

```
/* Datadefinition (1) */
SYNONYM number_of_ICs Integer=EXTERNAL;
SYNONYM number_of_SCs Integer=EXTERNAL;
SYNONYM number_of_encoders Integer=EXTERNAL;

SYNTYPE ic_range=Natural
  CONSTANTS 1:number_of_ICs
ENDSYNTYPE ic_range;

SYNTYPE sc_range=Natural
  CONSTANTS 1:number_of_SCs
ENDSYNTYPE sc_range;

SYNTYPE encoder_range=Natural
  CONSTANTS 1:number_of_encoders
ENDSYNTYPE encoder_range;

SYNTYPE bitbank_array_range=Natural
  CONSTANTS 1:12
ENDSYNTYPE bitbank_array_range;

SYNTYPE zero_one=Natural
  CONSTANTS 0:1
ENDSYNTYPE zero_one;

SYNTYPE bit_mode=Natural
  CONSTANTS 0,2:5,8
ENDSYNTYPE bit_mode;
```

```
/* Datadefinition (2) */  
SYNTYPE faxbank_array_range = Natural  
  CONSTANTS 1 : 61  
ENDSYNTYPE faxbank_array_range;  
  
SYNTYPE CCFPID_type = Natural  
  CONSTANTS 1 : 2  
ENDSYNTYPE CCFPID_type;  
  
SYNTYPE RAGPID_type = Natural  
  CONSTANTS 1 : 2  
ENDSYNTYPE RAGPID_type;  
  
SYNTYPE rag_queue_type = Natural  
  CONSTANTS 1 : 7  
ENDSYNTYPE rag_queue_type;  
  
newtype Bit_mode_matrix  
  literals  
    1,  
    0;  
endnewtype Bit_mode_matrix;
```

```
/* Datadefinition (3) */
newtype call_type
  literals
    'disc',
    'voiceavail',
    'voice',
    'dataavail',
    'data',
    'transp',
    'bank',
    'faxbank',
    'preassigned';
  operators
    ORDERING;
endnewtype call_type;

NEWTYPE ic_to_sc_connections
  Array(ic_range, integer)
ENDNEWTYPE ic_to_sc_connections;

NEWTYPE sc_to_ic_connections
  Array(sc_range, integer)
ENDNEWTYPE sc_to_ic_connections;

NEWTYPE sc_usage_array
  Array(sc_range, call_type)
ENDNEWTYPE sc_usage_array;
```

```
/* Datadefinition (4) */  
NEWTTYPE ic_to_coder_connections  
  Array(ic_range, integer)  
ENDNEWTTYPE ic_to_coder_connections;  
  
NEWTTYPE preassigned_list  
  Array(ic_range, integer)  
ENDNEWTTYPE preassigned_list;  
  
NEWTTYPE encoder_list  
  Array(encoder_range, integer)  
ENDNEWTTYPE encoder_list;  
  
NEWTTYPE preassigned_sc_list  
  Array(sc_range, integer)  
ENDNEWTTYPE preassigned_sc_list;  
  
NEWTTYPE assigned_mode  
  Array(sc_range, bit_mode)  
ENDNEWTTYPE assigned_mode;  
  
NEWTTYPE sc_access_list  
  Array(sc_range, integer)  
ENDNEWTTYPE sc_access_list;  
  
NEWTTYPE ic_access_list  
  Array(ic_range, integer)  
ENDNEWTTYPE ic_access_list;
```

```
/* Datadefinition (5) */  
NEWTYPE select_encoder_list  
    Array(encoder_range, integer)  
ENDNEWTYPE select_encoder_list;  
  
NEWTYPE bitbank_list  
    Array(bitbank_array_range, integer)  
ENDNEWTYPE bitbank_list;  
  
NEWTYPE request_in_queue_list  
    Array(ic_range, zero_one)  
ENDNEWTYPE request_in_queue_list;  
  
NEWTYPE sc_to_coder_connections  
    Array(sc_range, integer)  
ENDNEWTYPE sc_to_coder_connections;  
  
NEWTYPE faxbank_list  
    Array(faxbank_array_range, integer)  
ENDNEWTYPE faxbank_list;  
  
NEWTYPE ENCPID_array  
    Array (encoder_range, Pld)  
ENDNEWTYPE ENCPID_array;  
  
NEWTYPE RAGPID_array  
    Array (RAGPID_type, Pld)  
ENDNEWTYPE RAGPID_array;
```

```
/* Datadefinition (6) */  
NEWTYPE queue /* = EXTERNAL */  
ENDNEWTYPE queue;
```

```
NEWTYPE rag_queue_array  
  Array(rag_queue_type, queue)  
ENDNEWTYPE rag_queue_array;
```

```
NEWTYPE CCFPID_array  
  Array(CCFPID_type, Pld)  
ENDNEWTYPE CCFPID_array;
```

```
NEWTYPE FCH_enabled_list  
  Array(ic_range, boolean)  
ENDNEWTYPE FCH_enabled_list;
```

```
/* Signal definitions */  
SIGNAL  
  Act, Inact,  
  Data_detect, Voice_detect,  
  Signal_detect,  
  Rxdata,  
  Transpreq, Transprel,  
  Process_reset,  
  Voice(Integer), Voiceinact(Integer),  
  Data(Integer), Datainact(Integer),  
  Transp(Integer), Discreq(Integer),  
  Reset_act, Default_voice, Default_data,  
  Reset_signaldetect,  
  Setcod(Integer,Integer,Boolean),  
  Assign(Integer,Integer,Call_Type,Integer),  
  Addressmap_for_SCs(Bit_mode_matrix),  
  Trigger, Sync_trigger,  
  Rx_data(integer),  
  Fax, Non_fax,  
  Faxbankreq, Faxbank_rel,  
  Switch_to_ADPCM,  
  Change(Integer),  
  Sync_alarm(Integer),  
  Go_ahead(Pld,Pld,preassigned_list,preassigned_list,  
  ic_access_list,ic_access_list, FCH_enabled_list,  
  FCH_enabled_list, Pld, Pld);
```

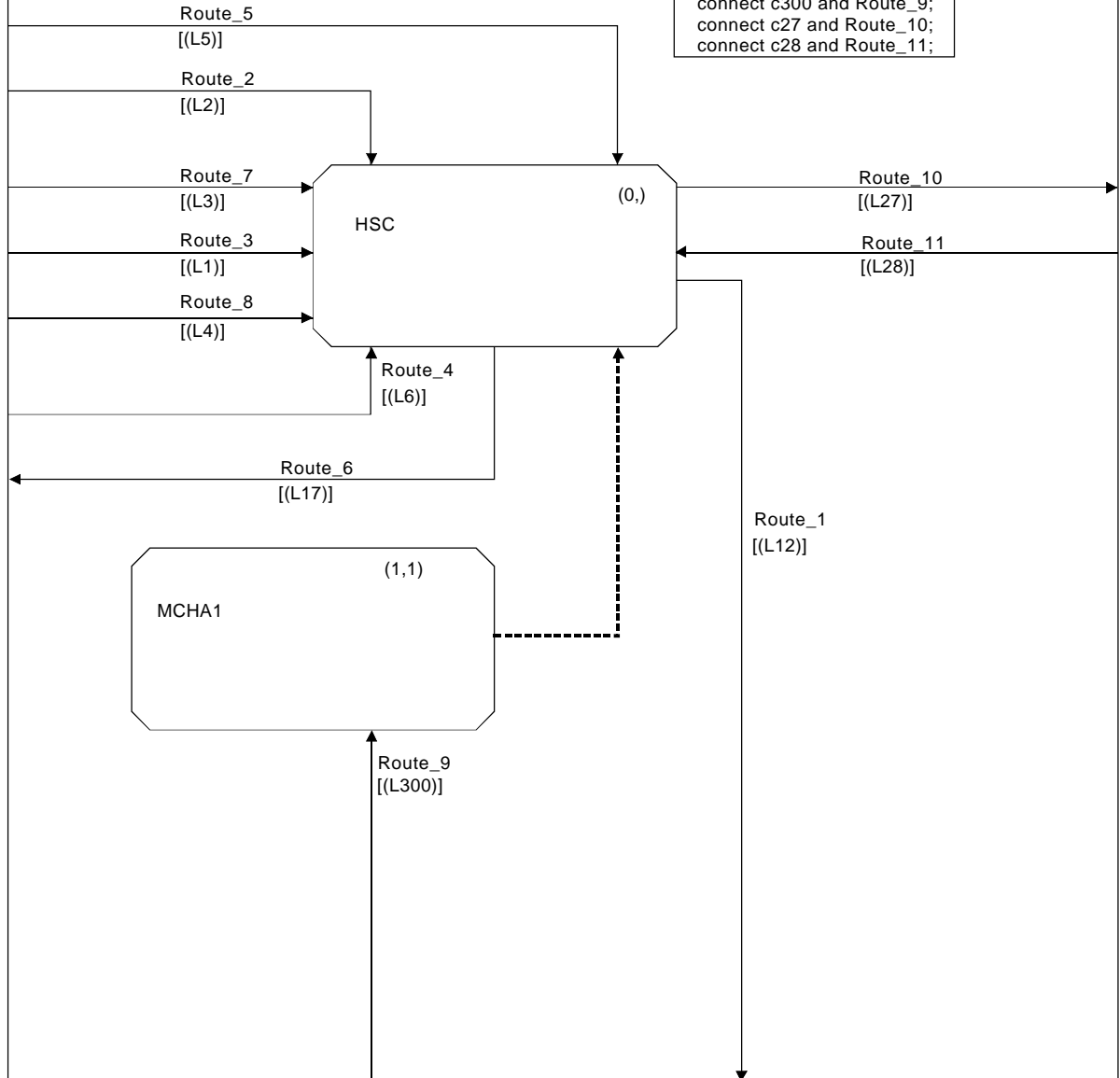


```
/* Signallist definitions */
SIGNALLIST L1 = Act, Inact;
SIGNALLIST L2 = Data_detect, Voice_detect;
SIGNALLIST L3 = Signal_detect;
SIGNALLIST L4 = Rxdata;
SIGNALLIST L5 = Transpreq, Transprel;
SIGNALLIST L6 = Process_reset;
SIGNALLIST L7 = Setcod;
SIGNALLIST L8 = Assign;
SIGNALLIST L9 = Addressmap_for_SCs;
SIGNALLIST L12 = Voice, Voiceinact, Data, Datainact, Transp,
    Discreq;
SIGNALLIST L17 = Reset_act, Default_voice, Default_data,
    Reset_signaldetect;
SIGNALLIST L19 = Trigger, Sync_trigger;
SIGNALLIST L20 = Trigger;
SIGNALLIST L21 = Process_reset;
SIGNALLIST L22 = Process_reset;
SIGNALLIST L23 = Trigger;
SIGNALLIST L24 = Process_reset;
SIGNALLIST L25 = Trigger;
SIGNALLIST L26 = Process_reset;
SIGNALLIST L27 = Rx_data, Datainact, Transparent
    Voice, Data;
SIGNALLIST L28 = Fax, Non_fax, Switch_to_ADPCM;
SIGNALLIST L29 = Faxbank_req, Faxbank_rel;
SIGNALLIST L200 = Change;
SIGNALLIST L201 = Sync_alarm;
SIGNALLIST L300 = Go_ahead;
```

BLOCK IPS

/* The IPS block */

connect c12 and Route_1;
connect c2 and Route_2;
connect c1 and Route_3;
connect c6 and Route_4;
connect c5 and Route_5;
connect c17 and Route_6;
connect c3 and Route_7;
connect c4 and Route_8;
connect c300 and Route_9;
connect c27 and Route_10;
connect c28 and Route_11;



PROCESS HSC

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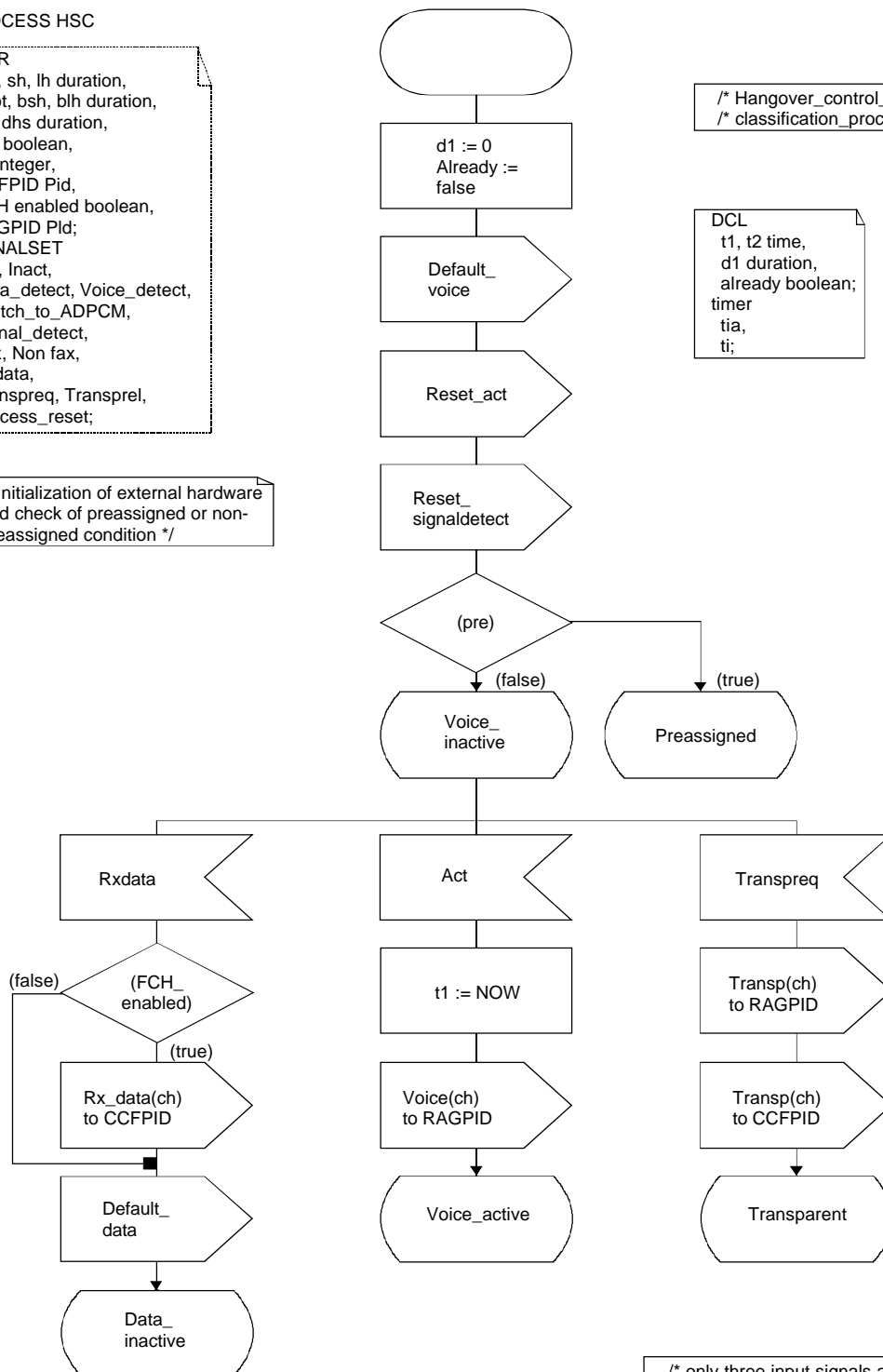
FPAR

hot, sh, lh duration,
bhot, bsh, blh duration,
dh, dhs duration,
pre boolean,
ch integer,
CCFPID Pid,
FCH enabled boolean,
RAGPID PId;
SIGNALSET
Act, Inact,
Data_detect, Voice_detect,
Switch_to_ADPCM,
Signal_detect,
Fax, Non fax,
Rxdata,
Transpreq, Transprel,
Process_reset;

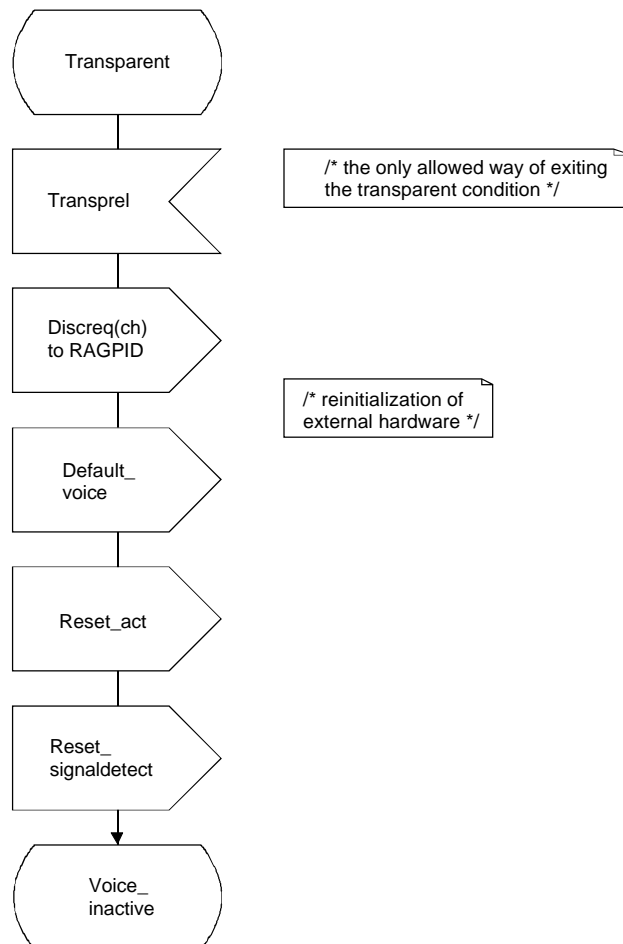
/* Initialization of external hardware
and check of preassigned or non-
preassigned condition */

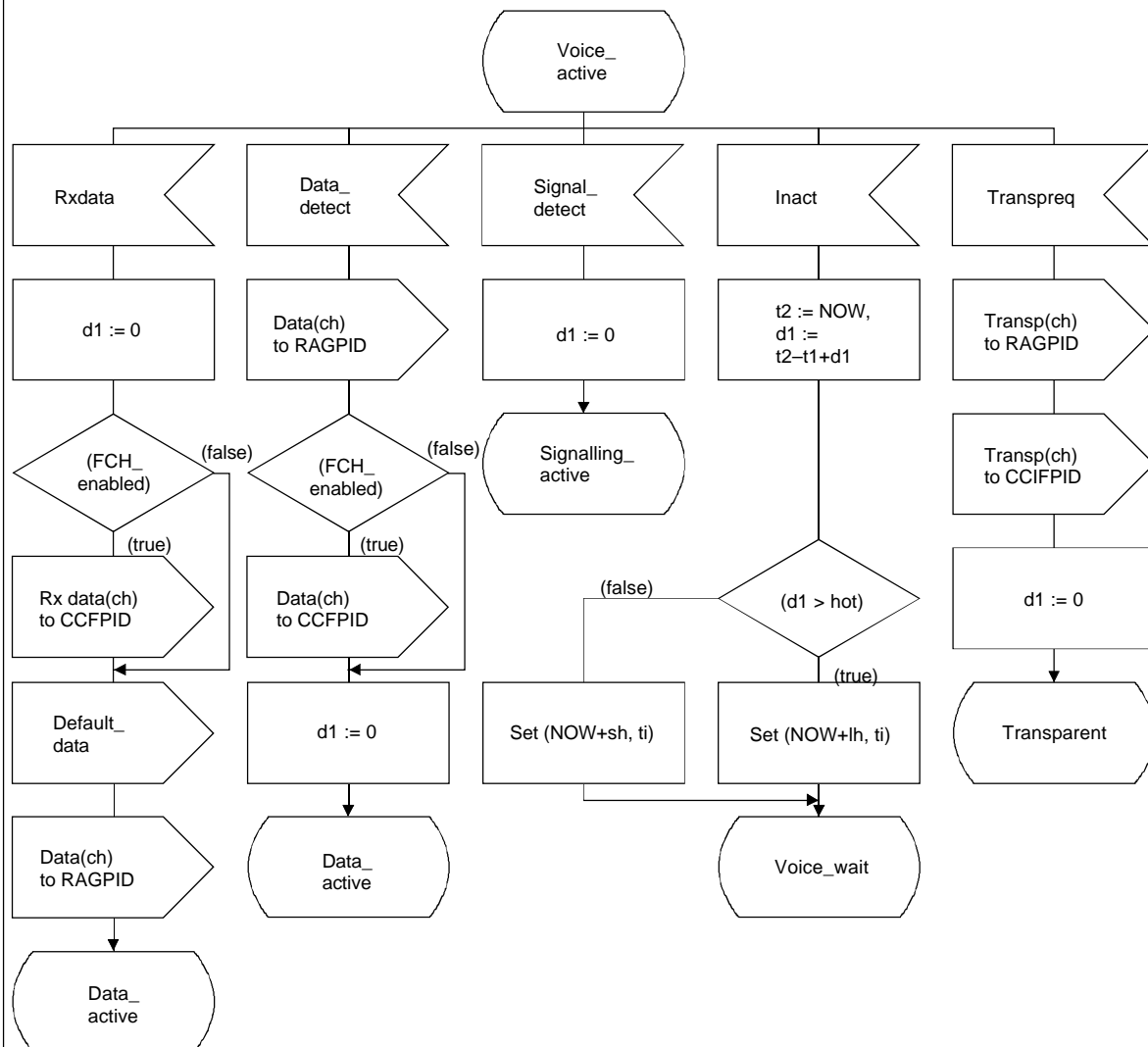
/* Hangover_control_and_signal */
/* classification_process (HSC) */

DCL
t1, t2 time,
d1 duration,
already boolean;
timer
tia,
ti;

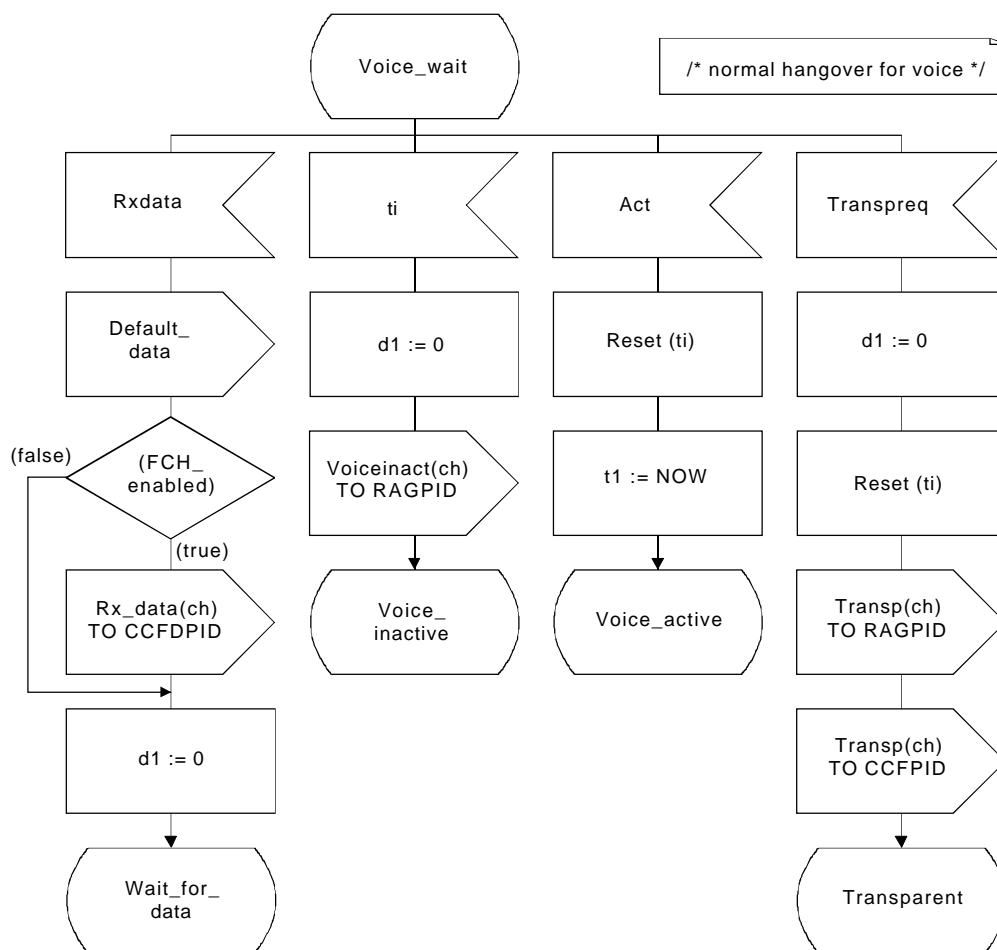


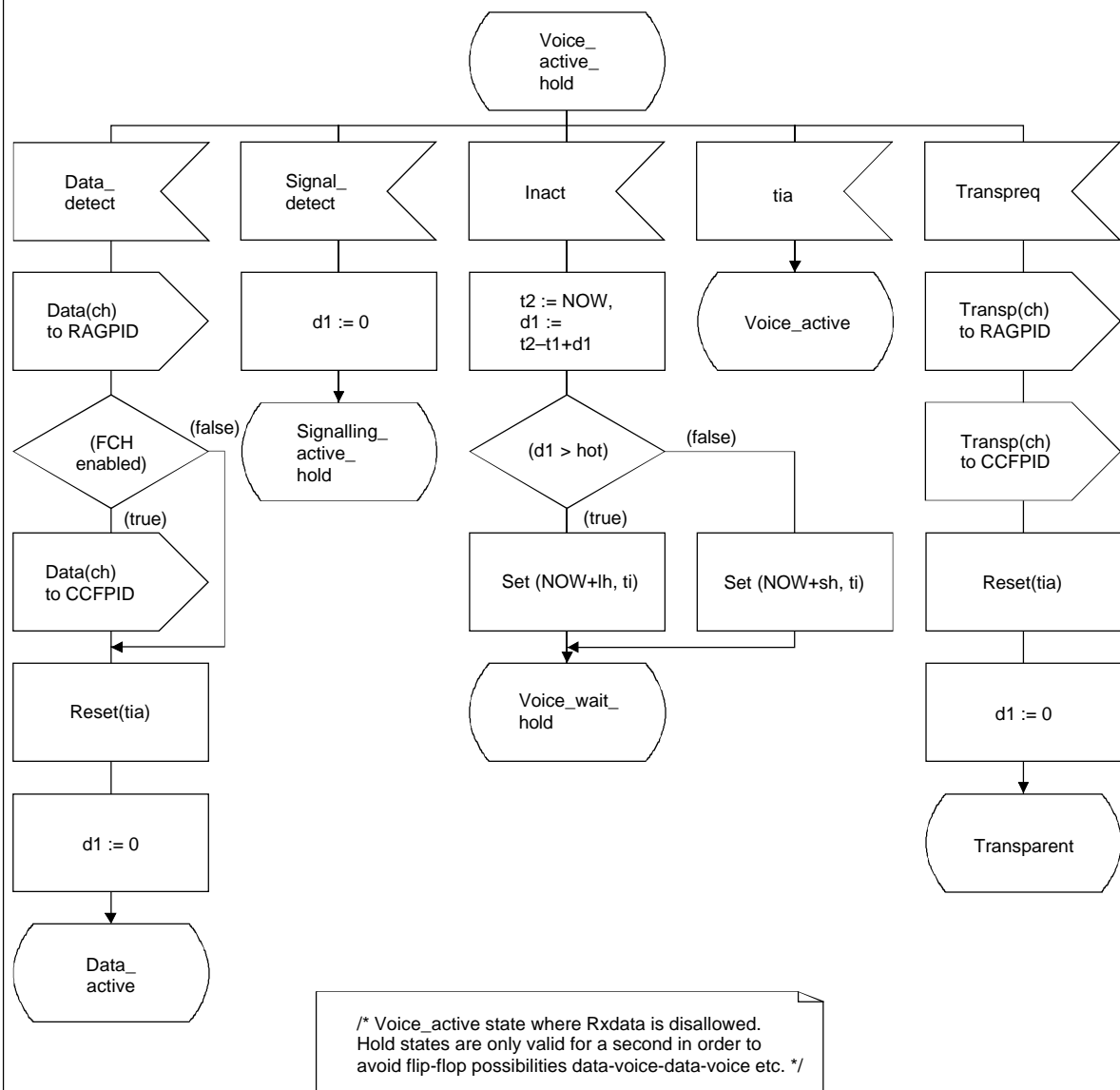
/* only three input signals allowed while
no activity detected */

