Uttering the intention out loud for salaat al-Taraaweeh and other prayers is bidah (an innovation). During Ramadan we pray salat al-taraweeh, what is to be said in the beginning of the prayer. For example: 

"Praise be to Allaah"

Uttering the intention out loud when one is going to pray is bidah (an innovation), whether that is for Taraaweeh prayers or any other prayer. Ibn al-Qayyim said in Zaad al-Maad (1/201):

When the Prophet (peace and blessings of Allaah be upon him) stood up to pray, he would say: Allaahu akbar, and he did not say anything before that, or utter the intention (niyyah) out loud at all. He did not say, I am going to pray such-and-such a prayer, facing the qiblah, four rak’ahs, as an imam or following an imam. And he did not say ada an (on time) or qadaa an (making up a missed prayer) or fard al-waqt (the obligatory prayer of this time). These are all bidah which were not narrated by any scholar with any isnaad, be it saheeh, da’eef, musnad or mursal. Neither was this narrated from any of the Prophet’s companions, and none of the Taabi’een or the four imams described it as mustahabb.

So the Muslim should have the intention of praying Taraaweeh in his heart only, and not utter anything out loud. And Allaah knows best.