

Intelligent Data Management for Air, Land, Sea and Space Platforms

Air, land, sea and space platforms generate an ever increasing volume of data, which, is out-pacing the ability to effectively review and analyze the information. AMPEX has developed BLUE IQ to mediate this problem by providing cognitive data analytics using deep learning at the airborne, space borne or ground sensor.

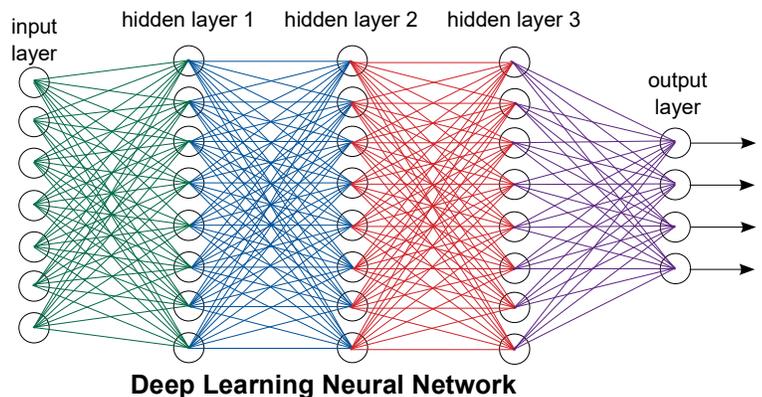
BLUE IQ is a high speed, high capacity, rugged compute device, which uses Machine Learning Content Analytics to perform complex analysis and decisions based on the content of the data being acquired, in real-time, on the platform.

BLUE IQ moves analytics functionality to the point of data acquisition; offering data, image and video identification, tagging and annotation. Thus, reducing the workload for human operators/analysts.

Additionally, BLUE IQ utilizes algorithms to optimize resources (e.g. Graphics Processing Units (GPUs)) within the compute device on the platform; or distributed machine learning techniques can be deployed in a mesh network to optimize sharing of (GPUs) across multiple platforms.

Features

- Large data set analysis, manipulation, and consumption in near real time (on the platform)
- Data reduction / data thinning (on the platform)
- Improved bandwidth management (downlink transmission)



Real-time Data Set Analysis (RDA)

The screenshot shows the AMPEX DATA SYSTEMS interface. On the left, there is a list of detections with their coordinates and confidence scores. On the right, there is a video feed showing a parking lot with several cars. The cars are highlighted with yellow bounding boxes, and their confidence scores are displayed next to them. The interface also includes a playback control bar at the bottom.

Time	Coordinates	Confidence
11.367	Detection at (1390, 380)	Confidence 0.863
11.367	Detection at (1382, 420)	Confidence 0.915
11.367	Detection at (1350, 470)	Confidence 0.949
11.367	Detection at (1389, 582)	Confidence 0.95
11.367	Detection at (1338, 603)	Confidence 0.864
11.367	Detection at (1450, 612)	Confidence 0.9
11.367	Detection at (1240, 654)	Confidence 0.993
11.367	Detection at (1412, 669)	Confidence 0.988
11.367	Detection at (1505, 655)	Confidence 0.911
11.367	Detection at (1555, 694)	Confidence 0.967

How will this benefit you?

