United States Patent [19]

Yoshida et al.

[11] **Patent Number: 5,031,179**

[45] **Date of Patent: Jul. 9, 1991**

[54] **DATA COMMUNICATION APPARATUS**

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[73] Assignee: **Canon Kabushiki Kaisha**, Tokyo, Japan

[21] Appl. No.: **267,541**

[22] Filed: **Nov. 4, 1988**

[30] **Foreign Application Priority Data**

Nov. 10, 1987	[JP]	Japan	62-282029
Nov. 10, 1987	[JP]	Japan	62-282032
Nov. 13, 1987	[JP]	Japan	62-285597
Nov. 24, 1987	[JP]	Japan	62-296445
Nov. 28, 1987	[JP]	Japan	62-301016
Nov. 28, 1987	[JP]	Japan	62-301017
Nov. 28, 1987	[JP]	Japan	62-301018

[51] **Int. Cl.**[5] **G06F 11/00**

[52] **U.S. Cl.** **371/32**; 371/5.5; 371/29.1

[58] **Field of Search** 371/32, 5.1, 5.3, 5.5, 371/29.1

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Attorney, Agent, or Firm—Fitzpatrick, Cella, Harper & Scinto

[57] **ABSTRACT**

A data communication apparatus having an error retransmission mode allows the operator to ascertain an amount of error data when an error is contained in data and when the error is not corrected despite retransmission of the error a predetermined number of times, or makes it possible to reproduce data with respect to correctly received data by discriminating correct data contained in error data, thereby preventing error data from becoming wasted as practically as possible. In addition, at the time of error retransmission, a transmission mode for retransmitting the error data is changed so as to minimize the number of incidents of error retransmission, thereby to enable efficient data transmission.

26 Claims, 50 Drawing Sheets

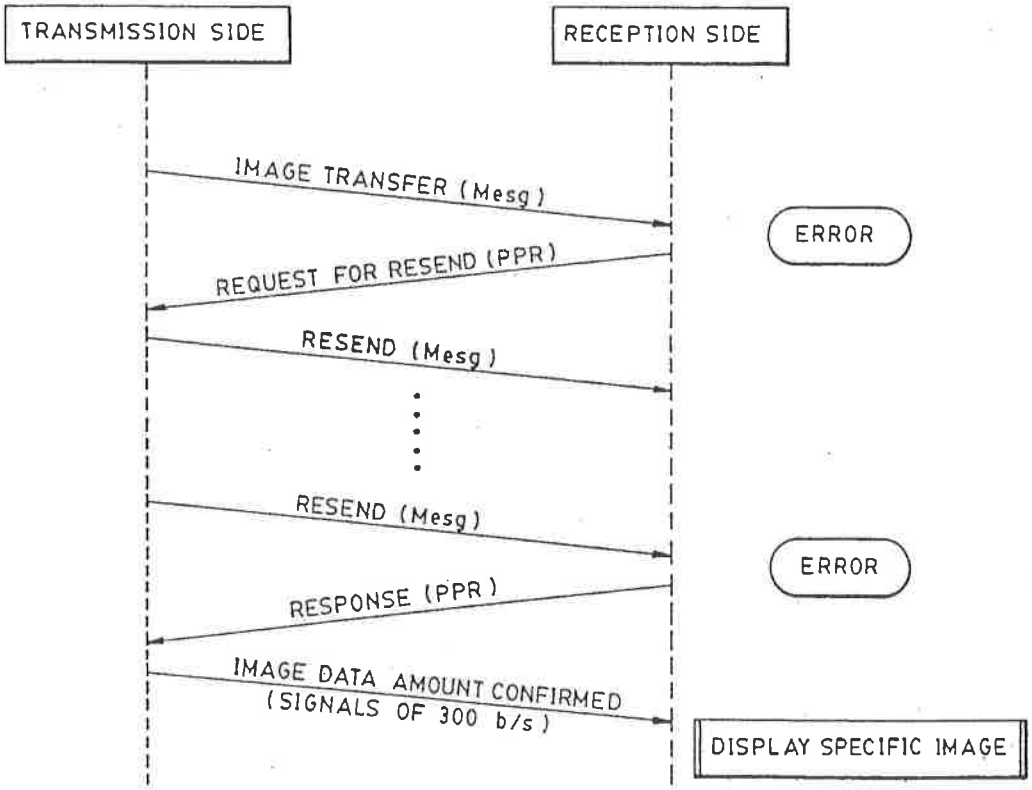

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FIG. 1(1)

