CACI has partnered with the Intelligence Community (IC) and Department of Defense (DoD) for the past 14 years to deliver mission-critical end-to-end SIGINT solutions. CACI acquired BIT Systems, a leading sensor development and signal processing company, in November 2013 to enhance and expand our SIGINT solutions offerings. CACI has successfully deployed over 100 systems to more than 29 locations worldwide. Our 450+ TS/SCI cleared engineers, technicians, and analysts are recognized leaders in the SIGINT field. We offer a wide range of SIGINT processors and software defined radios, high-performance wide-band antenna systems, RF feeds, and numerous other RF components to meet our customers’ needs.

Pricing within is standard price per unit not including tax or shipping. All sales require execution of a BIT Systems licensing agreement prior to delivery. Separate hardware and software maintenance contracts are also available.

Catalog items are subject to ITAR and may require a State Department license to be exported out of the USA. Buyer is the Exporter of Record and is responsible for obtaining any required licenses.

For more information, contact:

45200 Business Ct.
Dulles, VA 20166

(o) 703.742.7660
(f) 703.891.9456
sales@caci.com

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www.caci.com/bit-systems
## 2017 Hardware Catalog

### Index

<table>
<thead>
<tr>
<th>Page</th>
<th>Family</th>
<th>System</th>
<th>Description</th>
<th>Part Number</th>
<th>Price (Qty. 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Processor</td>
<td>Razorbill R4D2</td>
<td>4U Rack Mounted System with 2 Input Channels</td>
<td>ASY00117-01</td>
<td>$130,000</td>
</tr>
<tr>
<td>9</td>
<td>Processor</td>
<td>Razorbill R4D2+ V2</td>
<td>4U Rack Mounted System with 2 Input Channels and 1 Software-Defined Output Channel</td>
<td>ASY00061-01</td>
<td>$188,000</td>
</tr>
<tr>
<td>10</td>
<td>Processor</td>
<td>Razorbill R4D2+ V2 with RF Switch</td>
<td>4U Rack Mounted System with 2 Input Channels, 1 Software-Defined Output Channel, Rugged Chassis and Integrated RF Switch</td>
<td>ASY00218-01</td>
<td>$205,000</td>
</tr>
<tr>
<td>10</td>
<td>Processor</td>
<td>Razorbill R4D2+ V2 U or UL</td>
<td>4U Rack Mounted System with 2 Input Channels, 1 Software-Defined Output Channel; Available with Integrated Limiter</td>
<td>ASY00220-02</td>
<td>$188,000</td>
</tr>
<tr>
<td>11</td>
<td>Processor</td>
<td>Razorbill R5D0</td>
<td>5U Rack Mounted System</td>
<td>ASY00312-01</td>
<td>$56,000</td>
</tr>
<tr>
<td>11</td>
<td>Processor</td>
<td>Razorbill R5D2 X10</td>
<td>5U Rack Mounted System with 2 Input Channels</td>
<td>ASY00271-01</td>
<td>$129,000</td>
</tr>
<tr>
<td>12</td>
<td>Processor</td>
<td>Razorbill R5D2+ V2</td>
<td>5U Rack Mounted System with 2 Input Channels and 1 Software-Defined Output Channel</td>
<td>ASY00115-01 / ASY00116-01</td>
<td>$190,000</td>
</tr>
<tr>
<td>12</td>
<td>Processor</td>
<td>Razorbill R5D2K</td>
<td>5U Rack Mounted System with 2 Input Channels</td>
<td>ASY00313-01</td>
<td>$129,000</td>
</tr>
<tr>
<td>13</td>
<td>Processor</td>
<td>Razorbill R5D4 X10</td>
<td>5U Rack Mounted System with 4 Input Channels</td>
<td>ASY00229-01</td>
<td>$190,000</td>
</tr>
<tr>
<td>13</td>
<td>Processor</td>
<td>Razorbill R5D4X10-IF</td>
<td>5U Rack Mounted System with 2 Input Channels and Integrated IF Switch</td>
<td>ASY00229-02</td>
<td>$198,000</td>
</tr>
<tr>
<td>14</td>
<td>Processor</td>
<td>Razorbill R5D4Q</td>
<td>5U Rack Mounted System with 4 Input Channels</td>
<td>ASY00315-01</td>
<td>$185,000</td>
</tr>
<tr>
<td>19</td>
<td>Processor</td>
<td>Kite K9D2S-AC</td>
<td>Dual 30 MHz Wide Input Channels, RF Coverage 30 MHz – 6 GHz, Integrated RF Switch</td>
<td>ASY00175-01</td>
<td>$144,000</td>
</tr>
<tr>
<td>19</td>
<td>Processor</td>
<td>Kite K9D2S-DC</td>
<td>Dual 30 MHz Wide Input Channels, RF Coverage 30 MHz – 6 GHz, Integrated RF Switch</td>
<td>ASY00176-01</td>
<td>$144,000</td>
</tr>
<tr>
<td>20</td>
<td>Processor</td>
<td>Ground Processor</td>
<td>Data Ingest, Quick Look &amp; Analysis System; Processing Suite for Non-Std Signals of Interest</td>
<td>ASY00181-01</td>
<td>$168,000</td>
</tr>
<tr>
<td>21</td>
<td>Processor</td>
<td>Firefly RM-7</td>
<td>Complete Rack-Mounted 7 Channel COMINT Sensor; Two Configurations</td>
<td>7000-0316 / 7000-0321</td>
<td>$160,000 / $165,000</td>
</tr>
<tr>
<td>22</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry Node</td>
<td>120 VAC/60 Hz Outdoor-Rated Passive Signal Collection System</td>
<td>ASY00272-01</td>
<td>$165,000</td>
</tr>
<tr>
<td>22</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry Node</td>
<td>230 VAC/50 Hz Outdoor-Rated Passive Signal Collection System</td>
<td>ASY00273-01</td>
<td>$165,000</td>
</tr>
<tr>
<td>23</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry+ Node</td>
<td>120 VAC/60 Hz Outdoor-Rated Passive Signal Collection System with Built-in Arbitrary Waveform Generation</td>
<td>ASY00261-01</td>
<td>$252,000</td>
</tr>
<tr>
<td>Page</td>
<td>Family</td>
<td>System</td>
<td>Description</td>
<td>Part Number</td>
<td>Price (Qty. 1)</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>23</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry+ Node</td>
<td>230 VAC/50 Hz Outdoor-Rated Passive Signal Collection System with Built-in Arbitrary Waveform Generation</td>
<td>ASY00262-01</td>
<td>$252,000</td>
</tr>
<tr>
<td>24</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry Amp Box</td>
<td>120 VAC/60 Hz Outdoor-Rated RF Amplification System</td>
<td>ASY00274-01</td>
<td>$108,000</td>
</tr>
<tr>
<td>24</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry Amp Box</td>
<td>230 VAC/50 Hz Outdoor-Rated RF Amplification System</td>
<td>ASY00275-01</td>
<td>$108,000</td>
</tr>
<tr>
<td>25</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>28 VDC RF Conditioning Unit</td>
<td>ASY00174-01</td>
<td>$48,000</td>
</tr>
<tr>
<td>26</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>MIMO Wi-Fi RF Conditioning Unit</td>
<td>ASY00201-01</td>
<td>$26,000</td>
</tr>
<tr>
<td>27</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>Passive Antenna Subsystem</td>
<td>ASY00222-02</td>
<td>$14,400</td>
</tr>
<tr>
<td>28</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>Active Antenna Subsystem</td>
<td>ASY00223-01</td>
<td>$23,300</td>
</tr>
<tr>
<td>29</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>24 GHz Microwave Link Subsystem</td>
<td>ASY00221-01</td>
<td>$9,300</td>
</tr>
<tr>
<td>30</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>120 VAC Rugged Central Server Subsystem</td>
<td>ASY00224-01</td>
<td>$26,000</td>
</tr>
<tr>
<td>30</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>220 VAC Rugged Central Server Subsystem</td>
<td>ASY00301-01</td>
<td>$26,000</td>
</tr>
<tr>
<td>31</td>
<td>Signal Collection System</td>
<td>V1.5 Sentry</td>
<td>Operator Workstation</td>
<td>ASY00225-01</td>
<td>$6,100</td>
</tr>
<tr>
<td>32</td>
<td>Signal Collection System</td>
<td>Counter-UAS System</td>
<td>Complete 4+1 System</td>
<td>ASY00241-02, ASY00241-03</td>
<td>$1,700,000</td>
</tr>
<tr>
<td>33</td>
<td>Signal Collection System</td>
<td>LUPIN</td>
<td>Mobile/Human Wearable Signal Processing &amp; Detection System</td>
<td>ASY00267-01</td>
<td>$50,000</td>
</tr>
<tr>
<td>34</td>
<td>Amplifier</td>
<td>MTA-100</td>
<td>2U Rack Mounted Amplifier Assembly; RF Coverage 20 MHz – 1 GHz</td>
<td>ASY00150-01, ASY00150-02</td>
<td>$36,000</td>
</tr>
<tr>
<td>35</td>
<td>Amplifier</td>
<td>MTA-610</td>
<td>3U Rack Mounted Amplifier System; RF Coverage 20 MHz - 6 GHz (4 Output Port / Keylock Switch Options)</td>
<td>ASY00186-01, ASY00186-02, ASY00186-03, ASY00186-04</td>
<td>$88,000</td>
</tr>
<tr>
<td>36</td>
<td>Receiver</td>
<td>Universal Receiver Chassis</td>
<td>Rack Mounted Receiver Assembly with Eight 6 GHz RF Input Channels</td>
<td>ASY00145-01</td>
<td>$186,000</td>
</tr>
<tr>
<td>36</td>
<td>Receiver</td>
<td>Universal Receiver Chassis</td>
<td>Rack Mounted Receiver Assembly with Four 18 GHz RF Input Channels</td>
<td>ASY00145-02</td>
<td>$239,000</td>
</tr>
<tr>
<td>36</td>
<td>Receiver</td>
<td>Universal Receiver Chassis</td>
<td>Rack Mounted Receiver Assembly with Four 6 GHz and Two 18 GHz RF Input Channels</td>
<td>ASY00145-03</td>
<td>$211,000</td>
</tr>
</tbody>
</table>
## 2017 Hardware Catalog

