

UNITED STATES MILITARY AIRCRAFT

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Tri-service

E = Early Warning

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E-1

Grumman G-117 Tracer

Specifications:

span: 72'7", 22.12 m
length: 43'6", 13.26 m
engines: 2 Wright R-1820-82WA
max. speed: 253 mph, 407 km/h



(Source: US Navy)

On 18 September 1962 the WF-2s remaining in service were redesignated as **E-1B**. The **E-1A** designation was not used.

Refer also to C-1, S-2, S2F, TF, WF.

E-2

Grumman G-123 Hawkeye

Specifications:

span: 80'7", 24.56 m
length: 56'4", 17.17 m
engines: 2 Allison T56-A-8A
max. speed: 370 mph, 595 km/h



(Source: US Navy)

Carrier based early warning aircraft which was originally ordered as W2F-1. Those remaining in service on 18 September 1962 were redesignated as **E-2A** under which designation production continued with a total of 62 built of which 24 were originally W2F-2 and 38 were ordered as E-2A outright. The serials of the latter were 151702/151725 and 152476/152489 whilst 152766/152785 were cancelled. Four E-2As (149817, 149818, 150533 and 152485) were converted as **TE-2A** trainers. Commencing in 1969 52 E-2As were fitted with new electronics equipment and were redesignated as **E-2B**. The first of these aircraft flew on 20 February 1969. Serials included 149819, 150530/150532, 150534/150541, 151702/151725, 152476/152484 and 152486/152489. In 1993 it was proposed to supply surplus E-2Bs to Taiwan as **E-2T**.

The **E-2C** was a greatly improved model. The prototypes, designated as **YE-2C** were two converted E-2As (148712 and 148713) and the first flight was on 20 January 1971. The E-2C had an increased length of 57'7", 17.55 m and was powered by 2 Allison T56-A-425s. The version was delivered to the US Navy as well as to the US Coast Guard and Israel, Japan, Egypt, Singapore, France and Taiwan. The serials were 158638/158648, 159105/159112, 159494/159502, 160007/160012, 160415/160420, 160697/160703, 160771/160774, 160987/160992, 161094/161099, 161224/161229, 161341/161346, 161400/161403, 161547/161552, 161780/161789, 162614/162619, 162791/162802, 162823/162825, 163024/163029, 163535/163540, 163565, 163693/163698, 163848/163851, 164107/164112, 164352/164355, 164483/164497, 164621/164626, 165293/165304, 165455/165456, 165507/165508, 165647/165650, 165811/165828, 166417/166419, 166504, 166505, 166508 and USCG 3501/3509. Aircraft with serials 158845/158846, 164356/164357, 164498/164518 were cancelled. Production continues.

The designation **TE-2C** referred to a training version to which YE-2Cs 148712 and 148713 as well as E-2Cs 158639, 158648, 159105 and 164110 were converted whilst 166501/166503 and 166507 were built outright as TE-2C.

The designation E-2C+ referred to an updated version and one E-2C with serial 165508 was converted.

The **E-2D** designation was used for the Advanced Hawkeye which was introduced in 2007, making the first flight on 6 August 2007. It was fitted with a new airborne early warning and battle management command and control (AEW/BMC2) system. The version was fitted with T56-A-427A engines. Serials included 166501/166502, 167929/167931, 168321 and 168592/168599.

Refer also to C-2, W2F.

E-3

Boeing

Specifications:

span: 145'9", 44.42 m
length: 152'11", 46.61 m
engines: 4 Pratt & Whitney TF33-P-100
max. speed: 600 mph, 966 km/h



(Source: USAF)

The E-3 was an early warning aircraft based on the Boeing 707 commercial aircraft and fitted with a large antenna dish. Originally designated as EC-137D the prototype was first flown on 9 February 1972. The first production version was the **E-3A** which were delivered to the USAF, NATO and Saudi Arabia. The serials were 71-1407/1408, 73-1674/1675, 75-556/560, 76-1604/1607, 77-351/356, 78-576/578, 79-001/003, 79-442/459 and 82-066/070, the latter supplied to Saudi Arabia. Aircraft 75-561, 78-579/581 and 79-435/441 were cancelled. Aircraft with serials 80-137/139 were ordered as E-3A but were converted as E-3B on the production line and were completed as E-3C. Aircraft with serials 81-004/005, 82-006/007 and 83-008/009 were ordered as E-3A but were completed as E-3C.