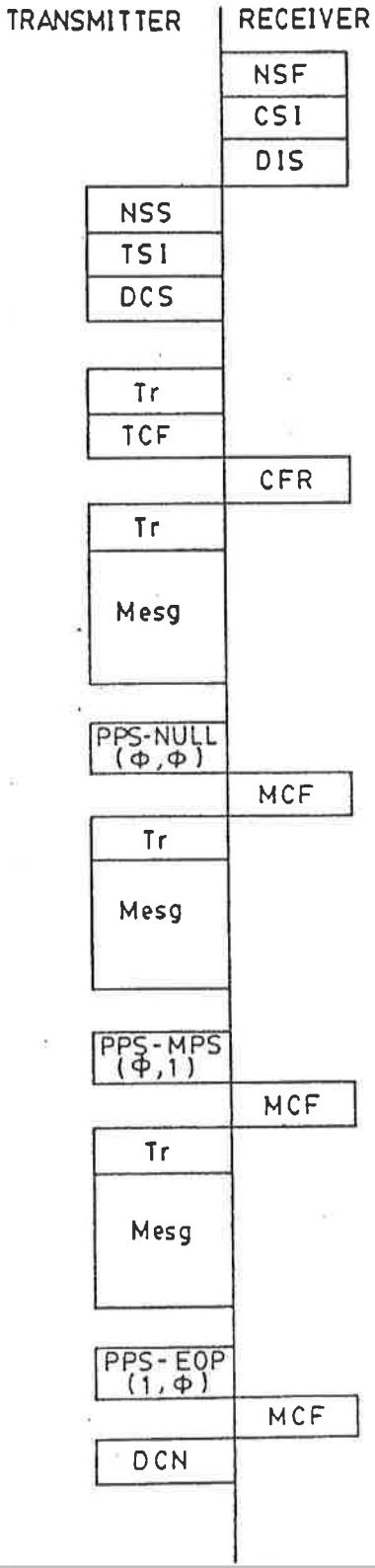

FIG. 1(2)

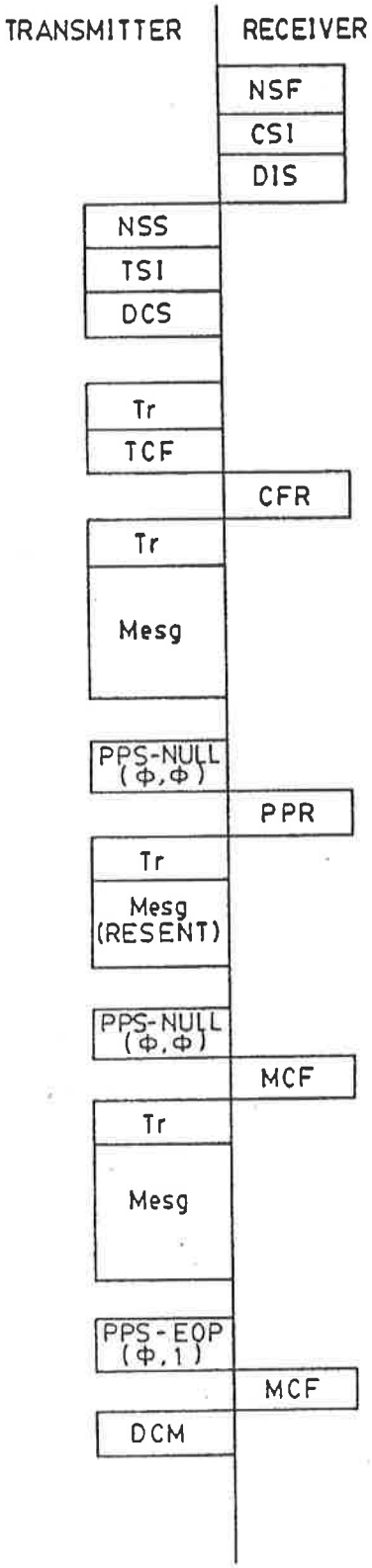

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FIG. 1 (3) (PART 1)

