HOW TO USE
OPERATOR PANEL ND–323163

This Reference card describes the use of the folio type
operator panel. It also describes switch settings on the
related PCBs, such as Panel Control and Telefix Adapter,
and gives some information about reading the display.

The operator panel is a membrane folio type, and the Panel
Control PCB is mounted just behind the operator panel.
In this way, the LEDS on the PCB will light up the different
parts of the text on the operator panel. The operator panel
is connected to the Panel Control PCB by a flat cable.

The operator panel can be used in three different modes:

● NORMAL mode for normal use of the computer.

● ADVANCED mode for maintenance.

● TELEFIX mode for control of the Telefix Driver.

DIFFERENT TYPES

There are three main types of operator panel:

- One with key switch and display, used in COMPACT, ND–100 and ND–500 systems. Related PCBs are the 1834 Panel Control and 1835 Telefix Driver.

- One with neither key switch nor display, used in some COMPACTS. Related PCBs are the 1815 Panel Control/ Telefix Adapter and the Honywell LED PCB. This version is without baud rate conversion.

- One version used in the SATELLITE. This version is without display. The key switch is located on the Power supply, and the Telefix Driver on the Plug board. A related PCB is the 1834 Panel Control. The function of the Telefix Driver is similar to that of the PCB No. 1835 (Telefix Driver).
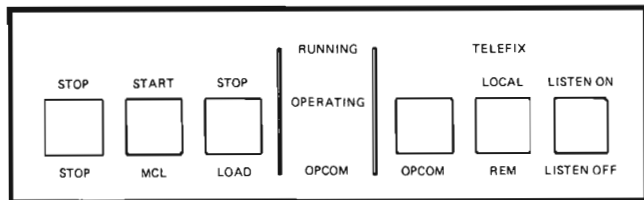

The illustration shows all the text on the operator panel. When the system is running, only the words which indicate the functions that can be used are lit up. The STOP light above the LOAD button is only used in a configuration without a key switch.

NORMAL MODE, WITH KEY SWITCH
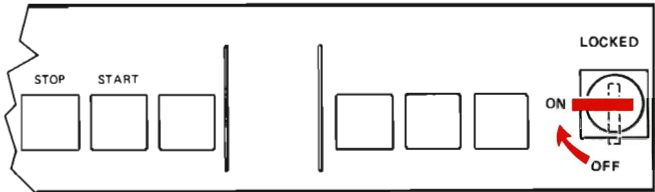
When power is turned on for the Computer, the panel will look like the illustration above. If the START button is then pressed, the Panel Control logic will first do a MASTER CLEAR, wait a while, and then send LOAD.

If the key switch is in the locked position when the power is turned on, the startup procedure will be done automatically by the Panel Control logic. Only RUNNING will be lit.
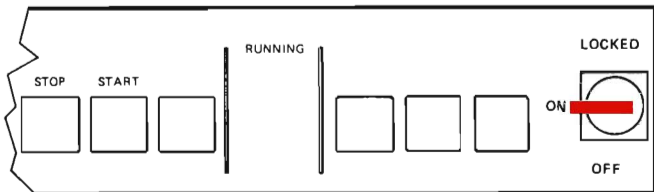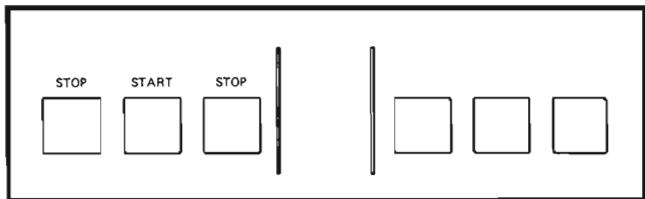
*If a successful load is performed, "RUNNING" will light up.*

If the key switch is then turned to the LOCKED position, the buttons will be locked, and only RUNNING will be lit.

To stop the computer, turn the key switch to ON, and press the STOP button.

