



Realistic On-Board Training

5th of January, 2020



5 February 2020

Embedded Training – what's it about

Preparation ... is everything

Equipment capability is only as good as you operate it

Train as you Fight

***Threat training anywhere – anytime
– at any mission***



Legacy Embedded EW Training systems

Embedded Training Systems has been operational for years

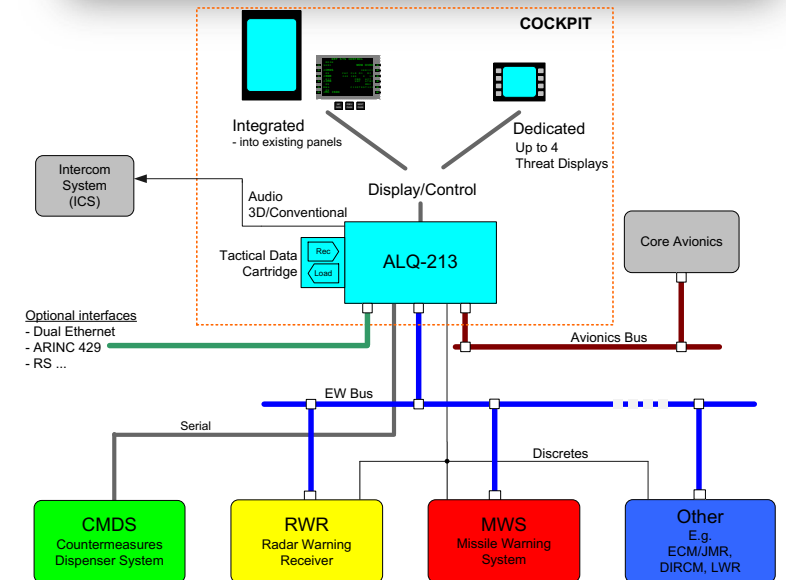
- RWR embedded training. War – Sea – Training modes

Training one system at a time.... With simple threats

- Training your crew in operating your systems – less of defeating the system

System Level Training

- Full system approach – train as you fly
- Utilize your countermeasures and maneuvers and experience the effect



The emerging threat ... coming from the RF side of the spectrum

Today's threat picture

- RF threat more eminent than few years back
- Asymmetric threat – man-pads still a concern

How do we train in a diverse threat scenario?