### Index

<table>
<thead>
<tr>
<th>Page</th>
<th>Family</th>
<th>System Description</th>
<th>Part Number</th>
<th>Price (Qty. 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>Simulator</td>
<td>Universal Simulator Assembly; Simulated Signal Outputs with Frequency Capability 10 MHz – 6 GHz</td>
<td>ASY00146-01</td>
<td>$26,000</td>
</tr>
<tr>
<td>38</td>
<td>Simulator</td>
<td>Rattler Simulator Portable Signal Simulator. Frequency Range 400 MHz – 4.4 GHz</td>
<td>ASY00064-01</td>
<td>$21,000</td>
</tr>
<tr>
<td>38</td>
<td>Simulator</td>
<td>Rattler Simulator Portable Signal Simulator. Frequency Range 50 MHz – 2.2 GHz</td>
<td>ASY00066-01</td>
<td>$21,000</td>
</tr>
<tr>
<td>39</td>
<td>Simulator</td>
<td>Playback System Assembly; Simulated Signal Outputs with Frequency Capability 10 MHz – 6 GHz</td>
<td>ASY00277-01</td>
<td>$62,000</td>
</tr>
<tr>
<td>40</td>
<td>Simulator</td>
<td>Enhanced Playback System Portable Signal Simulator. Frequency Range 50 MHz – 2.2 GHz</td>
<td>ASY00056-02</td>
<td>$97,000</td>
</tr>
<tr>
<td>42</td>
<td>Antenna</td>
<td>High-Gain Antenna 1.8-meter Parabolic Reflector with Vertically Polarized Feed. RF Coverage 800 MHz – 6 GHz</td>
<td>ASY00326-01</td>
<td>$209,000</td>
</tr>
<tr>
<td>43</td>
<td>Antenna</td>
<td>High-Gain Antenna 1.2-meter Parabolic Reflector with Vertically Polarized Feed. RF Coverage 800 MHz – 6 GHz</td>
<td>ASY00324-01</td>
<td>$179,000</td>
</tr>
<tr>
<td>44</td>
<td>Antenna</td>
<td>High-Gain Antenna with Transmit 1.2-meter Parabolic Primary Reflector with Vertically Polarized Feed; Integrated Secondary Vertically Polarized Log-Periodic Array</td>
<td>ASY00325-01</td>
<td>$186,000</td>
</tr>
<tr>
<td>45</td>
<td>Antenna</td>
<td>Offset Feed Reflector Antenna Offset Feed Reflector with Vertically Polarized Feed. RF Coverage 800 MHz – 6 GHz</td>
<td>ASY00327-01</td>
<td>$97,000</td>
</tr>
<tr>
<td>46</td>
<td>Antenna</td>
<td>UHF Tightly Coupled Array Tightly Coupled Array Vertically Polarized UHF Antenna. Frequency Range 200 MHz – 600 MHz</td>
<td>ASY00330-01</td>
<td>$36,000</td>
</tr>
<tr>
<td>47</td>
<td>Antenna</td>
<td>Dual-Pol TCA Dual-Polarization Tightly Coupled Array UHF Antenna. Frequency Range 200 MHz – 600 MHz</td>
<td>ASY00329-01</td>
<td>$213,000</td>
</tr>
<tr>
<td>48</td>
<td>RF Component</td>
<td>8x4 RF Switch Matrix Non-Blocking RF Switch Matrix. 8 Input Ports, 4 Output Ports. Frequency Range 50 MHz – 6 GHz</td>
<td>ASY00042-01</td>
<td>$48,000</td>
</tr>
<tr>
<td>49</td>
<td>RF Component</td>
<td>RFCU-LSC L/S/C Band RF Conditioning Unit with Integrated Noise Source</td>
<td>ASY00036-01</td>
<td>$27,000</td>
</tr>
<tr>
<td>49</td>
<td>RF Component</td>
<td>RFCU-Uv2 UHF RF Conditioning Unit with Integrated Noise Source. 4 Input Ports, 4 Output Ports</td>
<td>ASY00037-01</td>
<td>$21,000</td>
</tr>
<tr>
<td>49</td>
<td>RF Component</td>
<td>RFCU-PCU RF Conditioning Unit Power Control Unit</td>
<td>ASY00052-02</td>
<td>$17,000</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Page</th>
<th>Family</th>
<th>System</th>
<th>Description</th>
<th>Part Number</th>
<th>Price (Qty. 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Prototype</td>
<td>Sparrowhawk</td>
<td>SIGINT Detection for Airborne Platform</td>
<td>ASY00197-01</td>
<td>Please Call</td>
</tr>
<tr>
<td>51</td>
<td>Prototype</td>
<td>Thrasher</td>
<td>SIGINT Detection for Airborne Platform</td>
<td>ASY00196-01</td>
<td>Please Call</td>
</tr>
<tr>
<td>52</td>
<td>Prototype</td>
<td>Electronically Steered Array (ESA)</td>
<td>Compact Wide-band Antenna System Capable of 120 Degree Azimuth Plane Beam Steering</td>
<td>ASY00132-01</td>
<td>Please Call</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>SC Antenna Mast</td>
<td>3-meter Aluminum Mast for use with SC Class Antennas</td>
<td>ASY00134-01</td>
<td>$4,200</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>Positioner Tripod</td>
<td>Portable Aluminum Tripod for use with AS Class Antennas</td>
<td>ASY00135-01</td>
<td>$13,000</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>Dual-Pol TCA 2-Axis Positioner with Tripod</td>
<td>Dual-Axis Positioner with Dual Slip Rings, Controller and Aluminum Tripod. For use with DPTCA Antenna (ASY00329-01)</td>
<td>ASY00136-01</td>
<td>$133,000</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>Dual-Pol TCA 2-Axis Positioner with Radome</td>
<td>Dual-Axis Positioner with Dual Slip Rings, Controller, Riser and 8-foot Radome and Base. For use with DPTCA Antenna (ASY00329-01)</td>
<td>ASY00137-01</td>
<td>$150,000</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>Antenna RF Cable Kit</td>
<td>RF Input Cable Kit Including 100-foot LMR400 Cable and Connection Accessories. Requires One Kit Per Input Channel</td>
<td>ASY00094-01</td>
<td>$540</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>R4D2+ RF Modulation Upgrade Kit</td>
<td>Upgrade Kit for Existing R4D2+ Processors to Provide Software Defined Modulations and Waveforms</td>
<td>ASY00138-01</td>
<td>$62,000</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>RSG4 Upgrade Kit</td>
<td>Upgrade Kit for Existing RSG4 Processors to Provide Digital Receivers and Frequency Range up to 6 GHz</td>
<td>ASY00229-03</td>
<td>$129,000</td>
</tr>
<tr>
<td></td>
<td>Accessory</td>
<td>Drive Pack</td>
<td>Four (4) SSD Drive Packs Providing up to 4 TB of RAID Storage</td>
<td>FRU-00067</td>
<td>$6,000</td>
</tr>
</tbody>
</table>
Razorbill Rack-Mounted Processor Family

Razorbill Processors are our top-of-the-line ruggedized, rack-mountable, general-purpose SIGINT collection platforms. These systems have been developed as a host for X-Midas and other software-defined radio applications running on the Linux operating system and can be ordered with our latest 3rd generation digital tuners. Razorbill processors are specifically designed to tolerate harsh physical and thermal conditions and are available in 4U and 5U configurations. These systems can be configured to incorporate up to 2 dual-channel independent built-in high-performance receivers, each with an instantaneous bandwidth of 30 MHz and frequency ranges up to 6 GHz. Razorbill systems can be configured with up to 9 TB of self-encrypting storage using SAS storage drives or be equipped with solid state storage devices. Razorbill 5U systems contain integrated LTO tape drives, while 4U chassis are configured to connect to external tape drives. Razorbill processors equipped with output options are compatible with MTA class amplifier systems.
### Razorbill R4D2 System

**Part Number:** ASY00117-01  
4U Rack Mounted System with 2 Input Channels  
**Height:** 4U, 7 inches  
**Width:** 19 inches  
**Depth:** 25.75 inches  
**Weight:** 65 lbs  
**Processor:** Dual deca-core Intel Xeon E5-2680-v2 CPUs  
**Receivers:** 1x dual-channel  
- 30 MHz – 6 GHz  
- 30 MHz Max. Bandwidth  
- Digital Output  
**Input Channels:** 2  
**Output Channels:** None  
**Storage:** 1x 256 GB SSD (OS)  
- 10x 600 GB SAS Drives (6 TB RAID)  
**Tape Drive:** External LTO-5; Can write LTO-4 tapes  
**Memory:** 64 GB DDR3, 1600 MHz  
**Connections:** 2x RF Inputs (N/F)  
- 1x 1 PPS (SMA/F)  
- 1x 10 MHz Ref (SMA/F)  
- 1x Spare (SMA/F)  
- 2x USB 2.0 (Type A)  
- 2x Gigabit Ethernet (RJ-45)  
- 1x VGA Output (DE-15)  
- 1x Mouse (USB)  
- 1x Keyboard (USB)  
- 2x SFF-8088 SAS (1 on Front, 1 on Rear)  
- 2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  
**Basic Unit Price:** $130,000

### Razorbill R4D2+ V2 System

**Part Number:** ASY00061-01  
4U Rack Mounted System with 2 Input Channels and 1 Software-Defined Output Channel  
**Height:** 4U, 7 inches  
**Width:** 19 inches  
**Depth:** 25.75 inches  
**Weight:** 65 lbs  
**Processor:** Dual deca-core Intel Xeon E5-2680-v2 CPUs  
**Receivers:** 1x dual-channel  
- 30 MHz – 6 GHz  
- 30 MHz Max. Bandwidth  
- Digital Output  
**Input Channels:** 2  
**Output Channels:** 1 (software-defined bitstream and waveform)  
**Storage:** 1x 256 GB SSD (OS)  
- 10x 600 GB SAS Drives (6 TB RAID)  
**Tape Drive:** External LTO-5; Can write LTO-4 tapes  
**Memory:** 64 GB DDR3, 1600 MHz  
**Connections:** 2x RF Inputs (N/F)  
- 1x RF Outputs (SMA/F)  
- 1x 1 PPS (SMA/F)  
- 1x 10 MHz Ref (SMA/F)  
- 1x Spare (SMA/F)  
- 2x USB 2.0 (Type A)  
- 2x Gigabit Ethernet (RJ-45)  
- 1x VGA Output (DE-15)  
- 1x Mouse (USB)  
- 1x Keyboard (USB)  
- 2x SFF-8088 SAS (1 on Front, 1 on Rear)  
- 2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  
**Basic Unit Price:** $188,000
Razorbill R4D2+ V2 with RF Switch
Part Number: ASY00218-01
4U Rack Mounted System with 2 Input Channels and 1 Software-Defined Output Channel. The system includes an integrated RF Switch. The RF Switch is a 2 input, 2 output non-blocking matrix switch. Additionally, the RF Switch allows the user to transmit and receive on a single RF port.
Height: 4U, 7 inches
Width: 19 inches
Depth: 25.75 inches
Weight: 65 lbs
Processor: Dual deca-core Intel Xeon E5-2680-v2 CPUs
Receivers: 1x dual-channel
- 30 MHz – 6 GHz
- 30 MHz Max. Bandwidth
Digital Output
Input Channels: 2
Output Channels: 1 (software-defined bit stream and waveform)
Storage: 2x 256 GB SSD
- 4x 1 TB SSD
Tape Drive: External LTO-5; Can write LTO-4 tapes
Memory: 64 GB DDR3, 1600 MHz
Connections: 2x RF Inputs (N/F)
- 1x RF Outputs
- 1x 1 PPS Input (SMA/F)
- 2x USB 2.0 (Type A)
- 2x Gigabit Ethernet (RJ-45)
- 1x VGA Output (DE-15)
- 1x Mouse (USB)
- 1x Keyboard (USB)
- 2x SFF-8088 SAS (1 on Front, 1 on Rear)
- 2x Power (C13)
Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz
Maximum Continuous Power: 760 Watts
Operating Temperature: 10 °C to 35 °C
(50 °F to 95 °F)
Storage Temperature: -40 °C to 70 °C
(-40 °F to 158 °F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Basic Unit Price: $205,000

Razorbill R4D2+ V2 U or UL*
Part Number: ASY00220-02
4U Rack Mounted System with 2 Input Channels and 1 Software-Defined Output Channel
Height: 4U, 7 inches
Width: 19 inches
Depth: 25.75 inches
Weight: 65 lbs
Processor: Dual deca-core Intel Xeon E5-2680-v2 CPUs
Graphics Processor: Quadro K620
Receivers: 1x dual-channel
- 30 MHz – 6 GHz
- 30 MHz Max. Bandwidth
Digital Output
Input Channels: 2
Output Channels: 1 (software-defined bit stream and waveform)
Storage: 1x 256 GB SSD (OS)
- 10x 600 GB SAS Drives (6 TB RAID)
Tape Drive: External LTO-5; Can write LTO-4 tapes
Memory: 64 GB DDR3, 1600 MHz
Connections: 2x RF Inputs (N/F)
- 1x RF Outputs (SMA/F)
- 1x PPS (SMA/F)
- 1x 10 MHz Ref (SMA/F)
- 1x Spare (SMA/F)
- 2x USB 2.0 (Type A)
- 2x Gigabit Ethernet (RJ-45)
- 1x VGA Output (DE-15)
- 1x Mouse (USB)
- 1x Keyboard (USB)
- 2x SFF-8088 SAS (1 on Front, 1 on Rear)
- 2x Power (C13)
Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz
Maximum Continuous Power: 760 Watts
Operating Temperature: 10 °C to 35 °C
(50 °F to 95 °F)
Storage Temperature: -40 °C to 70 °C
(-40 °F to 158 °F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Basic Unit Price: $188,000

