Cobham provides critical solutions on land, at sea, and in the air and space, by moving data through off-the-shelf and customised products including RF, microwave, and high reliability microelectronics, antenna subsystems and motion control solutions.

Cobham Advanced Electronic Solutions

Advance with Cobham
www.cobham.com/caes
Cobham designs and manufactures antennas and antenna subsystems from HF through the mmW-Band for a diverse range of military and civil applications.

Equipped with in-house antenna test ranges and extensive environmental test capabilities, Cobham can address challenging customer requirements on a variety of platforms, including:

- Airborne
- Ground-based
- Maritime
- Satellite applications

Cobham’s solutions include antennas for:

- Electronic Warfare and Sensing
- Precision Interferometer functions
- Radar-Warning
- Self-protect and standoff jamming
- Spinning-DF antenna subsystems for manual ELINT systems
- Missile Guidance and Launch Vehicles
- Missiles and Munitions
- Telemetry and datalink functions
- Standard and antijam GPS navigation
- Communications and Navigation
- CNI antennas for arious applications
- Datalink and telemetry functions
- IFF systems
- Terrestrial and space-based navigation
- Weather Radar

Cobham Advanced Electronic Solutions’ product portfolio is uniquely designed to meet our customers’ design challenges and differentiate their solutions. Whether you are seeking a RF component or complete subsystem, looking for a solution that may help reduce size, weight and power without a sacrifice in performance, designing next-generation systems for increased near-peer threats and the emergence of new trends such as hypersonics, or trying to get more capability and reliability over your product lifecycle, Cobham has a solution to meet all of your design needs.

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www.cobham.com/caesantennas
Cobham’s Electronic Manufacturing Solutions (EMS) has achieved Category 1A Trusted Accreditation by the Department of Defense.

We offer a broad range of products and services such as circuit card design and assembly from build to print to complete turnkey solutions including comprehensive radiation effects test services and mission suitability analysis and testing.

Products and Services include:
- Advanced Packaging Solutions
- Circuit Card Assembly
  - SBCs
  - High-speed line
- Radiation Testing and Support Services
- COTS and Component Upscreening
- Build-to-Print / Build-to-Spec Capabilities
- Supply Chain Assistance
- Custom Hybrid, MCM and Module Services
- Trusted Accreditation

Cobham offers a variety of ASICs for various harsh environment applications.

We provide ASICs for applications such as:
- Medical
  - Ultrasound
  - X-Ray Imaging
- Security Screening
- Industrial
- Satellite & Space
  - 90nHBD
  - 130nHBD
- 0.6µm to 0.25µm processes
- QML Q, QML V and QML Y certified
- Military, Aerospace & Defense
- Harsh Environments - Oil, Gas & Mining
  - Fault tolerant
  - High temp
  - Low Power
- Trusted Accreditation
- System on a Chip
  - IP Cores
  - Processing Cores

asic-customerservice@cobham.com
www.cobham.com/asics
Cobham’s Electronic Warfare solutions enable the war fighter to control the digital battlefield by controlling the electromagnetic spectrum.

Cobham’s Electronic Warfare solutions can be found on most of the US Army, Air Force, Navy, and Marine Corps platforms deployed throughout the world.

Capabilities and products include:
- Communications Countermeasures
- Exciters for Radar and Communications
- High-Power Transmit Antennas
- Radar Countermeasures
- Spread Spectrum Technologies
- EMissions CONtrol (EMCON)
- Low Observability
- Electronic Surveillance and Radar Warning Receiver Subsystems
- Electronic Surveillance Multi-Channel Receivers
- Electronic Surveillance Antenna Suites

Cobham’s Indefinite Delivery/Indefinite Quantity (IDIQ) contract vehicles provide maximum value, flexibility, and a streamlined competitive mechanism to get on contract quickly.

The Federal Government has turned to IDIQ contract vehicles as the preferred method for accessing industry’s capabilities to meet a wide variety of needs. Cobham’s capabilities can be accessed through the following IDIQs:

- Government Wide Multi Agency Contract (MAC) IDIQs
  - Advanced Technology Support Program IV (ATSP4)
- Agency Specific IDIQs
  - SeaPort-NxG
Cobham’s integrated RF assemblies are manufactured for continuous-wave (CW) and radar applications. They are designed to meet extreme temperature, high altitude, pressurization and group delay variation requirements.