Threat warnings from

- RWR
- MWS
- RF JMR
- LWS

Counter Measures

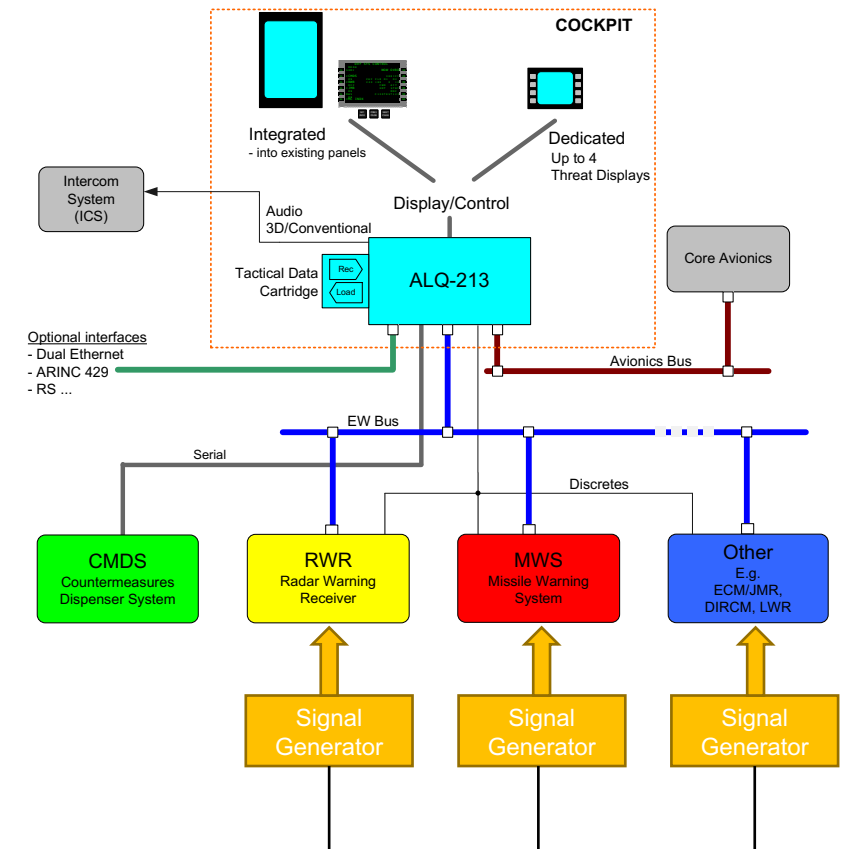
- CMDS
- RF JMR
- DIRCM
- Maneuvers



Training – using existing system capabilities

Using stimulators to inject simulated threat signals into the individual systems

- Realistic signal processing – using real systems
- ? Does not include counter-measures responses to the threat being engaged
- ? Lacking pilot maneuvers response to the threat
- ? Challenges of bringing stimulators and controls (laptop) on-board certain types of aircraft

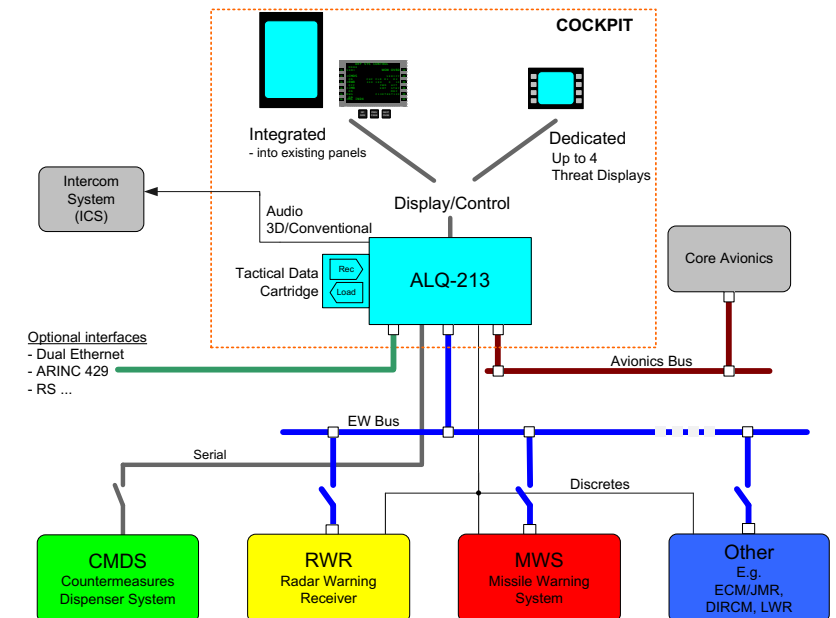
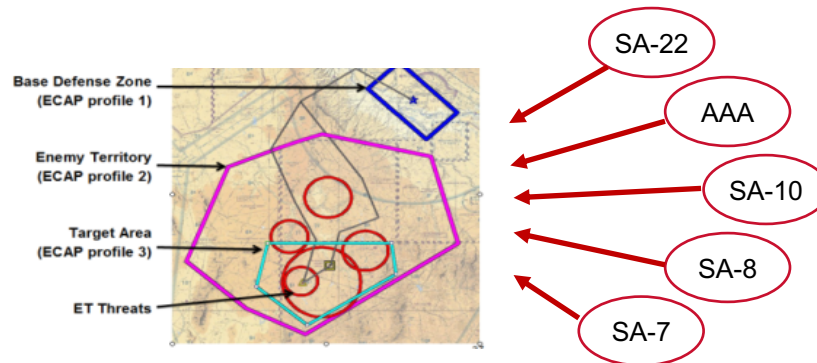


Model based Embedded Training

Using Embedded Training simulating SW – a model based approach

- Simulated Training based on Threat Behavior Models
- Logically dis-connecting comm's with existing systems
- System level capability – SW hosted in the Suite Controller

- Threat Scenario – for your On-Board Training experience
 - Threat models – describing threat behavior
 - Geographical Information
 - Loading with JMPS or separately



