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Source(s)	Kanchei (Ken) Loa, Yi-Hsueh Tsai, Shiann-Tsong Sheu, Hua-Chiang Yin, Yung-Ting Lee, Chih-Chiang Hsieh, Frank C.D. Tsai, Youn-Tai Lee, Heng-Iang Hsu Institute for Information Industry 8F., No. 218, Sec. 2, Dunhua S. Rd., Taipei City, Taiwan. [add co-authors here] | Voice: +886-2-2739-9616 loa@iii.org.tw
Re:	IEEE 802.16j-07/007r2: “Call for Technical Comments and Contributions regarding IEEE Project 802.16j”
Abstract	This contribution proposes procedures for RS autonomous synchronization
Purpose	Text proposal for 802.16j Baseline Document
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RS Autonomous Synchronization

Global navigation satellite system (GNSS) is the generic name given to the satellite-based navigation systems including GPS (global positioning system), GLONASS (global navigation satellite system), and Galileo. GPS is the first passive one-way ranging satellite system to be-come operational. While GPS was under development by United States (US), the Soviet Union undertook to develop a similar system, called GLONASS. Like GPS, GLONASS was designed primarily for the military, and was also offered for civil use. In a later time, the European Un-ion decided to develop a similar system planed to under civil control. This system is called Galileo, which is now developed by European Space Agency (ESA).

There are many synchronization

This contribution describes RS time synchronization with MR-BS. In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026r2 are listed below.

Text Proposal

6.3.2.3 MAC management messages

[change Table 14 as indicated]

Table 14—MAC Management messages

68	CLK-SYNC	Clock synchronization message for RS	Broadcast
~~68~~69-226			

[insert new subclause 6.3.2.3.65]

6.3.2.3.65 RS clock synchronization (CLK-SYNC) message

In MR network systems that require the MR-BS and non-transparent RSs to transmit frame-start DL preamble synchronously, CLK-SYNC message should be broadcasted on the relay link by the MR-BS. Implementation of the CLK-SYNC message is optional. The CLK-SYNC message format is shown in Table xxx.

Upon receiving CLK-SYNC message, non-transparent RS shall align its DL frame-start preamble and broadcast the received CLK-SYNC message to its subordinate RSs.

Table xxx – CLK-SYNC message format

Syntax	Size	Notes
CLK-SYNC_message_format () {	-	-
Management Message Type = 68	8 bits	-
Fraction GPS time	16 bits	Fraction GPS time for frame-start DL preamble of current frame in unit of 1 micro second, where fraction GPS time is defined as

		fraction GPS time *GPS time frame duration* $\frac{GPS\ time}{frame\ duration}$
}	-	-