* Available with an integrated limiter.
### Razorbill R5D0 System

**Part Number:** ASY00312-01  
5U Rack Mounted Processing System  
**Height:** 5U, 8.75 inches  
**Width:** 19 inches  
**Depth:** 21.25 inches  
**Weight:** 70 lbs  
**Processor:** Dual deca-core Intel Xeon E5-2680-v2 CPUs  
**Receivers:** None  
**Input Channels:** N/A  
**Output Channels:** None  
**Storage:** 1x 256 GB SSD (OS)  
8x 600 GB SAS Drives (4.8 TB RAID)  
**Integrated Tape Drive:** Internal LTO-5; Can write LTO-4 tapes  
**Memory:** 64 GB DDR3, 1600 MHz  
**Connections:** 10x Gigabit Ethernet (RJ-45)  
1x VGA Output (DE-15)  
2x USB 2.0 (Type A)  
2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  

**Basic Unit Price:** $56,000

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### Razorbill R5D2 X10 System

**Part Number:** ASY00271-01  
5U Rack Mounted Processing System with 2 Input Channels  
**Height:** 5U, 8.75 inches  
**Width:** 19 inches  
**Depth:** 21.25 inches  
**Weight:** 85 lbs  
**Processor:** Dual deca-core Intel Xeon E5-2680-v3 CPUs  
**Receivers:** 1x dual-channel  
30 MHz – 6 GHz  
30 MHz Max. Bandwidth Digital Output  
**Input Channels:** 2  
**Output Channels:** None  
**Storage:** 18x 600 GB SAS Drives (10.8 TB RAID)  
**Storage Options:** Full Drive Encryption via SafeStore supported on all 18 drives  
**Integrated Tape Drive:** Internal LTO-5; Can write LTO-4 tapes  
**Memory:** 128 GB DDR4, 2133 MHz  
**Connections:** 1x RF Inputs (SMA/F)  
1x 1 PPS (SMA/F)  
1x 10 MHz Ref (SMA/F)  
2x Spare (SMA/F)  
2x USB 2.0 (Type A)  
2x Gigabit Ethernet (RJ-45)  
2x Networking Outputs (DE-15)  
1x VGA Output (DE-15)  
1x Mouse (USB)  
1x Keyboard (USB)  
2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Special Packaging Options:** No Logo  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  

**Basic Unit Price:** $129,000

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Razorbill Options/Configurations

**Razorbill R5D2+ V2 System**

**Part Number:** ASY00115-01

5U Rack Mounted Processing System with 2 Input Channels and 1 Software-Defined Output Channel

**Height:** 5U, 8.75 inches

**Width:** 19 inches

**Depth:** 21.25 inches

**Weight:** 85 lbs

**Processor:** Dual deca-core Intel Xeon E5-2680-v2 CPUs

**Receivers:** 1x dual-channel
30 MHz – 6 GHz
30 MHz Max. Bandwidth
Digital Output

**Input Channels:** 2

**Output Channels:** 1

**Storage:** 1x 256 GB SSD (OS)
8x 600 GB SAS Drives (4.8 TB RAID)

**Integrated Tape Drive:** Internal LTO-5; Can write LTO-4 tapes

**Memory:** 64 GB DDR3, 1600 MHz

**Connections:** 2x RF Inputs (SMA/F)
1x RF Output (SMA/F)
1x 1 PPS (SMA/F)
1x 10 MHz Ref (SMA/F)
1x Spare (SMA/F)
2x USB (Type A)
2x Gigabit Ethernet (RJ-45)
1x VGA Output (DE-15)
1x Mouse (USB)
1x Keyboard (USB)
2x Power (C13)

**Line Voltage:** 100 – 240 VAC

**Frequency:** 47 – 63 Hz

**Maximum Continuous Power:** 760 Watts

**Operating Temperature:** 10 °C to 35 °C
(50 °F to 95 °F)

**Storage Temperature:** -40 °C to 70 °C
(-40 °F to 158 °F)

**Operating Relative Humidity:** 8% to 90% (non-condensing)

**Basic Unit Price:** $190,000

* Also Available: R5D2+ V2 with Drive Packs

**Part Number:** ASY00116-01

**Storage:** 1x 256 GB SSD
8x 1TB SSD

**Razorbill R5D2K System**

**Part Number:** ASY00313-01

5U Rack Mounted Processing System with 2 Input Channels

**Height:** 5U, 8.75 inches

**Width:** 19 inches

**Depth:** 21.25 inches

**Weight:** 85 lbs

**Processor:** Dual deca-core Intel Xeon E5-2680-v2 CPUs

**Receivers:** 1x dual-channel
30 MHz – 6 GHz
30 MHz Max. Bandwidth
Digital Output

**Input Channels:** 2

**Output Channels:** None

**Storage:** 2x 256 GB SSD (OS)
8x 600 GB SSD Drives
1x Trayless Hot-swappable SSD Drive Bay

**Integrated Tape Drive:** None

**Memory:** 64 GB DDR3, 1600 MHz

**Connections:** 2x RF Inputs (SMA/F)
1x 1 PPS (SMA/F)
1x 10 MHz Ref (SMA/F)
1x Spare (SMA/F)
2x USB 2.0 (Type A)
2x USB 3.0 (Type A)
1x USB 3.0 Front Panel (Type A)
2x Gigabit Ethernet (RJ-45)
1x DVI (DVI-I Dual Link)
1x Mouse (USB)
1x Keyboard (USB)
2x Power (C13)
2x SFF-8088 SAS (2 on rear)

**Line Voltage:** 100 – 240 VAC

**Frequency:** 47 – 63 Hz

**Maximum Continuous Power:** 760 Watts

**Operating Temperature:** 10 °C to 35 °C
(50 °F to 95 °F)

**Storage Temperature:** -40 °C to 70 °C
(-40 °F to 158 °F)

**Operating Relative Humidity:** 8% to 90% (non-condensing)

**Basic Unit Price:** $129,000

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### Razorbill R5D4X10 System

**Part Number:** ASY00229-01  
5U Rack Mounted Processing System with 4 Input Channels  
**Height:** 5U, 8.75 inches  
**Width:** 19 inches  
**Depth:** 21.25 inches  
**Weight:** 85 lbs  
**Processor:** Dual deca-core Intel Xeon E5-2680-v3 CPUs  
**Receivers:** 2x dual-channel  
- 30 MHz – 6 GHz  
- 30 MHz Max. Bandwidth  
- Digital Output  
**Input Channels:** 4  
**Output Channels:** None  
**Storage:** 1x 256 GB SSD (OS)  
- 8x 600 GB SAS Drives (4.8 TB RAID)  
**Integrated Tape Drive:** Internal LTO-5; Can write LTO-4 tapes  
**Memory:** 128 GB DDR4, 2133 MHz  
**Connections:**  
- 4x RF Inputs (SMA/F)  
- 1x PPS (SMA/F)  
- 1x 10 MHz Ref (SMA/F)  
- 2x Gigabit Ethernet (RJ-45)  
- 1x VGA Output (DE-15)  
- 1x Mouse (USB)  
- 1x Keyboard (USB)  
- 2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  
**Basic Unit Price:** $190,000

### Razorbill R5D4X10-IF System *

**Part Number:** ASY00229-02  
5U Rack Mounted Processing System with 2 Input Channels  
(4 digital receiver channels)  
**Height:** 5U, 8.75 inches  
**Width:** 19 inches  
**Depth:** 21.25 inches  
**Weight:** 85 lbs  
**Processor:** Dual dodeca-core Intel Xeon E5-2680-v3 CPUs  
**Receivers:** 2x dual-channel  
- 30 MHz – 6 GHz  
- 30 MHz Max. Bandwidth  
- Digital Output  
**Input Channels:** 4  
**Output Channels:** None  
**Storage:** 1x 256 GB SSD (OS)  
- 16x 600 GB SAS Drives (9.6 TB RAID)  
**Integrated Tape Drive:** Internal LTO-5; Can write LTO-4 tapes  
**Memory:** 128 GB DDR4, 2133 MHz  
**Connections:**  
- 2x RF Input (SMA/F)  
- 1x IF Input (SMA/F)  
- 1x 1 PPS (SMA/F)  
- 1x 10 MHz Ref (SMA/F)  
- 1x Spare (SMA/F)  
- 2x Gigabit Ethernet (RJ-45)  
- 1x VGA Output (DE-15)  
- 1x DC Indicator Output (Barrel Jack)  
- 1x Mouse (USB)  
- 1x Keyboard (USB)  
- 2x USB 3.0  
- 2x Power (C13)  
**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 760 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  
**Basic Unit Price:** $198,000

* R5G4 Razorbills can be upgraded to R5D4X10-IF by adding upgrade kit ASY00229-03.
Razorbill Options/Configurations

Razorbill R5D4Q System

Part Number: ASY00315-01
5U Rack Mounted Processing System with 4 Input Channels

Height: 5U, 8.75 inches
Width: 19 inches
Depth: 21.25 inches
Weight: 85 lbs

Processor: Dual deca-core Intel Xeon E5-2680-v2 CPUs

Receivers: 2x dual-channel
- 30 MHz – 6 GHz
- 30 MHz Max. Bandwidth
- Digital Output

Input Channels: 4
Output Channels: None
Storage: 2x 256 GB SSD (OS)
- 18x 1 TB SSD Drives (18 TB RAID)
- 2x 1 TB in Hot-swappable SSD Drive Bay
Integrated Tape Drive: None

Memory: 64 GB DDR3, 1600 MHz

Connections: 4x RF Inputs (SMA/F)
- 1x 1 PPS (SMA/F)
- 1x 10 MHz Ref (SMA/F)
- 2x USB 3.0 (Type A)
- 1x USB 3.0 Front Panel (Type A)
- 2x Gigabit Ethernet (RJ-45)
- 1x DVI (DVI-I Dual Link)
- 1x Mouse (USB)
- 1x Keyboard (USB)
- 2x Power (C13)
- 2x SFF-8088 SAS (2 on rear)

Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz

Maximum Continuous Power: 760 Watts

Operating Temperature: 10 °C to 35 °C
(50 °F to 95 °F)

Storage Temperature: -40 °C to 70 °C
(-40 °F to 158 °F)

Operating Relative Humidity: 8% to 90% (non-condensing)

Basic Unit Price: $185,000
## 2017 Hardware Catalog
### R4 Razorbill Capability Matrix

<table>
<thead>
<tr>
<th>System</th>
<th>ASY00017-01 (R4D2)</th>
<th>ASY00061-01 (R4D2+V2)</th>
<th>ASY00218-01 (R4D2+ V2 w/RFSW)</th>
<th>ASY00220-02 (R4D2+ V2 U or UL)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>4U, 7 inches</td>
<td>4U, 7 inches</td>
<td>4U, 7 inches</td>
<td>4U, 7 inches</td>
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<tr>
<td><strong>Width</strong></td>
<td>19 inches</td>
<td>19 inches</td>
<td>19 inches</td>
<td>19 inches</td>
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<tr>
<td><strong>Depth</strong></td>
<td>25.75 inches</td>
<td>25.75 inches</td>
<td>25.75 inches</td>
<td>25.75 inches</td>
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<tr>
<td><strong>Weight</strong></td>
<td>65 lbs</td>
<td>65 lbs</td>
<td>65 lbs</td>
<td>65 lbs</td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs Quadro K620 (Graphics)</td>
</tr>
<tr>
<td><strong>Input Channels</strong></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Output Channels</strong></td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>1X 256 GB SSD (OS) 10X 600 GB SAS Drives (6 TB RAID)</td>
<td>1X 256 GB SSD (OS) 10X 600 GB SAS Drives (6 TB RAID)</td>
<td>2X 256 GB SSD (OS) 4X 1 TB SSD</td>
<td>1X 256 GB SSD (OS) 10X 600 GB SAS Drives (6 TB RAID)</td>
</tr>
<tr>
<td><strong>Integrated Tape Drive</strong></td>
<td>External LTO-5; Can write LTO-4 tapes</td>
<td>External LTO-5; Can write LTO-4 tapes</td>
<td>External LTO-5; Can write LTO-4 tapes</td>
<td>External LTO-5; Can write LTO-4 tapes</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>64 GB DDR3, 1600 MHz</td>
<td>64 GB DDR3, 1600 MHz</td>
<td>64 GB DDR3, 1600 MHz</td>
<td>64 GB DDR3, 1600 MHz</td>
</tr>
<tr>
<td><strong>Connections</strong></td>
<td>2X RF Inputs (N/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X SFF-8088 SAS (1 on Front, 1 on Rear) 2X Power (C13)</td>
<td>2X RF Inputs (N/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X SFF-8088 SAS (1 on Front, 1 on Rear) 2X Power (C13)</td>
<td>2X RF Inputs (N/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X SFF-8088 SAS (1 on Front, 1 on Rear) 2X Power (C13)</td>
<td>2X RF Inputs (N/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X SFF-8088 SAS (1 on Front, 1 on Rear) 2X Power (C13)</td>
</tr>
<tr>
<td><strong>Electrical/Environmental Requirements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Line Voltage</strong></td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Max Continuous Power</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>10 °C to 35 °C (50 °F to 95 °F)</td>
<td>10 °C to 35 °C (50 °F to 95 °F)</td>
<td>10 °C to 35 °C (50 °F to 95 °F)</td>
<td>10 °C to 35 °C (50 °F to 95 °F)</td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
<td>-40 °C to 70 °C (-40 °F to 158 °F)</td>
<td>-40 °C to 70 °C (-40 °F to 158 °F)</td>
<td>-40 °C to 70 °C (-40 °F to 158 °F)</td>
<td>-40 °C to 70 °C (-40 °F to 158 °F)</td>
</tr>
<tr>
<td><strong>Operating Relative Humidity</strong></td>
<td>8% to 90% (non-condensing)</td>
<td>8% to 90% (non-condensing)</td>
<td>8% to 90% (non-condensing)</td>
<td>8% to 90% (non-condensing)</td>
</tr>
</tbody>
</table>
## 2017 Hardware Catalog
### R5 Razorbill Capability Matrix

