FIG. 1

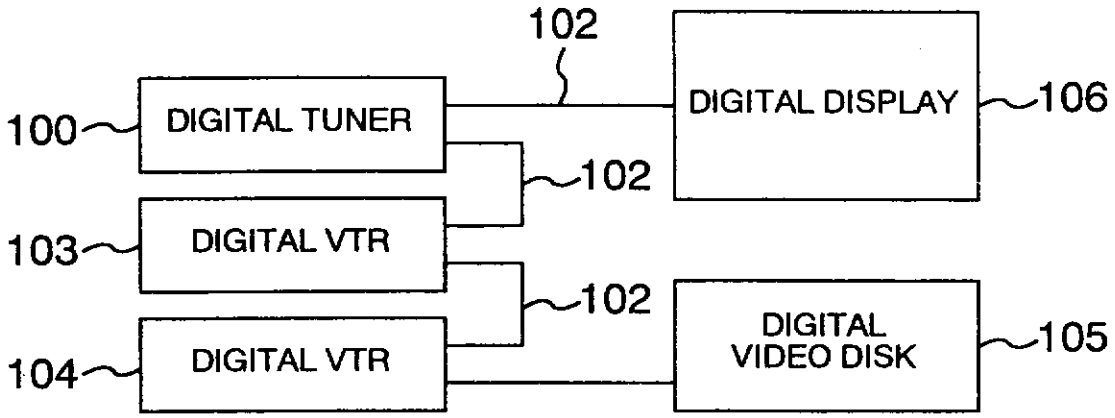

102
DIGITAL DISPLAY
106
100
DIGITAL TUNER
102
103
DIGITAL VTR
102
DIGITAL
VIDEO DISK
105
104
DIGITAL VTR

FIG. 2

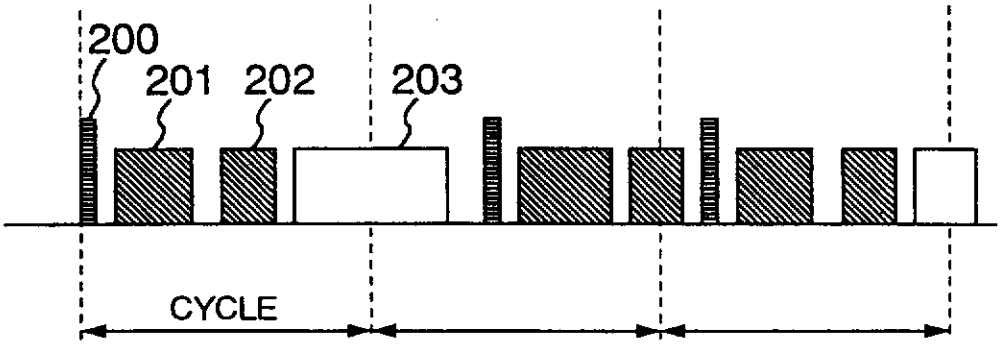

200
201
202
203
CYCLE

FIG. 3

