



NORD

COMPUTER SYSTEMS

NORD-1 CONNECTORS

The I/O Channel System
The Data Channel System
Device Connections
The NORD-1 Power System

Written by T. Fledsberg



A/S NORSK DATA-ELEKTRONIKK

Økernveien 145, Oslo 5

NORD-1 CONNECTORS

The I/O Channel System
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Device Connections
The NORD-1 Power System

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A/S NORSK DATA-
ELEKTRONIKK

Title

CARD ASSEMBLY

Drawing no.

NORD-1.71

| C | | D | |
|----|---------------------|----|----------------|
| 1 | 151 | 1 | 125 |
| 2 | 128 | 2 | 123 |
| 3 | 141 | 3 | 124 |
| 4 | 132 | 4 | 127 |
| 5 | 106.2 | 5 | 131 |
| 6 | 106.1 | 6 | 90N40.2 |
| 7 | 140.2 | 7 | 90N40.1 |
| 8 | 140.1 | 8 | 109 |
| 9 | 150 | 9 | 130 |
| 10 | 108.4 | 10 | 115 |
| 11 | 102.4 | 11 | 126 |
| 12 | 103.4 | 12 | 134 |
| 13 | 101.4 | 13 | 135 |
| 14 | 108.3 | 14 | 136 |
| 15 | 102.3 | 15 | 137 |
| 16 | 103.3 | 16 | 146 |
| 17 | 101.3 | 17 | 133 |
| 18 | 108.2 | 18 | 122 |
| 19 | 102.2 | 19 | 120 |
| 20 | 103.2 | 20 | 163 |
| 21 | 101.2 | 21 | 166.1 |
| 22 | 108.1 | 22 | 166.2 |
| 23 | 102.1 | 23 | 165.1 |
| 24 | 103.1 | 24 | 165.2 |
| 25 | 101.1 | 25 | 164 |
| 26 | 158/II.4* 6 7 14 15 | 26 | 160.1 REA.PCH. |
| 27 | 158/II.3* 4 5 12 13 | 27 | 113 CARD REA. |
| 28 | 158/II.2* 2 3 10 11 | 28 | 179 |
| 29 | 158/II.1* 0 1 8 9 | 29 | 160.3 TTY |
| 30 | 159 | 30 | 195 |
| 31 | 169 | 31 | 190.1 I/O CH. |
| 32 | 110 | 32 | 504 DATA CH. |

*In CPU's with paging system the Paging Buffer 188 is used.

| | | | |
|-------------|---|-----------------|------|
| DRAWN BY | Remarks <u>CENTRAL PROCESSING UNIT</u> | Replacement for | Date |
| APPROVED BY | | Replaced by | Date |
| DATE | | | |

1 THE I/O CHANNEL SYSTEM

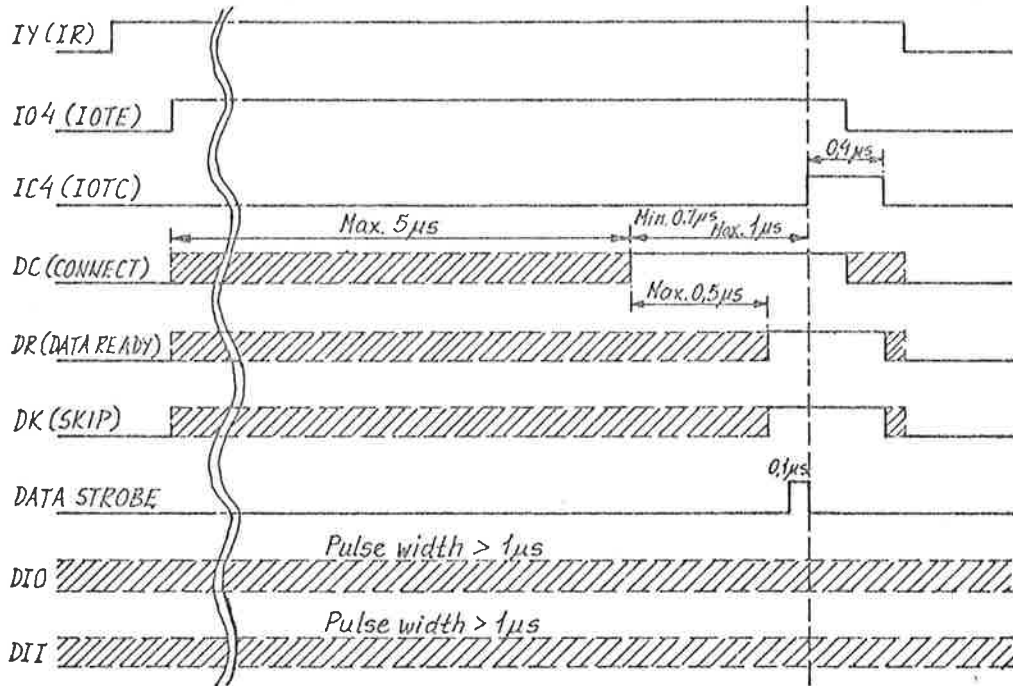
The maximum numbers of I/O channels available on plugs are three. I/O channel number one is reserved A/S Norsk Data-Elektronikk and is connected to the processor via cable card. I/O channel number two and number three are available for the user.

Signal levels for I/O channel are in standard TTL or balanced lines (T.I. 75107 and 75109). Using standard TTL level, the I/O signals are connected to buffer cards in the processor via three cables (control, data in, data out). Using balanced lines, the I/O signals are connected to the buffer cards via two cables (control, data in, data out) and three 185 line driver/receiver cards.

1.1 I/O Control Signals

| Balanced lines | | Standard TTL lines | | | |
|----------------|------|--------------------|------|--------|---|
| LII | 0-5 | II | 0-5 | (CH 1) | Connected to IR (Instruction Register) as described. Polarity of each bit defines device number. Select 1 of 64 devices. |
| LIY | 0-5 | IY | 0-5 | (CH 2) | |
| LIZ | 0-5 | IZ | 0-5 | (CH 3) | |
| LII | 8-10 | II | 8-10 | (CH 1) | Connected to IR. |
| LIY | 8-10 | IY | 8-10 | (CH 2) | ACT (bit 8) Activate the specified device. |
| LIZ | 8-10 | IZ | 8-10 | (CH 3) | SKA (bit 9) Skip if start acceptable. |
| | | | | | PIN (bit 10) Prepare interrupt. Turn on the interrupt system of the specified device. |
| | | | | | These three function bits can also have other meanings, depending on the users definition. |
| LIO | 3 | IO | 3 | (CH 1) | (IOTE) Timing signal from CPU. Defines the period when the CPU is reading the state of a device control card. See diagram under DC (CONNECT). |
| LIO | 4 | IO | 4 | (CH 2) | |
| LIO | 5 | IO | 5 | (CH 3) | |
| LIC | 3 | IC | 3 | (CH 1) | (IOTC) Timing signal from CPU, defined as IOT completion. Can be used by the device control card as a start command from CPU. See diagram under DC. |
| LIC | 4 | IC | 4 | (CH 2) | |
| LIC | 5 | IC | 5 | (CH 3) | |

| | | | |
|----------------|--------------------|--------|---|
| Balanced lines | Standard TTL lines | | |
| Not in use | TSX | (CH 1) | Static I/O test signal generated by the Cambridge Control 169 card. (Example of use: In this mode the Simplex Control 160 card operates independently of return signals from device, running at maximum speed synchronized with CPU.) |
| | TSY | (CH 2) | |
| | TSZ | (CH 3) | |
| LDC 3 | DC 3 | (CH 1) | (CONNECT) DC4=104·IY5x·IY4x·IY3x·IY2x·IY1x·IY0x |



Data strobe is dependent on the DATA READY signal. The time delay from CONNECT is received by the CPU until data is strobed into A-register is minimum 450 ns and maximum 750 ns.

The duration of IOTE is determined by the CONNECT signal and is minimum 750 ns when CONNECT is returned immediately. Maximum length is 10 µs if no CONNECT is received.

| Balanced lines | Standard TTL lines | | |
|----------------|--------------------|--------|--|
| LDK 3 | DK 3 | (CH 1) | (SKIP) The skip signal is sensed at the same time as DATA READY. (See diagram and text under CONNECT.) If SKIP is true, the next instruction in the program is bypassed. |
| LDK 4 | DK 4 | (CH 2) | |
| LDK 5 | DK 5 | (CH 3) | |
| LDR 3 | DR 3 | (CH 1) | (DATA READY) Read the "data in lines" into the A register. DATA READY is also used to switch the 185 line driver/receiver cards from send to receive mode. |
| LDR 4 | DR 4 | (CH 2) | |
| LDR 5 | DR 5 | (CH 3) | |
| LDII 3 | DII 3 | (CH 1) | Interrupt signal from one-way devices, or input interrupt from two-way devices. Interrupt level 11. |
| LDII 4 | DII 4 | (CH 2) | |
| LDII 5 | DII 5 | (CH 3) | |
| LDIO 3 | DIO 3 | (CH 1) | Output interrupt from two-way devices. Interrupt level 7. |
| LDIO 4 | DIO 4 | (CH 2) | |
| LDIO 5 | DIO 5 | (CH 3) | |
| LMCX | MCX | (CH 1) | Master clear signal from operator panel in N-1. |
| LMCY | MCY | (CH 2) | |
| LMCZ | MCZ | (CH 3) | |

1.2 I/O Data Signals

| Balanced lines | Standard TTL lines | | |
|----------------|--------------------|--------|---|
| | DIX | (CH 1) | Data lines into the A register. |
| | DIY | (CH 2) | |
| | DIZ | (CH 3) | |
| | AX | (CH 1) | Data lines from the A register. |
| | AY | (CH 2) | |
| | AZ | (CH 3) | |
| LIOX | | (CH 1) | Data lines will carry either input or output data depending on the Data Ready signal. |
| LIOY | | (CH 2) | |
| LIOZ | | (CH 3) | |

| A/S NORSK DATA-ELEKTRONIKK | | Title I/O CHANNEL 2. NORD-1 | | | Drawing no. NORD-1.71 | |
|-------------------------------|--------------|--------------------------------|-------------|-----------------|--------------------------|--|
| BURNDY PLUG NO.: | | POLARITY | BURNDY PLUG | | C.P.U. | |
| SIGNAL | | | SIGNAL | GROUND | POSITION | |
| IC 4 | IOTC | 0 | B | D | D19.51 | |
| IO 4 | IOTE | 0 | F | J | D19.43 | |
| IY 0 | DEV.NR. | 0 | K | M | D21.11 | |
| IY 1 | " " | 0 | L | N | D22.11 | |
| IY 2 | " " | 0 | P | S | D21.07. | |
| IY 3 | " " | 0 | R | T | D22.07 | |
| IY 4 | " " | 0 | U | W | D21.04 | |
| IY 5 | " " | 0 | V | X | D22.04 | |
| IY 8 | ACT | 0 | Y | AA | D23.34 | |
| IY 9 | SKA | 0 | Z | BB | D24.34 | |
| IY 10 | PIN | 0 | CC | EE | D23.41 | |
| DC 4 | CONNECT | 0 | DD | FF | D19.14 | |
| DR 4 | DATA READY | 0 | HH | KK | D19.15 | |
| DK 4 | SKIP | 0 | JJ | LL | D19.17 | |
| DII 4 | INTERRUPT 1 | 0 | MM | PP | D20.15 | |
| DIO 4 | INTERRUPT 2 | 0 | NN | RR | D20.17 | |
| TSY | TEST | 0 | SS | UU | D23.50 | |
| MCY | MASTER CLEAR | 0 | A | C | D24.50 | |
| FEMALE-PLUG ON THE PLUG PANEL | | | | | | |
| DRAWN BY | Remarks | | | Replacement for | Date | |
| APPROVED BY | CONTROL | | | Replaced by | Date | |
| DATE | | | | | | |

