SERVICE MANUAL

COOKING

FOR INTERNAL AND PARTNERS USE ONLY

OVEN

LUX

Low User Experience

EN

CONTENTS

1 PURPOSE OF THIS MANUAL

The purpose of this Service Manual is to provide Service Engineers who are already familiar with the repair procedures with information regarding: **Smart Ovens** with the Connected User Interface Low User Experience (LUX)

Document Revisions

Rev.	Date	Description	Author
00	05/2021	Document creation	BSP
01	02/2022	Nordic Service Suggestions Document correction	BSP

2 SAFETY

- All the work to be performed inside the appliance requires specific skills and knowledge and may only be carried out by qualified and authorised Service Engineers
- Before you access internal components, take the plug out of the socket to disconnect the power supply.
- Some of the components in the mechanical part could cause injuries, so wear suitable protection and proceed with caution.
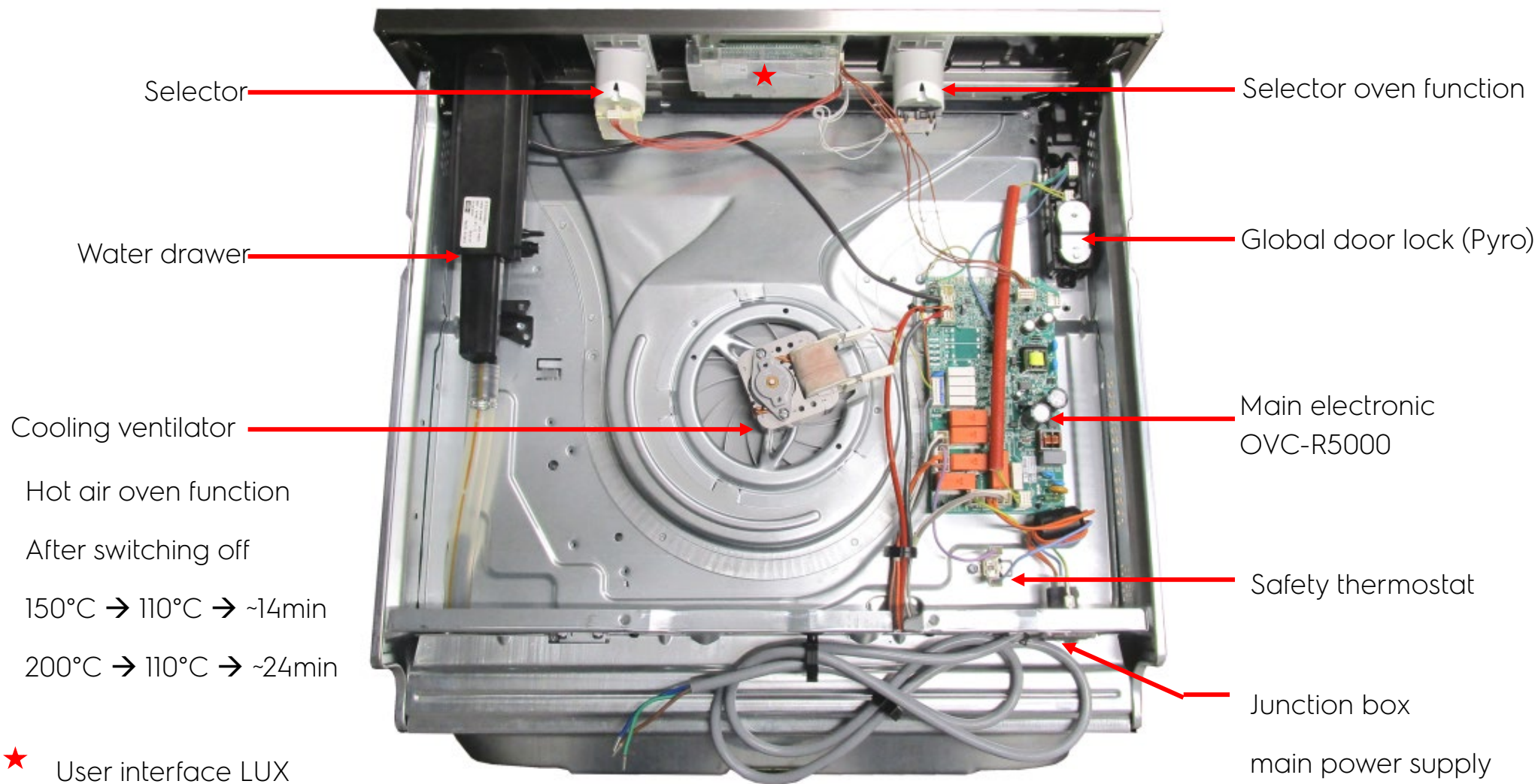
3 LUX