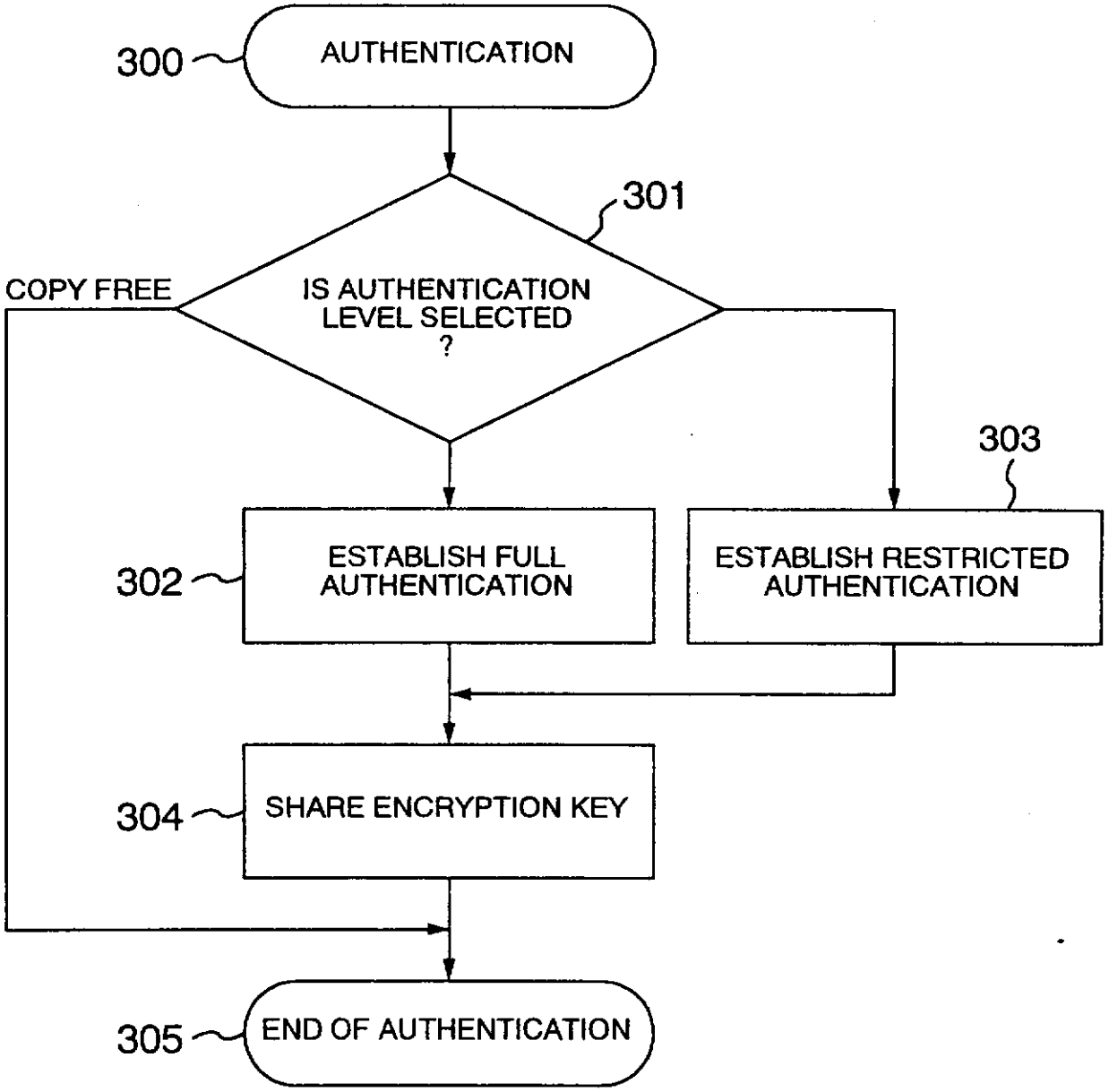

300
AUTHENTICATION
301
IS AUTHENTICATION LEVEL SELECTED ?
COPY FREE
302
ESTABLISH FULL AUTHENTICATION
303
ESTABLISH RESTRICTED AUTHENTICATION
304
SHARE ENCRYPTION KEY
305
END OF AUTHENTICATION

