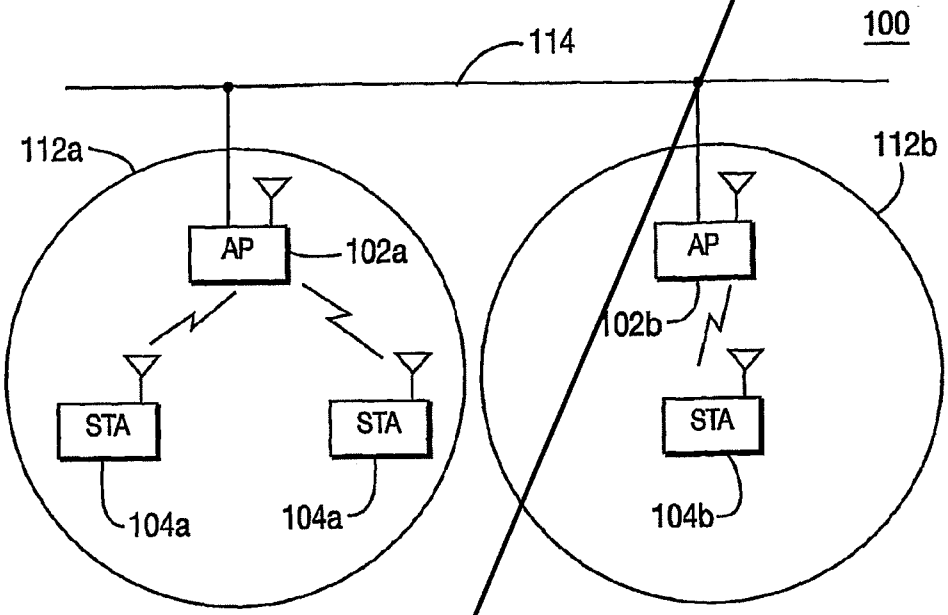


FIG. 1
PRIOR ART

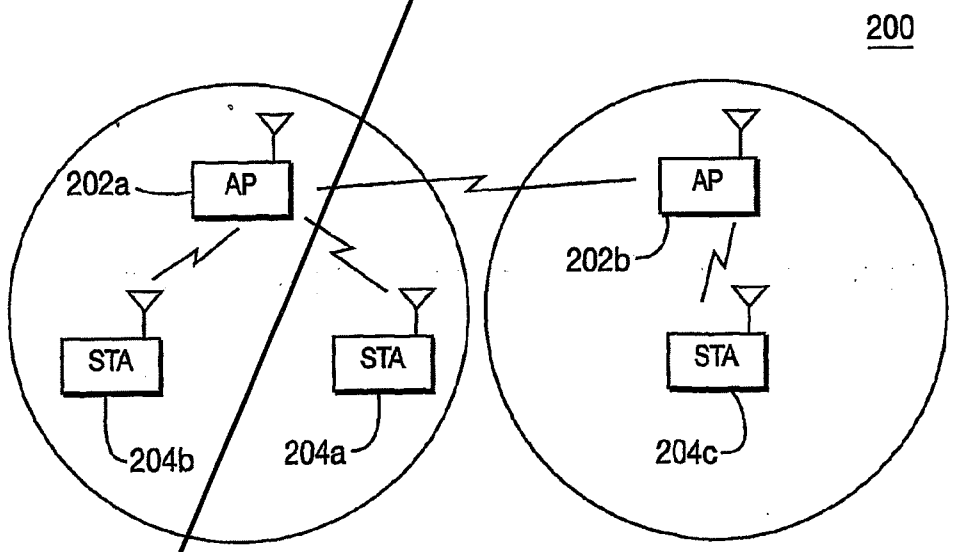


FIG. 2
PRIOR ART

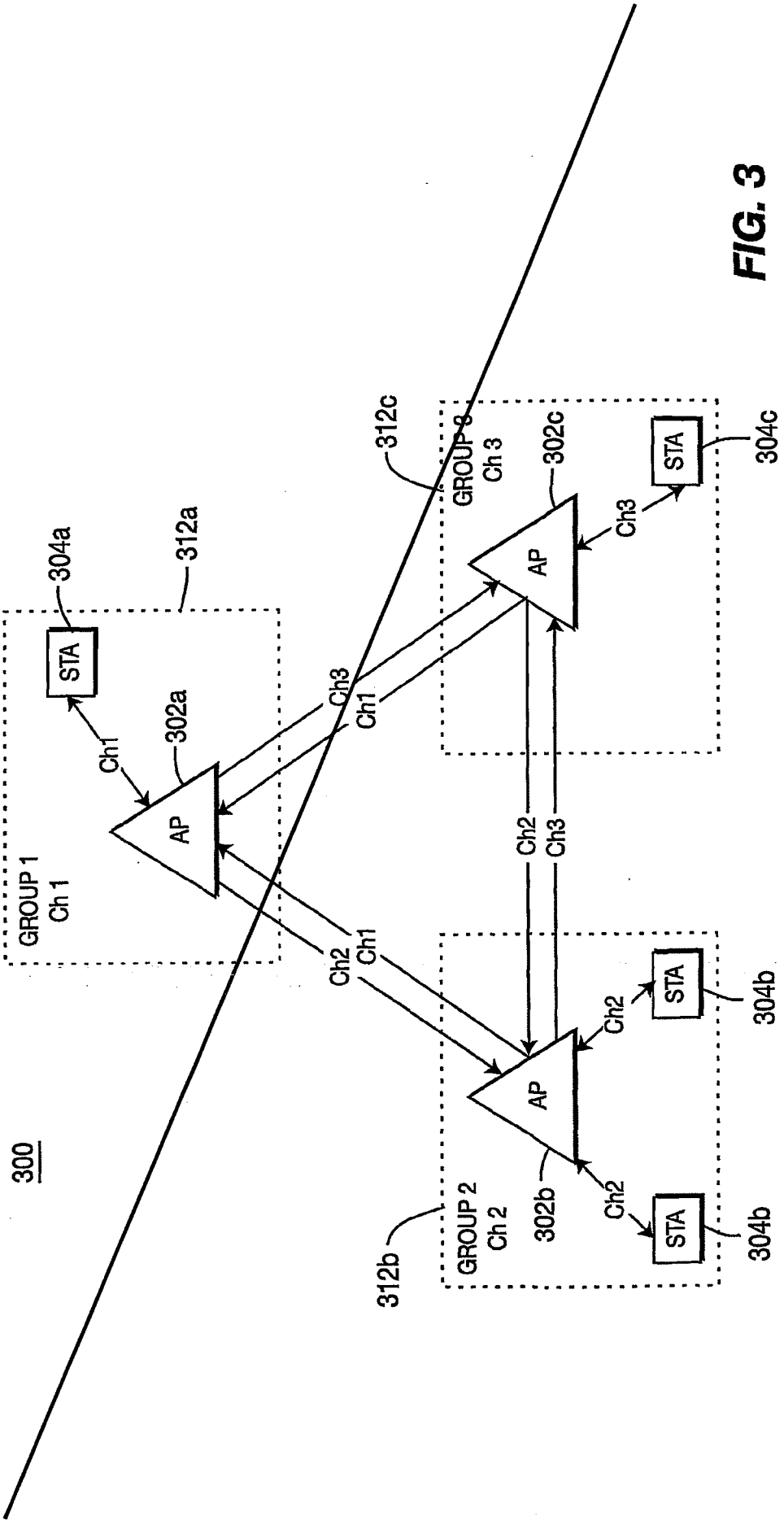

300
GROUP 1
Ch 1
312a
304a
STA
Ch1
302a
AP
Ch3
Ch1
Ch2
Ch1
312c
GROUP 3
Ch 3
302c
AP
Ch3
STA
304c
Ch2
Ch3
312b
GROUP 2
Ch 2
302b
AP
Ch2
STA
304b
Ch2
STA
304b

