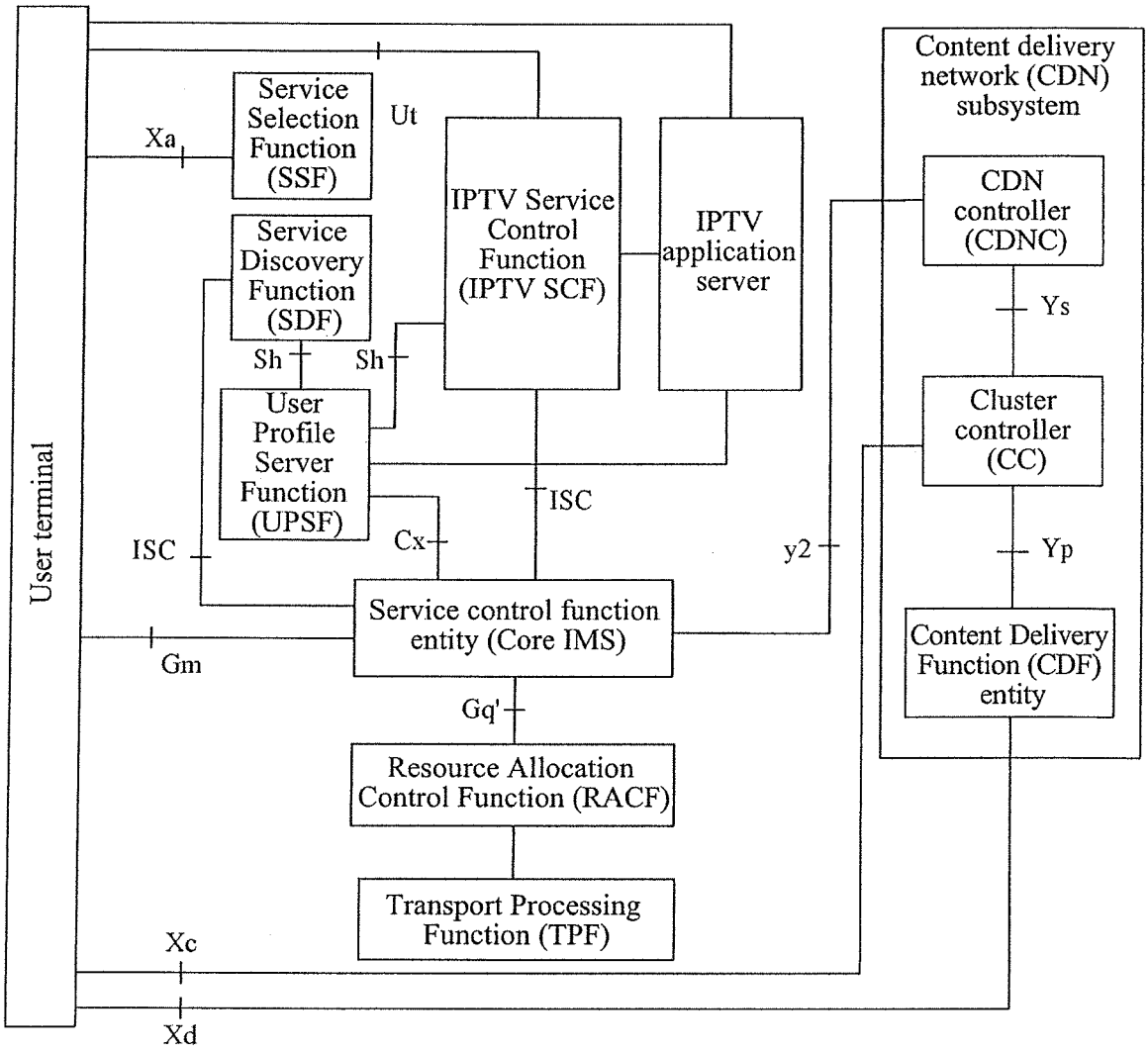

User terminal
Service Selection Function (SSF)
Ut
Xa
Service Discovery Function (SDF)
IPTV Service Control Function (IPTV SCF)
IPTV application server
Content delivery network (CDN) subsystem
CDN controller (CDNC)
Ys
Sh
Sh
User Profile Server Function (UPSF)
Cluster controller (CC)
ISC
ISC
Cx
y2
Yp
Service control function entity (Core IMS)
Content Delivery Function (CDF) entity
Gm
Gq'
Resource Allocation Control Function (RACF)
Transport Processing Function (TPF)
Xc
Xd