FIG. 4

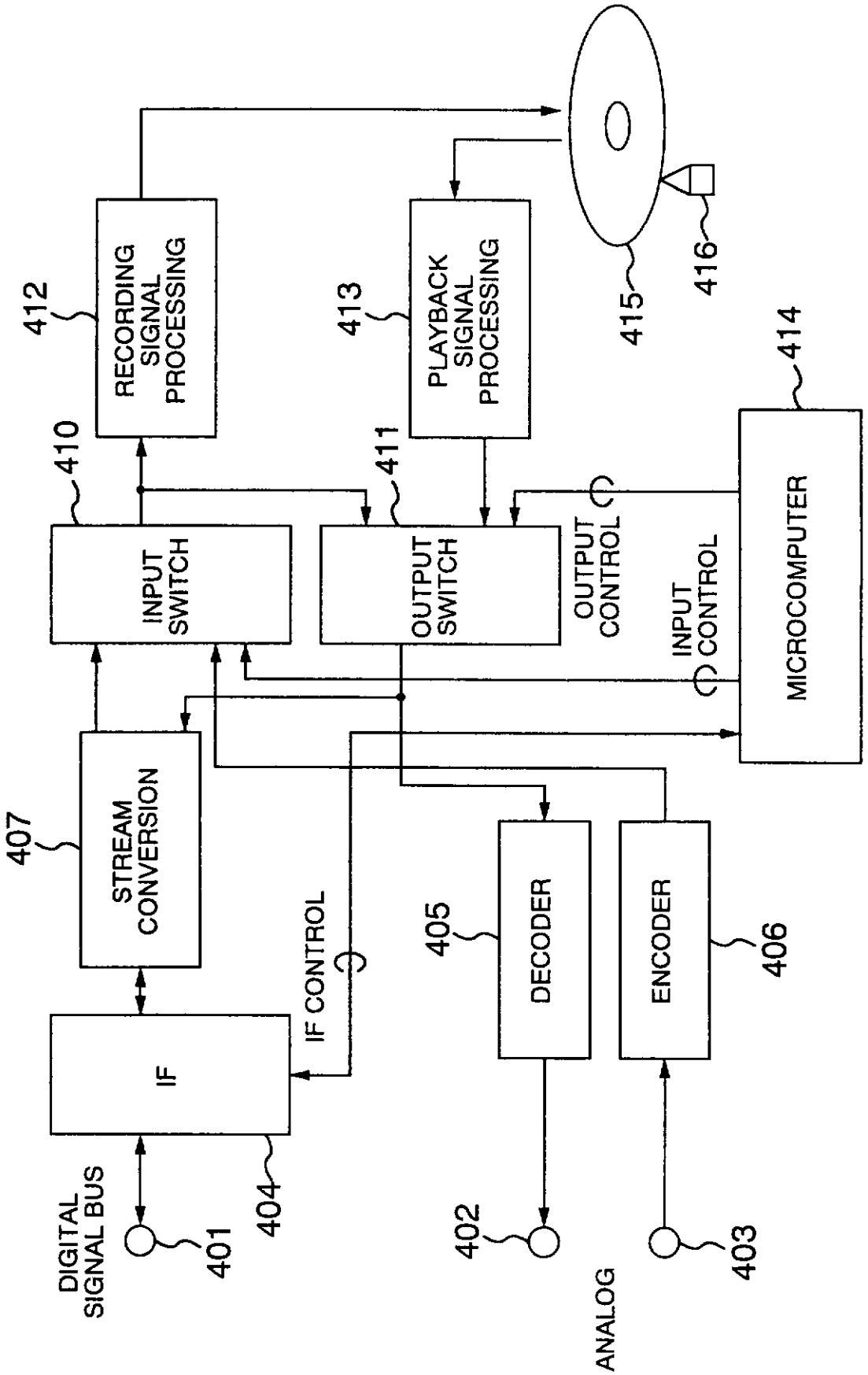

RECORDING SIGNAL PROCESSING
412
PLAYBACK SIGNAL PROCESSING
413
415
416
414
410
411
INPUT SWITCH
OUTPUT SWITCH
OUTPUT CONTROL
INPUT CONTROL
MICROCOMPUTER
STREAM CONVERSION
407
IF CONTROL
405
DECODER
ENCODER
406
IF
DIGITAL SIGNAL BUS
401
404
402
403
ANALOG