| A/S NORSK DATA-ELEKTRONIKK | | Title I/O CHANNEL 2. NORD-1 | | Drawing no. NORD-1.71 | |
|-------------------------------|----------|--------------------------------|-----------------|--------------------------|----------|
| BURNDY PLUG NO.: | | POLARITY | BURNDY PLUG | | C.P.U. |
| SIGNAL | | | SIGNAL | GROUND | POSITION |
| AY 0 | | 0 | B | D | D21.41 |
| AY 1 | | 0 | E | H | D21.29 |
| AY 2 | | 0 | F | J | D21.24 |
| AY 3 | | 0 | K | M | D21.21 |
| AY 4 | | 0 | L | N | D22.41 |
| AY 5 | | 0 | P | S | D22.29 |
| AY 6 | | 0 | R | T | D22.24 |
| AY 7 | | 0 | U | W | D22.21 |
| AY 8 | | 0 | V | X | D21.55 |
| AY 9 | | 0 | Y | AA | D21.49 |
| AY 10 | | 0 | Z | BB | D21.45 |
| AY 11 | | 0 | CC | EE | D21.14 |
| AY 12 | | 0 | DD | FF | D22.55 |
| AY 13 | | 0 | HH | KK | D22.49 |
| AY 14 | | 0 | JJ | LL | D22.45 |
| AY 15 | | 0 | MM | PP | D22.14 |
| FEMALE-PLUG ON THE PLUG PANEL | | | | | |
| DRAWN BY | Remarks | | Replacement for | | Date |
| APPROVED BY | DATA OUT | | Replaced by | | Date |
| DATE | | | | | |

| | | |
|-----------------------------------|---------------------------------------|---------------------------------|
| A/S NORSK DATA-ELEKTRONIKK | Title I/O CHANNEL 2. NORD-1 | Drawing no. NORD-1.71 |
|-----------------------------------|---------------------------------------|---------------------------------|

| BURNDY PLUG NO.: | POLARITY | BURNDY PLUG | | C.P.U. |
|------------------|----------|-------------|--------|----------|
| SIGNAL | | SIGNAL | GROUND | POSITION |
| DIY 0 | 1 | B | D | D23.12 |
| DIY 1 | 1 | E | H | D23.17 |
| DIY 2 | 1 | F | J | D23.20 |
| DIY 3 | 1 | K | M | D23.24 |
| DIY 4 | 1 | L | N | D23.28 |
| DIY 5 | 1 | P | S | D23.37 |
| DIY 6 | 1 | R | T | D23.46 |
| DIY 7 | 1 | U | W | D23.53 |
| DIY 8 | 1 | V | X | D24.12 |
| DIY 9 | 1 | Y | AA | D24.17 |
| DIY 10 | 1 | Z | BB | D24.20 |
| DIY 11 | 1 | CC | EE | D24.24 |
| DIY 12 | 1 | DD | FF | D24.28 |
| DIY 13 | 1 | HH | KK | D24.37 |
| DIY 14 | 1 | JJ | LL | D24.46 |
| DIY 15 | 1 | MM | PP | D24.53 |

FEMALE-PLUG ON THE PLUG PANEL

| | | | |
|-------------|-------------------------------|-----------------|------|
| DRAWN BY | Remarks DATA IN | Replacement for | Date |
| APPROVED BY | | Replaced by | Date |
| DATE | | | |

| | | |
|-----------------------------------|--------------------------------------|---------------------------------|
| A/S NORSK DATA-ELEKTRONIKK | Title I/O CHANNEL 3 NORD-I | Drawing no. NORD-1.71 |
|-----------------------------------|--------------------------------------|---------------------------------|

| BURNDY PLUG NO.: | | POLARITY | BURNDY PLUG | | C. P. U. |
|------------------|--------------|----------|-------------|--------|----------|
| SIGNAL | | | SIGNAL | GROUND | POSITION |
| IC 5 | IOTC | 0 | B | D | D19.52 |
| IO 5 | IOTE | 0 | F | J | D19.44 |
| IZ 0 | DEV.NO. | 0 | K | M | D21. 9 |
| IZ 1 | " " | 0 | L | N | D22. 9 |
| IZ 2 | " " | 0 | P | S | D21. 6 |
| IZ 3 | " " | 0 | R | T | D22. 6 |
| IZ 4 | " " | 0 | U | W | D21. 5 |
| IZ 5 | " " | 0 | V | X | D22. 5 |
| IZ 8 | ACT | 0 | Y | AA | D23.31 |
| IZ 9 | SKA | 0 | Z | BB | D24.31 |
| IZ 10 | PIN | 0 | CC | EE | D23.42 |
| DC 5 | CONNECT | 0 | DD | FF | D19.13 |
| DR 5 | DATA READY | 0 | HH | KK | D19.12 |
| DK 5 | SKIP | 0 | JJ | LL | D19.16 |
| DII 5 | INTERRUPT 1 | 0 | MM | PP | D20.16 |
| DIO 5 | INTERRUPT 2 | 0 | NN | RR | D20.20 |
| TSZ | TEST | 0 | SS | UU | D23.58 |
| MCZ | MASTER CLEAR | 0 | A | C | D24.58 |

FEMALE-PLUG ON THE PLUG PANEL

| | | | |
|-------------|-------------------------------|-----------------|------|
| DRAWN BY | Remarks CONTROL | Replacement for | Date |
| APPROVED BY | | Replaced by | Date |
| DATE | | | |

| A/S NORSK DATA-ELEKTRONIKK | | Title I/O CHANNEL 3 NORD-1 | | Drawing no. NORD-1.71 | |
|-------------------------------|--|-------------------------------|--------|--------------------------|----------|
| BURNDY PLUG NO.: | | BURNDY PLUG | | C.P.U. | |
| SIGNAL | | POLARITY | SIGNAL | GROUND | POSITION |
| AZ 0 | | 0 | B | D | D21.44 |
| AZ 1 | | 0 | E | H | D21.30 |
| AZ 2 | | 0 | F | J | D21.36 |
| AZ 3 | | 0 | K | M | D21.16 |
| AZ 4 | | 0 | L | N | D22.44 |
| AZ 5 | | 0 | P | S | D22.30 |
| AZ 6 | | 0 | R | T | D22.36 |
| AZ 7 | | 0 | U | W | D22.16 |
| AZ 8 | | 0 | V | X | D21.58 |
| AZ 9 | | 0 | Y | AA | D21.50 |
| AZ 10 | | 0 | Z | BB | D21.46 |
| AZ 11 | | 0 | CC | EE | D21.15 |
| AZ 12 | | 0 | DD | FF | D22.58 |
| AZ 13 | | 0 | HH | KK | D22.50 |
| AZ 14 | | 0 | JJ | LL | D22.46 |
| AZ 15 | | 0 | MM | PP | D22.15 |
| FEMALE-PLUG ON THE PLUG PANEL | | | | | |
| DRAWN BY | | Remarks DATA OUT | | Replacement for | |
| APPROVED BY | | | | Replaced by | |
| DATE | | | | Date | |

| A/S NORSK DATA-ELEKTRONIKK | | Title I/O CHANNEL 3 NORD-1 | | Drawing no. NORD-1.71 | |
|-------------------------------|--|-------------------------------|--------|--------------------------|----------|
| BURNDY PLUG NO. : | | BURNDY PLUG | | C.P.U. | |
| SIGNAL | | POLARITY | SIGNAL | GROUND | POSITION |
| DIZ 0 | | 1 | B | D | E23. 8 |
| DIZ 1 | | 1 | E | H | D23.11 |
| DIZ 2 | | 1 | F | J | D23.26 |
| DIZ 3 | | 1 | K | M | D23.27 |
| DIZ 4 | | 1 | L | N | D23.33 |
| DIZ 5 | | 1 | P | S | D23.39 |
| DIZ 6 | | 1 | R | T | D23.47 |
| DIZ 7 | | 1 | U | W | D23.55 |
| DIZ 8 | | 1 | V | X | D24. 8 |
| DIZ 9 | | 1 | Y | AA | D24.11 |
| DIZ 10 | | 1 | Z | BB | D24.26 |
| DIZ 11 | | 1 | CC | EE | D24.27 |
| DIZ 12 | | 1 | DD | FF | D24.33 |
| DIZ 13 | | 1 | HH | KK | D24.39 |
| DIZ 14 | | 1 | JJ | LL | D24.47 |
| DIZ 15 | | 1 | MM | PP | D24.55 |
| FEMALE-PLUG ON THE PLUG PANEL | | | | | |
| DRAWN BY | | Remarks DATA IN | | Replacement for Date | |
| APPROVED BY | | | | Replaced by Date | |
| DATE | | | | | |

| A/S NORSK DATA-ELEKTRONIKK | | Title I/O CHANNEL 2 CONTROL WITH CABLE DRIVERS AND RECEIVERS | | | | Drawing no. | |
|----------------------------|--------|--|------------|------|-----------------|-------------|--|
| NO. | SIGNAL | POL. | CPU 185, 3 | PLUG | I/O RACK 185, 6 | | |
| 1 | LIY 0 | 1 | .17 | A | .17 | | |
| | | 0 | .18 | C | .18 | | |
| 2 | LIY 1 | 1 | .20 | B | .20 | | |
| | | 0 | .22 | D | .22 | | |
| 3 | LIY 2 | 1 | .24 | E | .24 | | |
| | | 0 | .23 | H | .23 | | |
| 4 | LIY 3 | 1 | .25 | F | .25 | | |
| | | 0 | .28 | J | .28 | | |
| 5 | LIY 4 | 1 | .30 | K | .30 | | |
| | | 0 | .29 | M | .29 | | |
| 6 | LIY 5 | 1 | .31 | L | .31 | | |
| | | 0 | .34 | N | .34 | | |
| 7 | LIY 8 | 1 | .35 | P | .35 | | |
| | | 0 | .38 | S | .38 | | |
| 8 | LIY 9 | 1 | .37 | R | .37 | | |
| | | 0 | .40 | T | .40 | | |
| 9 | LIY 10 | 1 | .42 | U | .42 | | |
| | | 0 | .41 | W | .41 | | |
| 10 | LMCY | 1 | .43 | V | .43 | | |
| | | 0 | .46 | X | .46 | | |
| 11 | LIC 4 | 1 | .11 | Y | .11 | | |
| | | 0 | .12 | AA | .12 | | |
| 12 | LIO 4 | 1 | .14 | Z | .14 | | |
| | | 0 | .15 | BB | .15 | | |
| 13 | LDC | 1 | .48 | CC | .48 | | |
| | | 0 | .47 | EE | .47 | | |
| 14 | LDR 4 | 1 | .49 | DD | .49 | | |
| | | 0 | .52 | FF | .52 | | |
| 15 | LDK 4 | 1 | .54 | HH | .54 | | |
| | | 0 | .53 | KK | .53 | | |
| 16 | LDII 4 | 1 | .55 | JJ | .55 | | |
| | | 0 | .58 | LL | .58 | | |
| 17 | LDIO 4 | 1 | .05 | MM | .05 | | |
| | | 0 | .06 | PP | .06 | | |
| 18 | | 1 | | NN | | | |
| | | 0 | To P2 | RR | To P4 | | |
| 19 | | 1 | | SS | | | |
| | | 0 | | UU | | | |
| 20 | | 1 | | TT | | | |
| | | 0 | | VV | | | |
| 21 | | 1 | | XX | | | |
| | | 0 | | WW | | | |

| | | | |
|---------------------------------|---|--------------------------------|--------------|
| DRAWN BY APPROVED BY DATE | Remarks CONNECTED TO 185, 3 AND 185, 6 | Replacement for Replaced by | Date Date |
|---------------------------------|---|--------------------------------|--------------|