FIG. 3

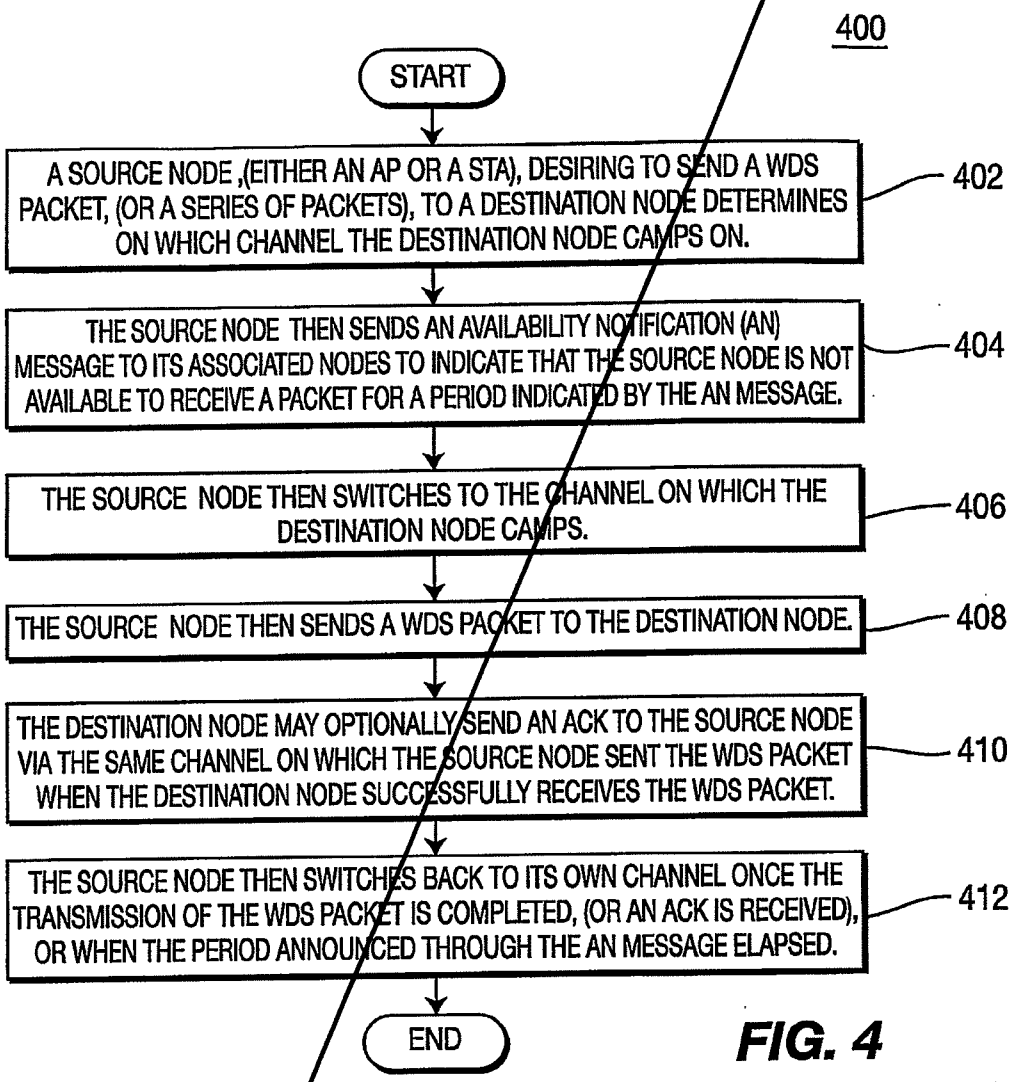

400
START
A SOURCE NODE ,(EITHER AN AP OR A STA), DESIRING TO SEND A WDS PACKET, (OR A SERIES OF PACKETS), TO A DESTINATION NODE DETERMINES ON WHICH CHANNEL THE DESTINATION NODE CAMPS ON.
402
THE SOURCE NODE THEN SENDS AN AVAILABILITY NOTIFICATION (AN) MESSAGE TO ITS ASSOCIATED NODES TO INDICATE THAT THE SOURCE NODE IS NOT AVAILABLE TO RECEIVE A PACKET FOR A PERIOD INDICATED BY THE AN MESSAGE.
404
THE SOURCE NODE THEN SWITCHES TO THE CHANNEL ON WHICH THE DESTINATION NODE CAMPS.
406
THE SOURCE NODE THEN SENDS A WDS PACKET TO THE DESTINATION NODE.
408
THE DESTINATION NODE MAY OPTIONALLY SEND AN ACK TO THE SOURCE NODE VIA THE SAME CHANNEL ON WHICH THE SOURCE NODE SENT THE WDS PACKET WHEN THE DESTINATION NODE SUCCESSFULLY RECEIVES THE WDS PACKET.
410
THE SOURCE NODE THEN SWITCHES BACK TO ITS OWN CHANNEL ONCE THE TRANSMISSION OF THE WDS PACKET IS COMPLETED, (OR AN ACK IS RECEIVED), OR WHEN THE PERIOD ANNOUNCED THROUGH THE AN MESSAGE ELAPSED.
412
END

