Source: **TSG-SA WG4**

Title: **CRs to TS 06.10 and TS 46.010 on Correction of Fig. 3.2**

                   (from Phase 2 to Release 4)

Document for: **Approval**

Agenda Item: **7.4.3**

The following CRs, agreed at the TSG-SA WG4 meeting #17, are presented to TSG SA #12 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
06.10	A010		2	Correction of figure 3.2	F	4.2.1	S4	TSG-SA WG4#17	S4-010380
06.10	A011		R96	Correction of figure 3.2	A	5.2.1	S4	TSG-SA WG4#17	S4-010381
06.10	A012		R97	Correction of figure 3.2	A	6.1.1	S4	TSG-SA WG4#17	S4-010382
06.10	A013		R98	Correction of figure 3.2	A	7.1.0	S4	TSG-SA WG4#17	S4-010383
06.10	A014		R99	Correction of figure 3.2	A	8.1.1	S4	TSG-SA WG4#17	S4-010384
46.010	001		REL-4	Correction of figure 3.2	A	4.0.0	S4	TSG-SA WG4#17	S4-010385

CR-Form-v3

CHANGE REQUEST

⌘ **06.10** CR **A010** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM ☐   ME/UE **X**   Radio Access Network **X**   Core Network ☐

Title: ⌘	Correction of figure 3.2	
Source: ⌘	TSG-SA WG4	
Work item code: ⌘	GSM maintenance	***Date:*** ⌘ 08-June-2001
Category: ⌘ **F**		***Release:*** ⌘ 2

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use one of the following releases:
2   *(GSM Phase 2)*
R96   *(Release 1996)*
R97   *(Release 1997)*
R98   *(Release 1998)*
R99   *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change: ⌘	Wrong index range in figure 3.2 (flow chart for Schur recursion)
Summary of change: ⌘	• Index range corrected for initialisation of K(..): i = 7,...,7 -> i =1,...,7 • Comparison of P(0) with |P(1)|: question mark ("?") added
Consequences if not approved: ⌘	Wrong implementation of Schur recursion possible.

Clauses affected: ⌘	Figure 3.2: LPC analysis using Schur recursion
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Figure 3.2 was correct in version 3.1.2 (and earlier versions)

How to create CRs using this form:
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Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
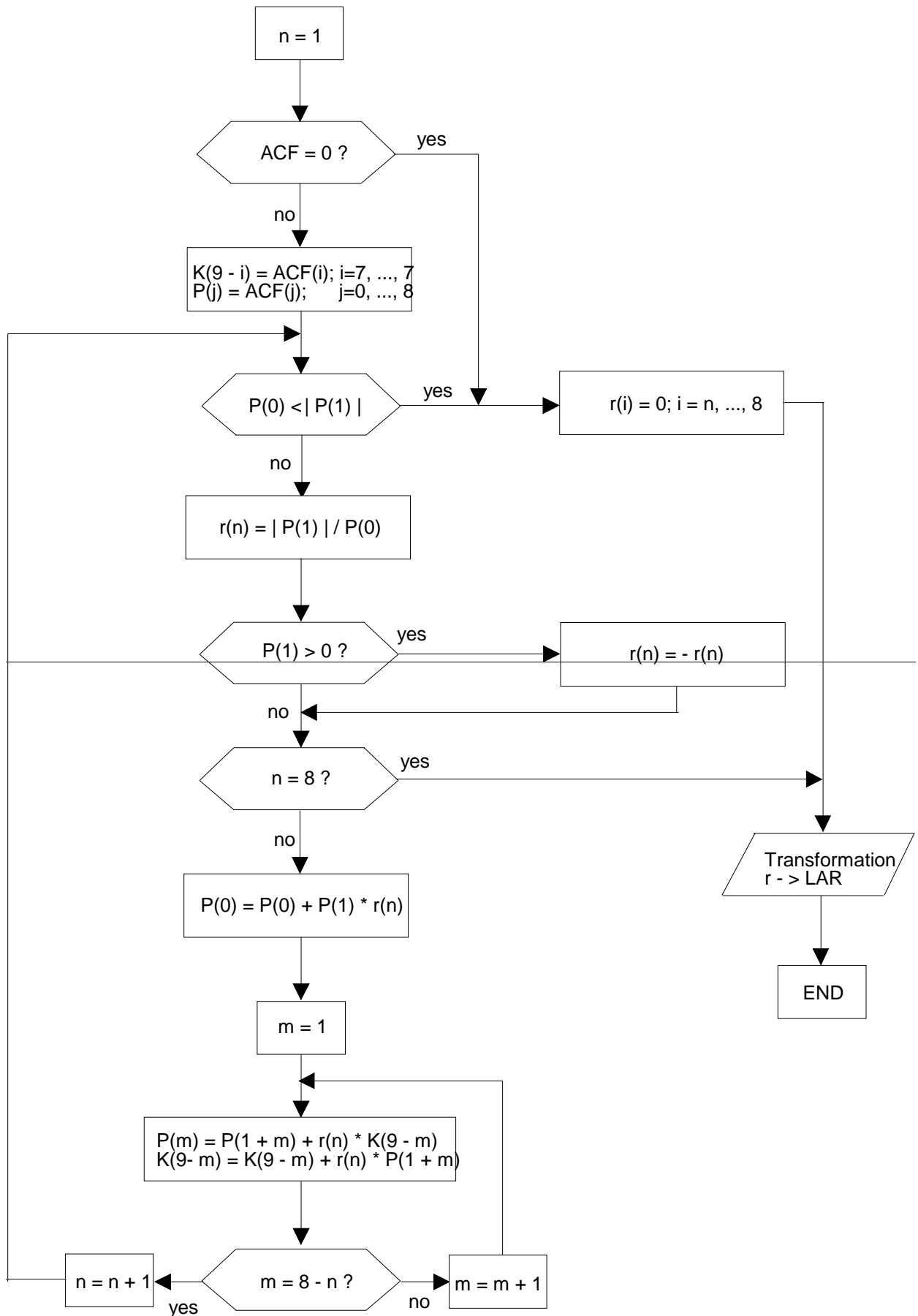
```
                           ┌─────────┐
                           │  n = 1  │
                           └────┬────┘
                                ▼
                        ╱───────────────╲          yes
                       ╱    ACF = 0 ?     ╲──────────────┐
                       ╲                  ╱              │
                        ╲───────┬────────╱               │
                                │ no                     │
                                ▼                        │
              ┌─────────────────────────────────┐        │
              │ K(9 - i) = ACF(i); i=7, ..., 7  │        │
              │ P(j) = ACF(j);     j=0, ..., 8  │        │
              └─────────────────┬───────────────┘        │
                                │                        │
       ┌────────────────────────┤                        │
       │                        ▼                        │
       │                ╱───────────────╲    yes          ▼        ┌────────────────────────┐
       │               ╱   P(0) <| P(1) | ╲──────────────────────▶│  r(i) = 0; i = n, ..., 8 │
       │               ╲                  ╱                        └───────────┬────────────┘
       │                ╲───────┬────────╱                                     │
       │                        │ no                                          │
       │                        ▼                                             │
       │            ┌───────────────────────┐                                │
       │            │  r(n) = | P(1) | / P(0) │                               │
       │            └───────────┬───────────┘                                │
       │                        │                                            │
       │                        ▼                                            │
       │                ╱───────────────╲   yes      ┌────────────────┐       │
       │               ╱    P(1) > 0 ?    ╲─────────▶│  r(n) = - r(n)  │      │
       │               ╲                  ╱          └───────┬────────┘       │
       │                ╲───────┬────────╱                   │               │
       │                        │ no ◀───────────────────────┘               │
       │                        ▼                                            │
       │                ╱───────────────╲   yes                              │
       │               ╱     n = 8 ?      ╲─────────────────────────────────▶│
       │               ╲                  ╱                                  │
       │                ╲───────┬────────╱                                   ▼
       │                        │ no                              ╱──────────────────╱
       │                        ▼                                ╱  Transformation   ╱
       │         ┌───────────────────────────┐                 ╱    r - > LAR      ╱
       │         │  P(0) = P(0) + P(1) * r(n) │                ╱──────────┬────────╱
       │         └───────────┬───────────────┘                           │
       │                     ▼                                           ▼
       │                ┌─────────┐                                ┌──────────┐
       │                │  m = 1  │                                │   END    │
       │                └────┬────┘                                └──────────┘
       │                     │ ◀──────────────────┐
       │                     ▼                    │
       │  ┌────────────────────────────────────┐  │
       │  │ P(m) = P(1 + m) + r(n) * K(9 - m)  │  │
       │  │ K(9- m) = K(9 - m) + r(n) * P(1 + m)│ │
       │  └─────────────────┬──────────────────┘  │
       │                    ▼                     │
  ┌─────────┐      ╱───────────────╲   no   ┌──────────┐
  │ n = n+1 │◀────╱    m = 8 - n ?   ╲──────▶│ m = m + 1│
  └─────────┘     ╲                  ╱       └──────────┘
       ▲           ╲───────┬────────╱
       │                   │ yes
       └───────────────────┘
```
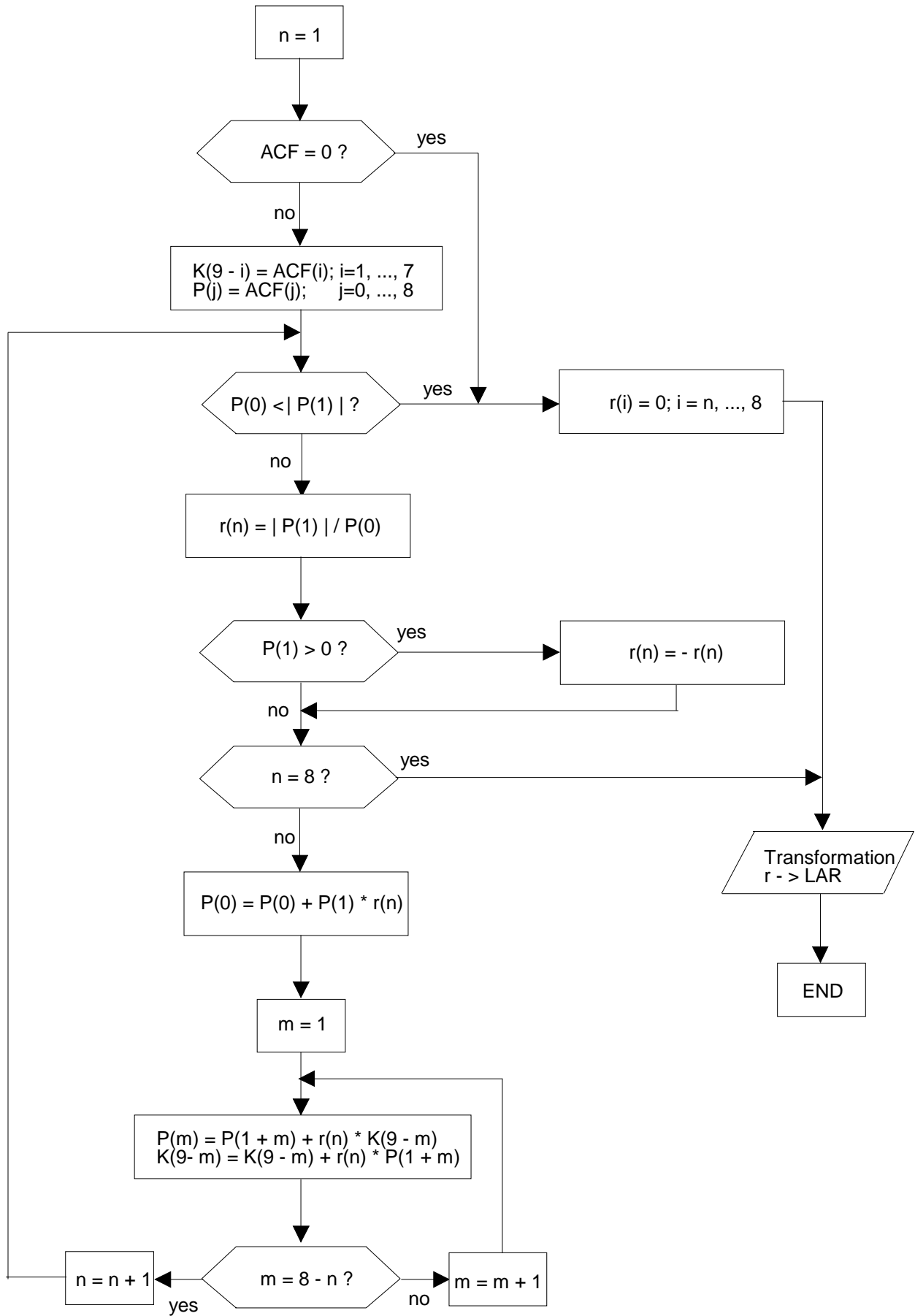
Figure 3.2: LPC analysis using Schur recursion

