

Alfaskop System 41

Technical Newsletter

Date: 80-12-16

Newsletter No: T27

Subject: New version of system diskette
for IBM 3274/78 emulation in
cluster configurations.

Diskette ID:

DATASAAB AB

4016-001

IBM 3274/78 BSC LE 24 lines

E34016 3001 M201-01

DATASAAB

Alfaskop Division
S-175 86 Järfälla, Sweden

INTRODUCTION

This new version (No. 2.1) of system diskette for Alfaskop System 41 IBM 3274/78 BSC emulations in cluster configurations provides improved system software for the terminal functions as follows:

- o A completely new operating system, named OS V2
- o Improved emulation software
- o Improved and extended terminal console functions

The new operating system is initially installed in cluster systems only. Single systems will be modified later on.

The new release includes DSHO software changes up to and including 2.16-89.

HARDWARE MODIFICATION

The new operating system requires replacement of IPL-PROMS in the display unit, communication processor and flexible disk unit of previously installed systems. It is not possible to use the old system diskettes in systems modified to OS V2 status. Service Advice SA12 provides the information required for the modification.

OPERATING INSTRUCTION

The Operator's Manuals FE416-811B (English) and FS415-811C (Swedish) provide the information required to use the emulation software.

NATIONAL ADAPTATION

National Adaptation is carried out according to the document Diskette Handling Procedure, EE809-001B, contained in the Installation and Maintenance Manual, EE405-811.

CUSTOMIZING

Customizing of this new system diskette is carried out according to the document Terminal Console Functions and Customizing Instructions, FE424-811, 1980-07-15. That document is intended for the user. The document Installation and Maintenance Manual, EE405-811, provides information on Customizing for Datasab personnel.

FUNCTIONAL SUMMARY

The following improvements are included in Version 2.

<u>Feature</u>	<u>New</u>	<u>Changed</u>	<u>Improved</u>
1. Reduced MRW requirement for DU. See Appendix 2.			x
2. Improved response times at host write commands			x
3. Monocase keyboard	x		
4. Data Entry keyboard	x		

	New	Changed	Improved
5. Abort function in the two wire protocol	x		
6. FD can be connected to same port as DU			x
7. Alternate screen size	x		
8. ID handling for IMS	x		
9. Selector pen handling	x		
10. Console functions			
- Structure of address forms		x	
- PAM form	x		
- Host line monitor	x		
- Generate password	x		
- Autologon form		x	
- etc.	x		
11. Logon form	x		
12. Selectable keyboard- line- and printer conversion tables	x	x	
13. Program version is initially written on message line	x		
14. Two-password function	x	x	
15. IPL PROMS (in all units)		x	
16. DTC or DTC-A required		x	

LIMITATIONS AND RESTRICTIONS

1. Please note that the maximum number of devices (DU's and PU's) connected to the CPR is 32. See also Reference Manual, IBM 3270 Emulation, FE411-810.
2. If no DV-address is defined for a DU, local printout is not possible. The DU will get no printer submatrix.
3. The screen sizes 12x40 and 12x80 require DTC-A board in the DU.

TIPS FOR THE OPERATOR

- o The time required to load a DU (autologon of the emulation) after the power is turned on is
 - a) at one DU power on: 15-30 sec (depending on configuration)
 - b) at 32 DU's simultaneous power on: approx 7 minutes for the last DU to be operable.
- o During program load of a DU the following sequence is appearing on the screen:
 - LOAD
 - LOAD P
 - LOAD I
 - *OS* VERSION xx xx
 - AUTOLOGON
 - *EM* VERSION xx xx PUYU (emulation in DU is operable)

Alfaskop System 41

Technical Newsletter

Date: 81-03-05

Newsletter No: T31

Subject: New revision of system diskette
for IBM 3274/78 emulation in
cluster configurations.

Diskette ID:

DATASAAB AB

4016-001

IBM 3274/78 BSC LE 24 LINES

E34016 3001 M201-02

DATASAAB

Alfaskop Division
S-175 86 Järfälla, Sweden

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GENERAL

This revision of the BSC 2.1 system diskette eliminates a number of minor software errors found with diskette E34016 3001 M201-01. Basic information about both diskettes can be found in Technical Newsletter T27.