FIG. 4

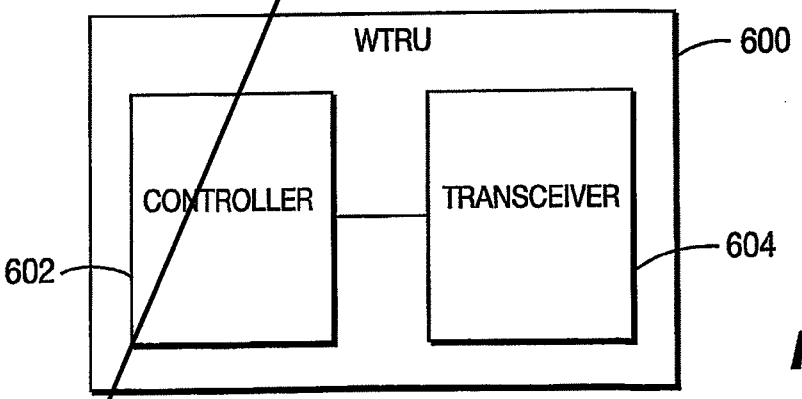

WTRU
600
CONTROLLER
TRANSCEIVER
602
604

FIG. 6

FIG. 5A

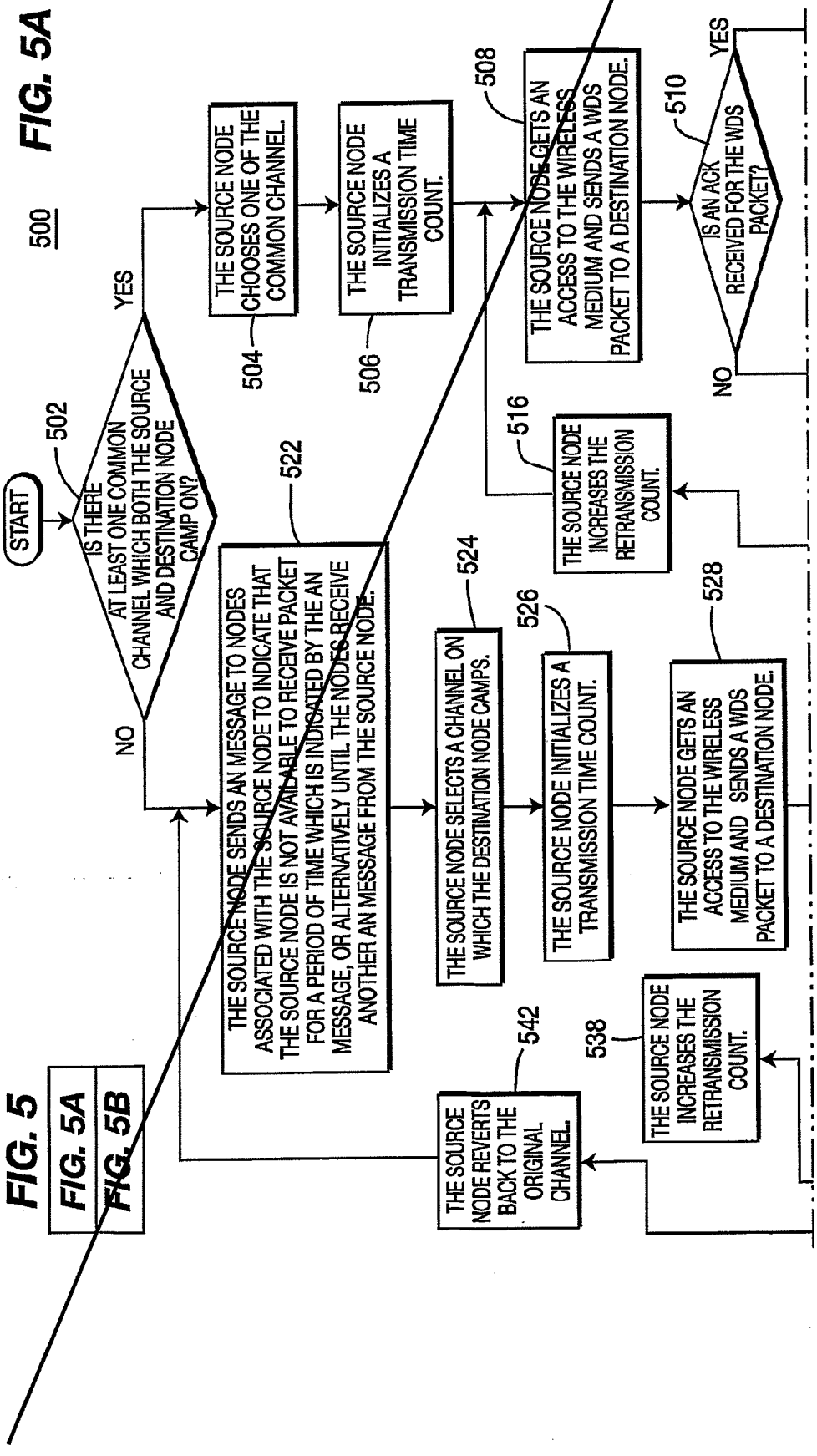

500
START
502
IS THERE AT LEAST ONE COMMON CHANNEL WHICH BOTH THE SOURCE AND DESTINATION NODE CAMP ON?
YES
NO
504
THE SOURCE NODE CHOOSES ONE OF THE COMMON CHANNEL.
506
THE SOURCE NODE INITIALIZES A TRANSMISSION TIME COUNT.
508
THE SOURCE NODE GETS AN ACCESS TO THE WIRELESS MEDIUM AND SENDS A WDS PACKET TO A DESTINATION NODE.
510
IS AN ACK RECEIVED FOR THE WDS PACKET?
YES
NO
516
THE SOURCE NODE INCREASES THE RETRANSMISSION COUNT.
522
THE SOURCE NODE SENDS AN MESSAGE TO NODES ASSOCIATED WITH THE SOURCE NODE TO INDICATE THAT THE SOURCE NODE IS NOT AVAILABLE TO RECEIVE PACKET FOR A PERIOD OF TIME WHICH IS INDICATED BY THE AN MESSAGE, OR ALTERNATIVELY UNTIL THE NODES RECEIVE ANOTHER AN MESSAGE FROM THE SOURCE NODE.
524
THE SOURCE NODE SELECTS A CHANNEL ON WHICH THE DESTINATION NODE CAMPS.
526
THE SOURCE NODE INITIALIZES A TRANSMISSION TIME COUNT.
528
THE SOURCE NODE GETS AN ACCESS TO THE WIRELESS MEDIUM AND SENDS A WDS PACKET TO A DESTINATION NODE.
538
THE SOURCE NODE INCREASES THE RETRANSMISSION COUNT.
542
THE SOURCE NODE REVERTS BACK TO THE ORIGINAL CHANNEL.