FIG. 1

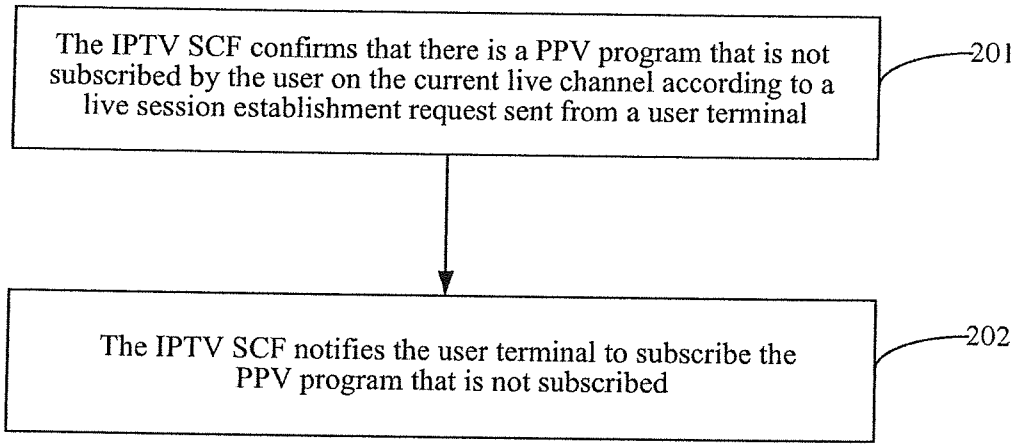

The IPTV SCF confirms that there is a PPV program that is not subscribed by the user on the current live channel according to a live session establishment request sent from a user terminal
201
The IPTV SCF notifies the user terminal to subscribe the PPV program that is not subscribed
202

