ANALOGUE, DIGITAL, RF & MICROWAVE COMPONENTS & SUB-SYSTEMS

ADMIRAL COMPONENT PRINCIPALS

E-MAIL: SALES@ASPEN-ELECTRONICS.COM

Aethercomm
• RF Amplifier Modules & Sub-Systems from DC to 40GHz. Power Levels from a few Watts to Kilowatts utilising GaN, LDMSOS & GaAs Technology.
• Linear, Broadband & Pulsed High Power Amplifier Modules.
• High Power RF & Microwave Sub-Systems.
• High Power Symmetrical RF Switches.

Anadigics
• High Quality InGaP HBT; GaAs MESFET & GaAs PHEMT RFIC Products for Cellular, Wireless Infrastructure, WIFI & CATV.
• Power Amplifiers for Cellular, WCDMA, HSPA, LTE CDMA, EVDO & WiMAX.
• Gain Blocks from 0.25 to 3GHz.
• Front End Modules for Wi-Fi 802.11a/b/g/n & Bluetooth.
• CATV 12V & 24V Line Amplifiers & 75Q Gain Blocks.
• Active Splitters & Up/Down Converters.
• VCOs from 7 to 14GHz for Point to Point Wireless Backhaul.

Anaren
• RF Components for Wireless Infrastructure & Consumer Electronics from DC to 8GHz.
• LTE, GSM, CDMA, DCS, PCS, UMTS, WiMAX, WiFi, SATV & RFID.
• Surface Mount Baluns & RF Cross Overs.
• High Power Resistors, Terminations & Attenuators.
• Xinger Surface Mount Power Dividers & Doherty Combiners.
• Xinger Surface Mount Hybrid & Directional Couplers.

Arizona Capacitors
• Wound Film Capacitors for Industrial, Commercial & Defence Applications.
• Paper/Foil, Polycarbonate/Foil & Paper/Plastic.
• Metallised Polyester & Metallised Polycarbonate Wrap & Fill.
• High Voltage Plastic Film, Paper/Plastic & Metallised Polyester.
• Electronic Filters including EMI, Low Pass, Feed-Through-Capacitors, Power Line & Audio Frequency Filters.
• An Electro Technik Industries Company.

ARRA Inc
• RF & Microwave Passive Components to 18GHz.
• Continuously Variable Attenuators.
• Fixed & PIN Diode Attenuators.
• Phase Shifters & Line Stretchers.
• Directional & Hybrid Couplers.
• Power Dividers & Combiners.
• Terminations, DC Blocks, Switches & RF Shorts.

Custom Suppression
• EMI & RFI Filters for Industrial, Commercial & Defence Applications.
• Solder-In Filters, Resin Sealed Filters & Capacitors.
• Hermetically Sealed Filters & Capacitors.
• Custom Filtered Connectors & D-Connectors.
• Custom Multi-Section EMI/RFI Filter Assemblies.
• Power Line Filters & Commercial Filter Assemblies.
• An Electro Technik Industries Company.

Delta Electronics Manufacturing Corp
• RF Coaxial Connectors & Adaptors.
• BNC, TNC, N-Type, SMA, HN, SC, LT, C-Type & UHF.
• TW34, TW8NC Twin-Axial, TRB Tri-Axial & Push-Fit.
• QDS, QMA, Miniature SMB, SMC, MCX & MMCX.
• High Frequency SMA to 27GHz, SMP, 3.5mm & 2.92mm.

ERZIA Technologies
• RF & Microwave Devices to 83GHz for Space, Defence, EW, Radar, Scientific & Telecom Applications.
• Coaxial & Waveguide Power Amplifiers to 83GHz.
• LNA's to 45GHz.
• IMAs including Up/Down Converters & RF Front Ends.
• Data Links for UAV, Intelligence & Surveillance.
• Acousto-Optic Tuneable Filter (ADTF) RF Drivers from 15 to 500MHz & up to 10W.

ERZIA

Koaxis Inc
• Coaxial Cable Assemblies & Connectors for Defence, Telecommunications & Cable TV Applications to 60GHz.
• 50Q, 75Q (CATV), Hand-Formable, Semi-Rigid, & Flexible RG Assemblies.
• K-Flex™047, 086 & 341 Flexible Alternatives to Semi-Rigid.
• Low Loss Microwave Assemblies.

Laird Technologies
• In-Building, CPE, Access Point & Mobile Client Antennas.
• Base Station & Backhaul Antennas.
• Mobile Radio & RFID Antennas.
• Vehicular Antennas & Telematics.