Figure 3.2: LPC analysis using Schur recursion

CR-Form-v3

CHANGE REQUEST

⌘ **06.10** CR **A011** ⌘ rev **-** ⌘ Current version: **5.2.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Correction of figure 3.2	
Source: ⌘	TSG-SA WG4	
Work item code: ⌘	GSM maintenance	***Date:*** ⌘ 08-June-2001
Category: ⌘ **A**		***Release:*** ⌘ R96

Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
F (essential correction)	2 (GSM Phase 2)
A (corresponds to a correction in an earlier release)	R96 (Release 1996)
B (Addition of feature),	R97 (Release 1997)
C (Functional modification of feature)	R98 (Release 1998)
D (Editorial modification)	R99 (Release 1999)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.	REL-4 (Release 4)
	REL-5 (Release 5)

Reason for change: ⌘	Wrong index range in figure 3.2 (flow chart for Schur recursion)
Summary of change: ⌘	• Index range corrected for initialisation of K(..): i = 7,...,7 -> i =1,...,7 • Comparison of P(0) with |P(1)|: question mark ("?") added
Consequences if not approved: ⌘	Wrong implementation of Schur recursion possible.

Clauses affected: ⌘	Figure 3.2: LPC analysis using Schur recursion
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Figure 3.2 was correct in version 3.1.2 (and earlier versions)