A/S NORSK DATA-
ELEKTRONIKK

Title

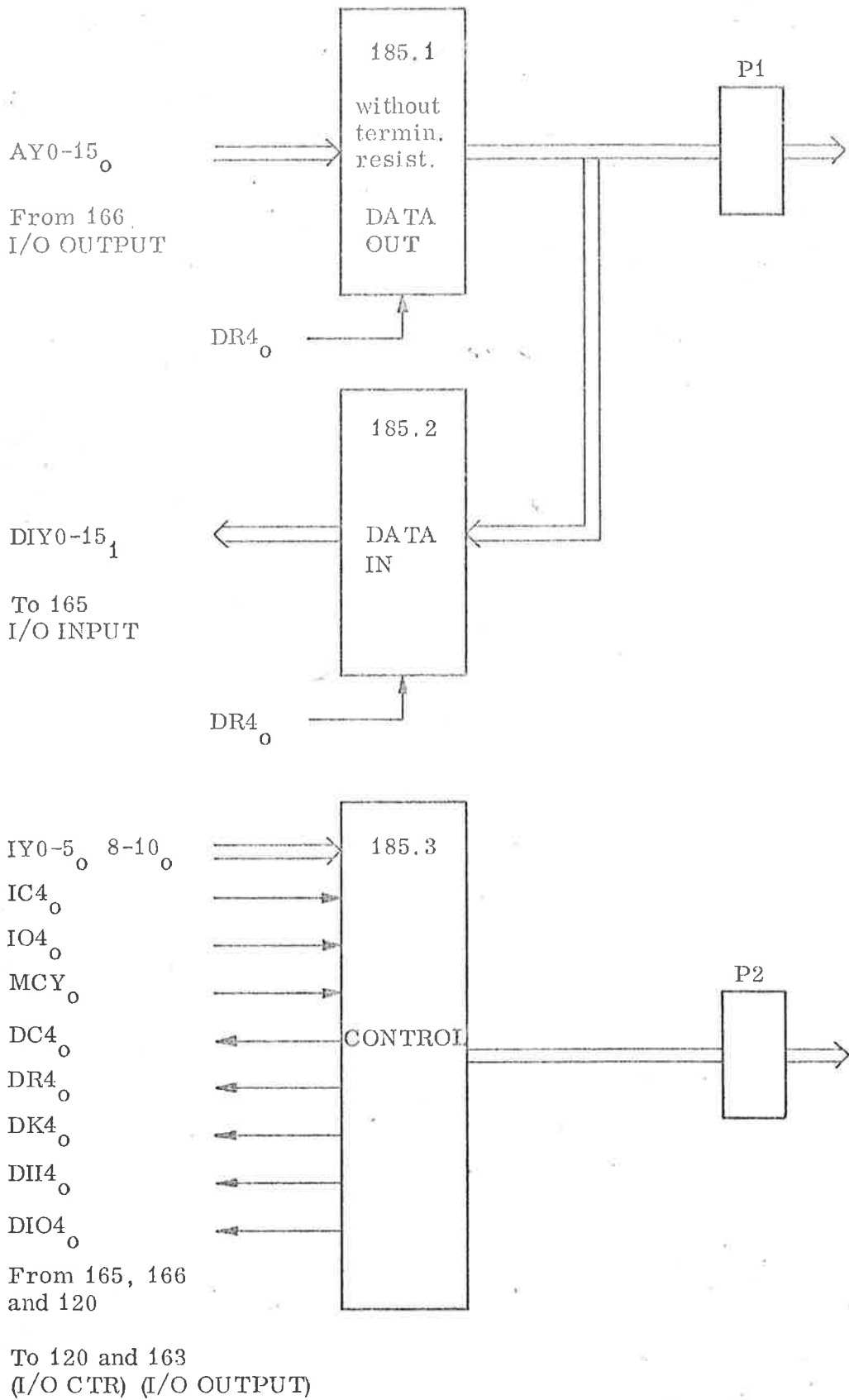
I/O CHANNEL 2 DATA
WITH CABLE DRIVERS AND
RECEIVERS

Drawing no.

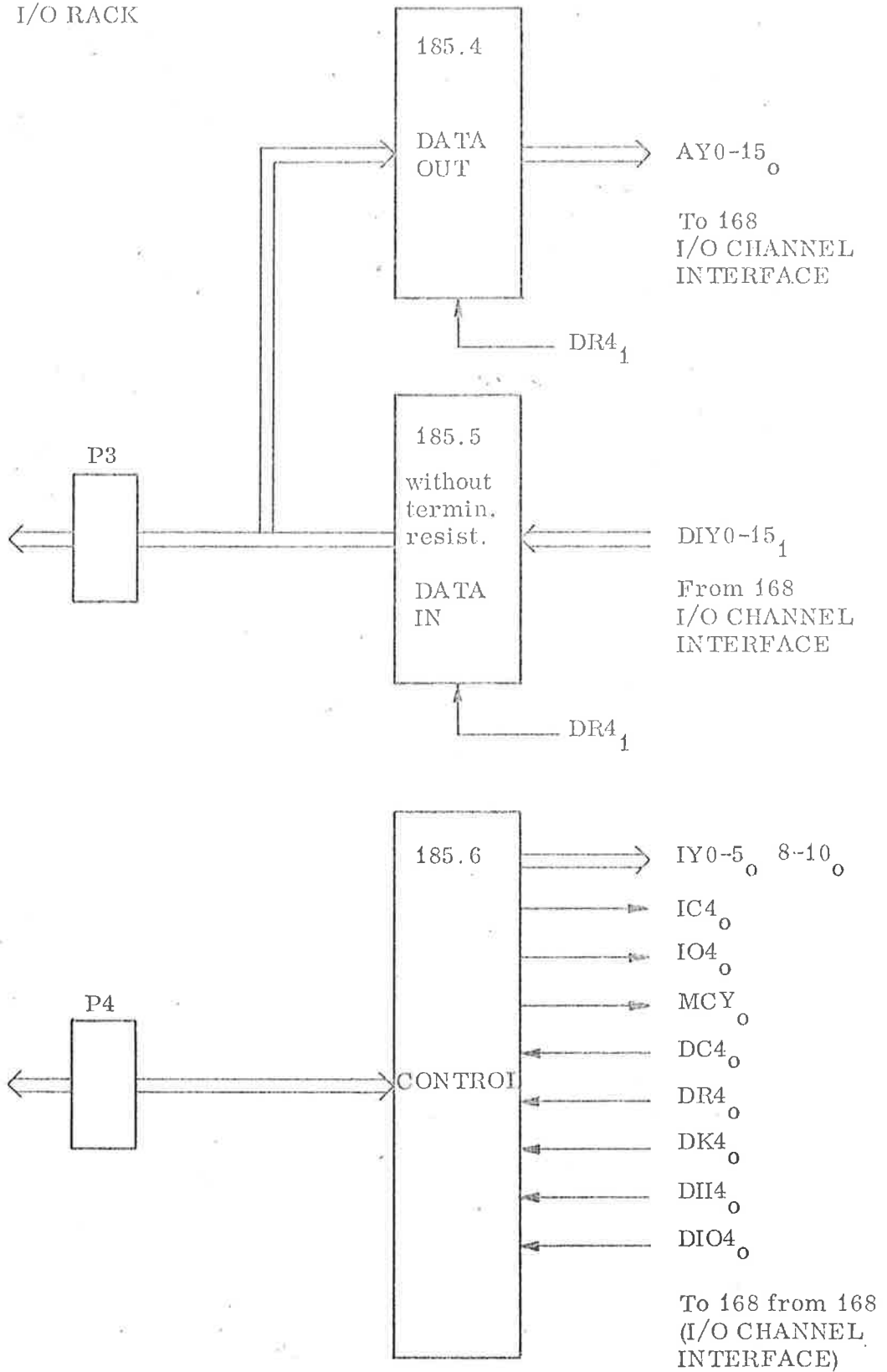
| NO. | SIGNAL | POL. | IN CPU 185,1 | PLUG | I/O RACK 185,5 |
|-----|---------|------|--------------|------|----------------|
| 1 | LIOY 0 | 1 | .11 | A | .12 |
| | | 0 | .12 | C | .11 |
| 2 | LIOY 1 | 1 | .14 | B | .15 |
| | | 0 | .15 | D | .14 |
| 3 | LIOY 2 | 1 | .17 | E | .18 |
| | | 0 | .18 | H | .17 |
| 4 | LIOY 3 | 1 | .20 | F | .22 |
| | | 0 | .22 | J | .20 |
| 5 | LIOY 4 | 1 | .24 | K | .23 |
| | | 0 | .23 | M | .24 |
| 6 | LIOY 5 | 1 | .25 | L | .28 |
| | | 0 | .28 | N | .25 |
| 7 | LIOY 6 | 1 | .30 | P | .29 |
| | | 0 | .29 | S | .30 |
| 8 | LIOY 7 | 1 | .31 | R | .34 |
| | | 0 | .34 | T | .31 |
| 9 | LIOY 8 | 1 | .35 | U | .38 |
| | | 0 | .38 | W | .35 |
| 10 | LIOY 9 | 1 | .37 | V | .40 |
| | | 0 | .40 | X | .37 |
| 11 | LIOY 10 | 1 | .42 | Y | .41 |
| | | 0 | .41 | AA | .42 |
| 12 | LIOY 11 | 1 | .43 | Z | .46 |
| | | 0 | .46 | BB | .43 |
| 13 | LIOY 12 | 1 | .48 | CC | .47 |
| | | 0 | .47 | EE | .48 |
| 14 | LIOY 13 | 1 | .49 | DD | .52 |
| | | 0 | .52 | FF | .49 |
| 15 | LIOY 14 | 1 | .54 | HH | .53 |
| | | 0 | .53 | KK | .54 |
| 16 | LIOY 15 | 1 | .55 | JJ | .58 |
| | | 0 | .58 | LL | .55 |
| 17 | | 1 | | MM | |
| | | 0 | To P1 | PP | To P3 |
| 18 | | 1 | | NN | |
| | | 0 | | RR | |
| 19 | | 1 | | SS | |
| | | 0 | | UU | |
| 20 | | 1 | | TT | |
| | | 0 | | VV | |
| 21 | | 1 | | XX | |
| | | 0 | | WW | |

| | | | |
|-------------|--|-----------------|------|
| DRAWN BY | Remarks CONNECTED TO 185.1 AND 185.5 | Replacement for | Date |
| APPROVED BY | | Replaced by | Date |
| DATE | | | |

I/O CHANNEL 2 WITH LINE DRIVERS AND RECEIVERS
CPU



I/O CHANNEL 2 WITH LINE DRIVERS AND RECEIVERS
I/O RACK



2 THE DATA CHANNEL SYSTEM

The external data channel interface is connected to the memory interface via cable drivers and receivers (185 or 504). The connection is done by means of two connectors, one for address/control and the other for data in/out.

2.1 Data Channel Control Signals

LWRK (WRITE) Specifies read or write mode depending on polarity.

LRQK (REQUEST) Request signal to the memory interface.

LRYK (READY) Ready signal from the memory interface.

LDAK Address lines.

2.2 Data Channel Data

LDDK Depending on mode signal polarity (WRITE), the LDDK lines will carry either input or output data.