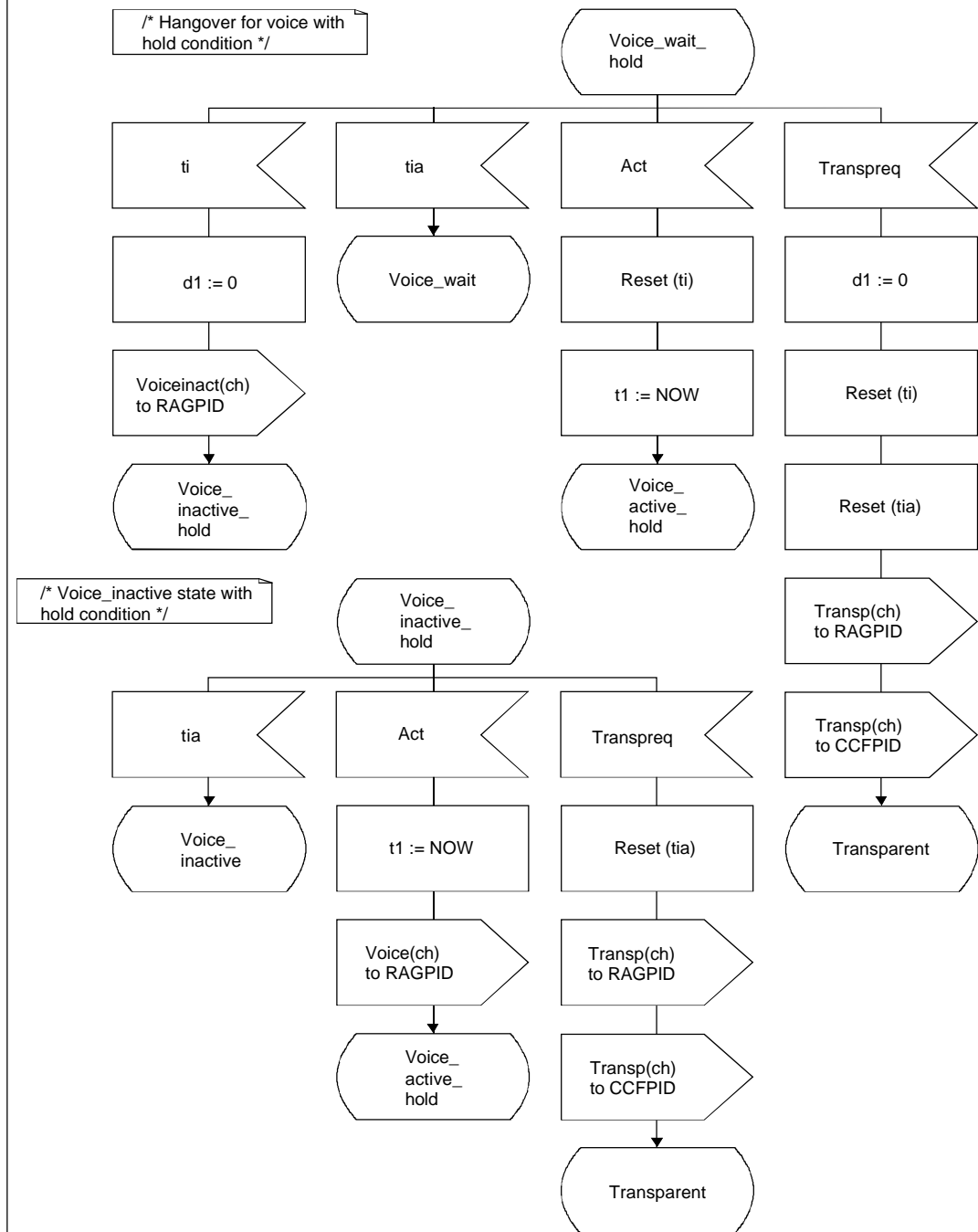


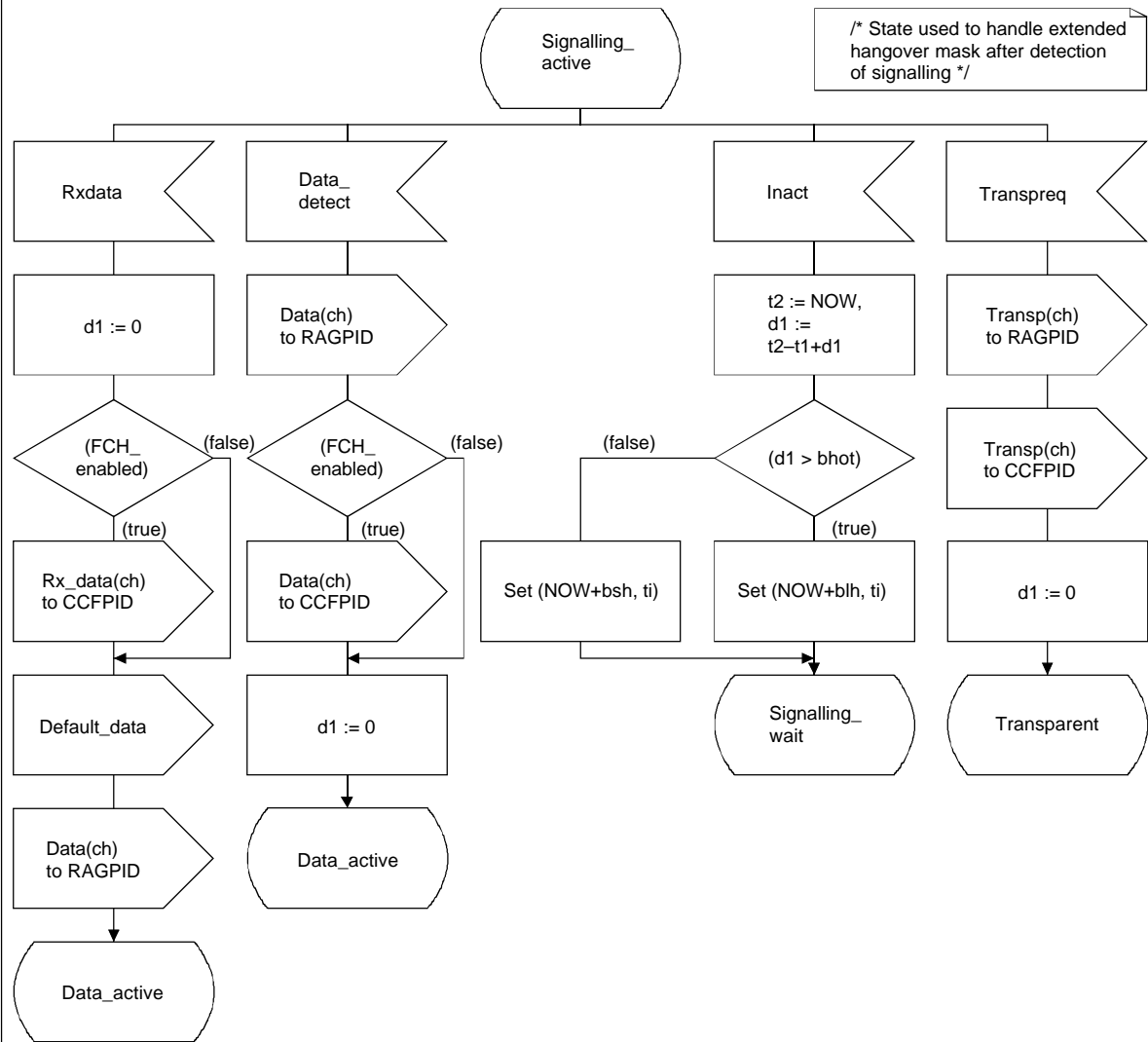


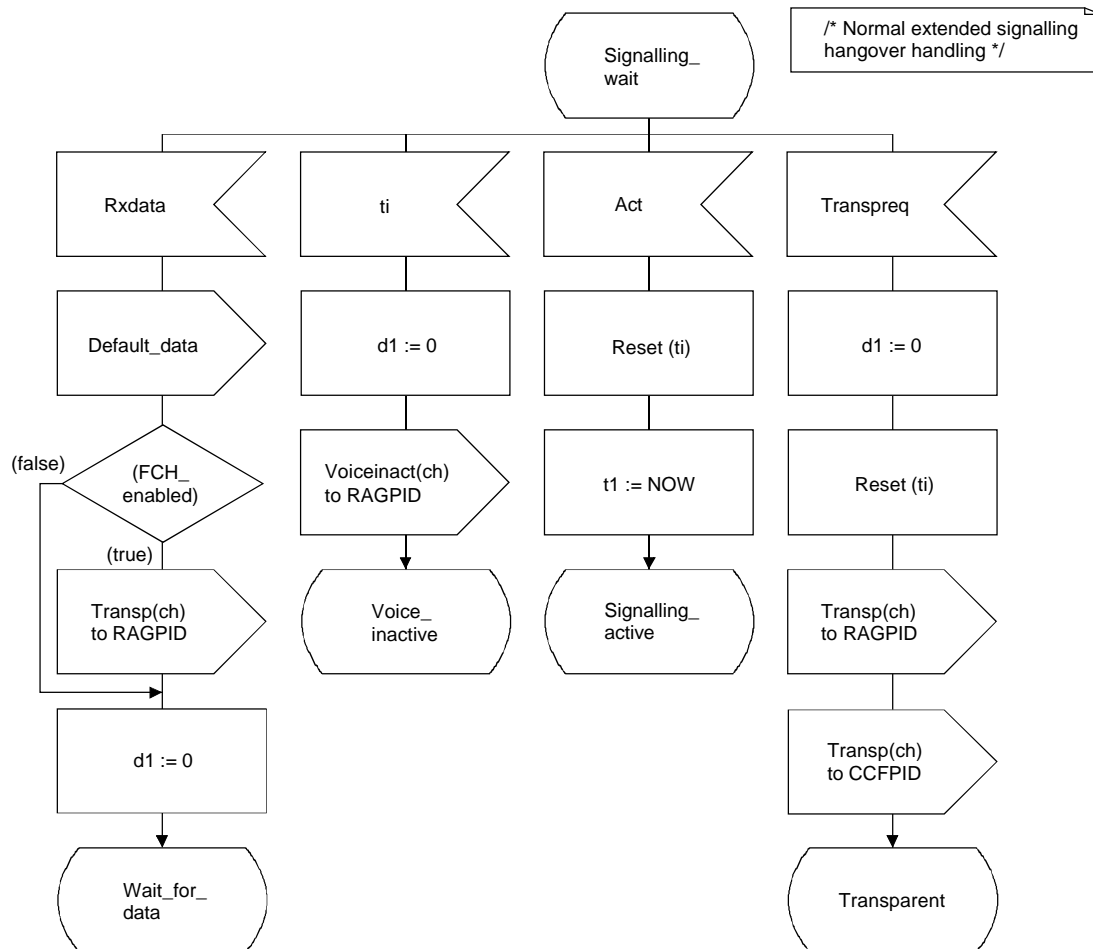
/* handling of allowed input signals while in Voice_active state as well as start of hangover handling */

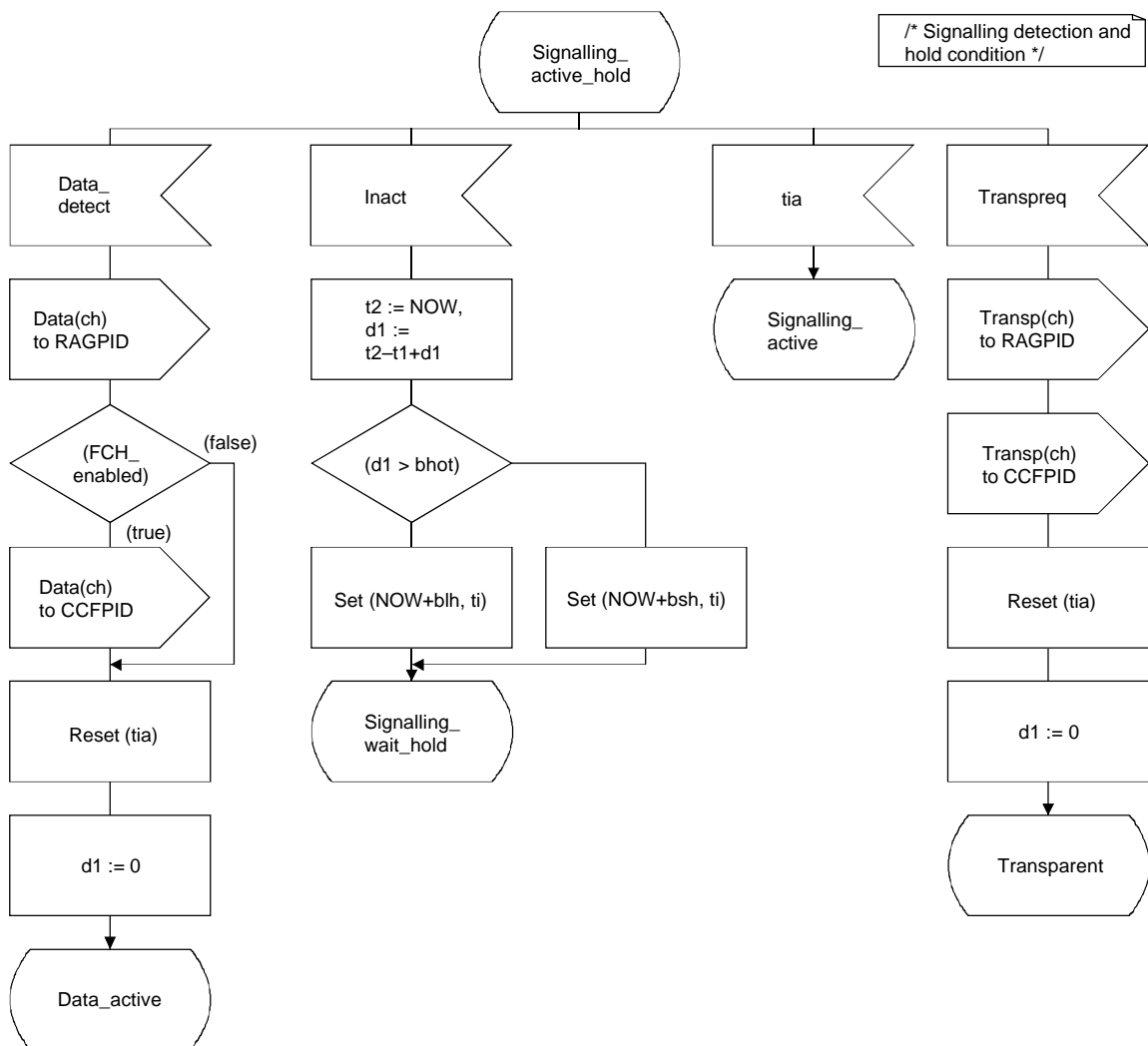


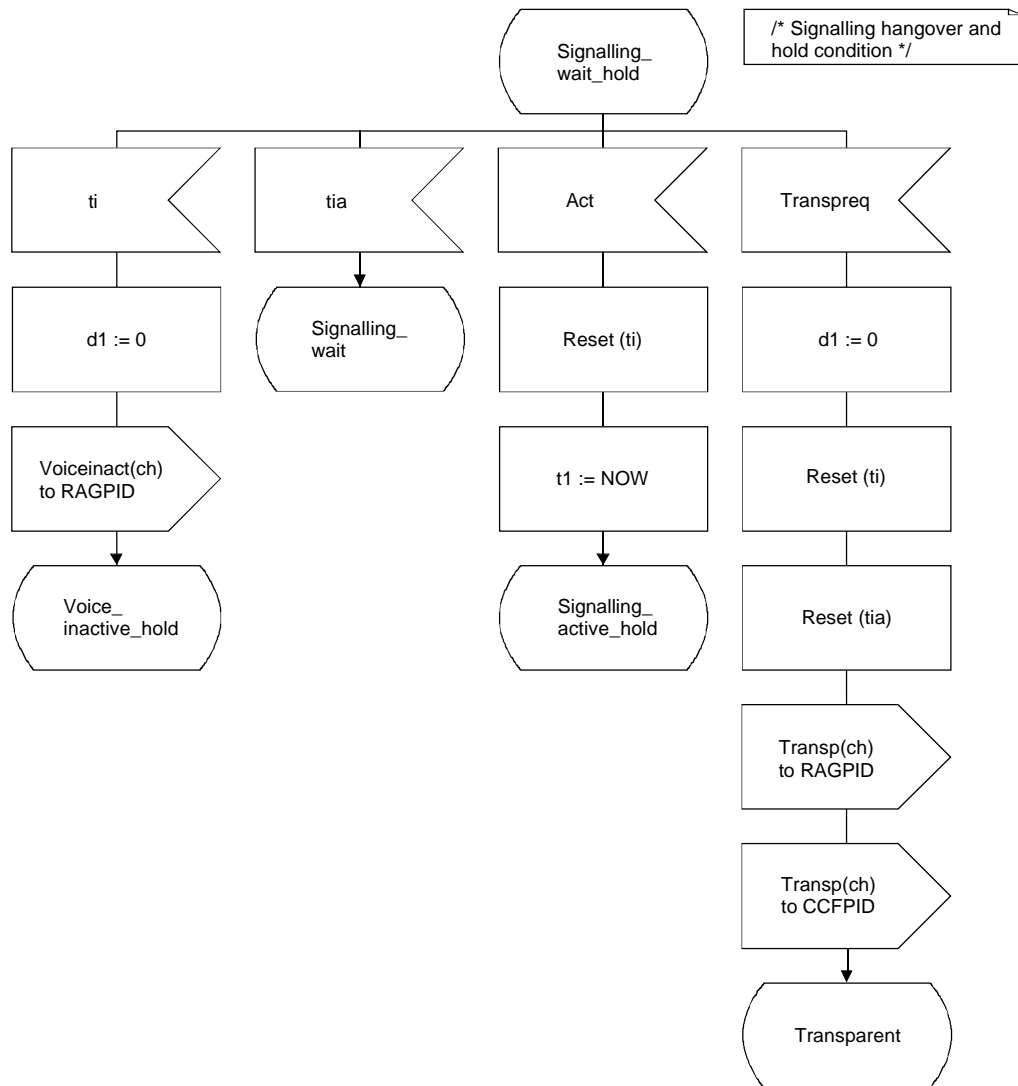


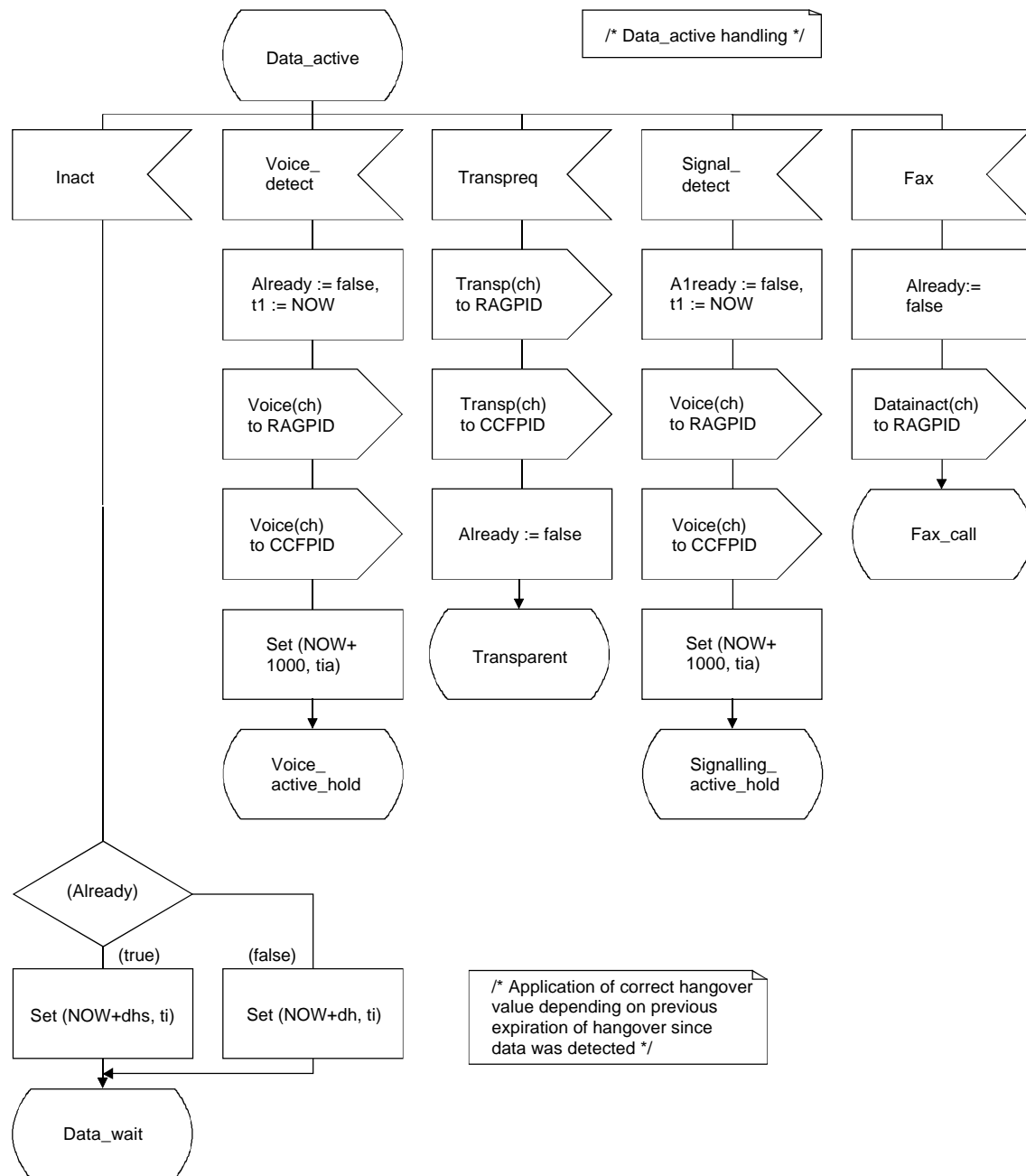


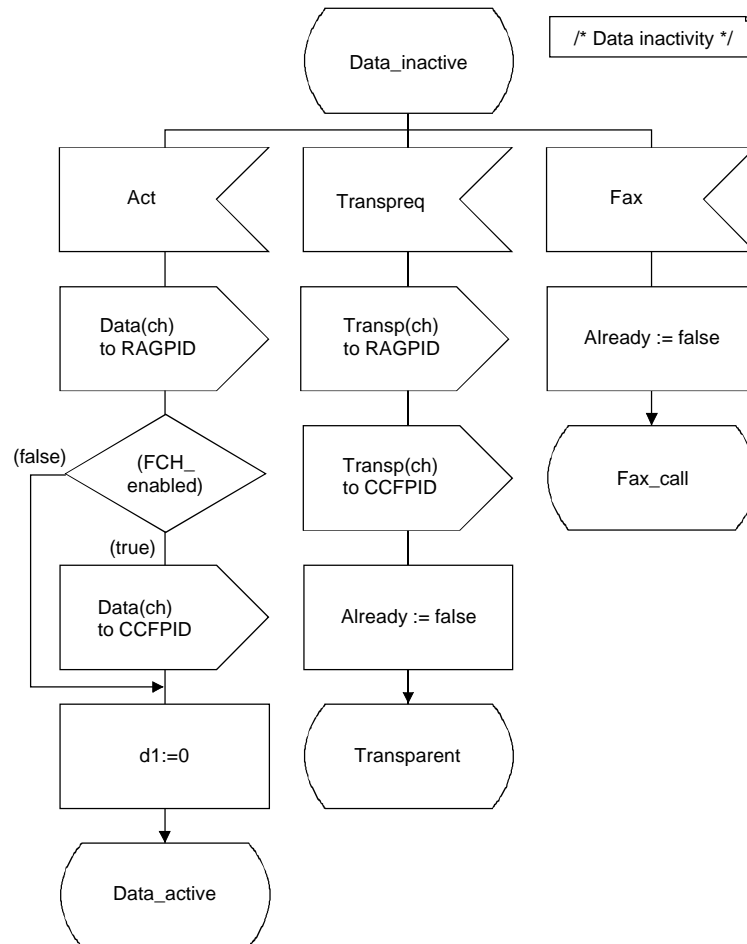


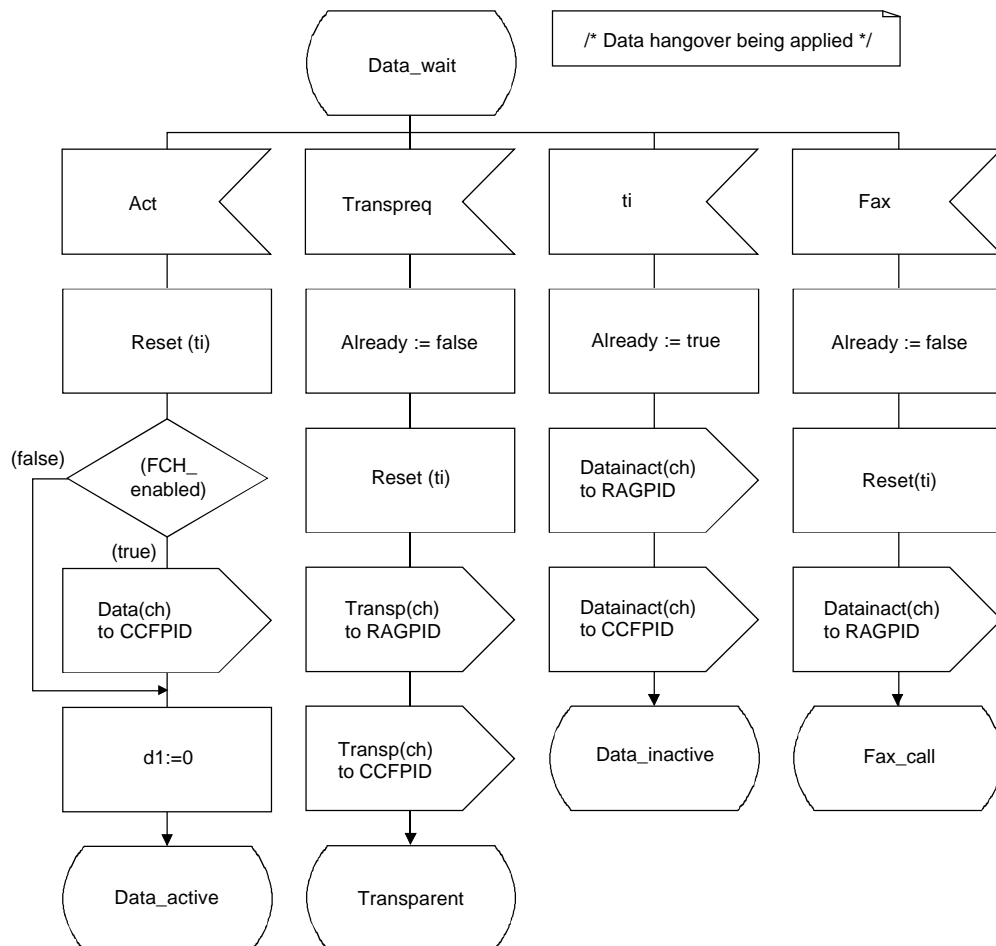


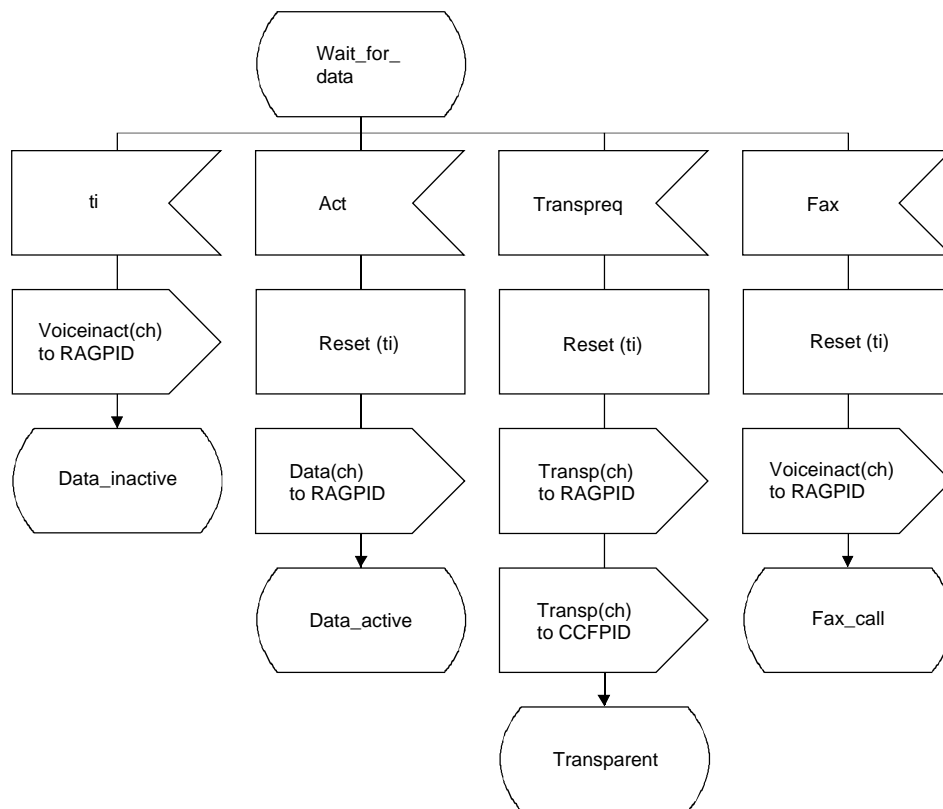




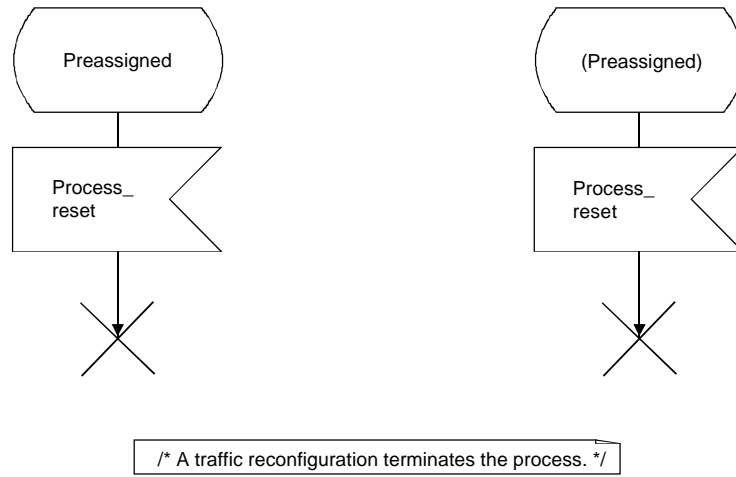


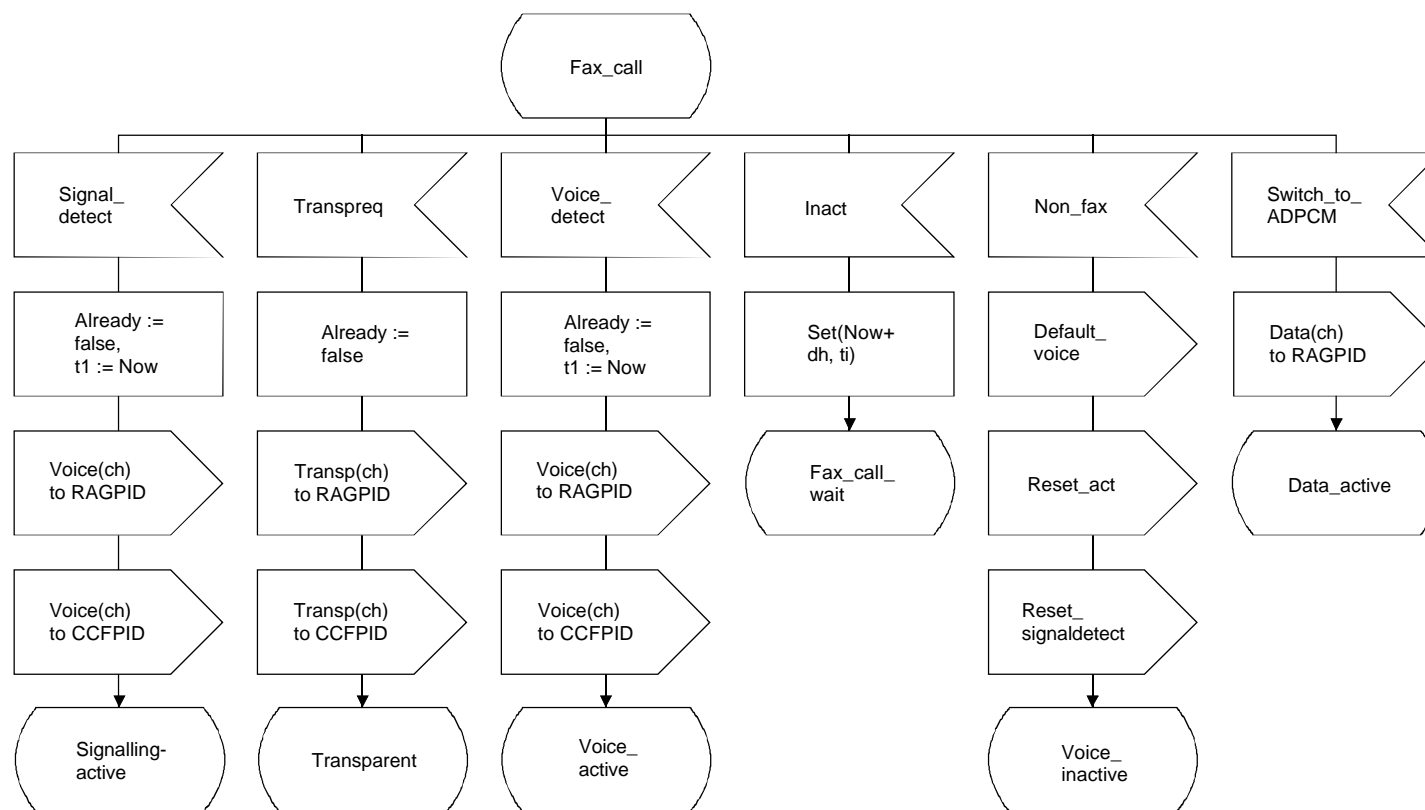


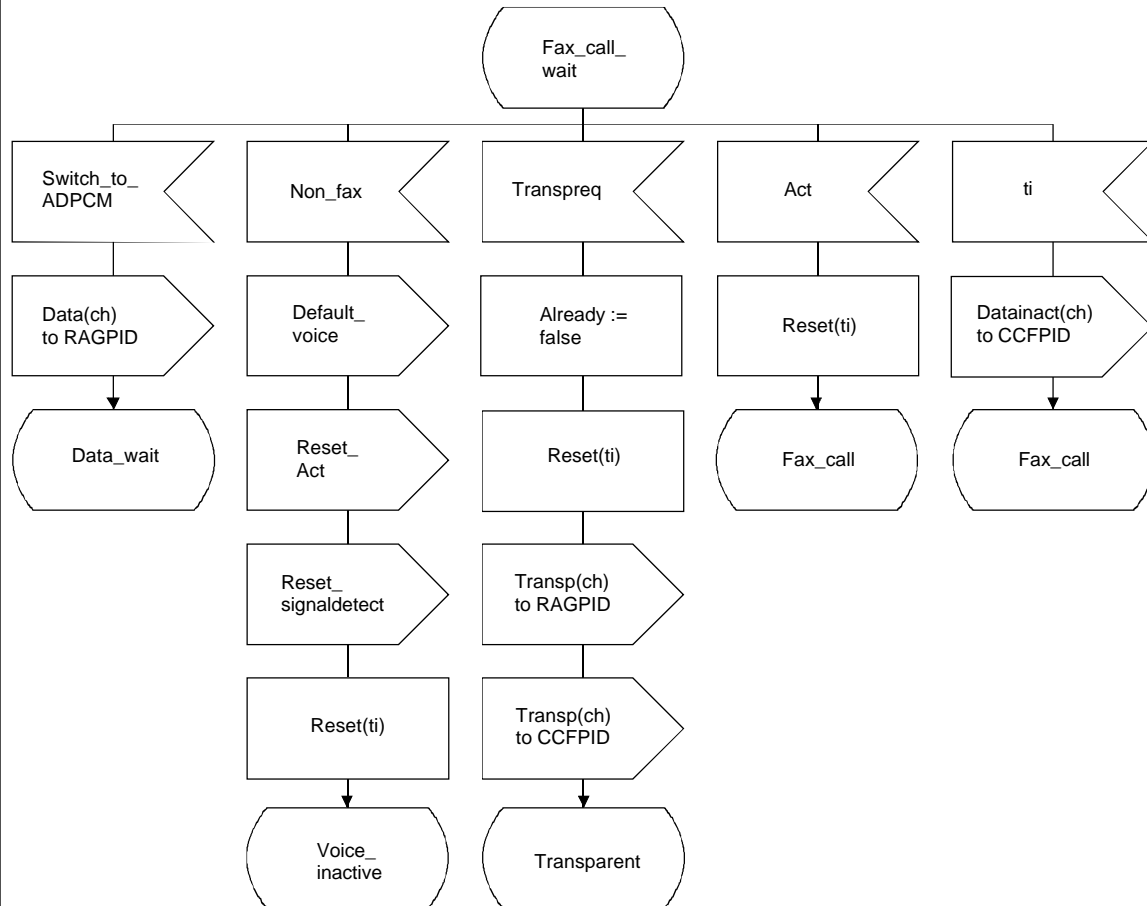




/* This state is entered if a Rxdata signal occurs while hangover is in the process of being applied. After expiration of hangover (ti) an exit to Data_inactive takes place. */