Marki Microwave
• Passive & Active Components to 67GHz.
• Patented Microstrip Mixers to 50GHz.
• T3 High Linearity Mixers to 40GHz.
• Legacy Double & Triple Balanced Mixers to 65GHz.
• Image Reject/SSB & IQ Special Function Mixers.
• LO Driver Amplifiers, Baluns & Transformers to 67GHz.
• Bias Tees, & DC Blocks, SMD & Coaxial to 65GHz.
• Couplers & SDB Quad Hybrids to 67GHz.
• Multipliers including Doubblers, Triplers & Quadruplers.
• Filters including Bandpass, Lowpass & Highpass.

Micro Lambda Wireless Inc
• YIG Tuned Products from 500MHz to 50GHz.
• YIG Oscillators.
• YIG Retrosfits & Equivalents for Avantek™.
• Miniature YIG Oscillators including Surface Mount & T-08.
• YIG Bandpass & Band Reject Filters.
• Frequency Synthesizers & Multipliers.
• Bench Test Boxes, YIG Drivers & Controllers.
• Harmonic Generators & Integrated Products.

Micro-Measurements

Prewell
• InGaP HBT MMIC Amplifiers from 5MHz to 6GHz for Commercial, Hi-Rel & Defence Applications.
• Mobile Infrastructure, Cellular, PCS, GSM, GPRS, WCDMA, WLAN, ISM, RFID & Fixed Wireless.
• Low Noise, Gain Block & Medium Power Amplifiers.
• IF Amplifiers for CATV, VHF/UHF Transmission & Receivers.
• SOT-26 Power Dividers.

RFbeam Microwave GmbH
• Radar Sensors/Doppler Devices, Transceivers & Systems to 86GHz for Range & Distance Detection.
• Movement & Industrial Sensors for Speed Detection, Security & Lighting Applications.
• Doppler Transceivers & Simulators.
• Radar Signal Processors, Test & Measurement Systems.
• Antennas & Custom Designs available.

RFIC
• GaAs HBT, PHEMT & RF CMOS ICs for Wireless Comms.
• Power Amplifiers, Low Noise Amplifiers & Switches for WLAN 802.11a/b/g/n, Bluetooth, WiMAX, CDMA, GSM, GPRS & Handset Applications.

Sonoma Scientific
• Isolators, Circulators, Iso-Adaptors & Hybrids from 40MHz to 40GHz with Power Handling to 4kW plus.
• Surface Mount, Drop-in, Microstrip, Coaxial & Waveguide.
• Phase Matched & Low IM Products.
• Cellular, SatCom, Tetra, Innmarsat, Microwave Radio, Radar & Custom Applications.

Koaxis Inc

Laird Technologies

Marki Microwave

Micro Lambda Wireless Inc

Prewell

RFbeam Microwave GmbH

RFIC

Sonoma Scientific

E-MAIL: SALES@ASPEN-ELECTRONICS.COM
ADSANTEC Corp
- Very High Speed Mixed Signal ICs to 50GHz/50Gbps.
- Multiplexers & Demultiplexers.
- Phase Shifters & Variable Delay Lines.
- Selectors & Switches, Analogue to Digital Converters.
- Linear, Limiting & Transimpedance Amplifiers (TIAs).
- Track & Hold Amplifiers.
- High Speed Logic, Clock Processors & Signal Generators.
- PRBS Pulse Generators from 4 to 40Gbps.

ATM Inc
- Standard/Double Ridge Waveguide & Coaxial Components to 220GHz.
- Waveguide to Coaxial Adaptors & Waveguide Transitions.
- Splitters, Directional Couplers & Hybrid Couplers.
- Waveguide Hardware, Flanges, Gaskets, Shims & Spacers, Clamps & Hangers, Bulkhead Feed-Throughs, Pressure Windows & Pressurisation Sections.
- Quick Disconnects.
- Phase Shifters & Line Stretches.
- Fixed & Variable Attenuators.
- Low, Medium & High Power Terminations & Shorts.
- Fixed, Continuously Variable & Step Attenuators.
- Horn Antennas from WR975 to WR8.
- Electromechanical & PIN Diode Coaxial Switches.
- Noise Sources, Bias Tees, DC Blocks, Coax Cables & Flexible Waveguide Assemblies.

Bird Technologies
- Terminations & Loads from 2W to 80kW including Convection & Conduction Cooled Models.
- Attenuators from 2W to 4kW.
- Splitters, Couplers & Signal Samplers.
- Coaxial Adaptors including EIA Rigid-Line Adaptors.

