INTEGRA COMPACT

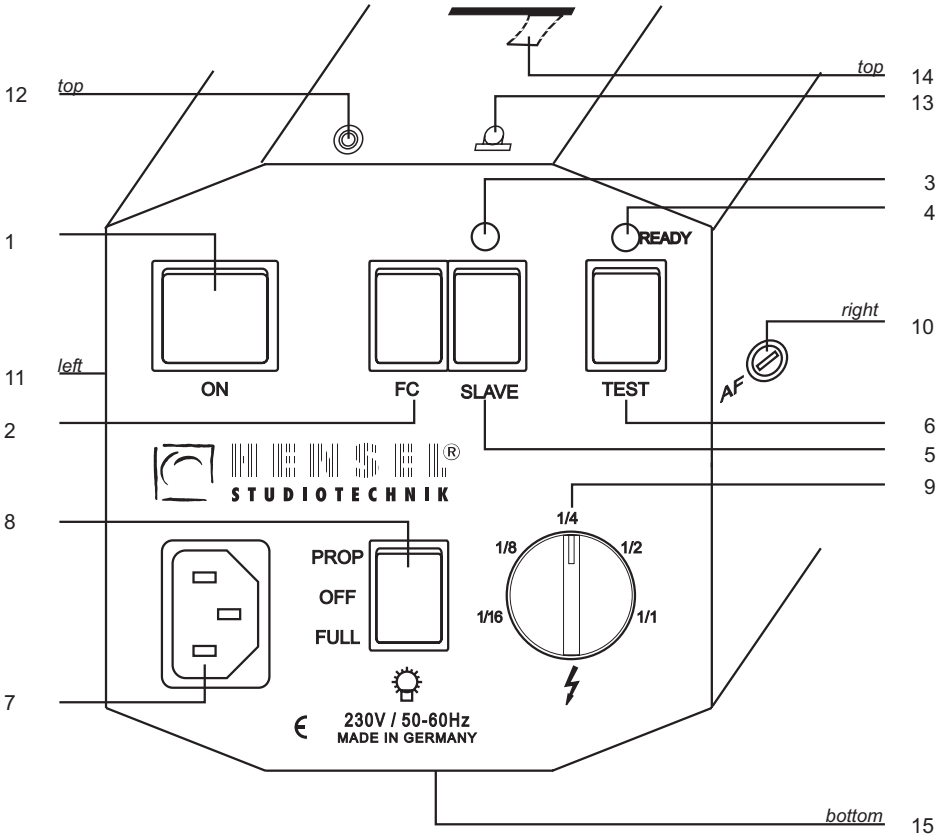
250
500

User manual

STUDIOTECHNIK

INTEGRA Compact 250 / 500

Control panel (back view)



HENSEL®

STUDIOTECHNIK

Performing light

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User Manual - Date of Revision 2004-05

1 Introduction

Dear Photographer,

in buying a HENSEL flash system, you have purchased powerful equipment of high quality.

So that you are able to successfully and productively work with this system for many years, we are giving you some advice on the use of this high tech product. Only by observance of the information given you secure your warranty, prevent damage and prolong the life of the equipment.

HENSEL Studiotechnik has taken great care to manufacture a secure and high quality flash system under inclusion and observance of all current regulations. Strict quality controls secure our quality requirements even in mass production. Please take your part in this and treat the equipment with due care - your reward will consist of excellent pictures.

If you should have any questions on the use, then feel free to ask us at any time.

We wish you success and „good light".

HENSEL Studiotechnik

User Manual – Date of Revision: 2004-05
Technical data are subject to change. No guarantee for misprints.
The listed values are guide values and should not be understood as binding in a legal sense.
The values can differ due to tolerances in used components.

2 Table of contents

3 General safety regulations

Compact flash systems store electrical energy in capacitors by applying high voltages. These form a source of danger, which must be carefully excluded. Besides general rules on handling electrical appliances, the following safety measurements must be observed. Therefore read and comply the safety hints (also see the paragraph *Starting up*) within the user manual before turning the appliance on.