3.1 LUX Evolution

User Interface Hexagon	User Interface LUX
Only time or only temperature	Time and temperature at same time
Limited feedback oven	LED bar showing progress (heating up)
3 touch buttons for quick access	5 touch buttons for quick access
Static display	Dimming function to highlight current settings
	Connectivity

3.2 LUX Variants

	Double Oven
	Direct Steamer
	Cooker

Selector

Water drawer

Cooling ventilator

Hot air oven function

After switching off

150°C → 110°C → ~14min

200°C → 110°C → ~24min

★ User interface LUX

Selector oven function

Global door lock (Pyro)

Main electronic
OVC-R5000

Safety thermostat

Junction box

main power supply

Direct access to timer Temperature Time Menu			Oven function

LUX UI

HMI
5 Spring Touch Capacitive Keys OR 5 push buttons
3 rotaries

UI
- LED Display
- Buzzer

NIU5
- Soldered-on NIU5
- External NIU5 or NIUX
- DC-to-DC SMPS

MACS

Power Board

Relays

AC-to-DC SMPS

Inputs

N
L

240VAC

Cavity x1

Cooling Fan 2 speeds

Top Element

Cooking Fan

Ring Element

Bottom Element

Steamer Element

Magnetron

Door Switch

Door lock Switch

Oven Temp Sensor

Food Probe

Waste

Lamp

Tachometer

Door lock switch

Door switch

Oven Temperature sensor

Food sensor

Switched AC to elements

USB programming NIU5

External HMI

MACS

MACS

Selector temperature for single oven

Selector for double oven

NIU5 board with & without

Programming factory

Memory programming

Optional

DAAS

Optional

Selector temperature for double oven

★ Processor

LED Display

5 Touch buttons

★ External NIU5

3.6.1 SidekickPC "LUX (2021)"

DAAS schematic with VDD, +5V, RU11 10K 5%, RU12 10K 5%, RU13 100R 5%, RU14 100R 5%, TP146, TP147, TP148, TP149, DAAS_Rx, DAAS_Tx, XU3 (4 pin RAST 2.5)

DAAS

Sidekick adapter from dishwasher

4: Target Device RxD (TxD Host)   → green
3: Target Device TxD (RxD Host)   → brown
2: +5VDC (regulated)   → yellow
1: GND   → white

Reprogramming at consumer home by SidekickPC:
e.g. to delete a bug in the software !
i.e.   – Descaling counter   → is set to zero !
                              – Cleaning counter   → is set to zero !
                              – Setups   → will be deleted !
                              – Serialization   → will be deleted !

Attention: The information for serialization is still stored on NIU5-board !

3.6.2 SidekickPC "LUX (2021)" Spare part situation

LUX with Wi-Fi

LUX without Wi-Fi

The warehouse delivers !

Complete ready configured user interface → **Service-kit ref. 982… … !**

Includes: - Oven configuration files.

                                       - NIU5-board configured with secrets.

                                       - MAC address registered on the Sidekick database.

                                       - User interface as spare part declared.

Complete ready configured user interface → **Service-kit ref. 982… … !**

Includes: - Oven configuration files.

Non-configured user interface → **Naked board ref. 140… … !**

3.7 Touch-keys of the different oven types

Timer

– To access the different timers; sound alarm; alarm, stop and delayed start.

Fast Heat Up

– To speed up the heating up process.

Lamp

– To turn the oven cavity light on or off.

OK

– To confirm settings and actions and to navigate in menu.

Microwave Power

– To adjust the microwave power level.

Lock

– To lock and unlock the oven in standby and while running.

Food Sensor

– To set a target temperature for the food sensor.