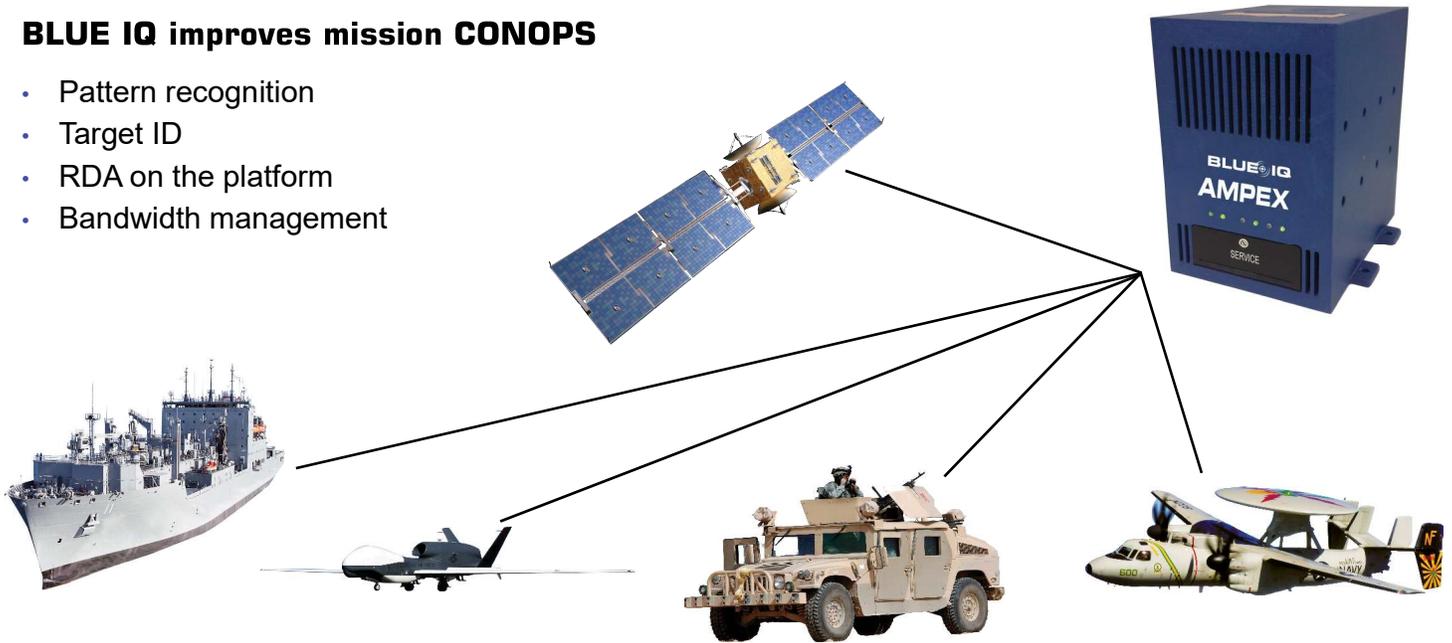
- Data and video identification and understanding at the sensor
- KLV annotation metadata within the FMV downlink
- Cueing for the operator/analyst in the real-time feeds
- Quick search recording index of objects of interest
- Rapid analysis and understanding of telemetry and EW data

Ampex Delivers Products that Enhance End-to-End Mission Effectiveness

BLUE IQ operates autonomously; offering a persistent software process operating on a small form factor board. Utilizing machine learning algorithms, our interactive agents adapt to optimize computing resources based on the amount of data collected and the amount of resources available at any given time.

BLUE IQ improves mission CONOPS

- Pattern recognition
- Target ID
- RDA on the platform
- Bandwidth management



BLUE IQ identifies and tags pertinent target data, which is immediately downlinked; residual data is stored and downlinked later as communications constraints permit. Storing coupled with intelligent streaming reduces the bandwidth required for downlink transmissions. Additionally, AMPEX's BLUE IQ technology time-tags target related data in the data stream, allowing the ground analyst to skip over hours of the data stream and select the tagged data containing the target. Therefore, BLUE IQ reduces analyst workload because target verification takes less time.

**Make Large Data Sets Available in Real-time
Reduce the TCPED Chain
(Target, Collect, Process, Exploit, Disseminate)**

Ampex Data Systems Corporation, A Delta Information Systems company

26460 Corporate Ave., Hayward, CA 94545, USA

www.ampex.com

1-650-367-2011

sales@ampex.com

Tokyo Office

+81-3-6433-9081 info@ampex.co.jp

Ampex is a US Owned and Operated; AS9100/ISO 9001 certified small business.