NORMAL MODE, WITHOUT KEY SWITCH

When power is turned on, the panel will look like this.
*The difference from the previous panel is the second*
STOP button.
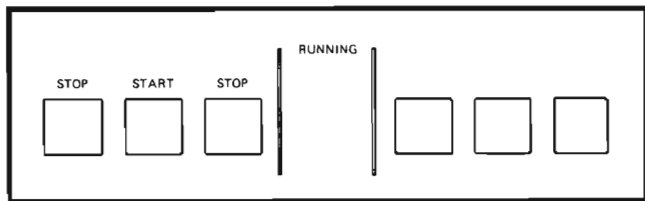
After the START button has been pressed, the panel will
look like this.

To stop the computer, press the two STOP buttons
simultaneously.

ADVANCED MODE

*There is a time-out of approx. 7. min. in this mode!
This means that if no button is pressed within 7 min.,
the panel automatically goes back to the normal
mode.*

In this mode, the function of the panel is identical to the
old ND—100 panel.
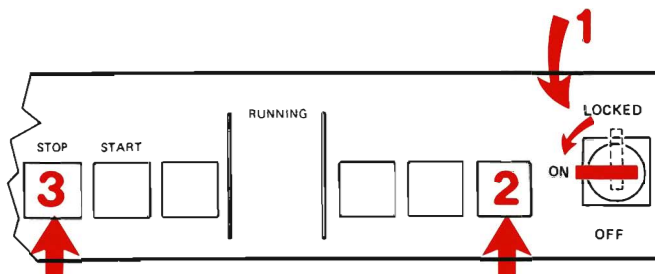
*To enter this mode, turn the key switch (if any) to the ON
position, press the rightmost button, and keep it pressed
while pressing the leftmost button (STOP).*
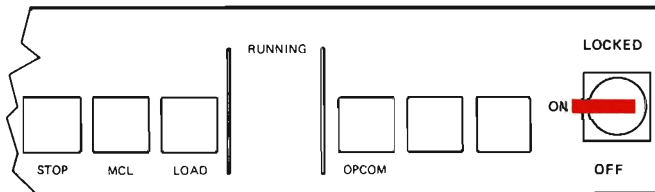
In the advanced mode, the panel will look like the illustration above. It is now operated in the same way as the old ND—100 panel, and it is possible to control the MASTER CLEAR, LOAD and OPCOM "manually". This mode is intended for use in a service situation.

To get into OPCOM, press the OPCOM button.

> *To get out of OPCOM before time-out, press ESC on the console, or take a warm start.*

After MCL has been pressed, wait a few seconds before pressing LOAD.

THE TELEFIX MODE

In this mode it is possible to control the Telefix Driver.
The only way to enter the Telefix mode, will be if the
Telefix Driver receives a carrier from the ND—Telefix
centre.

> *It is important for the correct functioning of the*
> *Telefix Driver that the thumbwheel for baud rate*
> *selection on the CPU PCB is set to 15.*

Having entered the Telefix mode, the Telefix Adapter can
be controlled by the two rightmost buttons on the panel.
One of these controls the LOCAL/REMOTE function, and
the other the LISTEN ON/LISTEN OFF function.

If a carrier from the ND Service Centre is detected by the
Telefix Driver, the operator panel will respond in two
different ways, depending on the position of the switch —
SW — on the Panel Control PCB (1834).
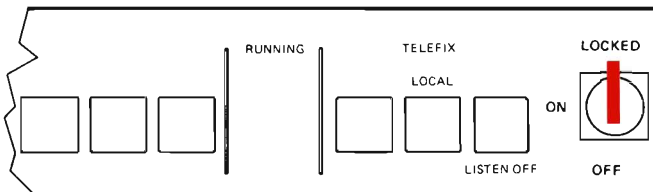
If the switch — SW — (on the PCB 1834) is in the left
position, the panel will come up in Local and Listen Off
mode.
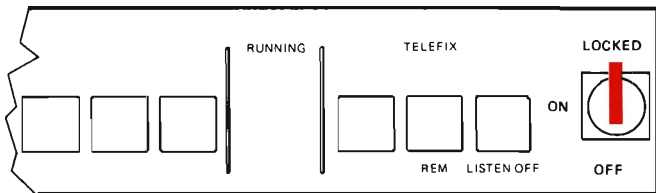
If the switch is in the right position, the panel will come up in Remote and Listen Off mode.