FIG. 5

FIG. 5A
FIG. 5B

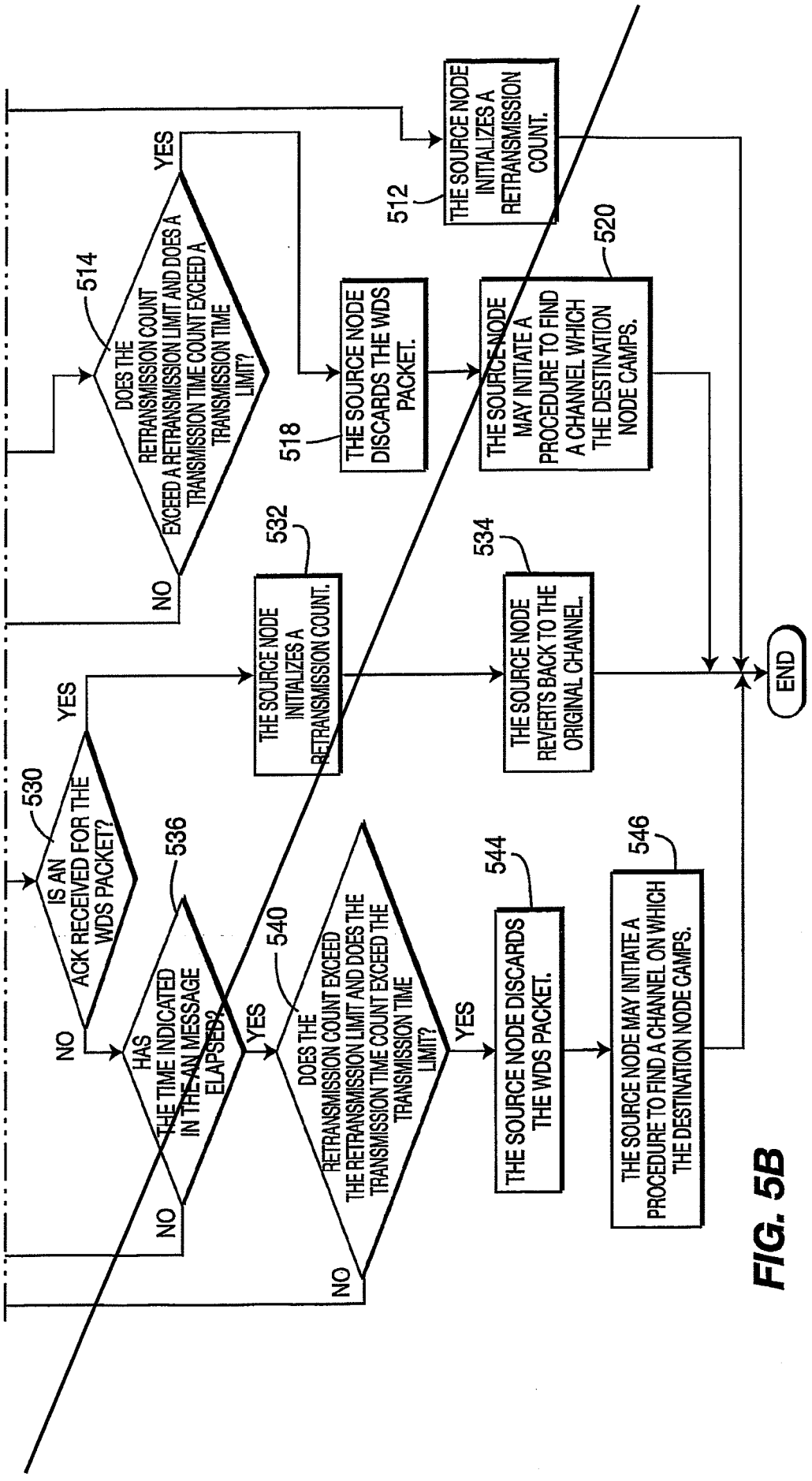

512
THE SOURCE NODE INITIALIZES A RETRANSMISSION COUNT.
514
DOES THE RETRANSMISSION COUNT EXCEED A RETRANSMISSION LIMIT AND DOES A TRANSMISSION TIME COUNT EXCEED A TRANSMISSION TIME LIMIT?
YES
NO
518
THE SOURCE NODE DISCARDS THE WDS PACKET.
520
THE SOURCE NODE MAY INITIATE A PROCEDURE TO FIND A CHANNEL WHICH THE DESTINATION NODE CAMPS.
530
IS AN ACK RECEIVED FOR THE WDS PACKET?
YES
NO
532
THE SOURCE NODE INITIALIZES A RETRANSMISSION COUNT.
534
THE SOURCE NODE REVERTS BACK TO THE ORIGINAL CHANNEL.
536
HAS THE TIME INDICATED IN THE AN MESSAGE ELAPSED?
YES
NO
540
DOES THE RETRANSMISSION COUNT EXCEED THE RETRANSMISSION LIMIT AND DOES THE TRANSMISSION TIME COUNT EXCEED THE TRANSMISSION TIME LIMIT?
YES
NO
544
THE SOURCE NODE DISCARDS THE WDS PACKET.
546
THE SOURCE NODE MAY INITIATE A PROCEDURE TO FIND A CHANNEL ON WHICH THE DESTINATION NODE CAMPS.
END

