STARK'S CONJECTURES AND HILBERT'S TWELFTH PROBLEM

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Abstract. We give a constructive proof of a theorem of Tate, which states that (under Stark's Conjecture) the field generated over a totally real field K by the Stark units contains the maximal real abelian extension of K. As a direct application of this proof, we show how one can compute explicitly real abelian extensions of K. We give two examples.