Charter Engineering Inc
- Electromechanical Coaxial Switches from DC to 26.5GHz.
- SPDT, Transfer & Multiposition SPST to SPI2T.
- SMA, N-Type, TNC & SC Connector Options.
- Internally Terminated & High Power Versions.
- Low Passive Intermodulation (PIM) Types.

Ciao Wireless
- RF & Microwave Amplifiers from 20kHz to 45GHz.
- Low Noise, Ultra Broadband & Multi-Octave Amplifiers.
- Limiting & KA Band Amplifiers.
- Radial Power Combiners & Dividers to 30GHz.
- Space Qualified Filters, Multiplexers, Hybrids & Couplers to 65GHz.

CrossPoint Technologies Inc
- RF & Microwave Switching Systems for Commercial & Defence Applications including Satellite Earth Stations, Signal Exploitation, ELINT COMINT, SIGINT, TTS & Test.
- Standard Products for HF, VHF, UHF & Microwave Systems to 18GHz.
- Matrix Switching Systems.
- Redundancy Switching Systems.
- Routing/Selector Switches.
- Solid State & Electromechanical Versions.
- Custom Designs available.

Croven Crystals Inc
- Precision Quartz Crystal Resonators.
- AT, PC, IT & SC-Cut Crystals from 1 to 360MHz.
- Low Phase Noise & Low Ageing.
- Cold Weld & Resistance Weld Holders.
- QPL Approved Since 1967 per MIL-PRF-3058H.
- Rapid Prototyping Capability.
- Extensive Inventory of Samples.

Diamond Antenna & Microwave Corp
- Coaxial & Waveguide Rotary Joints for Commercial, FreqCom, ATC, Defence & Space Qualified Applications.
- Single & Multichannel Versions.
- I., L & U Style.
- Roll-Rings®, Slip-Ring Assemblies & Roll-Blocks.
- Rotary Joint Repair & Refurbishment available.

Electro Photonics LLC
- RF & Microwave Test Fixtures.
- 90° Surface Mount Hybrid Couplers.
- Surface Mount Directional Couplers & Power Dividers.
- Mounting Tabs, Spiral Inductors & Transmission Lines.

GotMIC
- High Frequency MMIC Chips from 50 to 120GHz.
- MMIC Receivers, Transmitters & Front-End IC Solutions to 120GHz.
- MMIC Amplifiers, Mixers & Switches.
- MMIC Frequency Multipliers & Detectors.
- Evaluation Boards.

HXI LLC
- Millimeter Wave Components to 110GHz.
- Low Noise, Medium & High Power Amplifiers.
- Mixers, Detectors, Gunn Oscillators & VCOs.
- Frequency Multipliers, PIN Switches & Attenuators.
- Isolators & Circulators.
- Millimeter Wave Digital Radios.
- Radar Front Ends.

Hymeg
- Thick Film, High Voltage Resistors from 1 to 30kVDC.
- Precision Thick Film Axial Lead Resistors.
- High Voltage Thick Film Axial Lead Resistors.
- Precision High Voltage Plate Resistors & Dividers.
- High Value Non-Inductive Thick Film Resistors.
- High Power Non-Inductive Resistors.
- An Electro Technik Industries Company.

IF Engineering Corp
- Low Frequency, Surface Mount & Coaxial Components from 100kHz to 6GHz.
- Power Dividers & Combiners (2 Way to 32 Way).
- Directional Couplers & 90° Quad Hybrids.
- Vector Modulators (I&Q).
- Phase Comparators & I&Q Demodulators.
- Multi-Couplers & Distribution Amplifiers.
**Integrated Microwave Corp**  
- Ceramic Filters from 500kHz to 1GHz.  
- Bandpass & Bandstop Filters.  
- Highpass & Lowpass Filters.  
- Ceramic Coaxial Resonators.  
- Diplexers, Duplexers & Multiplexers.

**JQL Electronics Inc**  
- RF Ferrite Isolators & Circulators.  
- Coaxial Designs to 18GHz.  
- Waveguide Designs to 100GHz.  
- Power Dividers & Combiners.  
- Directional Couplers.  
- Ceramic Filters to 10GHz.  
- Power Transformers.

**KDS Corp**  
- Miniature Crystal Resonators to 80MHz.  
- Miniature Crystal Oscillators to 212.5MHz.  
- XOs, VCXOs, TCXOs & OCXOs.  
- Miniature Monolithic Crystal Filters to 160MHz.  
- Optical Quartz Products.  
- Automotive Crystal Products to 64MHz.