FIG. 5B

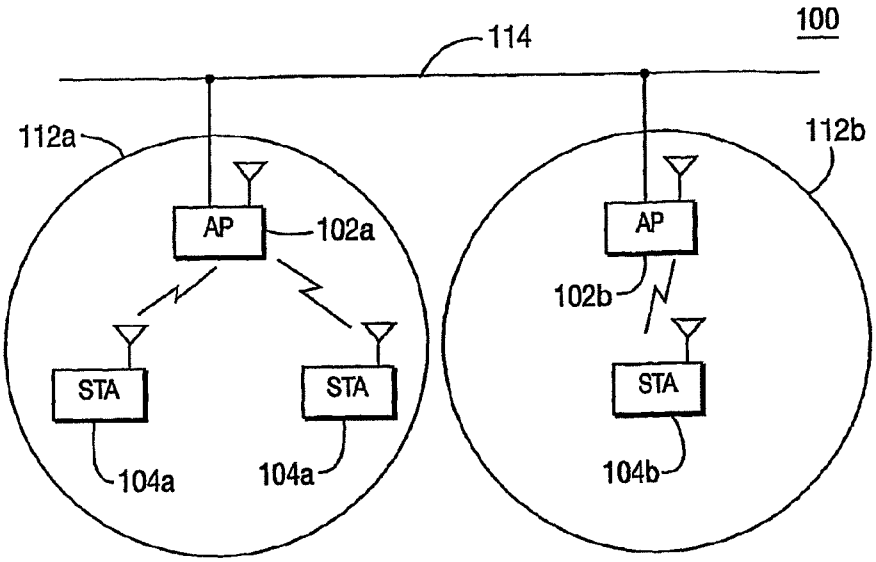


FIG. 1
PRIOR ART

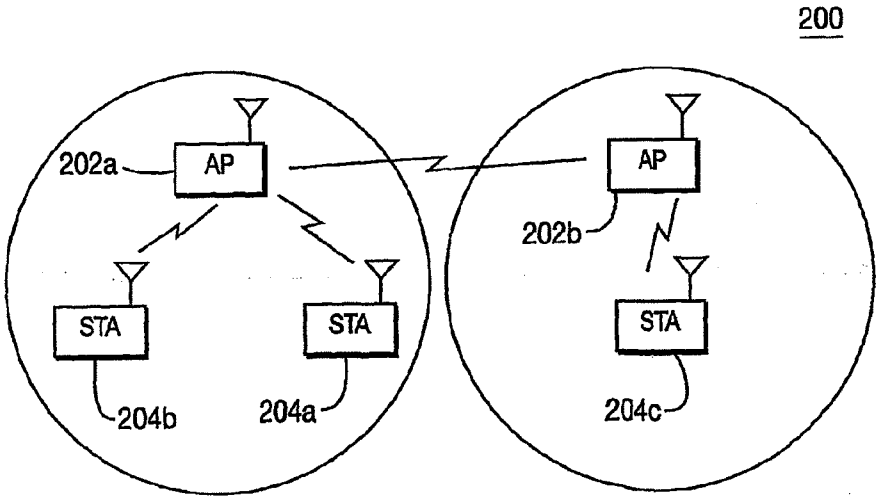


FIG. 2
PRIOR ART

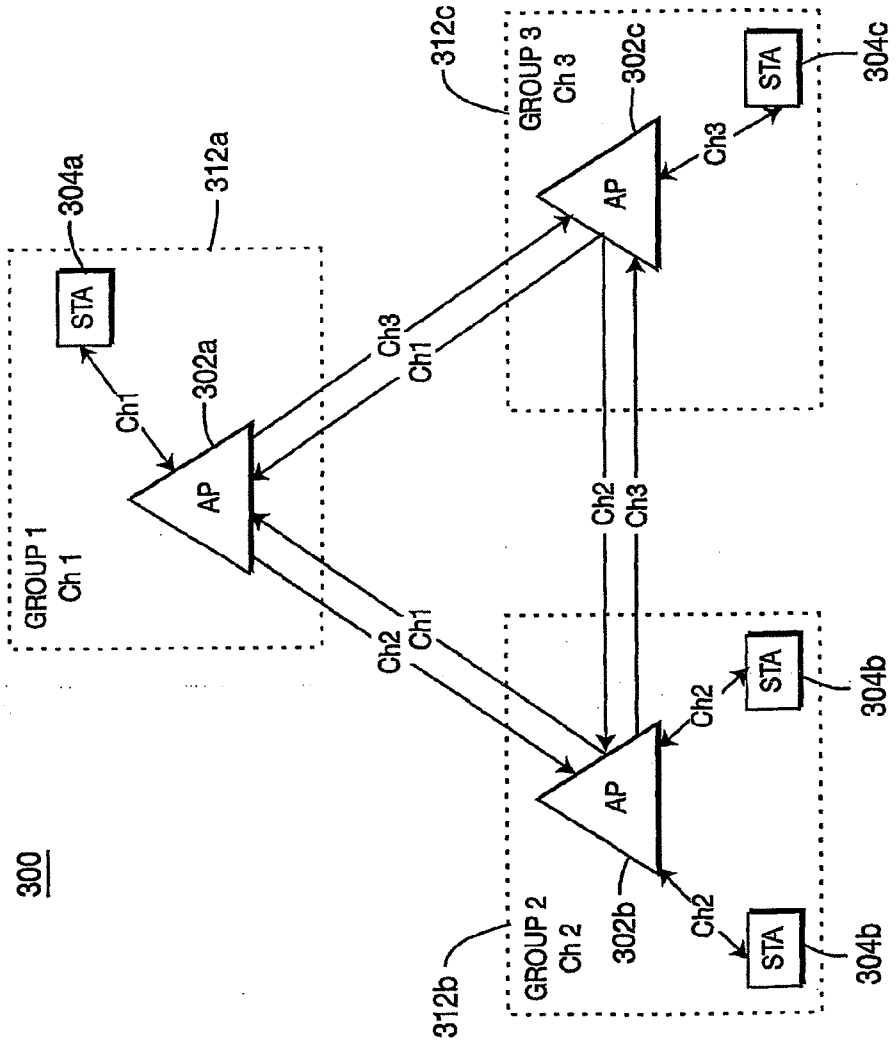

300
GROUP 1
Ch 1
312a
304a
STA
Ch1
302a
AP
Ch3
Ch1
Ch2
Ch1
312c
GROUP 3
Ch 3
302c
AP
Ch3
STA
304c
Ch2
Ch3
312b
GROUP 2
Ch 2
302b
AP
Ch2
STA
304b
Ch2
STA
304b