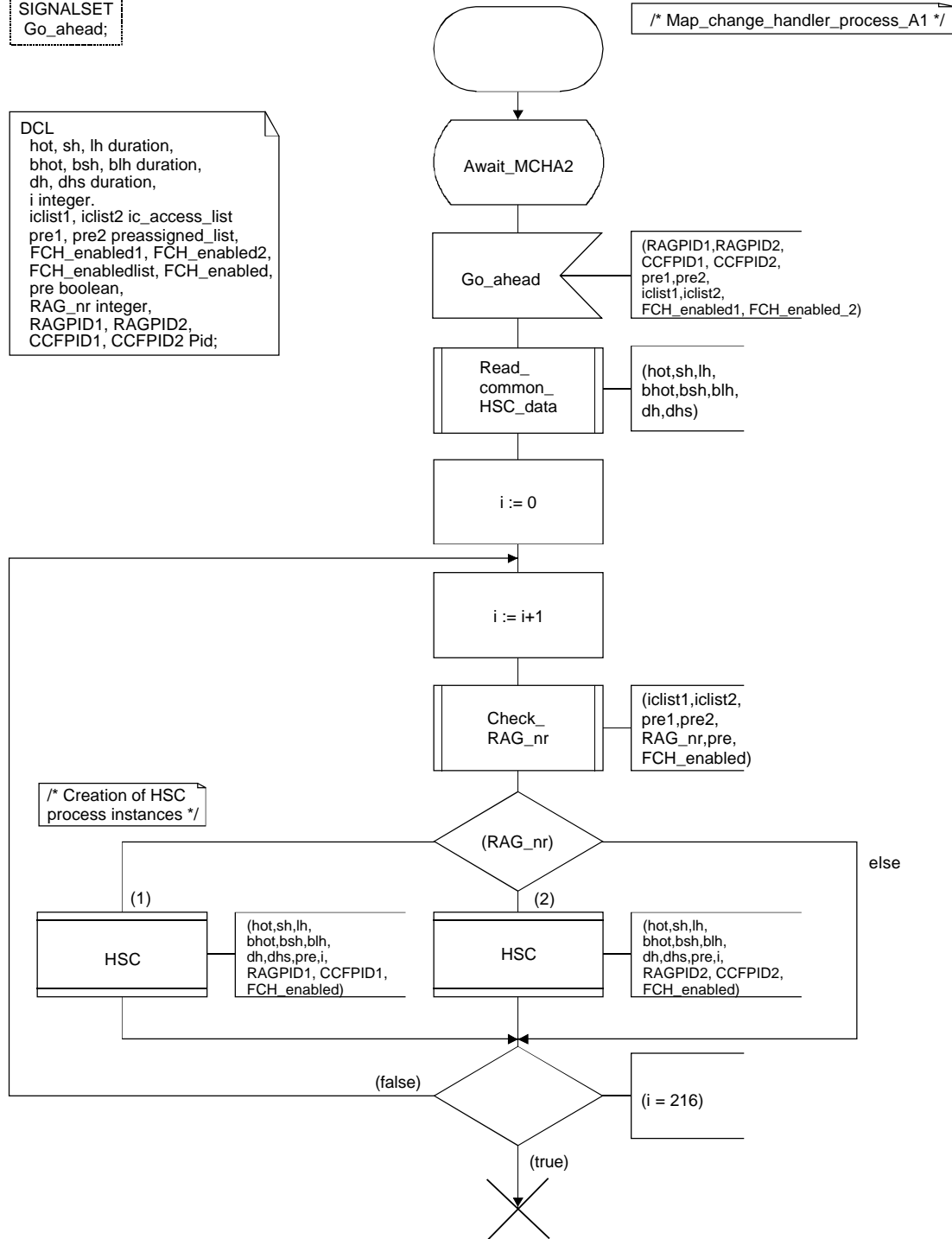


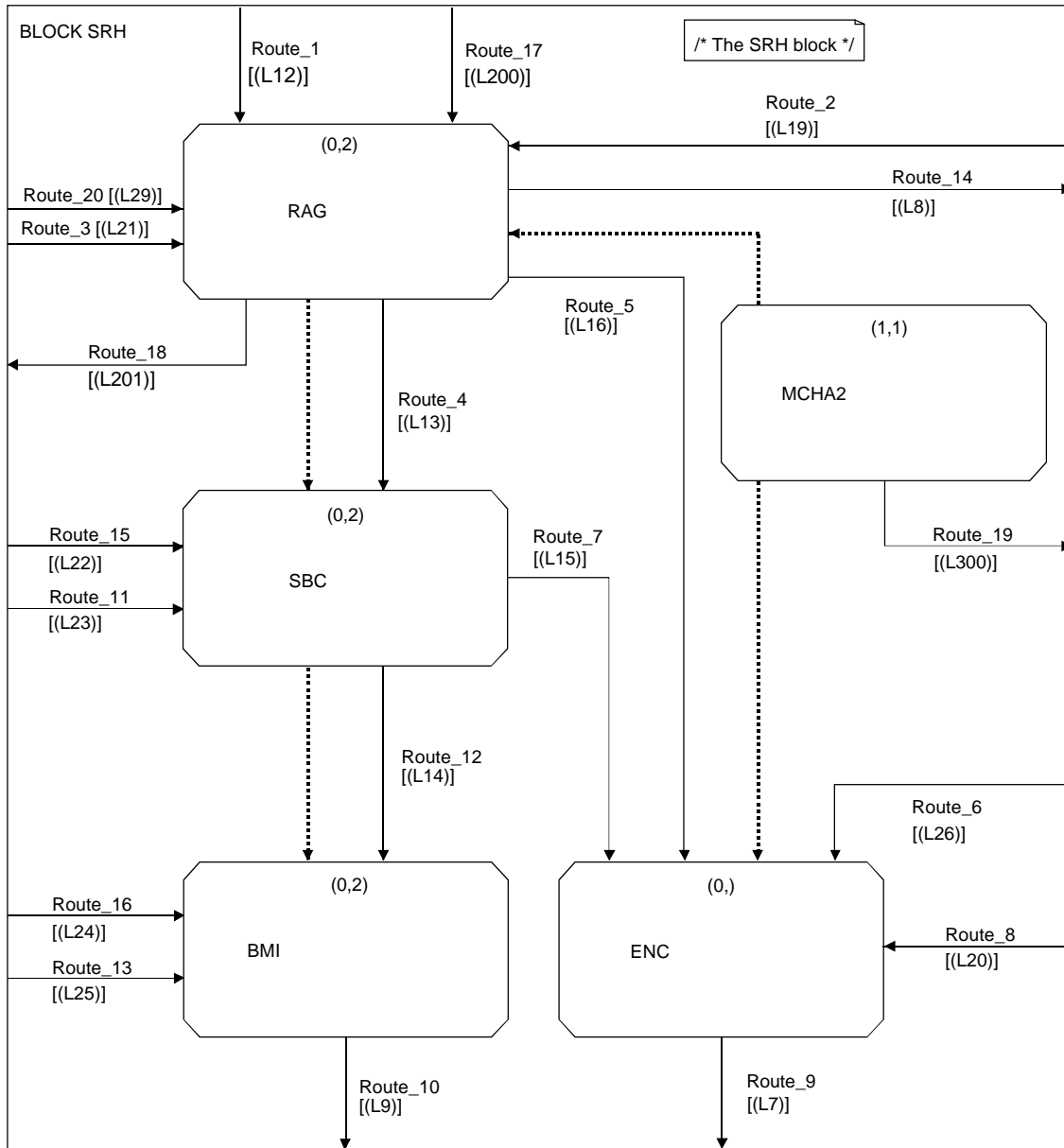


PROCESS MCHA1

SIGNALSET
Go_ahead;

DCL
hot, sh, lh duration,
bhot, bsh, blh duration,
dh, dhs duration,
i integer.
iclist1, iclist2 ic_access_list
pre1, pre2 preassigned_list.
FCH_enabled1, FCH_enabled2,
FCH_enabledlist, FCH_enabled,
pre boolean,
RAG_nr integer,
RAGPID1, RAGPID2,
CCFPID1, CCFPID2 Pid;





```
/* Signal definitions */
SIGNAL
  Reinsert(Integer), Remove(Integer),
  Seizesc(Integer,Integer,Integer),
  Release(Integer), Releasesc(Integer),
  Seizebank(Integer),
  Seizefaxbank(integer),
  SC_bitmap(bit_mode_matrix),
  Mode_map(Integer),
  Assign_enc(Integer,Integer,Call_Type),
  Release_enc,
  Set_pre(Integer,Integer);

/* Signallist definitions */
SIGNALLIST L13 = Assign, Reinsert, Remove, Seizesc, Release,
  Releasesc, Seizebank, Seizefaxbank;
SIGNALLIST L14 = SC_bitmap;
SIGNALLIST L15 = Mode_map;
SIGNALLIST L16 = Assign_enc, Release_enc, Set_pre;

connect c12 and Route_1;
connect c19 and Route_2;
connect c21 and Route_3;
connect c26 and Route_6;
connect c20 and Route_8;
connect c7 and Route_9;
connect c9 and Route_10;
connect c23 and Route_11;
connect c25 and Route_13;
connect c8 and Route_14;
connect c22 and Route_15;
connect c24 and Route_16;
connect c200 and Route_17;
connect c201 and Route_18;
connect c300 and Route_19;
connect c29 and Route_20;
```

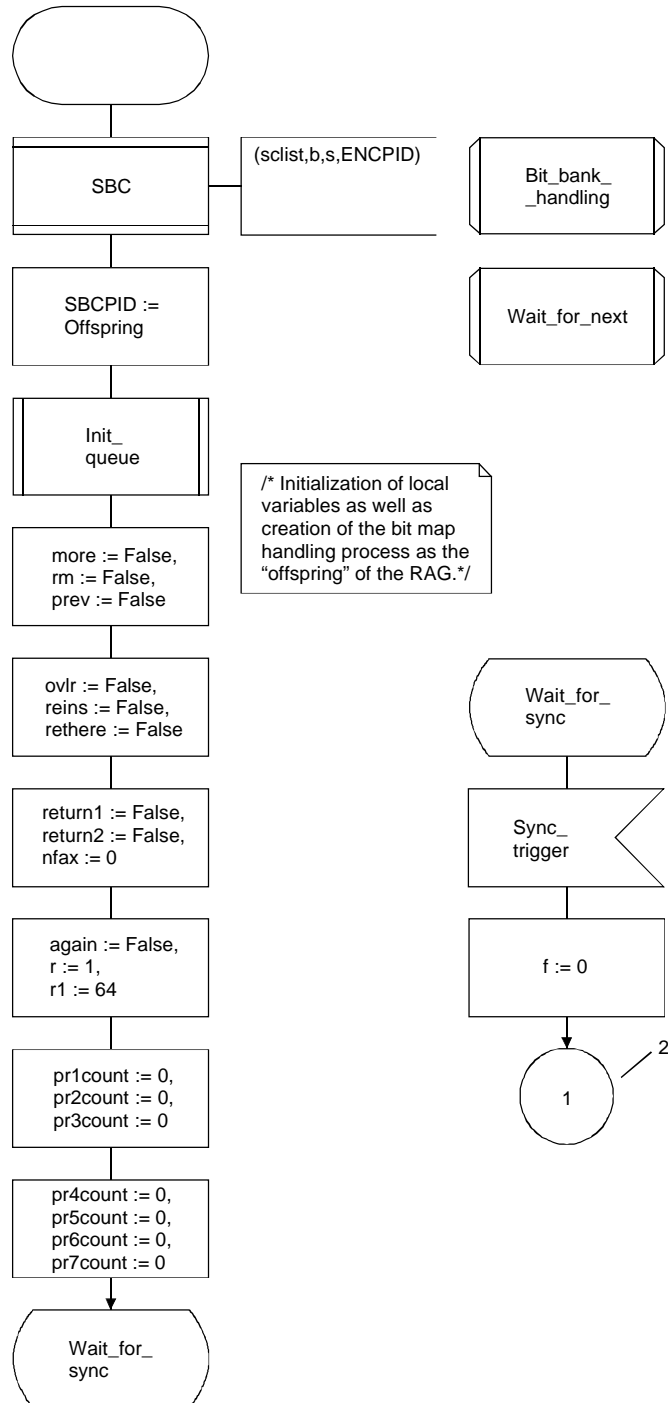
FPAR

b, s, no, ptot, btot integer,
pre preassigned_list,
cdlist encoder_list,
presc preassigned_sc_list,
premode assigned_mode,
sclist sc_access_list,
sel select_encoder_list,
bitbank bitbank_list,
faxbank faxbank_list,
sg, FCH_enabled boolean,
n integer,
pnr integer,
ENCPID ENCPID_array;
SIGNALSET
Voice, Voiceinact, Data, Datainact,
Transp, Discreq, Trigger,
Faxbank_req, Faxbank_rel,
Sync_trigger, Change,
Process_reset;

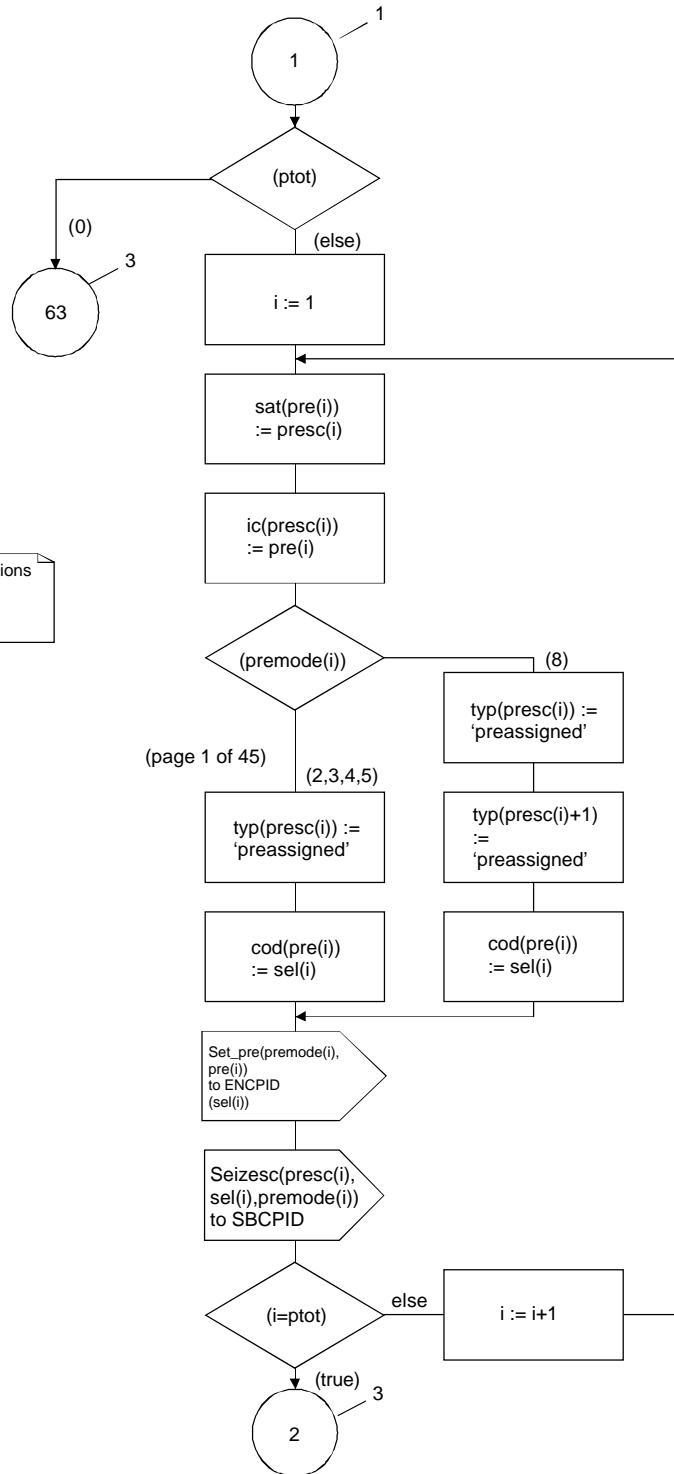
DCL

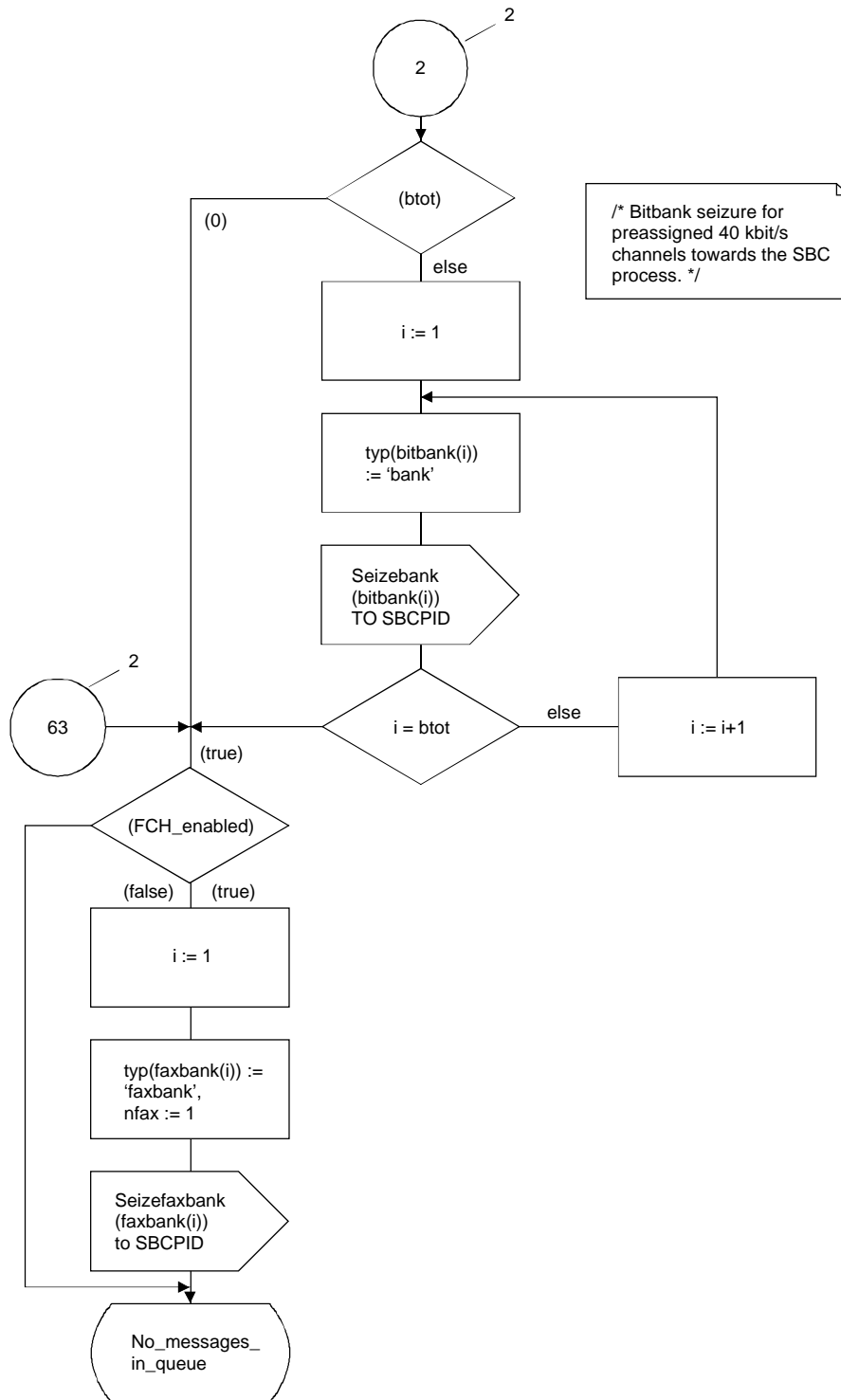
rm, prev, reins, rethere, return1, return2,
more, difference boolean,
data_success, faxbank_success,
success, again, ovlr boolean,
i, r, r1,
pr0count, pr1count, pr2count, pr3count,
pr4count, pr5count, pr6count, pr7count,
nt, nd, nb, nv, nf, nfax integer,
f integer,
d real,
req_in_queue,
req_in_discqueue request_in_queue_list,
bc, bcv, bcv1, bcv2, bcv3, bcv4,
k, tk, nw integer,
nr, nrv, nrv1, nrv2, nrv3, nrv4, tnr integer,
cd integer,
new zero_one,
sat ic_to_sc_connections,
ic sc_to_ic_connections,
typ sc_usage_array,
rag_queue rag_queue_array,
cod ic_to_coder_connections,
SBCPID Pid;

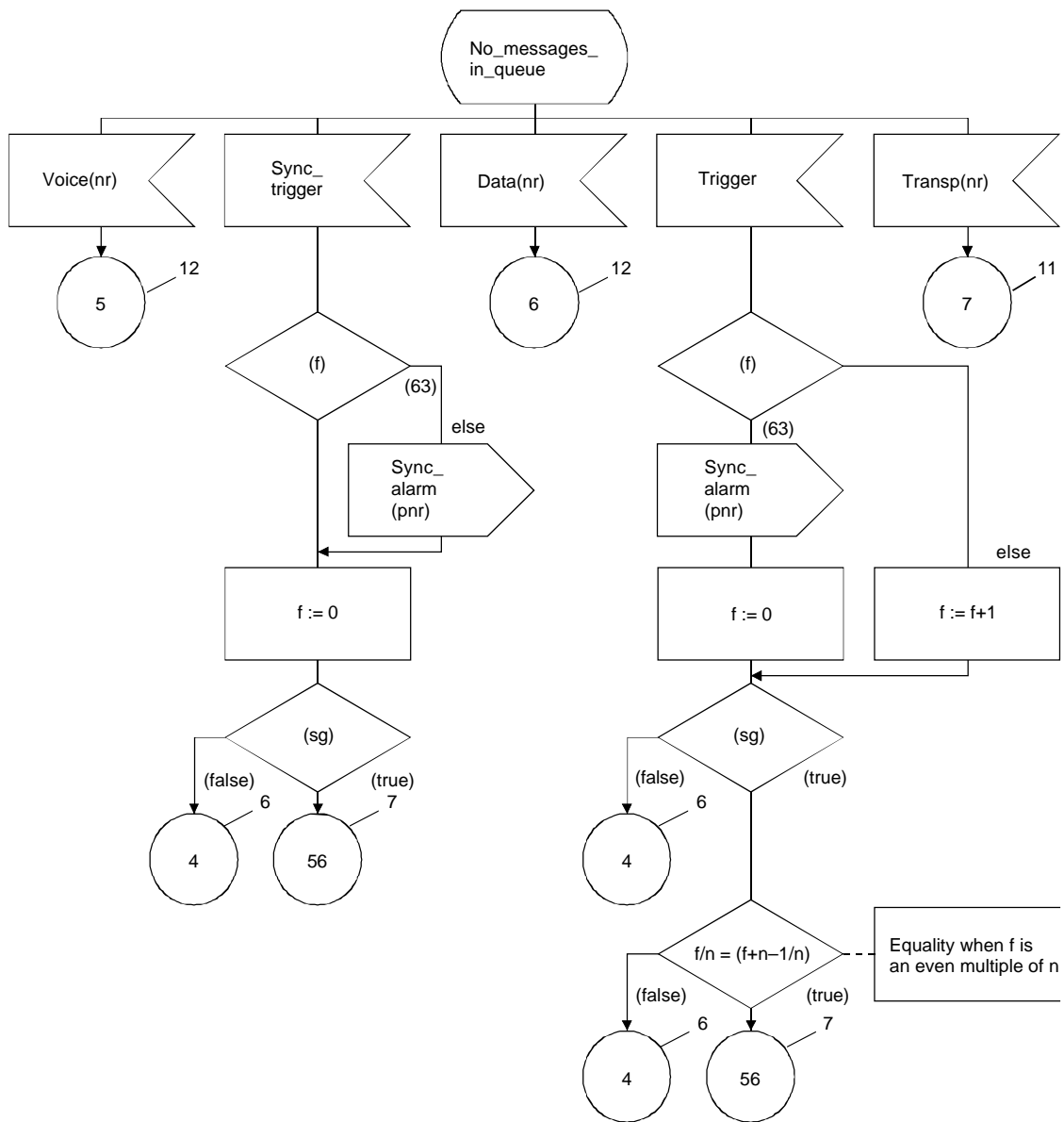
/* Request_handling_and_assignment_ */
/* Information_generation (RAG) */

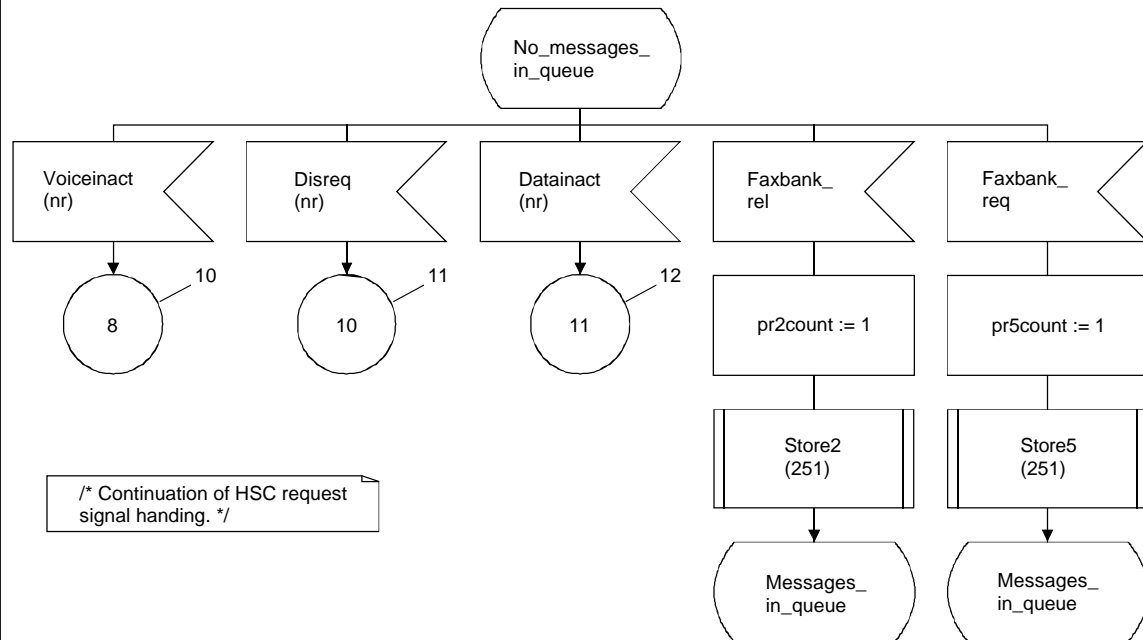


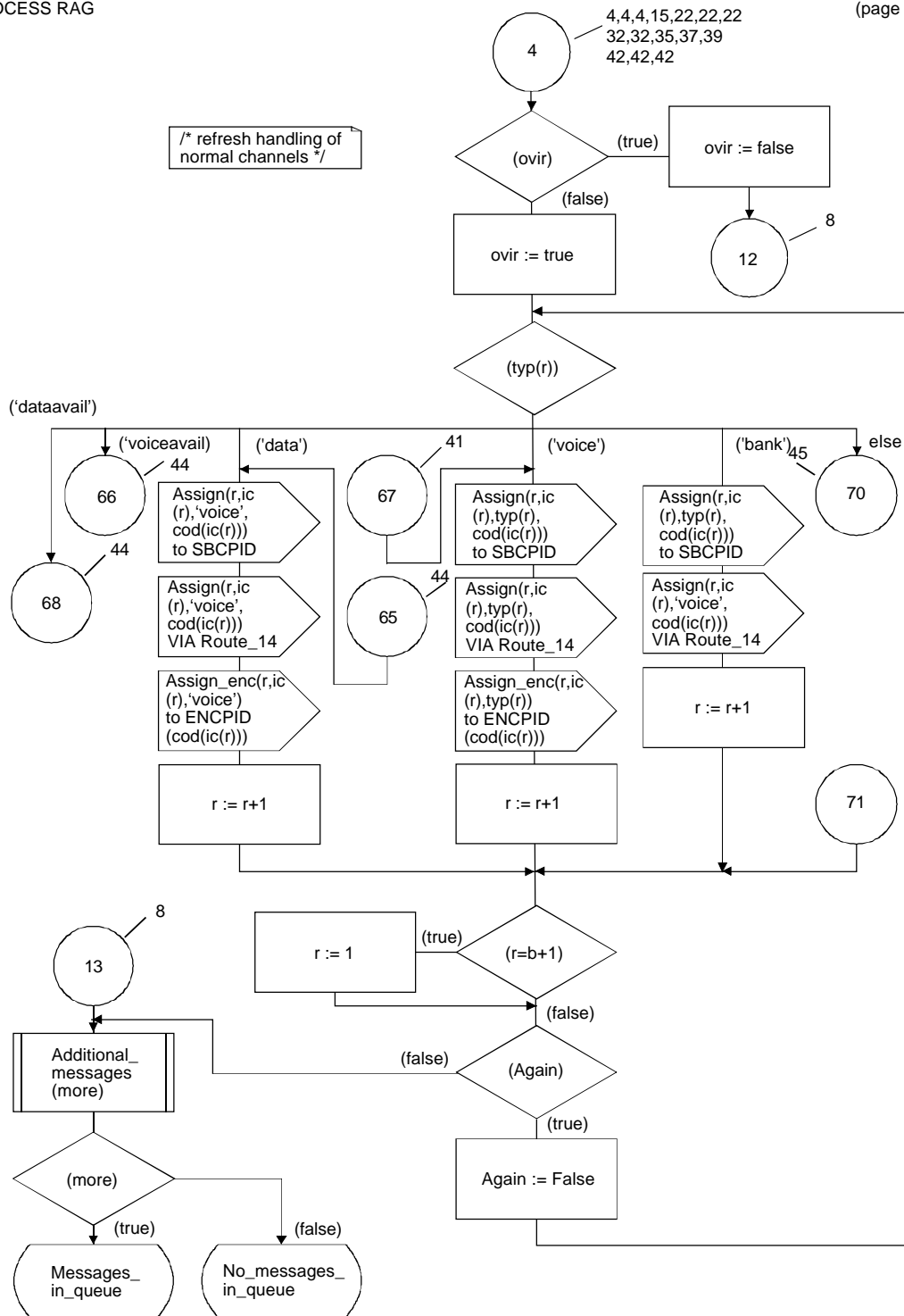
/* Seizure of preassigned connections
in their respective modes and
updating the SBC and the ENC
processes. */