**Keysight Technologies**  
- Hi-Reliability Electromechanical Coaxial Switches to 40GHz, providing Absolute Measurement Certainty & Long Life to 5,000,000 Cycles.  
- Adapters, Amplifiers & Attenuators.  
- DC Blocks & Diode Detectors.  
- Directional Couplers & Bridges.  
- Power Limiters, Dividers & Splitters.  
- Solid State PIN Switches.

**Kratos-CTI Inc**  
- Phase Locked Frequency Sources to 50GHz.  
- Free Running Dielectric Frequency Sources.  
- Direct & Indirect Synthesizers.  
- Fast Switching, Broad Bandwidths & Miniature Designs.  
- Coaxial & Crystal Oscillators up to 50GHz.  
- Block Up/Downconverter Modules for SatCom Applications.  
- Aspen stock a Wide Range of PDROs for Quick Delivery.

**KVG Quartz Crystal Technology GmbH**  
- Standard & Precision Ceramic Crystals to 300MHz.  
- Crystal Oscillators: XOs, VCXOs, TCXOs & OCXOs to 800MHz.  
- Crystal Filters: MCF, Discrete & Discriminators.  
- Ultra-Low Phase Noise.  
- Custom Quartz Crystal Products.  
- ESCC "Qualified Parts List" for Space Applications.

**Lorch Microwave**  
- RF & Microwave Filters to 40GHz.  
- Cavity, Discrete, Ceramic & Tubular Filters.  
- Waveguide Filters.  
- Manual & Digital Tuneable Filters.  
- Duplexers & Switched Filter Banks.  
- Voltage Controlled Attenuators.

**NEDI**  
- RF-SAW Filters from 30MHz to 2.4GHz.  
- IF SAW Filters & SAW Resonators from 50MHz to 1.6GHz.  
- SAW Components in Leaded & Surface Mount Packages.  
- ITAR FREE for Defence Applications.  
- Monolithic Crystal Filters.

**QuinStar Pamtech**  
- Cryogenic Components down to 0.01K°.  
- Waveguide Circulators & Isolators.  
- Coaxial Circulators & Isolators.  
- Ferrite Switches, Terminations & Transitions.

**Res-Net Microwave**  
- RF & Microwave Attenuators, Terminations & Resistors from DC to 30GHz & 2W to 2kW.  
- Aluminum Nitride, Alumina, Beryllium Oxide & CVD Diamond Substrates.  
- Coaxial, Chip, Chip & Tab, Chip on Flange, Rod & Disc Styles.  
- Coaxial Rod Resistors & Terminations.  
- CVD Diamond Resistors & Terminations.  
- Stripline Flange Terminations.  
- Thermal Jumpers.  
- An Electro Teknik Industries Company.

**SemiGen**  
- PIN Diodes for Switch, Attenuator, Duplexer & Phase-Shifting Applications from 2 to 20GHz.  
- Limiter Diodes for use in Waveguide, Stripline, Coax or Microstrip Applications from 100MHz to 30GHz.  
- Step Recovery Diodes.  
- Chip Capacitors for DC protection, RF Bypassing or Fixed Tuning Applications.  
- Fixed Attenuator Pads.

**Spectratime**  
- SmartTiming® Disciplining with Advanced Holdover Performance.  
- iSource® range of Crystal & Rubidium Sources for Precise Performance Applications.  
- iSync® range of Synchronisation OCXO & Rubidium Oscillators & Reference Clocks.

**Tepro**  
- Wire Wound & Metal Film Resistors.  
- Close Tolerance with High Reliability.  
- Current Shunt, Carbon Film, Surface Mount & Chassis Mount Resistors.  
- An Electro Teknik Industries Company.
ASPEN TEST EQUIPMENT
OSCILLOSCOPES, POWER SUPPLIES, RF WATTMETERS, ANALYSERS, GENERATORS & MORE...

Bird Technologies
• The “Original & Best” Thruline® Wattmeters.
• Handheld VNA/Spectrum Analysers & Antenna Testers.
• PC & Rack-Mount Spectrum Analysers.
• Wafer Fab Specific, High Accuracy RF Power Measurement Systems.
• Handheld Analogue & Digital RF Power Meters & Wattmeters.
• Broadcast Power Measurement & Monitoring Systems.

Cleverscope
• PC Based Mixed Signal Digital Oscilloscopes.

GW Instek
• Compact, Touch Screen Oscilloscopes.
• Oscilloscopes from 70 to 500MHz.
• AC & DC Power Supplies.
• Arbitrary Function Generators.
• Spectrum Analysers.
• Benchtop DMUs to 6½ Digits.
• Component Testers.
• Electrical Safety Testers.