FIG. 3

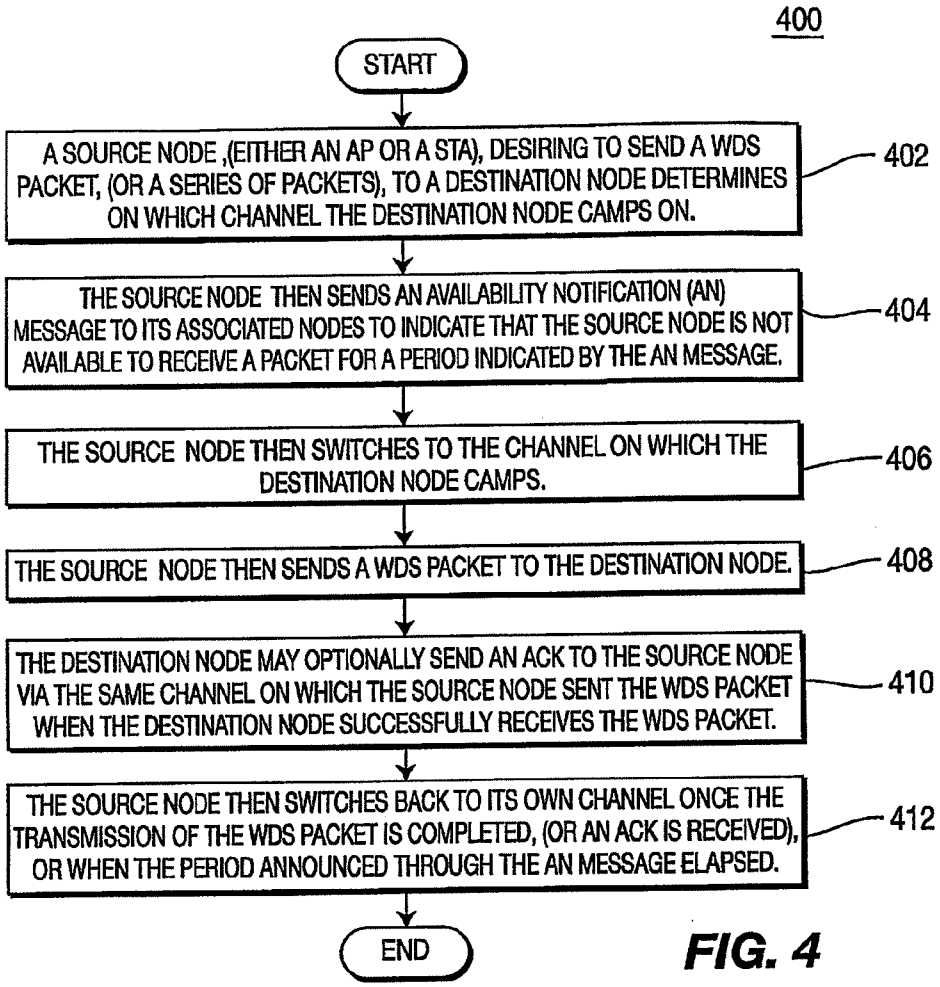

400
START
A SOURCE NODE ,(EITHER AN AP OR A STA), DESIRING TO SEND A WDS PACKET, (OR A SERIES OF PACKETS), TO A DESTINATION NODE DETERMINES ON WHICH CHANNEL THE DESTINATION NODE CAMPS ON.
402
THE SOURCE NODE THEN SENDS AN AVAILABILITY NOTIFICATION (AN) MESSAGE TO ITS ASSOCIATED NODES TO INDICATE THAT THE SOURCE NODE IS NOT AVAILABLE TO RECEIVE A PACKET FOR A PERIOD INDICATED BY THE AN MESSAGE.
404
THE SOURCE NODE THEN SWITCHES TO THE CHANNEL ON WHICH THE DESTINATION NODE CAMPS.
406
THE SOURCE NODE THEN SENDS A WDS PACKET TO THE DESTINATION NODE.
408
THE DESTINATION NODE MAY OPTIONALLY SEND AN ACK TO THE SOURCE NODE VIA THE SAME CHANNEL ON WHICH THE SOURCE NODE SENT THE WDS PACKET WHEN THE DESTINATION NODE SUCCESSFULLY RECEIVES THE WDS PACKET.
410
THE SOURCE NODE THEN SWITCHES BACK TO ITS OWN CHANNEL ONCE THE TRANSMISSION OF THE WDS PACKET IS COMPLETED, (OR AN ACK IS RECEIVED), OR WHEN THE PERIOD ANNOUNCED THROUGH THE AN MESSAGE ELAPSED.
412
END