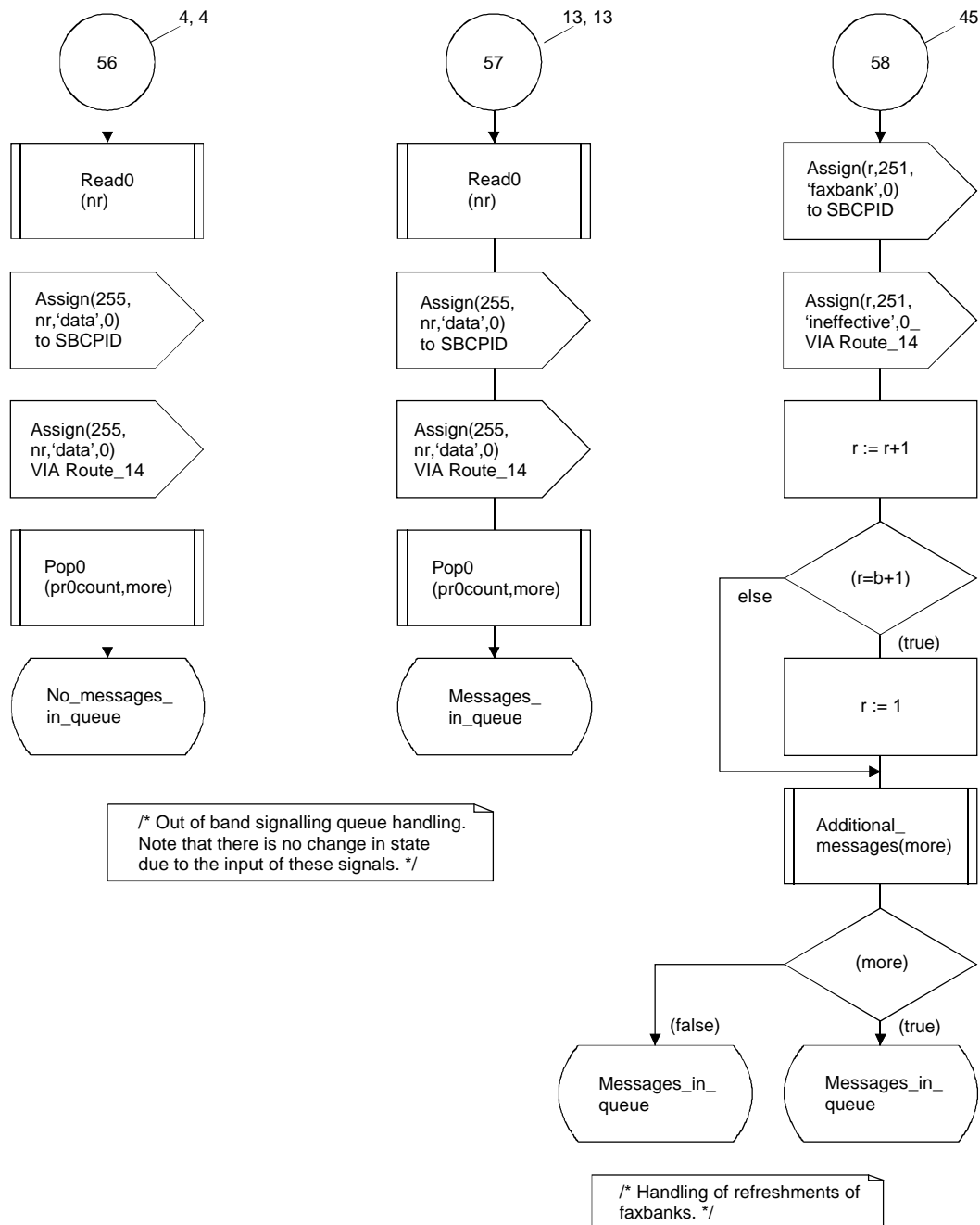


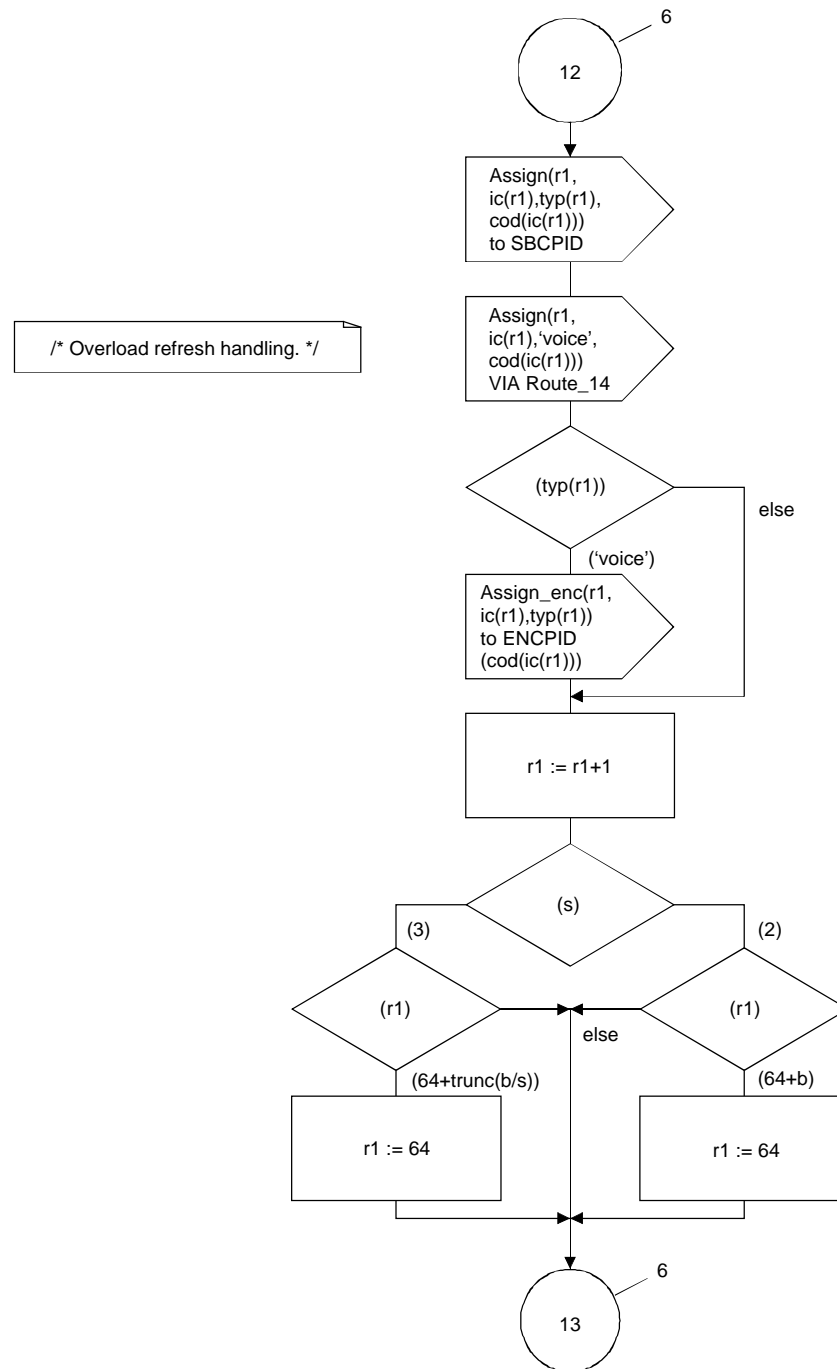


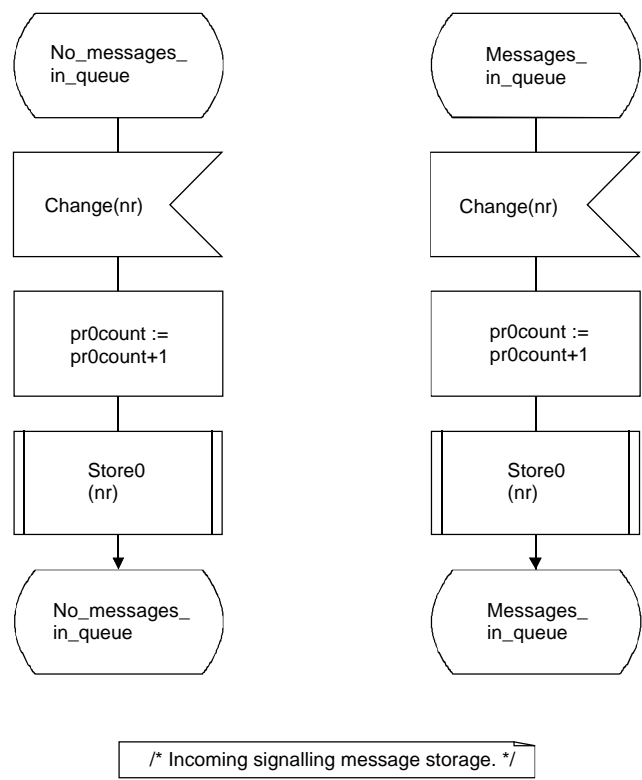


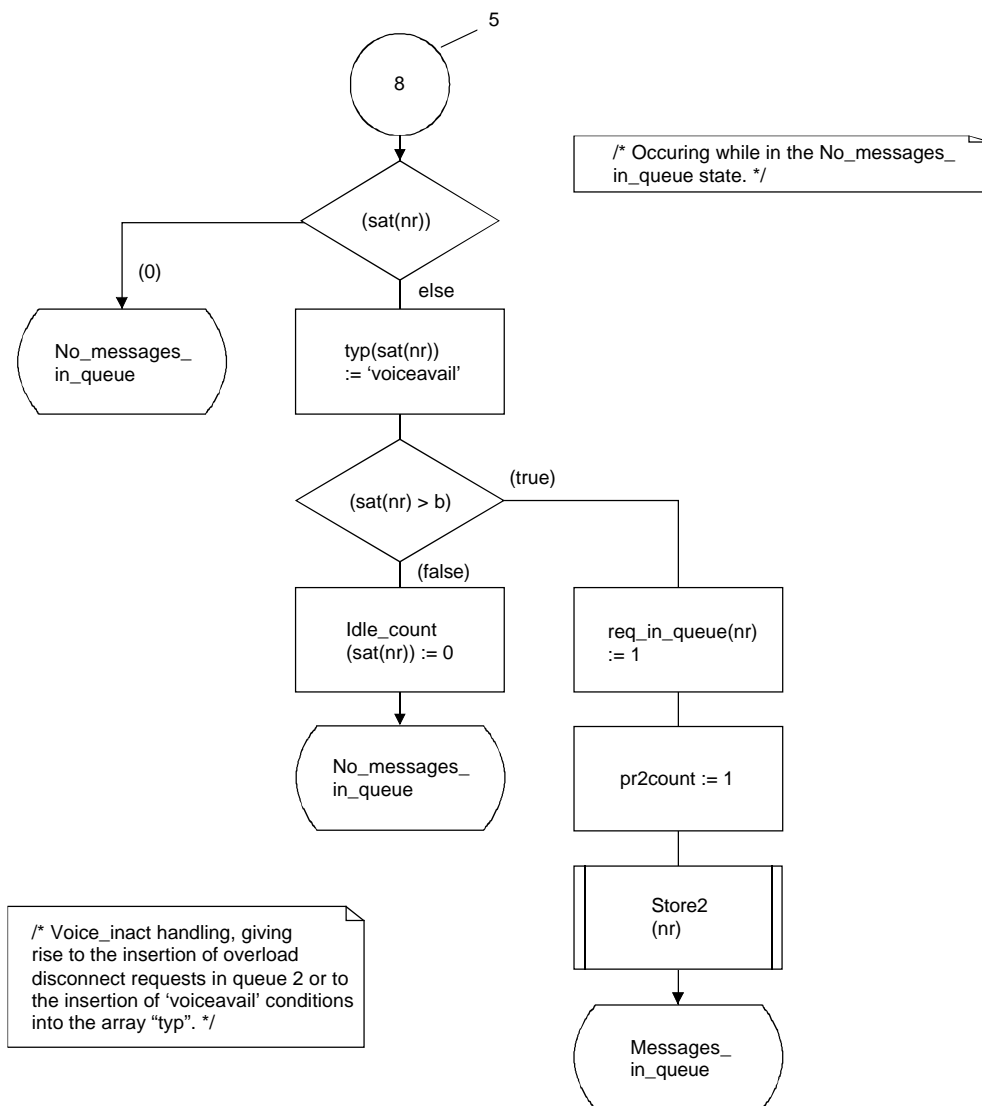


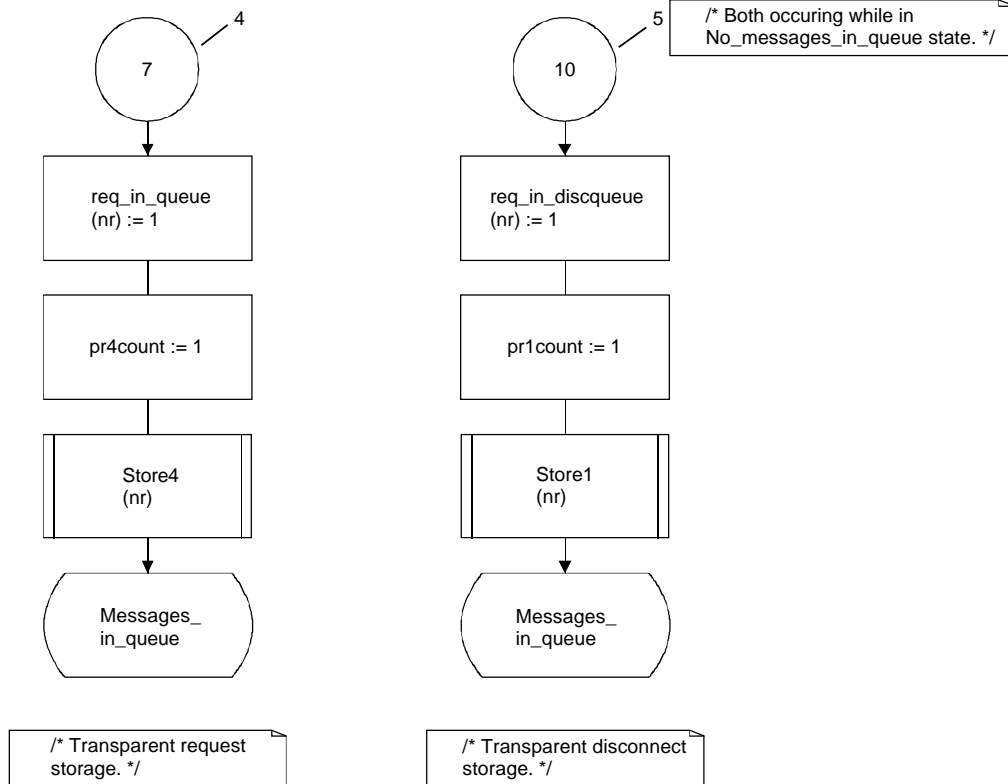


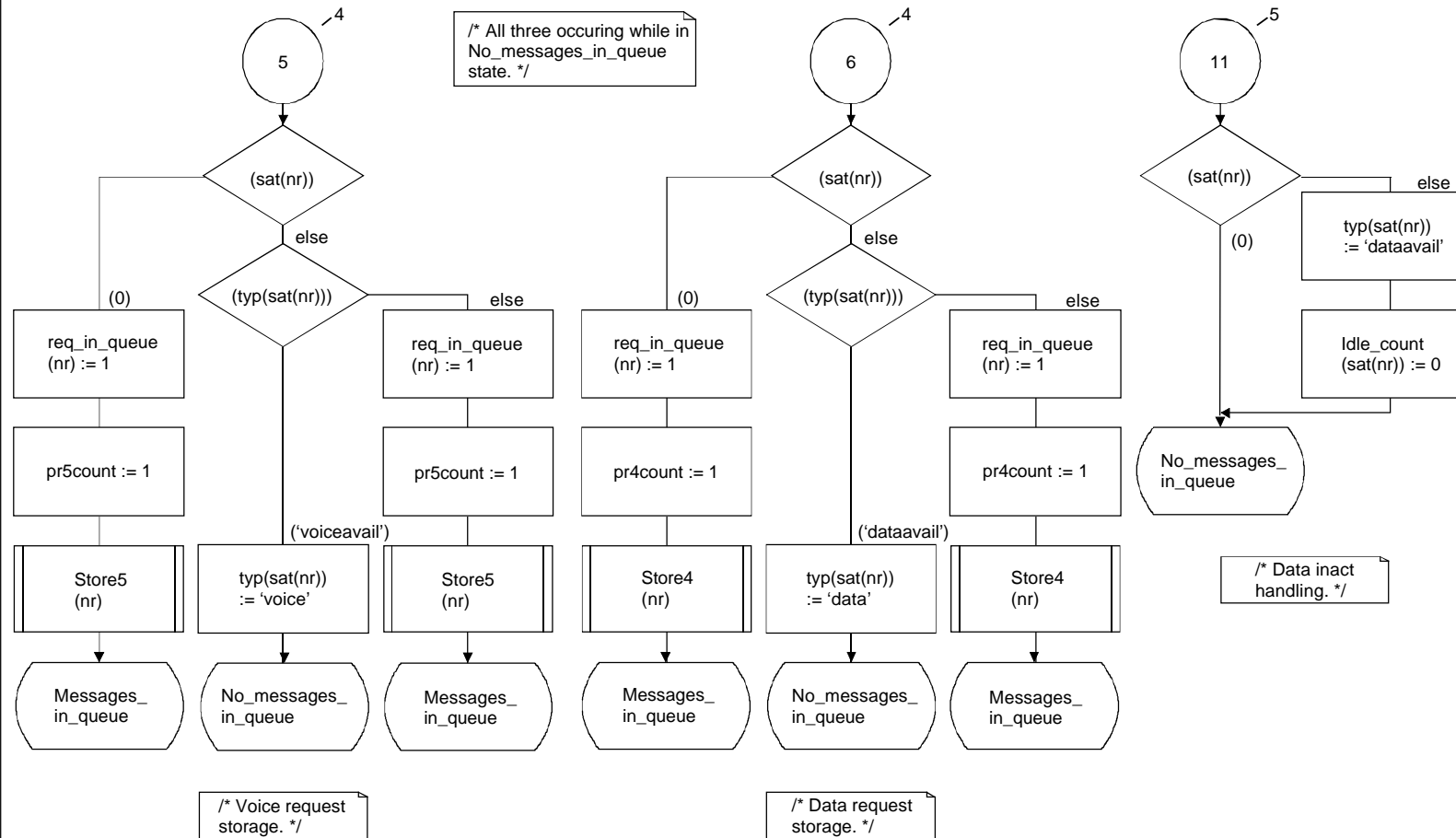


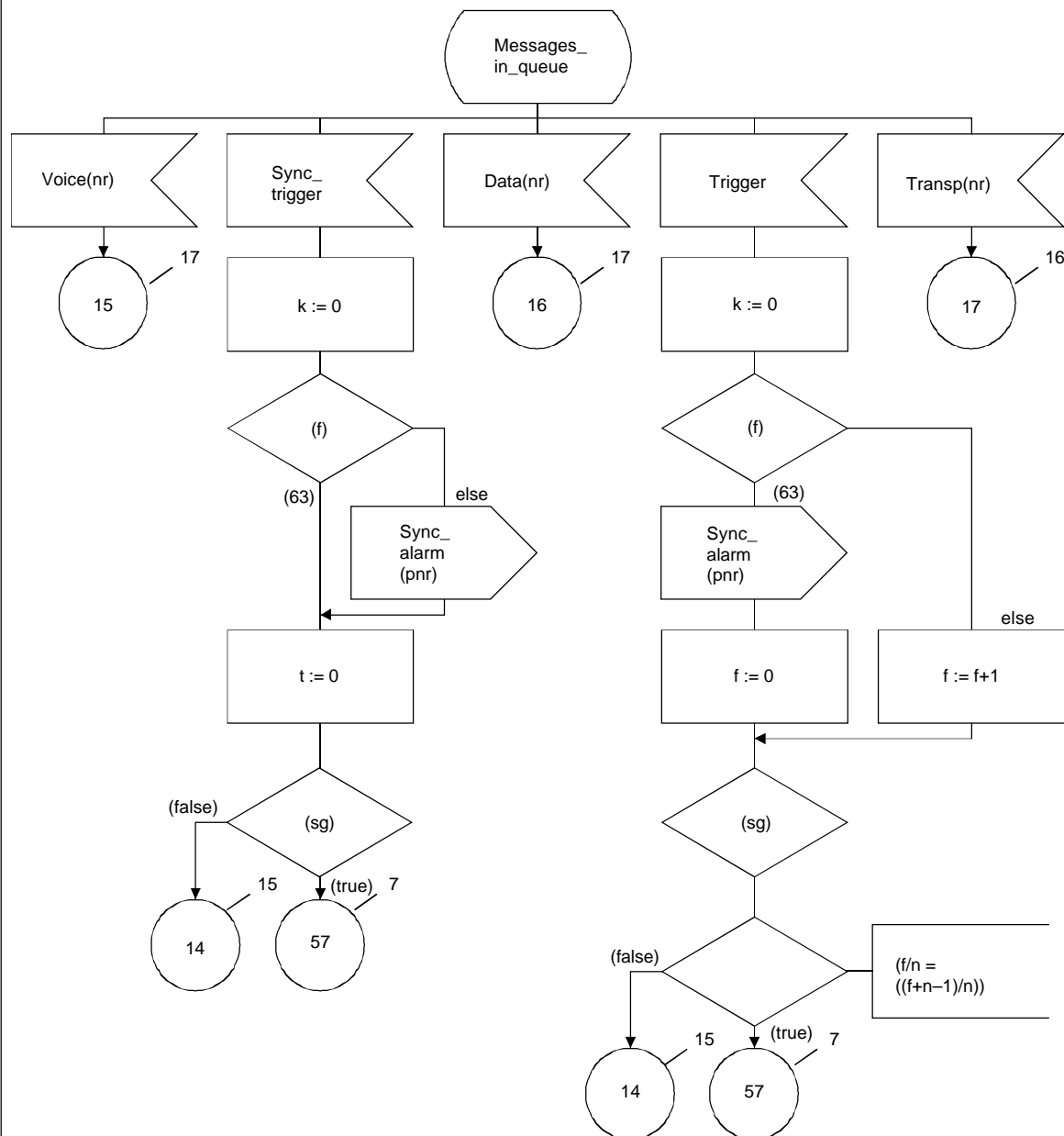


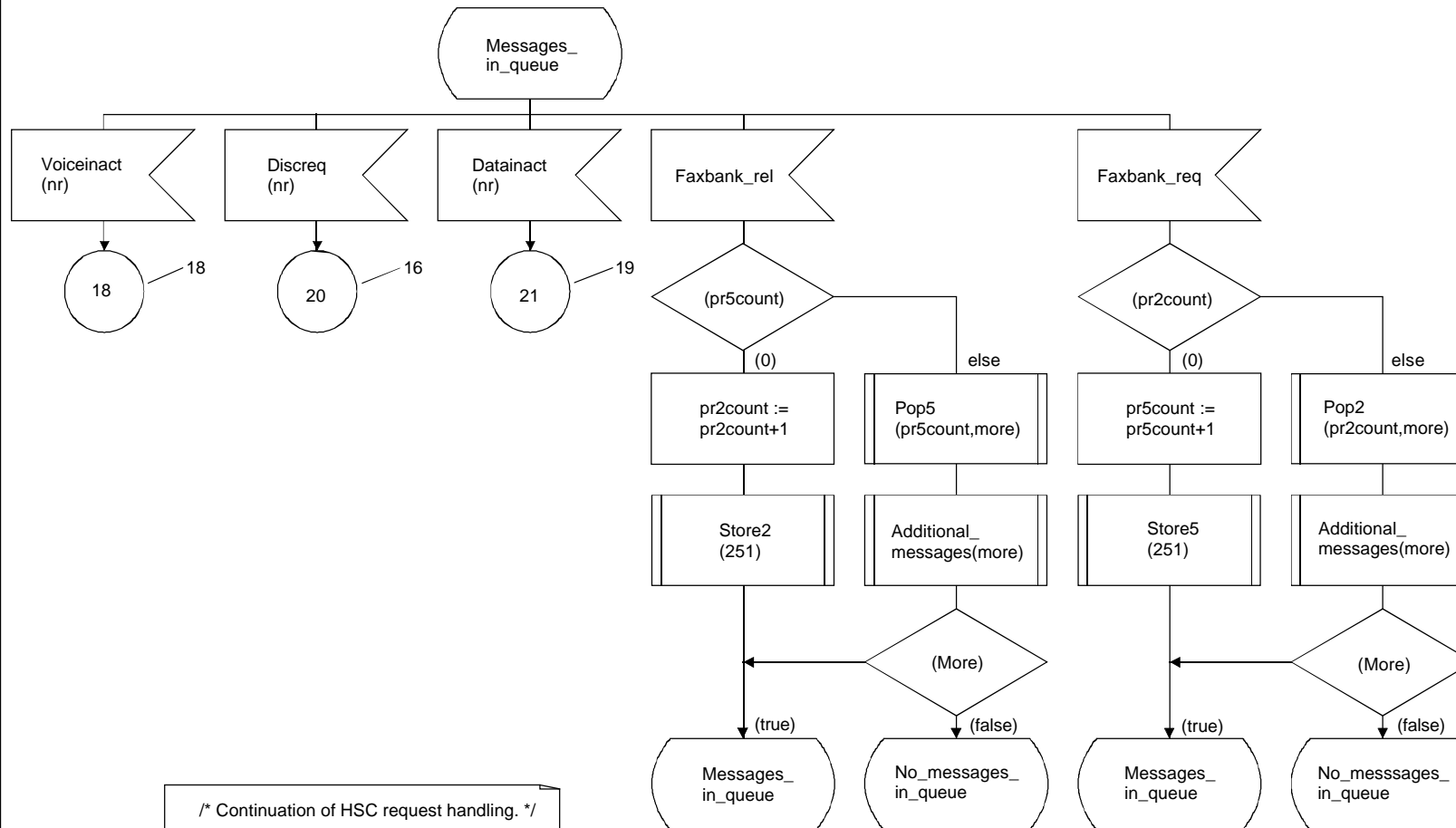


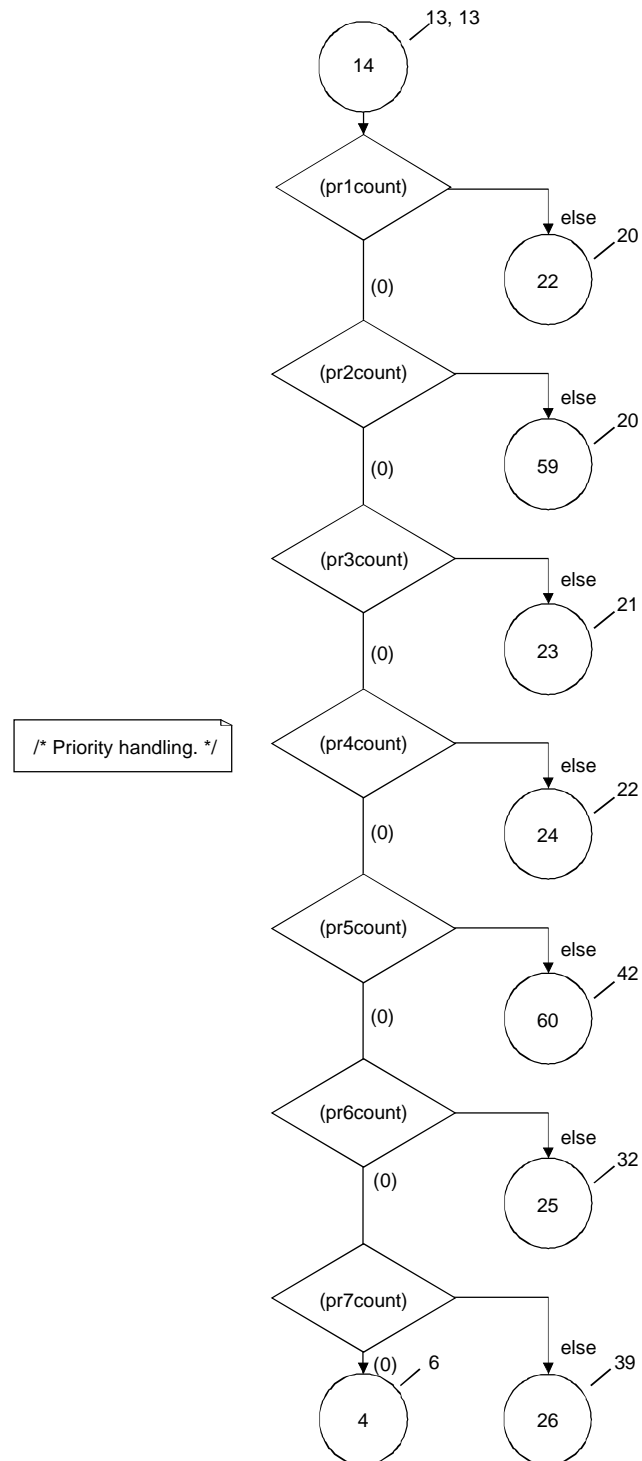