A/S NORSK DATA-
ELEKTRONIKK

Title

DATA CHANNEL K
ADDRESS/CONTROL

Drawing no.

| NO. | SIGNAL | POL. | CPU | PLUG | I/O RACK |
|-----|---------|------|----------|------|-----------|
| 1 | LDAK 0 | 1 | 185.9.12 | A | 185.12.12 |
| | | 0 | .11 | C | .11 |
| 2 | LDAK 1 | 1 | .15 | B | .15 |
| | | 0 | .14 | D | .14 |
| 3 | LDAK 2 | 1 | .18 | E | .18 |
| | | 0 | .17 | H | .17 |
| 4 | LDAK 3 | 1 | .22 | F | .22 |
| | | 0 | .20 | J | .20 |
| 5 | LDAK 4 | 1 | .23 | K | .23 |
| | | 0 | .24 | M | .24 |
| 6 | LDAK 5 | 1 | .28 | L | .28 |
| | | 0 | .25 | N | .25 |
| 7 | LDAK 6 | 1 | .29 | P | .29 |
| | | 0 | .30 | S | .30 |
| 8 | LDAK 7 | 1 | .34 | R | .34 |
| | | 0 | .31 | T | .31 |
| 9 | LDAK 8 | 1 | .38 | U | .38 |
| | | 0 | .35 | W | .35 |
| 10 | LDAK 9 | 1 | .40 | V | .40 |
| | | 0 | .37 | X | .37 |
| 11 | LDAK 10 | 1 | .41 | Y | .41 |
| | | 0 | .42 | AA | .42 |
| 12 | LDAK 11 | 1 | .46 | Z | .46 |
| | | 0 | .43 | BB | .43 |
| 13 | LDAK 12 | 1 | .47 | CC | .47 |
| | | 0 | .48 | EE | .48 |
| 14 | LDAK 13 | 1 | .52 | DD | .52 |
| | | 0 | .49 | FF | .49 |
| 15 | LDAK 14 | 1 | .53 | HH | .53 |
| | | 0 | .54 | KK | .54 |
| 16 | LDAK 15 | 1 | .58 | JJ | .58 |
| | | 0 | .55 | LL | .55 |
| 17 | LRQK | 1 | .05 | MM | .05 |
| | | 0 | .06 | PP | .06 |
| 18 | LWRK | 1 | .10 | NN | .10 |
| | | 0 | .09 | RR | .09 |
| 19 | LRYK | 1 | 185.7.06 | SS | 185.10.05 |
| | | 0 | .05 | UU | .06 |
| 20 | | 1 | | TT | |
| | | 0 | | VV | |
| 21 | | 1 | | XX | |
| | | 0 | | WW | |

DRAWN BY

Remarks

185.9 in pos:

Replacement for

Date

APPROVED BY

185.12 in pos:

Replaced by

Date

DATE

185.7 in pos:

185.10 in pos:

| A/S NORSK DATA- ELEKTRONIKK | | Title DATA CHANNEL K DATA IN/OUT | | | | Drawing no. | |
|--------------------------------|---------|--|----------|------|-----------|-------------|--|
| NO. | SIGNAL | POL. | CPU | PLUG | I/O RACK | | |
| 1 | LDDK 0 | 1 | 185.7.12 | A | 185.11.12 | | |
| | | 0 | .11 | C | .11 | | |
| 2 | LDDK 1 | 1 | .15 | B | .15 | | |
| | | 0 | .14 | D | .14 | | |
| 3 | LDDK 2 | 1 | .18 | E | .18 | | |
| | | 0 | .17 | H | .17 | | |
| 4 | LDDK 3 | 1 | .22 | F | .22 | | |
| | | 0 | .20 | J | .20 | | |
| 5 | LDDK 4 | 1 | .23 | K | .23 | | |
| | | 0 | .24 | M | .24 | | |
| 6 | LDDK 5 | 1 | .28 | L | .28 | | |
| | | 0 | .25 | N | .25 | | |
| 7 | LDDK 6 | 1 | .29 | P | .29 | | |
| | | 0 | .30 | S | .30 | | |
| 8 | LDDK 7 | 1 | .34 | R | .34 | | |
| | | 0 | .31 | T | .31 | | |
| 9 | LDDK 8 | 1 | .38 | U | .38 | | |
| | | 0 | .35 | W | .35 | | |
| 10 | LDDK 9 | 1 | .40 | V | .40 | | |
| | | 0 | .37 | X | .37 | | |
| 11 | LDDK 10 | 1 | .41 | Y | .41 | | |
| | | 0 | .42 | AA | .42 | | |
| 12 | LDDK 11 | 1 | .46 | Z | .46 | | |
| | | 0 | .43 | BB | .43 | | |
| 13 | LDDK 12 | 1 | .47 | CC | .47 | | |
| | | 0 | .48 | EE | .48 | | |
| 14 | LDDK 13 | 1 | .52 | DD | .52 | | |
| | | 0 | .49 | FF | .49 | | |
| 15 | LDDK 14 | 1 | .53 | HH | .53 | | |
| | | 0 | .54 | KK | .54 | | |
| 16 | LDDK 15 | 1 | .58 | JJ | .58 | | |
| | | 0 | .55 | LL | .55 | | |
| 17 | | 1 | | MM | | | |
| | | 0 | | PP | | | |
| 18 | | 1 | | NN | | | |
| | | 0 | | RR | | | |
| 19 | | 1 | | SS | | | |
| | | 0 | | UU | | | |
| 20 | | 1 | | TT | | | |
| | | 0 | | VV | | | |
| 21 | | 1 | | XX | | | |
| | | 0 | | WW | | | |

DRAWN BY

Remarks

Replacement for

Date

APPROVED BY

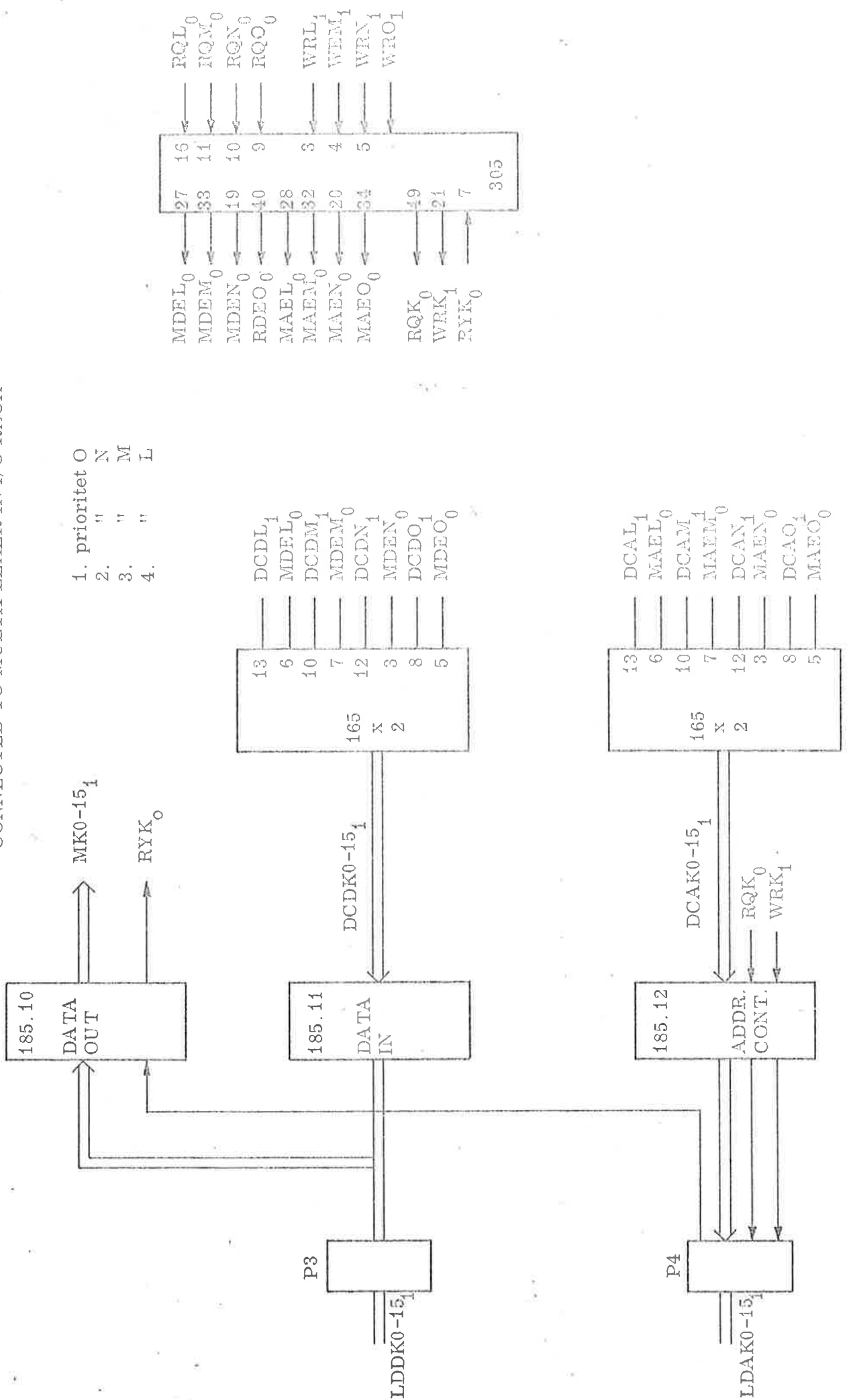
185.7 in pos:
185.11 in pos:

Replaced by

Date

DATE

DATA CHANNEL WITH LINE DRIVERS AND RECEIVERS
CONNECTED TO MULTIPLEXER IN I/O RACK

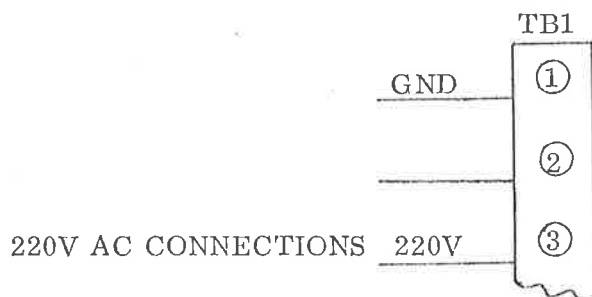


3 DEVICE CONNECTIONS

3.1 Digitronics Tape Reader

| Twisted pairs in cable | Digitronics plug P1 | Burndy plug | CPU | Name | Polarity |
|------------------------|---------------------|-------------|--------|----------------|----------|
| BROWN/BLUE | D/4 GND | A/C GND | D25.10 | RD0 DATA BIT 0 | 1 |
| GREY/BLUE | E/5 " | B/D " | D25.14 | RD1 " " 1 | 1 |
| WHITE/BLUE | F/6 " | E/H " | D25.24 | RD2 " " 2 | 1 |
| GREEN/BLUE | H/7 " | F/J " | D25.15 | RD3 " " 3 | 1 |
| BROWN/BLACK | J/8 " | K/M " | D25.28 | RD4 " " 4 | 1 |
| GREY/BLACK | K/9 " | L/N " | D25.27 | RD5 " " 5 | 1 |
| GREEN/BLACK | L/10 " | P/S " | D25.35 | RD6 " " 6 | 1 |
| WHITE/CRANGE | M/11 " | R/T " | D25.36 | RD7 " " 7 | 1 |
| GREEN/ORANGE | N/12 " | U/W " | D26.11 | RD8 SPROCKET | 1 |
| BLUE/ORANGE | 18/12 " | V/X " | D26.13 | VD2 DRIVE | 1 |
| BLACK/ORANGE | 20/12 " | Y/AA " | D26.14 | VD2 STOP | 0 |
| BLUE/BLACK | C/B " | Z/BB " | D26.44 | TAPE IN | 0 |

HUSK: FESTE AV SKJERM TIL LESERPLUGG



3.2 Facit Punch 4070

| Twisted pairs in cable | Digitronics plug P1 | Burndy plug | CPU | Name |
|---------------------------|------------------------|----------------|-------|-----------------|
| BROWN/BLUE | 1/25 | A/C | 11/20 | Ch 1 |
| GREY/BLUE | 2/25 | B/D | 9/16 | Ch 2 |
| WHITE/BLUE | 3/25 | E/H | 43/41 | Ch 3 |
| BROWN/BLACK | 4/25 | K/M | 27/29 | Ch 4 |
| GREY/BLACK | 5/25 | L/N | 47/45 | Ch 5 |
| GREEN/BLACK | 6/25 | P/S | 35/29 | Ch 6 |
| WHITE/ORANGE | 7/25 | R/T | 17/19 | Ch 7 |
| GREEN/ORANGE | 8/25 | U/W | 25/23 | Ch 8 |
| GREEN/BLUE | 9&11/25 | F/J | 7/15 | Ch 9 SPROCKET |
| BLUE/ORANGE | 12/25 | V/X | 3/23 | PR (COMPLETION) |
| SKJERM | 14&15 | Y | /2 | |