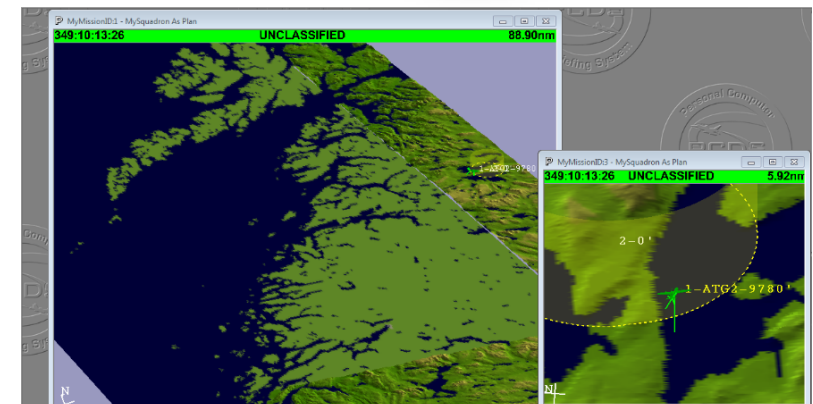
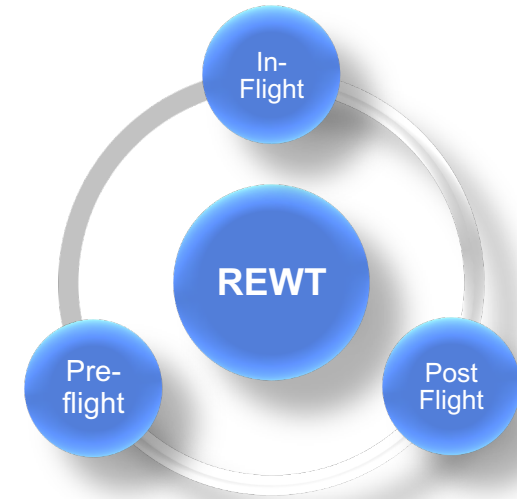
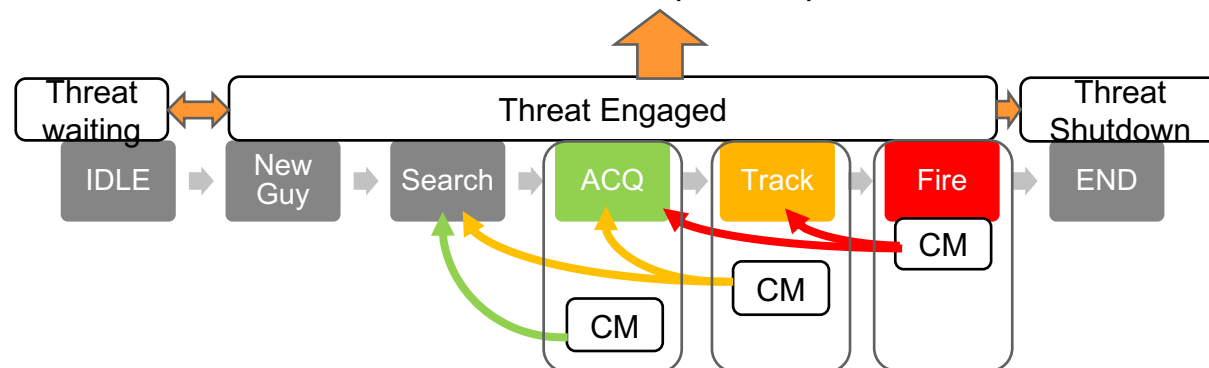
Range-less EW Training (REWTT)

Supporting the entire training cycle; Threat training anywhere - anytime

- Training Scenario Programming
 - Defining your Training Scenario, based on the evolving threat
- In-Flight Training
 - Execute your Scenario at any given location
- Post Flight De-Brief and Analysis
 - Pilot Evaluation and Analysis for next Scenario

Future capabilities

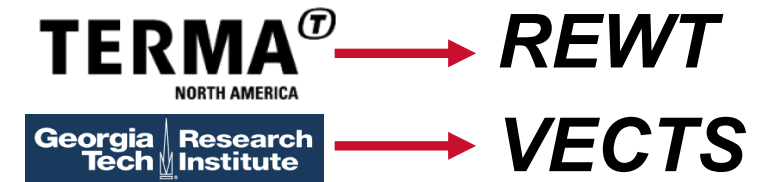
- Blended-Live-Virtual-Constructive (BLVC)



Comparison and conclusion

Train as you Fight

- EW Embedded Training – providing realistic on-aircraft training
- Reducing cost and necessity of EW Ranges
- Operational capability with various air forces in Europe
- USAF – VECTS and REWT
- US Army strategic ASE roadmap.... First target is Embedded Training



Questions?