Cavity switch

– To shift focus (monitor and control) between cavities in a double oven.

Microwave Key Models

Key Models without FS or MW

Food Sensor Key Models

Double Oven Key Models

3.7.1 Touch-keys about key combination

Key Models without FS or MW 	🌡️» **+** 🔒 SW version 🌡️» **+** 💡 Factory test mode, available only 20sec. from voltage supply.
Food Sensor Key Models 	🕐 + **OK** Child lock / Oven lock 🔌 + 💡 SW version 🌡️» + 💡 Factory test mode, available only 20sec. from voltage supply.
Microwave Key Models 	
Double Oven Key Models 	

WiFi and Remote Operation

Uptimer

Lock

Sound alarm

Sound alarm and stop cooking

Delayed start

Time indication

Assisted cocking

Cleaning

Settings

Microwave

Microwave power

Steam

Steam tank water level

Demo mode

Degree sign

Fast heat up

Food sensor

Weight indication (gram)

Cavity indication

3.8.1 Display "Progress LED bar"

The **progress LED bar** consists of ten segments. Each segment consists of a red LED and a white LED which can be illuminated and dimmed separately.

The progress LED bar has various functions:
   -   Temperature state (cavity, set temperature)
   -   Running time (Microwave, cleaning)
   -   Highlighting error messages
   - etc.	

Threshold	Heating up phase
Threshold >60°C	Cooling down phase
	Microwave: The remaining runtime is displayed in red.

Time of Day

Standby Time of Day

Runtime

Food sensor temperature

Set Food sensor temperature

Set temperature

Cavity temperature

Set temperature

Microwave power

APP indication

Wight

DEMO

h : min : s   watt

START
STOP

STOP

		Microwave:
		- WiFi is activated, Remote control is not activated. - Runtime is 0:44 Minutes. - Power is 800 Watt. - LED bar is at the beginning of the program.

Left	Display	Description
	(Microwave display: 0:44 800 watt)	**Microwave:** - WiFi is activated, Remote control is not activated. - Runtime is 0:44 Minutes. - Power is 800 Watt. - LED bar is at the beginning of the program.
WLAN settings screen Telekom.de 10:40 79% ‹ Einstellungen **WLAN** GUESTNET One Digital Workplace ANDERE NETZWERKE @BayernWLAN @E_OV1_443e070a7931 DGS DGS-FRITZ!Box eduroam ELUXNET FAU-STAFF FAU-STUD FAU.fm	(Oven display: 200° 60%)	**Oven:** - WiFi is activated, Remote control is activated. - Set temperature is 200°C (toggling cavity temperature). - Assisted cooking oven function is selected. - Target food probe temperature is 60°C. - LED bar is close to the set temperature.
	(Oven display: 20° 150°)	**Oven:** - WiFi is activated, Remote control is activated. - Cavity temperature is 20°C. - Set temperature is 150°C. - LED bar is at the beginning of the program.
	(Oven display: 5:23 120°)	**Oven:** - WiFi is activated, Remote control is activated. - Runtime is 5:23 Minutes. - Alarm stop cooking oven function is selected. - Set temperature is 120°C. - LED bar or cavity has reached the set temperature.

3.8.3 Settings

1.	Switch the appliance on. Turn the program selector to **"Menu"**.	
2.	Turn the selector to **"Settings"** → **"OK"**.	
3.	**"Settings 01"** appears	

Step	Settings	Activities
01	Time of day	Change
02	Display brightness	1 - 5
03	Key tones	1 - Beep, 2 - Click, 3 - Sound off
04	Buzzer volume	1 - 4
05	Food sensor action	1 - Alarm and stop, 2 - Alarm
06	Uptimer	On / Off
07	Light	On / Off
08	Fast heat up	On / Off
09	Cleaning reminder	On / Off
10	Wi-Fi	On / Off
11	Auto remote operation	On / Off
12	Forget network	Yes / No
13	Demo mode	Activation code 2468
14	Software version	Check
15	Reset all settings	Yes / No

4 DEMO MODE LUX (2021)

1. Switch the appliance on. Turn the program selector to "Menu" 	7. Turn the selector to "Code 4" → "OK".
2. Turn the selector to "Settings" → "OK". 	8. Turn the selector to "Code 6" → "OK".
3. "Settings 01" appears. 	9. Turn the selector to "Code 8" → "OK".
4. Turn the selector to "Settings 13 (Demo mode)" → "OK". 	10. "Settings 13" appears
5. Activation code entry appears → 2 : 4 : 6 : 8 	11. Turn the selector to "On" → "OK".
6. Turn the selector to "Code 2" → "OK". 	12. Switch off the appliance "DEMO" appears.

