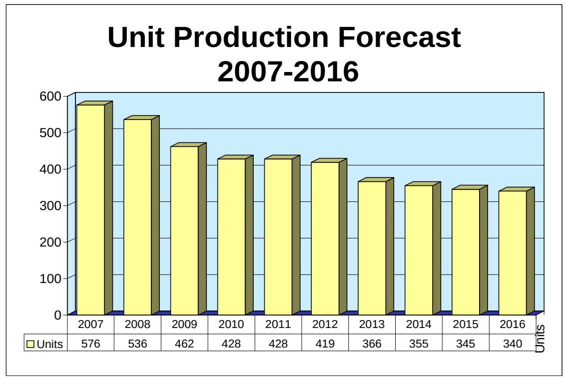
IDECM (ALQ-214(V), ALE-55(V)) - Archived 02/2008

Outlook

- IDECM designed for the F/A-18E/F and could equip other aircraft in the future
- Total of 3,855 ALE-55s and 400 ALQ-214s to be produced over the next 10 years
- Many countries may decide to upgrade older aircraft and order new aircraft with the system
- To be archived in 2008 in favor of separate reports on the ALQ-214 and the ALE-55



Orientation

Description. The Integrated Defensive Electronic Countermeasures (IDECM) system is an advanced, internal infrared/RF countermeasures system for aircraft. The internally mounted receiver/processor/techniques generator is the ALQ-214(V), and the new fiber-optic towed decoy is the ALE-55(V). The ALQ-214 and ALE-55 together form the basis for the IDECM.

Sponsor

United States Navy
Naval Air Systems Command
NAVAIR HQ
47123 Buse Rd Unit IPT
Patuxent River, MD 20670-1547
USA
Tel: + 1 (301) 342-3000
Web site: http://www.nawcad.navy.mil

United States Air Force
AF Systems Command
Aeronautical Systems Center
Wright-Patterson AFB, Ohio (OH) 45433
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Web site: http://www.wpafb.af.mil

Status. Techniques generator full-rate production has begun.

Application. F/A-18E/F, F-15, F-16, AC-130U, and MC-130H.

Price Range. According to a contract signed between the U.S. Navy and ITT Industries in March 2006, the average cost of an ALQ-214 is $1.7 million. According to U.S. FY07 budget documents, the average cost of an ALE-55 is $38,500.

Contractors

Prime

ITT Electronic Systems	http://es.itt.com, 100 Kingsland Rd, Clifton, NJ 07014 United States, Tel: + 1 (973) 281-0123, Prime

IDECM (ALQ-214(V), ALE-55(V))

BAE Systems Electronics & Integrated Solutions	http://www.eis.na.baesystems.com, 65 Spit Brook Rd, Nashua, NH 03061-0868 United States, Tel: + 1 (603) 885-4321, Fax: + 1 (603) 885-2772, Second Prime

Technical Data

	Metric	U.S.
Dimensions		
Volume (available)	0.06 m^3	2.3 ft^3
Weight		
Receiver	14.8 kg	32.5 lb
Modulator	13.4 kg	29.3 lb
Processor	16.6 kg	36.5 lb
SCA	5.9 kg	12.9 lb
Pre-amp (3)	3.2 kg (ea)	7.0 lb (ea)
Canister/Decoy (3)	4.5 kg (ea)	10 lb (ea)

Characteristics (approximate)	
Frequency range	1 to 35 GHz
Response	0.1 to 0.25 sec
Resolution	5 MHz instantaneous
Bandwidth	1.44 GHz
Minimum pulse width	0.1µ sec
Accuracy	± 0.5 to 20 MHz
Modes	Pulse or noise
The IDECM suite will include	IR/EO missile approach warning system (MAWS)
	ALR-67(V) radar warning receiver
	ALE-47(V) countermeasures dispenser
	ALE-50(V) towed decoy (GFE)
	ALQ-214 jamming techniques generator
Features	Independent repeater mode
	Coherent digital RF memory
	Ada EW integration software
	"Plug-in" onboard transmitters
	Technology insertion to reduce cost
	CASS-compatible
	600-hr MTBF (predicted)
	All RMP WRAs will be single-person lift (<37 lb)
	End-to-end BIT isolation
	Two-level maintenance