For 12 pairs cable

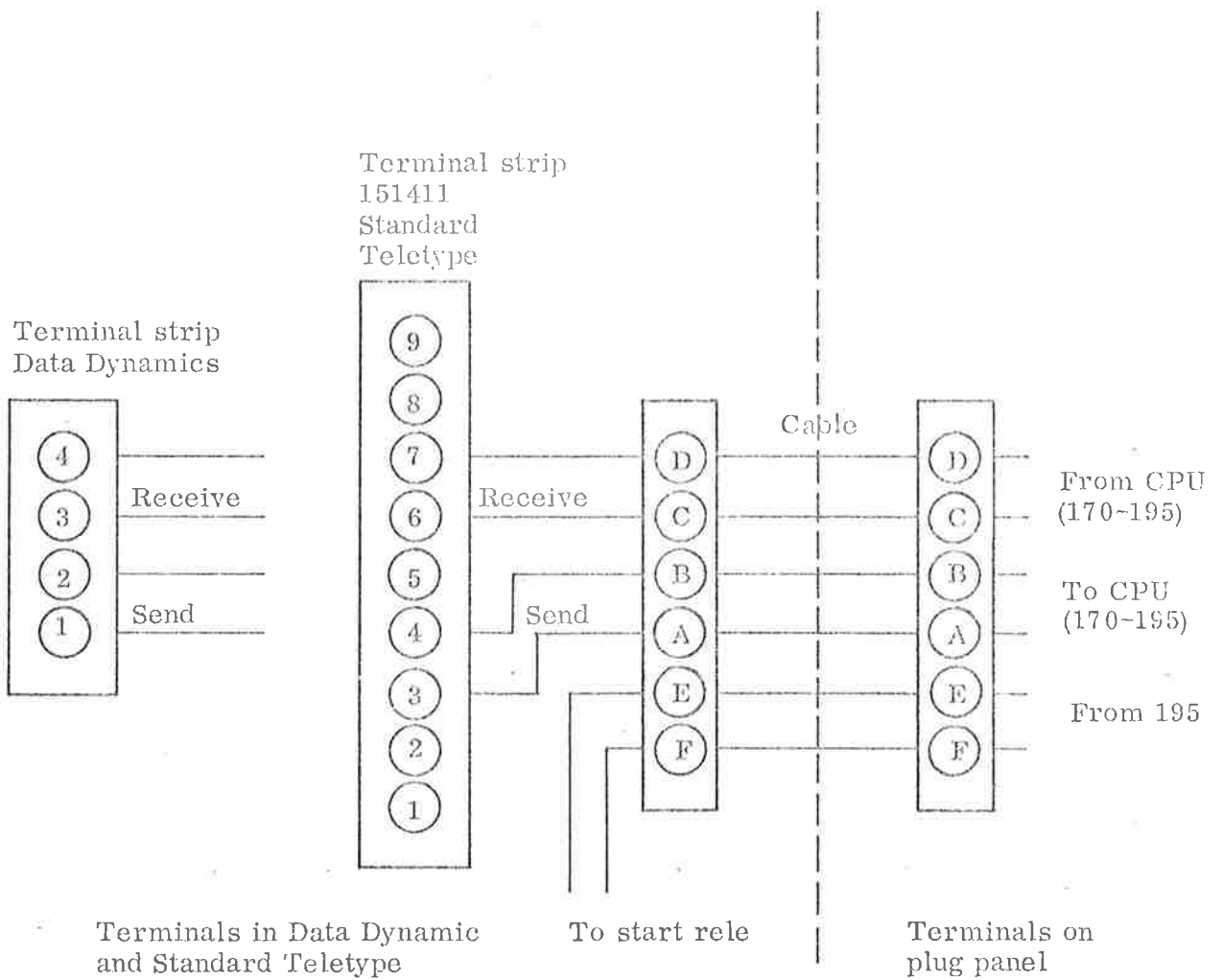
Pin No. 10 to GND (25)

Female plug on the plug panel

FACIT PUNCH BUFFER position in CPU

3.3 NORD-1 Teletype Cabling

| Plug terminal | Twisted pairs in cable | CPU | Signal |
|---------------|------------------------|---------|--|
| A/B | BROWN/BLACK | .55/.54 | Line I2/Line I1 |
| C/D | GREEN/BLACK | .58/.53 | Line O2/Line O1 |
| E/F | ORANGE/BLACK | .52/.44 | Start ₁ /Start ₀ |
| G/H | BLUE/BLACK | | |



3.4 DP-300 Card Reader Connection

| Twisted pairs in cable | Burndy plug | Card Reader plug | CPU | Name | Polarity |
|------------------------|-------------|------------------|-----|----------------------|----------|
| GREY/BLUE | B/D GND | 23/24 | . 3 | CRD 0 (ROW 9) | 0 |
| GREEN/BLUE | F/J " | 21/22 | . 4 | CRD 1 (" 8) | 0 |
| GREY/GREEN | L/N " | 19/20 | . 5 | CRD 2 (" 7) | 0 |
| BROWN/BLACK | R/T " | 17/18 | . 6 | CRD 3 (" 6) | 0 |
| WHITE/BLACK | V/X " | 15/16 | .16 | CRD 4 (" 5) | 0 |
| BROWN/ORANGE | Z/BB " | 13/14 | .17 | CRD 5 (" 4) | 0 |
| WHITE/ORANGE | DD/FF " | 11/12 | .18 | CRD 6 (" 3) | 0 |
| BLUE/ORANGE | JJ/LL " | 9/10 | .19 | CRD 7 (" 2) | 0 |
| BLUE/BLACK | NN/RR " | 7/ 8 | .37 | CRD 8 (" 1) | 0 |
| BROWN/GREY | TT/VV " | 5/ 6 | .38 | CRD 9 (" 0) | 0 |
| BROWN/BLUE | A/C " | 3/ 4 | .39 | CRD 10 (" 10) | 0 |
| WHITE/BLUE | E/H " | 1/ 2 | .40 | CRD 11 (" 11) | 0 |
| BROWN/GREEN | K/M " | 40/41 | .56 | FEED | 1 |
| WHITE/GREEN | P/S " | 32/33 | .55 | RR (Reader Ready) | 1 |
| GREY/BLACK | U/W " | 34/35 | .52 | CP (Card Present) | 0 |
| GREEN/BLACK | Y/AA " | 30/31 | .58 | C. P. I. Index Pulse | 0 |

DP READER BUFFER 301 in position:
Female Burndy plug on the plug panel

3.5 CDC-9220 Card Reader Connection

| Twisted pairs in cable | Burndy plug | AMP plug on card reader | Signal name | Pol- arity | CPU con- nection |
|---------------------------|----------------|-------------------------------|---------------|---------------|------------------------|
| | Signal/GRND | | | | |
| GREY/BLUE | B/D | c/n | ROW 9 (CRD 0) | 0 | .03 |
| GREEN/BLUE | F/J | e/k | " 8 (" 1) | 0 | .04 |
| GREY/GREEN | L/N | V/Z | " 7 (" 2) | 0 | .05 |
| BROWN/BLACK | R/T | X/b | " 6 (" 3) | 0 | .06 |
| WHITE/BLACK | V/X | U/Y | " 5 (" 4) | 0 | .16 |
| BROWN/ORANGE | Z/BB | W/a | " 4 (" 5) | 0 | .17 |
| WHITE/ORANGE | DD/FF | L/R | " 3 (" 6) | 0 | .18 |
| BLUE/ORANGE | JJ/LL | N/T | " 2 (" 7) | 0 | .19 |
| BLUE/BLACK | NN/RR | K/P | " 1 (" 8) | 0 | .37 |
| BROWN/GREY | TT/VV | f/m | " 0 (" 9) | 0 | .38 |
| BROWN/BLUE | A/C | d/j | " 11 (" 10) | 0 | .39 |
| WHITE/BLUE | E/H | r/v | " 12 (" 11) | 0 | .40 |
| BROWN/GREEN | K/M | C/H | FEED | 0 | .56 |
| WHITE/GREEN | P/S | n/t | READER READY | 1 | .55 |
| GREY/BLACK | U/W | M/S | END DATA | 0 | .52 |
| GREEN/BLACK | Y/AA | B/F | READ STROBE | 0 | .58 |
| GREY/ORANGE | CC/EE | D/J | CHECK ERROR | 0 | .11 |
| GREEN/ORANGE | HH/KK | A/E | DATA READY | 0 | Not con- nected |
| BLACK/ORANGE | MM/PP | | | | |
| WHITE/GREY | SS/UU | | | | |
| WHITE/BROWN | XX/WW | | | | |

CDC Reader Buffer 304 in position:

Female Burndy plug on the plug panel

3.6 CDC-9342 Line Printer Connection

| Cable pair colour codes | | Burndy plug on CPU end | | PIN assignment on buffer card | | AMP plug on line printer end | | Signal name |
|-------------------------|--------|------------------------|--------|-------------------------------|--------|------------------------------|--------|-------------|
| Signal | Return | Signal | Return | Signal | Return | Signal | Return | |
| BROWN | BLUE | A | C | .7 | .12 | E | F | LP 0 |
| GREY | BLUE | B | D | .6 | .12 | H | J | LP 1 |
| WHITE | BLUE | E | H | .9 | .13 | K | L | LP 2 |
| GREEN | BLUE | F | J | .10 | .13 | M | N | LP 3 |
| BROWN | GREEN | K | M | .19 | .21 | P | R | LP 4 |
| GREY | GREEN | L | N | .18 | .20 | S | T | LP 5 |
| WHITE | GREEN | P | S | .17 | .20 | a | b | Control |
| BROWN | BLACK | R | T | .51 | .53 | C | D | CHREQ |
| GREY | BLACK | U | W | .41 | .42 | A | B | Strobe |
| WHITE | BLACK | V | X | .27 | .21 | NOT CONNECTED | | |
| GREEN | BLACK | Y | AA | .22 | .24 | | | Ready |
| BROWN | ORANGE | Z | BB | .46 | .24 | | | MCP |
| GREY | ORANGE | CC | EE | | | | | |
| WHITE | ORANGE | DD | FF | | | | | |
| BLUE | ORANGE | JJ | LL | | | | | |
| BLACK | ORANGE | MM | PP | | | | | |
| BLUE | BLACK | NN | RR | | | | | |
| WHITE | GREY | SS | UU | | | | | |
| BROWN | GREY | TT | VV | | | | | |
| WHITE | BROWN | XX | WW | | | | | |

CDC 9342 Line printer buffer 308 in position:

Female Burndy plug on the plug panel.

A twenty-one pair cable should be used.

3.7 Centronics Line Printer Connection

| Cable pair colour codes | | Burndy plug on CPU end | | PIN assignment on buffer card | | AMP plug on line printer end | | Signal name |
|-------------------------|--------|------------------------|--------|-------------------------------|--------|------------------------------|---------------|-------------|
| Signal | Return | Signal | Return | Signal | Return | Signal | Return | |
| BROWN | BLUE | A | C | .7 | .12 | 2 | 20 | LP 0 |
| GREY | BLUE | B | D | .6 | .12 | 3 | 21 | LP 1 |
| WHITE | BLUE | E | H | .9 | .13 | 4 | 22 | LP 2 |
| GREEN | BLUE | F | J | .10 | .13 | 5 | 23 | LP 3 |
| BROWN | BLACK | K | M | .19 | .21 | 6 | 24 | LP 4 |
| GREY | BLACK | L | N | .18 | .20 | 7 | 25 | LP 5 |
| GREEN | BLACK | P | S | .17 | .20 | 8 | 26 | LP 6 |
| WHITE | ORANGE | R | T | .51 | .53 | 10 | 28 | Acknowledge |
| GREEN | ORANGE | U | W | .41 | .42 | 1 | 19 | Strobe |
| BLUE | ORANGE | V | X | .27 | .21 | 9 | 27 | LP 7 |
| BLACK | ORANGE | Y | AA | .22 | .24 | not connected | not connected | |
| BLUE | BLACK | Z | BB | .46 | .24 | not connected | not connected | |

Centronics Buffer 302 in position:
Female Burndy plug on the plug panel.

Twelve pair cable should be used.