FIG. 2

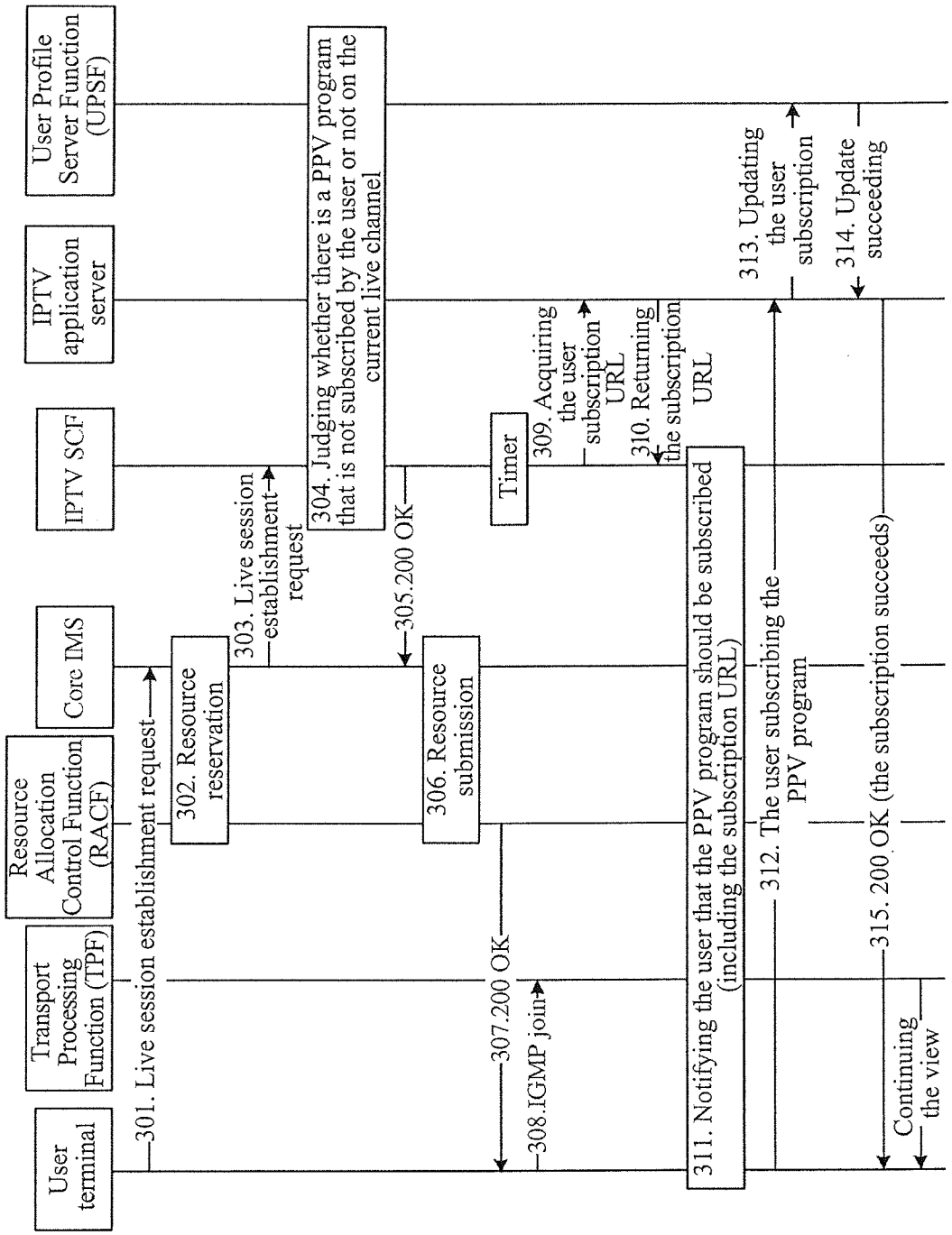

User terminal
Transport Processing Function (TPF)
Resource Allocation Control Function (RACF)
Core IMS
IPTV SCF
IPTV application server
User Profile Server Function (UPSF)
301. Live session establishment request
302. Resource reservation
303. Live session establishment request
304. Judging whether there is a PPV program that is not subscribed by the user or not on the current live channel
305.200 OK
306. Resource submission
307.200 OK
308.IGMP join
Timer
309. Acquiring the user subscription URL
310. Returning the subscription URL
311. Notifying the user that the PPV program should be subscribed (including the subscription URL)
312. The user subscribing the PPV program
313. Updating the user subscription
314. Update succeeding
315. 200 OK (the subscription succeeds)
Continuing the view