Design Features. The Integrated Defensive Electronic Countermeasures (IDECM) suite is based on the ALQ-214 receiver/processor/jammer and the ALE-55 fiber- optic towed decoy (FOTD). It also includes the ALR-67 radar warning receiver and the ALE-47 chaff/flare dispenser. The individual systems are integrated to increase aircraft survivability. It was designed specifically for the F/A-18E/F, using low-risk, non-developmental equipment.

To reduce development risk and provide electronic warfare protection for the F/A-18E/F, a phased approach will be used. Three sequential phases of onboard jammers and towed decoys are to be used.

IDECM Block I is an interim system consisting of the ALQ-165(V) Airborne Self-Protection Jammer (ASPJ) and the ALE-50(V) Advanced Airborne Expendable Decoy (AAED). The Navy plans to use the IDECM Block I configuration for the first three F/A-18E/F operational deployments only.

IDECM Block II is a second interim configuration and will replace the ASPJ with the ALQ-214(V)2, providing onboard jamming capability. This configuration is planned for the fourth and fifth F/A-18E/F deployments.

IDECM Block III is the final configuration and will consist of the ALQ-214(V)2 radio frequency countermeasures and ALE-55(V) fiber-optic towed decoy.

It will integrate the RF countermeasures suite with a common missile warning system (CMWS) and advanced strategic/tactical expendable (ASTE) flares to defeat infrared-guided missiles. The CMWS will be provided from the tri-service ATIRCM/CMWS program.

IDECM is designed to be compatible with ALQ-165(V) ASPJ and ALE-50(V) dispenser Group A provisions. The primary objective of the program is to improve the survivability of U.S. Navy and Air Force platforms. The development team took a non-developmental-item-oriented approach using a low-cost, multiplatform decoy and placing heavy emphasis on integration. The fiber-optic towed decoy was flight-tested and integrated with several technique generators, and the supersonic deployment of the decoy tow cable was successfully validated.

Operational Characteristics. The IDECM suite will provide coordinated, functionally integrated situational awareness, on- and off-board deception electronic countermeasures (ECM) management, expendables management, emission control, and frequency coordination. IDECM is using existing baseline building blocks to reduce developmental risk.

The ALQ-214 Radio-Frequency Countermeasures (RFCM) portion of the ECM suite breaks the threat paradigm by removing the distinction between traditional onboard coherent jammers and end-game-only towed repeaters. It fills the survivability gaps created by home-on-jam electronic counter-countermeasures and man-in-the-loop command guided threats by providing a robust self-protection capability.

The IDECM provides three layers of defense. The first is suppression, which denies, delays, and degrades adversary acquisition and tracking. The second is deception, which misleads guided weapons away from the carrying aircraft if a track solution is achieved and a launch occurs. The third layer, known as end-game, makes the FOTD the preferred target, seducing adversary missiles that leak through the first and second layers of defense.

IDECM makes a missile approach warning system an integral part of the suite to detect IR/EO guided threats. This ensures that defensive countermeasures are coordinated, and overall protection is more efficient than if RF and IR/EO countermeasure systems are operated independently. It provides improved situational awareness for the aircrew and warns of the approach of non-radiating, heat-seeking missiles. The latter are proving to be the major threat facing tactical aircraft.

IDECM Towed Decoy

Source: DoD DT&E

Variants/Upgrades

Selection for different aircraft may require some physical and operational adjustments to adapt the system to meet special aircraft or operational needs.