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
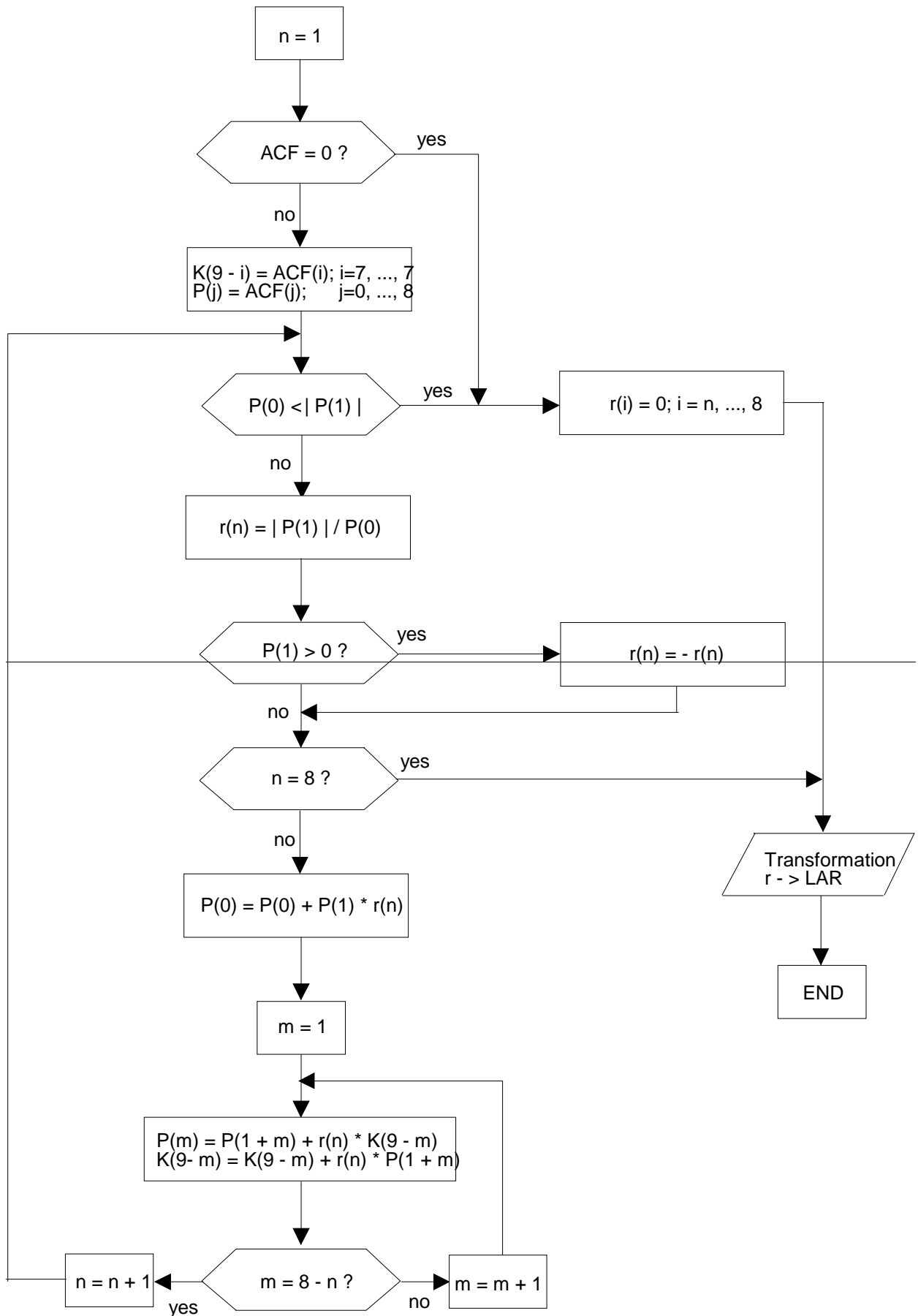
```
                              ┌─────────────┐
                              │    n = 1    │
                              └─────────────┘
                                     │
                                     ▼
                           ╱─────────────────╲           yes
                          ⟨    ACF = 0 ?      ⟩──────────────┐
                           ╲─────────────────╱              │
                                     │ no                   │
                                     ▼                      │
                   ┌──────────────────────────────┐         │
                   │ K(9 - i) = ACF(i); i=7, ..., 7│        │
                   │ P(j) = ACF(j);    j=0, ..., 8 │        │
                   └──────────────────────────────┘         │
                                     │                      │
          ┌──────────────────────────┤                      │
          │                          ▼                      │
          │                ╱─────────────────╲     yes      ▼
          │               ⟨   P(0) <| P(1) |  ⟩────────►┌──────────────────────┐
          │                ╲─────────────────╱          │ r(i) = 0; i = n, ..., 8│
          │                          │ no               └──────────────────────┘
          │                          ▼                              │
          │              ┌──────────────────────┐                  │
          │              │  r(n) = | P(1) | / P(0)│                 │
          │              └──────────────────────┘                  │
          │                          │                              │
          │                          ▼                              │
          │                ╱─────────────────╲   yes   ┌──────────────┐     │
          │               ⟨    P(1) > 0 ?     ⟩───────►│ r(n) = - r(n)│     │
          │                ╲─────────────────╱          └──────────────┘     │
          │                          │ no ◄──────────────────┘               │
          │                          ▼                                       │
          │                ╱─────────────────╲   yes                         │
          │               ⟨     n = 8 ?       ⟩──────────────────────────────┤
          │                ╲─────────────────╱                               │
          │                          │ no                                    ▼
          │                          ▼                         ╱────────────────╲
          │              ┌──────────────────────┐             ╱ Transformation  ╱
          │              │ P(0) = P(0) + P(1) * r(n)│          ╱    r - > LAR    ╱
          │              └──────────────────────┘             ╲────────────────╱
          │                          │                                  │
          │                          ▼                                  ▼
          │                    ┌─────────┐                        ┌─────────┐
          │                    │  m = 1  │                        │   END   │
          │                    └─────────┘                        └─────────┘
          │                          │
          │              ┌───────────┤
          │              │           ▼
          │   ┌──────────────────────────────────────┐
          │   │ P(m) = P(1 + m) + r(n) * K(9 - m)     │
          │   │ K(9- m) = K(9 - m) + r(n) * P(1 + m)  │
          │   └──────────────────────────────────────┘
          │                          │
          │                          ▼
   ┌───────────┐            ╱─────────────────╲    no   ┌─────────┐
   │ n = n + 1 │◄──────────⟨   m = 8 - n ?     ⟩───────►│ m = m + 1│
   └───────────┘    yes     ╲─────────────────╱         └─────────┘
```
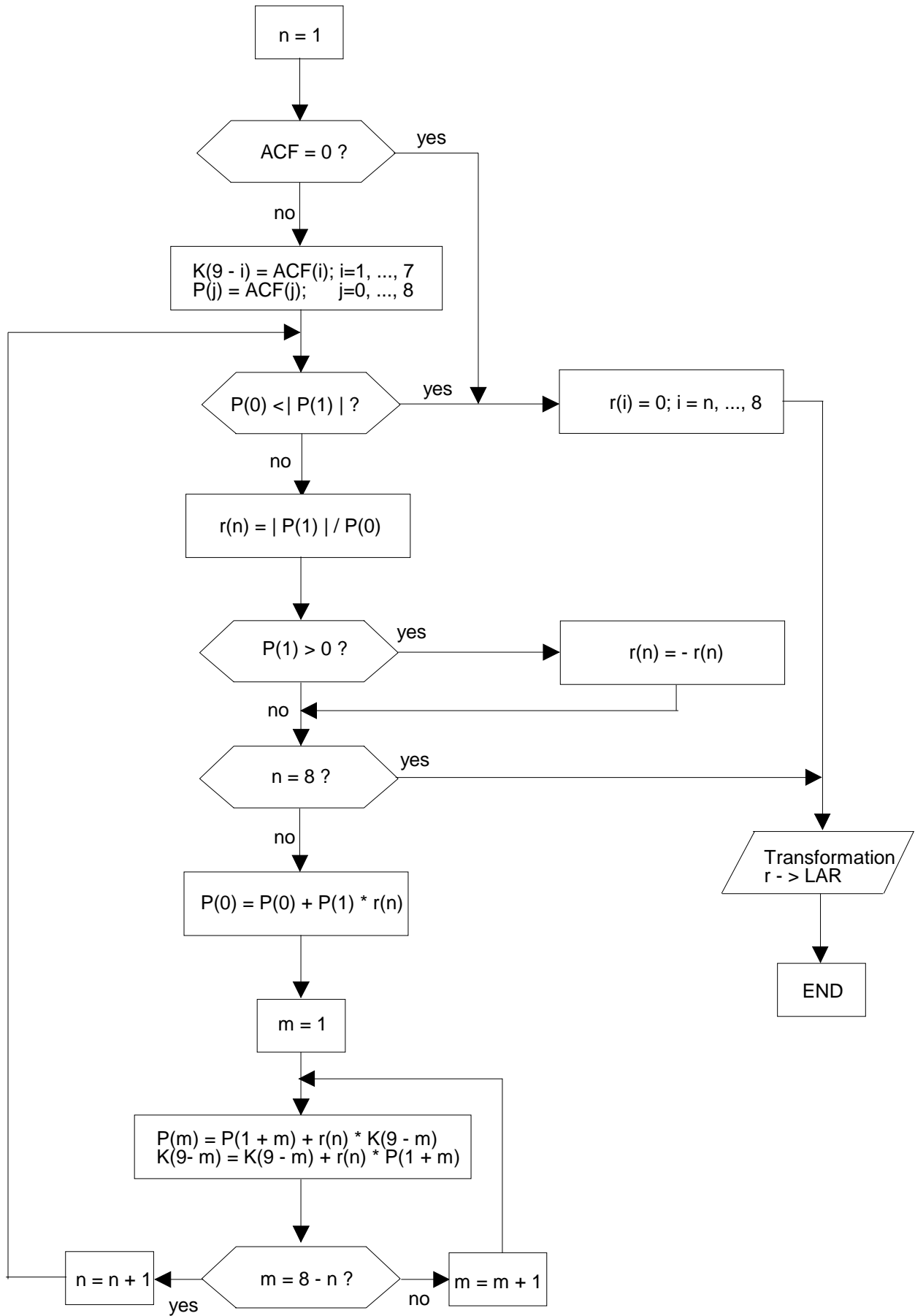
Figure 3.2: LPC analysis using Schur recursion

n = 1

ACF = 0 ?
yes
no

K(9 - i) = ACF(i); i=1, ..., 7
P(j) = ACF(j);   j=0, ..., 8

P(0) < | P(1) | ?
yes
r(i) = 0; i = n, ..., 8
no

r(n) = | P(1) | / P(0)

P(1) > 0 ?
yes
r(n) = - r(n)
no

n = 8 ?
yes
no

P(0) = P(0) + P(1) * r(n)

Transformation
r - > LAR

END

m = 1

P(m) = P(1 + m) + r(n) * K(9 - m)
K(9- m) = K(9 - m) + r(n) * P(1 + m)

n = n + 1
m = 8 - n ?
yes
m = m + 1
no

Figure 3.2: LPC analysis using Schur recursion

CR-Form-v3

CHANGE REQUEST

⌘   **06.10** CR **A012**   ⌘ rev **-** ⌘   Current version: **6.1.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM ☐   ME/UE **X**   Radio Access Network **X**   Core Network ☐

Title: ⌘	Correction of figure 3.2	
Source: ⌘	TSG-SA WG4	
Work item code: ⌘	GSM maintenance	***Date:*** ⌘ 08-June-2001
Category: ⌘	**A**	***Release:*** ⌘ R97

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2   *(GSM Phase 2)*
R96   *(Release 1996)*
R97   *(Release 1997)*
R98   *(Release 1998)*
R99   *(Release 1999)*
REL-4   *(Release 4)*
REL-5   *(Release 5)*

Reason for change: ⌘	Wrong index range in figure 3.2 (flow chart for Schur recursion)	
Summary of change: ⌘	• Index range corrected for initialisation of K(..): i = 7,...,7 -> i =1,...,7 • Comparison of P(0) with |P(1)|: question mark ("?") added	
Consequences if not approved: ⌘	Wrong implementation of Schur recursion possible.	