3.8 Data Products 2410 & 2470 Line Printer Connection

| Cable pair colour codes | | Burndy plug on CPU end | | PIN assignment on 7132/III buffer card | | Line printer end | | Signal name |
|-------------------------|--------|------------------------|--------|--|--------|------------------|---------------|-----------------|
| Signal | Return | Signal | Return | Signal | Return | Signal | Return | |
| BROWN | BLUE | A | C | .7 | .12 | B | D | LP 0 |
| GREY | BLUE | B | D | .6 | .12 | F | J | LP 1 |
| WHITE | BLUE | E | H | .9 | .13 | L | N | LP 2 |
| GREEN | BLUE | F | J | .10 | .13 | R | T | LP 3 |
| BROWN | BLACK | K | M | .19 | .21 | V | X | LP 4 |
| GREY | BLACK | L | N | .18 | .20 | Z | b | LP 5 |
| GREEN | BLACK | P | S | .17 | .20 | n | k | LP 6 |
| WHITE | ORANGE | R | T | .51 | .53 | E | C | Demand |
| GREEN | ORANGE | U | W | .41 | .42 | j | m | Strobe |
| BLUE | ORANGE | V | X | .27 | .21 | p | s | Vertical format |
| BLACK | ORANGE | Y | AA | .22 | .24 | not connected | not connected | |
| BLUE | BLACK | Z | BB | .46 | .24 | not connected | not connected | |

Buffer card in position:

Female Burndy plug on the plug panel.

Twelve pair cable should be used.

4 THE NORD-1 POWER SYSTEM

In this chapter the following drawings are found:

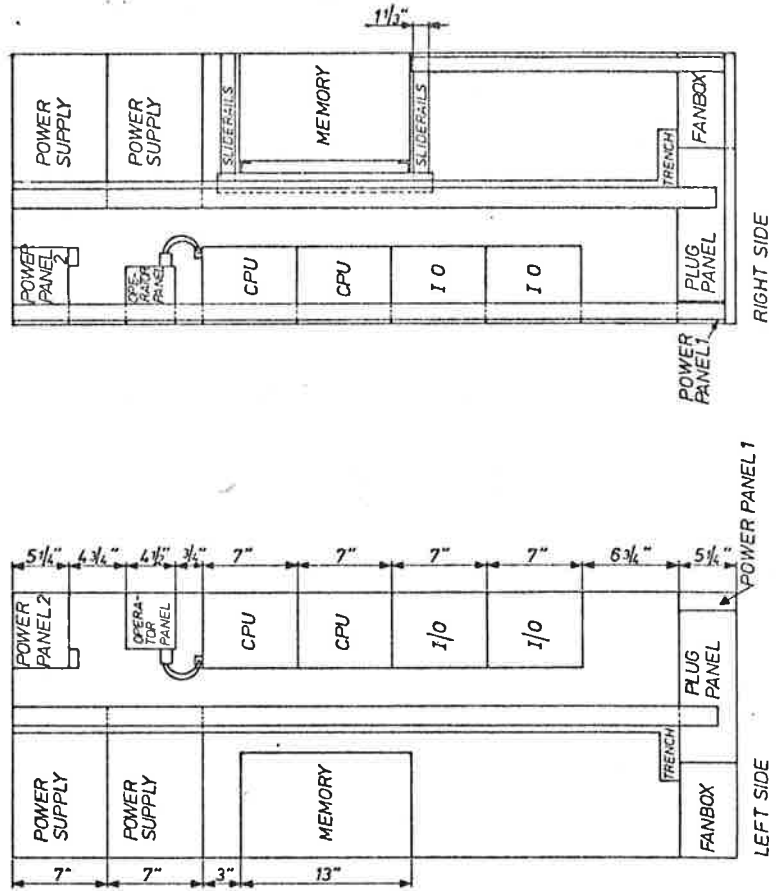
NORD-1 Lay out

Power Panel 1

Power Panel 2

NORD-1 DC Power and Ground System

NORD-1 Noise Filter for the memory



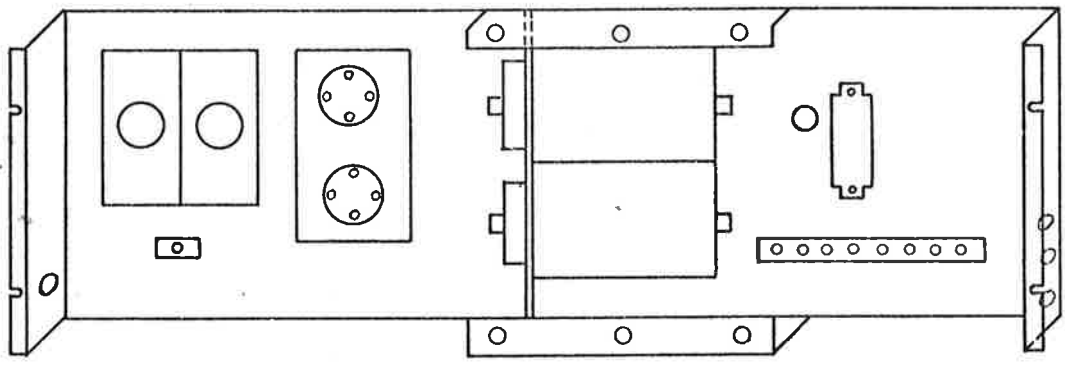
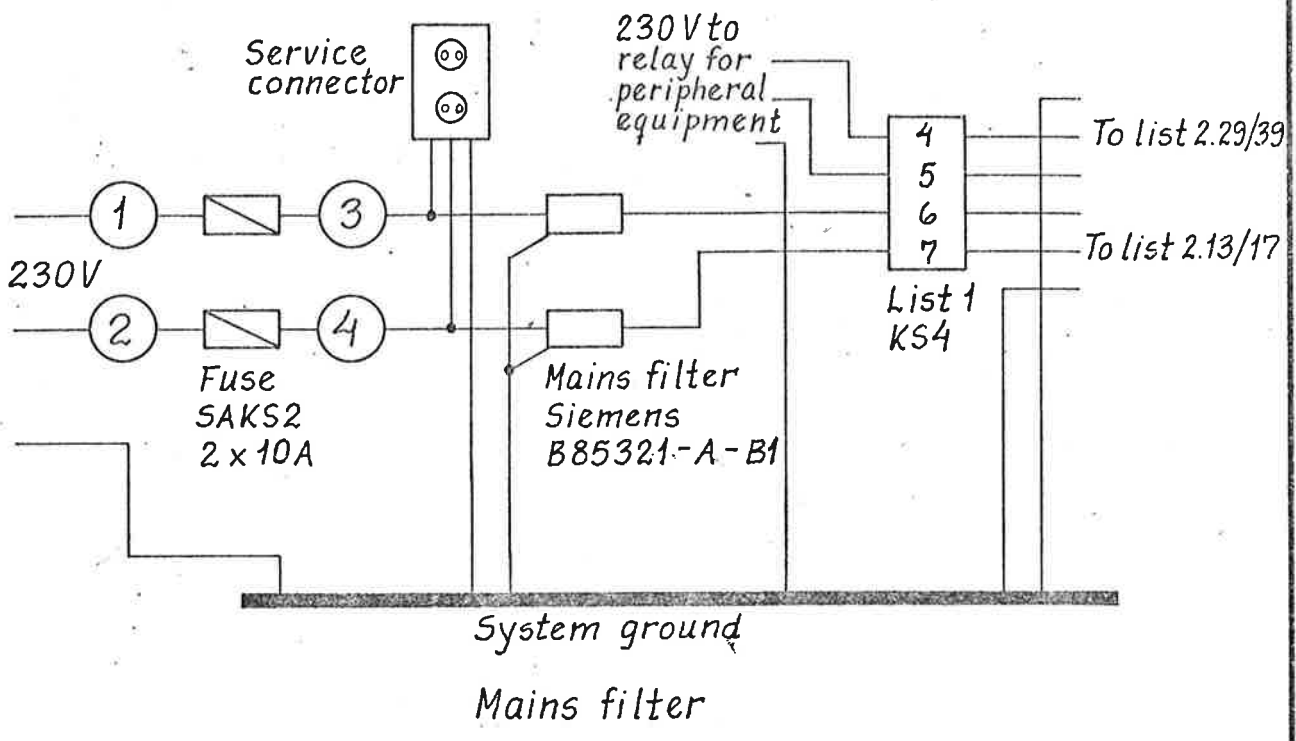
| | | | | | |
|------------------------------------|--|------------|--|-----------------|--|
| Mål på hver side av panel forordr. | | 1 3 72 | | Eind | |
| Revisjon | | Målestokk | | Tegn: ESO 26117 | |
| NORD - 1 LAY OUT | | Kontor: OR | | Appr. | |
| A/S NORSK DATA-ELEKTRONIKK | | 2B28 | | | |



A/S NORSK DATA-
ELEKTRONIKK

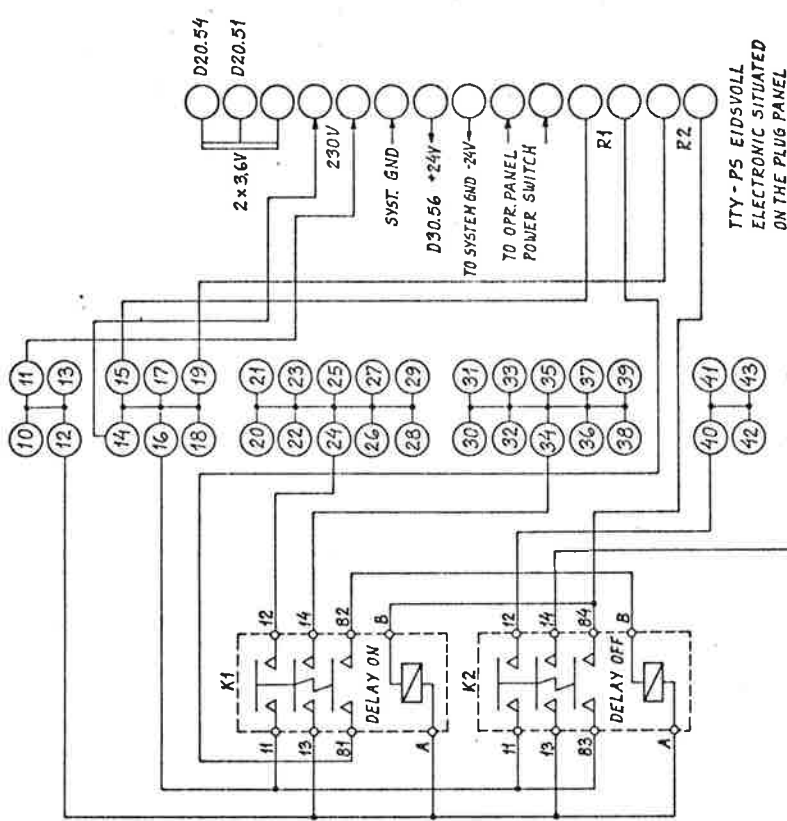
Title
POWER PANEL 1

Drawing no.