The new revision includes DSHO software changes up to and including 2.16-97.

SOFTWARE IMPROVEMENTS

- P90. In some configurations the PU-number was not displayed on the message line after DU power on (Discovered by DSDK).
- P91. If a local printout was being made when a write command with WCC = Keyboard Restore was received from the host, the keyboard was not unlocked until the printing was finished (discovered by DSNO).
- P92. A write control character (WCC) with Keyboard Restore did not set AID = 60₁₆ (no activity) (discovered by DSHO).
- P93. A carriage return (CR) order (0D₁₆) from host computer to printer was not executed. It is now executed in unformatted printouts (where the WCC specifies transparent format). Note that the CR order, when executed by the 4154 printer (OKI), will generate a CR+LF function.
- P94. With one customer the printer- DU's quite frequently got into a mode when it was impossible to send correct messages to the host from the DU. The display unit had to be reset. (Discovered by DSSE).
- P95. If a send=initiating key and the RESET key were pressed in rapid sequence when the DU was executing a time-consuming write command, the DU sometimes was not unlocked afterwards. (KB LOCK indicator lamp lit) (Discovered by DSHO).
- P96. If the ID-card was taken out of the magnetic identification device just before the DU was executing a write command with a certain execution time, a faulty message was sent in response to the following poll instead of "ID-card out" (Discovered by DSHO).
- P97. If a Copy command was sent in response to a Device End status transmission from a DU, the cursor did not reappear (master lock). (Discovered by DSHO).
- Units defined for ports 32-39 have been removed from the polling list.
 - The text "Univac addresses" has been removed from the terminal-console-functions menu.

HOST LINE MONITOR PROBLEMS

The following problems with the host line monitor have been discovered at DSHO. They are not corrected on this diskette.

- If the monitor is stopped (with the PF5 key) during the small time interval when a new block of monitored data is being transferred from the CPR to the monitor DU, the CPR and DU may stop functioning and have to be reset.
- If the monitor DU is turned off with the monitor running, the monitor cannot be started again. CP- reset is required.

NEW "MEMORY LOCATIONS" OF INTEREST WHEN TROUBLE-SHOOTING

Please find a new "Memory locations" - sheet below.
Some error counters for the two wire transmission have been added.

	Unit	4016-001 2.16 small screen memory addr.
Line buffer	CP	6300-7FFF
Line buffer	DU	682C-782C
Display buffer, 12x40	DU	7DD0-7FFF
12x80		7BF0-7FFF
24x80		7830-7FFF
32x80		-
43x80		-
Printer buffer	DU	B290-BA10
Print edit buffer (rotating)	DU	8062-8089
Device Control Table (see below)	CP	4011-40D0
Poll Queue (list of devices with pending responses to general poll)	CP	4171-4190
Physical address of DU (port number + type bits, 00)	DU	0140
Number of ADLC errors, poll channel (ch. 0)	CP	3D50-3D51
Number of registered time- outs, traffic on channel 1-3	CP	3D52-3D53
Number of aborted sessions because of lost units	CP	3D54-3D55
Number of messages with wrong address, CRC ok (crosstalk)	CP	3D56-3D57
Number of two-wire timeouts	FD	5D70-5D71
Number of data/info blocks from FD	FD	5D72-5D75
Number of IPL requests	FD	5D76-5D77

Note: These areas may be changed when programs are relinked.
Always refer to latest newsletter for up-to-date
information.

DEVICE CONTROL TABLE IN CPR
IBM BSC CLUSTER

Each device has six bytes in the table

(Addr. 4011 - 4016 correspond to DV = 40)
(Addr. 4017 - 401C correspond to DV = C1 etc.)

• First byte : DV = DEVICE ADDRESS

• Second byte : LOGADDR+TYPE = log number type FE₁₆ = not configured unit
 bit

7	6	5	4	3	2	1	0
---	---	---	---	---	---	---	---

 00 = DU
 01 = PU

Example 21₁₆ =
 =

0	0	1	0	0	0	0	1
---	---	---	---	---	---	---	---

 = Log PU 08

• Third byte : SNT = SEND (Transmission) attention

bit

7							0
---	--	--	--	--	--	--	---

On poll queue = Pending answer to general poll.

