

# ELECTRONIC WARFARE SYSTEMS

DESIGNATION	DESCRIPTION	APPLICATIONS	REMARKS
<b>BAE SYSTEMS, Avionics, Stanmore, Middlesex, England, UK</b>			
ARIEL	Towed radar decoy	Nimrod, Tornado	Operational.
HERMES	Modular radar-homing and warning receiver (RHWR)	Tornado	On ADV and IDS versions built after 1986.
Sky Guardian 200	Radar warning receiver	Jaguar	Retrofitted to some RAF Jaguars.
Sky Shadow	Jamming/deception pod	Tornado IDS	—
Zeus	Internal ECM system	Harrier GR.5	—
<b>BAE SYSTEMS, Avionics, Edinburgh, Scotland, UK</b>			
AWARE	Radar warning receiver	Gazelle, Lynx	British army helicopters.
DASS	Integrated ESM/ECM system	Eurofighter	—
HIDAS	Integrated self-protection for helicopters	WAH-64D	British army helicopters.
<b>BAE SYSTEMS, BAE Systems Advanced Systems, Braintree, MA, Greenlawn, NY, and Lansdale, PA, all USA</b>			
AN/ALQ-99(V)	Tactical jammer/transmitter	EA-6B	—
AN/APR-44(V)	Lightweight radar warning receiver	—	For fighters and helicopters.
<b>BAE SYSTEMS, BAE Systems Integrated Defense Solutions, Austin, TX, USA</b>			
AN/ALE-39	Countermeasures dispenser	Fighters, helicopters	Former USN standard system. Out of production; replaced by ALE-47.
AN/ALE-45	Countermeasures dispenser	F-15	USAF, Japan, Saudi Arabia.
AN/ALE-47	Countermeasures dispenser	Fighters, helicopters, transports	Standard USA/USAF/USN system.
AN/ALE-47 TACDS	Countermeasures dispenser	Fighters, helicopters, transports	Int'l standard for new aircraft and retrofit of ALE-39/-40/-45 dispenser systems.
AN/ALE-58	BOL countermeasures dispenser	F-15	Integrates with LAU-128B/A missile rail launcher.
TACDS M-130	Threat adaptive countermeasures dispenser	Fighters, helicopters	Replacement for earlier M-130s.
<b>BAE SYSTEMS, Information and Electronic Warfare Systems, Nashua, NH, USA</b>			
AN/AAR-47	Missile warning receiver	Helos, transport aircraft	Operational.
AN/AAR-57(V)	Missile warning system	AV-8B, F-15E, F-16	In production. Also for F/A-18.
AN/ALE-52	Countermeasures flare dispenser	F-22	In production.
AN/ALQ-126B	Internal RF DECM	F/A-18A/B, C/D	Operational.
AN/ALQ-137	Internal RF DECM	F-111F	Operational.
AN/ALQ-144 family	Omni-directional IRCM	Helicopters	4,500 systems delivered worldwide.
AN/ALQ-156 family	Pulse-Doppler MAWS	C-130, helicopters	Operational.
AN/ALQ-157	IR countermeasures system	C-130, heavy lift helos	—
AN/ALQ-164	Podded RF DECM	AV-8B	Operational.
AN/ALQ-178(V)1/3/5	Integrated radar warning & ECM suite	F-16	Internal integrated passive/active suite.
AN/ALQ-196	Internal RF DECM	MC-130E	Operational.
AN/ALQ-202	Autonomous jammer	F-16	Stand-alone or use with existing RWRs.
AN/ALQ-205	Omni-directional IRCM	Helicopters	Phase-locked.
AN/ALQ-212(V) ATIRCM	Directable IRCM and missile warning	Helos, transports	In development.
AN/ALQ-214 IDECM	Integrated defensive electronic countermeasures	B-1B, F-15, F-16, F/A-18	Federated ECM system and decoy. In low rate production.
AN/ALR-56A	Radar warning receiver	F-15A/B	Detects and identifies RF threats. Part of tactical EW suite.
AN/ALR-56C/-56C(V)1	Radar warning receiver	F-15C/D/E/K/S	Detects and identifies RF threats. Part of tactical EW suite.
AN/ALR-56M	Radar warning receiver	B-1B, C-130H/J, F-16	USAF std. & FMS advanced RWR. RISC-based processor.
AN/ALR-94	Integrated internal ESM system	F-22	In production.
AN/APR-39A(V)1/3	Radar signal detection set	C-130, US Army helos	Also on other helos.