Deactivate demo mode: Same procedure.

5 SERVICE MODE LUX (2021)

Activate service mode: The appliance is in off-state.

Attention: 1. The water tank must be empty!
2. The Service Mode can be cancelled in any steps (unplug and re-plug the appliance), except after exchanging of the user interface!

1. Unplug and re-plug the appliance from the main power supply. 	**4.** The user interface will reboot.
2. The user interface will reboot. 	**5.** Display and LED bar check.

3. Afterwards, touch the **"Fast heat up"**-key and the **"Light"**-key simultaneously for 5 seconds.
 	
	6. Key test + Software Versions →
	Turn the selector anti-clockwise
	to view the codes.
	Touch the key to continue !
	   • Firmware UI LUX S00005494--8...
	   • Configuration UI LUX S00005487--8...
	   • Power board OVC-R5000 S00005679--A...
	   • Firmware NIU5 S00006100--A...

7. Key test + Serialization control →
 	
    Door is locked !
    Touch the key to continue !	

Skip the serialization control →
 Required when exchanging the user interface LUX with Wi-Fi !
    Door is locked !
    Turn the selector !	

Key test + Skip serialization →
 	
    Door is locked !
    Touch the key to continue !	

Key test + to continue →
 	
    Door is locked !
    Touch the key to continue !	

8. Key test + Cooking Ventilator + Buzzer → 　Door is locked ! 　Touch the key to continue !	
9. Key test + Cooling Ventilator low speed → 　Door is locked ! 　Touch the key to continue !	
10. Key test + Cooling Ventilator high speed → 　Door is locked ! 　Touch the key to continue !	
11. **Selector test**: Red bar moves with an animation from right to left. 　a.) Rotate the Bit Encoder (selector) clockwise until you reach the 　　far left position. The bar will follow the movement. 　b.) Rotate the Bit Encoder (selector) anticlockwise until you reach 　　the far right position. The bar will follow the movement. 　Door is unlocked !	

12. LOAD test: Turn the program selector to position 1.	

13. Position 1:
    Bottom Heater + Cooling Ventilator low speed.
    Turn the program selector to position 2.	

14. Position 2:
    Ring Heater + Bottom Heater + Lamp +
    Cooking Ventilator + Cooling Ventilator
    high speed (Pyro) →
    Turn the program selector to position 3	

15. Position 3
    Steam Generator →
    Turn the program selector to
position 4	

16. Position 4: Turn the program selector forwards to "OFF".	**504**
17. Food sensor test → Place the food sensor	**OPEn**
18. Food Sensor test → Remove the food sensor	**05**
19. Food Sensor test → Close the door	**CLOSE**

20. Steam Tank test ➔ Fill water into the water tank (approx. 1ltr.) **➔ Timeout max. 10sec.** **Impossible to fill the water tank!** We are in discussion with ETO to extend the time in new Software, till then we have two methods to pass the test * Check the Service Bulletin	**tAnCtESt** **u** **Error** **Restart the Service Mode !**
21. Grill Heater ➔ Wait until the relay switches off the grill. Unplug and re-plug the appliance from the main power supply.	**End GriL**

Depending on the appliance versions, other components are tested too !

Top heater
Turnspit
Magnetron
Waste actuator
Evaporator
Inlet valve
Outlet vale

5.1   Service Mode LUX (2021) association and serialization

After user interface exchange, carry out an association and serialization process!

After connecting to the main power supply, the user interface starts with the **service mode!**

1.step

Service mode

Very important! To be able to end the service mode!

2.step

Setup settings
Language
Display Brightness
Key Tones
Buzzer
Time of Day

3.step

SidekickPC

Create an association and serialization

4.step

App

Appliance onboarding

Video will be added Soon!