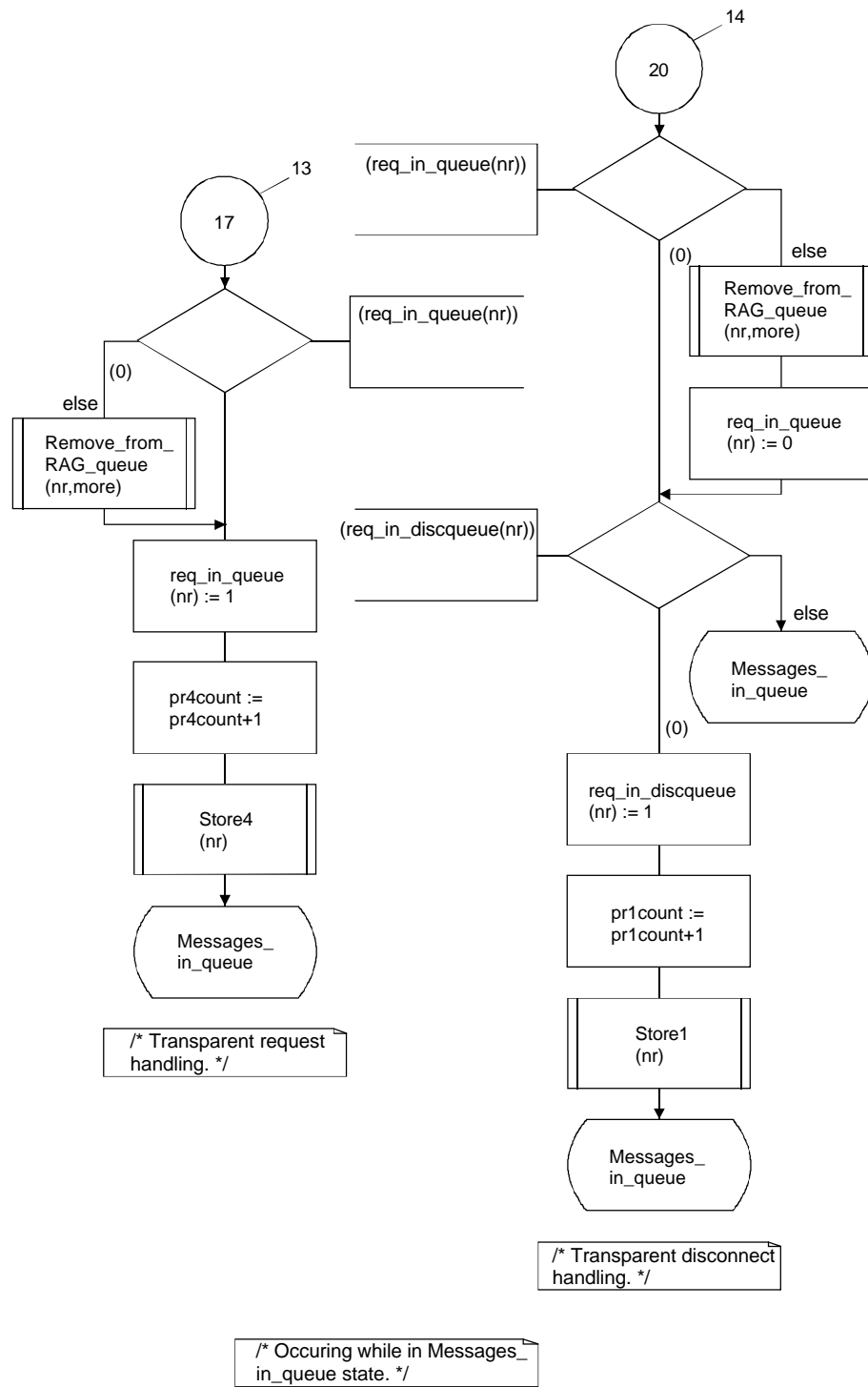


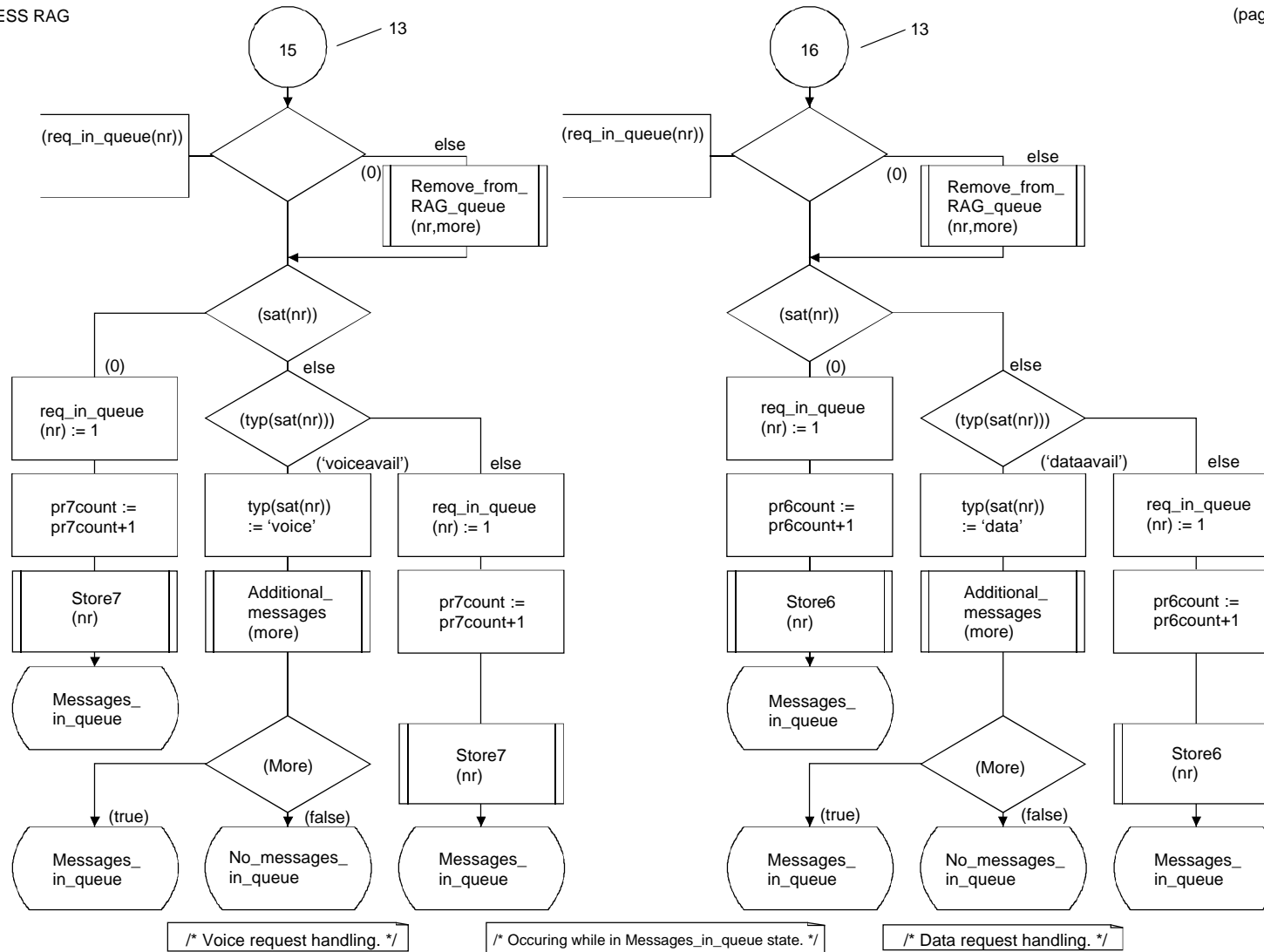


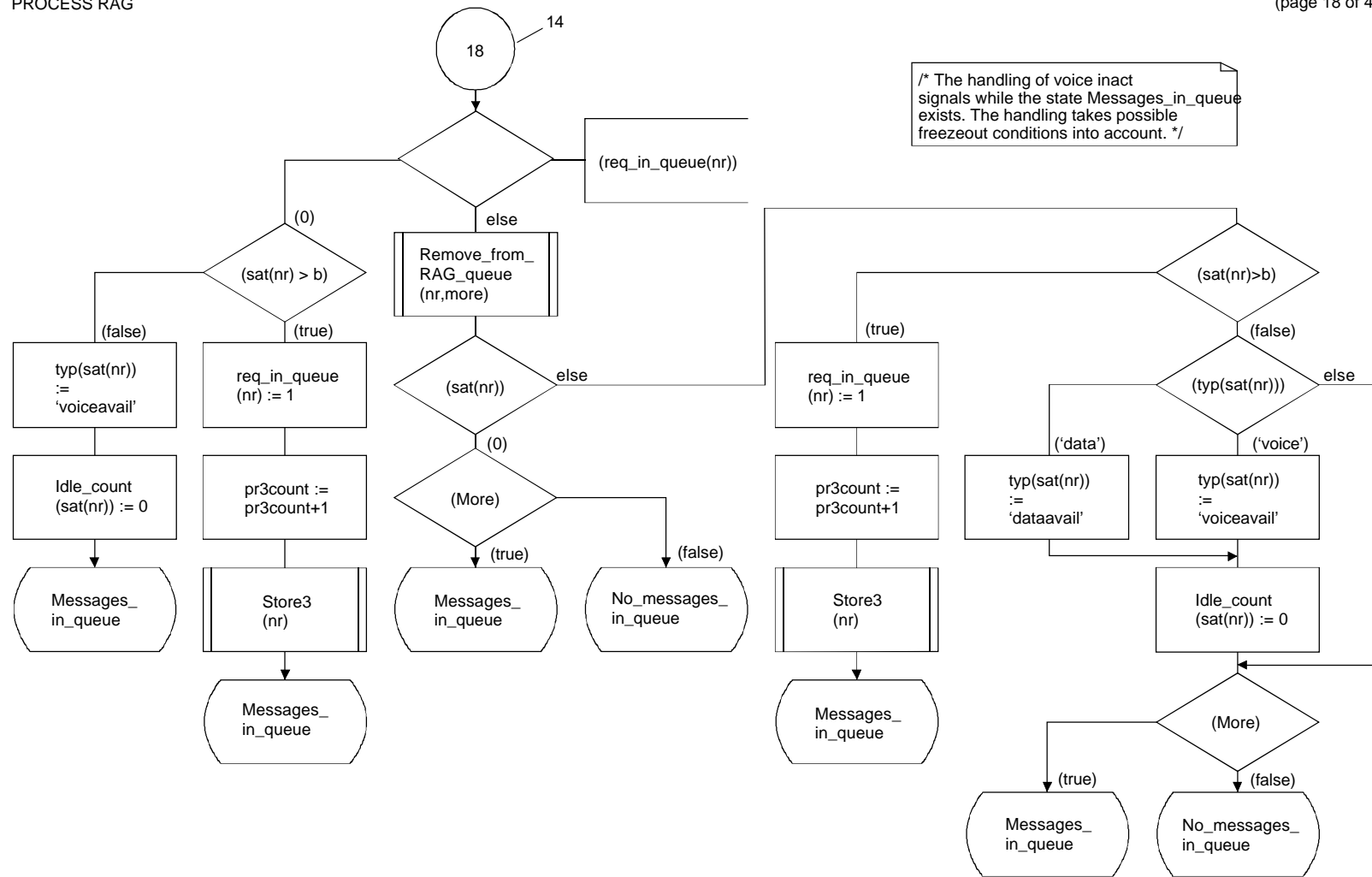


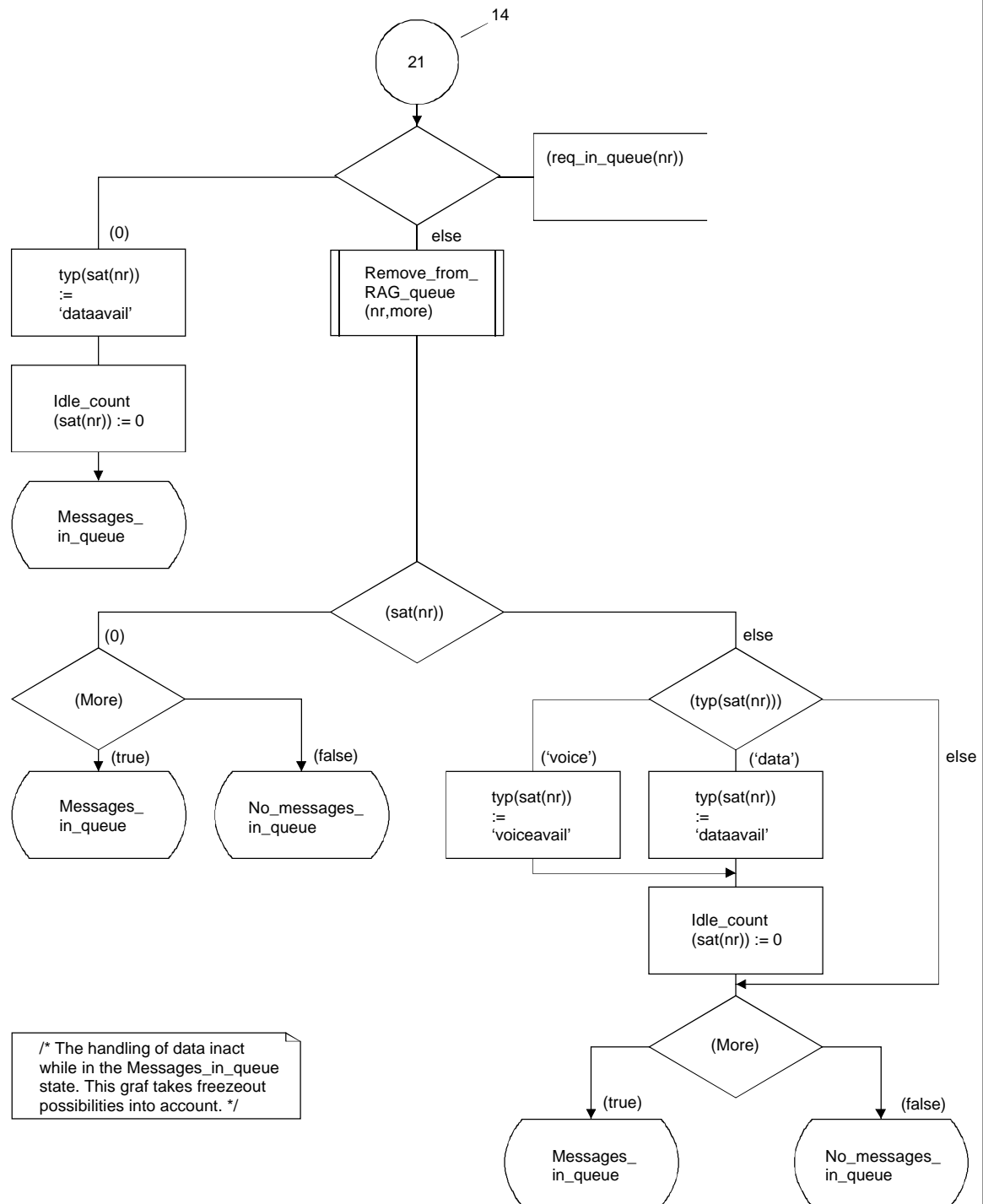


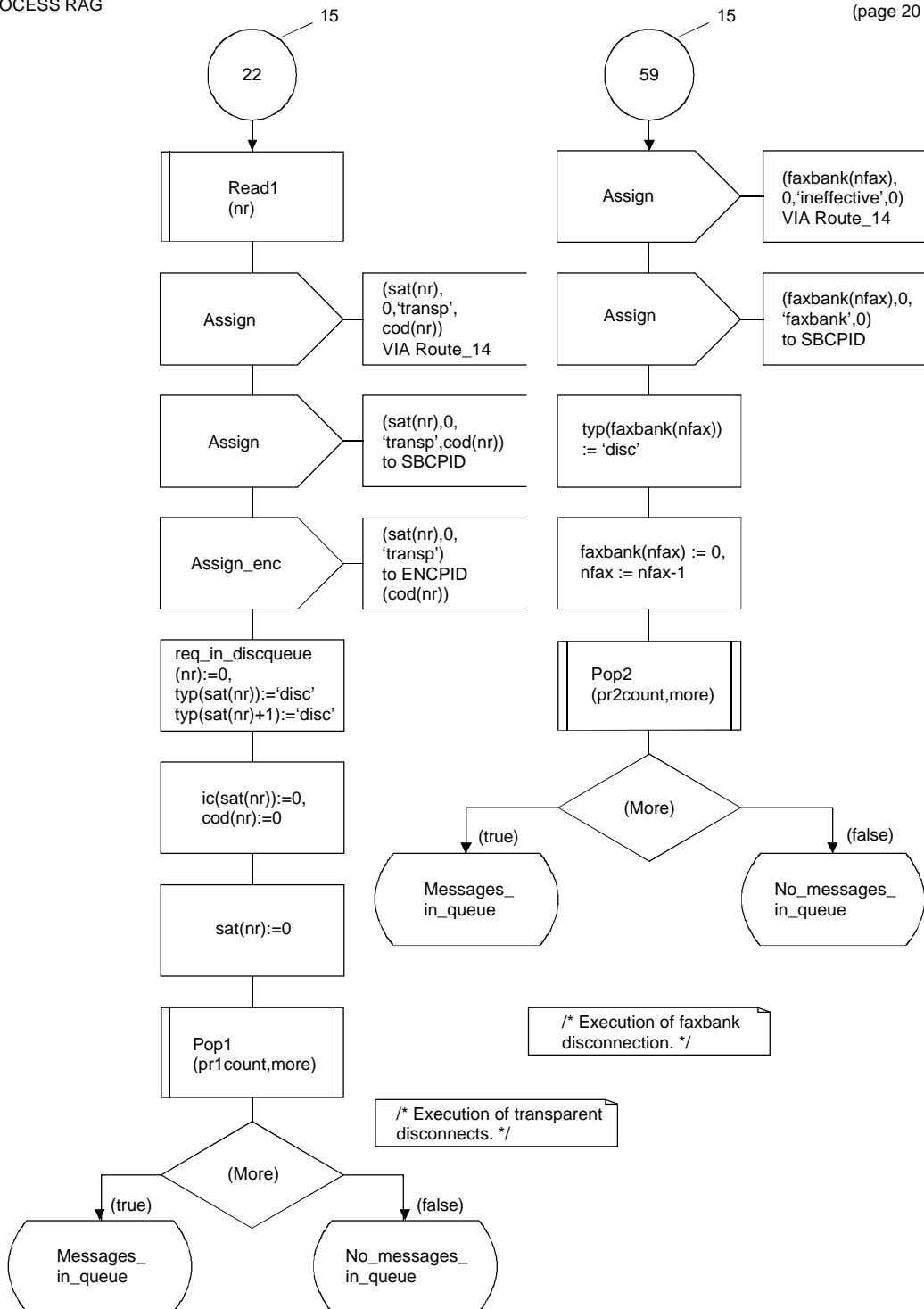


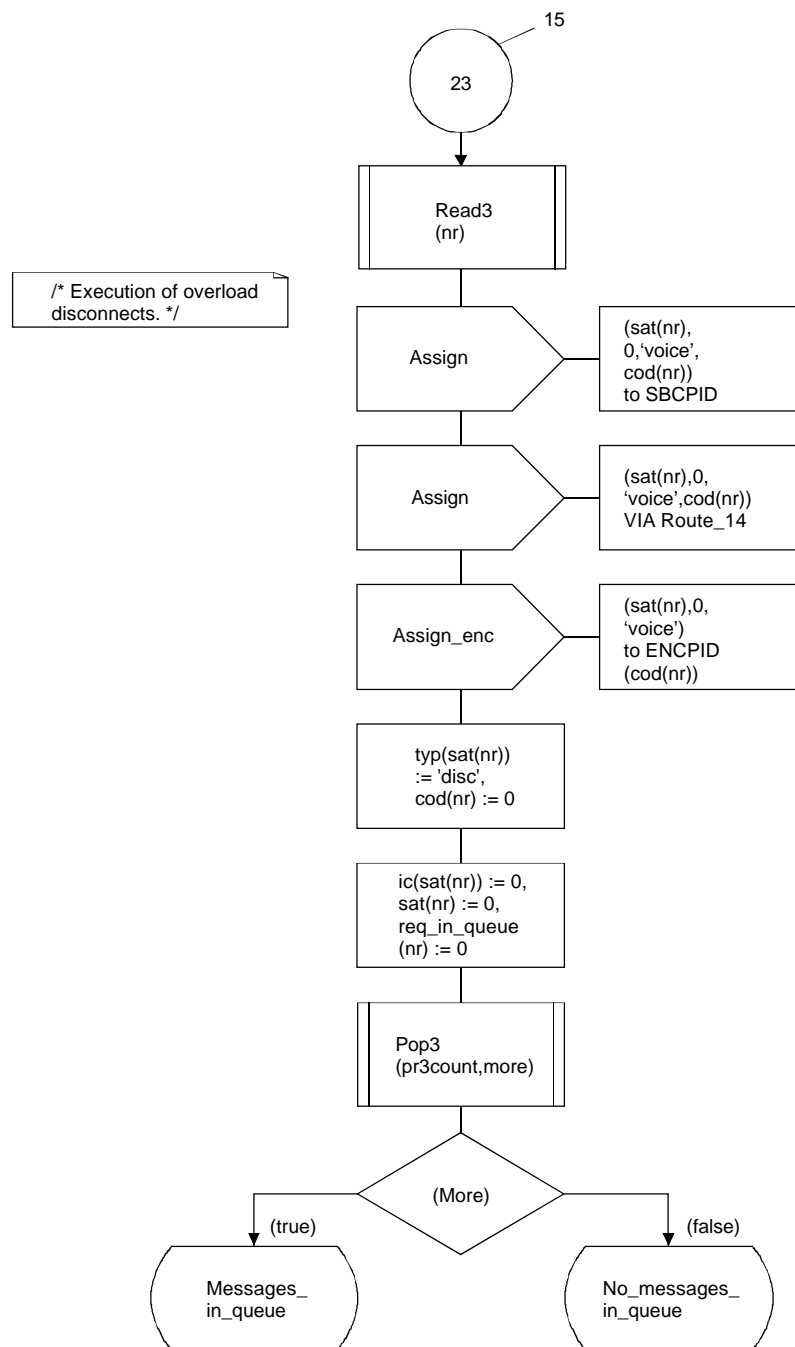


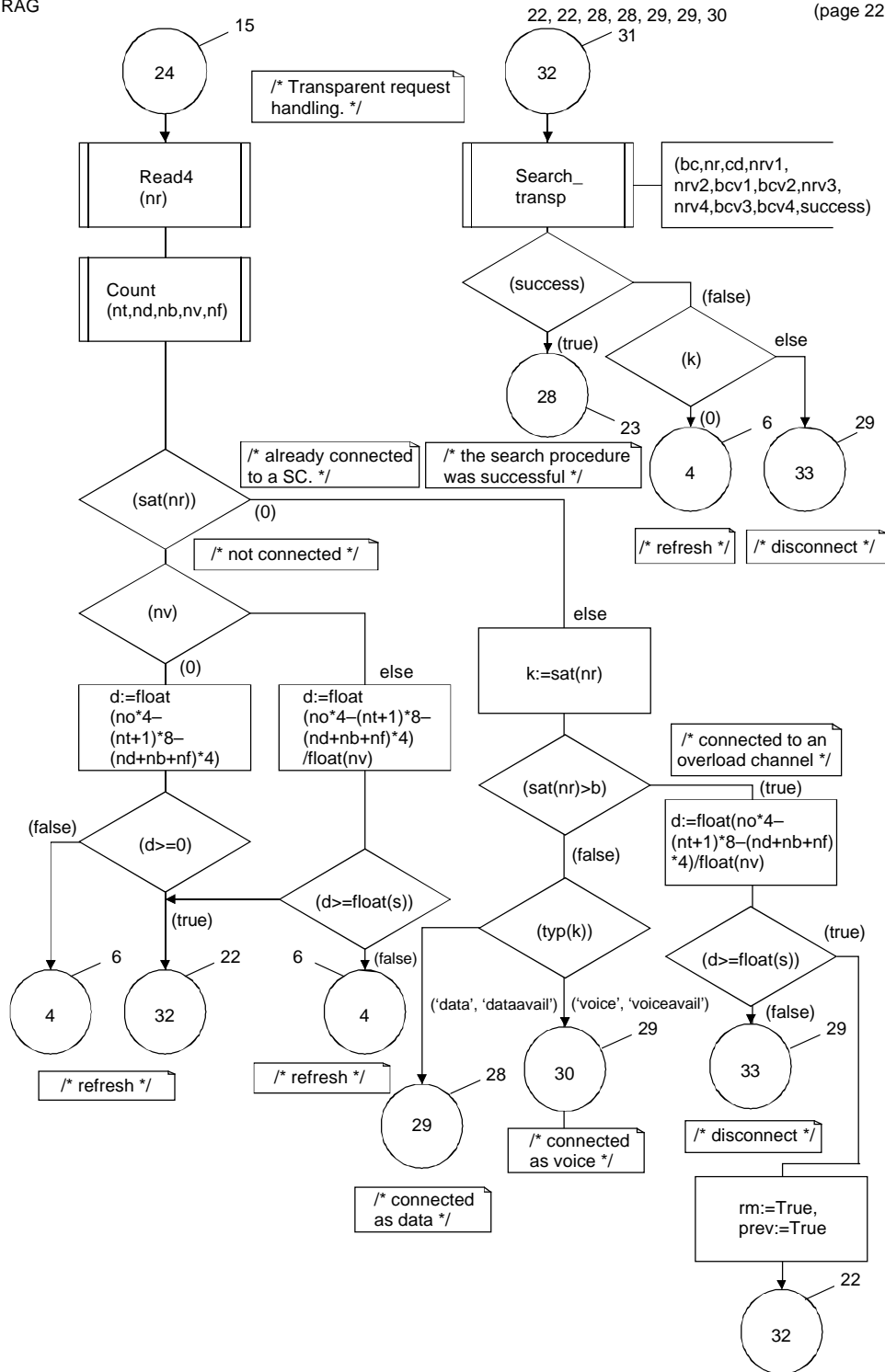


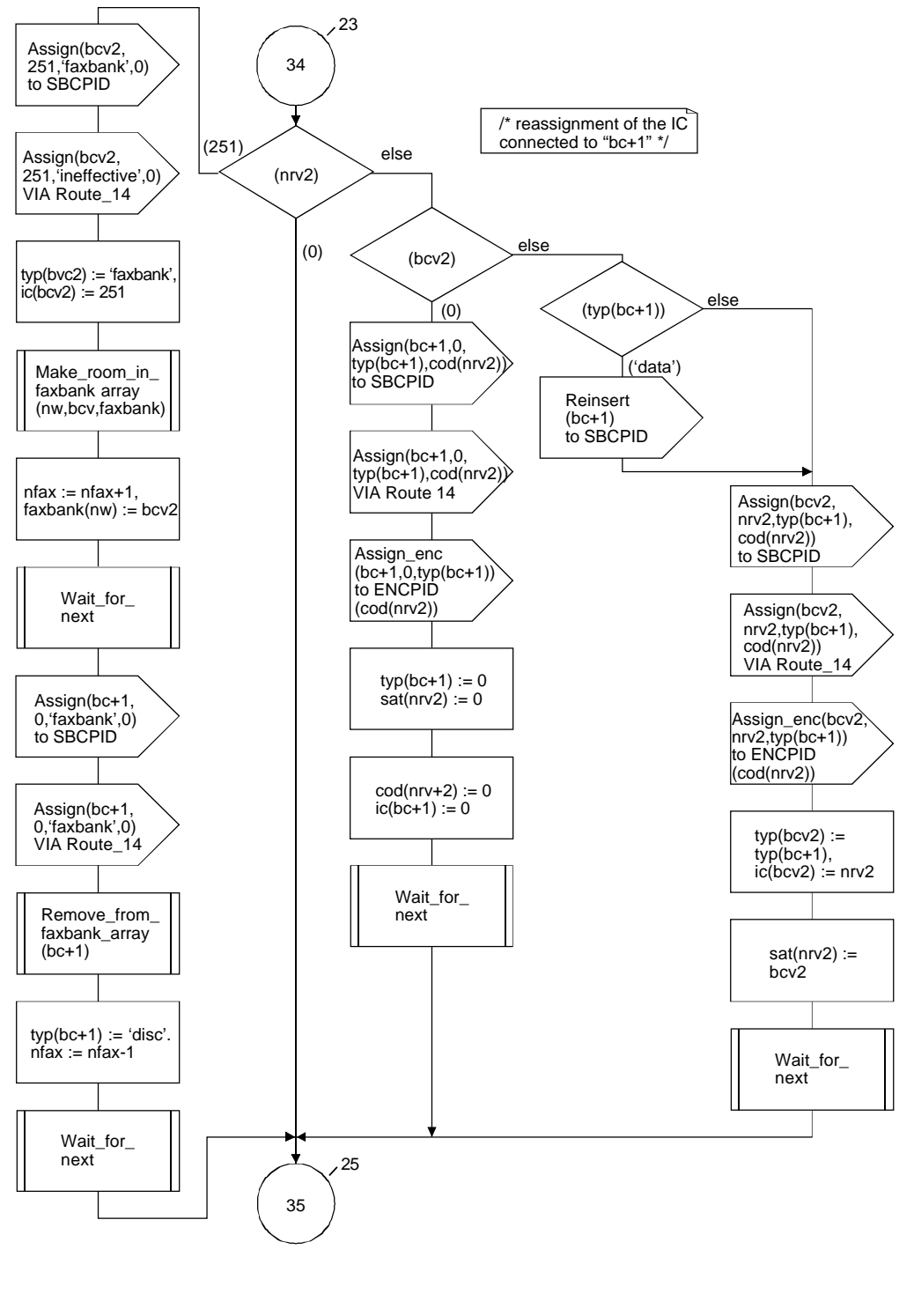


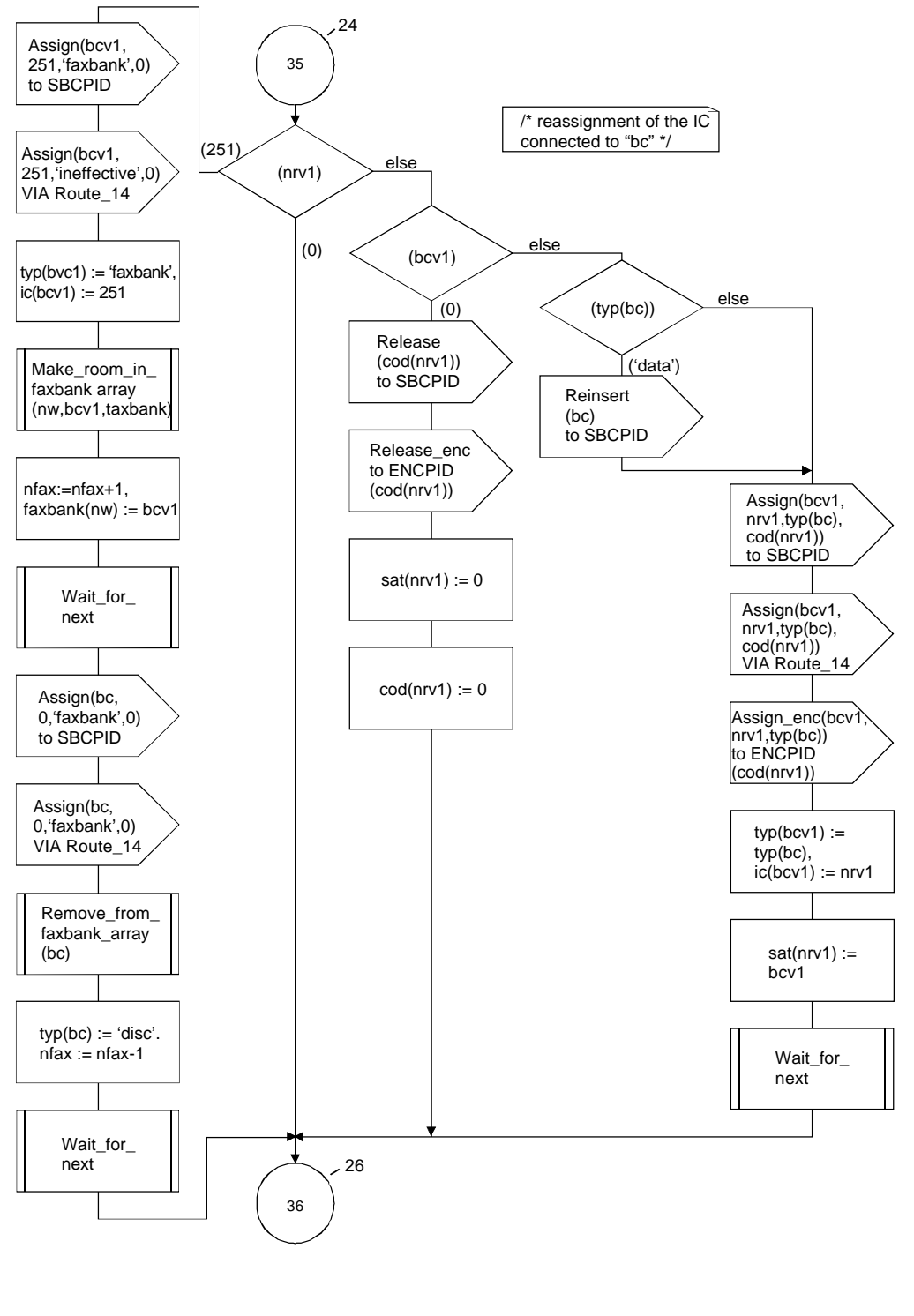


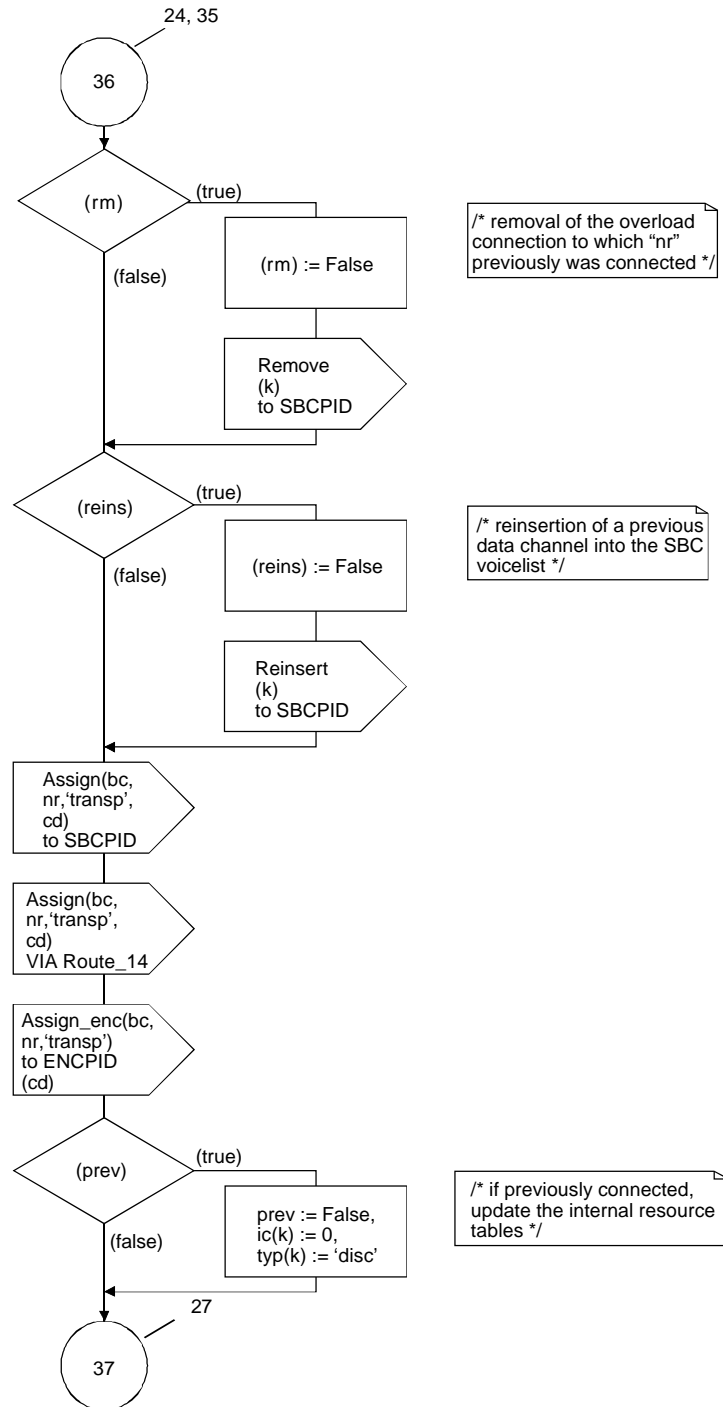


