channels or 32-bit TTL ports can be used to control components such as programmable attenuators or synthesizers in addition to relays for maximum design flexibility.

WEB-BASED MONITOR AND CONTROL
All components connected to a driver board are identified with logical names in an XML file. All components are automatically displayed in the web interface where they can be monitored and controlled via a standard web browser utility.

EX7000-OEM
LXI Class A Universal Relay Driver and I/O

Specifications

Digital Control Board (DCB)

Dimensions	22.0mm (.9") H, 152.1mm (6.0") W, 89mm (3.6") D
Connectors	
Host Interface	RJ-45 (Cat 5e) Ethernet (10/100T)
Trigger Bus	Two 25-pin mini D-Sub, (8) LVDS in/out, LXI Class A
TTL I/O (8)	9-pin D-Sub
Reset	Momentary push-button LAN reset and system reset
DCB-to-RDB	40-pin IDC

Relay Driver Board (RDB - Up to eight RDBs per DCB)

Dimensions	16.0mm (.63") H, 217.2mm (8.56") W, 101.6mm (4.00") D
Connectors	
Relay Drivers	Twelve 20-pin IDC
Power	8-pin power header
	Two 5 V
	Three GND
	Three EXT_SOURCE (5V-48V)
DCB-to-RDB	40-pin IDC
Relay Power	5 V dc to 48 V dc
	Three per driver board in groups of 24
Relay Drivers	72 per board 12 reset/high-current
Max Current Sink	200 mA (all channels ON)
	410 mA (individual channel)
	800 mA (reset/high-current only)
TTL I/O	32 channels per board

Software

Programmatic Control	IVI-COM and IVI-C API
	IVI similar API for Linux
Direct Control	Embedded Java Applet (soft front panel)
Configuration Table	128 Elements (Power-on, reset, user defined)
Scan List	16k Setups

Ordering Information

EX7000-OEM	DCB, 72 open-collector driver/32 TTL I/O RDB
EX7000-OEM-1	DCB, 48 open-collector, 24 TTL driver/32 TTL I/O RDB
EX7000-OEM-2	DCB, 24 open-collector, 48 TTL driver/32 TTL I/O RDB
EX7000-OEM-3	DCB, 72 TTL driver/32 TTL I/O RDB
EX7000-72	72 driver/32 TTL I/O expansion RDB
EX7000-72-1	48 open-collector, 24 TTL driver/32 TTL I/O expansion RDB
EX7000-72-2	24 open-collector, 48 TTL driver/32 TTL I/O expansion RDB
EX7000-72-3	72 TTL driver/32 TTL I/O expansion RDB
Option 20IDC	Six 2 ft relay driver mating cables, unterminated user end
Option 40IDC-x	DCB - RDB communications cable (x = number of RDB)
Option PWD-x	Vertical stacking for DCB and RDB boards (x = number of RDB)