(Data control block fetched)

Pending transmission attention because of PF, PA, ENTER, CLEAR, USM, CUSEL, SPD or MID

Pending test request (SYREQ) read transmission

Pending status/sense

• Fourth byte : SS0

= STATUS

0	0			DB	US	DE	
---	---	--	--	----	----	----	--

(See Ref. Manual)

• Fifth byte : SS1

= SENSE

0	0	CR	IR				OC
---	---	----	----	--	--	--	----

(See Ref. Manual)

• Sixth byte : PRMODE

= PRINTER MODE (printer only)

53 = S = SYSTEM

4C = L = LOCAL

4A = J = JOINT (shared)

Alfaskop System 41

Technical Newsletter

Date: 81-06-05

Newsletter No: T34

Subject: First version of system
diskettes for IBM 3274/78
SNA/SDLC emulation in
cluster configurations.

Diskette ID:

DATASAAB AB

4016-031

IBM 3274/78 SNA/SDLC EQ 24L, SCC

E34016 3031 M201-01 (V2.1)

and

DATASAAB AB

4016-071

IBM 3274/78 SNA/SDLC EQ 24L, SCA

E34016 3071 M201-01 (V2.1)

DATASAAB

Alfaskop Division
S-175 86 Järfälla, Sweden

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Appendices

1. Configuration sheet
2. Differencee list
3. System diskette configurations and parameters
set at delivery from DSHO

INTRODUCTION

This Technical Newsletter introduces the first version (2.1) of two system diskettes for Alfaskop System 41 IBM 3274/78 SNA/SDLC emulations in cluster configurations. This version conforms to the Reference Manual FE411-810C with the restriction that it emulates only logical unit type 2 (display unit). The diskette E34016 3031 is to be used together with SCC (Synchronous Communications Controller) and the diskette E34016 3071 is to be used together with SCA (Synchronous Communications Adapter).

As a rule, the diskette E34016 3071 and SCA should be used.

Since only logical unit type 2 is emulated, no host print is possible. However, local printout is possible.

Data entry keyboard and Magnetic identification device are not included in this version. The only screen format supported is 24x80. For detailed information on functional limitation see Difference list (Appendix 2).

HARDWARE REQUIREMENTS

The Modification Register contains information about modification status and IPL-PROM version status. For this version the following is valid.

- DTC board must be mod ≥ 2
- DTC must be strapped for display area ending at 7FFF (The jumper should not connect the two pins but be left hanging on one pin).
- The IPL-PROMS must have the following (or higher) revision status
 - FD: E34058 9008 5 rev 03 or E34058 9015 rev 02
 - CPR: E34058 9003 5 rev 03
 - DU, DTC: E34058 9010 5 rev 04
 - DU, DTC-A: E34058 9020 5 rev 00
- Total RWM requirement 32 + 16 Kbytes in DU, 32 + 32 Kbytes in CPR (the same for both diskettes)
- The ADLC circuit on the SCA (or SCC) board must have mask designation NR (old deliveries may have contained ADLC circuit with mask CK - which cannot be used).

OPERATING INSTRUCTION

The Operator's Manuals FE416-811B (English) and FS415-811C (Swedish) provide the information required to use the emulation software.

NATIONAL ADAPTATION

National Adaptation is carried out according to the document Diskette Handling Procedure, E90000577E, contained in the Installation and Maintenance Manual, EE405-811. The National Versions diskette E34014 3004 M101-02 must be used.

CUSTOMIZING

Customizing of this new system diskette is carried out according to the document Terminal Console Functions and Customizing Instructions, FE424-811. That document is intended for the user. A new revision (- B) of that document will be available within the next few weeks. The document Installation and Maintenance Manual, EE405-811, provides information on customizing for Datasab personnel. The default customizing used for delivered diskettes is shown in appendix 3.