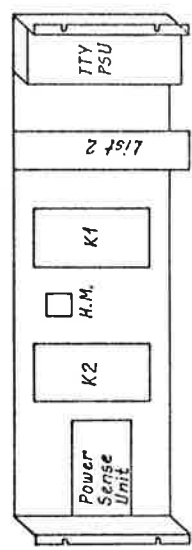


Single wire 1,5²
 Blue: Phase R
 Grey: Phase S
 Yellow: Power ground

| | | | |
|-------------------------|---------|-----------------|------|
| DRAWN BY <i>Eend</i> | Remarks | Replacement for | Date |
| APPROVED BY <i>O.R.</i> | | Replaced by | Date |
| DATE <i>24.11.71</i> | | | |



Single wire 1.5 mm unless spec.
 Blue: Phase R
 Grey: Phase S
 Yellow: Power ground



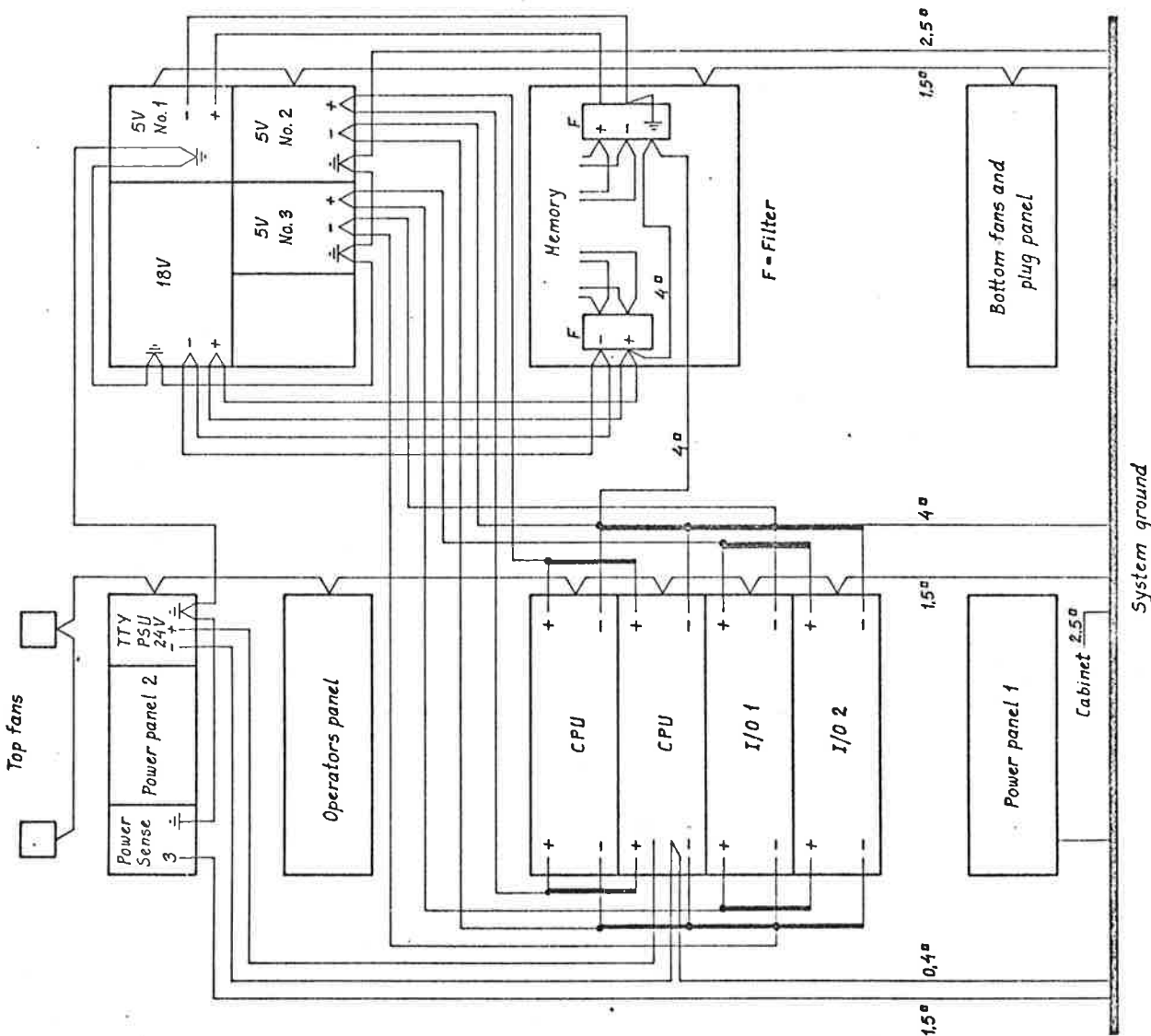
Cable trench fitted on bottom rear side

Power connections
 List 2

- 10/18 To List 1.6/7
- 13/17 To fans memory
- 20/30 To hour meter
- 21/31 To Power Sense Unit
- 22/32 To CPU PSU + 5V
- 23/33 To spare CPU PSU + 5V
- 25/35 To fans top
- 26/36 To fans bottom
- 27/37 To List 1.4/5
- 28/38 To memory PSU + 5V
- 29/39 To memory PSU - 18V
- 41/45 To memory PSU + 5V
- 42/46 To memory PSU - 18V
- 43/47

| | | |
|----------------------------|------------|--------------|
| Reviz | Datab | Sygn |
| | Måltidsak | Page 25.H.71 |
| | Proj. D.R. | Kontr. D.R. |
| | Appr. | |
| POWER PANEL 2 | | |
| A/S NORSK DATA-ELEKTRONIKK | | 2826 |





NOTE:

If only 3 CPU racks are used the third 5V PSU is omitted. I/O 1 is then supplied from the first 5V PSU.

All DC wires from power supplies are 4°.

Make sure that both side panels, front and rear door are connected to system ground when fitted, i.e. all lacquer removed from mounting pins and holders, or flexible wire used.



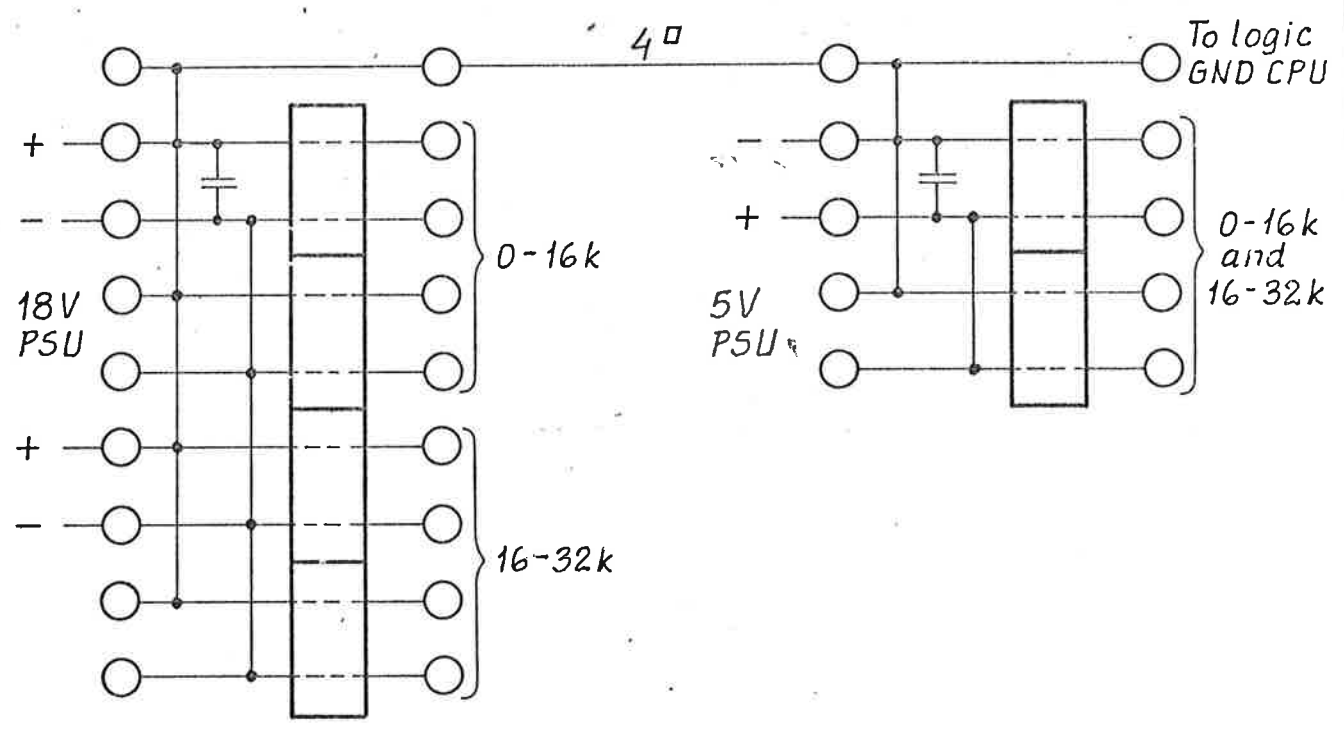
| | | |
|--|------|---------------------|
| Refer | Date | Sign. |
| Målestakt | | Tegn. G. No. 25-177 |
| Kont. O.R. | | Acpm |
| NORD-1 DC POWER AND GROUND SYSTEM | | |
| A/S NORSK DATA-ELEKTRONIKK | | 2B27 |

A/S NORSK DATA-
ELEKTRONIKK

Title

NORD-1
NOISE FILTER

Drawing no.



$C = 1\mu F/20/100$ Philips Nuggets polycarbonat
 $L =$ Philips bead no. 4312 020 31520

| | | | |
|-------------------------|---------|-----------------|------|
| DRAWN BY <i>Emil</i> | Remarks | Replacement for | Date |
| APPROVED BY <i>O.R.</i> | | Replaced by | Date |
| DATE <i>25.11.71</i> | | | |