FIG. 3

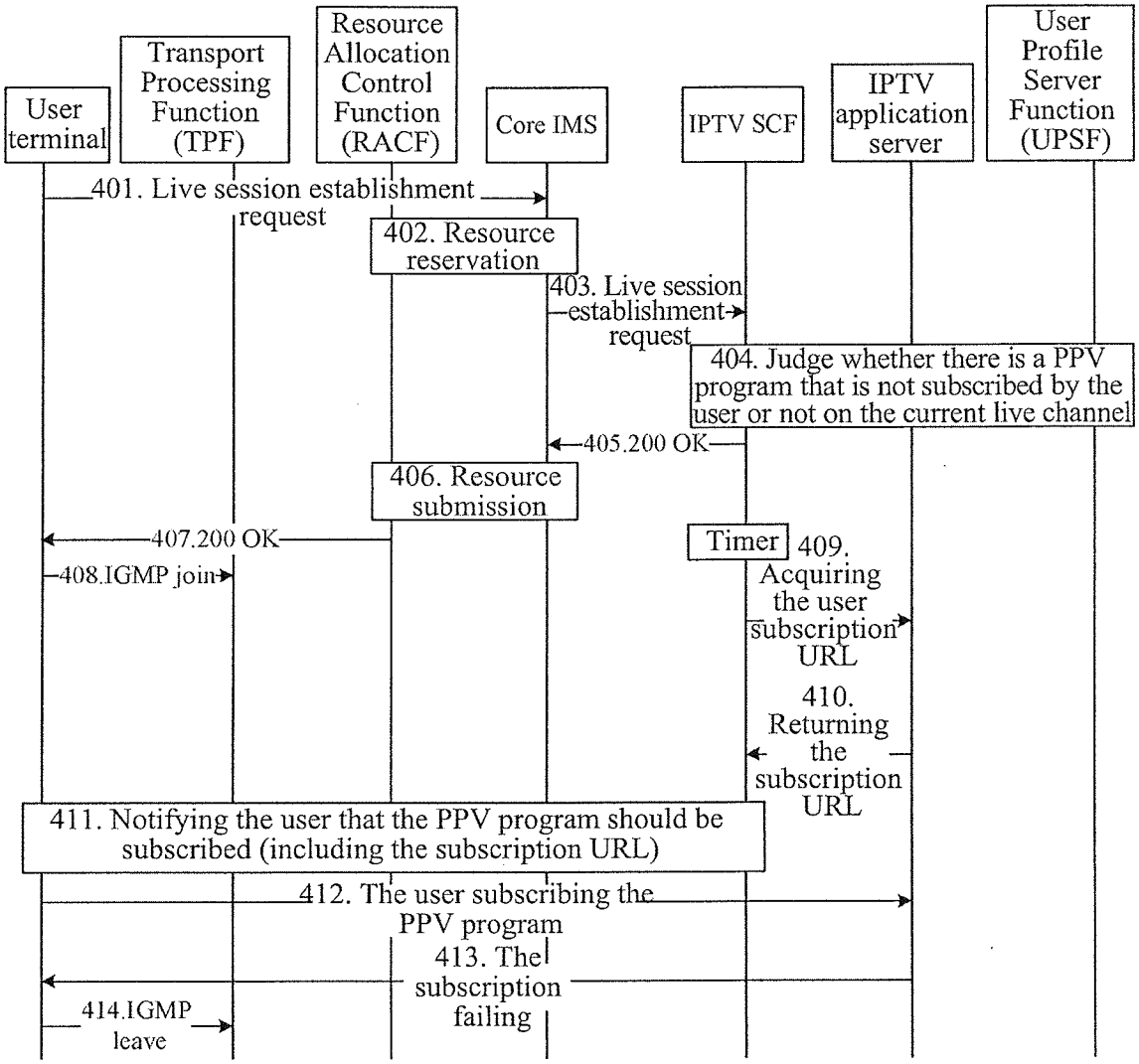

User terminal
Transport Processing Function (TPF)
Resource Allocation Control Function (RACF)
Core IMS
IPTV SCF
IPTV application server
User Profile Server Function (UPSF)
401. Live session establishment request
402. Resource reservation
403. Live session establishment request
404. Judge whether there is a PPV program that is not subscribed by the user or not on the current live channel
405.200 OK
406. Resource submission
407.200 OK
408.IGMP join
Timer
409. Acquiring the user subscription URL
410. Returning the subscription URL
411. Notifying the user that the PPV program should be subscribed (including the subscription URL)
412. The user subscribing the PPV program
413. The subscription failing
414.IGMP leave