FIG. 5

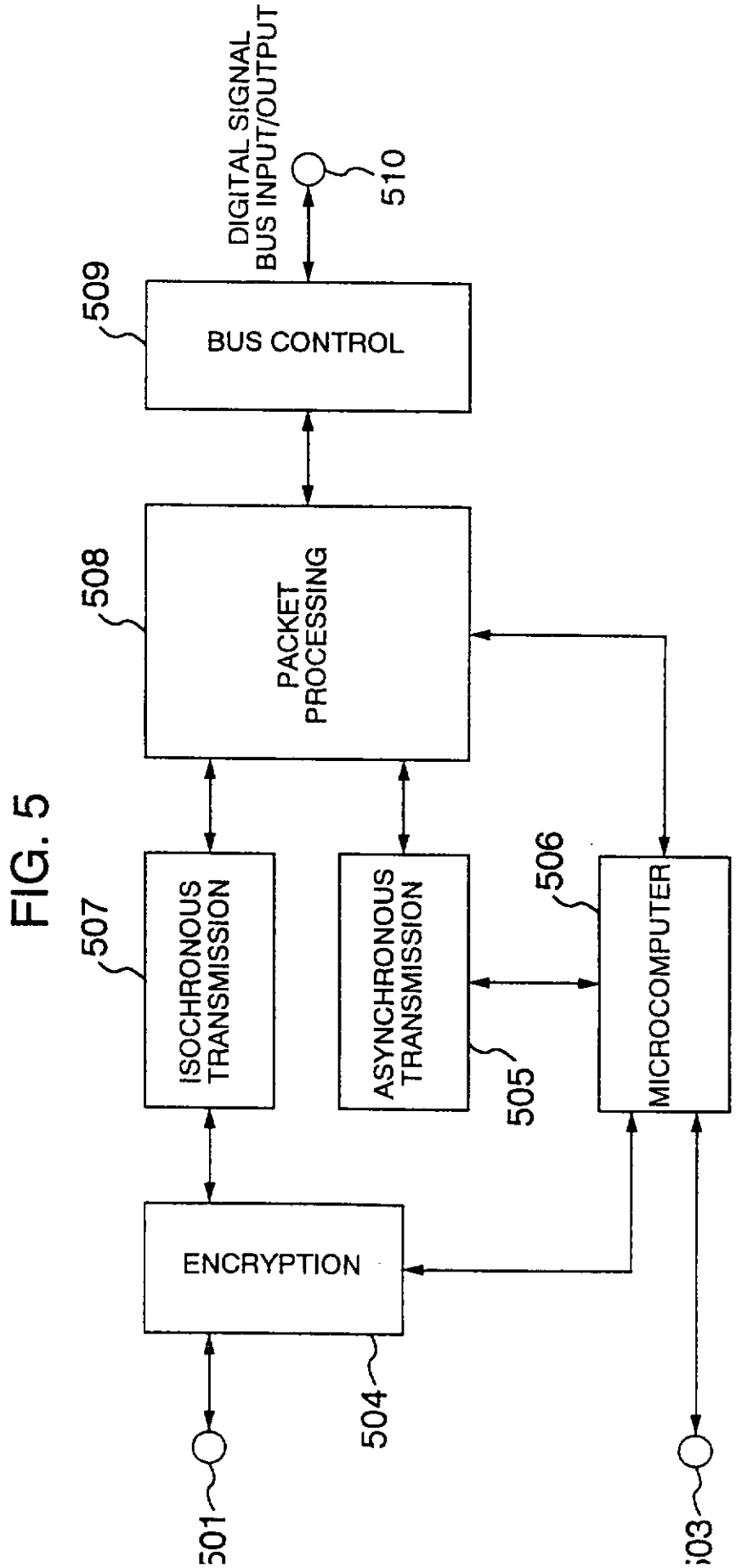

DIGITAL SIGNAL
BUS INPUT/OUTPUT
510
509
BUS CONTROL
508
PACKET
PROCESSING
507
ISOCHRONOUS
TRANSMISSION
ASYNCHRONOUS
TRANSMISSION
506
MICROCOMPUTER
505
ENCRYPTION
504
501
103