The B-1B DSUP (Defensive System Upgrade Program) was to improve the bomber's survivability in the conventional weapons arena. The Air Force planned to replace most of the ALQ-161A with the IDECM towed decoy and ALR-56M. A decision was made to use the ALE-50(V) towed decoy as an interim solution until the ALE-55(V) could be fielded. These interim decoys were used in combat during operations over Kosovo, Afghanistan, and Iraq. Follow-on plans call for adding an IR/EO towed decoy to the system.

In late 2002, the Air Force terminated the DSUP, citing escalating cost growth and schedule slips. Program restructuring had added 17 months to the schedule and $175 million to program costs. Since its inception, the DSUP had experienced three Acquisition Program Baseline changes and two breaches of the Nunn-McCurdy Amendment intended to limit cost growth in major weapons programs. ALE-55(V) performance was cited by an independent review team as a high-risk problem, having flown 11 sorties with mixed results.

ALE-50(V)/FO-50. In response to the test delays, officials awarded a contract for investigation of a fiber-optic version of the ALE-50(V) as a possible risk-reduction replacement for the ALE-55(V), if needed. A fiber-optic towed version was put into development for the Air Force for use if the problems with the ALE-55(V) could not be resolved. Under the contract, the ability to maintain electrical fiber-optic continuity and deploy at a wide range of speeds and altitude would be investigated, as would the ability of the FOTD tow line to survive in the F-15 engine plume.

Program Review

The U.S. Navy began developing the Airborne Self-Protection Jammer (ASPJ) in the late 1970s as a replacement for the ALQ-126B carried by the F/A-18C/D. On December 15, 1992, the Navy terminated nine ASPJ production contracts based on the reported results of operational testing and restrictive language in the FY93 Defense Authorization. By that time, nearly 100 ALQ-165 units had been produced and were in Navy storage.

The Navy continued searching for an effective internal jammer to protect strike aircraft from increasingly sophisticated air defenses. The Mission Needs Statement was revised to update and restate the Navy's electronic warfare requirements, creating the basis for the IDECM program. The new EW suite would be tailored for the F/A-18E/F tactical aircraft being developed.

On December 8, 1993, the Naval Air Systems Command requested technical inputs from industry (with rough order-of-magnitude estimates). The information was needed to help finalize the financial and technical requirements for a full and open competition of the IDECM system.

IDECM Improves Techniques

The protective system was designed to deal with a growing threat from radar-guided missiles and aircraft fire control through the use of both noise and deception jamming techniques. While no totally new jamming techniques are employed, the IDECM provides a greater number of refined countermeasure techniques than employed in the past to address multiple ground-based anti-aircraft systems integrated with aircraft defenses. It covers a wider frequency band system and has the ability to counter coherent pulse-Doppler airborne radars as well as continuous wave (CW) surface sensors.

The receiver was designed to operate in the densest of signal environments projected, and is able to distinguish conventional pulsed, high-duty-cycle pulsed, complex waveform and continuous-wave transmissions, with the appropriate signal processing and threat evaluation/ prioritization accomplished automatically.

In January 1995, the Johns Hopkins Applied Physics Lab performed two cost and operational effectiveness analyses (COEAs) for the IDECM. The study, published in May 1999, concluded that electronic warfare suites that included an FOTD were the most effective. That analysis also showed that an FOTD without an onboard jammer was generally the most cost-effective suite and that it became more cost-effective as the threat environment increased. Although an onboard jammer was not considered cost-effective, the U.S. Navy decided not to rule out using one.

Joint Project Launched in 1995

In February 1995, the U.S. Navy forwarded a draft Operational Requirements Document (ORD) to the other services for consideration as a joint effort. The U.S. Air Force responded and the Navy agreed to incorporate USAF requirements into the IDECM solicitation and include possible follow-on requirements in the award.

According to the Navy/Air Force Memorandum of Understanding (MoU) on IDECM, the joint effort would concentrate on the techniques generator and fiber-optic towed decoy, emphasizing an open architecture and modular approach to accommodate the needs of both services. The Air Force agreed that the Navy would lead the joint development of the techniques generator and towed decoy. Management and funding of installation, integration, and developmental/operational tests would be the responsibility of the individual services for each respective platform. The Navy would budget for all common aspects of IDECM. The services jointly developed an acquisition strategy and participated jointly in the Source Selection Board and Source Selection Advisory Council.