DASS-2000	Defensive aids suite	Astor, C-130H/J, MRA.4	Integrated, multispectral threat warning and countermeasures.
EW-1017	Airborne electronic surveillance system	Nimrod MR2	Also on UK AWACS (E-3D). Operational.
<b>CMC ELECTRONICS, Ville St. Laurent, Quebec, Canada</b>			
CMA-2082F	EW display and control unit	Tornado	4 x 4-in. AMLCD VGA integrated control and display unit with onboard processing.
<b>EDO ELECTRONIC SYSTEMS GROUP, Deer Park, NY, USA</b>			
AN/ALQ-99	Internal or podded RF DECM	EA-6B	Carried in five external pods on EA-6B.
AN/ALQ-161A	Internal RF DECM	B-1B	Upgrade planned.
<b>ELISRA GROUP, Elisra Electronic Systems Ltd., Bene-berak, Israel</b>			
AES-210/E	Airborne ESM/Elint system	AH-1, C-130, CH-53	Fixed- and rotary-wing aircraft.
ASPS	Airborne EW suite	F-15, F-16	Fighter aircraft.
LWS-20(V)	Laser warning system	AH-1, AH-64, UH-60	For helicopters.
MPA	Maritime patrol aircraft integrated EW suite	C-130, CH-53, HH-65A	Fixed- and rotary-wing aircraft.

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<b>ELISRA GROUP, Elisra Electronic Systems Ltd., Bene-berak, Israel</b>			
PAWS	Passive airborne warning system	F-16	Fighter aircraft and helicopters.
SPJ-20	Self-protection jammer	AH-1, AH-64, UH-60	Fighter aircraft and helicopters.
SPS-20(V)	Radar warning system	AH-1, AH-64, UH-60	For helicopters.
SPS-45(V)	Radar warning system	AH-1, AH-64, UH-60	For helicopters.
SPS-65(V)	Integrated, airborne self-protection system	AH-1, AH-64, UH-60	For helicopters.
SPS-1000V-5	Radar warning system	A-4, F-4, F-5, F-16	For fighter aircraft.
<b>INDRA SISTEMAS, Madrid, Spain</b>			
ALR-300/310	Radar threat warner	CH-47, Mirage F-1	—
AMES	Radar signal detection system	C-212, C-295, P-3	—
ARIES System	Signal radar detection and jamming system, airborne	C-212	—
C3/Taran	Airborne countermeasure system	Falcon 20	—
DASS	Defensive aids system suite	Eurofighter	—
SIGMA	Airborne intelligence system	707, C-212	Detects, analyzes, identifies radar & communications signals, visual & infrared images.
SOCCAM	Communications detection system	C-212, F-27	—
<b>ISRAEL AIRCRAFT INDUSTRIES LTD., Elta Electronics Industries Ltd., Ashdod, Israel</b>			
EL/I-3001	New generation signals intelligence system	G550	—
EL/K-7036	Signals intelligence/direction finder system	—	Wide-band, 20-3000 MHz.
EL/K-7044	Multi-mission signals intelligence/jamming system	Light aircraft	Surveillance missions.
EL/K-7071	UAV communication intelligence/direction finder payload	UAVs	—
EL/K-8212	ECM lightweight self-protection pod	F-15, F-16	—
EL/L-8222	ECM pod	F-15, F-16, MiG-21, MiG-29	Available in internal installation.
EL/L-8233	Internal, integrated self-defense system	F-5, F-15, F-16	—
EL/L-8240	Self-defense ECM system	F-16, Jaguar	Also for MiG-21.
EL/L-8247/8	Radar warning and jamming system	F-16, UH-60	For helicopters, lightweight fighters.
EL/L-8260	Multi-disciplinary integral self-protection system	—	For helicopters and fighters.
EL/L-8300	Signals intelligence system	707	Channelized receiving system.
EL/L-8300MPA	ESM/ELINT system	Nimrod MPR4, P-3	For maritime patrol aircraft.
EL/L-8312	Airborne ELINT system	707, C-130	—
EL/L-8361	Radar warning receiver	F-5, Jaguar	—
EL/L-8385	ESM/ELINT pod for UAVs	UAVs	—
EL/M-2160	Missile approach warning system	C-130, UH-60	Radar-based.
<b>ITT INDUSTRIES, Avionics Div., Clifton, NJ, USA</b>			
AN/ALQ-136	Radar jammer	AH-1, AH-64	Operational.
AN/ALQ-136(V)2	Radar jammer with high power remote transmitter	MH-47E, MH-60K	Operational.