Proper use

The present compact flash unit is meant for studio use of professional photographers. Its task is to provide electrical energy for HENSEL flash lighting.

Improper use

The appliance must not be used for any other purpose than that described above, especially not for other electrical appliances.

Halogen lamps and flashtubes generate high pressure during operation and can therefore explode. For this reason it is a must to protect pilot and flash light with the supplied correctly installed HENSEL protection glass dome. The glass dome is available in different versions. The use of the glass dome changes the colour temperature.

- Contact with the capacitor voltage is perilous, and therefore opening of the case of the INTEGRA compact flash unit and repairs must only be made by authorized customer service.
- INTEGRA compact flash units are equipped with a user replaceable flashtube. Exchange of flashtube and modeling lamp must only be performed with the appliance turned off, unplugged from the mains and discharged.
- Compact flashes must only used on supply lines (mains) with working protective conductor (earth line).
- Do not route cables across the studio floor if possible, so that damage is excluded. If routing across the studio floor cannot be omitted, then it must be ensured that vehicles, ladders, etc. do not damage cables. Damaged cables and cases must be immediately replaced by customer service.

- Ventilation slots of compact flashes must be kept free during operation and sufficient air supply must be ensured. Do not stick any objects into ventilation slots or synchronization sockets.
  Do not deposit any objects (tools, coffee cups, etc.) on the flash unit.

- Flash systems must not be used in environments with explosion hazard. Flammable materials, like furnishing fabrics, paper, etc. must not be stored in the immediate vicinity of compact flash units to prevent fire hazards.

- Compact flash units must be protected against humidity and spray water.

- Do not connect accessories from other manufacturers, even if they use the same or similar connectors.

- Flash units - hanging from pantographs or ceiling - must be doubly secured against falling down.

- Do not flash into eyes at short distances (smaller than 5 m), because this can lead to eye damage. Do not look directly into the flash reflector, the flash lamp could be triggered inadvertently.

- Regularly air closed rooms to prevent build-up of inadmissible ozone concentrations, which can occur due to the use of high-powered flash systems.

- During work in the studio generating much dust, the appliance must be covered with suitable dust protection (not during operation).

4 Standard delivery

INTEGRA 250/500 Bi-Voltage is equipped with a sliding switch which allows either 230V or 115V operation. The units are supplied with:

- Flashtube, single coated, user replaceable
- Protection glass dome, clear, uncoated
- Tilting Head with integrated umbrella holder
- Cableset: Power and Sync. cord

5 Technical Data*

Series	**INTEGRA Bi-Voltage version**			
Model type	**250**		**500**	
Values attained at:	230V/ 50 Hz	115V/ 60 Hz	230V/ 50 Hz	115V/ 60 Hz
Rated energy:	250 J		500 J	
Aperture at 100 ASA, t 1/60, 1 m distance, Maxi Soft Reflector, Glass dome clear:	f 64 4/10		f 90 4/10	
Flash duration (sec.) t 0,1: t 0,5:	 1/600 1/1800		 1/420 1/1300	
Recycle (sec.) to 100%: to 1/16:	 1,2 0,3	 1,8 0,4	 2,1 0,6	 1,8 0,4
Flashtube:	U-Tube, user replaceable, single coated			
Power adjustment:	steplessly 5 f adjustable (1/1 ... 1/16)			
Modeling lamp max.:	300W / G6,35 Halogen			
Modeling light adjustment:	switchable to FULL, OFF or PROP over a range of 5 f			
Features:	Glass Dome (clear, uncoated), Flashtube (user replaceable, single coated), Fan, Tilting Head with integrated Umbrella Holder; Additional types of glass domes for colour correction as accessory			
Fuse:	2 AF	4 AF	2 AF	4 AF
Mains connection:	manual switchable: 230 V~ /115 V~			
Weight (kg):	2,0		2,1	
Measurements (LxWxH) in cm:	31 x 12,6 x 19,7		31 x 12,6 x 19,7	
Code No.:	8802		8812	

*: Technical changes reserved.