Our products include:
- Ground/Fixed Site Satcom
- Integrated Assemblies and Sub Systems
- Portable Satcom
  - AEHF Ku- and Q-band Portable Satcom System
  - Ka- and Ku-band Portable System
  - Manpack Satcom System
  - X-band Portable Satcom System TCDL
- Portable Tactical Common Data Links (TCDL)
  - Ka- and Ku-band Portable TCDL
  - Ku-band Portable TCDL
  - Ku- or X-band Net-Centric Operations Portable TCDL
  - Ku- or X-band Portable TCDL
  - X- and Ku-band Dual Polarization, Dual Aperture TCDL
- SOLSTx Solid State Transmitter
  - www.cobham.com/solstx

Cobham’s standard and custom motion control products offer best-in-class performance and are designed utilizing our comprehensive understanding of military and aerospace standards, systems and applications. High-end performance characteristics such as accuracy and stability in closed loop pointing and tracking applications are the norm for Cobham.

Furthermore, our solutions undergo stringent qualification and testing processes for harsh elements such as vacuum, extreme temperature, radiation, shock and vibration to ensure that they can withstand any environment.

Product Advantages:
- Extreme temperature environment capability
- High Efficiency Gear Box design
- High Volume Manufacturing
- Integrated Electronics
- Low Jitter Capability
- Radiation Tolerant
- Standard and custom designs
- Vacuum Compatible
Cobham is a valued supplier of power products to the aerospace and avionics markets. Leveraging our GEO and Deep Space heritage and expertise, Cobham is uniquely qualified to address both large constellations and low cost needs of emerging LEO markets. Cobham’s Chip On Board (COB) module design is flight proven and eliminates the need for packages, decreasing manufacturing time while reducing cost. Cobham offers a wide variety of standard, derivative and fully customizable power solutions, including:

- Battery Electronic Units (BEU)
  - Fully redundant for balancing and telemetry
- Electrical Powered Daughterboard (EPD)
  - Provides 9 regulated voltages
- RF Transceiver Power Supply
  - Rad Hard, switching Power supply
- Battery Interface Electronics (BIE)
  - Electrical interface between battery and spacecraft
- Power Distribution Modules (PDM)
  - High efficiency, High power
  - Satellite bus down to the point of load (POL)
- Pulse Width Modulator
  - Rad Hard, high-speed Power Controllers and Eval boards
  - Buck, boost, flyback, forward and center tapped push-pull converters
- Bus Power Switches
- Voltage Regulators
- Voltage Supervisors

Cobham provides over 200 HiRel, flight-proven standard products for space and avionic applications such as:

- MIL-STD-1553 Databases/Transceivers
- A-to-D, D-to-A Converters
- Arm® Microcontroller
- Bus Switch Family
- Clock Management
- Comparators
- Crosspoint Switch (XPS)
- RadTol Eclipse FPGA
- LEON 3FT/4FT Microprocessors
- Logic - 16-Bit
- Logic - MSI & ManyGate
- LVDS
- Memories
- Multiplexers, Analog
- Op Amps
- Precision Current Source
- Resolver-to-Digital Converter
- Single Board Computers
- SpaceWire
- Transceivers - Controller Area Network (CAN)
- Transceivers - RS485
- Voltage Translators

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Cobham offers comprehensive radiation effects testing and support services, from design to launch and operation.

Products:
- SEREEL2 Laser SEE Testing System
- For SPA and TPA

Services and Capabilities include:
- MIL-STD Radiation Effects Test Services
- Heavy Ion Single Event Effects (SEE) Testing - EIA/JESD 57, ASTM F1192
- Device Screening and Element Evaluation
- Quick-Turn Prototype IC Assembly, Chip Removal and Re-assembly for Radiation Testing, Backside Chip Thinning for Heavy Ion Radiation testing, PC Board Design, and Laser Marking
- MIL-STD-750 and MIL-STD-883 Screening and Qualification of Advanced COTS Devices as well as Design Engineering for Radiation Hardened Devices
- Radiation Lot Acceptance Testing (RLAT)
- Focal Plane Array (FPA) Radiation, Characterization and Testing
- Neutron, Flash X-Ray/Prompt Dose Capabilities
- Enhanced Low Dose Radiation Sensitivity (ELDRS) Testing

Cobham RF Interconnect Solutions include Coaxial Cable Assemblies and Waveguides to enhance the overall performance of communication systems by improving reliability of transmission and reception.

