(12) **United States Patent**
Mackintosh et al.

(10) **Patent No.:** **US 6,349,329 B1**
(45) **Date of Patent:** **Feb. 19, 2002**

(54) **COORDINATING DELIVERY OF SUPPLEMENTAL MATERIALS WITH RADIO BROADCAST MATERIAL**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/163,293**

(22) Filed: **Sep. 29, 1998**

(51) **Int. Cl.**[7] **G06F 15/16**
(52) **U.S. Cl.** **709/219**; 709/217; 709/218
(58) **Field of Search** 709/231, 217, 709/213, 216, 219, 218; 463/40; 348/473; 725/35; 375/130; 705/1

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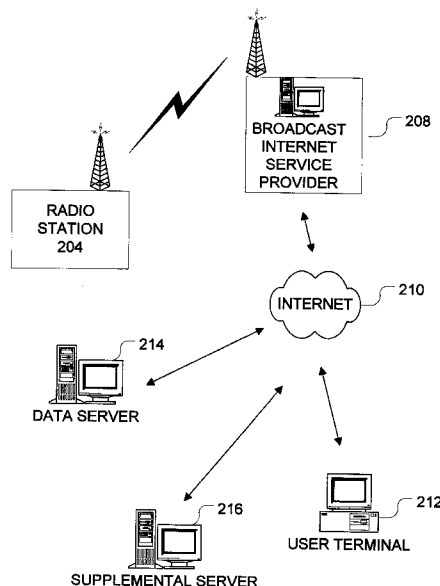
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(57) **ABSTRACT**

A broadcast material delivery architecture provides coordinated inclusion of supplemental materials with delivered broadcast material. A broadcaster broadcasts the broadcast materials to a plurality of users, the broadcast material being divided into a plurality of segments. Also broadcast is program data associated with the plurality of segments. A user terminal receives the broadcast material from the broadcaster and retrieving supplemental materials related to said plurality of segments of said broadcast material. To retrieve the supplemental materials, the program data are provided to a data server, which provides parameters for the supplemental materials to the user terminal. The user terminal uses the parameters to retrieve supplemental materials from one or more databases. The user terminal plays the supplemental materials in conjunction with the broadcast material.
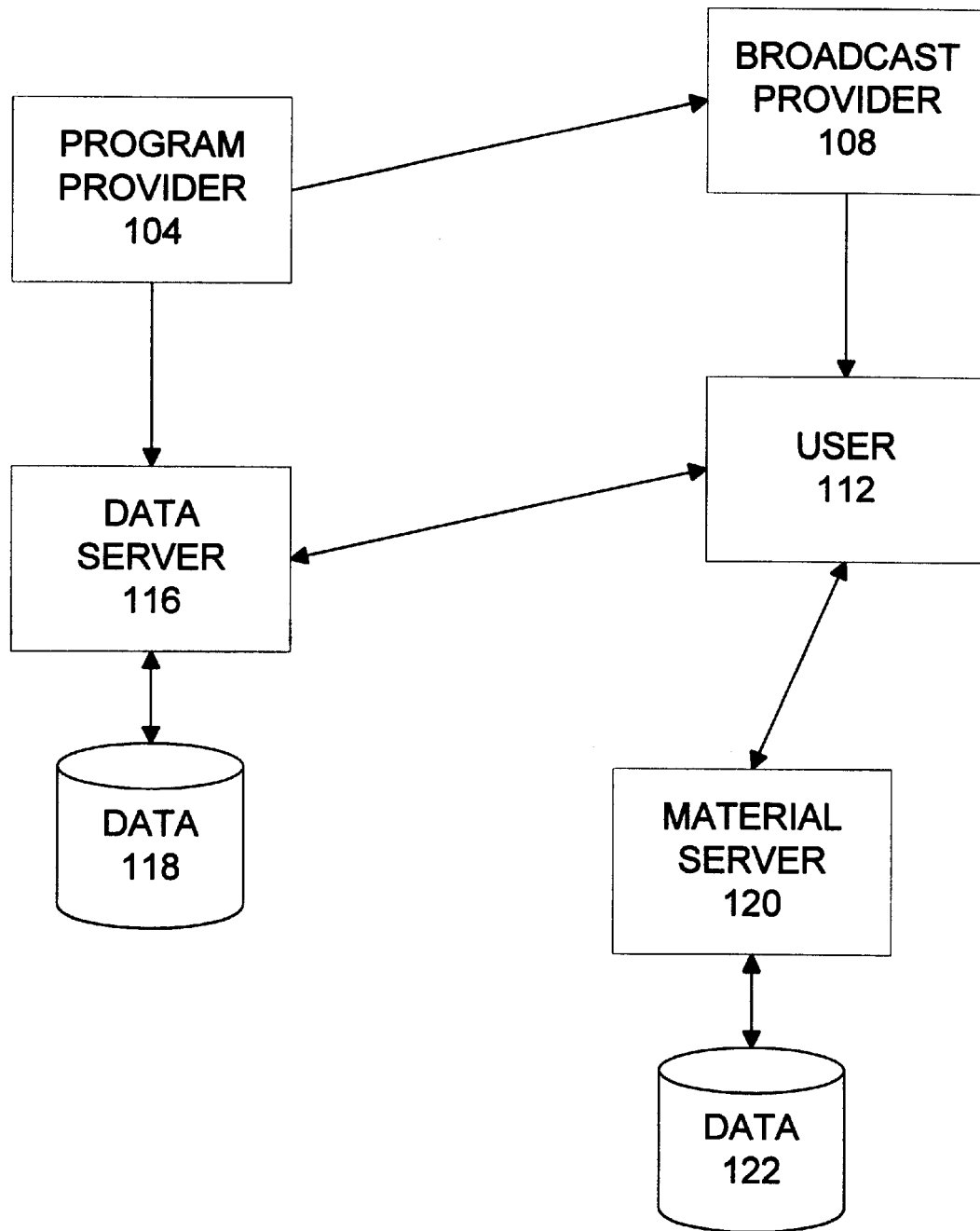
24 Claims, 13 Drawing Sheets