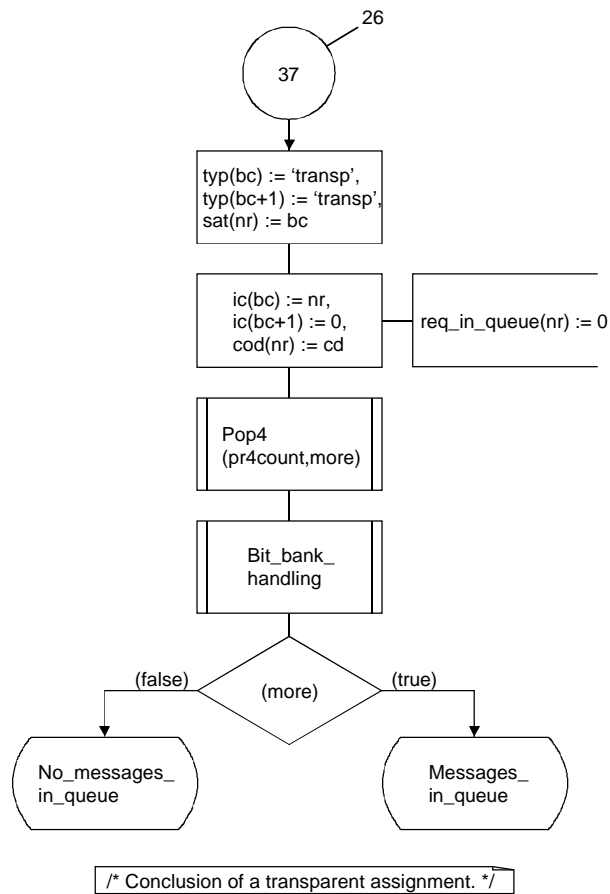


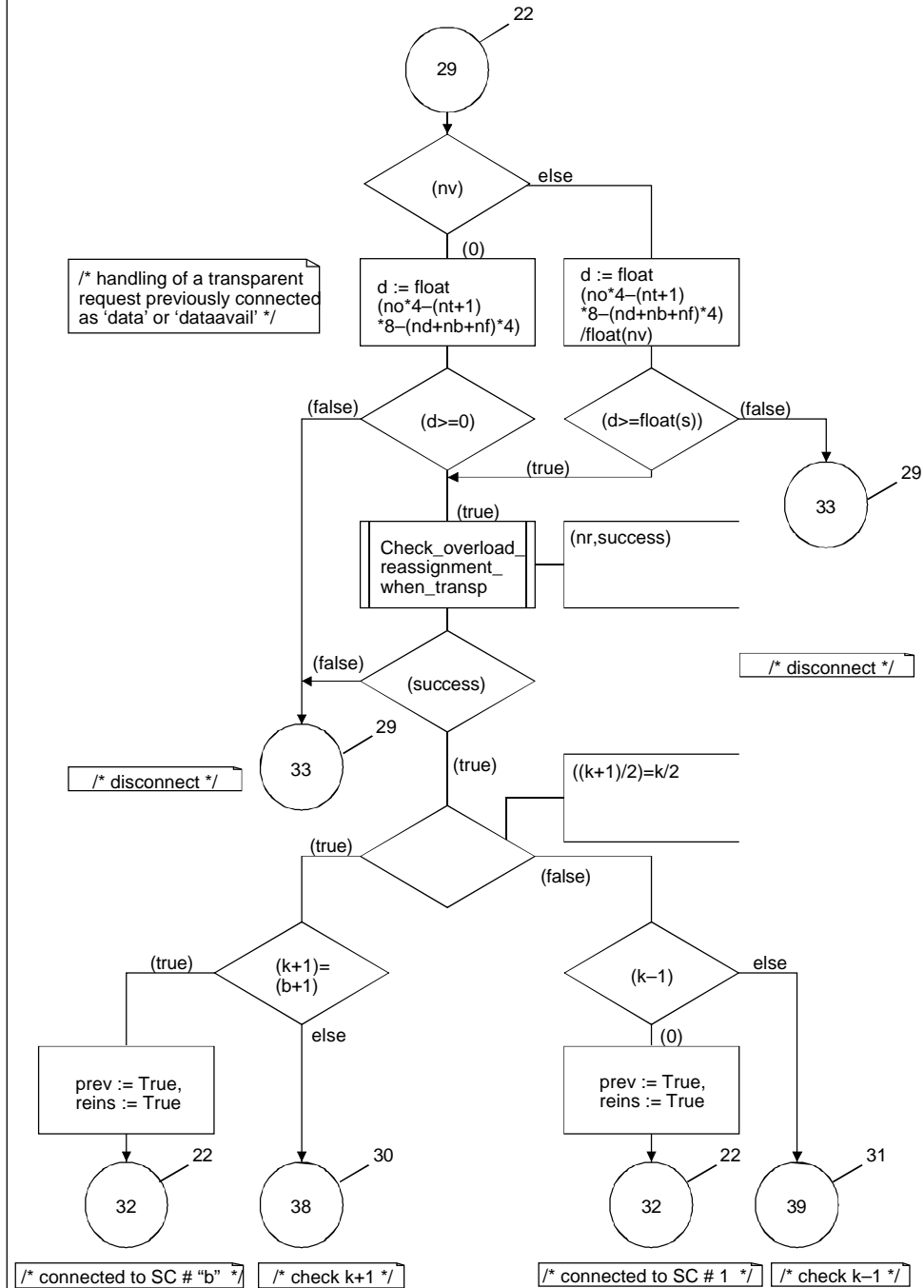


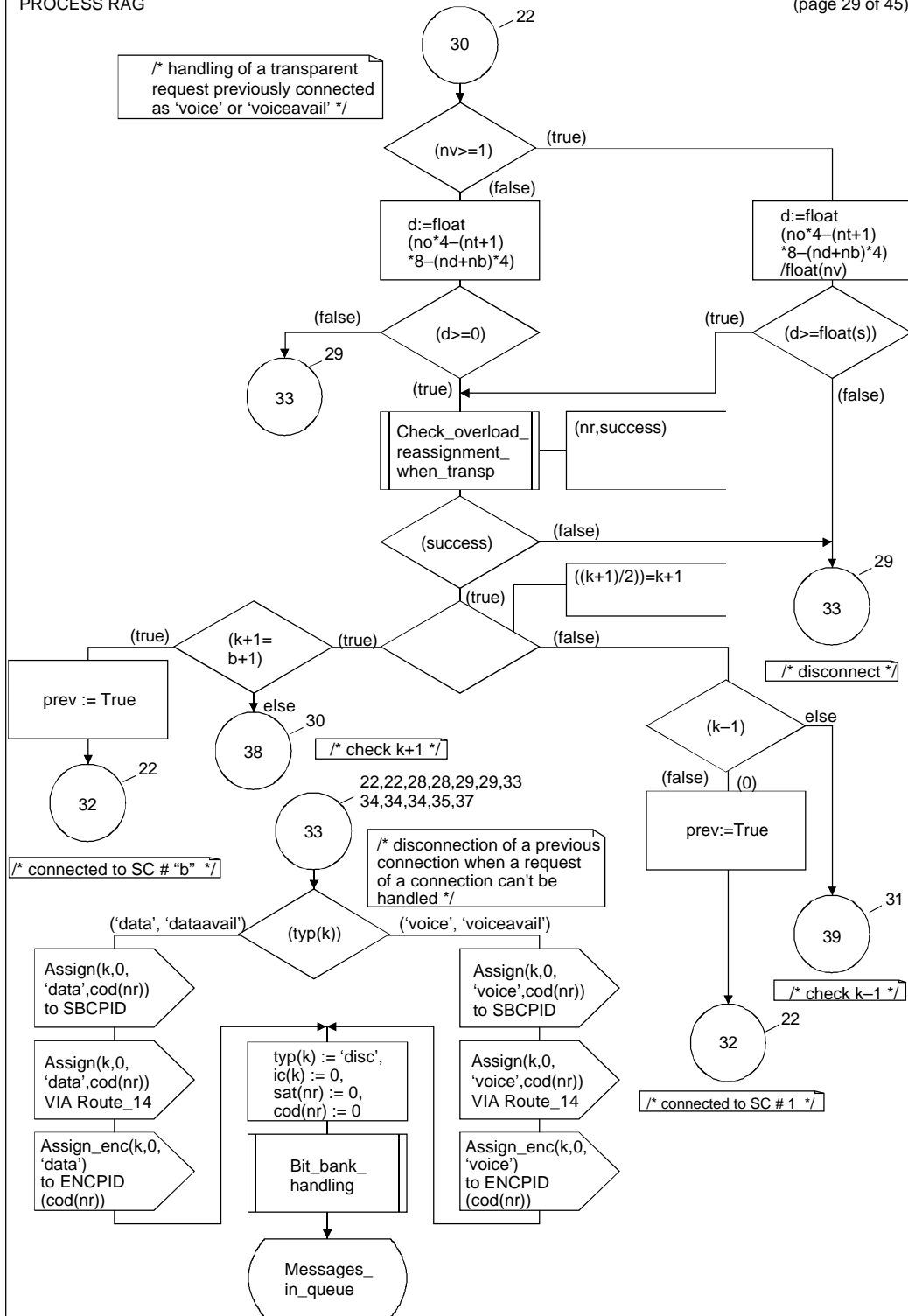


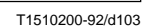


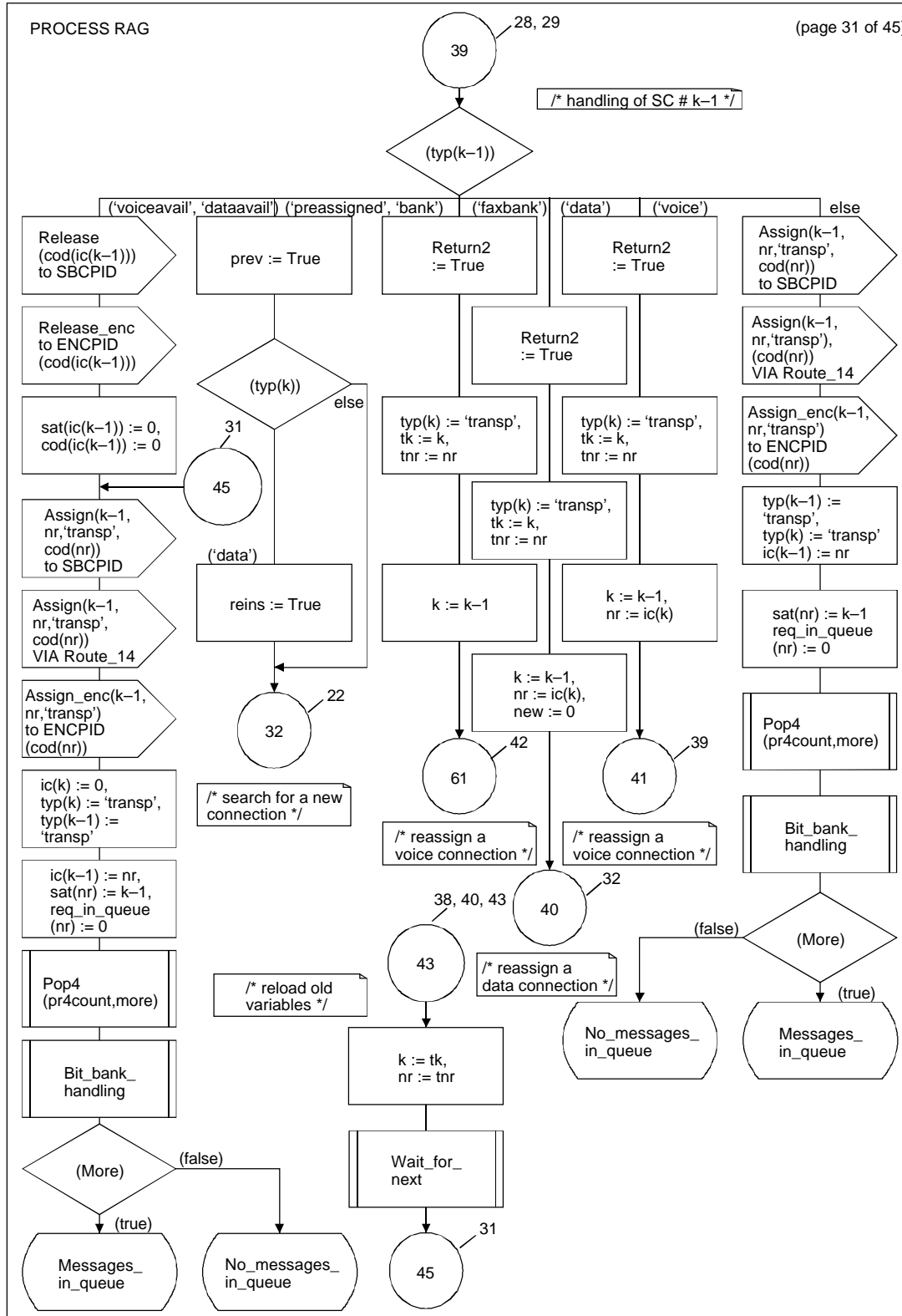


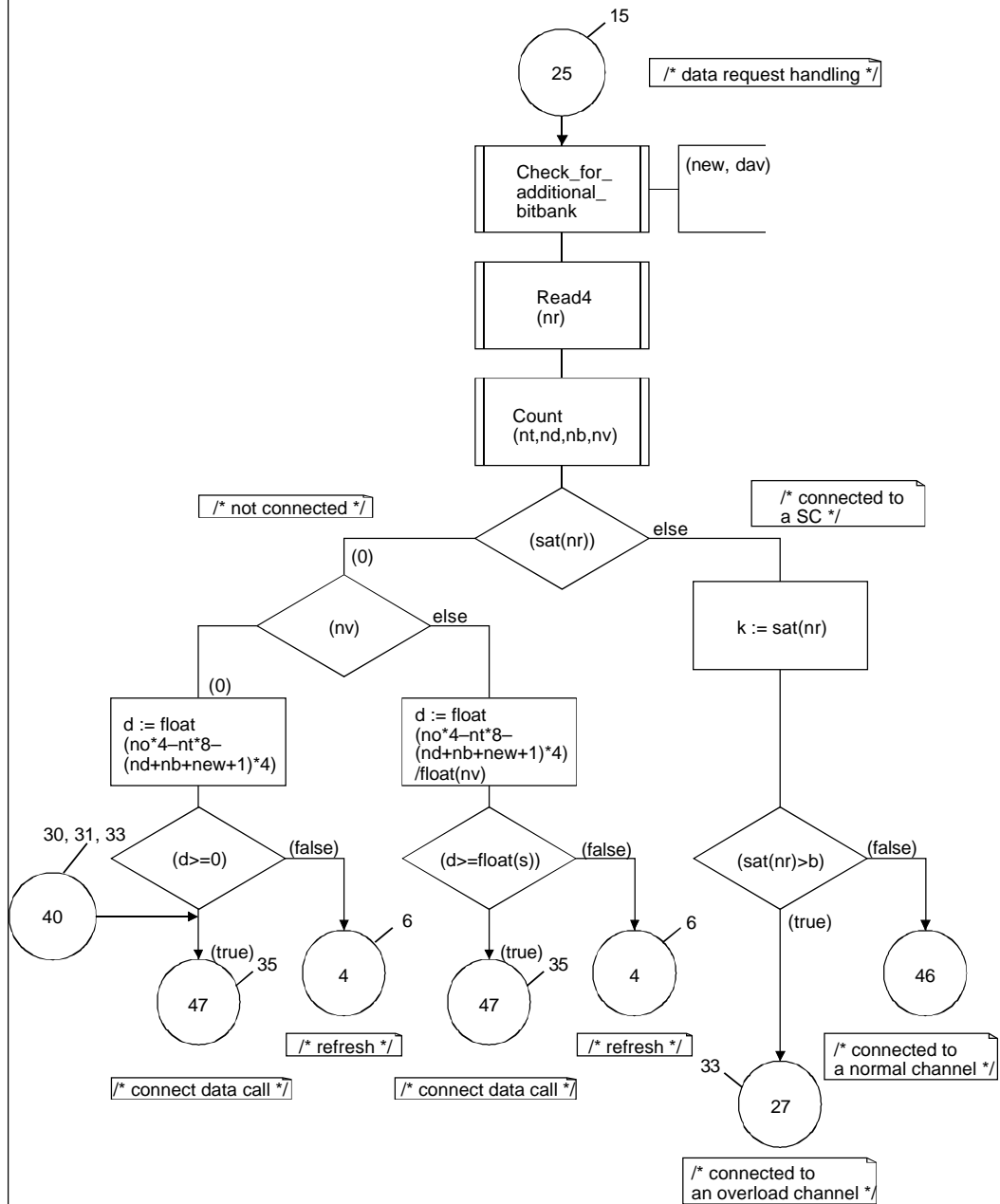


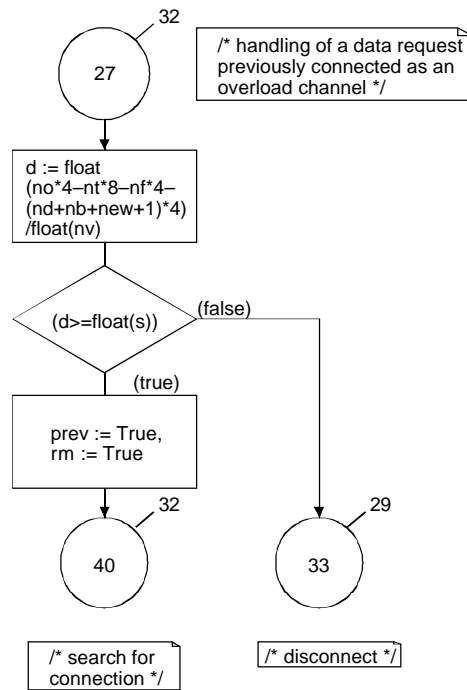


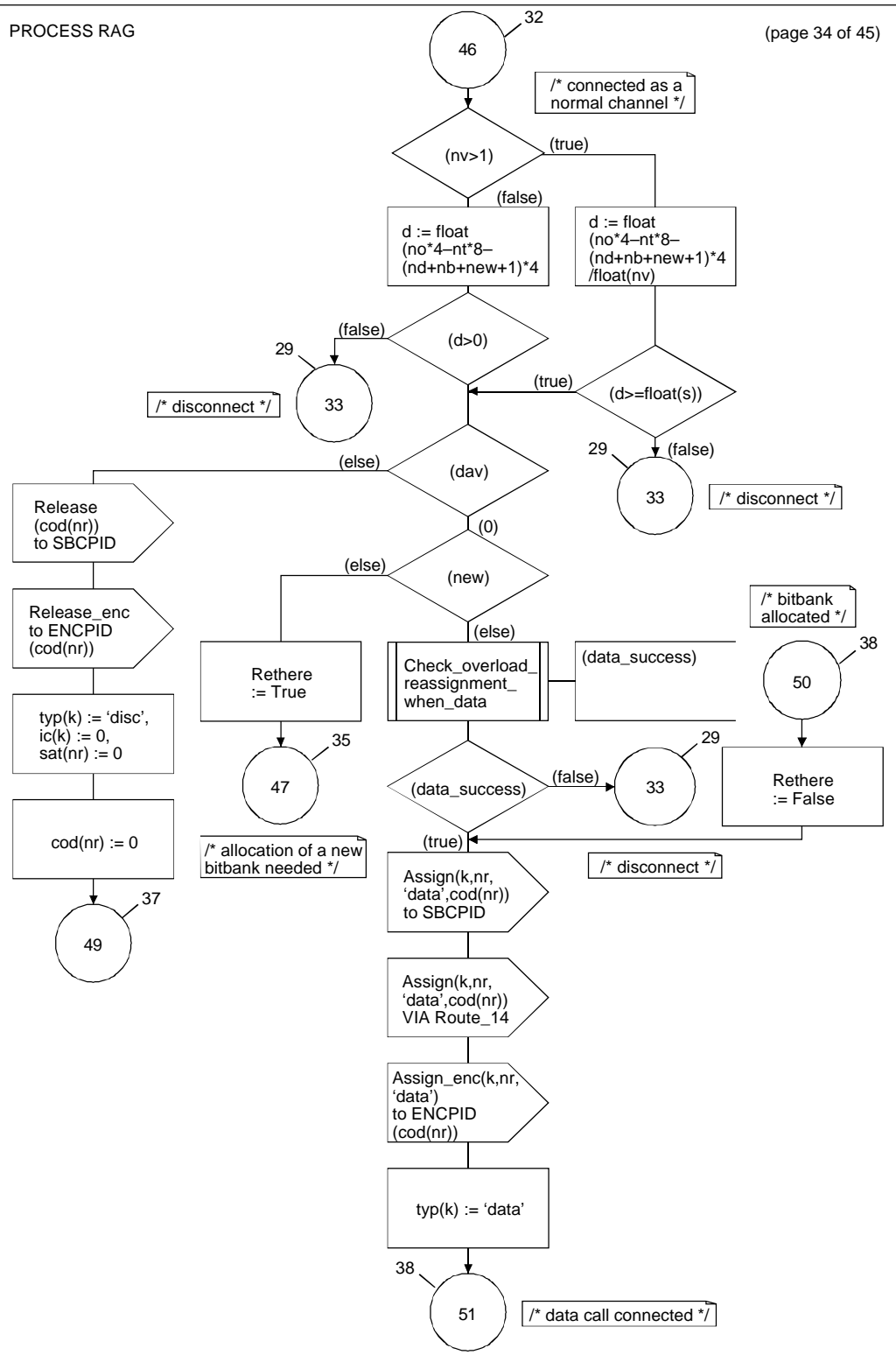


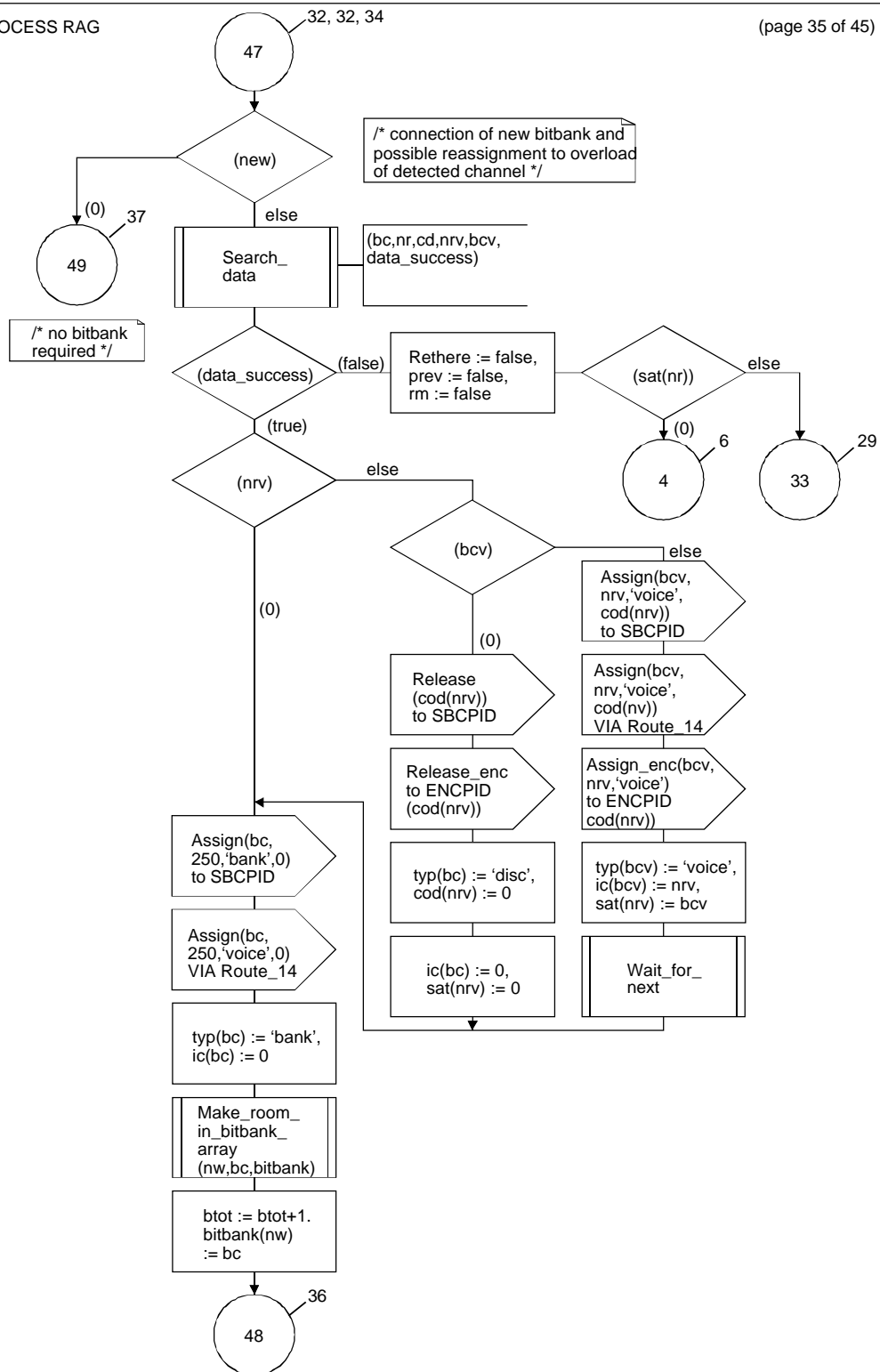