On November 3, 1995, the Naval Air Systems Command issued a cost-plus-incentive-fee/award-fee contract for the development of the RF countermeasures subsystem for IDECM. The contract was awarded to (then) Sanders, a Lockheed company. ITT Avionics, a division of ITT Defense and Electronics Inc, teamed with Sanders.

Initial Contract for 15 ALQ-214s and 50 ALE-55s

The initial engineering and manufacturing development (EMD) contract provided for integration and delivery of 15 technique generators, 50 fiber-optic towed decoys, and 50 decoy mass models to be used for flight testing. An option for the design, development, and test of a common high-powered towed decoy system was exercised by the Air Force under the IDECM contract. The Air Force also conducted a B-1B architecture study to determine how IDECM could support the B-1B DSUP.

In FY96, the Navy completed the Preliminary Design Review for the RFCM subsystem. In FY97, a Critical Design Review was completed.

In FY98, RFCM subsystem testing was initiated on the F/A-18E/F, and further efforts were made to modify the Multi-Platform Launcher Controller (MPLC) for IDECM.

In the August 26, 1998, issue of *Commerce Business Daily*, the Naval Air Systems Command announced that it intended to negotiate a contract with Raytheon Systems Company, Sensors and Electronic Systems, for initial production of ALE-50A Integrated Multi-Platform Launch Controllers (IMPLCs). These would be used in conjunction with the IDECM RFCM FOTD system, for a total quantity of approximately 290 units.

In October 1998, IDECM RFCM acceptance testing was completed and the first four onboard EMD systems delivered to the U.S. Navy. Tested were the techniques generator (receiver, modulator, and processor), the signal conditioning assembly, and the equipment rack.

In November 1998, a series of high-altitude tests validated decoy aerodynamic design for the high-altitude environment of the U-2 aircraft. Tests conducted at altitudes of 10,000 to 68,000 feet proved the decoy's stability at altitude.

The first six EMD decoys were delivered in April 1999 and used for testing and evaluation. The first flight test of IDECM with a towed decoy was completed June 22, 1999. The decoy was deployed from a pod (and could be reeled back in for reuse), and reportedly detected, identified, and radiated against prioritized threats. Officials also successfully demonstrated a fast-deploy capability with mass model decoys. Mounted inside a pod attached to a Learjet civil aircraft and Saab Draken jet fighter, the decoys were deployed quickly on their tow lines at a pre-designated distance behind the aircraft and flew in a stable manner once there.

In FY00, CMWS/ASTE subsystems were integrated onto the AV-8B and F/A-18E/F.

In March 2000, the IDECM program completed the final series of flight tests, providing critical data needed for the November low-rate initial production (LRIP) decision. For these tests, the FOTD was deployed from an F/A-18D avionics testbed aircraft. Design verification testing (DVT) was also completed in 2000, including an in-depth evaluation of system operations, modes, and interfaces. DVT verified all of the IDECM's primary system characteristics.

In July 2000, Australia expressed interest in procuring 42 ALQ-214(V)4 RF countermeasures systems for its F/A-18 Hornet Upgrade (HUG) program, Phase II.

Operational Assessment Successful in 2000

The IDECM operational assessment was successfully completed in September 2000. The report recommended continuing the program as scheduled for LRIP, and conducting an operational evaluation (OPEVAL) in 2001. Reports indicate that the system received the highest possible Operational Analysis rating. The Navy Acquisition Executive approved IDECM LRIP for the ALQ-214(V) in November 2000.

A May 2001 *Commerce Business Daily* announced that the Navy would issue a delivery order to Raytheon to modify the ALR-67A(V)3 operational flight program to allow integration of the IDECM system with the F/A-18E/F.