<table>
<thead>
<tr>
<th>System</th>
<th>ASY00312-01 (R5D0)</th>
<th>ASY00271-01 (R5D2 X10)</th>
<th>ASY00115-01 (R5D2+V2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>5U, 8.75 inches</td>
<td>5U, 8.75 inches</td>
<td>5U, 8.75 inches</td>
</tr>
<tr>
<td>Width</td>
<td>19 inches</td>
<td>19 inches</td>
<td>19 inches</td>
</tr>
<tr>
<td>Weight</td>
<td>70 lbs</td>
<td>85 lbs</td>
<td>85 lbs</td>
</tr>
<tr>
<td>Processor</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
<td>Dual deca-core Intel Xeon E5-2680-v3 CPUs</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
</tr>
<tr>
<td>Receivers</td>
<td>None</td>
<td>1X dual-channel 30 MHz – 6 GHz 30 MHz Max. Bandwidth Digital Output</td>
<td>1X dual-channel 30 MHz – 6 GHz 30 MHz Max. Bandwidth Digital Output</td>
</tr>
<tr>
<td>Input Channels Output Channels</td>
<td>0 0</td>
<td>2 0</td>
<td>2 1</td>
</tr>
<tr>
<td>Storage</td>
<td>1X 256 GB SSD (OS) 8X 600 GB SAS Drives (4.8 TB RAID)</td>
<td>18X 600 GB SAS Drives (10.8 TB RAID)</td>
<td>1X 256 GB SSD (OS) 8X 600 GB SAS Drives (4.8 TB RAID)</td>
</tr>
<tr>
<td>Integrated Tape Drive</td>
<td>LTO-S; Can write LTO-4 tapes</td>
<td>LTO-S; Can write LTO-4 tapes</td>
<td>LTO-S; Can write LTO-4 tapes</td>
</tr>
<tr>
<td>Memory</td>
<td>64 GB DDR3, 1600 MHz</td>
<td>128 GB DDR3, 2133 MHz</td>
<td>64 GB DDR3, 1600 MHz</td>
</tr>
<tr>
<td>Connections</td>
<td>10X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 2X USB 2.0 (Type A) 2X Power (C13)</td>
<td>1X RF Inputs (SMA/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 2X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X Power (C13)</td>
<td>2X RF Inputs (SMA/F) 1X RF Output (SMA/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X USB 2.0 (Type A) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X Power (C13)</td>
</tr>
<tr>
<td>Electrical/Environmental Requirements</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Line Voltage Frequency Max Continuous Power</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
<td>100 – 240 VAC 47 – 63 Hz 760 Watts</td>
</tr>
<tr>
<td>Operating Temperature Storage Temperature</td>
<td>10 °C to 35 ºC (50 °F to 95 ºF)</td>
<td>10 °C to 35 ºC (50 °F to 95 ºF)</td>
<td>10 °C to 35 ºC (50 °F to 95 ºF)</td>
</tr>
<tr>
<td>Operating Relative Humidity</td>
<td>-40 ºC to 70 ºC (-40 °F to 158 ºF)</td>
<td>-40 ºC to 70 ºC (-40 °F to 158 ºF)</td>
<td>-40 ºC to 70 ºC (-40 °F to 158 ºF)</td>
</tr>
</tbody>
</table>

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## R5 Razorbill Capability Matrix

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Model</th>
<th>Description</th>
<th>Model</th>
<th>Description</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY00313-01</td>
<td>5U, 8.75 inches 19 inches 21.25 inches 85 lbs</td>
<td>ASY00229-01</td>
<td>5U, 8.75 inches 19 inches 21.25 inches 85 lbs</td>
<td>ASY00229-02</td>
<td>5U, 8.75 inches 19 inches 21.25 inches 85 lbs</td>
<td>ASY00315-01</td>
<td>5U, 8.75 inches 19 inches 21.25 inches 85 lbs</td>
</tr>
<tr>
<td>(R5D2K)</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs Quadro K620 (Graphics)</td>
<td>(R5D4 X10)</td>
<td>Dual deca-core Intel Xeon E5-2680-v3 CPUs</td>
<td>(R5D4 X10-IF)</td>
<td>Dual deca-core Intel Xeon E5-2680-v3 CPUs</td>
<td>(R5D4Q)</td>
<td>Dual deca-core Intel Xeon E5-2680-v2 CPUs</td>
</tr>
<tr>
<td></td>
<td>2X 256 GB SSD (OS) 8X 600 GB SSD Drives (4.8 TB RAID) 1X Trayless Hot-swappable SSD Drive</td>
<td></td>
<td>1X 256 GB SSD (OS) 8X 600 GB SAS Drives (4.8 TB RAID)</td>
<td></td>
<td>1X 256 GB SSD (OS) 16X 600 GB SAS Drives (9.6 TB RAID)</td>
<td></td>
<td>2X 256 GB SSD (OS) 18X 1 TB SSD Drives (18 TB RAID) 2X 1 TB in Trayless Hot-swappable SSD Drive Bay</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>LTO-5; Can write LTO-4 tapes</td>
<td></td>
<td>Internal LTO-5; Can write LTO-4 tapes</td>
<td></td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>64 GB DDR3, 1600 MHz</td>
<td></td>
<td>128 GB DDR3, 2133 MHz</td>
<td></td>
<td>128 GB DDR3, 2133 MHz</td>
<td></td>
<td>64 GB DDR3, 1600 MHz</td>
</tr>
<tr>
<td></td>
<td>2X RF Inputs (SMA/F) 1X 1PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 2X USB 2.0 (Type A) 2X USB 3.0 (Type A) 1X USB 3.0 Front Panel (Type A) 2X Gigabit Enet (RJ-45) 1X DVI (DVI-I Dual Link) 1X Mouse (USB) 1X Keyboard (USB) 2X Power (C13) 2X SFF-8088 SAS (2 on Rear)</td>
<td>4X RF Inputs (SMA/F) 1X 1 PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X Mouse (USB) 1X Keyboard (USB) 2X Power (C13)</td>
<td>2X RF Input (SMA/F) 1X IF Input (SMA/F) 1X 1 PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 1X Spare (SMA/F) 2X Gigabit Enet (RJ-45) 1X VGA Output (DE-15) 1X DC Indicator Output 1X Mouse (USB) 1X Keyboard (USB) 2X USB 3.0 2X Power (C13)</td>
<td>4X RF Inputs (SMA/F) 1X 1 PPS (SMA/F) 1X 10 MHz Ref (SMA/F) 2X USB 3.0 (Type A) 2X Gigabit Enet (RJ-45) 1X DVI (DVI-I Dual Link) 1X Mouse (USB) 1X Keyboard (USB) 2X Power (C13) 2X SFF-8088 SAS (2 on Rear)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 °C to 35 °C (50 °F to 95 °F) -40 °C to 70 °C (-40 °F to 158 °F) 8% to 90% (non-condensing)</td>
<td></td>
<td>10 °C to 35 °C (50 °F to 95 °F) -40 °C to 70 °C (-40 °F to 158 °F) 8% to 90% (non-condensing)</td>
<td></td>
<td>10 °C to 35 °C (50 °F to 95 °F) -40 °C to 70 °C (-40 °F to 158 °F) 8% to 90% (non-condensing)</td>
<td></td>
<td>10 °C to 35 °C (50 °F to 95 °F) -40 °C to 70 °C (-40 °F to 158 °F) 8% to 90% (non-condensing)</td>
</tr>
</tbody>
</table>
BIT Systems manufactures a family of high performance wideband SIGINT collection and processing systems. These systems are in use by a variety of DoD and Civilian agencies. All BIT Systems hardware solutions are modular and scalable and can be specifically configured to meet customer requirements.

Kite processors are portable ruggedized general-purpose SIGINT collection platforms. These systems have been developed as a host for X-Midas and other software-defined radio applications running on the Linux operating system. Kite processors incorporate dual-channel coherent digital tuners with a frequency range of 30 MHz – 6 GHz and instantaneous bandwidths of 30 MHz each. Inside the processing unit is an integrated 2x2 non-blocking matrix switch. The processor includes an integrated GPS receiver capable of providing precision timing and 1 Pulse Per Second (PPS) inputs to the tuners. Kite processors utilize solid state storage devices and come with 3.8 TB of internal storage.

Kite processors are headless and each system comes with a 15” rugged laptop for controlling the system. Kite processors can also be controlled via Virtual Network Console connections to any external display. Kite systems can be ordered to operate on AC or DC power. Each processor comes complete with an external LTO-5 tape drive, basic user documentation, and rugged shipping containers.

* All prices are for specific stock configurations. Quotes for customized configurations are available upon request.
Kite K9D2S – AC Processor
Part Number: ASY00175-01
Height: 8.5 inches
Width: 9.0 inches
Depth: 24.2 inches
Weight: 38 lbs
Processor: Dual dodeca-core Intel Xeon E5-2680-v3 CPUs
Receivers: 1x dual-channel
30 MHz – 6 GHz
30 MHz Max. Bandwidth
Digital Output
Input Channels: 2
Output Channels: None
Storage: 2x 256 GB SSD (OS)
4x 960 GB SSD (3.8 TB RAID)
Tape Drive: External LTO-5; Can write LTO-4 tapes
Memory: 128 GB DDR4, 2133 MHz
Connections: 2x RF Inputs (SMA/F)
1x GPS Antenna Connection (TNC/F)
2x Spare (SMA/F)
2x USB (Type A)
2x Gigabit Ethernet (RJ-45)
1x SFF-8088 SAS
1x VGA Output (DE-15)
1x Rugged Ethernet (Glenair 805)
1x Power (C13)
1x Grounding Lug
Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz
Maximum Continuous Power: 600 Watts
Operating Temperature: 10 °C to 35 °C
(50 °F to 95 °F)
Storage Temperature: -40 °C to 70 °C
(-40 °F to 158 °F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Basic Unit Price: $144,000

Kite K9D2S – DC Processor
Part Number: ASY00176-01
Height: 8.5 inches
Width: 9.0 inches
Depth: 24.2 inches
Weight: 38 lbs
Processor: Dual dodeca-core Intel Xeon E5-2680-v3 CPUs
Receivers: 1x dual-channel
30 MHz – 6 GHz
30 MHz Max. Bandwidth
Digital Output
Input Channels: 2
Output Channels: None
Storage: 2x 256 GB SSD (OS)
4x 960 GB SSD (3.8 TB RAID)
Tape Drive: External LTO-5; Can write LTO-4 tapes
Memory: 128 GB DDR4, 2133 MHz
Connections: 2x RF Inputs (SMA/F)
1x GPS Antenna Connection (TNC/F)
2x Spare (SMA/F)
2x USB (Type A)
2x Gigabit Ethernet (RJ-45)
1x SFF-8088 SAS
1x VGA Output (DE-15)
1x Rugged Ethernet (Glenair 805)
1x Power (MILSPEC CIRCULAR)
1x Grounding Lug
Line Voltage: 28 VDC
Frequency: N/A
Maximum Continuous Power: 600 Watts
Operating Temperature: 10 °C to 35 °C
(50 °F to 95 °F)
Storage Temperature: -40 °C to 70 °C
(-40 °F to 158 °F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Basic Unit Price: $144,000

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The Ground Processor is a data ingest, quick look and analysis system providing a sophisticated processing suite of software for non-standardized signals of interest. This system supports offloading data from removable drive packs to a Network Attached Storage (NAS) in 9U of rack space and is delivered with an 18U rack. It is specifically designed to support airborne systems (KITE Portable Sensor and Razorbill Processors with drive packs), so that the sensor can reside on the platform. The storage drives are easily removed and data from them offloaded after a mission or set of missions. The server supports two quad disk drive packs and has a high speed network connection for fast data offload to a 24 TB NAS. The LTO-5 tape drive supports data offloading for shipment or storage. The system comes complete with a KVM tray, UPS, and Adaptive Security Appliance (ASA) providing all rackmount components needed to facilitate fast data ingest and analysis (only 2U server pictured).

