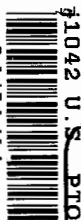


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U S Patent and Trademark Office, U S DEPARTMENT OF COMMERCE

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. GO35-001

First Inventor Ernesto G. Jeckeln

Title Adaptive Predistortion Device and Method Using Digital...

Express Mail Label No. EL 844046025 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☒ Applicant claims small entity status.
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 33]
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross Reference to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table, or a computer program listing appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 11]
5. Oath or Declaration [Total Pages 4]
 - a. ☐ Newly executed (original or copy)
 - b. ☐ Copy from a prior application (37 CFR 1.63 (d))
(for continuation/divisional with Box 18 completed)
 - i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s)
named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)
6. ☐ Application Data Sheet. See 37 CFR 1.76

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 - ii. ☐ paper
 - c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement of Power of Attorney (when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☐ Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
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Prior application information Examiner _____ Group Art Unit _____

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Name (Print/Type)	Deepak Malhotra	Registration No. (Attorney/Agent)	33,560
Signature	<i>Deepak Malhotra</i>	Date	June 8, 2001

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See 37 C.F.R. §§ 1.27 and 1.28.*

TOTAL AMOUNT OF PAYMENT (\$) **395.00**

Complete if Known

Application Number	
Filing Date	June 8, 2001
First Named Inventor	Ernesto G. Jeckeln
Examiner Name	
Group / Art Unit	
Attorney Docket No.	GO35-001

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101 690	201 345	Utility filing fee	355.00
106 310	206 155	Design filing fee	
107 480	207 240	Plant filing fee	
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114 150	214 75	Provisional filing fee	

SUBTOTAL (1) (\$) **355.00**

2. EXTRA CLAIM FEES

Total Claims	Extra Claims	Fee from below	Fee Paid
17	-20** = 0	X	0
Independent Claims 4	-3** = 1	X	40
Multiple Dependent			0

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FEE CALCULATION (continued)

3. ADDITIONAL FEES

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105 130	205 65	Surcharge - late filing fee or oath	0.00
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Other fee (specify) _____			0.00
Other fee (specify) _____			0.00

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SUBTOTAL (3) (\$) **0.00**

SUBMITTED BY

Name (Print/Type) **Deepak Malhotra**

Signature 

Registration No (Attorney/Agent) **33,560**

Complete (if applicable)

Telephone **509-624-4276**

Date **June 8, 2001**

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First Inventor Ernesto G. Jeckeln
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Signature	<i>Deepak Malhotra</i>	Date	June 8, 2001

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Application Number
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First Named Inventor Ernesto G. Jeckeln
Examiner Name
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Other fee (specify)			0.00

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 0.00

SUBMITTED BY

Name (Print/Type) Deepak Malhotra

Registration No (Attorney/Agent) 33,560

Complete (if applicable)

Telephone 509-624-4276

Signature

Deepak Malhotra

Date

June 8, 2001

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EL844046025

TITLE OF THE INVENTION

[0001] ADAPTIVE PREDISTORTION DEVICE AND METHOD
USING DIGITAL RECEIVER

FIELD OF THE INVENTION

[0002] The present invention relates to predistorting devices. More specifically, the present invention is concerned with a predistorting device and to a method of predistortion using digital receivers.

BACKGROUND OF THE INVENTION

[0003] The demand for developing ultra-linear microwave transmitter, supporting high crest factor signals, increases rapidly, for example by the definition of the third generation (hereinafter "3G") of mobile radio standards.

[0004] The demanding adjacent channel power ratio (hereinafter "ACPR") requirements of these systems, i.e., W-CDMA or cdma2000, present a critical issue for transmitter designers if both ultra-linearity and high power efficiency must be met. In fact, the degradation of linearity becomes significant as the power amplifier (hereinafter "PA") operates close to saturation where both high power efficiency and high output power emission are achieved. Therefore, for different stimulus levels driving the amplifiers and for a given ACPR specification, the trade-off between power efficiency and linearity impose an operating point with poor power efficiency. In this case, linearization techniques become the only possible way to recuperate the linearity and to allow optimal trade-off.

[0005] Various linearization methods have been reported and are derived, by any measure, from three main types named:

EL 8440460 25



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