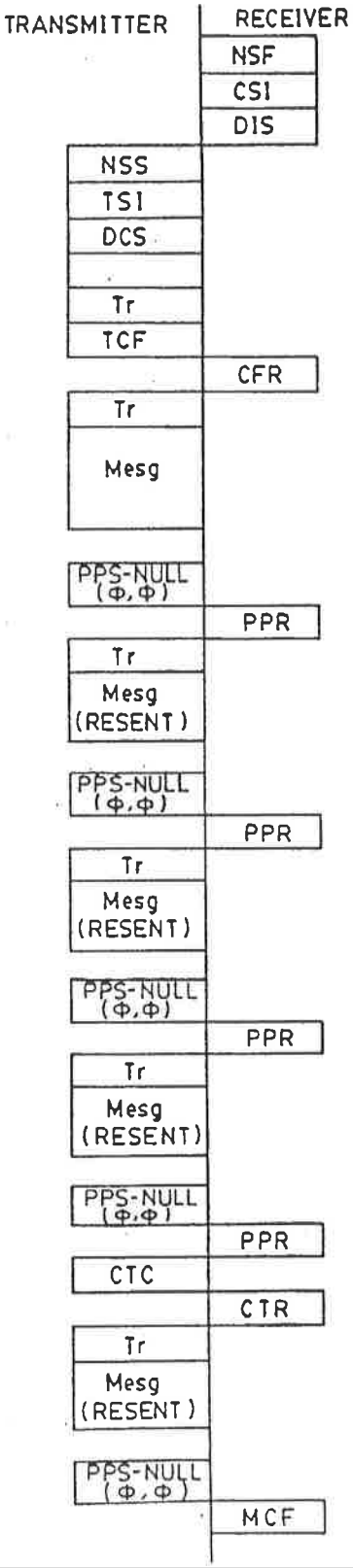
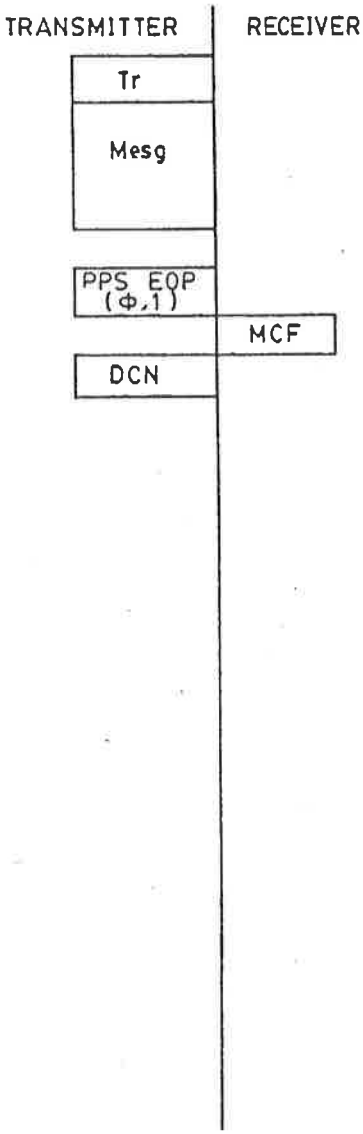


FIG. 1 (3) (PART 2)



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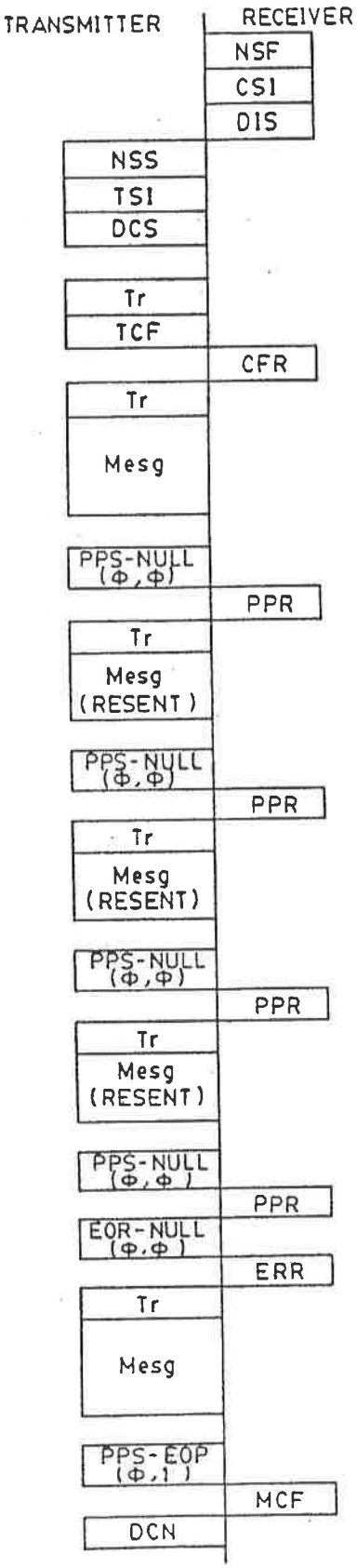

