METHOD AND DEVICE TO TRANSFER A VIDEO STREAM BETWEEN A HOST DEVICE AND AN ELECTRONIC DESCRAMBLING DEVICE

Introduction

Multimedia contents may be transmitted in various ways from a provider to an end user. In order to protect this valuable content, scrambling (encrypting) may be performed to the content so that only authorized persons can have access to it.

Reception of the scrambled multimedia content may be done on different devices such as a personal computer, a tablet, a smartphone, or other devices that may not have the necessary descrambling (decrypting) capabilities to access the content.

Brief description of the invention

In one embodiment, an electronic descrambling device may be connected to a host device and configured to descramble multimedia content. An electronic descrambling device is a portable module comprising electronic chips connected via a communication port with the host device. It is generally called “dongle”. The electronic chip comprises a descrambling engine and memories to temporary store the incoming data chunk. According to a particular embodiment, the electronic descrambling device is a USB dongle and the video stream is a MPEG stream.

Currently, transfer protocols to an electronic descrambling device are not adapted to the continuous exchange of data at a bit rate compatible with video streams. They have been designed to accommodate the transfer of storage data. To address this problem, it is proposed an electronic descrambling device connected to a host device to implement a method to descramble at least one video stream originating from at least one producer, having a producer ID, said host device comprising a controller comprising a bulk pipe out and a bulk pipe in transfer, comprising, at the host device :

- for each producer, defining a chunk of data from the video stream,

- forming a chain of out transfer, the chain of out transfer comprising a chain out header (oqH) linked with a plurality of chain out descriptors (oqTD), the first chain out descriptor pointing to a out description packet containing the at least one producer ID, the second and subsequent chain out descriptor pointing to the chunk of data, each chunk of data being of a particular producer,

- forming, by the host device, a chain of in transfer, the chain of in transfer comprising a chain in header (iqH) linked with a plurality of chain in descriptors (iqTD), each chain in descriptor pointing to a descrambled chunk of data, and the last chain in descriptor being configured to generate an interrupt,