**Part Number:** ASY00181-01  
**Height:** 9U, 15.75 inches  
**Width:** 19 inches  
**Depth:** 29 inches  
**Weight:** 434 lbs  
**Processor:** 2x Intel Xeon E5-2680-v3 CPUs  
**Storage:**  
- 1x 256 GB SSD (OS)  
- 8x 1 TB SSD (2x 4 TB Removable Drive Packs)  
- 24 TB of Network Attached Storage (24x 1.2 TB Hard Drives)  
- 1x LTO-5 Tape Drive  
**Memory:** 128 GB DDR4, 2133 MHz  
**Outgoing Connections:** ASA Network Connections  
**Battery Backup:** 3 kVA UPS  
**Line Voltage:** 160- 294 VAC (Power to the UPS)  
**Frequency:** 47-70 Hz (Power to the UPS)  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  

**Basic Unit Price:** $168,000
The FIREFLY™ RM-7 is a complete rack-mounted, 7-channel COMINT sensor that supports GEOnet™-based private network and TNG enterprise precision Time and Frequency Difference of Arrival (T/FDOA) geolocation; RF situational awareness; remoted signal acquisition; and audio streaming. Both local and remote operations are supported.

**Part Number:** see Configuration Options below

**Configuration Options:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000-0316</td>
<td>3-Tuner, AC Input, External SAASM TFNG Compatible (not included)</td>
</tr>
<tr>
<td>7000-0321</td>
<td>3-Tuner, AC Input, Integrated Internal Non-SAASM TFNG Source</td>
</tr>
</tbody>
</table>

**Height:** 1U, 1.75 inches  
**Width:** 19 inches  
**Depth:** 19.81 inches  
**Weight:** 13 lbs  
**Number of RF Tuners:** 3  
**Number of DDC Channels:** 7  
**Frequency Range:** 3 MHz – 3000 MHz  
**Instantaneous RF Bandwidth:** 40 MHz per analog tuner  
**DDC Channel Bandwidth:** 6.5, 10, 20, 50, 100, 150, 200 kHz  
**Demodulation:** AM, FM, SSB, HF ALE  
**Data Archive:** Removable Hard Drive  
**Signal Acquisition:** PTT and signal detections  
**Connections:**  
- 1x HF RF Input (SMA/F)  
- 1x V/UHF RF Input (SMA/F)  
- 1x GPS RF Input (SMA/F) (for 7000-0321)  
- 1x 1PPS (SMA/F) (for 7000-0316)  
- 1x 10 MHz Ref (SMA/F) (for 7000-0316)  
- 1x Power (D38999/20W6PA)  
- 1x Gigabit Ethernet (RJFTV2PEM1G)  

**Input Power:** 92 – 138 VAC  
**Power Frequency:** 47 – 63 Hz  
**Nominal Continuous Power:** 55W  
**Operating Temperature:** -20 °C to 55 °C  
**Vibration:** Suitable for ground and airborne environments  
**Altitude:** Operational to 15k feet unpressurized

**Basic Unit Price:**  
- 7000-0316: $160,000  
- 7000-0321: $165,000
V1.5 Sentry Node (Passive Detection)

Part Number: ASY00272-01, ASY00273-01

Height: 21 inches
Width: 36.38 inches
Depth: 13.99 inches
Weight: 130 lbs

Processor: Intel Xeon E5-2699-v3 CPU

Receivers: 2x Dual Channel
30 MHz – 6 GHz
30 MHz Max. Bandwidth per Channel
Digital Output

Wideband RF Input Ports: 1
Wi-Fi RF Input Ports: 3
Output Channels: None

Storage: 6x 250 GB SSD
Memory: 128 GB DDR4
2133 MHz

Connections: 1x RF Input (N/F)
3x Wi-Fi Input (N/F)
1x GPS Antenna Connection (N/F)
1x Ruggedized AC Power Input (MILSPEC)
1x RFCU I/O Connection (MILSPEC)
1x Wi-Fi RFCU I/O Connection (MILSPEC)
2x Ruggedized Ethernet (Rugged RJ-45)
2x Ruggedized Ethernet w/POE (Rugged RJ-45)

Configuration Options:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage</th>
<th>Input Power Frequency</th>
<th>Maximum Continuous Power</th>
<th>Power Type</th>
<th>Power Input Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY00272-01</td>
<td>120 VAC</td>
<td>50/60 Hz</td>
<td>750 Watts</td>
<td>Single Phase</td>
<td>5-15/20</td>
</tr>
<tr>
<td>ASY00273-01</td>
<td>230 VAC</td>
<td>50/60 Hz</td>
<td>750 Watts</td>
<td>Single Phase</td>
<td>L6-20</td>
</tr>
</tbody>
</table>

Operating Temperature: -20 °C to 50 °C (-4 °F to 122 °F)
Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F)

Basic Unit Price:
ASY00272-01: $165,000
ASY00273-01: $165,000
The Sentry+ Node is an outdoor-rated passive signal collection system with built-in arbitrary waveform generation. The system features 2 dual-channel independent high-performance receivers, each with an instantaneous bandwidth of 30 MHz and frequency ranges up to 6 GHz. Wideband arbitrary waveforms can be created in two separate bands to allow for multi-band simultaneous RF output. With an integrated 2.4 / 5.8 GHz Wi-Fi detection capability and 2.4 / 5.8 GHz receive and transmit Wi-Fi capability, the Sentry+ Node is well equipped for a wide variety of mission sets. An integrated processor allows for software-defined digital signal processing at the node for both receive and transmit capability.

**V1.5 Sentry+ Node (Passive Detection PLUS Active Mitigation)**

**Part Number:** ASY00261-01, ASY00262-01

**Height:** 28.75 inches

**Width:** 41.5 inches

**Depth:** 13.95 inches

**Weight:** 200 lbs

**Processor:** Intel Xeon E5-2699-v3 CPU

**Receivers:** 2x Dual Channel
- 30 MHz – 6 GHz
- 30 MHz Max. Bandwidth per Channel
- Digital Output

**Wideband RF Input Ports:** 1

**Wi-Fi RF Input Ports:** 3

**Output Channels:** 2

**Storage:** 6x 250 GB SSD

**Memory:** 128 GB DDR4, 2133 MHz

**Connections:**
- 1x RF Input (N/F)
- 1x RF Output (N/F)
- 3x Wi-Fi Input (N/F)
- 1x GPS Antenna Connection (N/F)
- 1x Ruggedized AC Power Input (MILSPEC)
- 1x RFCU I/O Connection (MILSPEC)
- 1x AMP I/O Connection (MILSPEC)
- 1x Wi-Fi RFCU I/O Connection (MILSPEC)
- 2x Ruggedized Ethernet (Rugged RJ-45)
- 2x Ruggedized Ethernet w/POE (Rugged RJ-45)

**Configuration Options:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage</th>
<th>Input Power Frequency</th>
<th>Maximum Continuous Power</th>
<th>Power Type</th>
<th>Power Input Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY00261-01</td>
<td>120 VAC</td>
<td>50/60 Hz</td>
<td>1500 Watts</td>
<td>Single Phase</td>
<td>5-15/20</td>
</tr>
<tr>
<td>ASY00262-01</td>
<td>230 VAC</td>
<td>50/60 Hz</td>
<td>1500 Watts</td>
<td>Single Phase</td>
<td>L6-20</td>
</tr>
</tbody>
</table>

**Operating Temperature:** -20 °C to 50 °C (-4 °F to 122 °F)

**Storage Temperature:** -40 °C to 70 °C (-40 °F to 158 °F)

**Basic Unit Price:**
- ASY00261-01: $252,000
- ASY00262-01: $252,000
The Sentry Amplifier is a powerful outdoor-rated RF amplification system. For systems that require high-power RF amplification, the Sentry Amplifier provides more than 50 Watts of RF output across a wide frequency range and is designed to work in conjunction with the Sentry+ Node. The Sentry Amplifier can be operated remotely via integrated communication interfaces. RF power output monitoring is integral to the design and can be remotely queried.

**V1.5 Sentry Amplifier**

**Part Number:** ASY00274-01, ASY00275-01  
**Height:** 21 inches  
**Width:** 34.9 inches  
**Depth:** 14 inches  
**Weight:** 135 lbs  
**Frequency Coverage:** 20 MHz – 6 GHz  
**Output Power CW:** 20 – 600 MHz: 80 Watts  
200 MHz – 2.6 GHz: 100 Watts  
2.8 – 6 GHz: 50 Watts  
**RF Inputs:** 1  
**High Power RF Outputs:** 3  
**Remote Control & Monitoring:** RS-485 or Ethernet TCP/IP  
**Connections:**  
- 1x RF Input (N/F)  
- 3x RF Output (N/F)  
- 1x Ruggedized AC Power Input (MILSPEC)  
- 1x Controller I/O Connection (MILSPEC)  
- 1x Auxiliary I/O Connection (MILSPEC)  
- 1x Ruggedized Ethernet (Rugged RJ-45)  

**Configuration Options:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage</th>
<th>Input Power Frequency</th>
<th>Maximum Continuous Power</th>
<th>Power Type</th>
<th>Power Input Type</th>
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</thead>
<tbody>
<tr>
<td>ASY00274-01</td>
<td>120 VAC</td>
<td>50/60 Hz</td>
<td>900 Watts</td>
<td>Single Phase</td>
<td>5-15/20</td>
</tr>
<tr>
<td>ASY00275-01</td>
<td>230 VAC</td>
<td>50/60 Hz</td>
<td>900 Watts</td>
<td>Single Phase</td>
<td>L6-20</td>
</tr>
</tbody>
</table>

**Operating Temperature:** -20 °C to 50 °C (-4 °F to 122 °F)  
**Storage Temperature:** -40 °C to 70 °C (-40 °F to 158 °F)  

**Basic Unit Price:**  
ASY00274-01: $108,000  
ASY00275-01: $108,000
The Sentry RF Conditioning Unit (RFCU) is specifically designed to maximize RF sensitivity in a variety of mission environments. The unit features multi-band amplification and filtering to maximize overall system performance when used in conjunction with Sentry or Sentry+ Nodes. Out-of-band RF interference is also minimized by the RFCU to ensure proper system performance.

