FEATURES
- All signals on ONE Cable
- Two full bandwidth paths of 3G-SDI (one down, one return)
- 20+Km Operation
- Universal intercom interface with IFB/PGM inject
- 2 Mic inputs with phantom and pre-amps
- Anton-Bauer or “V-mount” battery option
- Integrated tally lamps
- Camera RCP Control
- 1 additional data path (232/422)
- Optical connector on integrated swivel
- Top & Bottom dovetail plates with 1/4-20 & 3/8-16 taps for mounting accessories
- Dovetail accessories™
  - Aux/Audio/Tally breakout module
  - 15mm iris rod bracket
  - Tally light
- Lightweight, low-profile packaging
- Rugged Design
- Designed & built in New York

APPLICATIONS
- Live HD Studios
- Flypacks and OB Production
- University/Education
- House of Worship

Convert any 3G/HD/SDI Camcorder to a “3G/HD/SDI Live” camera, connected to the base station with a single fiber cable.

Multipurpose Your 3G/HD/SDI Camcorder
The Silverback II provides a robust, full bandwidth fiber optic link between any 3G/HD/SDI camcorder and your truck, control room or “video village” position. The System puts all of the signals needed for multicamera 3G/HD/SDI production onto a single tactical or SMPTE hybrid fiber cable, insuring robust, trouble-free connectivity on any studio or remote production.

The system transports a 3G/HD/SDI signal. All rates up to and including 3Gb/s from the camera to the Base Station and a return HD/SDI path the other way. Full camera control is provided by the camera manufacturer’s control panel. Genlock, intercom, tally and audio paths are also provided.

Operate on hybrid cable and provide power to camera or use lightweight, robust tactical fiber and power the camera locally.

Integrated Camera Unit
The company Silverback II Camera Unit mounts elegantly to any 3G/HD/SDI camcorder seamlessly, with no angles or sharp corners. The display uses high-intensity blue LEDs that are easy for the operator to see, but not intrusive.

When equipped with the integrated “Juice 48™” option, no external power supplies are required; the rear battery plate can be used for back-up power.

Next Generation Base Station
The Silverback II Base Station is a standard 1R enclosure with LED status indicators for each signal.

MultiDyne Innovation
The Silverback II incorporates the proven connectivity solutions of MultiDyne’s decades of experience outfitting production environments for OB vans and production control rooms to create a finely tuned solution for 3G/HD/SDI multi-camera production.
**FEATURES & APPLICATION** The SilverBack II™ can operate on lightweight Tactical fiber cable, or with SMPTE hybrid fiber cable to deliver all of your signals and the power to run your cameras and accessories.

---

**A. Tactical Fiber Cable - Camera Powered Locally**

Camera Unit: SB2-C5D1-D2RD-SCV-V-S:
SilverBack II Camera Unit, Dry fiber cable.
Fiber conn: OpticalCON receptacle.
"V"-Mount plates both sides.
Base Station: SB2-BSD1-D2RD-UB1R-S:
SilverBack II Base Station, dry fiber connectivity.
Fiber conn: OpticalCON receptacle.

**B. SMPTE Hybrid Fiber - Standard Internal “Juice” Power**

Camera Unit: SB2-C5D1-SPRJ-SCAA-S:
SilverBack II Camera Unit, "Juice" power via SMPTE cable.
Fiber conn: SMPTE 304M (hybrid) receptacle.
Anton Bauer plates both sides.
Base Station: SB2-BSD1-SPRJ-UB1R-S:
SilverBack II Base Station, internal "Juice" power supply.
Fiber conn: SMPTE 304M plug.

**C. SMPTE Hybrid Fiber - External “Juice48” Power Supply**

Camera Unit: SB2-C5D1-SPRJ-SCAA-S:
SilverBack II Camera Unit, "Juice" power via SMPTE cable.
Fiber conn: SMPTE 304M (hybrid) receptacle.
Anton Bauer plates both sides.
Base Station: SB2-BSD1-SPRJ-UB1R-S:
SilverBack II Base Station, dry fiber connectivity.
Fiber conn: SMPTE 304M plug.
Dry fiber connectors: 2 ST. Both fiber connectors on front.