AN/ALQ-165 ASPJ	Airborne self-protection jammer (ASPJ)	F-14D, F-16, F/A-18C/D	Operational for Finland, S. Korea, Switzerland, USN.
AN/ALQ-172(V)1, (V)2	Self-protection system	AC-130U, B-52, MC-130E/H	Operational.
AN/ALQ-172(V)3	Self-protection system (extended frequency coverage)	AC-130H	Operational.
AN/ALQ-211(V)1	Radar warning, situation awareness, jamming system	AH-64D	Development and test completed.
AN/ALQ-211(V)2	Radar warning and jamming, EW suite controller	CV-22	In low rate initial production.
AN/ALQ-211(V)3	Radar, laser and chemical warning, situation awareness system	RAH-66	Completing manufacturing development.
AN/ALQ-211(V)4	Digital radar warning and advanced jamming system	F-16	For Chile and Oman.
AN/ALQ-211(V)5	Radar, laser and missile warning, ESM, chaff/flare system	NH-90	For Norway.
AN/ALQ-211(V)6	Radar warning, situation awareness, jamming system	MH-47	For US Army special operations.
AN/ALQ-211(V)7	Radar warning, situation awareness, jamming system	MH-60	For US Army special operations.
AN/ALQ-211(V)8	ESM, ELINT, targeting system	UAVs	—
AN/ALQ-214 IDECM RFCM	On-board technique generator with fiber optic towed decoy	B-1B, F/A-18E/F	In low rate initial production.
<b>LOCKHEED MARTIN, Missiles and Fire Control-Orlando, Orlando, FL, USA</b>			
AN/AAR-56	Missile launch detector	F-22	In production.
<b>NORTHROP GRUMMAN CORP., Electronic Systems, Rolling Meadows, IL, Baltimore, MD, both USA</b>			
AN/AAR-54	Missile launch detector	B-2, C-130, S-70	In production for US and 4 international customers.
AN/ALQ-131	Automatic self-protection jamming pod	A-10, C-130, F-16	Operational w/USAF and 11 international customers.
AN/ALQ-135	Internal countermeasures set	F-15	—
AN/ALQ-155	Low band jammer	B-52	—
AN/ALQ-162	CW and pulse-Doppler jammer	AH-64, F-16, F/A-18	In production. Operational.

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<b>NORTHROP GRUMMAN CORP., Electronic Systems, Rolling Meadows, IL, Baltimore, MD, both USA</b>			
AN/ALQ-165	Airborne self-protection jammer (ASPJ)	F-14, F-16, F/A-18	Operational w/USMC/USN; Finland, Korea, Switzerland.
AN/ALQ-218	Electronic support measures (ESM)	EA-6B	Fine DF, IDM, location, warning. In production. Also for EA-18G.
AN/ALR-46(V)	Radar warning receiver	B-52, F-5E/F	Korean, Taiwanese, Thai, F-5E/F retrofit.
AN/ALR-66B(V)3, C(V)3	Electronic support measures (ESM)	P-3, SH-2	Operational.
AN/ALR-67(V)2	Radar warning receiver	AV-8B, F-14D, F/A-18	Operational.
AN/ALR-68(V)3	Radar warning receiver	C-160, F/RF-4	Operational.
AN/ALR-69	Radar warning receiver	A-10, B-52, C-130, F-16	Pre-Block 50 F-16s.
AN/ALR-73(V)1	Electronic support measures (ESM)	E-2C	Passive DF, location. Operational.
AN/ALR-91	Radar warning receiver	F-5	Operational. Replaces AN/ALR-46(V).
AN/ALR-93(V)1	Radar warning receiver	CN-235, F-16	Operational.
AN/APR-39A(V)2	Radar warning receiver	C-130, KC-130, MV-22	Also on international helos.
AN/APR-39A(V)3/4	Radar warning receiver	C-130, F-5A	Also on US Air Force, US Army and international helos.
APR-39B (V)2	Radar warning receiver/electronic warfare management system	CH-47, S-70	—
ASPIs	Advanced self-protection integrated EW suite	F-16	Operational on F-16C/D Block 30, 50.
ERWE 2	Radar warning receiver	Tornado (MRCA)	Upgrade for German air force. Operational.
LR-100	Radar warning receiver/electronic support measures	S-70, SH-2, UAVs	Operational.
MIRTS	Modular IR jammer	—	For use on helicopters, transports.
Nemesis [AN/AAQ-24(V)]	Directional IR countermeasures	Fixed-wing aircraft, helos	In production for UK and US Air Force.