Those aircraft operated by NATO (79-442/459) carried a LX-N (Luxembourg) civil registration followed by the serial.

Saudi Arabia also ordered eight aircraft in the tanker configuration designated as **KE-3A**, with serials 82-071/076 and 83-510/511. Of these 83-511 was converted as **RE-3A** for reconnaissance purposes.

One E-3A with serial 73-1674 was used for tests as **JE-3A**. It was later converted to E-3C and **JE-3C**.

At a later date the USAF's E-3As were updated with new equipment and redesignated as **E-3B**. The E-3As that were converted were 71-1407/1408, 73-1675, 75-556/560, 76-1604/1607, 77-351/356 and 79-001/003.

The Saudi Arabia versions included **KE-3B** and **RE-3B**.

The **E-3C** was an upgraded version and was procured with serials 80-137/139, 81-004/005, 82-006/007, 83-008/009 and 90-175. In addition, the NATO aircraft were upgraded to become E-3C as well. In 2008 aircraft 90-175 was converted with Pratt & Whitney JT8D-219 engines.

The **E-3D** version applied to seven examples delivered to the RAF whereas the **E-3F** designation applied to 5 French aircraft. These were fitted with F108-CF-110 engines.

The **E-3G** version was an upgrade with up to date computer and electronics equipment and several aircraft were converted from 2013 onwards. The first was 73-1674, and E-3A which had been converted as a prototype.

Refer also to C-137, T-49, C-18, E-6, E-7, E-8.

E-4

Boeing 747

Specifications:

span: 195'8", 59.64 m
length: 231'4", 70.51 m
engines: 4 General Electric F103-GE-100
max. speed: 608 mph, 978 km/h



(Source: USAF)

Based on the commercial 747 aircraft, the E-4 provided a national command post in the event of war. Three **E-4A** were ordered on 27 February 1973 with serials 73-1676/1677 and 74-787 and were originally fitted with Pratt & Whitney F105-PW-100 turbofans. The first flight took place on 13 June 1973, at that time without equipment.

The E-4A aircraft were eventually converted to the **E-4B** standard of which also one was purchased outright with serial 75-0125. The first flight of the latter was 8 June 1978.

Refer also to C-19, C-25, C-33, C-36, L-1.

E-5

Windecker AC-1 Eagle

Specifications:

span: 32', 9.75 m
length: 28'5", 8.66 m
engines: 1 Continental IO-540-G
max. speed: 211 mph, 340 km/h



(Source: Ted Windecker)

A single example of the Windecker Eagle, which was an all plastic monoplane, was ordered to evaluate the radar detectability of a synthetic fibre aircraft. The aircraft, ordered as **YE-5A** and with serial 73-1653. During the 1980's the aircraft was lost during tests. The aircraft stored at the US Army Aviation School Museum in Fort Rucker, AL, was Windecker Eagle S/N 005, formerly N4196G.

E-6

Boeing Hermes

Specifications:

span: 148'2", 45.16 m
length: 152'11", 46.61 m
engines: 4 CFM F108-CF-100
max. speed: 600 mph, 966 km/h



(Source: US Navy)

Based on the Boeing 707 the E-6 was used by the US Navy for submarine communications in the 'Take Charge and Move Out' (Tacamo) programme. The **E-6A** flew for the first time on 19 February 1987. Serials of production aircraft were 162782/162784, 163918/163920, 164386/164388 and 164404/164410. Aircraft with serials 163532/163534 were cancelled. The **E-6B** designation referred to a version with upgraded operational systems and a number of E-6As were converted to this standard. Serials included 164386/164388 and 164404/164410. The popular name was later changed into Mercury.