FIG. 6

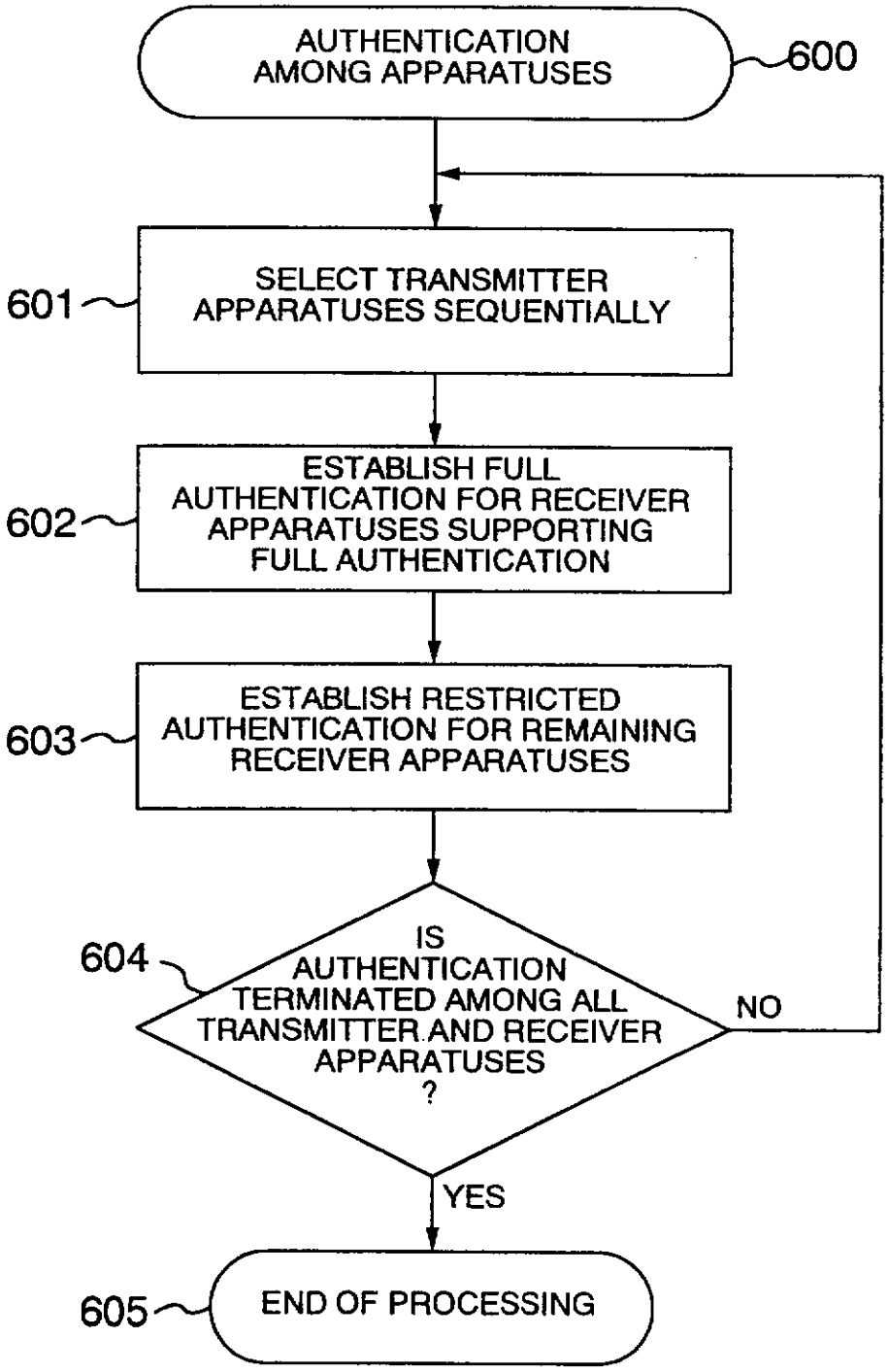

AUTHENTICATION AMONG APPARATUSES
600
SELECT TRANSMITTER APPARATUSES SEQUENTIALLY
601
ESTABLISH FULL AUTHENTICATION FOR RECEIVER APPARATUSES SUPPORTING FULL AUTHENTICATION
602
ESTABLISH RESTRICTED AUTHENTICATION FOR REMAINING RECEIVER APPARATUSES
603
IS AUTHENTICATION TERMINATED AMONG ALL TRANSMITTER AND RECEIVER APPARATUSES ?
604
NO
YES
END OF PROCESSING
605

