
THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE RESOLUTION

No. 793 Session of
2014

INTRODUCED BY VITALI, SCAVELLO, COHEN, LUCAS, THOMAS, O'NEILL,
CALTAGIRONE, READSHAW, KIRKLAND, FREEMAN, HELM, KINSEY,
NEILSON, R. BROWN, MAJOR, MCNEILL, MILLARD, GRELL, BROWNLEE,
YOUNGBLOOD, ROSS, MURT, MCCARTER, CLYMER AND FLECK,
APRIL 28, 2014

INTRODUCED AS NONCONTROVERSIAL RESOLUTION UNDER RULE 35,
APRIL 28, 2014

A RESOLUTION

1 Honoring Delaware County native Ray Brachman for his
2 instrumental role in developing military equipment and
3 technology used by Americans.

4 WHEREAS, Ray Brachman graduated from Purdue University with a
5 Bachelor of Science degree and from the University of
6 Pennsylvania with a Master of Science degree in Electrical
7 Engineering; and

8 WHEREAS, Mr. Brachman served as a United States Marine Corps
9 officer during World War II and the Korean War; and

10 WHEREAS, While working at Philadelphia's Frankford Arsenal,
11 Mr. Brachman was responsible for the design, development and
12 fielding of the first-ever militarized digital computer to be
13 used by American Armed Forces; and

14 WHEREAS, Mr. Brachman's digital computer, known as the Field
15 Artillery Data Computer (FADAC), was first deployed in 1961 and
16 used in artillery fire direction centers during the Vietnam War;

1 and

2 WHEREAS, Mr. Brachman's FADAC provided data for fire
3 direction for all United States Army artillery pieces with
4 calibers between 105mm and 203mm; and

5 WHEREAS, The FADAC was also used as the missile system in the
6 Lance, Pershing, Sergeant, Lacrosse and Nike-Hercules missiles
7 and provided survey, sound ranging, counter-battery location and
8 meteorological data computations; and

9 WHEREAS, The FADAC's high speed of operation was made
10 possible by new techniques put to use by Mr. Brachman and his
11 colleagues; and

12 WHEREAS, The FADAC was ahead of its time by conducting
13 several operations simultaneously by combining access coding,
14 rapid access loops and multiplication using two bits at a time,
15 resulting in a computer that was capable of performing 12,800
16 additions or subtractions every second; and

17 WHEREAS, The technological advancements achieved by the FADAC
18 is evidenced by the United States Army's use of the device for
19 25 years and its instrumental role in developing global
20 positioning systems; and

21 WHEREAS, Mr. Brachman and his associates pioneered the
22 concept of automatic testing of internal combustion engines by
23 using built-in engine transducers (sensors) and collecting their
24 outputs in digital form for analysis of engine performance and
25 detecting faulty components; and

26 WHEREAS, Mr. Brachman and his colleagues demonstrated this
27 concept initially on several United States Army vehicles, but
28 this concept has been universally embraced by all modern vehicle
29 manufacturers; therefore be it

30 RESOLVED, That the House of Representatives honor the service

1 and career of Mr. Ray Brachman to this nation and Commonwealth.