A September 2001 *Commerce Business Daily* announced the Navy's intent to exercise Option Lot III of contract N00019-99-C-1051 with Raytheon Systems in order to use the ALE-50(V) IMPLC in conjunction with the IDECM RFCM FOTD, for a total quantity of approximately 120 units.

In FY02 there was a $2.5 million congressional add for IDECM. FY03 funding added $7.6 million. The schedule underwent major restructuring at this time. Specifically, the test schedule was divided into phases, and production milestones into onboard and offboard blocks, as driven by test schedule changes, aircraft availability, F/A-18E/F priorities, maturity of the decoy, and funding availability.

In October 2002, BAE Systems reported that the ALE-55(V) had passed critical flight tests on the F/A-18E/F. These tests demonstrated the endurance and in-flight stability of the towed decoy in multiple combat-representative flight maneuvers that included exposure to the fighter's afterburner. A key to this success is the ALE-55(V)'s dynamic fins that adjust to changes in the air stream and help reduce stress on the fiber-optic cable, and a new cable design that reduces burn-through, the bane of early decoy tests.

Two RDT&E Projects Remain

PE#0604270N, Project 2175/2635 – Tactical Air Electronic Warfare. This joint service subproject develops the new techniques generator and fiber-optic towed decoy of the RFCM subsystem, as well as the Navy-unique portions of the CMWS and ASTE. It also integrates RFCM, CMWS, and ASTE with a radar warning receiver and countermeasures dispensing set, and associated cockpit controls and displays, to provide the F/A-18E/F lead aircraft with increased survivability against IR/RF threats.

PE#0604270F, Project 3945, TEWS (Tactical Electronic Warfare System) Upgrade. This project develops and integrates an Air Force FOTD system. The FOTD portion of the budget provides for Air Force participation/cost-share in the Navy-led IDECM program. The Air Force will provide for its unique development, integration and testing requirements.

The Air Force also participates in a joint FOTD risk reduction effort with the Navy, looking at alternate FOTDs and methods of deployment to develop an alternative launcher system (roll out/reel in, or RORI) that reduces life- cycle costs.

The FOTD improves electronic countermeasure performance against Tier 1 threat systems, and improves electronic warfare system performance against future missile threat systems. The RF towed decoy is a countermeasure that increases survivability against monopulse, semi-active, and active RF missile threats during the terminal portion of an engagement. Boeing will finalize integration of FOTD on the F-15.

In FY07, the current AF program will provide an F-15-approved FOTD that includes an RORI launcher capability.

Significant News

Retrievable Decoy Tested – The U.S. Air Force and BAE Systems have tested a deployment and retrieval mechanism for the ALE-55 FOTD. The decoy was able to maintain an electrical and fiber-optic connection throughout the tests. A retrievable decoy will have lower life-cycle costs than systems that use a launcher. (*Defense News*, 7/06).

Funding

U.S. FUNDING

	FY05 QTY	FY05 AMT	FY06 QTY	FY06 AMT	FY07 QTY	FY07 AMT	FY08 QTY	FY08 AMT
RDT&E (U.S. Navy)								
PE#0604270N								
2175 Tactical Air Electronic Warfare	-	12.93	-	7.52	-	5.36	-	0.0

	FY05 QTY	FY05 AMT	FY06 QTY	FY06 AMT	FY07 QTY	FY07 AMT	FY08 QTY	FY08 AMT
RDT&E (U.S. Air Force)								
PE#0604270F								
FOTD	-	11.82	-	8.39	-	3.85	-	1.82
Procurement (U.S. Navy)								
P-1 018200, Airborne Expendable C/M Program								
FOTD/IDECM	-	-	268	49.50	480	38.5	TBD	TBD

	FY09 QTY	FY09 AMT	FY10 QTY	FY10 AMT	FY11 QTY	FY11 AMT	FY12 QTY	FY12 AMT
RDT&E (U.S. Air Force)								
PE#0604270F								
FOTD	-	2.61	-	0.57	-	0.82	-	TBD

All 0024 are in millions.