Clauses affected: ⌘	Figure 3.2: LPC analysis using Schur recursion	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘	Figure 3.2 was correct in version 3.1.2 (and earlier versions)	

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
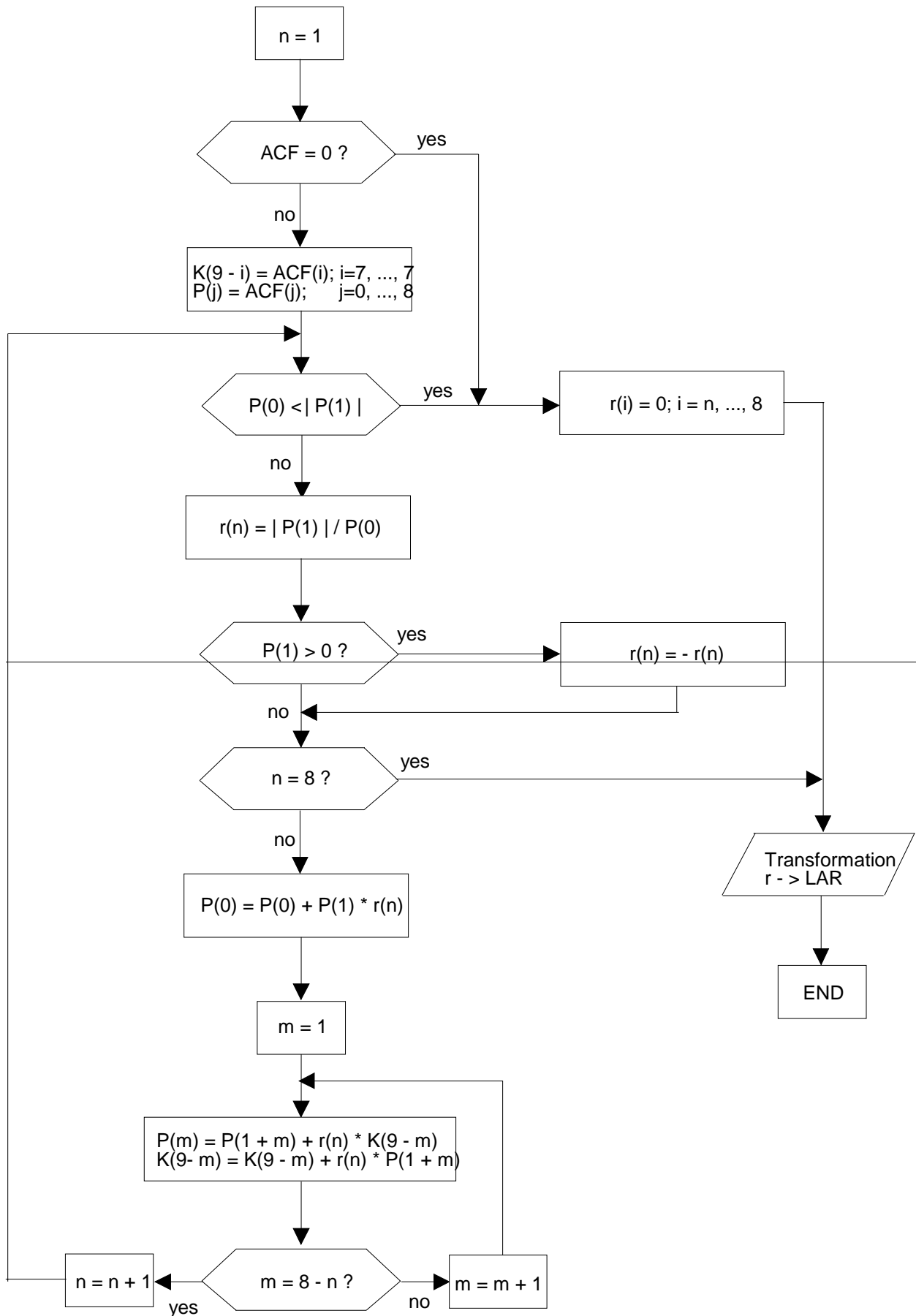
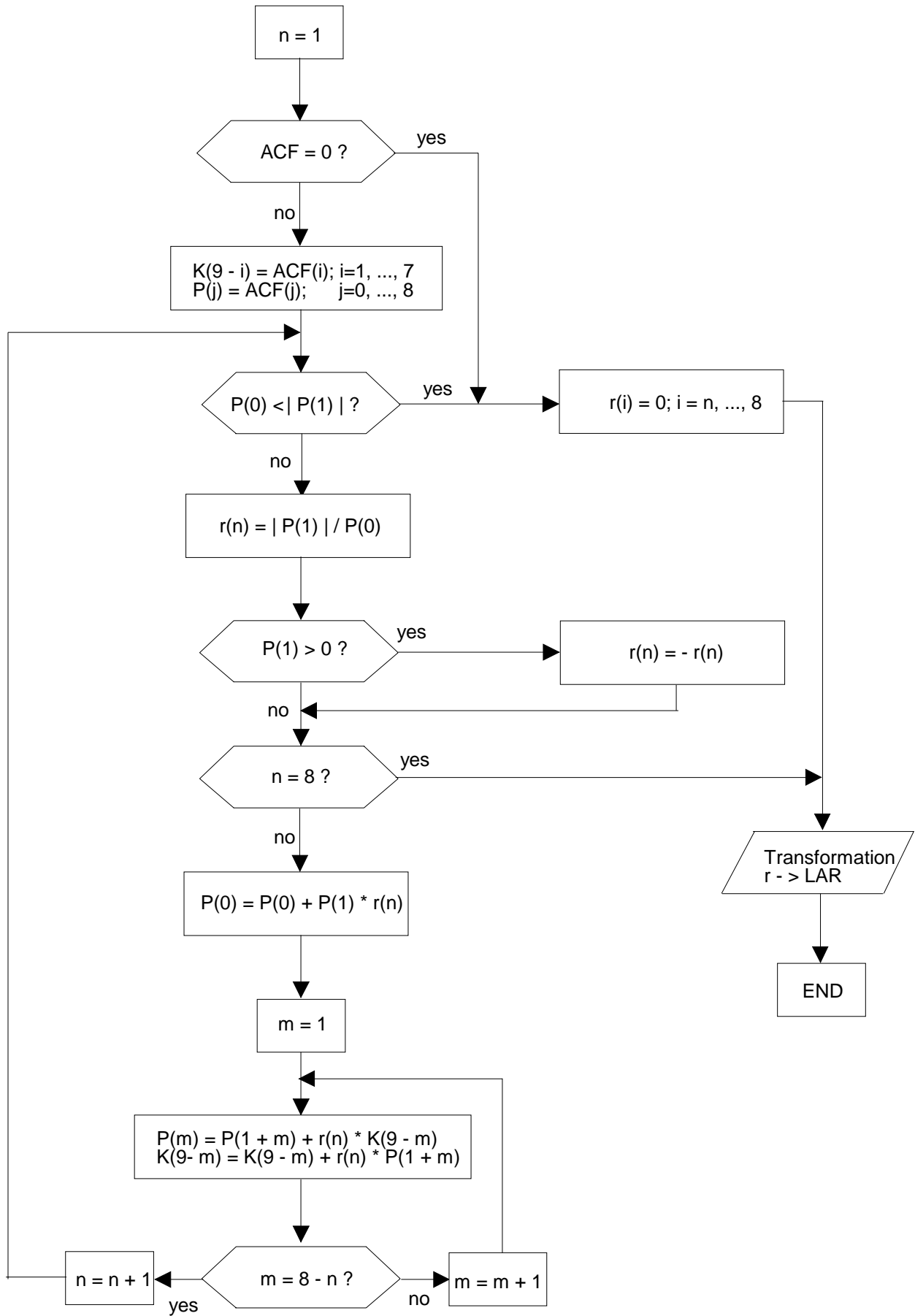**Figure 3.2: LPC analysis using Schur recursion**

```
                              ┌───────────┐
                              │   n = 1   │
                              └─────┬─────┘
                                    ▼
                          ╱───────────────╲        yes
                         ╱    ACF = 0 ?     ╲──────────────┐
                         ╲                  ╱              │
                          ╲───────┬───────╱                │
                              no  │                        │
                                  ▼                        │
                   ┌──────────────────────────────┐        │
                   │ K(9 - i) = ACF(i); i=1, ..., 7│       │
                   │ P(j) = ACF(j);    j=0, ..., 8 │       │
                   └──────────────┬───────────────┘        │
                                  ▼                        ▼
                          ╱───────────────╲    yes   ┌──────────────────────┐
                         ╱  P(0) <| P(1) | ?╲────────▶│ r(i) = 0; i = n, ..., 8│
                         ╲                  ╱         └──────────┬───────────┘
                          ╲───────┬───────╱                     │
                              no  │                             │
                                  ▼                             │
                   ┌──────────────────────────────┐            │
                   │     r(n) = | P(1) | / P(0)    │            │
                   └──────────────┬───────────────┘            │
                                  ▼                            │
                          ╱───────────────╲    yes   ┌──────────────────────┐
                         ╱    P(1) > 0 ?    ╲────────▶│     r(n) = - r(n)     │
                         ╲                  ╱         └──────────┬───────────┘
                          ╲───────┬───────╱                     │
                              no  │◀────────────────────────────┘
                                  ▼                             │
                          ╱───────────────╲    yes             │
                         ╱     n = 8 ?      ╲──────────────────▶│
                         ╲                  ╱                   │
                          ╲───────┬───────╱                    ▼
                              no  │               ╱──────────────────────╲
                                  ▼              ╱   Transformation        ╲
                   ┌──────────────────────────┐  ╲      r - > LAR           ╱
                   │  P(0) = P(0) + P(1) * r(n)│  ╲────────────┬──────────╱
                   └──────────────┬───────────┘               │
                                  ▼                           ▼
                              ┌───────┐                  ┌─────────┐
                              │ m = 1 │                  │   END   │
                              └───┬───┘                  └─────────┘
                                  ▼
                   ┌──────────────────────────────────┐
                   │ P(m) = P(1 + m) + r(n) * K(9 - m) │
                   │ K(9- m) = K(9 - m) + r(n) * P(1 + m)│
                   └──────────────┬───────────────────┘
                                  ▼
          ┌─────────┐     ╱───────────────╲     ┌───────────┐
          │ n = n + 1│◀──╱    m = 8 - n ?   ╲──▶│ m = m + 1 │
          └─────────┘    ╲                  ╱ no └───────────┘
                          ╲───────┬───────╱
                              yes
```

