

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

Extensive interoperability

MPEG-2 and MPEG-4

MPTS and SPTS

Ethernet I/O (standard) and ASI (optional)

Unicast and Multicast ARP, ICMP, IGMPv3 over UDP/IP/RTP

QoS and VLAN tagging IEEE 802.1p, 802.1q

Seamless Program Splicing and Switching

High-reliability SD and HD Digital Program Insertion

SCTE 35 and 30 standards

Comprehensive Re-Multiplexing

Synchronization of video, audio, and data

PID filtering and remapping

PCR de-jittering and restamping

PAT and PMT creation and management

Data PID insertion

Advanced dynamic SI and PSI processing

Advanced Stream Processing

CBR to VBR conversion

VBR to CBR conversion (rate-clamped VBR)

Bitrate conversion CBR to CBR, VBR to VBR

SD/HD rate shaping

Grooming , regrooming, time-based switching

Flexible Management /Control and Monitoring

Two RJ-45 10/100 Mbps management ports

Bonded pair with single gateway and IP

Management access through all GbE ports (and ability to restrict management functions on all ports for security)

4PAC serial console maintenance port

Full Java-based GUI

RADIUS

Extensive SNMP traps and status

XML configuration files for both input and output

Local and remote logging capability

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 25 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 All 10 Ethernet ports listed are available and 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

Part Number	Services Description
476666-087-00	CherryPicker CAP-1000 Onsite Configuration
476666-153-00	CherryPicker CAP-1000 Remote Configuration

TRAINING

Part Number	Training Description
559890-001-00	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.

CUSTOMER CARE

Contact Customer Care for product information and sales:

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