Source: FY07 U.S. Budget Documents

Contracts/Orders & Options

Contractor	Award ($ millions)	Date/Description
BAE Systems	46.3	Jun 2003 – Ceiling-priced contract for LRIP of approximately 17 ALQ-214(V)2 techniques generators for the F/A-18E/F. Was to be completed December 2005. (N00019-03-C-0354)
BAE Systems	46.3	Sep 2003 – Ceiling-priced contract for LRIP procurement of approximately 17 ALQ-214(V) technique generators for the F/A-18E/F. Was to be competed December 2005. (N00019-03-C-0354)
ITT Industries	25.0	Jun 2004 – Not-to-exceed ID/IQ contract for engineering services in support of the TEWS ALQ-165(V) and ALQ-214(V) tactical jammers. Services include software engineering, system engineering, facilities development, and provision of support tools and documentation. To be completed June 2009. (N68936-04-D-0007)
ITT Industries	63.7	Sep 2004 – FFP contract for full-rate production and delivery of 19 ALQ-214(V)2 IDECM RFCM units. Contract provides for spares: 3 receivers, 4 modulators, 4 processors, and 15 high-band amplifiers. To be completed August 2007. (N00019-04-C-0074)
ITT Industries	68.4	Jan 2005 – Mod to a previously awarded FFP contract to exercise an option for full-rate production of 38 ALQ-214(V)2 IDECM units. To be completed July 2008. (N00019-04-C-0074)
ITT Industries	14.0	Mod to a previously awarded FFP contract to exercise an option for ALQ-214(V)2 spares for the F/A-18E/F. Includes 8 receivers, 7 radio transmitter modulators, 5 signal processors, 9 low-band transmitters, and 14 high-band transmitters. To be completed July 2008. (N00019-04-C-0074)
ITT Industries	82.1	Mar 2006 – Firm-fixed-price contract for full-rate production of 48 ALQ-214 onboard jammers, a component of the IDECM. To be completed November 2009. (N00019-05-C-0054)

IDECM (ALQ-214(V), ALE-55(V))

Timetable

Month	Year	Major Development
Dec	1993	IDECM RFI (draft RFP) released by Navy
Nov	1995	EMD contract award
Nov	1996	USAF selection of IDECM for the B-1B
Jun	1997	IDECM B-1B DSUP EMD award
4Q	FY97	F-15/IDECM integration Milestone II decision
3Q	FY98	F-15/IDECM DT/OT&E
4Q	FY98	1st USAF IDECM subsystem delivery
1Q	FY99	F-15/IDECM integration contract award, IDECM functional quality test
3Q	FY99	F-15/IDECM CDR
4Q	FY99	F-15/IDECM Test Readiness Review
1Q	FY00	Dual compatible launcher production decision; F-15 FOTD CDR
2Q	FY00	USN Operational Assessment; USN IDECM DT&E
2Q	FY00	IDECM DT complete
Jan	2000	LRIP start plan announced
Nov	2000	LRIP approved
Mar	2001	USN LRIP contract awarded
1Q-2Q	FY01-FY02	IDECM Block II DT/OT Phase I
2Q	FY01	RFCM LRIP
4Q	FY01	B-1B DSUP Flight Test Ready Review; start of F-15 risk-reduction flight test
1Q	FY02	B-1B DSUP Flight Test Readiness Review; F-15 ALQ-135(V) techniques generator CDR
2Q	FY02	IDECM LRIP II, F-15 FOTD CDR (software)
3Q-4Q	FY02	IDECM Block II DT/OT
4Q	FY02	B-1B DSUP risk reduction
Dec	2002	AF terminates B-1B DSUP
		U.S. Navy Milestones
2Q	FY02	IDECM Block II (IB-2) LRIP II
3Q-4Q	FY02	IB-2 DT/OT
1Q	FY03	IB-2 OPEVAL
2Q-4Q	FY03	IB-2 OT report
3Q	FY03	IB-2 LRIP III, production milestone
4Q	FY03	IB-3 (IDECM Block III) development, DT
1Q-1Q	FY04-06	IB-3 development, envelope expansion/DT/OT
1Q-4Q	FY04-05	IB-2/IB-3 updates (software)
1Q-2Q	FY04-05	IB-3 development testing
2Q	FY04	IB-2 Milestone III; start of ALQ-214 LRIP II deliveries
3Q	FY04	ALQ-214 FRP 1 (Production IB-2)
1Q	FY05	ALQ-214 FRP 2, ALQ-214 FRP 3
2Q	FY05	ALQ-214 LRIP III deliveries
1Q-3Q	FY05	IB- DT/OT
1Q	FY06	ALQ-214 FRP 1 deliveries
1Q-1Q	FY05-06	Navy-only FOTD development
3Q-1Q	FY05-06	Navy-only FOTD DT/OT
2Q	FY06	Navy-only FOTD LRIP II (IB-3)
4Q	FY06	IB-3 Milestone III
1Q	FY07	ALQ-214 FRP 4 (Production IB-2), Navy-only FOTD FRP 1 (Production IB-3), ALQ-214 FRP 2 deliveries
2Q	FY07	IB-3 IOC, Navy-only FOTD LRIP II deliveries
		USAF Milestones
2Q-3Q	FY04	Live-fire efforts
2Q-4Q	FY04	Defense Acquisition Challenge efforts
4Q	FY04	FOTD RORI stability flight tests, RORI prototype launcher contract award
1Q-4Q	FY05	Defense Acquisition Challenge efforts
2Q	FY05	RORI stability flight test Phase II, RORI PDR
2Q-3Q	FY05	Live-fire efforts