TIPS FOR THE OPERATOR

- The time required to load a DU (autologon of the emulation) after the power is turned on is
 - a) at one DU power on: 15-30 sec (depending on configuration)
 - b) at 32 DU's simultaneous power on: approx 7 minutes for the last DU to be operable.
- During program load of a DU the following sequence is appearing on the screen:
LOAD
LOAD P
LOAD I
OS VERSION xx xx
AUTOLOGON
EM SNA 3274/78 PUY (emulation in DU is operable)
- Password 1 is APA at delivery.
- On the message line there may be displayed error messages: CPXX. These error messages are intended for internal use only and should be referred to in error report to DSHO.

SOME MEMORY LOCATIONS OF INTEREST WHEN TROUBLE-SHOOTING IN THE FIELD

	4016-031 and	4016-071
	<u>Unit</u>	<u>Memory addr</u>
Line buffer	CP	6000-7FFF
Line buffer	DU	3841-3D8B
Display buffer		
24x80	DU	7800-7FCF
32x80		-
43x80		-
Printer buffer	DU	94CC-9C4B
Print edit buffer	DU	8062-8089
(rotating)		
Logical unit tables (32)	CP	4DA0-565F (each table (46) ₁₆ byte) *
TP request list	CP	5660-5752
Physical address of DU	DU	0140
(portnumber + type bits, 00)		
Control blocks	DU	3DA8-3DDC
Line buffer pointers	DU	
Receive queue pointer		3828-382C
Transmit queue pointer		3837-383B
Free queue pointer		383C-3840
Receive buffer pointer		3F83-3F84
Line buffer 1		3841-394F
2		3950-3A5E
3		3A5F-3B6D
4		3B6E-3C7C
5		3C7D-3D8B

Note: These areas may be changed when programs are relinked. Always refer to latest newsletter for up-to-date information.

* Remote addr. (DAF) 02 = 4DA0 - 4DE5

03 = 4DE6 - 4E2C

Remote addr. (DAF) 21 = 561A - 565F

810605

1203B

CONFIGURATION SHEET, CLUSTER CONFIGURATION STANDARD (-A) PRODUCTS	
EMULATION	IBM 3274/78 SNA SDLC EQ 24 lines (Version No 2:1)
PRODUCT No.	4016-031
REG. No.	E34016-3031 M201-XX

BRIEF INFORMATION

This sheet may be used as an aid when defining which system components must or may be used in this cluster configuration.

All system components are defined with a Product No. For further product information use Alfaskop System 41. Product Catalogue Publ. No. KE012-807.

SOFTWARE SYSTEM COMPONENTS

The required Software Product is defined above (in frame). In order to make an suitable national adaptation (including logical copy) Software Product 4014-004 must be used.

HARDWARE SYSTEM COMPONENTS

Use the diagram below to determine all hardware components needed in the system. System components that must be selected are connected to each other by continuous lines. System components that may be selected are indicated by —○— . The symbol —alt. choice means that only one of the alternatives can be selected. Start from the top left in the diagram and follow the line to the right.

The display unit (DU) flexible disk unit (FD) and communication processor (CPR) are basic components in cluster configuration and they must always be included.

CONFIGURATION SHEET, CLUSTER CONFIGURATION STANDARD (-A) PRODUCTS	
EMULATION	IBM 3274/78 SNA SDLC EQ 24 lines (Version No 2:1)
PRODUCT No.	4016-071
REG. No.	E34016-3031 M201-XX

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The display unit (DU) flexible disk unit (FD) and communication processor (CPR) are basic components in cluster configuration and they must always be included.

- 1) For correct Product No. depending on national versions etc. see further Alfaskop System 41 Product Catalogue.
- 2) For connection of V24/V28-printer (i.e. 4153/4154) DU 4110 must be equipped with ACA 4193 and interface cable.
- 3) Please note that CPR, DU and FD are available also as ELR-models.

INCOMPATIBILITIES OF S41 SNA/SDLC EMULATION

This document lists the incompatibilities of the SNA/SDLC emulation in S41 compared to IBM 3274/78.

S41-SNA/SDLC is compared to IBM Component Description GA27-2749-10 as updated by TNL GN 31-1189.