Refer also to C-137, T-49, C-18, E-3, E-7, E-8.

E-7

Boeing 707

Specifications:

span: 130'10", 39.88 m
length: 134'6", 41.00 m
engines: 4 Pratt & Whitney JT3D
max. speed: 600 mph, 965 km/h

The **E-7A** designation was reserved from August 1981 to January 1982 for Boeing 707 aircraft which were eventually designated as C-18A or EC-18B.

Refer also to C-137, T-49, C-18, E-6, E-7, E-8.

E-8

Northrop Grumman (Boeing) 707-300C

Specifications:

span: 145'8", 44.41 m
length: 152'11", 46.61 m
engines: 4 Pratt & Whitney TF33-P-103
max. speed: 600 mph, 965 km/h



(Source: USAF)

Using existing air frames of commercial Boeing 707s, Grumman (later Northrop Grumman) developed the Joint Surveillance Target Attack Radar aircraft with the designation **E-8A**. Originally ordered as EC-18C with serials 86-416/417, the first one flew on 1 April 1988 carrying civil registration N770JS whilst the second aircraft carried civil registration N8411. It is thought that the civilian registrations were only carried during company test flights. Aircraft with serials 88-323/324 were cancelled.

The two E-8As were later converted as **TE-8A** and were used for training.

A pre-production conversion, to be fitted with GE/SNECMA F108-CF-100 engines, was designated as **E-8B**. A **YE-8B** prototype carried serial 88-0322 and was also registered as N707UM. Further development of the E-8B did not take place.

The **E-8C** production aircraft were ordered, using converted civilian airframes. In addition the two TE-8As were also modified to this standard. The first E-8C was 90-0175 and other serials were 92-3289/3290, 93-597, 93-1097, 94-284/285, 95-121/122, 96-042/043, 97-066, 97-100, 97-200/201, 99-006, 00-2000, 01-2005 and 02-911. Some of these aircraft were originally purchased with different serials. Serial 93-598 was cancelled.

In 2008 it was proposed to modify all E-8Cs with P&W JT8D-219 engines.

Refer also to C-137, T-49, C-18, E-3, E-6, E-7.

E-9

De Havilland Canada Dash-8

Specifications:

span: 85', 25.91 m
length: 73', 22.25 m
engines: 2 Pratt & Whitney PW120
max. speed: 311 mph, 500 km/h



(Source: USAF)

The **E-9A** is a version of the 36 passenger aircraft which flew for the first time on 20 June 1983. Two were procured by the USAF for the Gulf Range Instrumentation System missions and were operated with civilian registration N801AP and N802AP. In 1996 they were given serials 84-0047/0048, which were originally assigned to a cancelled F-15D.

Refer also to O-6

E-10

Boeing 767-400ER

Specifications:

span: 170'4", 51.90 m
length: 201'4", 61.37 m
engines: 2 Pratt & Whitney PW4000
max. speed: 530 mph, 851 km/h



(Source: Boeing?)

The **E-10A** was the multisensor command and control (MC2) aircraft operated by the USAF. The designation **E-10B** has been used for a proposed version with an additional radar suite whilst **E-10C** was a possible development in the Rivet Joint programme. On 23 February 2007 the development of the MC2 systems was cancelled, essentially canceling the E-10A version. The prototype aircraft (c/n 34205) was eventually flown on 21 March 2008 as N526BA. It was eventually registered in Bahrain as A9C-HMH on 6 January 2009.

Refer also to C-42

E-11

Bombardier BD-700 Global Express

Specifications:

span: 94', 28.65 m
length: 96'8", 29.50 m
engines: 2 Rolls Royce BR710A
max. speed: 590 mph, 950 km/h



(Source: USAF?)

In 2011 the USAF purchased three **E-11A** for use as an overhead communications-relay platform in Southwest Asia. The aircraft were fitted with a Battlefield Airborne Communications Node. Three aircraft that were previously leased, were serialised as 11-9001, 11-9355 and 11-9358. A fourth aircraft was purchased in 2012 with serial 12-9506.