Figure 3.2: LPC analysis using Schur recursion

CR-Form-v3

CHANGE REQUEST

⌘ **06.10** CR **A013** ⌘ rev **-** ⌘ Current version: **7.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Correction of figure 3.2
Source:	⌘	TSG-SA WG4

Work item code:	⌘	GSM maintenance	***Date:*** ⌘	08-June-2001
Category:	⌘ **A**		***Release:*** ⌘	R98

Use <u>one</u> of the following categories:
F (essential correction)
A (corresponds to a correction in an earlier release)
B (Addition of feature),
C (Functional modification of feature)
D (Editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use <u>one</u> of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Wrong index range in figure 3.2 (flow chart for Schur recursion)
Summary of change:	⌘	• Index range corrected for initialisation of K(..): i = 7,...,7 -> i =1,...,7 • Comparison of P(0) with |P(1)|: question mark ("?") added
Consequences if not approved:	⌘	Wrong implementation of Schur recursion possible.

Clauses affected:	⌘	Figure 3.2: LPC analysis using Schur recursion
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Figure 3.2 was correct in version 3.1.2 (and earlier versions)

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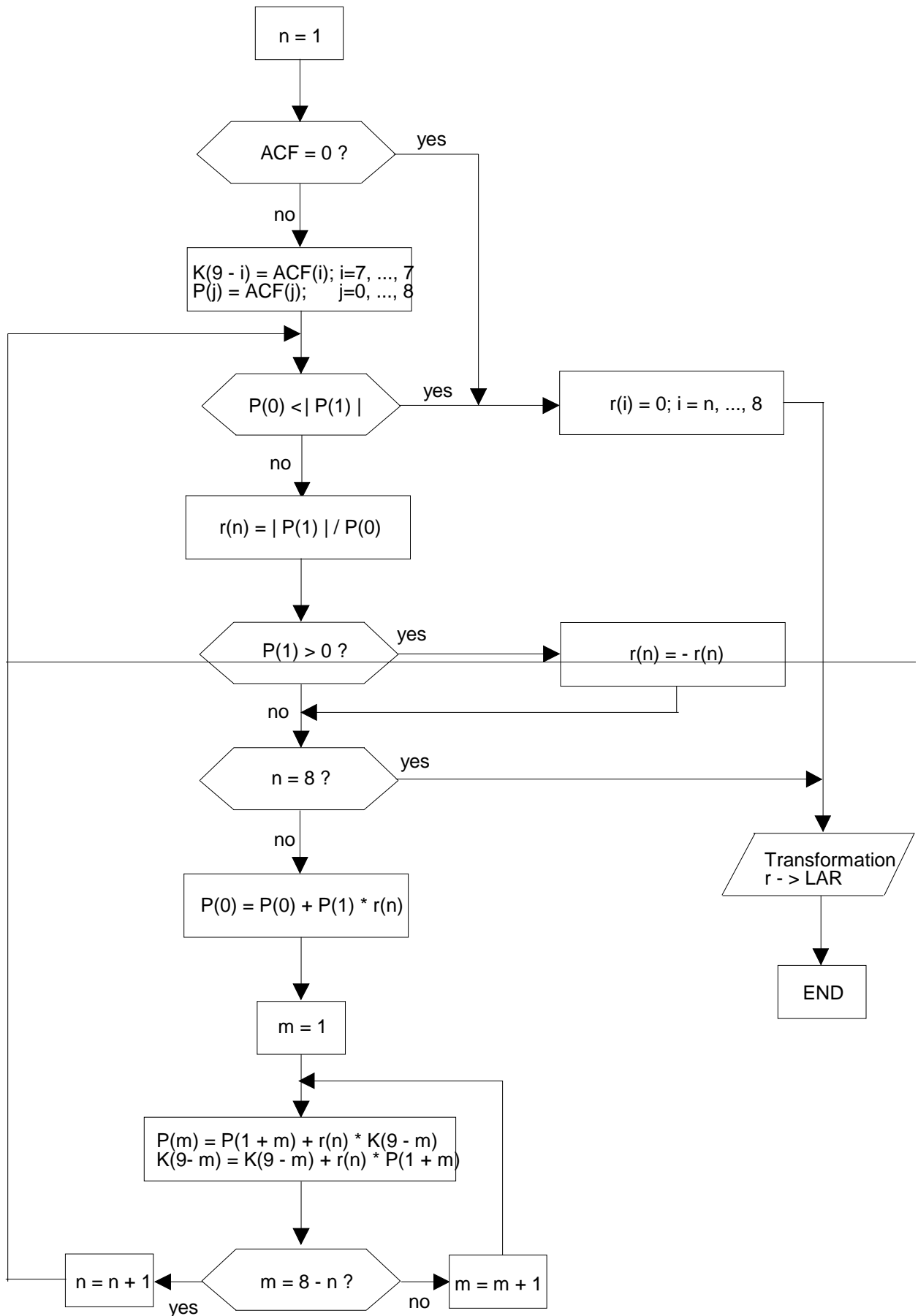
```
                              ┌─────────────┐
                              │    n = 1    │
                              └─────────────┘
                                     │
                                     ▼
                              ╱─────────────╲        yes
                             ⟨   ACF = 0 ?   ⟩──────────►
                              ╲─────────────╱
                                     │ no
                                     ▼
                    ┌────────────────────────────────┐
                    │ K(9 - i) = ACF(i); i=7, ..., 7 │
                    │ P(j) = ACF(j);    j=0, ..., 8  │
                    └────────────────────────────────┘
```
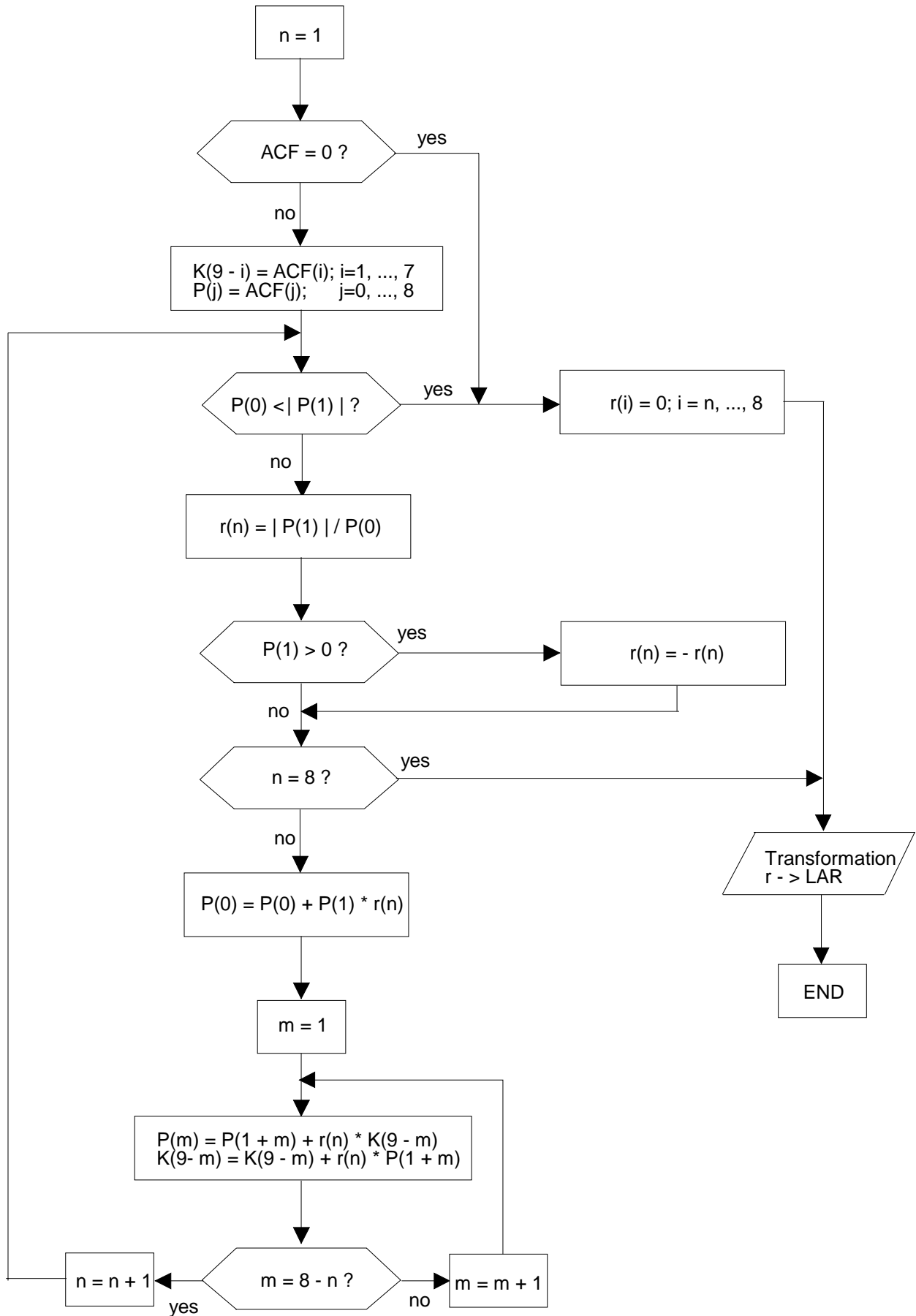
$K(9 - i) = ACF(i)$; $i = 7, \ldots, 7$