6 Overview of Controls

1 ON:
Main Switch ON / OFF
2 FC:
Flash Check ON / OFF
3 Slave ON Indicator
4 READY:
Ready (for flash triggering) and Overheat Indicator
5 SLAVE:
Slave ON / OFF
6 TEST:
Manual flash release
7 230V/50-60 Hz / 115V/50-60 Hz:
Mains Connector
8 FULL / OFF / PROP:
Operation mode for modeling lamp
9 Flash Power control switch
10 Fuse for modeling lamp
11 Sliding switch
230 V / 115 V mains voltage
12 SYNC:
Synchronisation Socket
13 Slave
14 Reflector Quick-Change Mechanism
15 Tilting Head with integrated Umbrella Holder

7 Starting Up

Safety hints for operation with compact flash units
To avoid damage to the flashtube mount reflectors and lightformers (softboxes etc.) before use and turning on the unit. Do not move compact flashes around, while they are operating. Turn off the appliance for each change of reflectors or to move the unit to another location.

Caution:
Reflectors, speedrings and other accessories heat up during longer operation. To avoid injuries, handle with isolating cloth or wait, till parts cooled down.

A damaged flashtube is extremely dangerous because the electrically charged electrodes are exposed and touching must be avoided; the unit must be switched off and disconnected from the mains outlet immediately. The capacitors inside may still be charged and dangerous high voltage can still be present at the damaged flashtube electrodes (Replacement see page 15, Maintenance).

Assembly

When mounting to a ceiling system or a pantograph, suspended compact flash has to be double secured from falling down or dropping. This is done by tightening the safety screw (not included in the standard delivery) into the thread of the HENSEL Tilting Head.

Due to the existing safety regulations, it is, however, necessary to use a safety rope (code no. 769) for further security.

The safety rope has to be led through the handle of the compact flash and then secured by looping through the bracket on the pantograph or the eyelet on the carriage.

Heating

Due to the modeling and flash light, each compact flash unit emits heat. This can heat up the parts of the unit to a dangerous level.

Therefore make sure, that the flash unit is located far enough from inflammable props to avoid inflaming them.

Take care for sufficient air supply and make sure that ventilation slots of compact flash units are kept free.

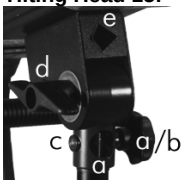
Do not operate flash units unattended.

The modeling light should never be used for lighting up the studio but only as an assistance when focusing or determining the light guiding and shadow details of the flash.

Acclimatizing

When moving the flash unit from one climatic zone to the next, the appliance should stand in the room, in which it will be operated, for some time before starting it up. This prevents possible surface leakage currents due to condensing water.

Tilting Head 15:



Positioning
INTEGRA compact flash units are equipped with a Tilting Head **15**. The unit can be attached to a stand or pantographs using one of the two holes **a**. The head can be swivelled round 360°. By tightening the knurl screw **b** the unit can be fixed. The safety screw must be screwed into thread **c**. Wing nut **d** guarantees for tilting up and down. To ensure smooth movement please oil the threat if necessary. Above the tillting head an umbrella holder **e** is integrated.

Accessories
All HENSEL reflectors and HENSEL softboxes of series EHT (adapter Ø: 10 cm), accessories included, may be attached to the INTEGRA compact flash; also umbrellas and Softstar.

Assembly of reflectors and softboxes
For fixing reflectors or softboxes to the compact flash unit, please first of all open the holding clamps. For doing this, please tension lever **14** laterally as far as it will go against the spring tension. While doing this, the holding clamps will open. Now even and precisely attach the accessory part to the unit. Please do not tilt. By releasing the lever, the holding clamps will completely enclose the accessory part.
For loosening the accessory, please hold tight the accessory part (Attention - it could be hot!) and tension lever **14** again as described above.
In any case please make sure not to damage either the flashtube or the modeling lamp (danger!).