Month	Year	Major Development
2Q-4Q	FY05	F-15 alternate launcher location study
3Q-4Q	FY05	FOTD envelope expansion test
4Q	FY05	RORI CDR
1Q	FY06	RORI launcher prototype demo flight test
2Q	FY06	RORI development contract award, FOTD effectiveness flight test
2Q-3Q	FY06	FOTD envelope expansion final flight test, electronic FOTD fast-deploy flight test
2Q	FY07	RORI launcher final flight test

Worldwide Distribution/Inventories

Currently a **United States**-only program. Export licenses have been requested for the **United Kingdom**, **Australia**, and **Canada**.

Forecast Rationale

The IDECM is an important system for modern fighter aircraft, as it drastically increases survivability of the aircraft it equips. Newer anti-aircraft missiles can counter the jamming and deception techniques of most current EW systems, and often include a home-on-jam mode, which turns an ECM transmitter into a missile magnet. The towed decoy takes advantage of this to protect aircraft by putting a signal source a safe distance from the aircraft. The missile is lured to home in on that signal and detonate away from the aircraft itself.

A total of 3,855 ALE-55s and 400 ALQ-214s are expected to be produced over the next 10 years. These numbers could change as the systems become more popular. Many countries may decide to upgrade older aircraft and order new aircraft with these systems. Some countries that ordered new aircraft have yet to decide on an EW suite. Singapore, for example, has not decided on an EW suite for its new F-15s.

This report will be archived next year. In order to provide a more accurate portrayal of the market, two reports will be issued: one on the ALQ-214 and the other on the ALE-55.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program		High Confidence				Good Confidence			Speculative			
	Thru 2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
BAE Systems Electronics & Integrated Solutions												
ALE-55 United States F/A-18 E/F/F-15 E												
	268	480	440	400	380	380	375	360	355	345	340	3,855
ITT Electronic Systems												
ALQ-214 Poland Air Force F-16 C/D												
	6	16	20	6	0	0	0	0	0	0	0	42
ALQ-214 United States Navy F/A-18 E/F												
	80	80	76	56	48	48	44	6	0	0	0	358
Subtotal	86	96	96	62	48	48	44	6	0	0	0	400
Total	354	576	536	462	428	428	419	366	355	345	340	4,255