FIG. 4

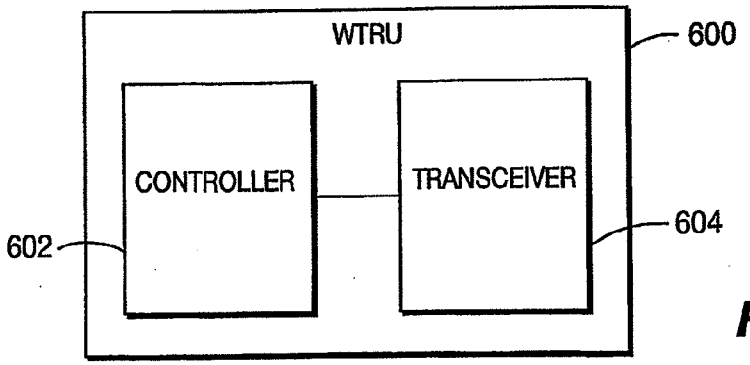

WTRU
600
CONTROLLER
TRANSCEIVER
602
604

FIG. 6

FIG. 5

FIG. 5A

FIG. 5B

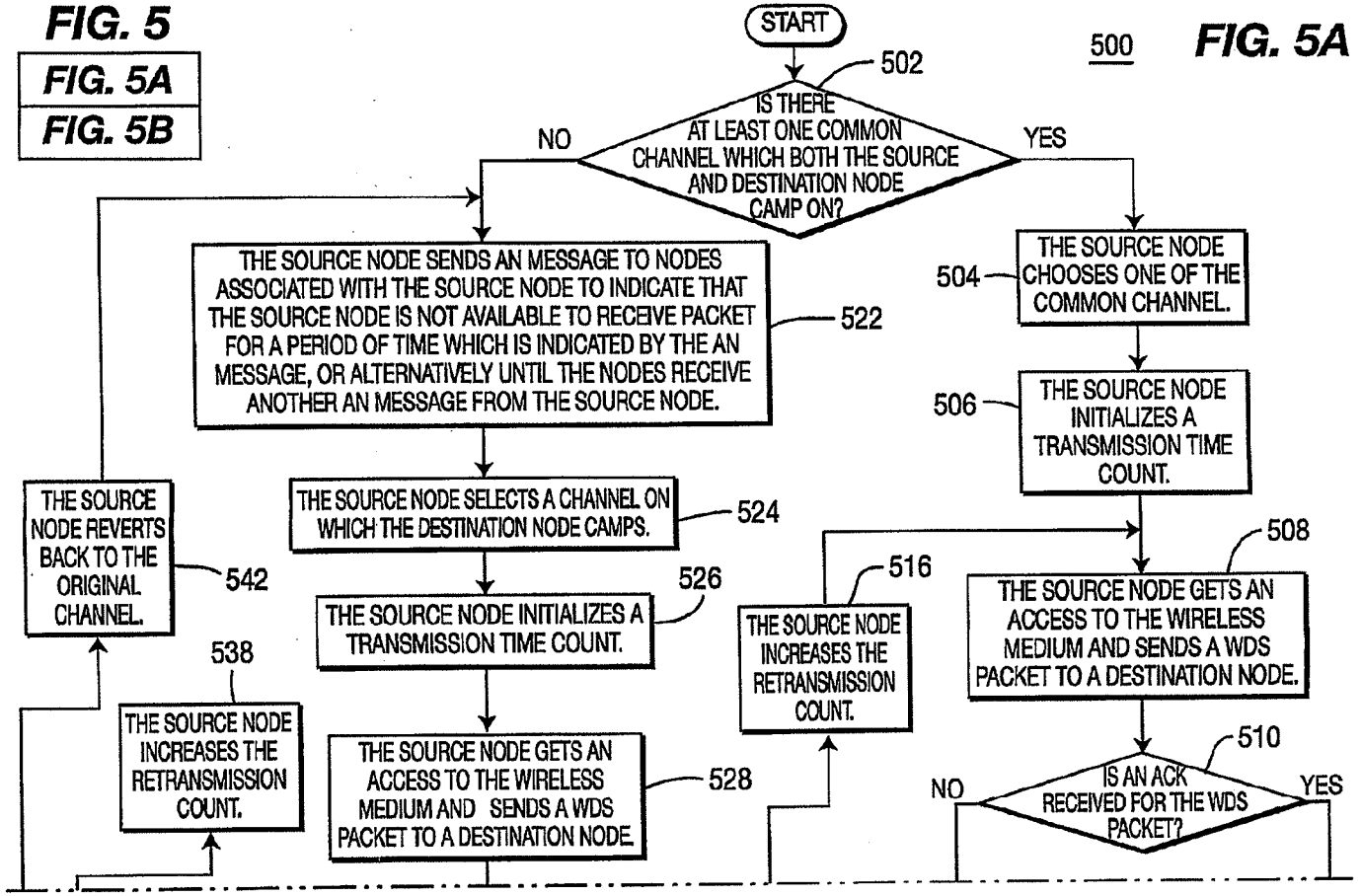


FIG. 5A

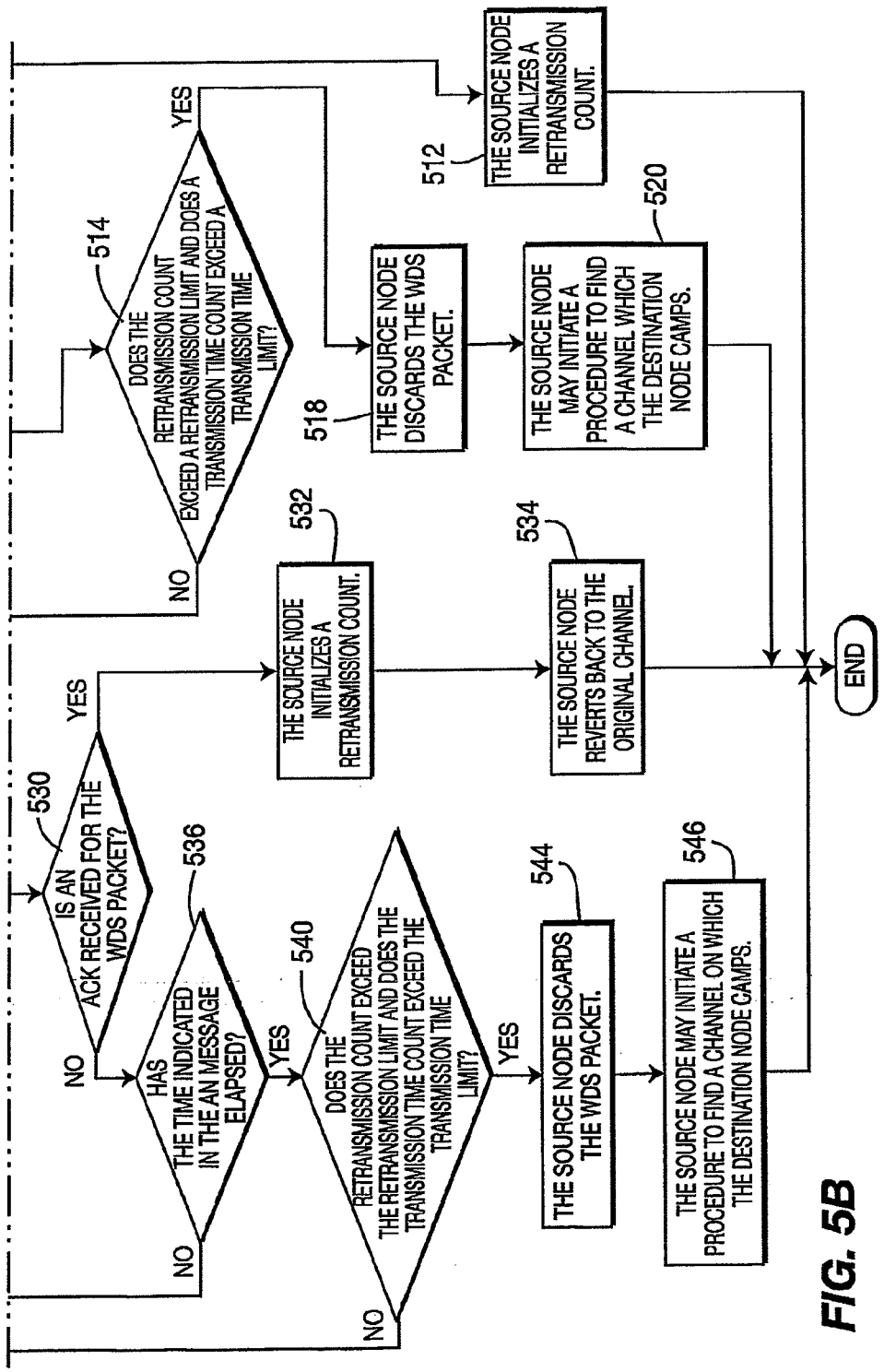

512
THE SOURCE NODE INITIALIZES A RETRANSMISSION COUNT.
514
DOES THE RETRANSMISSION COUNT EXCEED A RETRANSMISSION LIMIT AND DOES A TRANSMISSION TIME COUNT EXCEED A TRANSMISSION TIME LIMIT?
YES
NO
518
THE SOURCE NODE DISCARDS THE WDS PACKET.
520
THE SOURCE NODE MAY INITIATE A PROCEDURE TO FIND A CHANNEL WHICH THE DESTINATION NODE CAMPS.
530
IS AN ACK RECEIVED FOR THE WDS PACKET?
YES
NO
532
THE SOURCE NODE INITIALIZES A RETRANSMISSION COUNT.
534
THE SOURCE NODE REVERTS BACK TO THE ORIGINAL CHANNEL.
536
HAS THE TIME INDICATED IN THE AN MESSAGE ELAPSED?
YES
NO
540
DOES THE RETRANSMISSION COUNT EXCEED THE RETRANSMISSION LIMIT AND DOES THE TRANSMISSION TIME COUNT EXCEED THE TRANSMISSION TIME LIMIT?
YES
NO
544
THE SOURCE NODE DISCARDS THE WDS PACKET.
546
THE SOURCE NODE MAY INITIATE A PROCEDURE TO FIND A CHANNEL ON WHICH THE DESTINATION NODE CAMPS.
END

FIG. 5B