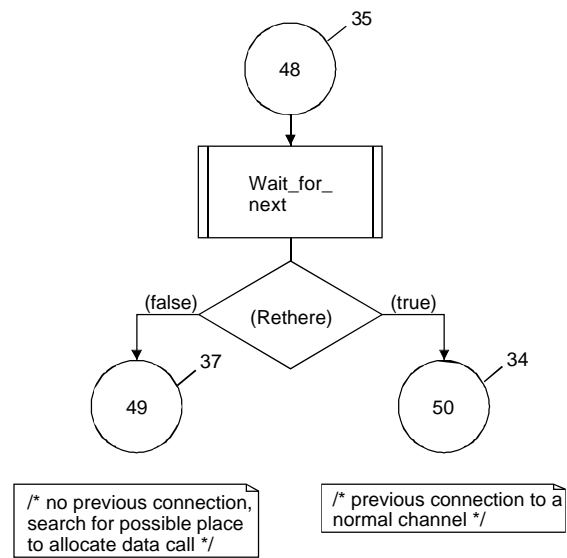


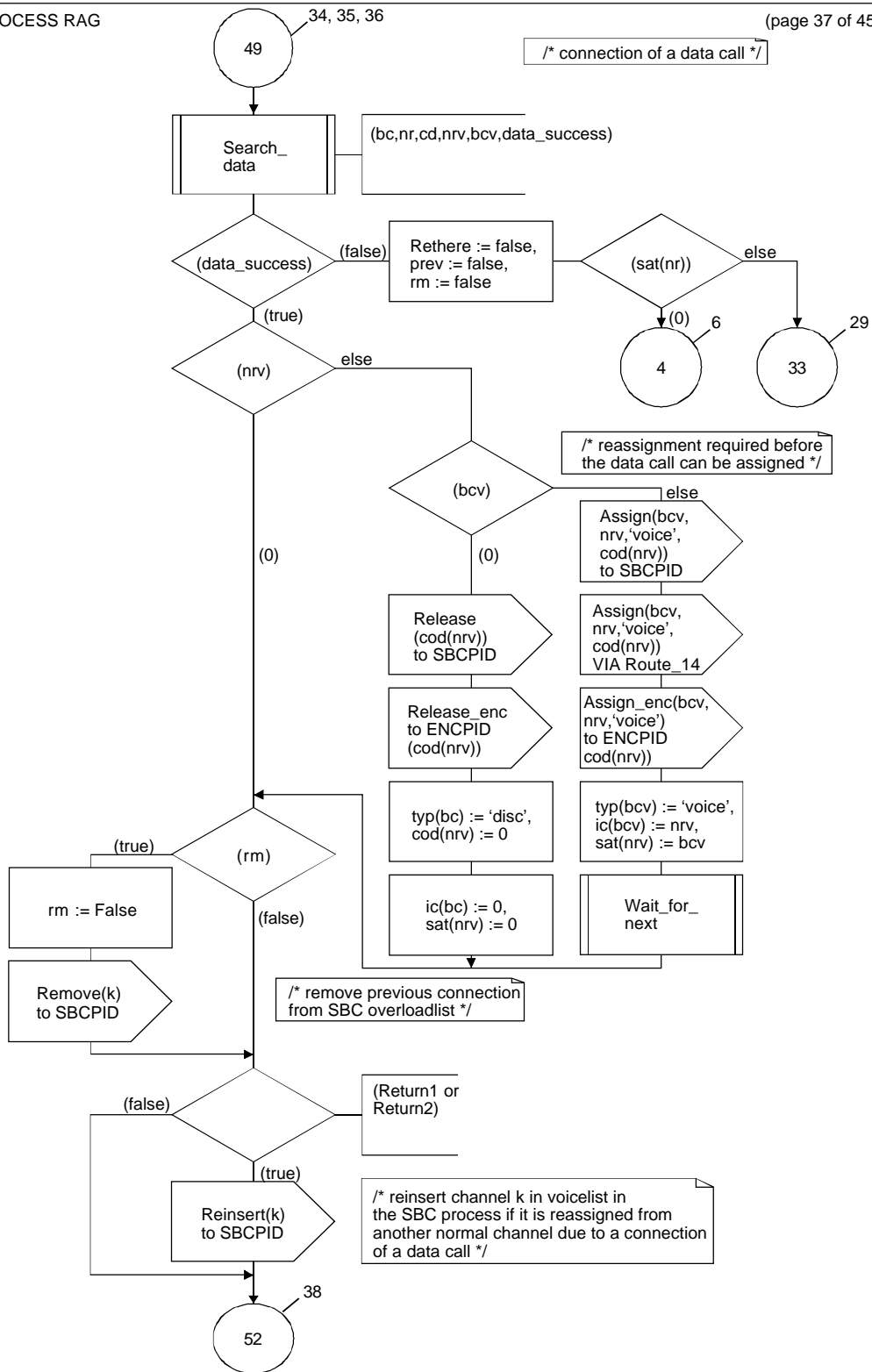


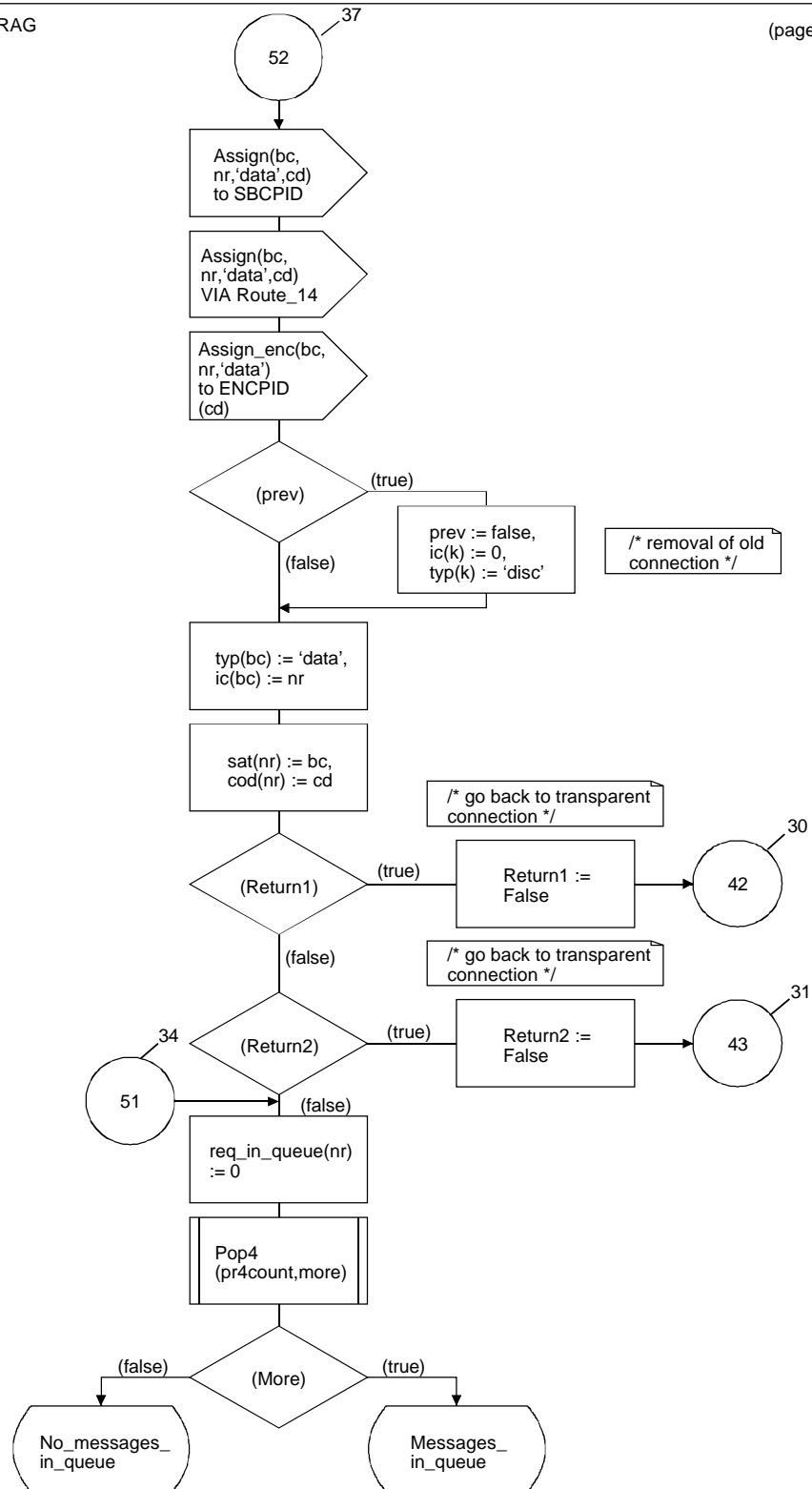


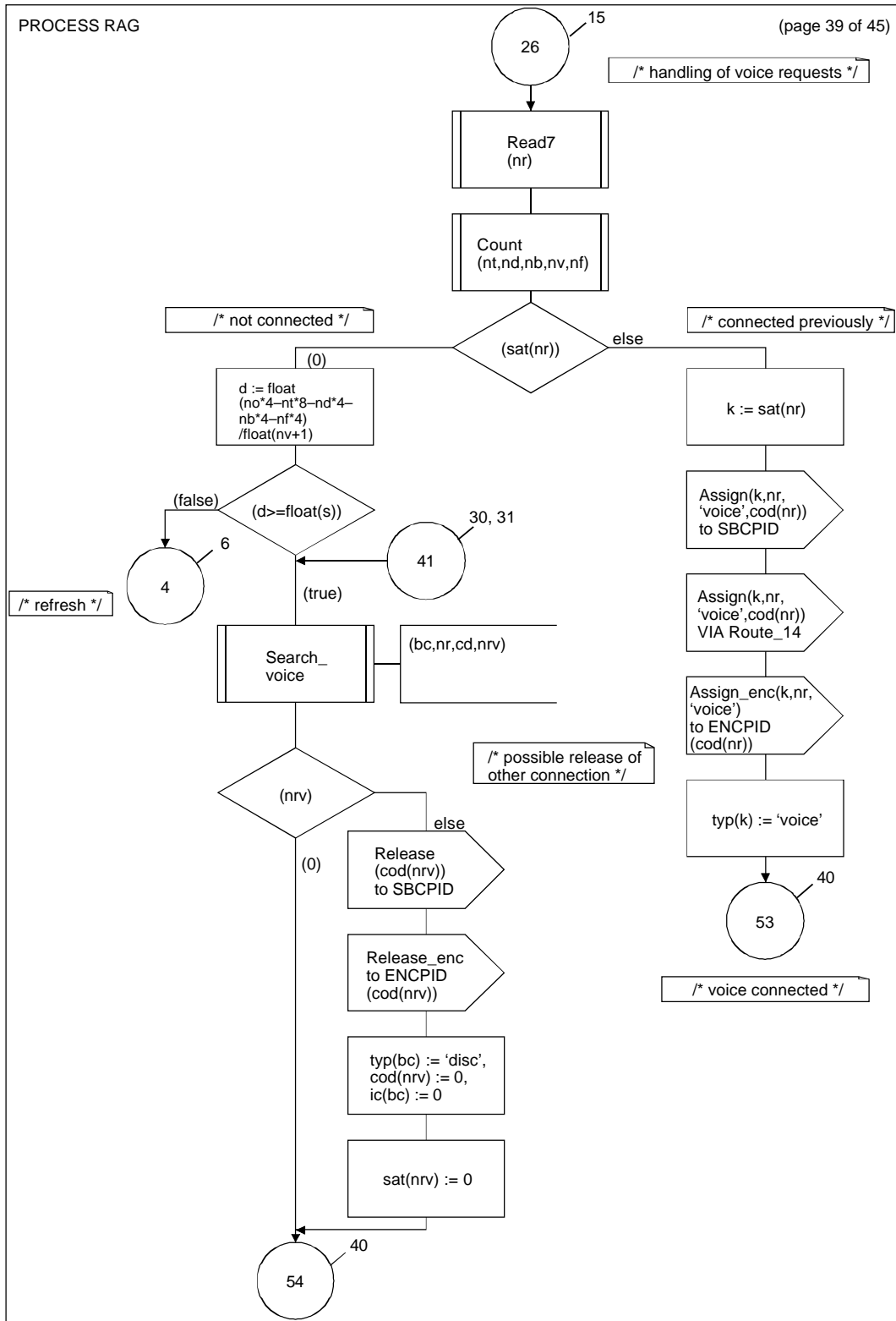


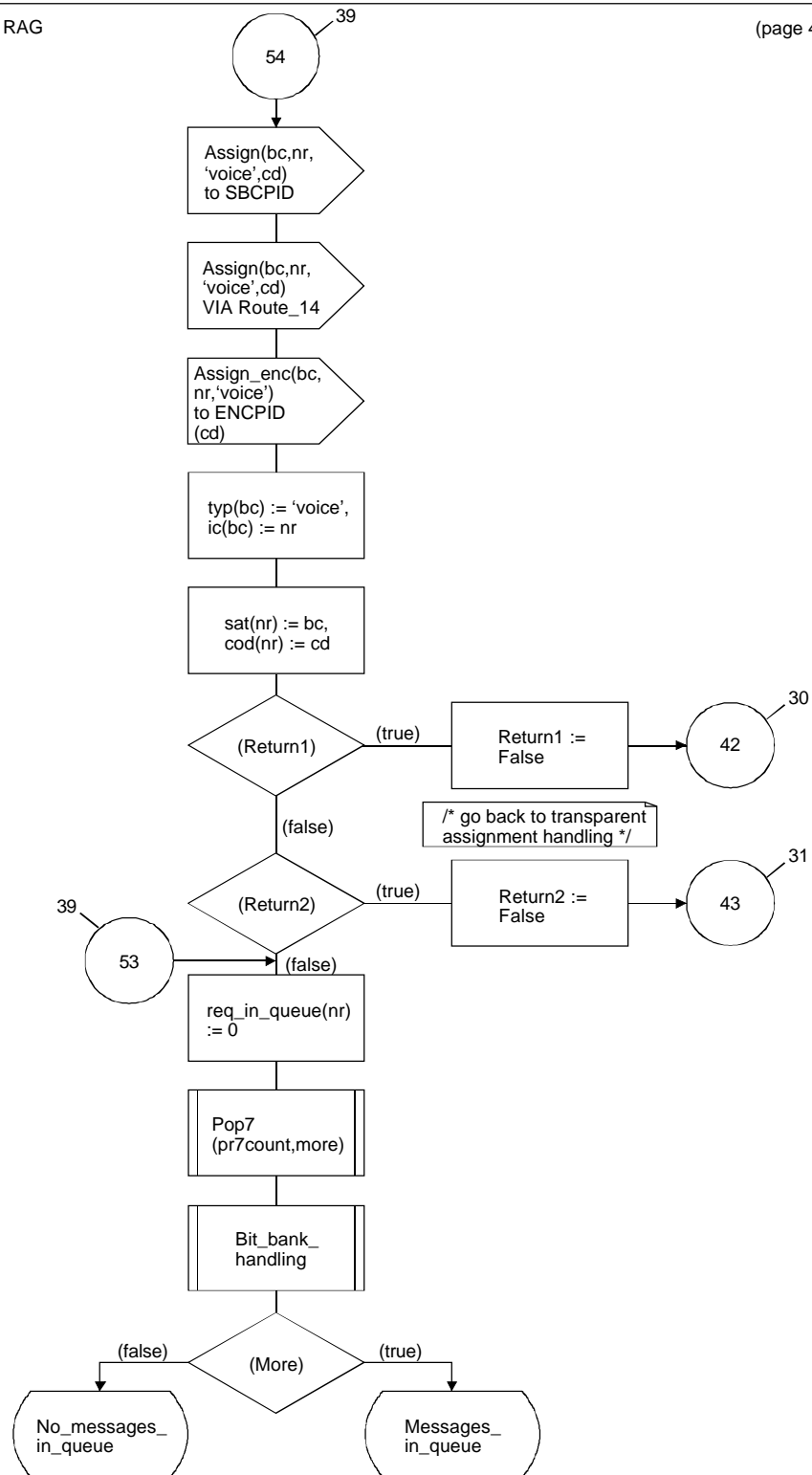


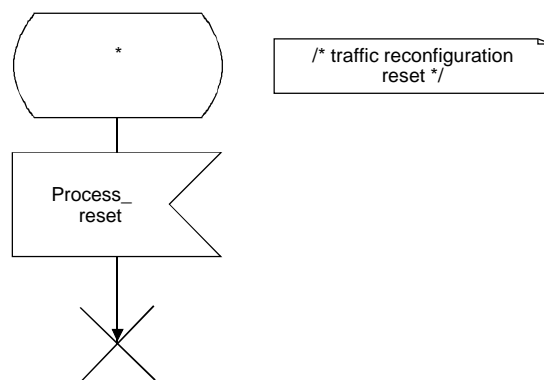


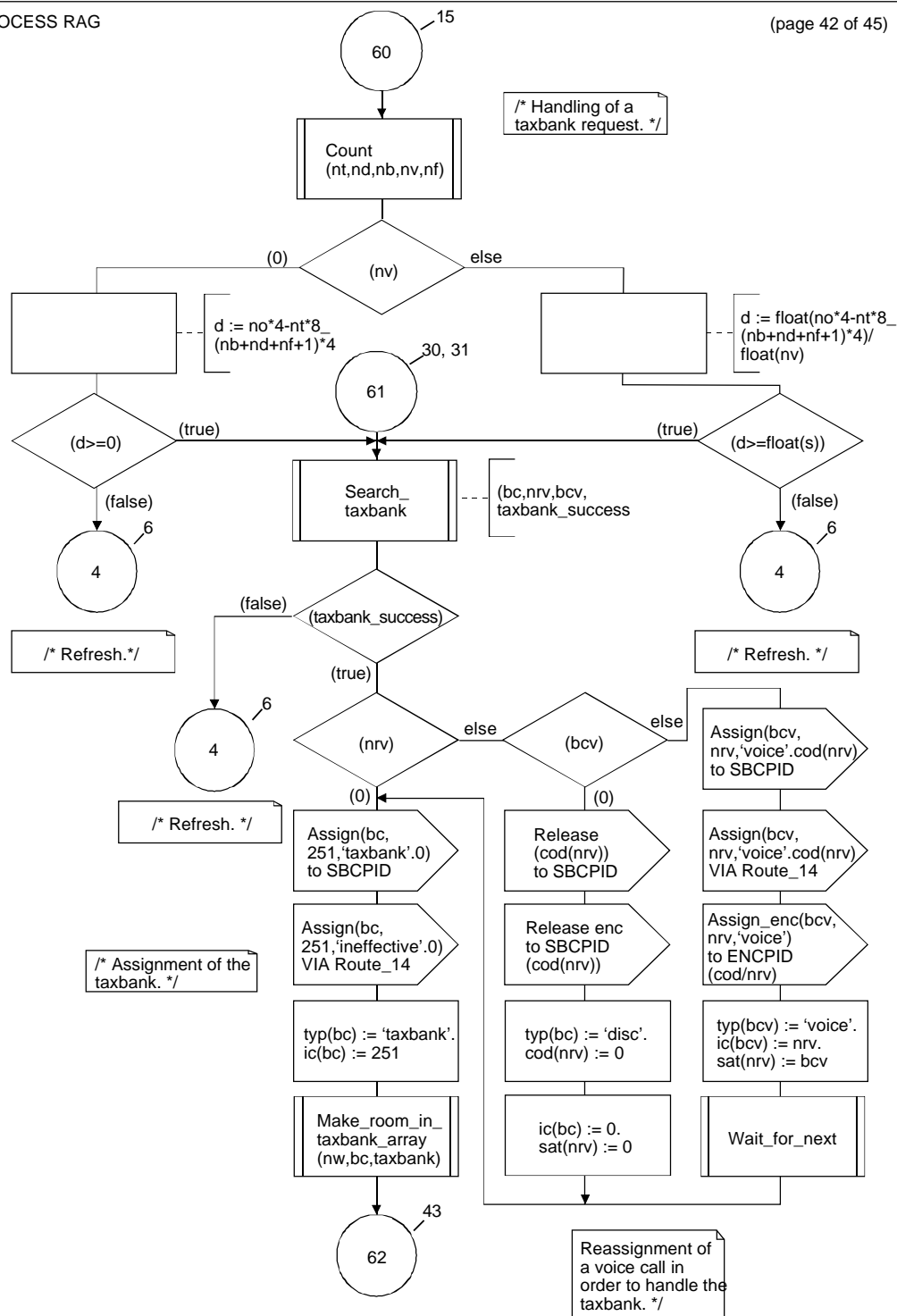


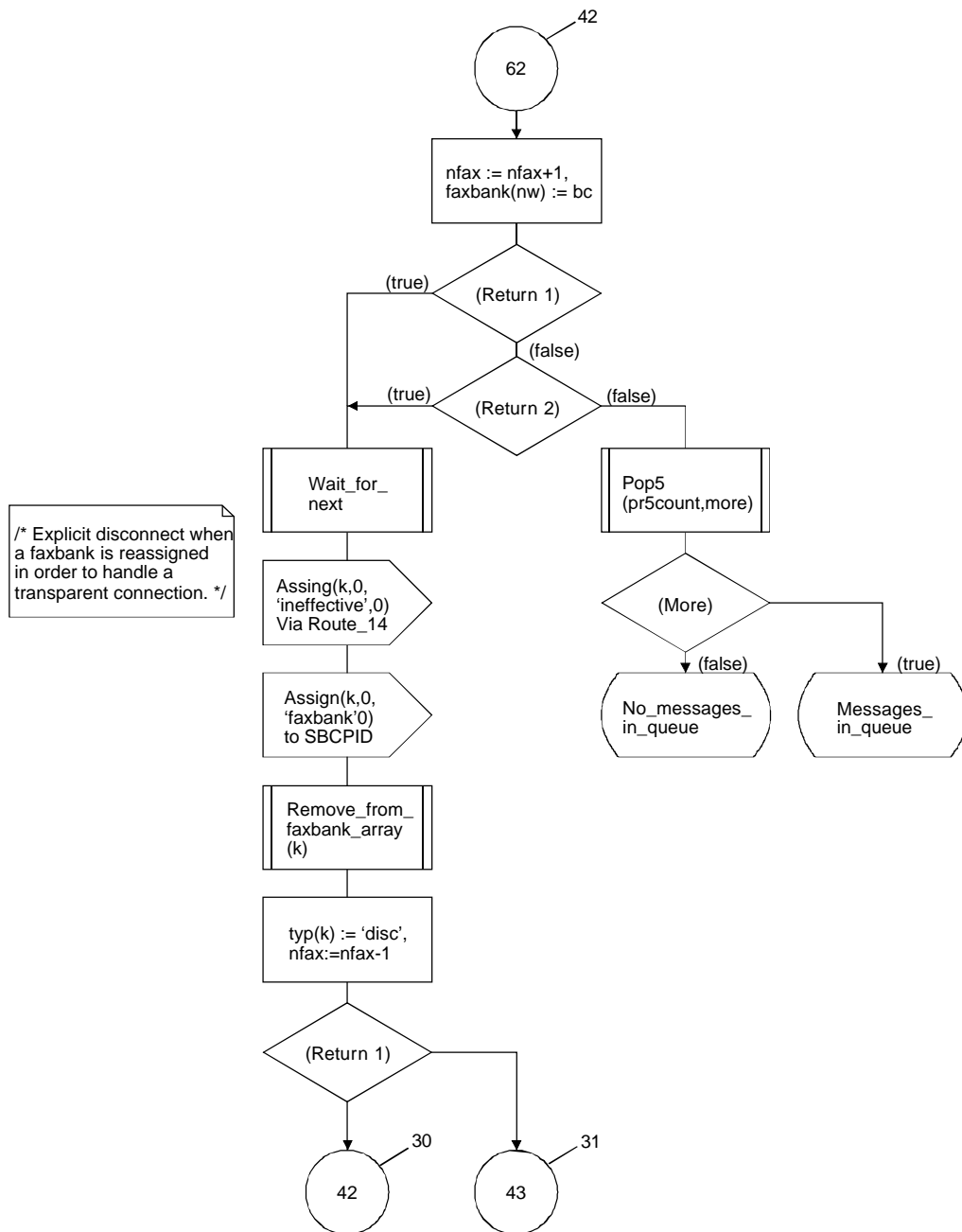


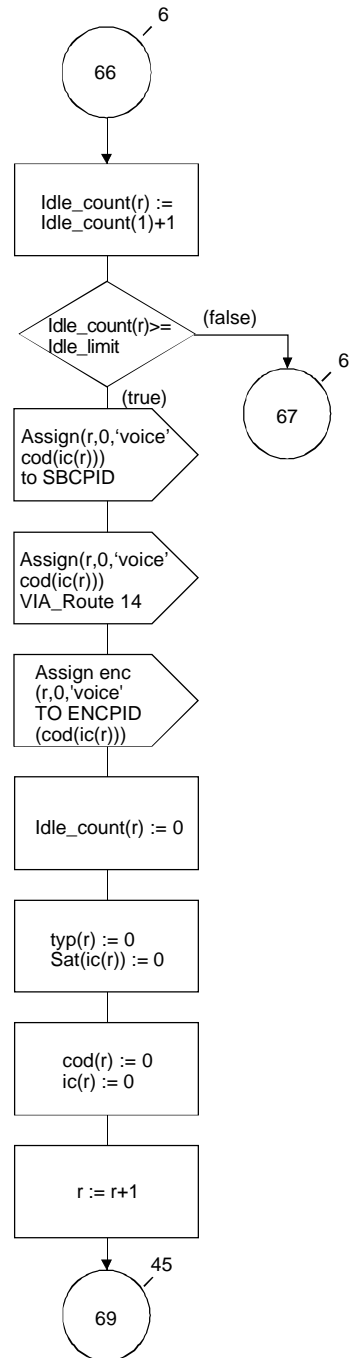
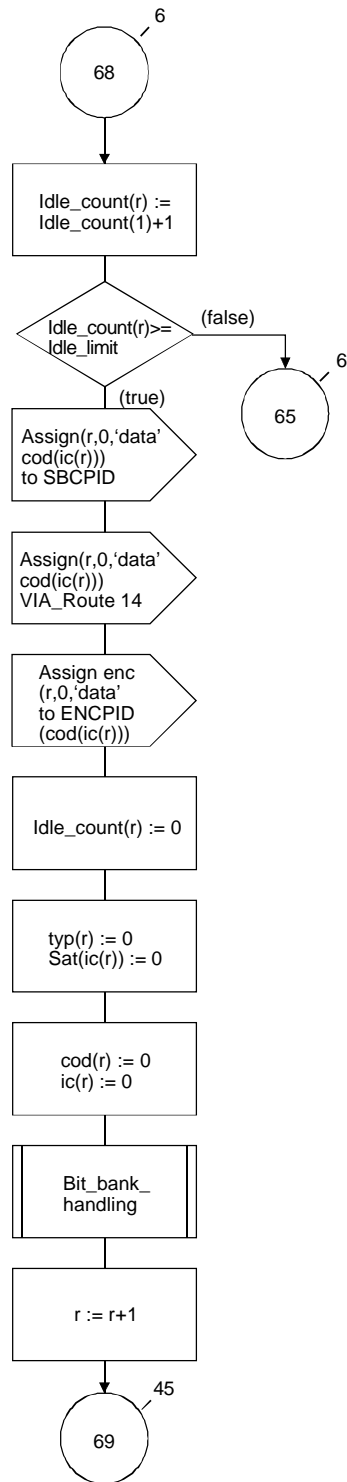