---

<table>
<thead>
<tr>
<th>Typical system examples (as shown above)*:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Tactical Cable</strong></td>
</tr>
<tr>
<td>Camera Unit: SB2-C5D1-D2RD-SCV-V-S:</td>
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<tr>
<td>SilverBack II Camera Unit, Dry fiber cable.</td>
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<tr>
<td>Fiber conn: OpticalCON receptacle.</td>
</tr>
<tr>
<td>&quot;V&quot;-Mount plates both sides.</td>
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<tr>
<td>Base Station: SB2-BSD1-D2RD-UB1R-S:</td>
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<tr>
<td>SilverBack II Base Station, dry fiber connectivity.</td>
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<tr>
<td>Fiber conn: OpticalCON receptacle.</td>
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<tr>
<td></td>
</tr>
<tr>
<td><strong>B. Internal Juice Power</strong></td>
</tr>
<tr>
<td>Camera Unit: SB2-C5D1-SPRJ-SCAA-S:</td>
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<tr>
<td>SilverBack II Camera Unit, &quot;Juice&quot; power via SMPTE cable.</td>
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<tr>
<td>Fiber conn: SMPTE 304M (hybrid) receptacle.</td>
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<tr>
<td>Anton Bauer plates both sides.</td>
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<tr>
<td>Base Station: SB2-BSD1-SPRJ-UB1R-S:</td>
</tr>
<tr>
<td>SilverBack II Base Station, internal &quot;Juice&quot; power supply.</td>
</tr>
<tr>
<td>SMPTE 304M plug.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>C. External Juice48 Power</strong></td>
</tr>
<tr>
<td>Camera Unit: SB2-C5D1-SPRJ-SCAA-S:</td>
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<td>SilverBack II Camera Unit, &quot;Juice&quot; power via SMPTE cable.</td>
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<td>Fiber conn: SMPTE 304M (hybrid) receptacle.</td>
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<td>Anton Bauer plates both sides.</td>
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<tr>
<td>Base Station: SB2-BSD1-SPRJ-UB1R-S:</td>
</tr>
<tr>
<td>SilverBack II Base Station, dry fiber connectivity.</td>
</tr>
<tr>
<td>Fiber conn: SMPTE 304M plug.</td>
</tr>
<tr>
<td>Wet fiber connector: SMPTE 304M plug.</td>
</tr>
<tr>
<td>Dry fiber connectors: 2 ST. Both fiber connectors on front.</td>
</tr>
</tbody>
</table>

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The Juice™ power system delivers plenty of power from the SilverBack™ Base Station (or the external Juice48™ power supply) to the camera.
The control panel’s simple interface lets the camera operator easily monitor system link and signal status via a back-lit blue LED display. Soft-touch buttons permit easy adjustment of audio and intercom levels.

Two mic inputs’ pre-amps and phantom power are controlled via convenient soft switches and the levels are easily monitored with VU meters.

The operator can trigger the intercom mic via a local toggle switch or via an external switch or button.

Five, full size BNC’s allow connection from the camera’s 3G/HD/SDI output, as well as return 3G/HD/SDI and genlock/sync.

Two XLR3-F allow for mic/line level inputs, with a 5-pin XLR for intercom headset and a 3.5mm headset jack also available for Program/IFB to the operator or Talent.

A variety of fiber connectors are available on a robust swivel. Choose Anton/Bauer™ Gold Mount or V-mount battery plates.

The 1RU Base unit is ideal for space-limited production areas. Indicator LEDs provide easy monitoring of the entire system’s status.