Contents

1. System Components not available.
2. Functions not available.
3. Functions made differently.
4. Plus functions of S41.

1. Corresponding system components not available

- IBM 3279 any model, Display Station
- IBM 3278 Model 1,3,4,5 Display Station
- IBM 3287 Model IC and 2C Data Printers
- IBM 3289 any model, Data Printers
- IBM 1720 Switch Control Unit
- Operator Console Keyboard
- Operator Console Printer
- IBM 9399 1.8 meter keyboard cable
- IBM 3680 Encrypt/Decrypt
- IBM 4850 Loop Adapter
- IBM 4999 Magnetic Reader Control

- Magnetic Hand scanner
- Integrated modems

2. Functions not available

- Alfaskop 3500-handling of ID reader data
- IBM-handling of ID reader data
- Line code = ASCII
- Line code = 64 char EBCDIC
- Line code = EBCDIC TN/T11
- Security keylock
- Data Entry Keyboard
- Selector Pen functions
- Click key
- Fast cursor right key
- Fast cursor left key
- Back-space key

- Dead key function
- APL/Text character set

- IBM 9488 x print error indication
- SI-function of 3288
- CR-function of 3287, 3289
- Device buffer parity check
- Transparent mode transmission support for Extended Highlighting, Colour, and Programmed Symbols functions

- Write Structured Field command and associated functions

- Host generated PAM

- Host initiated printouts
- Class print
- System print
- Maintenance statistics (REQMS & RECFMS)
- Notify
- XID
- Inbound Pacing

3. Functions made differently

- Status/sense combinations
(see Reference Manual FE411-810)
- Occasional differences of characters
for some national versions.
- English text on message line
- After DU power on, printer number
is displayed on ML (IBM displays
the class, if any)
- Limited set of error messages for
message line.
- Neither the RESET key nor the DEV CANCEL
key terminates print ID mode.
- CP reset does not clear "keyboard lock"
- Monocase is defined via Console Mode;
not switch selectable.
- When no printers are authorized for the
display unit, PU-- is displayed on the
message line.
- A printer must always be connected to a
display unit. If local printout from a DU
is wanted, this DU must be customized with
a DV address.

4. Plus functions of system 41

- The numeric lamp is turned on whenever the cursor appears in a numeric field.
- Depression of inoperative keys (for example alphanumeric keys when the cursor is in a protected field) does not lock the keyboard.
- If the printer becomes inoperable during a local printout, the printout is automatically repeated when the fault has been remedied, unless the print request has been cancelled using the DEV CANCEL key.
- S41 software revision status is initially displayed on the message line.

SYSTEM DISKETTE CONFIGURATION AND PARAMETERS SET AT DELIVERY FROM DSHO

1. Addresses

CPR port number	FD log addr	PU log addr	DV addr	DU log addr	DV addr
00	00	08		00	02
01				01	03
02				02	04
03				03	05
04				04	06
05				05	07
06				06	08
07	07				
15	15				
23	23				
31	31				

CPR CU (poll) address : C1

No other addresses are generated

2. Load map characteristics

Load map number	1	2	3	4	5	6	7	8	9	10
EDDEMPA i, i:	1	2	3	4	5	6	7	8	9	A

Strap bytes:

0 : CICS/IMS	00	00	00	00	00	00	01	00	00	00
1 : ID reader	00	01	00	00	00	00	01	00	00	00
2 : Num. lock	01	01	01	01	01	01	01	01	01	01
3 : Byte before print	0D	0D	0D	0D	0D	0D	0D	0D	0C	0C
4 : byte after print	0C	0C	0C	0C	0C	0C	0C	0C	00	0C
5 : Screen size	02	02	02	02	03*	04*	02	02	02	02
6 : Screen size	02	02	02	02	03*	04*	02	02	02	02
7 : NL, FM strap	00	00	00	00	00	00	00	01	00	00
8 : Dual/ Monocase	00	00	00	01	00	00	00	00	00	00
9 : Data Entry	00	00	01	00	00	00	00	00	00	00

* Note: Screen size 03 and 04 will be available with system diskettes

E34016 3032 or E34016 3072 only and require extra memory in the system.

3. Autologon

Autologon with EM 3274, load map No 001, is defined for port 0 to 31.

4. Printer definitions

The same parameter set has been generated for ports 0 to 31.