**V1.5 Sentry RFCU**

- **Part Number:** ASY00174-01
- **Height:** 6.5 inches
- **Width:** 13 inches
- **Depth:** 16 inches
- **Weight:** 24 lbs
- **Frequency Bands:**
  - 50 MHz – 1 GHz
  - 1 GHz – 6 GHz
- **Number of RF Inputs:** 2 (N/F)
- **Number of RF Outputs:** 1 (N/F)
- **Enclosure:** NEMA 4 type
- **Connections:**
  - **RF:** N-Type
  - **Power & Control:** MIL Circular
    - 28 VDC
    - RS-485/2-wire
- **Operating Temperature:** -20 °C to 50 °C (-4 °F to 122 °F)
- **Storage Temperature:** -15 °C to 85 °C (5 °F to 185 °F)

**Basic Unit Price:** $48,000
The V1.5 Sentry MIMO Wi-Fi RFCU features multi-band amplification and filtering to maximize overall system performance when used in conjunction with Sentry or Sentry+ Nodes. Out-of-band RF interference is also minimized by the RFCU to ensure proper system performance. The unit features built-in power amplifiers for missions that require an active Wi-Fi capability.

**V1.5 Sentry MIMO Wi-Fi RFCU**

**Part Number:** ASY00201-01

**Height:** 10.53 inches  
**Width:** 17.12 inches  
**Depth:** 19.5 inches  
**Weight:** 26 lbs  
**Frequency Bands:** 2.4 GHz / 5.8 GHz  
**Enclosure:** NEMA 3R / IP24  
**Connections:**  
  - RF: 3x RF In (N-Type)  
  - 3x RF Out (N-Type)  
**Power:** 28 VDC / 100 Watts Max  
**Operating Temperature:** -20 °C to 50 °C (-4 °F to 122 °F)  
**Storage Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)  

**Basic Unit Price:** $26,000
The Passive Antenna Subsystem includes all necessary components required for the Sentry Passive Node. The system includes antennas, antenna mounts, RF cables, and portable masts for one Passive Sentry Node.

V1.5 Sentry Passive Antenna Subsystem

Part Number: ASY00222-02

Height: 11 feet Min – 23 feet Max

Width: 60 inches

Depth: 57 inches

Overall Footprint: 78 inches Diameter

Weight: 107 lbs

Antennas:
- 3x 2.4/5.8 GHz Dual Band Omni
- 1x 1 GHz to 6 GHz Omni
- 1x 30 MHz to 1 GHz Omni
- 1x GPS Antenna - 1575 MHz 4.5 dBi

Operating Temperature: -40 °C to 55 °C (-40 °F to 131 °F)

Storage Temperature: -40 °C to 55 °C (-40 °F to 131 °F)

Basic Unit Price: $14,400
2017 Hardware Catalog
Sentry Options/Configurations

The Sentry V1.5 Active Antenna Subsystem includes all necessary components required for the Sentry+ Active Node. The system includes antennas, antenna mounts, RF cables, and portable masts for one Active Sentry+ Node.

**V1.5 Sentry Active Antenna Subsystem**

**Part Number:** ASY00223-01  
**Height:** 11 feet Min – 24.5 feet Max  
**Width:** 60 inches  
**Depth:** 57 inches  
**Overall Footprint:** 78 inches Diameter  
**Weight:** 215 lbs  

**Antennas:**
- 3x 2.4/5.8 GHz Dual Band Omni (TX/RX)
- 1x 1 GHz to 6 GHz Omni (RX)
- 1x 30 MHz to 1 GHz Omni (RX)
- 1x 1.7 to 6.1 GHz Omni (TX)
- 1x 20 MHz to 1 GHz / 800 MHz to 3 GHz Dual-Band Omni (TX)
- 1x GPS Antenna - 1575 MHz 4.5 dBi

**Operating Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)  
**Storage Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)

**Basic Unit Price:** $23,300
The Microwave Link Subsystem provides wireless connectivity between the Sentry sensor nodes. Each system contains both ends of a single wireless link. The system includes hardware for pole mounting the link in an outdoor environment.

**V1.5 Sentry 24 GHz Microwave Link Subsystem**

**Part Number:** ASY00221-01  
**Height:** 80 inches  
**Width:** 60 inches  
**Depth:** 57 inches  
**Weight:** 35.27 lbs (including mounting hardware)  
**Antennas:** 2x Air Fiber 24 Microwave Link  
**Hardware:**  
1x Blue Sky Mast  
**Power:** 50 Watts via Power over Ethernet (PoE)  
**Max. Link Throughput:** 1.4 Gbps Full Duplex  
**Connections:** 1x Data/PoE (RJ-45)  
**Encryption:** 128-Bit AES  
**Link Frequency:** 24.05 – 24.25 GHz  
**Operating Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)  
**Storage Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)  

**Basic Unit Price:** $9,300
The Central Server Subsystem is comprised of a 2U Xeon-class server, a rugged storm case, an unmanaged network switch, and a power distribution unit.

**V1.5 Sentry Rugged Central Server Subsystem**

**Part Number:** ASY00224-01, ASY00301-01  
**Height:** 17 inches  
**Width:** 27 inches  
**Depth:** 40 inches  
**Processor:** Dual Intel Xeon E5-2643v2  
**Storage:** 2.4 TB RAID  
**Memory:** 64 GB DDR3-1660  
**Operating Temperature:** 0 °C to 40 °C (32 °F to 104 °F)  
**Storage Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)

**Configuration Options:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Voltage</th>
<th>Input Power Frequency</th>
<th>Maximum Continuous Power</th>
<th>Power Type</th>
<th>Power Input Type</th>
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<tr>
<td>ASY00224-01</td>
<td>120 VAC</td>
<td>60 Hz</td>
<td>600 Watts</td>
<td>Single Phase</td>
<td>5-15/20</td>
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<tr>
<td>ASY00301-01</td>
<td>220 VAC</td>
<td>50/60 Hz</td>
<td>600 Watts</td>
<td>Single Phase</td>
<td>L6-20</td>
</tr>
</tbody>
</table>

**Basic Unit Price:** $26,000
The custom configured Operator Workstation includes dual 24" IPS monitors, desktop workstation, keyboard and mouse.

**V1.5 Sentry Operator Workstation**
- **Part Number:** ASY00225-01
- **Processor:** Intel Xeon E5-1603v3
- **Storage:** 500 GB
- **Memory:** 16 GB DDR4-2133
- **Operating Temperature:** 0 °C to 40 °C (32 °F to 104 °F)
- **Storage Temperature:** -40 °C to 55 °C (-40 °F to 131 °F)

**Basic Unit Price:** $6,100
Sentry Counter-UAS Complete System

Part Number:
- ASY00241-02  V1.5 (220 VAC 50/60 Hz)
- ASY00241-03  V1.5 (120 VAC 50/60 Hz)

CACI's Counter-UAS defense system offers an end-to-end system for the detection, tracking, interdiction, engagement, and neutralization of group 1 and 2 commercial drones. The system design is modular and scalable for application in different environments, and additional sensors can be integrated to expand overall defense capabilities. The system provides 24/7 all-weather coverage and is designed for automated operations utilizing an intuitive Graphical User Interface (GUI) for system operation.

Basic Active Unit Price (4 Passive Sensors / 1 Active Sensor): $1,700,000
Passive Only Unit Price (4 Passive Sensors): $1,250,000*
Maintenance Support After the First Year: $250,000

The cost of the system includes:
- C-UAS System (4 passive sensors and 1 active sensor)
- One year of phone support, M-F 8am-5pm EST, to assist the customer with trouble-shooting the system
- User manuals and installation manuals (and any updates within the first year)
- Customer site-specific emplacement recommendations
- Quarterly software updates for deployed systems, to include the most up-to-date threat signatures
- One user training class for up to 4 people at the BITS facility in Dulles, VA or Sarasota, FL
- Factory acceptance test report
- One year warranty on system hardware, which covers parts and labor, including shipping and insurance
- Shipping and handling for CONUS deliveries
- Basic installation and system set-up support, not to exceed 2 people for 5 business days. Travel costs will be billed separately based on location of installation. Site-specific installation requirements will be priced separately.

After the first year, individual customer support needs can be addressed based on number of systems and deployment locations. But at a minimum CACI/BITS recommends budgeting $250,000 for support for each system, which would include:
- Quarterly software updates for deployed systems, to include most current threat signatures
- One year of phone support, M-F 8am-5pm EST, to assist the customer with trouble-shooting the system
- User manuals/setup manuals updates
- One user training class for up to 4 people at the BITS facility in Dulles, VA or Sarasota, FL

System Components (4+1 System):

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Qty per System</th>
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</thead>
<tbody>
<tr>
<td>Sentry Node (Passive)</td>
<td>ASY00273-01</td>
<td>4</td>
</tr>
<tr>
<td>Sentry Node + (Active)</td>
<td>ASY00262-01</td>
<td>1</td>
</tr>
<tr>
<td>Sentry Amplifier</td>
<td>ASY00275-01</td>
<td>1</td>
</tr>
<tr>
<td>Sentry RF Conditioning Unit (RFCU)</td>
<td>ASY00174-01</td>
<td>5</td>
</tr>
<tr>
<td>Sentry MIMO Wi-Fi RFCU</td>
<td>ASY00201-01</td>
<td>5</td>
</tr>
<tr>
<td>Sentry 24 GHz Microwave Link Subsystem</td>
<td>ASY00221-01</td>
<td>5</td>
</tr>
<tr>
<td>Sentry Node Passive Antenna Subsystem</td>
<td>ASY00222-02</td>
<td>4</td>
</tr>
<tr>
<td>Sentry Node + Active Antenna Subsystem</td>
<td>ASY00223-01</td>
<td>1</td>
</tr>
<tr>
<td>Sentry Rugged Central Server Subsystem</td>
<td>ASY00301-01</td>
<td>1</td>
</tr>
<tr>
<td>Sentry Operator Workstation</td>
<td>ASY00225-01</td>
<td>1</td>
</tr>
</tbody>
</table>

* A passive only system does not have the capability to mitigate/neutralize threats.
**LUPIN**

Mobile/human-wearable signal processing and detection system with Wi-Fi and integrated mesh communications.

**Part Number:** ASY00267-01

**Height:** 11.5 inches

**Width:** 8.22 inches

**Depth:** 3.02 inches

**Weight:** 8.8 lbs

**Processor:** Intel i7-5650U (Dual Core 2.2 GHz w/ Hyperthreading)

**Receiver:** Single Channel Software Defined Radio

- 50 MHz – 6 GHz
- 40 MHz Max. Bandwidth

**GPS Receiver:** Integrated 65 channel w/VCXO

**Mesh Network I/F:** Integrated peer-to-peer mobile ad hoc network, 27 Mbps multiple frequency options, FIPS140-2 Level 1, 2.4 GHz ISM

**Wi-Fi:** Dual-band - 2.4 and 5.8 GHz bands

**Storage:** 128 GB SSD

**Connections:**
- 1x Input Power/Ethernet/USB (MIL connector)
- 1x Fan Power Output (MIL connector)
- 1x RF Antenna Input (TNC)
- 1x RF Auxiliary Connection (TNC)
- 1x Mesh Network Antenna (RPTNC)
- 1x GPS Antenna (SMA)

**Power Source:** 24 VDC Battery Power (Sold Separately)

**Battery life:** >7 Hours

**Antennas Included:**
- 1x Mesh Network Communications
- 1x Wide Band Omni-Directional

**Maximum Continuous Power:** 36 Watts (Search mode)

**Operating Temperature:** -40 °C to 50 °C*

   (-40 °F to 122 °F)

**Storage Temperature:** -40 °C to 70 °C

   (-40 °F to 158 °F)

**Operating Relative Humidity:** 8% to 90% (non-condensing)

**Basic Unit Price:** $50,000

* Operating temperature shown is only achievable with fan enclosure.
MTA-100

The MTA-100 is a powerful rack-mounted RF amplification system. For systems requiring high-power RF output capability, the MTA-100 provides 100 Watts of output power over a wide frequency range. This system is designed to work in conjunction with our output-enabled Razorbill processor family. The amplifier covers a wide frequency range of 20 MHz – 1 GHz. Remote control is achieved through an integrated Ethernet TCP/IP controller.