FIG.4

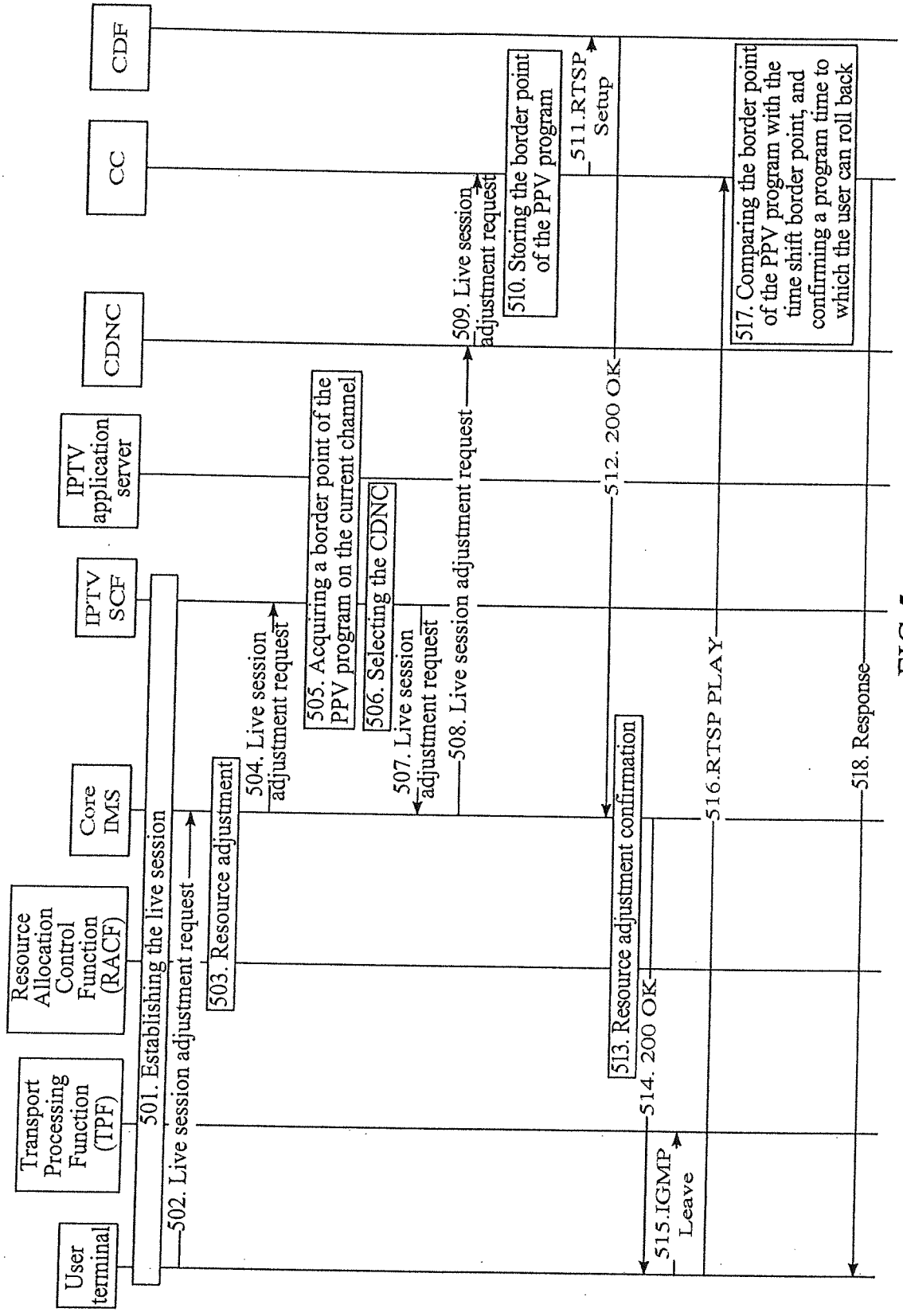

User terminal
Transport Processing Function (TPF)
Resource Allocation Control Function (RACF)
Core IMS
IPTV SCF
IPTV application server
CDNC
CC
CDF
501. Establishing the live session
502. Live session adjustment request
503. Resource adjustment
504. Live session adjustment request
505. Acquiring a border point of the PPV program on the current channel
506. Selecting the CDNC
507. Live session adjustment request
508. Live session adjustment request
509. Live session adjustment request
510. Storing the border point of the PPV program
511.RTSP Setup
512. 200 OK
513. Resource adjustment confirmation
514. 200 OK
515.IGMP Leave
516.RTSP PLAY
517. Comparing the border point of the PPV program with the time shift border point, and confirming a program time to which the user can roll back
518. Response

FIG.5

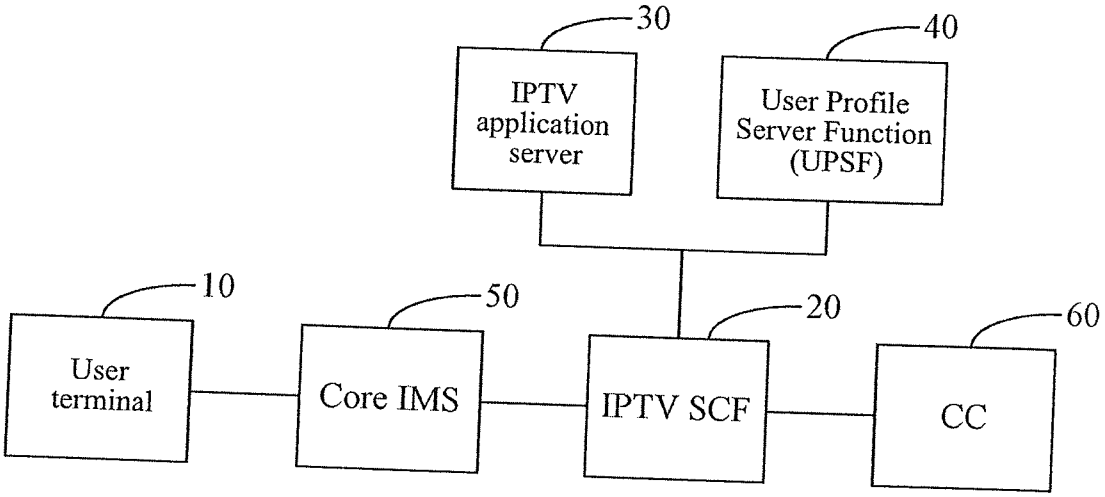

30
40
IPTV application server
User Profile Server Function (UPSF)
10
50
20
60
User terminal
Core IMS
IPTV SCF
CC

FIG.6

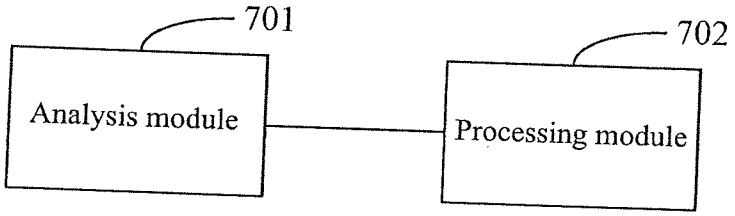

701
702
Analysis module
Processing module

FIG.7