

**DIGITAL BROADCASTING TRANSMISSION/RECEPTION APABLE OF  
IMPROVING RECEIVING AND EQUALIZING PERFORMANCE AND SIGNAL  
PROCESSING METHOD THEREOF**

**Abstract**

A digital broadcast transmitting and receiving system and a signal processing method thereof that improves the receiving performance of the system. A digital broadcast transmitter can include a randomizer to receive and randomize a data stream into a specified position of which stuff bytes are inserted, a replacement sequence generator to generate known data consisting of a predefined sequence, a stuff-byte exchange unit to insert the known data into the specified position of the data stream into which the stuff bytes are inserted, an encoder to encode the data stream output from the stuff-byte exchange unit for an error correction, and a transmission unit to modulate the encoded data stream, RF-convert the modulated data stream and transmit the RF- converted data. The digital broadcast receiving performance can be improved even in an inferior multi-path channel by detecting the known data from the received transmission and using the known data for synchronization and equalization in a digital broadcast receiver.