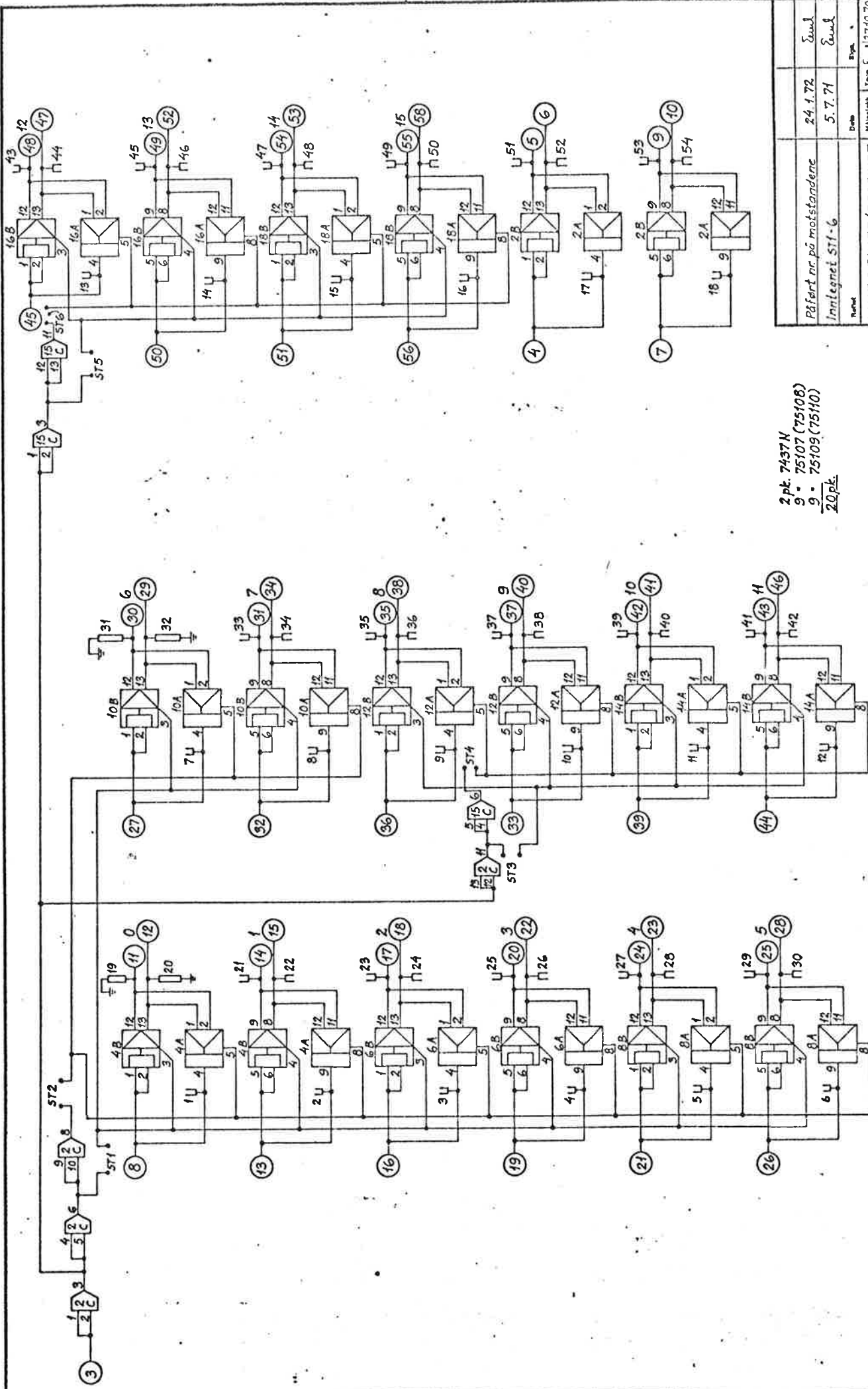
APPENDIX A

A.1 21 Pars Cable

| TWISTED PARS IN CABLE | | |
|--------------------------|---------|----|
| A | C | |
| BROWN | /BLUE | 1 |
| B | D | |
| GREY | /BLUE | 2 |
| E | H | |
| WHITE | /BLUE | 3 |
| F | J | |
| GREEN | /BLUE | 4 |
| K | M | |
| BROWN | /GREEN | 5 |
| L | N | |
| GREY | /GREEN | 6 |
| P | S | |
| WHITE | /GREEN | 7 |
| R | T | |
| BROWN | /BLACK | 8 |
| U | W | |
| GREY | /BLACK | 9 |
| V | X | |
| WHITE | /BLACK | 10 |
| Y | AA | |
| GREEN | /BLACK | 11 |
| Z | BB | |
| BROWN | /ORANGE | 12 |
| CC | EE | |
| GREY | /ORANGE | 13 |
| DD | FF | |
| WHITE | /ORANGE | 14 |
| HH | KK | |
| GREEN | /ORANGE | 15 |
| JJ | LL | |
| BLUE | /ORANGE | 16 |
| MM | PP | |
| BLACK | /ORANGE | 17 |
| NN | RR | |
| BLUE | /BLACK | 18 |
| SS | UU | |
| WHITE | /GREY | 19 |
| TT | VV | |
| BROWN | /GREY | 20 |
| XX | WW | |
| WHITE | /BROWN | 21 |

A.2 12 Pars Cable

| TWISTED PARS IN CABLE | | |
|--------------------------|---------|----|
| A | C | |
| BROWN | /BLUE | 1 |
| B | D | |
| GREY | /BLUE | 2 |
| E | H | |
| WHITE | /BLUE | 3 |
| F | J | |
| GREEN | /BLUE | 4 |
| K | M | |
| BROWN | /BLACK | 5 |
| L | N | |
| GREY | /BLACK | 6 |
| P | S | |
| GREEN | /BLACK | 7 |
| R | T | |
| WHITE | /ORANGE | 8 |
| U | W | |
| GREEN | /ORANGE | 9 |
| V | X | |
| BLUE | /ORANGE | 10 |
| Y | AA | |
| BLACK | /ORANGE | 11 |
| Z | BB | |
| BLUE | /BLACK | 12 |



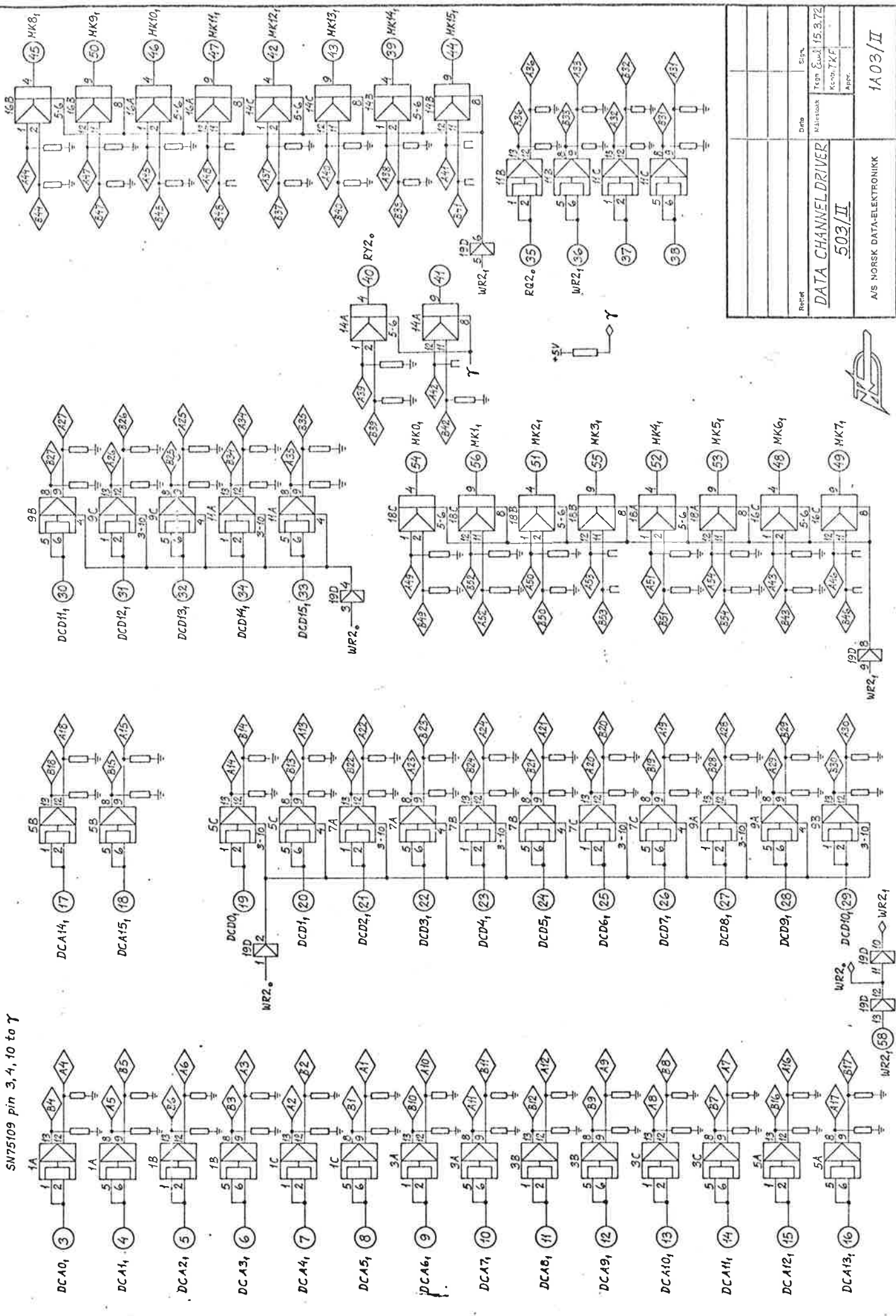
2 pk. 7437N
 9 * 75107 (75108)
 9 * 75109 (75110)
 20pk.

| | | |
|---|---------------------------|-----------------------|
| Påført nr. på motstandene Innleget ST1-6 | Dato 24.1.72 5.7.71 | Sign. Suml Suml |
| Model LINE DRIVER/RECEIVER 185 | Målestokk 1:1 | Type 2A85 |



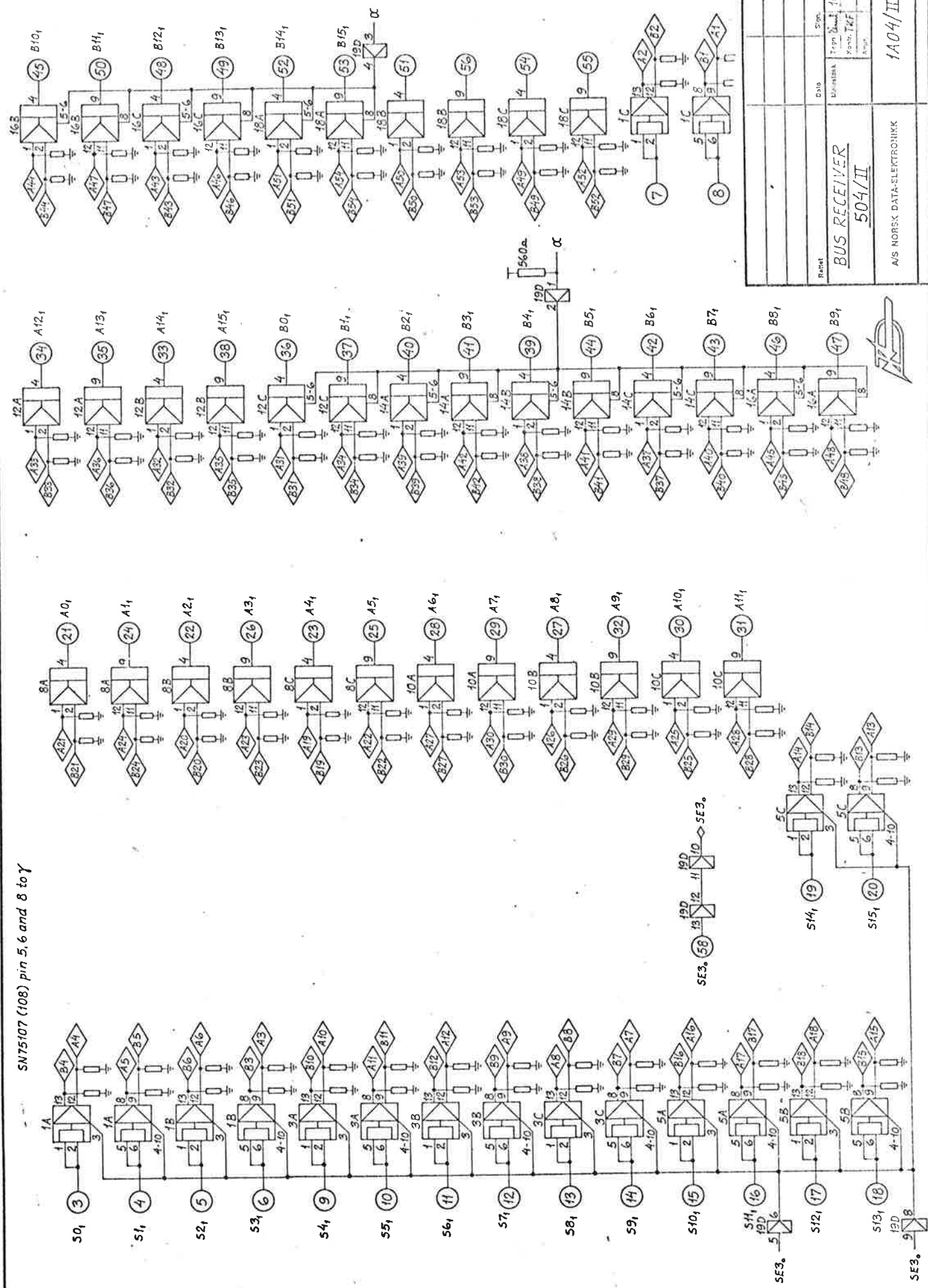
-5V (57)

SN75109 pin 3, 4, 10 to γ



| | | | |
|---|-------|---------|---------|
| Revizija | Datum | Strana | 15.3.72 |
| Kodir. TKF | | 15.3.72 | |
| DATA CHANNEL DRIVER 503/II | | | |
| AIS NORSE DATAELEKTRONIKK | | | |
| 1A03/II | | | |

SN75107 (108) pin 5, 6 and 8 to γ



| | | | |
|----------------------------|-------|-------|-------|
| REKAT | D.110 | Sign. | 16.57 |
| BUS RECEIVER | | Top | 16.57 |
| 504/II | | Yonit | TAF |
| A/S NORSK DATA-ELEKTRONIKK | | Print | |



1A04/II



A/S NORSK DATA-ELEKTRONIKK

Erich Mogensens vei 38, Oslo 5 - Tlf. 21 73 71

COMMENT AND EVALUATION SHEET

ND-01.005.01
September 1972

NORD-1 CONNECTORS

In order for this manual to develop to the point where it best suits your needs, we must have your comments, corrections, suggestions for additions, etc. Please write down your comments on this pre-addressed form and post it. Please be specific wherever possible.

FROM