For detailed information about the switch SW, see "SWITCHES ON THE PANEL CONTROL PCB".

To change the state of the Telefix Driver, unlock the panel (key switch to ON) and use the two Telefix buttons. They are both toggle switches, and will change state each time they are pressed.

LOCAL and LISTEN OFF	The normal working condition. There is no connection to the modem.
LOCAL and LISTEN ON	The computer is controlled from site. The ND–Telefix centre can "listen to" what is going on.
REMOTE and LISTEN OFF	The computer is controlled from the ND–Telefix centre.
REMOTE and LISTEN ON	The computer is controlled from the ND–Telefix centre. The local console can "listen in".

CONNECTED PRINTER

A connected printer will protocol all activity on the Telefix modem line. The baud rate setting for the printer MUST be the same as for the modem.

If in LOCAL mode the printer will only function with LISTEN ON.

THE "OPERATING" SIGN

In an ND–500 system, the OPERATING sign will show the activity of the ND–500/2 CPU. Usually the sign will flash. The flash rate will depend on the CPU load.

THE DISPLAY

The display can be used in different modes. The NORMAL MODE and the PROGRAM EXAMINE MODE are shown here.
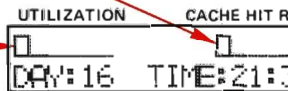
NORMAL MODE

As HIT rate in cache increases, the number of squares increases.

Machine utility. Shows how much time the machine spends on level 0. As time spent on level 0 decreases, the number of squares shown increases.

UTILIZATION   CACHE HIT R

DAY:16   TIME:21:3

Shows the day of the month.

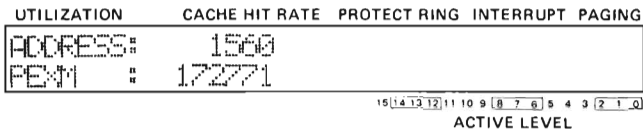The clock shows the time in Hours: Minutes: Seconds.

The DAY and TIME are set by the SINTRAN UPDAT command.

PROGRAM EXAMINE MODE

To enter the Program Examine mode, you have to be in
OPCOM. Type the memory address followed by a slash (/)
on the console terminal.

The display will show the actual address and its contents.

Shows which of the four rings 0,
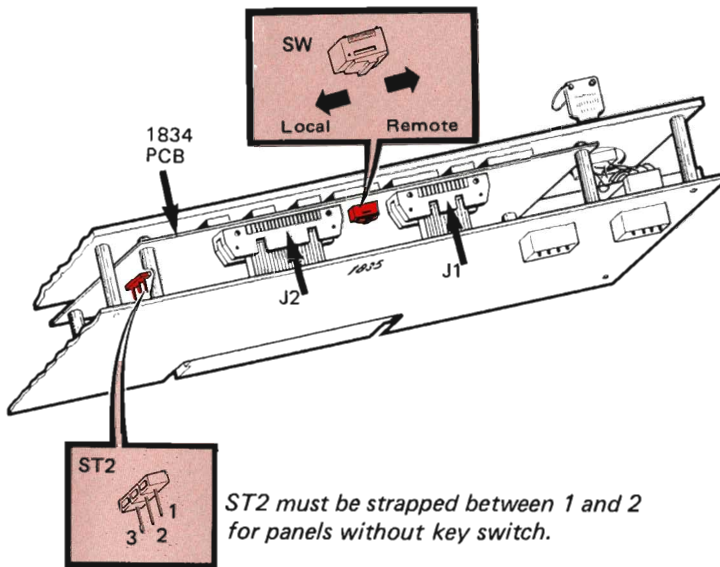1, 2, 3 the machine is running on.