<u>Byte No.</u>	<u>Hex value</u>	<u>Function</u>
0	01	4153, 4154
1,2	12C0	4800 bits/second
3	84	132 char/line
4	-	Not used
5	00	No additional FF
6	-	Not used
7	00	Warning excluded

5. CPR emulation parameters

Byte No. :	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB
System diskette No									
E34016 3031 or	07	14	14	00	00	00	00	03	07
E34016 3071									

6. Printer matrix

Printer log address	Mode	Printer classes 70 71 72	Source device list DU log addr 00 01 02 03 04 05 06.....31
08	L		Y Y Y Y Y Y Y

7. Keyboard - , Line conversion - , and Printer conversion tables

KBTABLE0, LITABLE0, PRTABLE0 : SE/FI TW ALT

KBTABLE1, LITABLE1, PRTABLE1 : SE/FI TW

KBTABLE2, LITABLE2, PRTABLE2 : SE/FI TW

KBTABLE3-9, LITABLE3-9, PRTABLE3-9 : SE/FI TW ALT

KBTABLE0 is assigned to all DUs (Port no 00 to 31)

Alfaskop System 41

Technical Newsletter

Date: 81-08-05

Newsletter No: T37

Subject: New revision of system diskette
for the IBM 3274/78 BSC
emulation in cluster configurations.

Diskette ID:

DATASAAB

4016-001

IBM 3274/78 BSC LE 24 LINES

E34016 3001 M201-03

DATASAAB

BDS/DTS Department
S-175 86 Järfälla, Sweden

GENERAL

This revision of the IBM BSC cluster system diskette eliminates some minor software errors found with diskette E34016 3001 M201-02.

The information given in Technical Newsletters T27 and T31 is also valid for this revision.

This new revision includes DSHO software changes up to and including 2.16-103.

SOFTWARE IMPROVEMENTS

- P98 Prevents a display unit with a magnetic identification device connected from stopping functioning when the host computer issues the following (abnormal) sequence: Select-(Ack0)-EOT, General Poll-(EOT)-Select-(Ack0)..etc. (Discovered by DSHO)
- P99 Prevents the SCA board from issuing a small pulse after the last PAD character to the host computer. (Discovered by DSHO)
- P100 The Erase Input key shall not clear the MDT bits for protected fields. (Discovered by DAVA, DSHO)
- P101 OS replaced by M201-11 (CPR), M201-14 (DU), M201-09 (FD). Terminal console functions software replaced by M202-05.
For a description of the improvements, see below.
- P102 The Alfaskop System 41 check of "BSC rules for limited conversational mode" has been removed, i.e. if the host computer "by mistake" issues a write-type command chained to a read-type command, the write-type command is accepted by Alfaskop and Ack is sent to the host computer. (Functions as 3271 but not as 3274)

Also, chaining of read commands is accepted by System 41 though against the rules mentioned above.

- P103 Alfaskop System 41 can now handle a "Read partition (query) structured field" from the host (32 32 10 02 27 F3 00 00 01 FF 02 10 03) received to a selected terminal.

The command is answered with EOT and Status/sense 40 60 (Command Reject) is sent in response to the next specific poll.

OS IMPROVEMENTS (SUMMARY)

- A certain type of hardware failure in a display unit could earlier lock the whole cluster.
- A DEL (delete) character is sent to printers 4153 and 4154 once after DU power on. This can be used with the jumper S2/S3 in pos. S2 at the logic board DTSB in PU 4154 (or a jumper in pos S30 on logic board DTMH in PU 4155) to clear the printer's buffer (if you have problems with extra characters printed after printer-display unit power on).

TERMINAL CONSOLE FUNCTIONS IMPROVEMENTS (SUMMARY)

- The Generate password function works also for security code 4.
- The physical address of the display unit is displayed on the first Console mode picture.
- The host line monitor inverse video (for messages transmitted from the terminal) functions also with the DTC-A board in the display unit.

NATIONAL ADAPTATION

For national adaptation of this revised diskette the old NATIONAL VERSIONS diskette E34014 3004 M101-02 shall be used.

DELETED NEWSLETTERS

Technical newsletters T15, T18, T21 and T24, all containing information about OS version 1 cluster installations should be deleted together with T23 and T29 that describe old diskette versions/revisions.