$P(j) = ACF(j)$; $j = 0, \ldots, 8$

$P(0) <\ |\ P(1)\ |$?   yes → $r(i) = 0$; $i = n, \ldots, 8$

$r(n) =\ |\ P(1)\ |\ /\ P(0)$

$P(1) > 0$?   yes → $r(n) = -\ r(n)$

$n = 8$?   yes → Transformation $r \to$ LAR → END

$P(0) = P(0) + P(1) * r(n)$

$m = 1$

$P(m) = P(1 + m) + r(n) * K(9 - m)$

$K(9 - m) = K(9 - m) + r(n) * P(1 + m)$

$m = 8 - n$?   yes → $n = n + 1$ no → $m = m + 1$

Figure 3.2: LPC analysis using Schur recursion

```
                          ┌──────────┐
                          │  n = 1   │
                          └────┬─────┘
                               │
                               ▼
                    ╱──────────────────╲         yes
                    ╲    ACF = 0 ?      ╱ ─────────────────┐
                    ╱──────────────────╲                  │
                               │ no                       │
                               ▼                          │
              ┌────────────────────────────────────┐      │
              │ K(9 - i) = ACF(i); i=1, ..., 7      │      │
              │ P(j) = ACF(j);     j=0, ..., 8      │      │
              └────────────────┬───────────────────┘      │
                               │                          │
   ┌───────────────────────────┤                          │
   │                           ▼                          ▼
   │                ╱──────────────────╲    yes   ┌──────────────────────────┐
   │                ╲  P(0) <| P(1) | ? ╱ ──────▶ │ r(i) = 0; i = n, ..., 8  │──┐
   │                ╱──────────────────╲          └──────────────────────────┘  │
   │                           │ no                                              │
   │                           ▼                                                 │
   │              ┌──────────────────────────┐                                  │
   │              │  r(n) = | P(1) | / P(0)   │                                  │
   │              └────────────┬─────────────┘                                  │
   │                           │                                                 │
   │                           ▼                                                 │
   │                ╱──────────────────╲   yes    ┌──────────────────────────┐  │
   │                ╲    P(1) > 0 ?     ╱ ──────▶ │     r(n) = - r(n)         │  │
   │                ╱──────────────────╲          └────────────┬─────────────┘  │
   │                           │ no ◀───────────────────────────┘               │
   │                           ▼                                                 │
   │                ╱──────────────────╲   yes                                  │
   │                ╲     n = 8 ?       ╱ ────────────────────────────────────▶ │
   │                ╱──────────────────╲                                         │
   │                           │ no                                              ▼
   │                           ▼                                      ╱──────────────────╱
   │              ┌──────────────────────────┐                       ╱  Transformation  ╱
   │              │ P(0) = P(0) + P(1) * r(n) │                      ╱   r - > LAR      ╱
   │              └────────────┬─────────────┘                      ╱──────────────────╱
   │                           │                                               │
   │                           ▼                                               ▼
   │                      ┌──────────┐                                  ┌──────────┐
   │                      │  m = 1   │                                  │   END    │
   │                      └────┬─────┘                                  └──────────┘
   │                           │
   │                           ▼◀──────────────────────────┐
   │        ┌──────────────────────────────────────────┐  │
   │        │ P(m) = P(1 + m) + r(n) * K(9 - m)         │  │
   │        │ K(9- m) = K(9 - m) + r(n) * P(1 + m)      │  │
   │        └────────────────────┬─────────────────────┘  │
   │                             │                         │
   │   ┌─────────┐               ▼                ┌─────────────┐
   └── │ n = n+1 │◀── ╱──────────────────╲ ─────▶ │  m = m + 1  │
       └─────────┘    ╲   m = 8 - n ?     ╱  no   └─────────────┘
                yes   ╱──────────────────╲
```

<u>Figure 3.2: LPC analysis using Schur recursion</u>

<div style="text-align:right">*CR-Form-v3*</div>

CHANGE REQUEST

| ⌘ | **06.10** CR | **A014** | ⌘ | rev | **-** | ⌘ | Current version: | **8.1.1** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘   (U)SIM ☐   ME/UE **X**   Radio Access Network **X**   Core Network ☐

Title: ⌘	Correction of figure 3.2	
Source: ⌘	TSG-SA WG4	
Work item code: ⌘	GSM maintenance	***Date:*** ⌘ 08-June-2001
Category: ⌘	**A**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use one of the following releases:
2   *(GSM Phase 2)*
R96   *(Release 1996)*
R97   *(Release 1997)*
R98   *(Release 1998)*
R99   *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change: ⌘	Wrong index range in figure 3.2 (flow chart for Schur recursion)
Summary of change: ⌘	• Index range corrected for initialisation of K(..): i = 7,...,7 -> i =1,...,7 • Comparison of P(0) with |P(1)|: question mark ("?") added
Consequences if not approved: ⌘	Wrong implementation of Schur recursion possible.