Keysight Technologies
The Complete Range of General Purpose Test & Measurement Equipment
• Five Oscilloscope ranges to suit all levels from Student Benches to full R&D.
• 70MHz to 1.5GHz including Touch Screen Models, Zone Triggering & a wide range of Serial Decode & other functionality.
• Benchtop DMUs to 6½ Digits including Volts, Amps, Temperature, Resistance, LCR & Data Logging.
• Ultra High Precision, Low Noise Power Supplies.
• Standard 1, 2 or 3 o/p Lab Power Supplies.
• Source Measurement Units (SMUs).
• Femto/Picoammeter from 0.01fA.
• Electrometer/High Resistance Meter to 10PΩ (100000000GΩ).
• Waveform, Function & Arbitrary Waveform Generators with Trueform Technology.
• Data Acquisition Units (DAQs).
• RF Spectrum Analysers & Signal Generators.
• Handheld Cable & Antenna Testers.
• Handheld DMUs with IR Connectivity, LCRs & Scopes.
• Thermal Imagers.
• BenchVue Software for Remote Visibility & Control.

LA Techniques Ltd
• 8GHz Vector Network Analysers.
• 8GHz Signal Generators.
• Pattern Generators to 12Gbps.
• 12GHz Pulse Generators.
• Low Trace Noise Reflectometers.
• Synthesizers to 8GHz plus.
• Bespoke Design Service for OEM Variants.

PicoTest
• 50MHz Arbitrary Function Waveform Generators.
• 1Hz to 40MHz Vector Network Analysers.
• 6½ Digit Digital Multimeters.
• 150W Lab Power Supplies.
• 12 Digit, 6GHz Universal Frequency Counters.

Puissance Plus
• Wide range of Intelligent Power Conversion Products.
• AC & DC Programmable Power Supplies.
• AC & DC Four Quadrant Amplifiers from 500VA to 10kVA.
• DC Dynamic Electronic Loads from 3 to 600V & 0 to 5kA.
• Frequency Changers, 50/60/400MHz, Pure Sine.
• Grid Simulators.

Tabor Electronics Ltd
• World Class High Speed Arbitrary Waveform Generators & Function/Pulse Generators.
• Waveform Creation Software including Complex RF Modulation.
• Wideband Amplifiers.
• PCI/PXI Instruments.

TDK Lambda
• Programmable Power Supplies.
• Genesys range, 200W to 15kW, Rack Mount, 1U to 3U sizes.
• Z+ range, 200W to 800W, Rack Mount, Half-Width or Bench Versions.
• Custom Solutions available.

Wavecontrol
• Radio Frequency & EMF Safety Monitoring Solutions for Worker Protection & Legislative Compliance.
• In-Situ Permanent Monitoring Systems.
• Handheld Portable Monitoring Systems.
• Large Area Electromagnetic Mapping Solutions.

X-COM Systems
• RF Capture, Recording & Playback Systems.
• Spectro-X Spectrum Analysis & RF Editing Software.
• Multi-Channel, Independently Programmable, Broadband Signal Generators.
• Customised Solutions for Interference Analysis, Covert Surveillance, Radar Signal Analysis & Wireless Systems.
IN-HOUSE CAPABILITY

SERVICE & CALIBRATION

Aspen Electronics Ltd has been working with Bird Technologies since it first started in business over 40 years ago. As the Bird Technologies’ dedicated European Service Centre, we service, repair & calibrate the majority of Bird products at our West London facility. Our primary work is the calibration of RF power, plus the repair and refurbishment of High Power Loads and Attenuators.

To ensure we offer the best service possible, we recently invested in High Power Amplifiers, plus associated equipment to ensure we are able to generate spur free, high power RF signals, vital for good calibration.

Power measurements are made using our high accuracy, high repeatability, Bird Technologies metrology grade RF Wattmeters as transfer standards, plus very high accuracy broadband RF Calorimeters as primary standards. In addition, we use a variety of “special to type” test instruments to ensure your Bird Wattmeter is in optimum operating condition.

With additional equipment such as Spectrum Analysers, Network Analysers and many other instruments, Aspen Electronics is able to calibrate a wide range of RF & Microwave Components & Sub-Systems we offer.

DESIGN & MANUFACTURE

With more than 40 years’ experience of RF & Microwave Components & Systems, plus a well-equipped service facility, Aspen Electronics is able to design, manufacture and test “special to type” RF & Microwave Sub-Systems and Instrumentation products.

A High Power (2W), 40GHz Phase Locked Source with phase and amplitude control (above top).

A 3GHz Signal Generation and Conditioning System (above bottom).

These represent just some of the products we have built to customer specifications.

Whatever your requirements, our dedicated and experienced design team are here to help provide the right solution for your needs.