FIG. 7

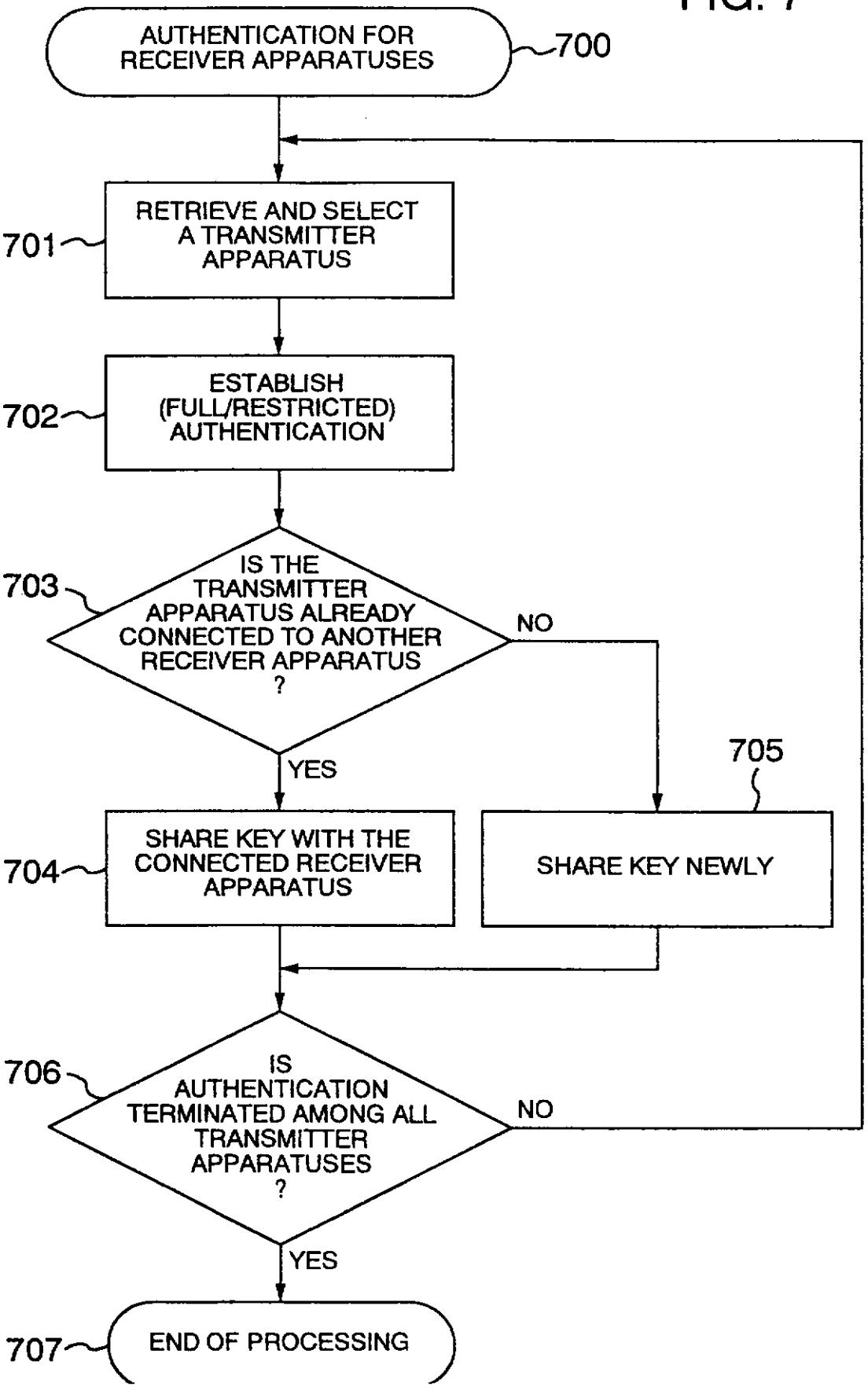
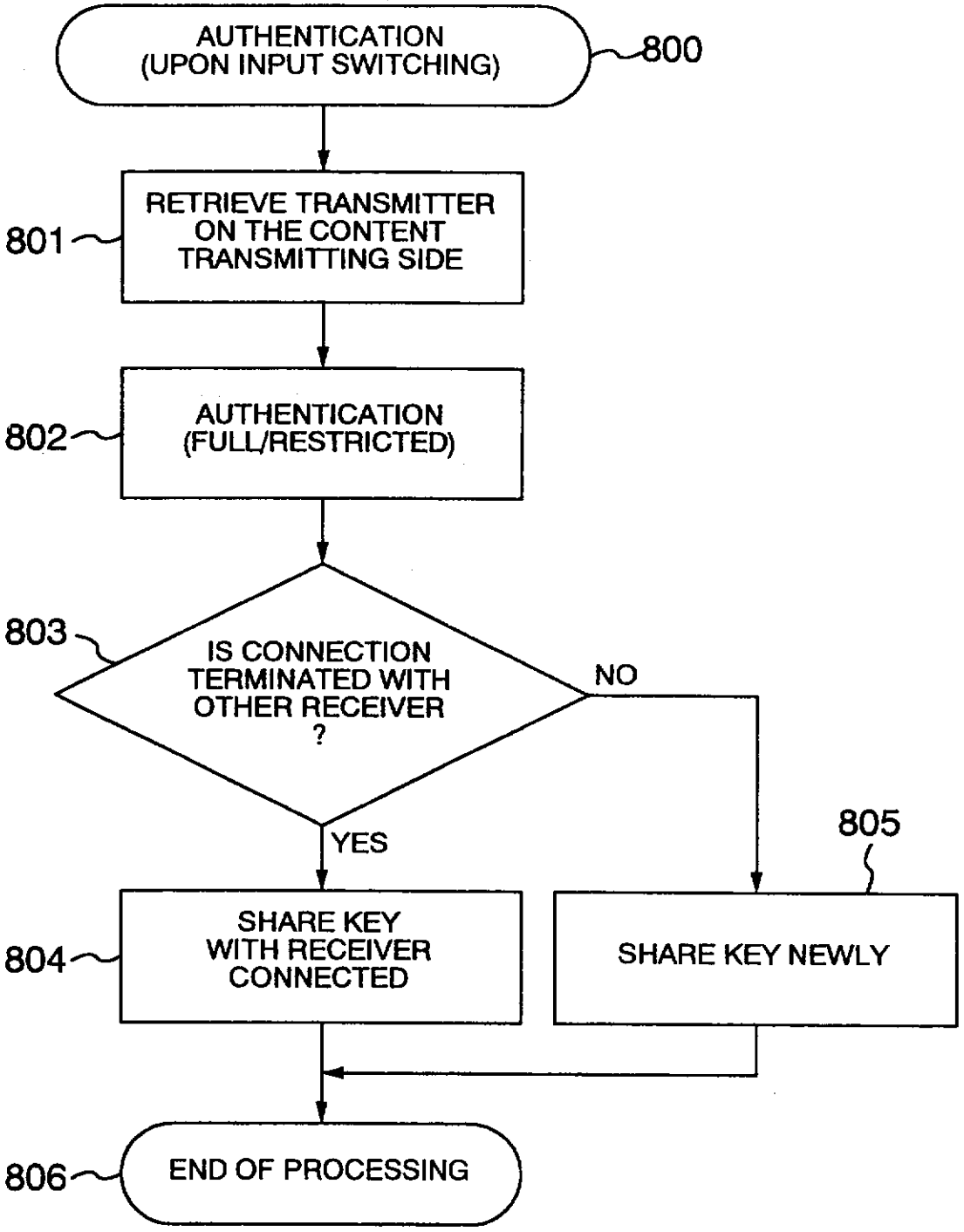

AUTHENTICATION FOR RECEIVER APPARATUSES
700
RETRIEVE AND SELECT A TRANSMITTER APPARATUS
701
ESTABLISH (FULL/RESTRICTED) AUTHENTICATION
702
IS THE TRANSMITTER APPARATUS ALREADY CONNECTED TO ANOTHER RECEIVER APPARATUS ?
703
NO
YES
705
SHARE KEY WITH THE CONNECTED RECEIVER APPARATUS
704
SHARE KEY NEWLY
IS AUTHENTICATION TERMINATED AMONG ALL TRANSMITTER APPARATUSES ?
706
NO
YES
END OF PROCESSING
707

FIG. 8


AUTHENTICATION
(UPON INPUT SWITCHING)
800
RETRIEVE TRANSMITTER ON THE CONTENT TRANSMITTING SIDE
801
AUTHENTICATION
(FULL/RESTRICTED)
802
IS CONNECTION TERMINATED WITH OTHER RECEIVER ?
803
NO
YES
805
SHARE KEY WITH RECEIVER CONNECTED
804
SHARE KEY NEWLY
END OF PROCESSING
806