Cobham offers multiple interconnect solutions for commercial and military applications such as:
- Waveguides:
  - Broadwall Coupler
  - AE Flexible Waveguide
  - AF Flexible Waveguide Tubing
  - CPR-Style Gaskets
  - UG-Style Gaskets
  - High Power Waveguide-to-Coax Adapters
  - Rigid Waveguide E-Bends
  - Waveguide H-Bends
  - Waveguide-to-Coax Adapters
  - Rigid Waveguide Twist
- Coaxial Cable Assemblies:
  - High Performance Airframe Cable Assemblies
  - Spring-Loaded (SL) Coaxial Multi-Port Connector
  - General-Purpose Test Cables
Components: Cobham’s broad portfolio of custom and standard commercial and military grade RF, microwave and millimeter wave technology are at the forefront of military and aerospace design.


With exceptional performance through 40GHz, Cobham’s standard and custom components include:
- Attenuators
- Detectors
- Directional Couplers
- Frequency Synthesizers
- Integrated Microwave Assemblies
- Limiters
- Phase Shifters
- Power Dividers
- Switch Matrices
- Switched Filter Banks
- Switches
- Time Delay Units
- Up/Down Converters

Transmit/Receive: Cobham provides T/R LRU and subsystem functionality for the most demanding fielded radar and EW systems. Operating from DC to 40 GHz with both broadband and narrowband capability, our portfolio of capability is the broadest in the industry.

Areas of expertise include:
- Single and Multichannel Converters
- Pre Selection Filtering
- AESA subarrays and T/R modules
- Integrated Transceivers
- Transmitters and Receivers
- Data Links and Telemetry
- High Power Protection

Specialization exists in the following areas:
- High Dynamic Range
  - Low Noise Figure/IIP3
  - Range Expansion Circuits
- Integrated High Power Protection
- Integrated Co-Site Interference Rejection
- Spurious Suppression
- 3U and 6U Vita Configurations
- <95% Automation of All Components
- Fully Automated Testing
- High Efficiency
  - Class J Amplifiers
  - Saturated Outputs
- Low SWaP Packaging
  - High Package Density
  - Thermal Management (Air or Liquid Cooling)
- High RF I/O Interconnect counts
- High RF Isolation Package
- High Power Transmit with GaN
  - Custom and COTS MMIC
RF, MICROWAVE and MILLIMETER WAVE ELECTRONICS

Exciter/Synthesizer: Cobham provides high-performance, RF/Microwave exciters and LO generators for state-of-the-art applications requiring low phase noise and high spectral purity. Applications range from fixed LO generators to advanced frequency agile synthesizers for active electronically scanned array (AESA) radar system architectures.

Areas of expertise include:
- Digital Exciter Receiver (DREX)
- Direct Digital Synthesizer (DDS)
- Voltage Controlled Oscillators (VCO)
- LO Generators

Specialization exists in the following areas:
- Very Low Spurious
- Phase Coherent
- Ultra Low Phase Noise
- Output Blanking
- Excellent Mechanical Vibration Isolation and Electronic Vibration Cancellation
- RF Threshold and BIT Detection
- Custom MMIC Designs
- High Circuit Density Packaging
- Low loss, High Filter Rejection with High Channel-to-Channel Isolation
- Fast Agile Switching, Fine Step Resolution
- Direct Digital Synthesis (DDS)
- Analog Synthesis – Mix and Multiplier Architectures
- Phase-Locked Loops
- LO and Clock Generation, Wideband Stretch LO Generation
- Time and Frequency Synchronization
- High Isolation Package
- <95% Automation of All Components
- Fully Automated Testing

RF Distribution: Our pedigree of the highest performing filters in the industry coupled with strong switching capability enables Cobham to produce the strongest performing, multi-channel RF Distribution modules available. Cobham operates from DC to 26 GHz with both broadband and narrowband capability.

Areas of expertise include:
- Local Oscillator Multi-Output Distribution
- Remote Converter Support
- Switch Matrices
- Crossover matrices
- Multi-Input, Multi-Output Configurations
- AESA Subarrays and T/R Modules
- High Power Protection

Specialization exists in the following areas:
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- Phase Coherent
- Ultra Low Phase Noise
- Output Blanking
- Excellent Mechanical Vibration Isolation and Electronic Vibration Cancellation
- RF Threshold and BIT Detection
- Custom MMIC Designs
- High Circuit Density Packaging
- Low loss, High Filter Rejection with High Channel-to-Channel Isolation
- Fast Agile Switching, Fine Step Resolution
- Direct Digital Synthesis (DDS)
- Analog Synthesis – Mix and Multiplier Architectures
- Phase-Locked Loops
- LO and Clock Generation, Wideband Stretch LO Generation
- Time and Frequency Synchronization
- High Isolation Package
- <95% Automation of All Components
- Fully Automated Testing