FIG. 1 (4)

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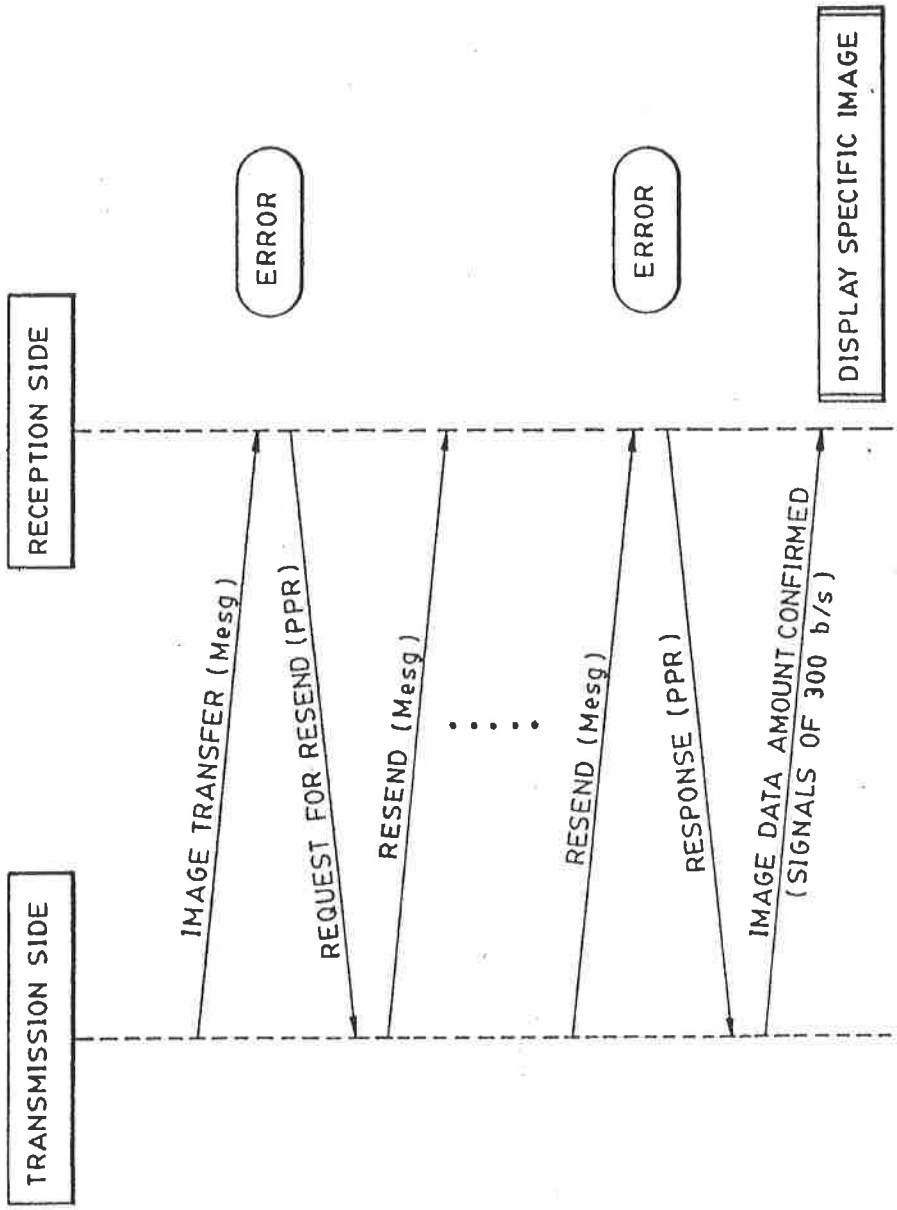
FIG. 2



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