Clauses affected: ⌘	Figure 3.2: LPC analysis using Schur recursion
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Figure 3.2 was correct in version 3.1.2 (and earlier versions)

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.
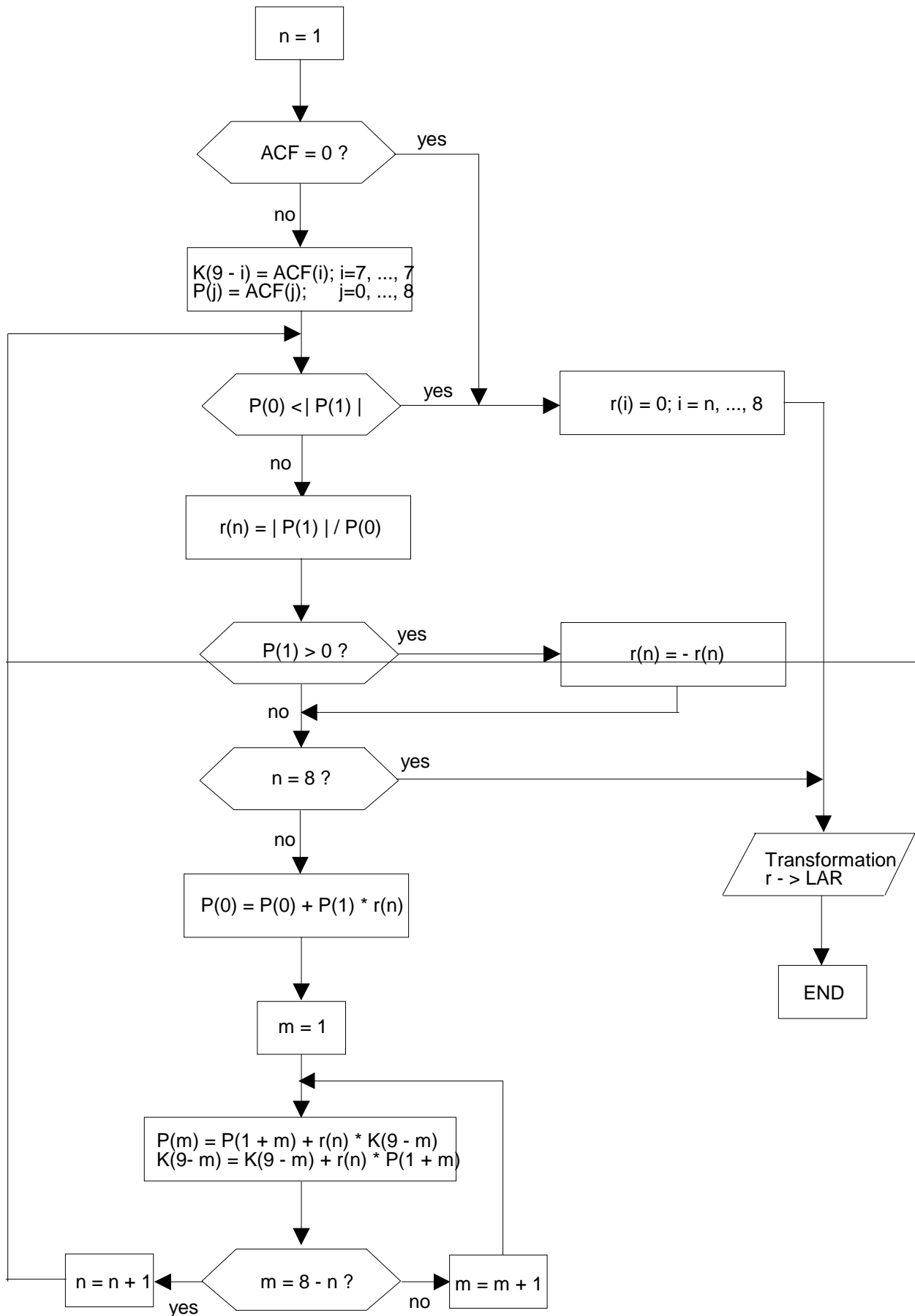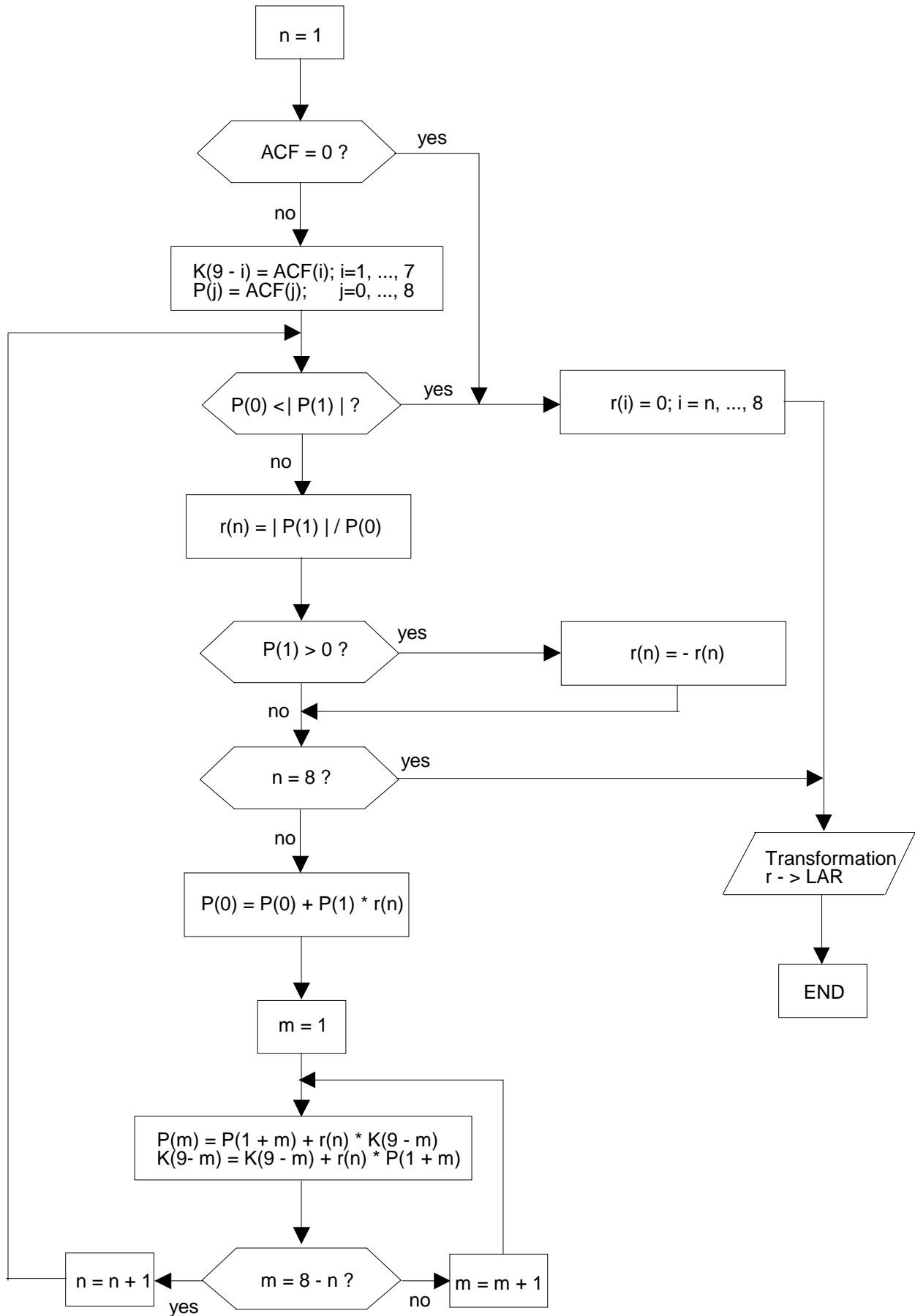
Figure 3.2: LPC analysis using Schur recursion

```
                           n = 1

                        ACF = 0 ?  ───yes───┐
                           │                │
                           no               │
                                            │
         K(9 - i) = ACF(i); i=1, ..., 7     │
         P(j) = ACF(j);     j=0, ..., 8     │
                           │                │
                           ▼                ▼
    ┌──────────────► P(0) <| P(1) | ? ───yes───►  r(i) = 0; i = n, ..., 8 ──┐
    │                      │                                                 │
    │                      no                                                │
    │                                                                        │
    │              r(n) = | P(1) | / P(0)                                    │
    │                      │                                                 │
    │                      ▼                                                 │
    │                  P(1) > 0 ? ───yes───►  r(n) = - r(n)                  │
    │                      │                        │                        │
    │                      no ◄──────────────────────                        │
    │                                                                        │
    │                   n = 8 ? ────────────yes──────────────────────────►  │
    │                      │                                                 │
    │                      no                                                ▼
    │                                                              Transformation
    │             P(0) = P(0) + P(1) * r(n)                            r - > LAR
    │                      │                                                 │
    │                      ▼                                                 ▼
    │                    m = 1                                             END
    │                      │
    │                      ▼
    │      ┌──────► P(m) = P(1 + m) + r(n) * K(9 - m)
    │      │        K(9- m) = K(9 - m) + r(n) * P(1 + m)
    │      │               │
    │      │               ▼
    │  n = n + 1 ◄─── m = 8 - n ? ───no───► m = m + 1
    │               yes                        │
    └───────────────────────────────────────────
```

Figure 3.2: LPC analysis using Schur recursion

<div style="text-align:right">*CR-Form-v3*</div>

CHANGE REQUEST

| | ⌘ | **46.010 CR 001** | ⌘ rev | **-** | ⌘ | Current version: | **4.0.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

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Work item code: ⌘	GSM maintenance	***Date:*** ⌘ 08-June-2001
Category: ⌘ **A**		***Release:*** ⌘ REL-4

Use <u>one</u> of the following categories:
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A (corresponds to a correction in an earlier release)
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REL-5 (Release 5)

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Consequences if not approved: ⌘	Wrong implementation of Schur recursion possible.	

