

ABSTRACT. The purpose of this note is to prove that if  $A$  and  $B$  are unital  $C^*$ -algebras and  $\phi : A \rightarrow B$  is a unital  $*$ -preserving ring homomorphism, then  $\phi$  is contractive; i.e.,  $\|\phi(a)\| \leq \|a\|$  for all  $a \in A$ . (Note that we do not assume  $\phi$  is linear.) We use this result to deduce a number of corollaries as well as characterize the form of such unital  $*$ -preserving ring homomorphisms.