Fig. 1

DELIVER PROGRAM TO USER — 132

DELIVER PROGRAM DATA TO DATA SERVER — 134

DATA SERVER RETRIEVES SUPPLEMENTAL MATERIAL — 136

DATA SERVER RETREIVES PARAMETERS AND SENDS TO USER EQUIPMENT — 142

SUPPLEMENTAL MATERIAL PROVIDED TO USER TERMINAL — 138

USER EQUIPMENT USES PARAMETERS TO RETRIEVE SUPPLEMENTAL MATERIAL — 144

SUPPLEMENTAL MATERIAL PLAYED IN CONJUNCTION WITH PROGRAM MATERIAL — 140

SUPPLEMENTAL MATERIAL PLAYED IN CONJUNCTION WITH PROGRAM MATERIAL — 146

Fig. 2

Fig. 3

```
┌─────────────────────────────────┐
│  PROGRAM MATERIAL DELIVERED TO   │── 162
│         USER EQUIPMENT           │
└─────────────────────────────────┘
                 │
                 ▼
┌─────────────────────────────────┐
│  USER EQUIPMENT DELIVERS PROGRAM │── 164
│       DATA TO DATA SERVER        │
└─────────────────────────────────┘
```

— 136

```
┌─────────────────────────┐
│     DATA SERVER          │
│     RETRIEVES            │
│ SUPPLEMENTAL MATERIAL    │
└─────────────────────────┘
```

— 142

```
┌─────────────────────────┐
│ DATA SERVER RETREIVES    │
│ PARAMETERS AND SENDS     │
│   TO USER EQUIPMENT      │
└─────────────────────────┘
```

— 138

```
┌─────────────────────────┐
│ SUPPLEMENTAL MATERIAL    │
│  PROVIDED TO USER        │
│      TERMINAL            │
└─────────────────────────┘
```

— 144

```
┌─────────────────────────┐
│ USER EQUIPMENT USES      │
│   PARAMETERS TO          │
│ RETRIEVE SUPPLEMENTAL    │
│      MATERIAL            │
└─────────────────────────┘
```

