

Title (en)
TRANSMITTER PREDISTORTION CIRCUIT AND METHOD THEREFOR

Title (de)
SENDER-VORVERZERRUNGSSCHALTUNG UND VERFAHREN DAFÜR

Title (fr)
CIRCUIT DE DISTORSION PREALABLE POUR EMETTEUR ET PROCEDE CORRESPONDANT

Publication
EP 1709729 A4 20061227 (EN)

Application
EP 05711985 A 20050124

Priority

- US 2005002316 W 20050124
- US 76677904 A 20040127
- US 76676804 A 20040127
- US 76680104 A 20040127
- US 84073504 A 20040506
- US 1242704 A 20041214

Abstract (en)
[origin: TW200541280A] A digital communications transmitter (100) includes a digital linear-and-nonlinear predistortion section (200, 1800, 2800) to compensate for linear and nonlinear distortion introduced by transmitter-analog components (120). A direct-digital-downconversion section (300) generates a complex digital return-data stream (254) from the analog components (120) without introducing quadrature imbalance. A relatively low resolution exhibited by the return-data stream (254) is effectively increased through arithmetic processing. Distortion introduced by an analog-to-digital converter (304) may be compensated using a variety of adaptive techniques. Linear distortion is compensated using adaptive techniques with an equalizer (246) positioned in the forward-data stream (112). Nonlinear distortion is then compensated using adaptive techniques with a plurality of equalizers (226) that filter a plurality of orthogonal, higher-ordered-basis functions (214) generated from the forward-data stream (112). The filtered-basis functions are combined together and subtracted from the forward-data stream (112).

IPC 8 full level
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CPC (source: EP)
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Citation (search report)

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- [X] US 6335767 B1 20020101 - TWITCHELL EDWIN RAY [US], et al
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- See references of WO 2005074121A1

Designated contracting state (EPC)
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DOCDB simple family (application)
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