QRC84-02A	IR countermeasures system	C-130	—
<b>RAYTHEON CO., Space and Airborne Systems, El Segundo, CA, USA</b>			
AN/AAR-SX	IR missile warning system	F-16	In production.
AN/ALE-50	RF towed decoy	B-1B, F-16, F/A-18E/F	In production.
AN/ALQ-184	Self-protection ECM pod	C-130, F-15, F-16	In production. Also on A-10, other aircraft. Upgrade ongoing.
AN/ALQ-187	Internal ECM system	F-4, F-16	In production. Part of ASPIs integrated self-protection suite.
AN/ALR-67(V)3	Radar warning receiver	F/A-18E/F	In production.
AN/ALR-69	Radar warning receiver	C-130, F-16	Upgrade program ongoing.
AN/ASQ-81	Magnetic anomaly detector (MAD)	LAMPS helos, P-3, S-3	Detects submarine's magnetic field.
ASPIs	Integrated EW suite	F-16	In production.
COMET	IR countermeasures pod	A-10, C-130	In development.
GEN-X	Expendable RF deception jammer	USN tactical aircraft	Carried in AN/ALE-39 and AN/ALE-47.
<b>ROCKWELL COLLINS, Government Systems, Cedar Rapids, IA, USA</b>			
AN/USQ-146	C2SW system	—	Operates in 20 to 8400 MHz range.
USQ-113	Communications countermeasures	EA-6B	Provides jamming and communications in the 30 to 500 MHz. range. In development.
UST-109	C2W system	—	Operates in 0.5 to 2000 MHz range. In development.
SDR-2800	Sigint/Comint receiver/digitizer	—	20-2800 MHz digital receiver VME (60).
<b>SAABTECH AB, Stockholm, Sweden</b>			
BOL	Countermeasures dispenser	Eurofighter, F-14, F-15	Also on Gripen, Harrier, Tornado.
BOP	Chaff and flare dispenser	Draken, Gripen, Viggen	—
BOW-21	RWR system	Tornado (German)	—
BOZ	Chaff and flare dispenser	Jaguar, Tornado	Also on Super Etendard.
EWS39	Integrated RWR system and jammers	JAS 39	—
ISPS	Integrated self-protection system	NH90	—
<b>SYMETRICS INDUSTRIES LLC, Melbourne, FL, USA</b>			
AN/ALE-47	Airborne countermeasures dispensing system	Fighters, helicopters, transports, UAVs	Standard protection system for the US Air Force, Army & Navy. Also for commercial transports.
<b>THALES AIRBORNE SYSTEMS, Elancourt, France</b>			
ASTAC	Elint/ESM electronic recon. system (external pod)	Mirage F1CR/2000-5	Internal version (LRU) is for SIGINT aircraft.
D3000 A	ESM for maritime patrol aircraft (fixed or rotor wing)	Atlantique 2	In production.
EWS-16	Integrated self-protection system	F-16	In production.
ICMS	Integrated self-protection system	Mirage 2000-5	Mk. 1 & 2 versions in service, Mk. 3 in production.
IMEWS	Integrated self-protection system	Mirage 2000-9	In production with Elettronica SpA.
MWS-20	Missile warning system	C-130, Cougar, Puma	For fixed- and rotary-winged aircraft. In production.
PAJ-FA	Podded airborne jammer for fighters	Jaguar, Mirage-5/F1	Also for Super Etendard. In production.
SPECTRA	Integrated EW suite	Rafale	In production with MBDA.
SPS-FA	Self-protection system (fighters)	F-5, Mirage F1	Also for Super Etendard. In production.

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DESIGNATION	DESCRIPTION	APPLICATIONS	REMARKS
<b>THALES AIRBORNE SYSTEMS, Elancourt, France</b>			
SPS-H	Self-protection system (helos)	Cougar, Gazelle, Puma	Also for Panther. In production.
SPS-TA	Self-protection system (transports)	C-130, C-160	Also for business jets. In production.
TDS-FA	Threat detection system (RWR-fighters)	Fighters	In production.
TDS-H	Threat detection system (RWR-helos)	Cougar, Gazelle, Puma	In production.
TDS-TA	Threat detection system (RWR-transports)	Transports	In production.
TWE	Radar and laser warning receiver	NH-90, Tiger	In production.
<b>THALES SENSORS, Crawley, West Sussex, England, UK</b>			
KESTREL	ESM/ELINT system	EH 101	For helicopters and fixed-wing aircraft.

