CAP-1000 CherryPicker® Application Platform

IP-centric platform for grooming, splicing, and remultiplexing

PRODUCT OVERVIEW

The ARRIS CherryPicker Application Platform (CAP-1000) is an advanced, IP-centric, high-density multiplexer designed to give video service providers unparalleled efficiency and flexibility in managing and localizing video streams with full redundancy. The CAP-1000 is a highly-programmable device that can support evolving technical standards and emerging application needs through simple software upgrades, allowing customers to realize continuous returns on their initial capital investment.

The CAP-1000 performs three primary functions: grooming, rate shaping, and digital program insertion (DPI), for both MPEG-2 and MPEG-4 streams. Additional features include program and multiplex redundancy, time stamping (dejitter), Program and System Information Protocol (PSIP) creation, slate insertion, SCTE 18 Emergency Alert Signaling (EAS) switching, Commercial Advertisement Loudness Mitigation (CALM) audio leveling, Basic Interoperable Scrambling System (BISS) encryption/decryption, and advanced MUX 3.0 Enhanced Binary Interchange Format (EBIF) processing and filtering. Based on the Emmy® award-winning CherryPicker technology and algorithms, the CAP-1000 operates with carrier-class reliability and features massive processing power to handle up to 1.44 Gbps of aggregate, video stream throughput.

The advanced hardware design includes a passive chassis with field-replaceable (FRU) input/output (I/O) and processing cards, dual hot-swappable power supplies (AC, DC, mixed), dual hot-swappable speed-varying fan trays, optional ASI I/O cards (up to eight ports), and 1:1 and N:1 chassis redundancy options, all in a space- and power-saving 1RU enclosure.
PRODUCT FEATURES

10+ Years of Innovation and Performance
Inherits over 80 percent of the software from the Emmy® award-winning CherryPicker product line, which translates into interoperability and operational ease of use.

Feature Rich
Software-based digital signal processing (DSP) technology enables ongoing feature development.

MPEG-2 and MPEG-4 Processing in a Single Chassis
Process both MPEG-2 and MPEG-4 concurrently in the same chassis, even within the same multiplex.

Exceptional Bandwidth
Up to 1.44 Gbps aggregate, video stream throughput in a small 1RU chassis.

Carrier-Class Reliability
Redundant, dual hot-swappable power supplies (can run on a single supply), dual hot-swappable speed varying fan trays, and FRU I/O and processing cards.

CherryPicker Redundancy (CPR)/Advanced System-level Redundancy
Offering both 1:1 and N:1 (max 4:1) modes, CPR provides advanced, high-performance hardware redundancy. Features include the use of virtual IP (VIP) addressing to keep DPI operational even during failover, and ability to customize both monitoring and failback operations. In 1:1 mode, failover times are less than 100 msec.