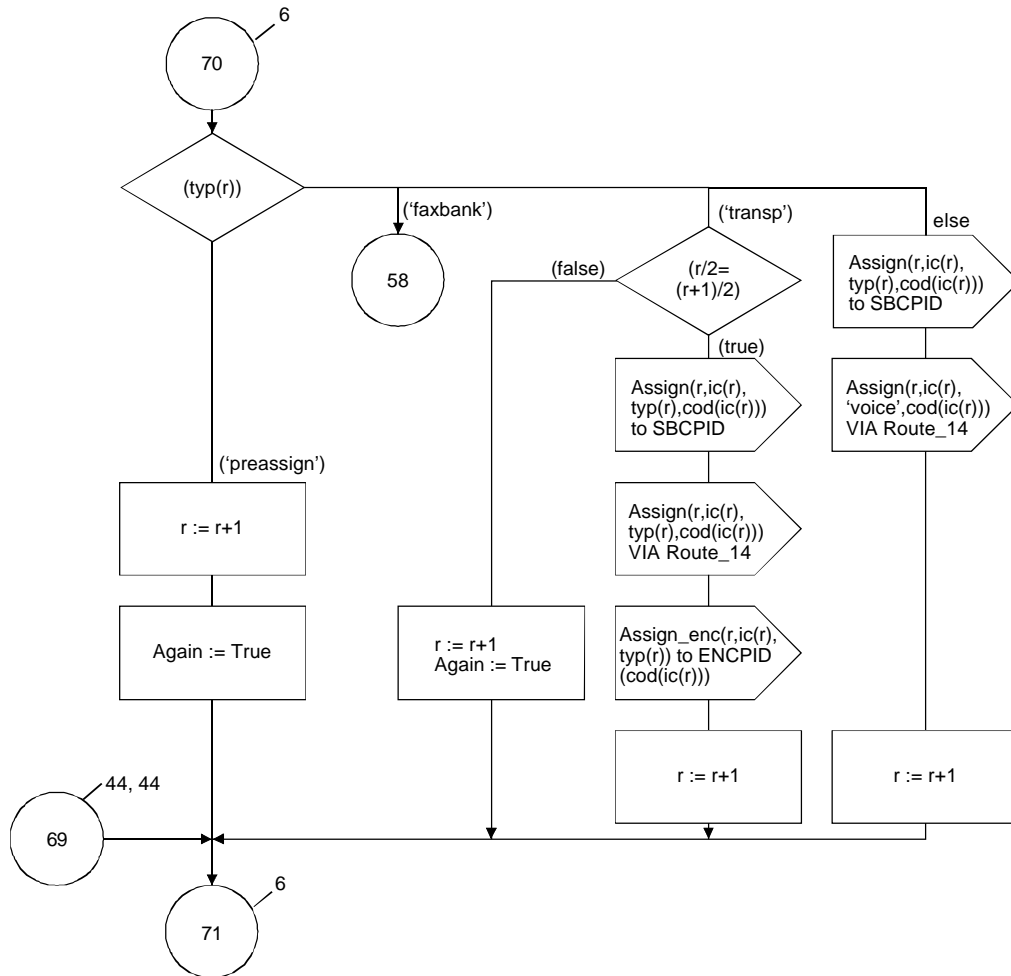




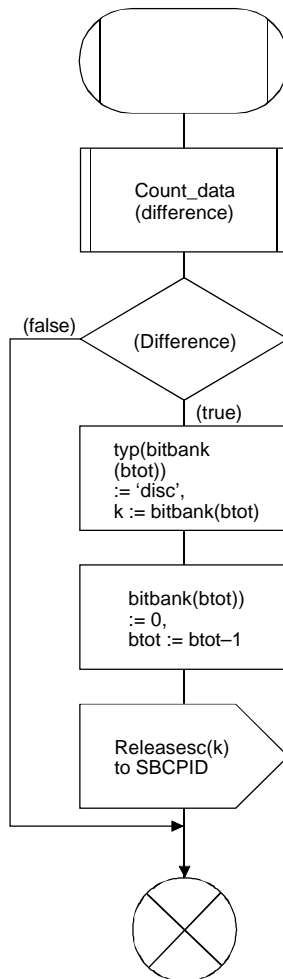






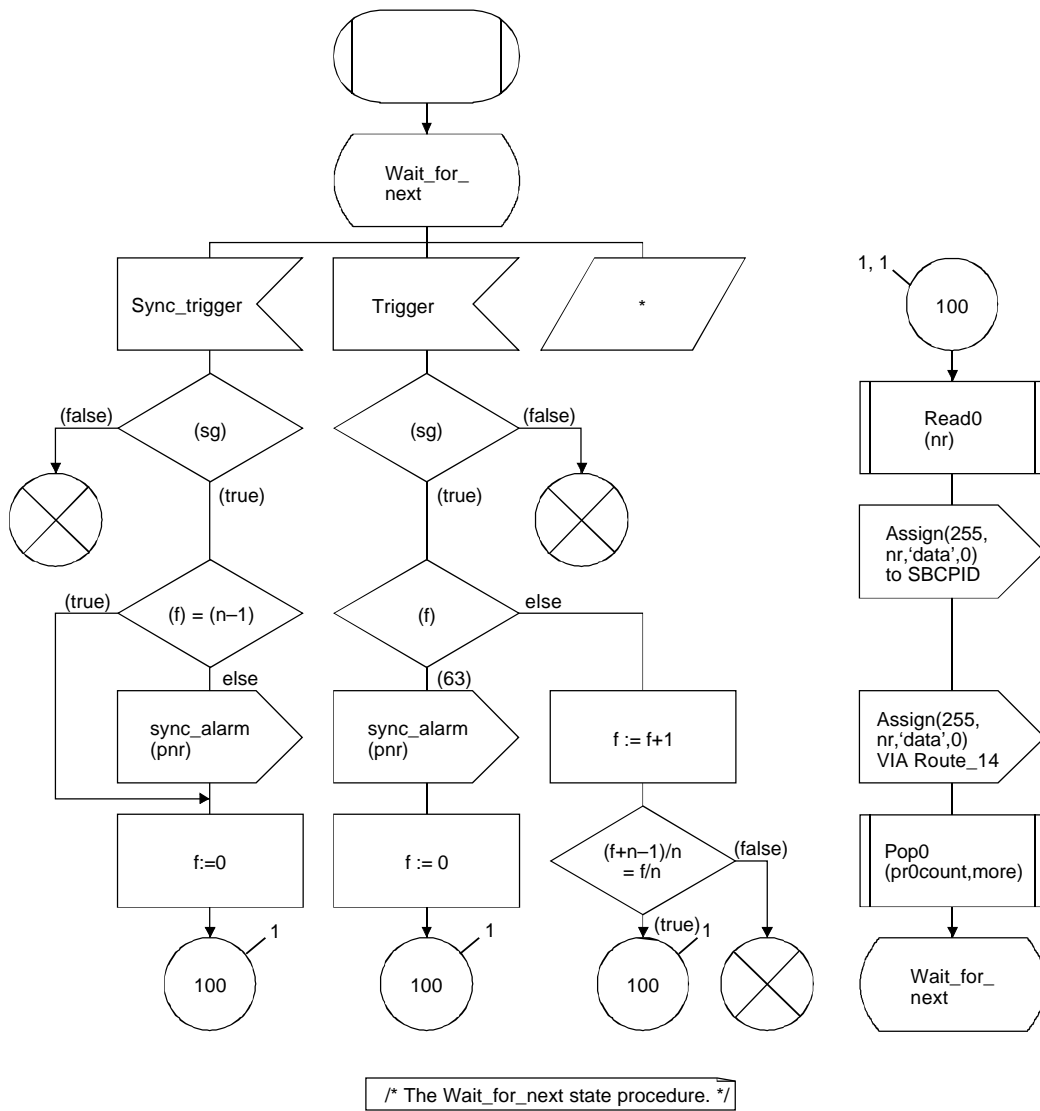


PROCEDURE BIT_BANK_HANDLING



/* Procedure for handling the possible deletion of an unwanted bitbank. */

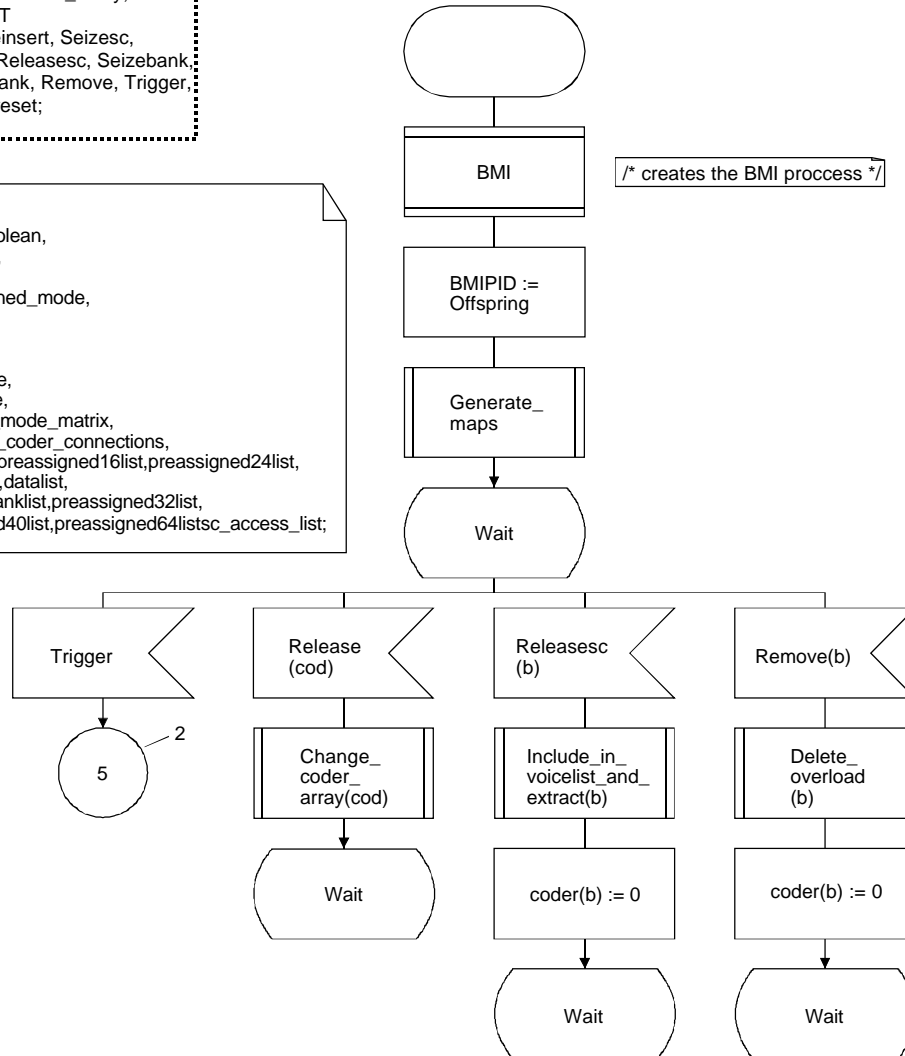
PROCEDURE WAIT_FOR_NEXT

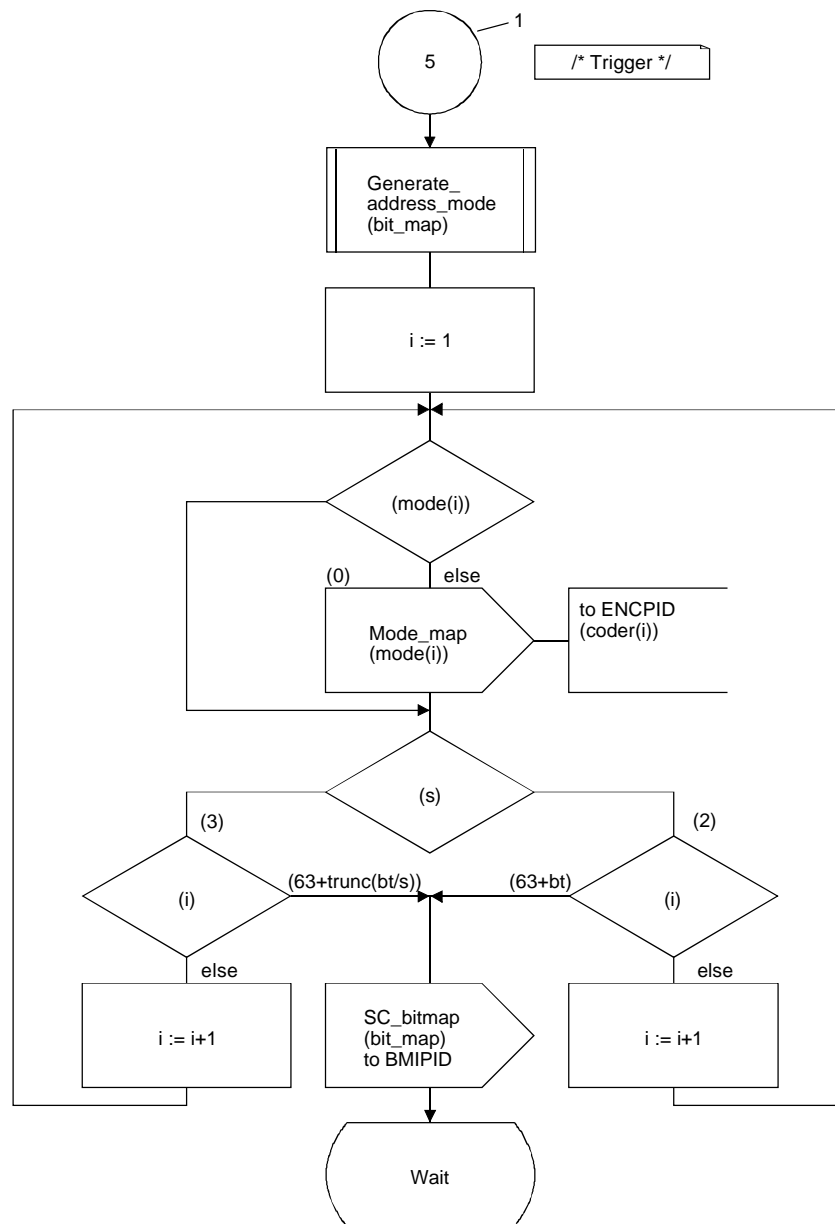


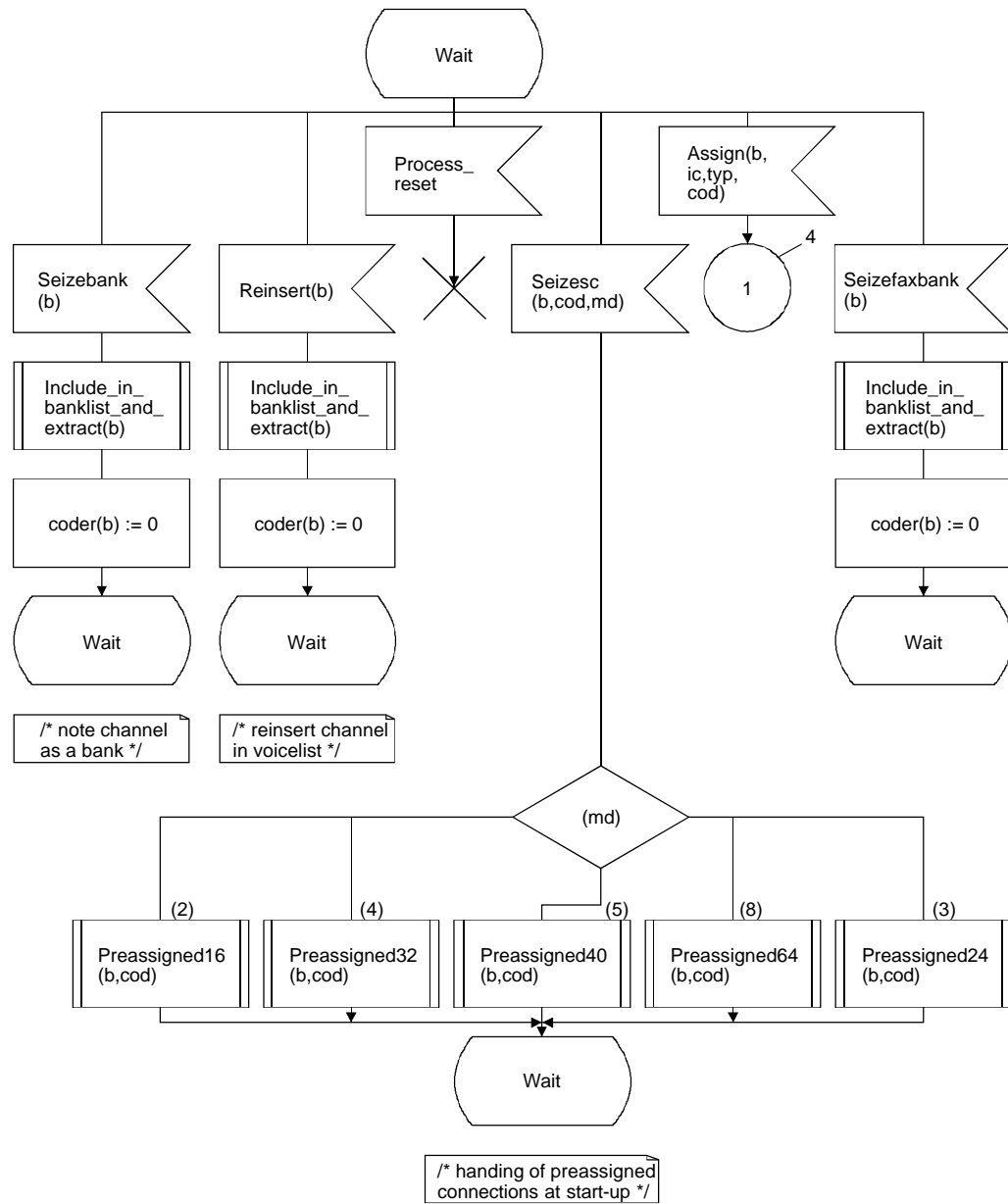
FPAR
 sclist sc_access_list,
 bt, s integer,
 ENCPID ENCPID_Array;
 SIGNALSET
 Assign, Reinsert, Seizesc,
 Release, Releasesc, Seizebank,
 Seizefaxbank, Remove, Trigger,
 Process_reset;

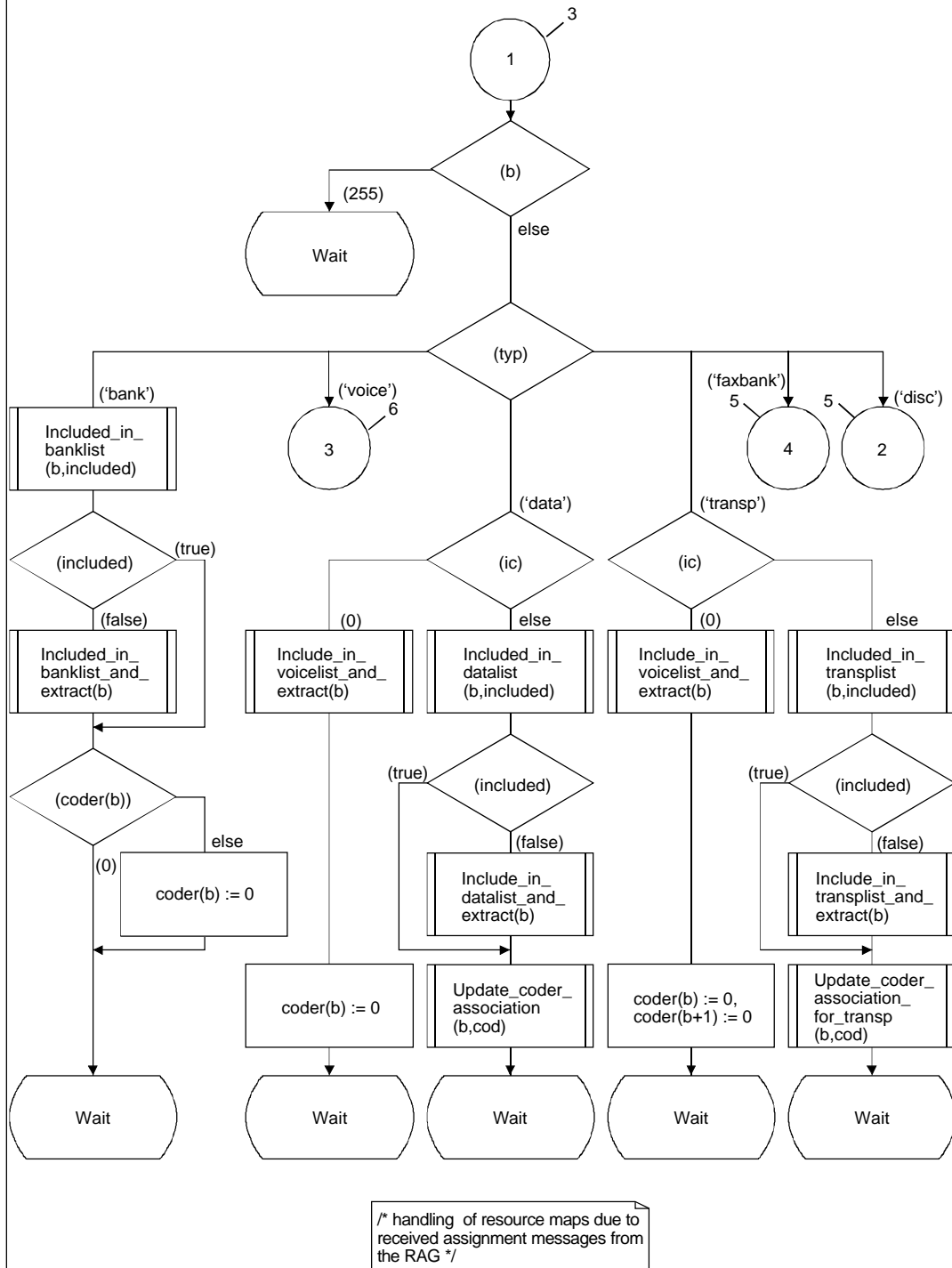
DCL
 includedboolean,
 BMIPIDPid,
 iinteger,
 modeassigned_mode,
 binteger,
 icinteger,
 codinteger,
 mdbit_mode,
 typcall_type,
 bit_mapbit_mode_matrix,
 codersc_to_coder_connections,
 faxbanklist, preassigned16list, preassigned24list,
 overloadlist, datalist,
 transpllist, banklist, preassigned32list,
 preassigned40list, preassigned64list, sc_access_list;

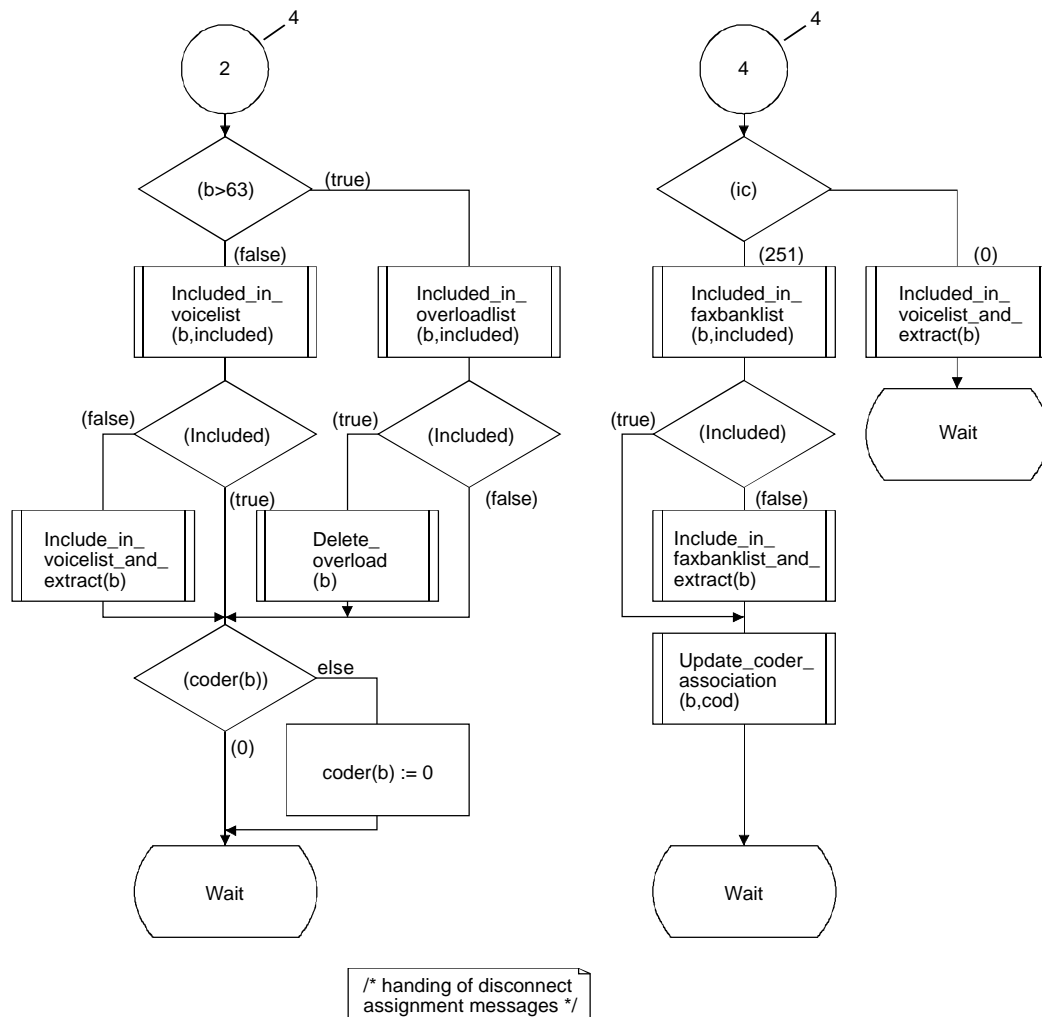
/* SC_bitmap_creation_process (SBC) */

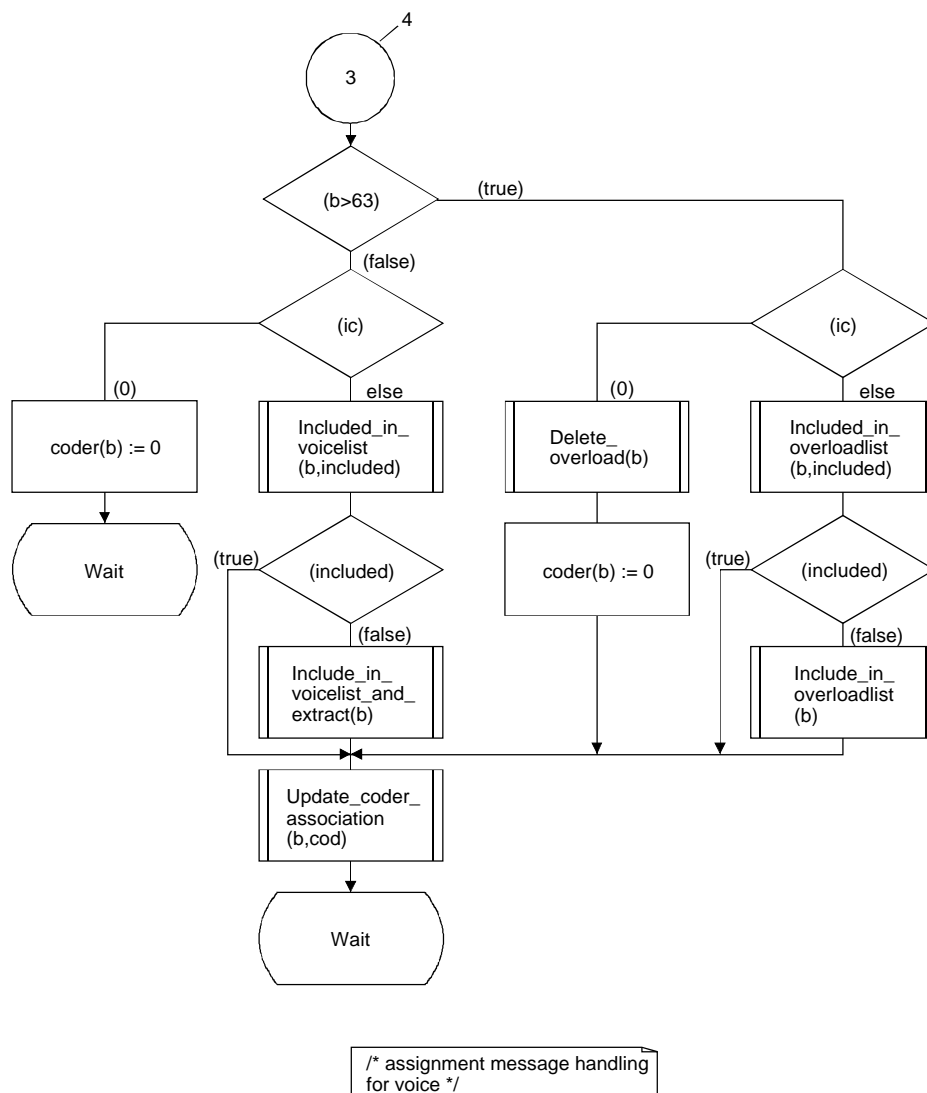




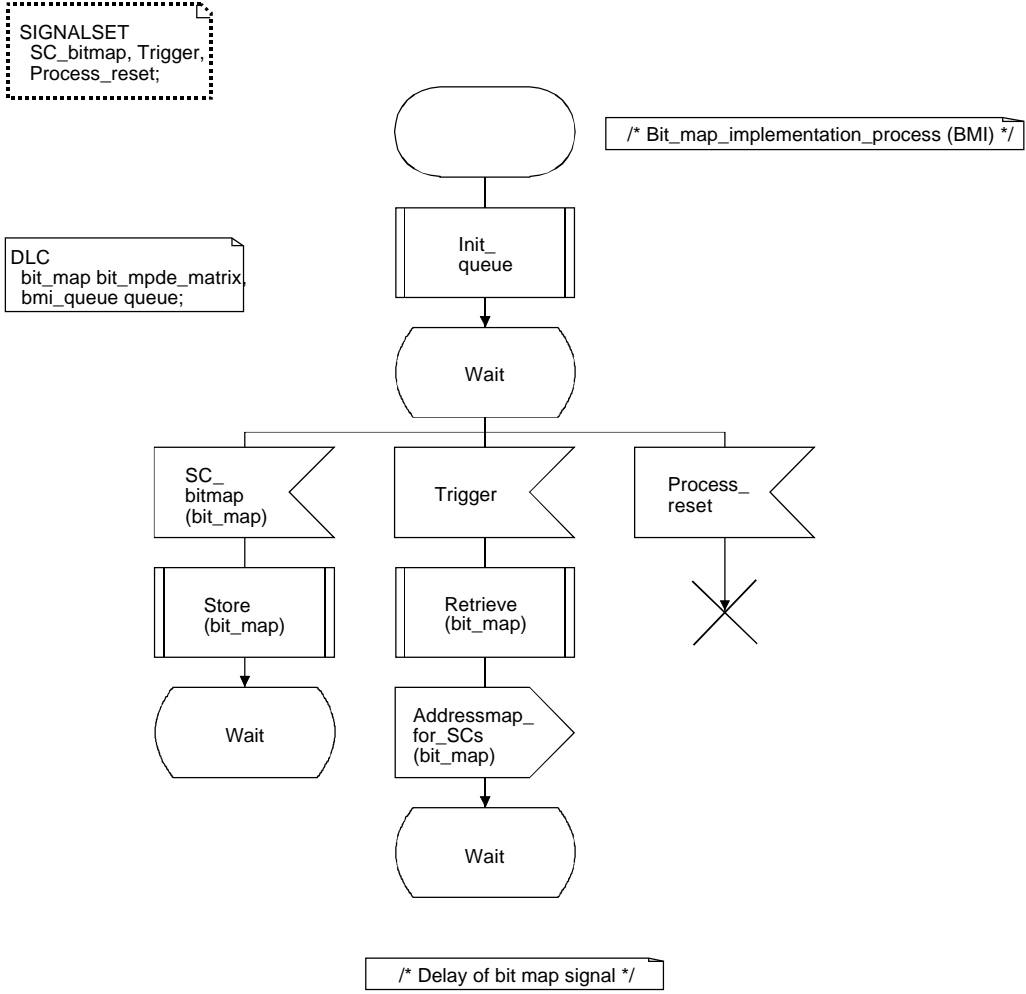


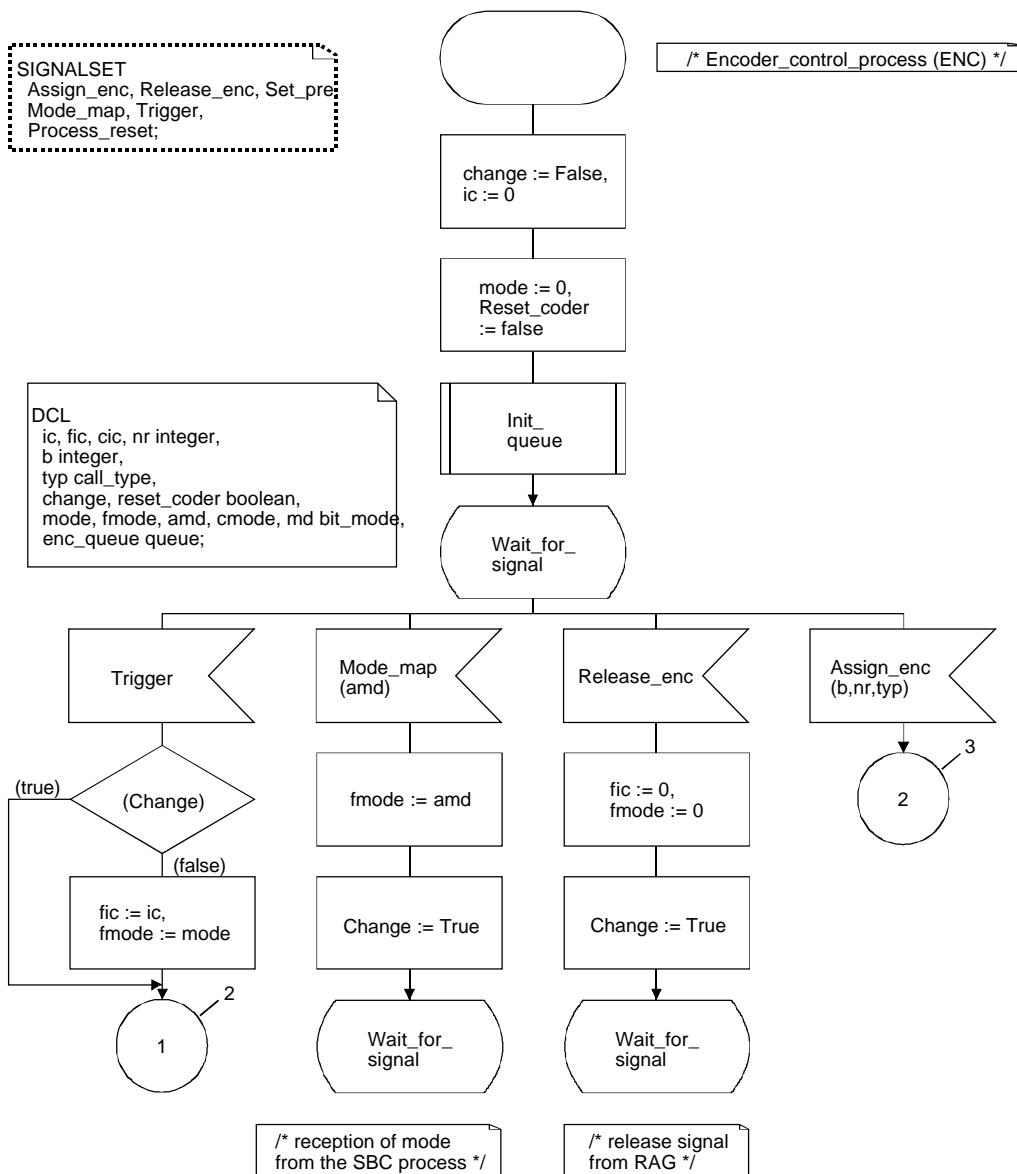


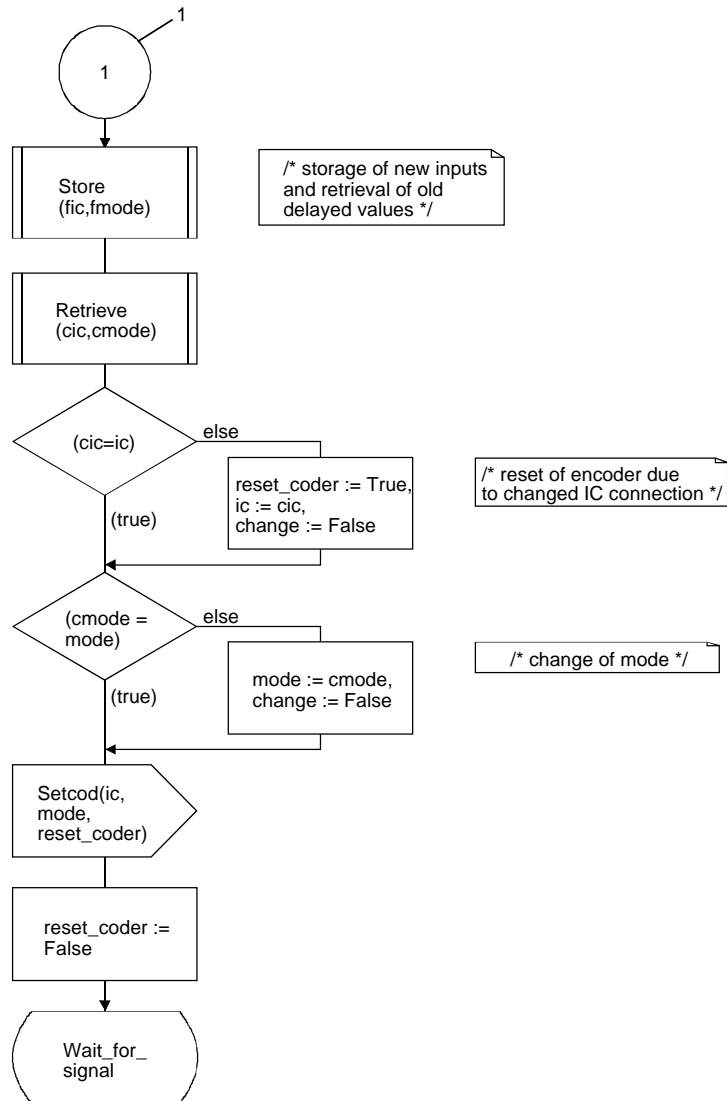


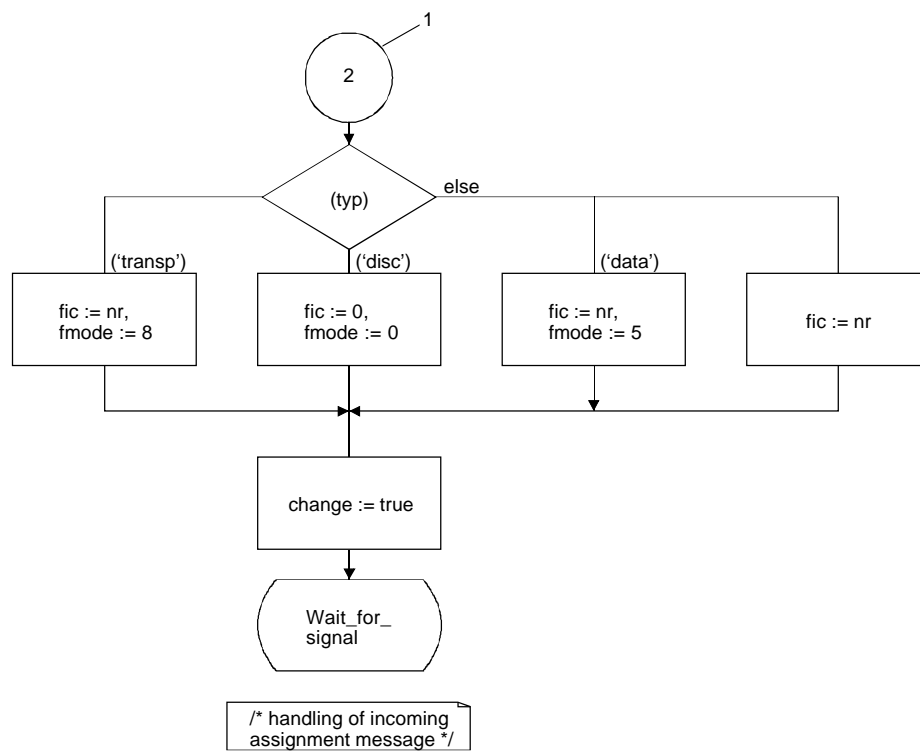


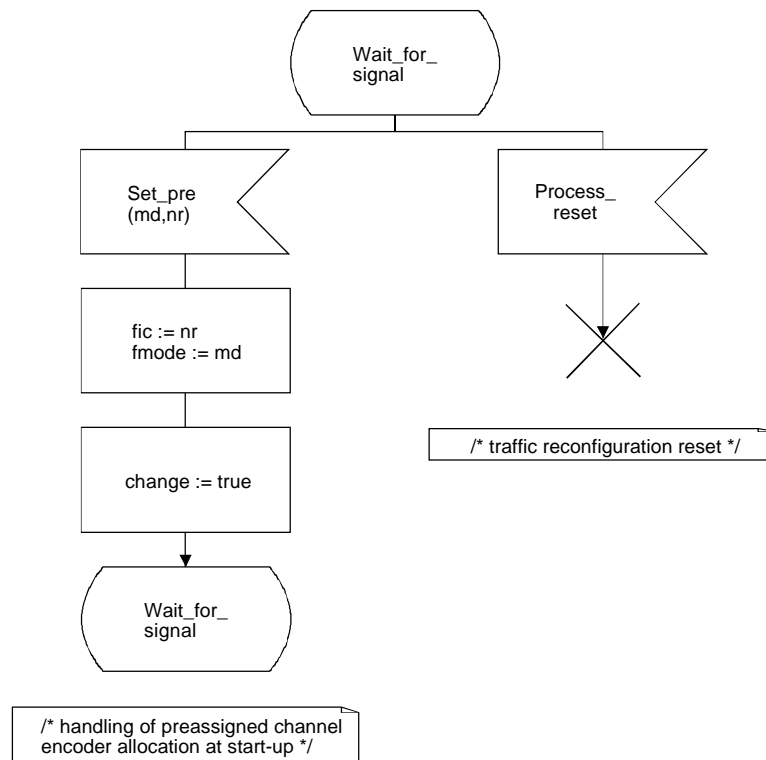
PROCESS BMI












```
/* Map_change_handler_process_A2 */
```

DCL

```
No_of_ENC_instances integer,
ENCPID ENCPID_array,
No_of_RAG_instances integer,
b, no, ptot, btot integer,
s integer,
pre,pre1,pre2 preassigned_list,
cdlist encoder_list,
presc preassigned_sc_list,
premode assigned_mode,
sclist sc_access list,
iclist,iclist1,iclist2 ic_access_list,
sel select_encoder_list,
faxbank,faxbank1,faxbank2 faxbank_list,
bitbank bitbank_list,
RAGPID RAGPID_array,
FCH enabled1,FCH_enabled1 FCH_enabledlist,
FCH_enabled boolean,
sg boolean,
n integer,
i integer;
```