**Part Number:** ASY00150*

**Height:** 2U / 3.5 inches

**Depth:** 20 inches

**Frequency Range:** 20 MHz – 1 GHz

**Output Power CW:** 100 Watts

**Input Ports:** 1 (SMA/F)

**Output Ports:** 1 (N/F)

**Remote Control:** Ethernet TCP/IP (RJ-45)

**Input Power:** 100 – 240 VAC

**Frequency:** 47 – 63 Hz

**Maximum Continuous Power:** 550 Watts

**Basic Unit Price:** $36,000

* ASY00150-01: Keyed; ASY00150-02: Not Keyed
The MTA-610 is a powerful rack-mounted wideband RF amplification system. For systems requiring high-power RF output capability, the MTA-610 provides 50 Watts to 100 Watts over a wide frequency range. This system is designed to work in conjunction with our output-enabled Razorbill processor family. The amplifier covers a wide frequency range of 20 MHz – 6 GHz. Remote control is achieved through an integrated Ethernet TCP/IP controller. RF Power output monitoring is integrated in the design and can be remotely queried.

**Part Number:** ASY00186-01  
**Height:** 3U / 5.25 inches  
**Depth:** 20 inches  
**Frequency Range:** 20 MHz – 6 GHz  
**Output Power CW:**  
  - 20 – 600 MHz: 80 Watts  
  - 800 MHz – 2.6 GHz: 100 Watts  
  - 2.8 – 6 GHz: 50 Watts  
**Input Ports:** 1 (N/F)  
**Output Ports and Security Keylock Switch Options:**  
  - ASY00186-01: 1 (Single-band switched output)  
  - ASY00186-02: 1 (Single-band switched output with physical key switch control)  
  - ASY00186-03: 3 (Three separate antenna outputs / one per RF band)  
  - ASY00186-04: 3 (Three separate antenna outputs / one per RF band with physical key switch control)  
**Remote Control and Monitoring:** RS-485 or Ethernet TCP/IP  
**Input Power:** 100 – 265 VAC  
**Power Frequency:** 47 – 440 Hz  
**Maximum Continuous Power:** 1000 Watts  
**Operating Temperature:** 10 °C to 35 °C  
  (50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
  (-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  

**Basic Unit Price (all models):** $88,000
Universal Receiver Chassis

The Universal Receiver Chassis is a rack mounted receiver assembly. The unit consists of four receivers that can be configured to meet specific mission requirements.

**Part Number:** ASY00145-nn (see configuration options below)

**Configuration Options:**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>30 MHz – 6 GHz Input Channels</th>
<th>30 MHz – 18 GHz Input Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY00145-01</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>ASY00145-02</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>ASY00145-03</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**Height:** 3U, 5.25 inches  
**Instantaneous RF Bandwidth:** 30 MHz / channel  
**Output Stream:** SDDS Packetized Data  
**Connections:** 8x Gigabit Ethernet (RJ-45)  
1x 1PPS (SMA/F)  
1x 10 MHz Ref (SMA/F)  
1x Power (C13)  
**Input Power:** 100 – 265 VAC  
**Power Frequency:** 47 – 440 Hz  
**Maximum Continuous Power:** 150W  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)

**Basic Unit Price:**  
ASY00145-01: $186,000  
ASY00145-02: $239,000  
ASY00145-03: $211,000
Universal Simulator Chassis
The Universal Simulator Chassis provides two highly customizable simulated signal outputs with frequency capability from 10 MHz – 6 GHz.

Part Number: ASY00146-01

Height: 2U, 3.5 inches
Width: 19 inches
Depth: 20 inches
Weight: 10 lbs
Output Channels: 2
Output Power: up to 15 dBm
Frequency Accuracy: 2.5 ppm
Connections: 2x RF Outputs (SMA/F)
  2x 1 PPS (SMA/F)
  2x 10 MHz Ref (SMA/F)
  2x Gigabit Ethernet (RJ-45)
  1x Power (C13)
Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz
Power Requirements: ~15 Watts
Operating Temperature: 0 °C to 55 °C
  (32 °F to 131 °F)

Basic Unit Price: $26,000
2017 Hardware Catalog

RATTLER Simulator

The RATTLER is a compact, portable signal emulator designed to be utilized to test and train operators on the usage of signal collection systems. The system is designed to output a surrogate waveform of high visibility Signals Of Interest (SOI) to aid in the training of operators. Additionally, the system can be utilized as a pre-deployment system check to provide to the appropriate maintenance channels. Two frequency range options are available for SOI output (50 MHz – 4.4 GHz or 400 MHz – 2.2 GHz).

The RATTLER is a single tabletop chassis system consisting of a serialized transmission board, a touchscreen interface, and a proprietary software suite. The chassis includes a processor, a programmable software-defined radio, and a Graphical User Interface (GUI) that is accessed through the supplied touchscreen. The RATTLER software suite consists of RATTLER signal emulation software running on the Red Hat Enterprise Linux (RHEL) operating system.

Part Number: ASY00064-01* and ASY00066-01**
Height: 6.5 inches
Width: 7 inches
Depth: 15.2 inches
Weight: 10 lbs
RF Connections: 2x SMA/F
Remote Command/Control: 1x Gigabit Ethernet (RJ-45)
External Display: HDMI
USB 2.0 Ports: 4
Power: 100 – 240 VAC @ 47 – 63 Hz
Maximum Continuous Power: 150 Watts

* ASY00064-01
Frequency Range: 400 MHz – 4.4 GHz
Basic Unit Price: $21,000

** ASY00066-01 (Viper)
Frequency Range: 50 MHz – 2.2 GHz
Basic Unit Price: $21,000
The Playback System Assembly is a rack-mountable signal replay platform designed to be utilized to test and train operators on the usage of signal collection systems. The PBSA2 is designed to output previously recorded signals with the ability to remix them to user controlled radio frequencies. This second generation assembly provides two software defined RF outputs. Each RF output is independently controlled and each has a frequency range of 10 MHz – 6 GHz. The assembly also includes an LTO-5 tape drive that allows for ingesting large data files from tape. The PBSA2 includes 4.8TB of RAID storage to store large amounts of data for playback.

**Part Number:** ASY00277-01  
**Height:** 5U, 8.75 inches  
**Width:** 19 inches  
**Depth:** 20 inches  
**Weight:** 85 lbs  
**Output Power:** up to +15 dBM (frequency and bandwidth dependent)  
**Output Frequency:** 10 MHz – 6 GHz  
**Output Channels:** 2  
**Output Bandwidth:** 2x @ up to 40 MHz BW  
**Processor:** Dual Intel Xeon E5-2680-v4  
**Memory:** 128 GB DDR4, 2133 MHz  
**Storage:** 1x 256 GB SSD (OS)  
8x 600 GB SAS Drives (4.8 TB RAID)  
**Tape Drive:** LTO-5 / Rack Mounted  
**Optical Drive:** DVD/RW  
**Connections:**  
**Server Assembly:**  
1x VGA Output (DE-15)  
4x USB 3.0 (Type A)  
2x 10GBase-T Ethernet (RJ-45)  
4x Gigabit Ethernet (RJ-45)  
1x SFF-8088 SAS (Rear)  
2x Power (C13)  
**Tape Drive:**  
1x Power (C13)  
1x SFF-8088 SAS (Rear)  
**SDR Chassis:**  
2x RF Outputs (SMA/F)  
2x 10 MHz Ref Input (SMA/F)  
2x 1PPS Input (SMA/F)  
2x Gigabit Ethernet  
1x Power (C13)  

**Line Voltage:** 100 – 240 VAC  
**Frequency:** 47 – 63 Hz  
**Maximum Continuous Power:** 700 Watts  
**Operating Temperature:** 10 °C to 35 °C  
(50 °F to 95 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)  
**Basic Unit Price:** $62,000
Enhanced Playback System EPBSA

The Enhanced Playback System Assembly (EPBSA) is a rack-mountable signal capture and playback server designed to provide wideband record and playback to support operator training on the use of signal collection systems. The EPBSA is designed to output previously recorded signals with the ability to remix them to user-controlled radio frequencies. The EPBSA is a single server solution occupying 4U of rack space. The server has removable drive packs to allow for quick access of large signals. To support long duration recordings or playback, the server has external SAS connections to support a large JBOD. The EPBSA software suite runs on the Red Hat Enterprise Linux (RHEL) operating system and consists of signal generator configuration, channel selection, and data offload functionality.

Part Number: ASY00056-02
Height: 4U, 7 inches
Width: 19 inches
Depth: 29 inches
Weight: 85 lbs
Processor: Dual Dodeca-core Intel Xeon E5-2680-v3 CPUs
Input Channels: 4
Input Frequency: 10 MHz – 6 GHz
Input Bandwidth: 2x @ 160 MHz BW or 4x @ 50 MHz BW
Output Channels: 2 (Each channel has 2x connections)
Output Frequency: 10 MHz – 6 GHz
Output Bandwidth: 2x @ up to 160 MHz BW
Storage: 1x 256 GB SSD (OS)
   2x Quad Drive Packs (Not populated w/ disks)
Tape Drive: External LTO-6
Memory: 128 GB DDR4, 2133 MHz
Connections: 2x RF Outputs (N/F)
   4x USB 2.0 (Type A)
   4x SAS (SAS External)
   2x Gigabit Ethernet (RJ-45)
   1x DVI Output (DVI)
   2x Power (C13)
Line Voltage: 100 – 240 VAC
Frequency: 47 – 63 Hz
Maximum Continuous Power: 800 Watts
Operating Temperature: 10 °C to 35 °C
   (50 °F to 95 °F)
Storage Temperature: -40 °C to 70 °C
   (-40 °F to 158 °F)
Operating Relative Humidity: 8% to 90% (non-condensing)

Basic Unit Price: $97,000
BIT Systems designs and manufactures a wide variety of high performance antenna systems and antenna feeds. These systems are in use by a variety of DoD and Civilian agencies. All BIT Systems hardware solutions are modular and scalable and can be specifically configured to meet customer requirements.
2017 Hardware Catalog
High-Gain Antenna- 1.8 Meter

This High-Gain Antenna is an ultra wideband antenna system consisting of a 1.8 meter reflector mounted on a high-performance 2-axis positioner. This system is optimized for reception of linearly polarized signals in the frequency range of 800 MHz – 6 GHz. The RF path is internally routed through a low-loss rotary joint, enabling the positioner to support continuous azimuth motion. This system includes antenna, positioner and tripod. RF conditioning unit and other accessories are available. An integrated Ku-band down converter option is available at an additional cost.

This system is not rated for outdoor use in the current configuration, but can be rated for outdoor use. Can be updated for Ku Band.

Part Number: ASY00326-01
Reflector Diameter: 1.8 meter
Frequency Range: 800 MHz – 6 GHz
Feed Polarization: Vertical
RF Connections: N-type female connector
Aperture Gain: 17.5 – 34.5 dBi
Positioner Remote Control: RS-422
Angular Travel: Continuous in azimuth, -5° to 90° in elevation
Max Positioner Angular Velocity: 30° per second
Pointing Accuracy: 0.1°

Basic Unit Price: $209,000
This antenna is an extremely wideband antenna system consisting of a 1.2 meter reflector mounted on a high-performance 2-axis positioner. This system is optimized for reception of linearly polarized signals in the frequency range of 800 MHz – 6 GHz. The RF path is internally routed through a low-loss rotary joint, enabling the positioner to support continuous azimuth motion. This system includes antenna, positioner and tripod. RF conditioning unit and other accessories are also available.

**Part Number:** ASY00324-01  
**Reflector Diameter:** 1.2 meter  
**Reflector Frequency Range:** 800 MHz – 6 GHz  
**Feed Polarization:** Vertical  
**RF Connections:** N-type female connector  
**Aperture Gain:** 16 – 28 dBi  
**Positioner Remote Control:** RS-422  
**Angular Travel:** Continuous in azimuth, -5° to 90° in elevation  
**Max Positioner Angular Velocity:** 30° per second  
**Pointing Accuracy:** 0.1°  

**Basic Unit Price:** $179,000
**2017 Hardware Catalog**  
**High-Gain Antenna with Transmit**

This High-Gain Antenna with Transmit is a dual-band antenna system consisting of a 1.2 meter segmented reflector and a side mounted Log-Periodic Array (LPA) both mounted on a high-performance 2-axis positioner. The main reflector is designed to receive linearly polarized signals in the frequency range of 800 MHz – 6 GHz. The side mounted LPA can serve as a secondary reception antenna or transmit antenna for signals with frequency ranges from 290 MHz – 2.0 GHz. For transmission applications the antenna can handle output powers up to 1000 Watts.