Rear connectivity makes it easy to integrate into a simple studio or flypack system, or as part of a large-scale system consisting of multiple cameras spread over a wide area.
**SilverBack II System Components and Accessories:**

- **SB2-CSD1-1(2) SC 3-5**: SilverBack II Camera Unit
- **SB2-BSD1-1(2) 81R 5**: SilverBack II Base Station
- **SLB2-15MM-RB**: 15mm iris rod bracket
- **MDCAB006**: Camera & Base Remote Cables
- **MC-SH-9(9) RPM**: SMPTE 311M hybrid fiber cable assemblies: various connectors, lengths
- **MC-25(9)-9(9) RPM**: Tac2 two-fiber tactical cable assemblies, various connectors, lengths (TAC1, TAC4, TAC6, TAC12 available)
- **Video, Digital Interface:**
  - Camera Unit to Base: 1
  - Base to Camera Unit: 1
  - Interface: SMPTE 424M, 292M, 259M
  - Data Rate: 3 Gb/s, 1.5 Gb/s, or 270 Mb/s
  - Input/Output Level: 0.800 mV (peak to peak)
  - Input/Output Impedance: 75 Ohms
  - Return Loss: >15 dB typical (5 – 1500MHz) >10 dB typical (1.5 – 3GHz)
  - Cable Equalization (Belden 1694A): 270 MHz: up to 500m, 1.5 GHz: up to 250m, 3 GHz: up to 150m
- **Audio, Camera to Base:**
  - Format: Analog
  - Number of Channels: 2
  - Mic Input Level Adj. Range: -60 dBu to -0 dBu
  - Phantom Power: 48V
  - Impedance: >1MΩ
  - Maximum Input Level: 22 dBu
  - Sampling: 24 bits, 48 k/sec
  - Frequency Response: ±0.5 dB, 20 Hz to 20 kHz
  - Output at Base Station: Line Level
- **Audio, Base to Camera (Return/IFB):**
  - Number of Channels: 2
  - Input Level at Base Station: Line Level
  - Output at Camera Unit: Line Level
  - Connector: Aux breakout
- **Intercom/IFB:**
  - Channels: 1 bi-di intercom, 1 program/IFB
  - Interface types: Base: RTS, Camera: Clear-Com or Four-Wire
  - Frequency Response: 200 - 18KHz ± 3dB
  - Distortion: 0.5%
  - Noise: <60dB
  - Input Gain: -60 dBu to -0 dBu
  - Connectors: XLR3M 4-wire: Phoenix terminal, 2-wire: XLR3M
  - Camera Unit: Headset: XLR5F, Return/IFB: 3.5mm headset jack
  - Remote PTT: Aux breakout
- **Remote Data Cables (Camera/RCP):**
  - Number of Channels: 2
  - RS422/RS485: 0 to 3 Mbaud
  - RS232: 0 to 400 Mbaud
  - Connector: Camera Unit: 7-pin Lemo, Base: DB9
- **GPI/Tally (aux breakout connector):**
  - Inputs: TTL Low or Short to GND
  - Outputs: 2 pos Form A (SPST, norm open) relay, to GND
  - Max Switching Voltage: 24VDC/AC
  - Max current: 1 Amp
- **Electrical Output (aux breakout connector):**
  - Power: 14VDC, “1A
  - Connector: Aux breakout
- **Intercom/IFB:**
  - Channels: 1 bi-di intercom, 1 program/IFB
  - Interface types: Base: RTS, Camera: Clear-Com or Four-Wire
  - Frequency Response: 200 - 18KHz ± 3dB
  - Distortion: 0.5%
  - Noise: <60dB
  - Input Gain: -60 dBu to -0 dBu
  - Connectors: XLR3M 4-wire: Phoenix terminal, 2-wire: XLR3M
  - Camera Unit: Headset: XLR5F, Return/IFB: 3.5mm headset jack
  - Remote PTT: Aux breakout
- **Camera Aux Cables:**
  - Breakout: MDCAB00550-C
  - Com: MDCAB00860
- **Juice48 External Power Supply:**
  - Power Consumption: 10 watts@14VDC
  - Base Station (Tac Fiber): 30 watts@240VAC
  - Temperature Range: 25° to 55°C
  - Humidity Range: 0 to 95% RH, Non-condensing
- **Tactical Optical Connector Options:**
  - Camera Unit: Local Power: OpticalCON, TX: Lumen Optics, RX: ST, SC, LC
  - Base Station: OpticalCON, TX: Lumen Optics, RX: ST, SC, LC
  - Remote Power: OpticalCON, TX: Lumen Optics, RX: ST, SC, LC
  - Remote Power-carrying Cable (Hybrid fiber/wire): SMPTE 304M, OpticalCON, or ST-Molex
- **Mechanical/Environmental:**
  - Dimensions: 8” x 7” x 3”
  - Weight: Camera Unit: 3.75lbs, Base Station: 10 watts@14VDC
  - Temperature Range: 25° to 55°C
  - Humidity Range: 0 to 95% RH, Non-condensing
- **Program/IFB:**
  - Outputs: 2 pos Form A (SPST, norm open) relay, to GND
  - Max Switching Voltage: 24VDC/AC
  - Max current: 1 Amp
- **Electrical Output (aux breakout connector):**
  - Power: 14VDC, “1A
  - Connector: Aux breakout