Advanced BISS Encryption/Decryption Options
Support for both BISS encryption/send and decryption/receive applications. Three modes are supported:
- BISS-0 – no scrambling.
- BISS-1 – video services are scrambled (encrypted) using a session word.
- BISS-E – similar to BISS-1, plus session word is encrypted using BISS-injected ID as the encryption key to avoid sending a session word through the network unencrypted.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Extensive interoperability</th>
<th>Advanced Stream Processing</th>
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<tbody>
<tr>
<td>MPEG-2 and MPEG-4</td>
<td>CBR to VBR conversion</td>
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<td>MPTS and SPTS</td>
<td>VBR to CBR conversion (rate-clamped VBR)</td>
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<td>Ethernet I/O (standard) and ASI (optional)</td>
<td>Bitrate conversion CBR to CBR, VBR to VBR</td>
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<td>Unicast and Multicast ARP, ICMP, IGMPv3 over UDP/IP/RTP</td>
<td>SD/HD rate shaping</td>
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<td>QoS and VLAN tagging IEEE 802.1p, 802.1q</td>
<td>Grooming, regrooming, time-based switching</td>
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<td>Seamless Program Splicing and Switching</td>
<td>Flexible Management /Control and Monitoring</td>
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<td>High-reliability SD and HD Digital Program Insertion</td>
<td>Two RJ-45 10/100 Mbps management ports</td>
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<td>SCET 35 and 30 standards</td>
<td>Bonded pair with single gateway and IP</td>
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<td>Comprehensive Re-Multiplexing</td>
<td>Management access through all GbE ports (and ability to restrict management functions on all ports for security)</td>
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<td>Synchronization of video, audio, and data</td>
<td>4PAC serial console maintenance port</td>
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<td>PID filtering and remapping</td>
<td>Full Java-based GUI</td>
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<td>PCR de-jittering and restamping</td>
<td>RADIUS</td>
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<td>PAT and PMT creation and management</td>
<td>Extensive SNMP traps and status</td>
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<td>Data PID insertion</td>
<td>XML configuration files for both input and output</td>
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<td>Advanced dynamic SI and PSI processing</td>
<td>Local and remote logging capability</td>
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CAP-1000 CherryPicker® Application Platform

### Video
- **MPEG-2 Main Profile**
- **MPEG-4/AVC Main and High Profile, up to Level 4 MPEG-2, MP@ML, MP@HL**
  - HD: 720p up to 1920 pixels at 60 fps and 50 fps
  - HD: 1080i up to 1920 pixels at 30 fps and 50 fps
  - NTSC: 480i x 704/544/528/480/352, 29.97 fps
  - PAL: 576i x 704/720/544/480/352, 25 fps

### Audio
- **Dolby AC-3**
- **MPEG-2 Layer I and II**
- **AAC and AAC-HE**

### Input/Output Ports
- **Ethernet Ports 1-4 XFP 10 G ports. Can accept optical SFP 1 GbE transceivers. Note: Ports 1-4 do not support SFP 1 GbE copper transceivers.**
- **Ethernet Ports 5-8 SFP 1 GbE ports (SM/MM optical SFP and copper SFP)**
- **Ethernet Ports 9-10 RJ-45 1 GbE**
- **All Ethernet ports active**
- **DVB-ASI Optional. Eight port maximum. Two cards, each card has four ASI ports. Each port can be configured as input or output.**

### Electrical/Mechanical
- **Dimensions (H x W x L) and rack unit (RU)**: 1.75 x 17.5 x 23.5 in. (4.45 x 44.45 x 59.69 cm), 1RU 1.75-in (4.45 cm); mounts in 19-in (48.26 cm) rack (excluding rack ears and connectors)
- **Weight**: 31 lbs
- **Input Voltage**: 100 to 240 VAC
- **Power Consumption**: 3.5 VAC, 120 V, 60 Hz; 275W Avg.
- **Frequency**: 50 to 60 Hz
- **Operating Temperature**: 0 °C to +50 °C
- **Cooling**: Side-to-side
- **Humidity**: 5% to 95%, non-condensing
- **Certification**: UL, CB, CE, VCCI, TUV, FCC, CISPR 22 Class A, ROHS
- **NEBS**: Level 1-ready

### DEPLOYMENT SERVICES
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<th>Part Number</th>
<th>Services Description</th>
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<tr>
<td>476666-087-00</td>
<td>CherryPicker CAP-1000 Onsite Configuration</td>
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<tr>
<td>476666-153-00</td>
<td>CherryPicker CAP-1000 Remote Configuration</td>
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### TRAINING
<table>
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<th>Training Description</th>
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<td>559890-001-00</td>
<td>This two-day instructor-led class gives participants the opportunity to perform CAP-1000 configuration procedures in a lab environment. Located in Horsham, PA. Onsite training is also available.</td>
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### CUSTOMER CARE
Contact Customer Care for product information and sales:
- United States: 866-36-ARRIS
- International: +1-678-473-5656