The RF path for both antennas is internally routed through a low-loss rotary joint, enabling the positioner to support continuous azimuth motion. This system includes two antennas, positioner, and tripod. RF conditioning unit and other accessories are also available. RF cables are not included with order.

**Part Number:** ASY00325-01  
**Reflector Diameter:** 1.2 meter  
**Reflector Frequency Range:** 800 MHz – 6 GHz  
**Main Feed Polarization:** Vertical  
**Main Aperture Gain:** 18 – 28 dBi  
**Secondary LPA Frequency Range:** 290 MHz – 2.0 GHz  
**Secondary LPA Polarization:** Vertical  
**RF Connections:** 2x N-type female connectors  
**Positioner Remote Control:** RS-422  
**Angular Travel:** Continuous in azimuth, -5° to 90° in elevation  
**Max Positioner Angular Velocity:** 30° per second  
**Pointing Accuracy:** 0.1°

**Basic Unit Price:** $186,000
The Offset Feed Reflector (OFR) is capable of collecting signals from 800 MHz – 6 GHz with outstanding gain performance. The antenna features a high-performance azimuth positioner for fast, precise and accurate target tracking. The RF path is internally routed through a low-loss rotary joint, enabling the positioner to support continuous azimuth motion. It features a compact parabolic reflector and is designed to be operated inside a radome. This system includes an antenna, positioner and tripod.

**Part Number:** ASY00327-01  
**Reflector Diameter:** 1.0 meter  
**Frequency Range:** 800 MHz – 6 GHz  
**Feed Polarization:** Vertical  
**RF Connections:** N-type female connector  
**Aperture Gain:** 6 – 26 dBi  
**Positioner Remote Control:** RS-422  
**Angular Travel:** Continuous/Azimuth only  
**Max Positioner Angular Velocity:** 30° per second  
**Pointing Accuracy:** 0.1°  

**Basic Unit Price:** $97,000
The UHF TCA is a compact wideband directional antenna system. The system is optimized for the reception of linearly polarized signals in the frequency range of 200 MHz – 600 MHz. The antenna array is 24” x 48” and maintains a system gain of 24 dB.

The RF path is internally routed through a low-loss rotary joint enabling the positioner to support continuous azimuth motion. The antenna has integrated low-noise amplifiers at each element to maximize sensitivity.

**Part Number:** ASY00330-01  
**Aperture Size:** 24” W x 48” H  
**Frequency Range:** 200 MHz – 600 MHz  
**Antenna Polarization:** Vertical  
**RF Connections:** N-type female connector  
**System Gain:** 24 dB  
**Positioner Remote Control:** RS-485, 4-wire  
**Angular Travel:** Continuous / Azimuth only  
**Max Positioner Angular Velocity:** 10° per second  
**Pointing Accuracy:** 1.0°  

**Basic Unit Price:** $36,000
The Dual-Polarization UHF TCA (DPTCA) is a compact wideband directional antenna system. The system is capable of receiving both linear and circular polarized signals in the frequency range of 200 MHz – 600 MHz. The antenna array is 48” x 48.” The DPTCA outputs vertically and horizontally polarized signals for processing at the receiver system. The RF path is internally routed through a low-loss rotary joint enabling the positioner to support continuous azimuth motion. The antenna has integrated low-noise amplifiers at each element to maximize sensitivity. This configuration includes antenna, positioner, riser, and tripod.

This system is not rated for outdoor use in the current configuration.

Part Number: ASY00329-01  
Aperture Size: 48”H x 48”W  
Frequency Range: 200 MHz – 600 MHz  
Antenna Polarization: Separate vertical and horizontal outputs  
RF Connections: 2x N-type female connector  
System Gain: 25 dB  
Positioner Remote Control: RS-422  
Angular Travel: Continuous in azimuth, -5° to 90° in elevation  
Maximum Positioner Angular Velocity: 30° per second  
Pointing Accuracy: 0.1°  

Basic Unit Price: $213,000
The 8x4 RF Switch Matrix is our latest generation non-blocking RF switch matrix designed to work with BIT Systems’ RF conditioning units. The switch supports up to 8 input ports and 4 output ports. Each output port can be connected to any one of the input ports. The switch is designed to work in conjunction with CACI’s second generation RFCUs to provide low-noise amplification and gain between the antenna and the processor, as well as advanced Built-In-Test and remote calibration capabilities. The switch can support signals up to 6 GHz and is mountable in any standard 19” rack while occupying 2U of height. The switch matrix is remote controlled through an RS-485, 2-wire.

**Part Number:** ASY00042-01  
**Height:** 2U, 3.5 inches  
**Depth:** 21 inches  
**Input Ports:** 8 (N/F)  
**Output Ports:** 4 (SMA/F)  
**Switch Remote Control:** 50 MHz – 6 GHz  
**Frequency Band:** 50 MHz – 6 GHz  
**Isolation:** Option 1: 40 dB minimum  
Option 2: 40 dB In-Out, 50 dB In-In and Out-Out  
Option 3: 50 dB Typical  
**Insertion Loss:** 0 dB  
**Power:** 100 – 240 VAC @ 47 – 63 Hz  
**Maximum Continuous Power:** 50 Watts  
**Control:** RS-485, 2-wire  

**Basic Unit Price:** $48,000
BIT Systems’ latest RF Conditioning Units (RFCU) employ advanced rugged designs aimed at optimizing antenna performance across wide frequency ranges. These systems are optimized for installation at locations where remote diagnostic capabilities are required. Our RFCUs are designed for use in conjunction with CACI’s RF switch matrix and are designed to eliminate line loss due to long cable runs between the antenna and processor for signals up to 6 GHz. They incorporate embedded test capability to remotely monitor system performance. Tailored with hardware filters to perform specific RF environment shaping, they optimize the collected RF bandwidth. CACI’s RFCUs are designed to work with our 4x8 RF Switch Matrix and require a CACI RFCU-PCU power control unit.

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**RFCU-LSC**

**Part Number:** ASY00036-01  
**Frequency Band:** 800 MHz – 1.81 GHz  
2 GHz – 3.6 GHz  
3.9 GHz – 6 GHz  
**Number of RF Inputs:** 1 (N/F)  
**Number of RF Outputs:** 1 (N/F)  
**Enclosure:** NEMA 4 type  
**Connectors:**  
- **RF:** N-type  
- **Power and Control:** MIL Circular; 28 VDC; RS-485, 2-wire  
**Basic Unit Price:** $27,000

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**RFCU-Uv2**

**Part Number:** ASY00037-01  
**Frequency Band:** 250 – 500 MHz  
**Number of RF Inputs:** 4 (N/F)  
**Number of RF Outputs:** 1 (N/F)  
**Enclosure:** NEMA 4 type  
**Connectors:**  
- **RF:** N-type  
- **Power and Control:** MIL Circular; 28 VDC; RS-485, 2-wire  
**Basic Unit Price:** $21,000

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**RFCU-PCU**

**Part Number:** ASY00052-02  
**Number of 220 VAC Power Inputs:** 1 (MIL Circular)  
**Number of RS-485 Control Inputs:** 1 (MIL Circular)  
**Number of 220 VAC Power Outputs:** 2 (MIL Circular)  
**Number of 28 VDC / RS-485 Power / Control Outputs:** 3 (MIL Circular)  
**Enclosure:** NEMA 4 type  
**Connectors:** 7 (MIL Circular)  
**Basic Unit Price:** $17,000
The Sparrowhawk System provides SIGINT detection capabilities to an airborne platform. This system has been developed as a host for X-Midas and other software-defined radio applications running on the Linux operating system. This prototype is equipped with a single channel 30 MHz – 6 GHz digital tuner with an instantaneous bandwidth of 30 MHz. Additionally, it is equipped with a high quality signal transmitter that can generate a software defined waveform up to 50 MHz bandwidth. The processor includes an integrated GPS receiver capable of providing precision timing and 1 Pulse Per Second inputs to the tuner and transmit unit. The Sparrowhawk system is headless and relies on either ethernet or serial communications for remote control and data/intercept offload. The power system is specifically designed for 28 VDC nominal power.

**Part Number:** ASY00197-01  
**Height:** 5 inches  
**Width:** 10 inches  
**Depth:** 18.5 inches  
**Weight:** 17 lbs  
**Processor:** Intel Core i7-4790S Haswell Quad-Core 3.2 GHz  
**Receivers:** 1x Single-channel  
30 MHz – 6 GHz  
30 MHz Max. Bandwidth  
Digital Output  
**Input Channels:** 1  
**Output Channels:** 1  
**Output Bandwidth:** 50 MHz  
**Output Frequency:** 30 MHz – 6 GHz  
**Storage:** 1x 256 GB Industrial SSD (OS) w/Hardware Read-Only  
**Memory:** 16 GB DDR3, 1600 MHz  
**Connections:** 1x RF Input (SMA/F)  
1x RF Output (SMA/F)  
1x GPS Antenna Connection (SMA/F)  
4x USB (Type A)  
2x Gigabit Ethernet (RJ-45)  
1x HDMI Output  
1x RS232/485  
1x Power  
**Line Voltage:** 24 – 36 VDC  
**Maximum Power Consumption:** 225 Watts  
**Operating Temperature:** -17 °C to 29 °C  
(0 °F to 85 °F)  
**Storage Temperature:** -40 °C to 70 °C  
(-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)
The Thrasher System provides SIGINT detection capabilities to an airborne platform. This system has been developed as a host for X-Midas and other software-defined radio applications running on the Linux operating system. This prototype is equipped with a single channel 70 MHz – 6 GHz digital transceiver with transmit and receive bandwidths of 25 MHz. The processor includes an integrated GPS receiver capable of providing precision timing and 1 Pulse Per Second inputs to the tuner and transmit unit. The Thrasher system is headless and relies on either ethernet or serial communications for remote control and data/intercept offload. The power system is specifically designed for 28 VDC nominal power.

**Part Number:** ASY00196-01  
**Height:** 3.85 inches  
**Width:** 7 inches  
**Depth:** 11 inches  
**Weight:** 5.5 lbs  
**Processor:** Intel Core i7-4790S Haswell Quad-Core 3.2GHz  
**Receivers:** 1x Single-channel  
  70 MHz – 6 GHz  
  25 MHz Max. Bandwidth  
  Digital Output  
**Input Channels:** 1  
**Output Channels:** 1  
**Output Bandwidth:** 25 MHz  
**Output Frequency:** 70 MHz – 6 GHz  
**Storage:** 1x 256 GB Industrial SSD (OS) w/Hardware Read-Only  
**Memory:** 16 GB DDR3, 1600 MHz  
**Connections:** 1x RF Input (SMA/F)  
  1x RF Output (SMA/F)  
  1x GPS Antenna Connection (SMA/F)  
  1x Gigabit Ethernet (RJ-45)  
  1x RS232/485  
  1x Power  
**Line Voltage:** 24 – 36 VDC  
**Maximum Power Consumption:** 120 Watts  
**Operating Temperature:** -17 °C to 24 °C  
  (0 °F to 75 °F)  
**Storage Temperature:** -40 °C to 70 °C  
  (-40 °F to 158 °F)  
**Operating Relative Humidity:** 8% to 90% (non-condensing)
The Electronically Steered Array (ESA) is a compact wide-band antenna system capable of 120 degree beam steering in the azimuth plane. The system is optimized for reception of linearly polarized signals in the frequency range of 800 MHz – 3 GHz. The ESA utilizes solid state technology for operation in harsh environments. The antenna system is designed to operate in limited SWaP environments and measures 26" W x 9" H x 5" D.

**Part Number:** ASY00132-01  
**Aperture Size:** 24" W x 8" H  
**Frequency Range:** 3 MHz to 3 GHz  
**Feed Polarization:** Vertical  
**RF Connections:** SMA Female  
**System Gain:** 24 dB @ 2200 MHz (Broadside Steering Angle)  
**Positioner Remote Control:** Ethernet TCP/IP, RS-485 or RS-232  
**Beam Steering Control:** 120° Azimuth; Fixed Elevation  
**Beam Steering Speed:** < 10ms  
**Weight:** 22 lbs