Shows whether the interrupt
system is ON or OFF.

Shows whether the paging
system is ON or OFF.

Shows which of the 16 levels are
in use. The level in use has the
I lit.

SWITCHES ON THE PANEL CONTROL PCB (ND−1834)

SW
Local   Remote

1834
PCB

J2   *1835*   J1

ST2

*ST2 must be strapped between 1 and 2
for panels without key switch.*

THE SWITCH "SW"

The switch SW (or ST1 as it is marked on some silk screens)
determines the startup condition for the Telefix Driver.

● If the switch SW is in the left position − LOCAL − the
computer will come up in LOCAL and LISTEN OFF
mode when the Telefix Driver receives a Telefix carrier.

● If the switch is in the right position − REMOTE − the
computer will come up in REMOTE and LISTEN OFF
mode when receiving a Telefix carrier.

> *To prevent the user from losing control over the computer by accident, this switch should normally be left in the LOCAL position.*

> *Note that the silk screen on some of the 1834 PCBs is WRONG. The two words LOC and REM by the switch SW are interchanged. The drawing to the left is correct!*

SWITCHES ON THE TELEFIX DRIVER (ND–1835)

DIRECT PASS SWITCHES

In case the Telefix Driver breaks down, it will be possible to connect the console directly to the CPU by moving ALL eight dual-in-line switches from Normal to Direct pass position.
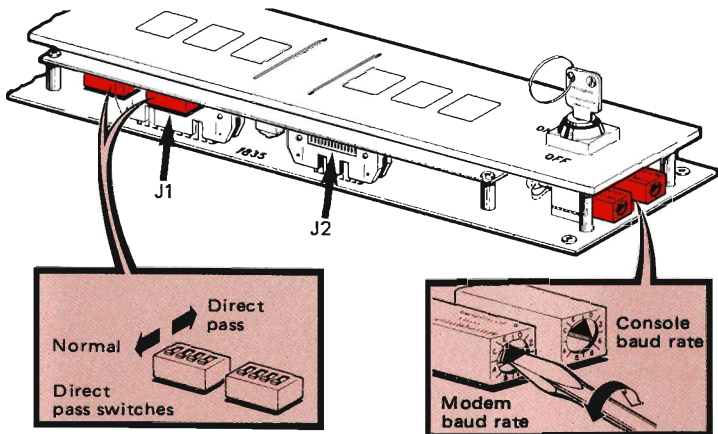
BAUD RATE SWITCHES

The two switches for modem and terminal speed can be
operated with a screwdriver from the right side of the PCB
when it is mounted in a computer. The following table
shows the relations between switch settings and baud rates.

Baud rate	Switch	Baud rate	Switch	Baud rate	Switch
50	0	600	6	3600	B
75	1	1200	7	4800	C
110	2	1800	8	7200	D
134.5	3	2000	9	9600	E
150	4	2400	A	19200	F
300	5				

> *Note that the modem speed always must be
> equal to or lower than the console speed.*

SWITCHES ON THE TELEFIX ADAPTER (ND—1815)

This PCB is used with some Compacts.
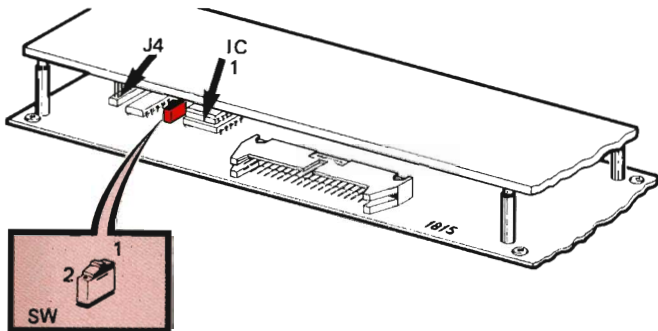
The only switch on this PCB is the Telefix startup
condition switch SW. The function is the same as for the
same switch on the 1834 PCB. Postion 1 is LOCAL, and
position 2 is REMOTE.