Assembly of umbrellas and Softstar
An umbrella holder is integrated above the tilting head **15**. It allows for the connection of various umbrellas by using a strong gripping spring mechanism.
No screw is required, which could cause damage to the umbrella.

Fixing of the glass dome
Attention:
The glass dome should only be fixed or removed after having switched off the unit and unplugged from the mains outlet. Please take care not to damage either the flashtube or the modeling lamp (danger!).
The glass dome is fixed by means of the three pre-mounted springs. For doing this, please slightly tilt the glass dome and insert it into one of the three springs. Then press the glass dome gently into the other two springs until it has completely clicked in.

For removing the glass dome, please slightly tilt it again so that it will easily slip out of the two fixing springs.
Then gently loose the glass dome from the remaining third spring and remove it from the fixing device.

Mains connection

Attention:
Before connecting the compact flash unit to the mains outlet, make sure, the mains voltage matches the information given on the type label of the compact flash. The type label can be found on the bottom of the appliance.
*When you are operating with INTEGRA Bi-Voltage, make sure that depending on the mains voltage the sliding switch **11** is in the correct position.*

The provided power cable will be attached to the mains socket **7** and then connected to mains outlets.

Compact flashes may only be connected to mains outlets with ground connection.

Fuses
Outlets, in the building
10 A Minimum requirement 10 A fuse outlets

Fuses of INTEGRA
The fuse **10** is a general fuse for the compact flash unit and the modeling lamp.
Fuses listed below are valid for operation with modeling light 300 W Halogen:

Bi-Voltage/230V:
2 AF
Bi-Voltage/115V:
4 AF

For operation at 230 V mains voltage the Bi-Voltage version must be equipped with a fuse 2 A fast (2 AF), for operation at 115 V mains voltage with a fuse 4 A fast (4 AF).

Before starting up the Bi-Voltage version check the provided fuse! Make sure, that the position of the sliding switch 11 corresponds to the mains voltage.

More information on *page 14, Replacement of fuses*.

Overheating

READY

All INTEGRA units are equipped with a fan to avoid overheating with fast flash sequences, which could cause damage to the flashtube and the compact flash unit. If overheating although occurs, the unit turns off automatically. The red light of the Overheat Indicator **4** turns on. After a break for cooling down, the appliance is ready again for operation.

8 Operation

Synchronization (Flash triggering)

SYNC

Synchronization by cable

The compact flash unit is connected to synchronization socket **12** to the camera using a synchronization cable with 6,3 mm phone jack.

The synchronization circuit is made up of state-of-the-art semi-conductor technology and enables secure triggering of the flash even with older cameras with mechanical contacts.

Due to the many different electronical circuits in cameras for controlling synchronization, we cannot take any liability for possible damage to cameras triggering flashes.

Please contact the camera manufacturer before using an unusual camera.

SLAVE

Synchronization by slave

The compact flash unit can be triggered by the built-in slave **13**. Triggering is then effected by an „incoming" flash, which was emitted by another flash light. This mode of operation is switched on using switch **5** and displayed by the yellow light of the SLAVE ON Indicator **3**.

The slave is an impulse photocell. It can only operate, when the triggering flash has a higher f-stop than the ambient light. Please be aware that the ambient light which strikes the slave may never be too strong. If this cannot be avoided, please switch off the slave by pressing switch **5** and release the flash by cable or IR.

receiver and transmitter „Speed"

Synchronization by infrared triggering system

For remote-controlled triggering, an infrared triggering system is available as accessory:

IR Transmitter and Receiver „Speed"
Code 392 (Set) or 393 (Transmitter) + 394 (Receiver)

The IR **transmitter** „Speed“ has to be attached to the camera. The IR group A or B can be selected on the transmitter by a slide switch.
The IR **receiver** „Speed“ has to be connected to the synchronization socket **12**. The same IR group A or B must be set on the receiver by a slide switch.
Flashes can be triggered using the provided synchronization cable or the camera hot shoe. The transmitter should approximately be pointed towards the connected IR-receiver. All compact flashes within one selected group are flashing.

