Comander-in-Chief: Colonel Henry Gage

Horse:

Sir Arthur Aston's Regiment of Horse (Garrison of Oxford) 250?
  under Lt Colonel George Boncle
Lord Treasurer's Regiment of Horse (Auxiliaries) 250
  under Lt Colonel William Webb
Sir William Campion's Regiment of Horse (Garrison of Boarstall House)
  under Lt Colonel Campion
Colonel Thomas Blagge's Regiment of Horse (1 troop)* 50 or 80
  (Garrison of Wallingford) under Captain Robert Walters

Foot: commanded overall by Major Francis Wildebanke, all musketeers

Colonel Stephen Hawkins' Regiment of Foot (whitecoats) 300
  (ex-Garrison of Greenland House)
The Queen's Regiment of Foot (redcoats) 100
  (Garrison of Oxford)
Colonel Thomas Blagge's Regiment of Foot* 80
  (Garrison of Wallingford)

* Joined morning of 10 September.

Parliamentarian accounts put the total force at around 1400-1500 men, the Royalists give it as slightly less.

Mercurius Aulicus, "The 37th Week"

Godwin, G. N., The Civil War in Hampshire, Alresford 1973 (reprint)