Clauses affected: ⌘	Figure 3.2: LPC analysis using Schur recursion	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
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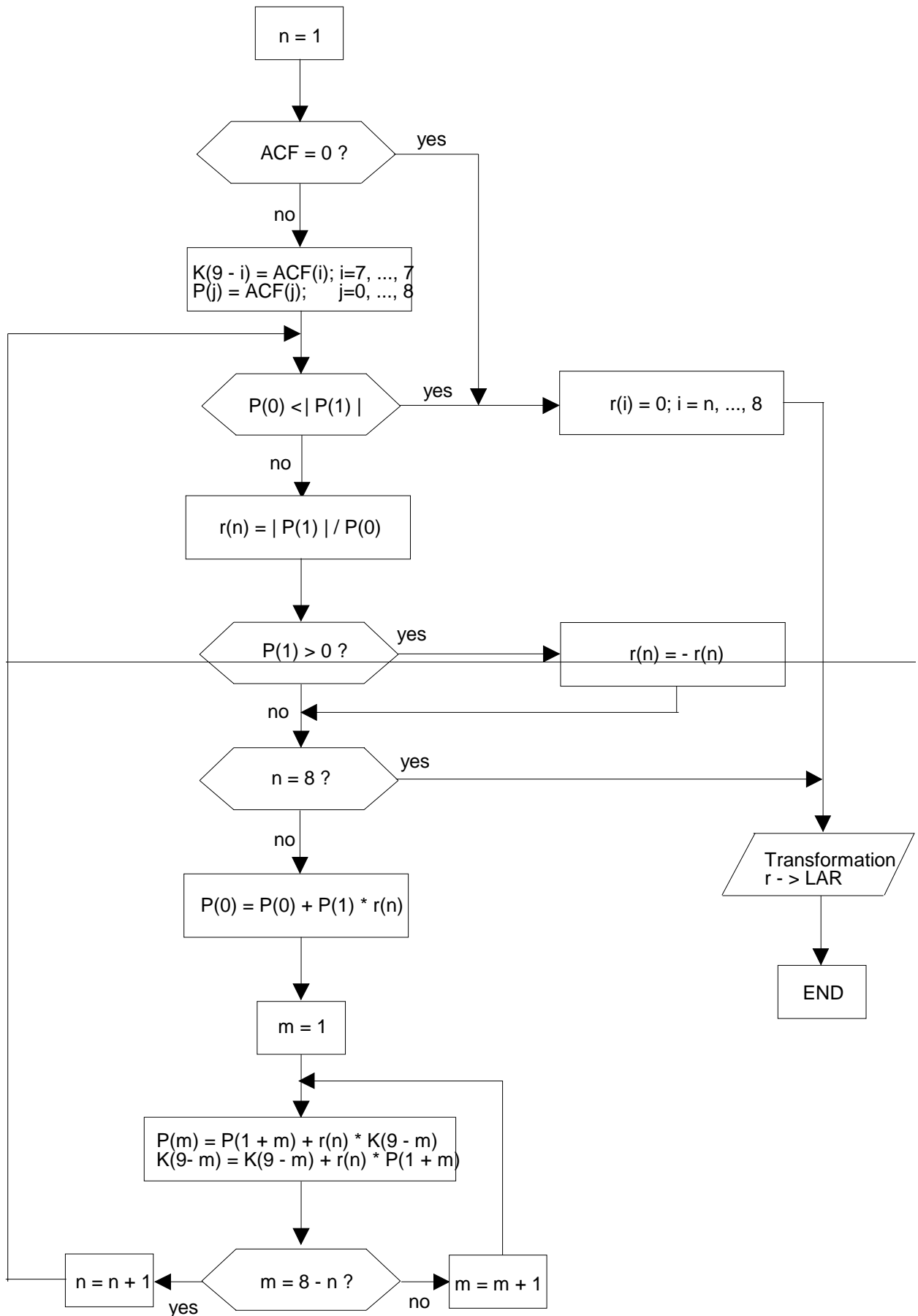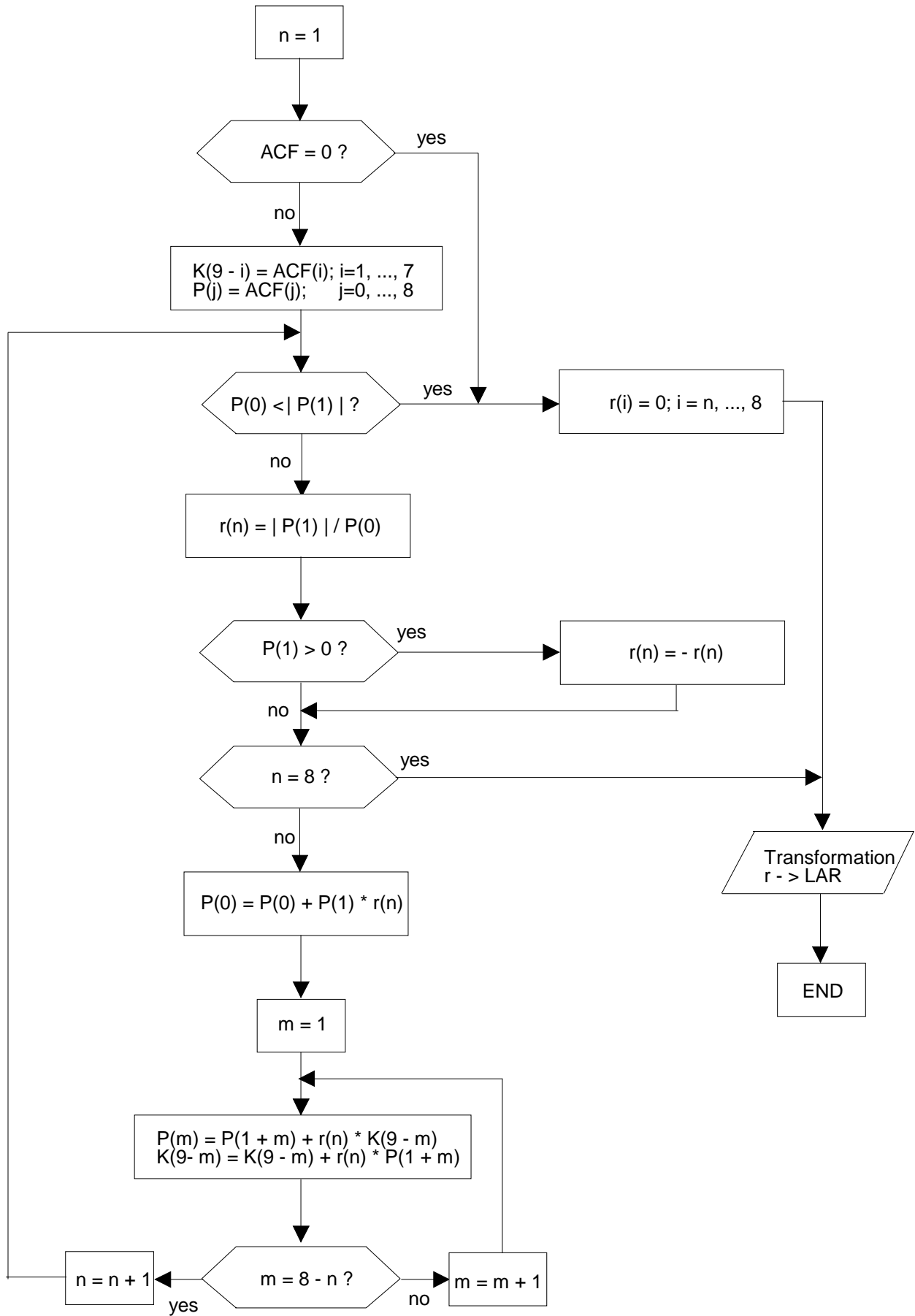
Figure 3.2: LPC analysis using Schur recursion

Figure 3.2: LPC analysis using Schur recursion