TEST

Test flash
By pressing the button **6** test flashes can be released.

Flash power control
The desired flash power can be set steplessly using power control **9**. This covers a range of 5 f-stops.

READY

Flash readiness
Flash readiness of the compact flash is shown by the green light of the READY control lamp **4**.

In the case of reducing the flash power, the yellow light of the READY Indicator **4** turns on, till the flash power has been dumped to the new level (READY Indicator green). It is also possible, to reduce the stored energy by simply triggering a TEST flash (press button **6**).

Modeling lamp
You can select the operation mode for the modeling light by positioning switch **8**:

OFF

OFF
The modeling lamp is switched off.

PROP

PROP
The light output is proportional to the selected flash power.

FULL

FULL
The maximum light output of the modeling lamp is achieved.

FC

Flash Check
If this mode is switched on turning switch **2** to „FC“ position, then the modeling lamp is turned off after a flash and will turn on after recharging to the adjusted power level. This shows correct charge as well as readiness to flash. The flash check mode guarantees that the flash heads have triggered when more than one flash unit is used.

9 Maintenance

The INTEGRA compact flash is in need of little maintenance by the user. The unit should be dry cleaned from dust from time to time. Before cleaning separate the unit from the mains outlet.

Caution:
Under no circumstances is any part of the equipment to be opened. The equipment is not user serviceable and there is dangerous high voltage. In the event of difficulty notify your dealer.

Replacement of fuses
In case of a broken fuse **10** replace fuse only, when the unit is switched off and separated from the mains outlet.

Attention: Never repair or bridge fuses.
Only use "fast" fuses with the required values:

Fuse for			*Code No.*
INTEGRA	250	*Bi-Voltage/230V operation:*	2 AF
INTEGRA	250	*Bi-Voltage/115V operation:*	4 AF
INTEGRA	500	*Bi-Voltage/230V operation:*	2 AF
INTEGRA	500	*Bi-Voltage/115V operation:*	4 AF

Only use fuses in accordance with EN 60127-2/1 and IEC 127-2/1, respectively. A wrong fuse may cause an explosion of the halogen modeling lamp.

Before starting up check the provided fuse! Make sure, that the position of the sliding switch 11 corresponds to the mains voltage.

Replacement of modeling lamp
Replace modeling lamp only, when unit is switched off and unplugged from the mains outlet.
Make sure that the modeling lamp is protected by the specified fuse *(see paragraph replacement of fuses above)*.

For all types of INTEGRA compact flash units only use
max. *300 W / G 6,35 Halogen*
as modeling light.

For order please look up the Code No. in the following table.

Modeling lamp 300 W Halogen for			*Code No.*
INTEGRA	250	*Bi-Voltage/230V operation:*	128
INTEGRA	250	*Bi-Voltage/115V operation:*	1280
INTEGRA	500	*Bi-Voltage/230V operation:*	128
INTEGRA	500	*Bi-Voltage/115V operation:*	1280

Wait till modeling lamp has cooled down, and then carefully remove the glass dome from the unit by pulling it out of the spring mechanism (see page 10) and moving it straight away without touching modeling lamp or flashtube (danger!).
Handle halogen lamp with care because of the high pressure inside. Pull out halogen lamp and replace the modeling lamp with a new one.
Avoid touching the halogen lamp with your fingers; this causes a higher risk of explosion of the halogen lamp.

Replacement of flashtube
All unit types of INTEGRA are equipped with a user replaceable flashtube.