Oven: Direct Steamer
Platform: Apollo
User interface: LUX
Power board: OVC-R5000

BOF BOT

BOF BOT PTO
XC1 XC2

BOF BOT

* CONTACT NUMBERS IN
BRACKETS = "MINI CODI"

(3)* 1 2 3 (1)* 3 2 1

6 5 4 3 2 1
XI01

N3 1 2 3 4 5 6
XI01

N3
USER INTERFACE XC01
1 2 3

N3
USER INTERFACE XC01
1 2 3

USER INTERFACE XC01
4 3 2 1

δ

f1

6 5 4 3 2 1
XI01

1 2 3 4
XI01

1a 2a

1 2

a7

LUX-VARIANT
XC01 (MEC1)

HEXAGON-VARIANT

PTO-VARIANT

GND BUS +5V XC01 (MEC1)

XT01
TEMPERATURE
SENSOR
1 2 3

h1

h3

N1
MEC1
POWERBOARD

XC01
MACS
1 2 3 4

MAIN SUPPLY

MAIN HEATER

SMALL LOADS

KR1

KR4 KR3

KR2 KR5

KR6

IN OUT

VR04 VR03 VR02 VR01

XP02 XP07 XR08 XR06 XR07
1 2 3 4 5 6

XR05 XR04 XR03 XR02 XR10
1 2 3 4 5 6

7 5 3 1

XR11
1 2

XI01
4 3 2 1

RING GRILL

EVAPORATOR

HI LO

r16 r14

r8.1

h4 m1 m2

BOTTOM

r8

OVEN LAMP

COOKING FAN

COOLING FAN

GLOBAL DOORLOCK

M
e1

DS

OPERATING STATE:
DOOR OPEN

X1/3
X1/L
X1/5
X1/N
X1/PE

f2
1 2

PE

- - - - - = OPTIONAL

Temperature regulator (+/-)

XC1

LUX
User Interface

XI1

Functions Rotary Selector

XT01
temp.sensor

Food Probe

BU02

N1
OVC5000
Poweboard PB

4 3 2 1
XC01

DOOR LOCK MOTOR
M

XR11

BR05   Main Supply   Main Heater   Small Loads   XR12   XI01

1 2 3 4 5 6   1 2 3 4 5 6   1 2 3 4

RING   GRILL   BOTTOM   OVEN LAMP   FAN HOT AIR   COOLING FAN   SWITCH MOTOR DOOR LOCKED   SWITCH MOTOR DOOR DETECTION

r16 2   r14 2   r2   r8 2   h4 2   m1 2   m2 2

X1/L

X1/N

X1/PE

PE

FERRITE (IF PRESENT) FOR CONNECTED VERSION

TERMINAL BOX

N (5) L (4)

X28 X29

X27

SINGLE GRILL

Earth Motor Bracket

N L

X6 X44 X43 X42

X23

Oven Lamp

X24 X25

X40

UNIT THERMOSTAT

X41

WHITE 17

WHITE 18

WHITE

WHITE 16

GREY

X38 N RING L

X39

PT500

X7 X26 Cooling Fan

X8

X35

X50

Fan motor

X17 X18

WHITE

X36 X37

GREY

WHITE

N L

BOTTOM

OVC 5000 Powerboard

X101

X14

5 mm 21

X13

BROWN

XC1

XI1

LUX
User Interface

Functions Rotary Selector
10+0 selector

Temperature regulator (+/-)
reg. temp. continuo

2A 2

7 CONNECTED ERROR CODES

This document covers only connected error codes, for other errors refer to 599 793 313

Error Code	Reason for Error	Trouble Shooting
F601	Wi-Fi Signal miss Alarm	Procedure failures, for which the process should be retried
F602 – GTM3	NETVM communication Alarm	• Plug appliance out and in again. • Replace electronics
F603 – all	NIU Communication Alarm	• Plug appliance out and in again. • In case of wired connection between UI and NIU then check wire. • Replace electronics
F604	NIUX onboarding Alarm	Procedure failures, for which the process should be retried
F605	OTA Failure	Procedure failures, for which the process should be retried
F606	Serialization Failure	This error should not occur at customer's home, because correct serialization should be checked at end of line test. If it occurs, then serialization should be retried. Maybe replace the electronics when serialization is not possible.