**SilverBack II Technical Specifications:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera Fiber Connector</td>
<td>D2R........OpticalCON Duo (wet or dry)</td>
</tr>
<tr>
<td>Power</td>
<td>J............Juice 14V to camera via SMPTE cable</td>
</tr>
<tr>
<td>Battery Plate Options</td>
<td>AA........Anton/Bauer (&quot;A&quot;) plates both sides</td>
</tr>
<tr>
<td>Camera &amp; Base Remote Cables</td>
<td>V............V-Mount (&quot;V&quot;) plates both sides</td>
</tr>
<tr>
<td>AV........Cam plate: &quot;A&quot;, plate: &quot;V&quot;v</td>
<td></td>
</tr>
<tr>
<td>VA........Cam plate: &quot;V&quot;, plate: &quot;A&quot;</td>
<td></td>
</tr>
<tr>
<td>Base Fiber Connector</td>
<td>D2R........OpticalCON Duo (wet or dry)</td>
</tr>
<tr>
<td>Base Station Interconnect Interface</td>
<td>U............Clear-Com Partyline (4W)</td>
</tr>
<tr>
<td>R............RTS Partyline (4W)</td>
<td></td>
</tr>
<tr>
<td>Remote Data Cables (Camera/RCP)</td>
<td>150/160........Sony</td>
</tr>
<tr>
<td>170/180........Panasonic</td>
<td></td>
</tr>
<tr>
<td>190/200........JVC</td>
<td></td>
</tr>
<tr>
<td>210/220........Hitachi</td>
<td></td>
</tr>
<tr>
<td>Juice48: Fiber Connector Location</td>
<td>F............Both on front</td>
</tr>
<tr>
<td>D............Dry on front, wet on rear</td>
<td></td>
</tr>
<tr>
<td>W............Wet on front, dry on rear</td>
<td></td>
</tr>
<tr>
<td>Fiber Connector (hub end 1st, bitter end 2nd)</td>
<td>FUW........SMPTE 304M in-line plug (FUW, wet)</td>
</tr>
<tr>
<td>PWU........SMPTE 304M in-line recept (PWU, wet)</td>
<td></td>
</tr>
<tr>
<td>D2P........OpticalCON Duo (NK02, wet or dry)</td>
<td></td>
</tr>
<tr>
<td>Q4P........OpticalCON Quad (NK04, dry)</td>
<td></td>
</tr>
<tr>
<td>M2P........MX Mini EbeX Plug (dry)</td>
<td></td>
</tr>
<tr>
<td>Contact: <a href="mailto:sales@MultiDyne.com">sales@MultiDyne.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Goldback II Goldback II Goldback II Goldback II Goldback II**

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www.MultiDyne.com

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