For replacement of flashtube switch off the unit, separate it from the mains outlet and wait for at least 15 minutes.

Then carefully remove glass dome from head by pulling it out of the spring mechanism (see page 10) and moving it straight away from the head without touching modeling lamp or flashtube (danger!).
Handle flashtube with care because of the high pressure inside.

Caution: In case of a damaged flashtube glass the electrodes of the tube must not be touched in any case! In this case it is a must to use isolated pliers for pulling out the flashtube!

First unwind the ignition cable from the connection pin of the ignition. Then pull out flashtube and replace it with a new one. Finally connect the ignition cable.

You must make sure that the appropriate flashtube is used. Please order from HENSEL:
Flashtube, user replaceable, for INTEGRA Compact, single coated, Code No. 9450401.

Regular inspection
National safety regulations require regular inspection and maintenance of electrical systems and appliances. Compact flash units and accessories must be regularly checked for safe operation. Yearly inspection of the appliances serves the safety of the user and protects your investment in the system.

Return to customer service
To achieve a maximum protection of the unit sending it in for service, the original packaging should be kept.

10 Disposal

Packaging of the compact flash unit must be separately disposed of and recycled. Worn out and broken appliances must be disposed of by electronics recycling.

11 Accessories

Glass Domes
Code No. 9454638: clear, uncoated
Code No. 9454637: clear, single coated
Code No. 9454639: frosted, uncoated
Flashtube, user replaceable
Code No. 9450401: U-Tube, single coated
Reflectors and Softboxes
with small accessory adapter diameter (10 cm)
for series EHT/EXPERT/CONTRA
Umbrellas

12 Customer Service

Works customer service
with 24 hours express service:
HENSEL Studiotechnik GmbH & Co. KG GERMANY
- service department -
Robert-Bunsen-Str. 3
D-97076 Würzburg

Phone: +49(0)931/27881-0
Fax: +49(0)931/27881-50
e-mail: info@hensel.de

13 Certificate of Conformity

for Electromagnetic Compatibility and Safety

Manufacturer and Owner of Certification:	HENSEL Studiotechnik GmbH & Co.KG Robert-Bunsen-Str. 3 97076 Würzburg Germany
Test Report:	of October 27, 1999
Product:	**Compact Flash Units** **INTEGRA 250 / INTEGRA 500**
Description:	Emission and Interference Resistance
Directives:	EN 50 081-1 / EN 55 014 / EN 60 555 / EN 50 082-2 / EN 61 000-4-2/3/4/5

This certificate of conformity is made by the above mentioned manufacturer according to article 10, paragraph 1, of the Councils Directive of March 3rd 1989 referring to electromagnetic compatibility and safety for bringing the statutory instruments of the Member States into lines with each other. This certificate does not make any statement according to requirements of other provisions concerning the electromagnetic compatibility and safety.

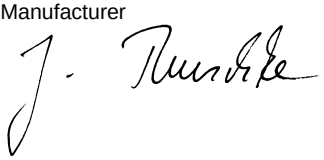
Description:	Low Voltage Directive
Directives:	EN 60491:95 / EN 60598-1:93+A1:96 / EN 60598-2-9:89

This certificate of conformity is made by the above mentioned manufacturer according to article 10, paragraph 1, of the Councils Directive of February 19th 1973 referring to electrical items for usage within specified voltage limits (72/23/EWG).

This certificate of conformity is the result of testing samples of the above listed products submitted, in accordance with the provisions of the relevant specific standards.

Date: October 27, 1999

Manufacturer



J. Renschke
- Managing Director -
HENSEL Studiotechnik GmbH & Co.KG

Weitere Produkte von HENSEL Studiotechnik
Other products of HENSEL Studiotechnik

Reflexschirme
Umbrellas

Lichtwannen, Softboxen
Autolights, Soft Boxes

PORTY
akkubetriebener Generator
Battery powered generator

Frontprojektion
Frontprojection