— 140

```
┌─────────────────────────┐
│ SUPPLEMENTAL MATERIAL    │
│ PLAYED IN CONJUNCTION    │
│ WITH PROGRAM MATERIAL    │
└─────────────────────────┘
```

— 146

```
┌─────────────────────────┐
│ SUPPLEMENTAL MATERIAL    │
│ PLAYED IN CONJUNCTION    │
│ WITH PROGRAM MATERIAL    │
└─────────────────────────┘
```
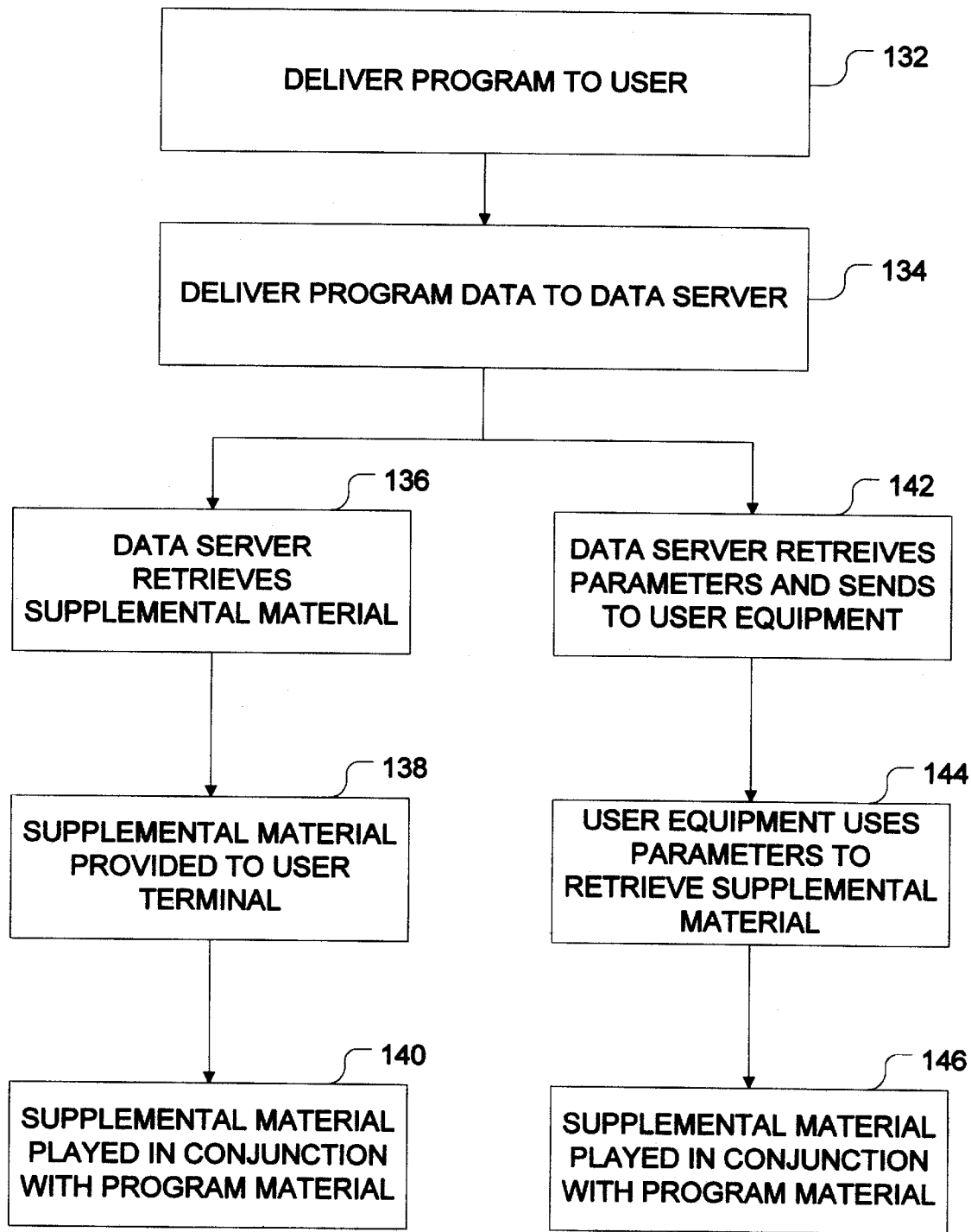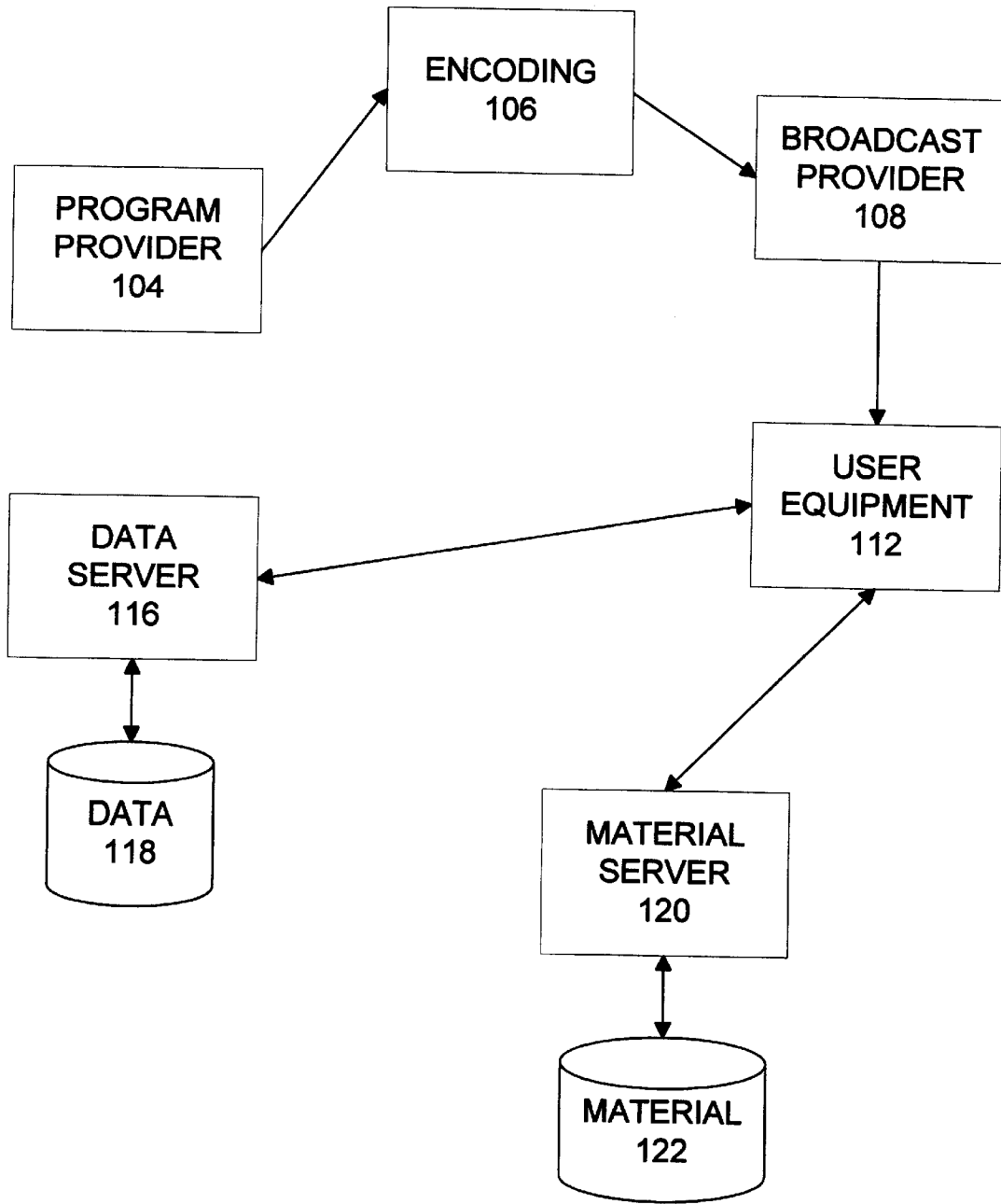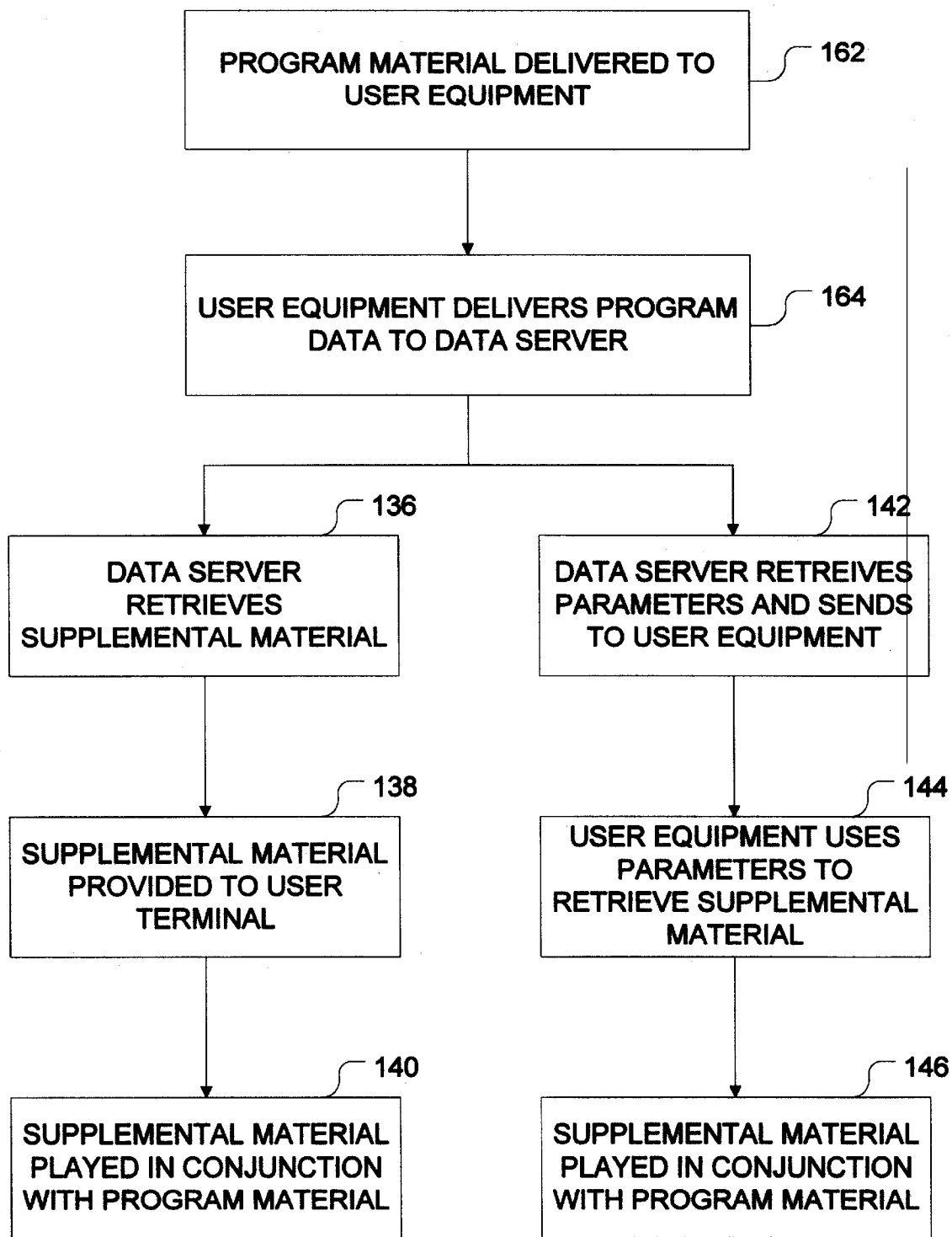
Fig. 4

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