SVP AEROSPACE

Wireless Remote Camera Control
User manual
V 1.3

Contents

Dear customer,

We would like to thank you for selecting this equipment and welcome you to the SVP's growing family of products.

We are sure that the addition of this equipment will cause you a complete satisfaction in your existing installation.

Please read these instructions carefully, and keep them in hand in case you have to refer to them.

About this manual

This user's guide provides indications and explanations about how to set up the system easily for the most common use cases.

This document is intended to help first time users:

- To find their way around the GUI.
- To understand the different possibilities of the Wireless Camera Control System.
- To configure the Wireless Camera System for their specific configurations.

Symbols

The symbols that appear in this manual are:

An information message which indicates explanations for the proper operation of the equipment.

It advises users that if they do not take, avoid or make specific actions, several damages could appear in the device.

First Aid in Case of Electric Shock

DO NOT TOUCH THE VICTIM WITH YOUR BARE HANDS until the circuit is broken. SWITCH OFF. If this is not possible, PROTECT YOURSELF with DRY insulating material and pull the victim clear of the conductor.

If breathing has stopped, indicated by unconsciousness, lack of respiratory movements and a 'blue' look to cheeks, lips, ears and nails, START RESUSCITATION AT ONCE.

EMERGENCY RESUSCITATION – THE EXPIRED AIR METHOD
(Approved by the Royal Life Saving Society)

1. If possible, lie the victim on his back with his head slightly higher than his feet. Clear the mouth and throat of any obvious obstruction.

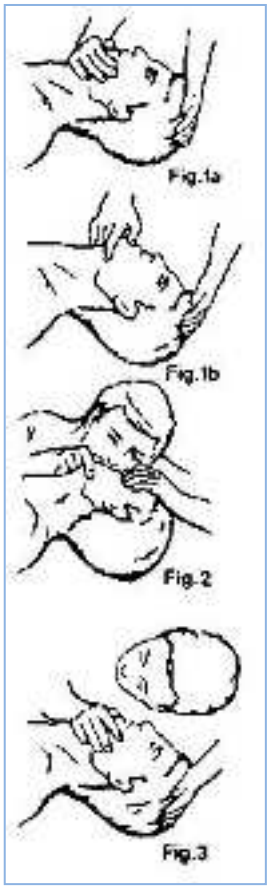
2. Kneel on one side of the victim, level with his head. LIFT THE JAW AND TILT THE HEAD BACK AS FAR AS POSSIBLE (Figs. 1a and 1b)

3. One of the following may happen:
   a) Breathing may begin and consciousness return.
   b) Breathing may begin but consciousness NOT return. Turn the victim on his side and ensure that the airway is kept clear.
   c) Breathing may return but be NOISY which means that the airway is not fully clear. Try to clear the airway.

4. IF THERE NO SIGN OF BREATHING:
   a) Check that the head is still tilted back.
   b) Take a deep breath.
   c) Pinch the victim's nose and blow firmly into his mouth (Fig. 2). As you do, the chest will RISE.
   d) Turn your head away and take another breath, watching for the chest to FALL (Fig. 3).

5. Start with four quick breaths and then continue with one breath every five seconds (i.e. 12 times a minute). This should be continued until the victim revives or a doctor certifies death.

6. As consciousness returns the victim will start to breathe on his own, and a 'pink' color replaces the 'blue' look: this is the time to stop resuscitation. Continue to hold his chin up and so keep the airway clear.



7. In the case of injuries to the mouth, it may be necessary to use mouth-to-nose resuscitation. Seal the victim's mouth with your cheek and blow firmly into his nose, proceeding as above.

8. In the case of severe facial injuries it may be necessary to do a manual method of artificial respiration (Silvester-Brosch or Holger Nielsen). Briefly, these methods apply compression to ribcage with the victim lying on his back (S-B) or face down (H.N.) with associated movement of his arms up and out. The cycle of movement should take about five seconds, i.e. the normal breathing phase.

9. Whatever the method, it is ESSENTIAL to commence resuscitation WITHOUT DELAY and to send for medical assistance immediately.

TREATMENT FOR BURNS

If the victim is also suffering from burns, then, without hindrance to resuscitation, observe the following:

a) DO NOT ATTEMP TO REMOVE CLOTHING ADHERING TO THE BURN.

b) If possible alleviate the pain from the burnt part by immersing in cold water.

c) If help as available or as soon as resuscitation is no longer required the wound should be covered with a DRY clean dressing.

d) Oil or grease in any form should not be applied.

e) If severely burnt, get the victim to hospital immediately.

Main Index

Chapter 1: Introduction

SVP Aerospace's new bidirectional camera control consists of three pieces of equipment: CC-IDU, CC-ODU and CC-Camera.

The Camera Control Indoor Unit (CC-IDU) is designed to control up to 4 cameras, with the option for full Ethernet control, integrating into an existing OCP network.

The Control Outdoor Unit (CC-ODU) is a 1-watt UHF transmitter used with the CC-IDU and CC-Camera. It wirelessly connects the CC-Cameras. You will need as many CC-ODUs as cameras you want to remotely control. Each camera would have its own UHF channel.

The CC-Camera is a compact and lightweight camera control, perfect for camera operations in any situation. It connects with a single cable to the camera, and red and green tally.

Thanks to the bidirectionality of the camera control, all its functions are operative by the user.

All systems are compatible with all main camera manufacturers including Panasonic and Sony.

Chapter 2: Technical Features

CC-IDU	
Frequency	403-473 MHz
Bandwidth	25 KHz
RF Power	100mW /500mW/1 Watt
RX Sensitivity	-111 dBm
Data to RCP	4 connectors Serial Ethernet + PoE
Data to ODU	RS485 Optical SFP Fiber Ethernet + PoE
Available cameras	Sony Panasonic
Power Input	9 to 36 V DC via XLR-4 connector
Power Output	PoE via RCP Ethernet connector PoE via ODU Ethernet connector
Connectors	DC Power Supply : XLR-4 male ODU RS-485: XLR-3 female ODU Ethernet + PoE: RJ-45 ODU Optical Fiber: SFP RCP Ethernet + PoE: RJ-45 Tally: DB-9 male RCP Serial: 4 x Hirose 8 pin (Sony)
Dimensions	W 210mm x D 144mm x H 43mm
Weight	850gr

CC-ODU	
Power	9 to 36 V DC via XLR-4 connector PoE via Ethernet connector
Connectors	D.C. power supply: XLR-4 male Ethernet with PoE: RJ-45 Fiber Optic: SFP module RS-485 Data: XLR-3 male Antennas: 2 x TNC female
RF Out	100mW/500mW/1 Watt
Frequency	403-473MHz
Bandwidth	25 KHz
Data Input	RS485 via XLR-3 male Via optical fiber with SFP Via Ethernet IP with PoE
RX Sensitivity	-111dBm
Dimensions	W 137mm x D 112mm x H 50mm
Weight	590gr

CC-CAMERA	
Power	9 to 36v supplied through Hirosi connector
Connectors	Camera Remote: Hirosi 8 pins Ethernet: RJ-45 Tally Outputs + Microphone + Headphones: Lemo 0B 7 pins Antenna: 2 x TNC Female
Frequency	403-473MHz
Bandwidth	25 KHz
Camera Data	RS485 or RS232 Ethernet
RX Sensitivity	-111dBm
Dimensions	W 96mm x D 26mm x H 61mm
Weight	160gr

Chapter 3: Operation and Menus

3.1 CC-IDU Menus

3.1.1 Main screen

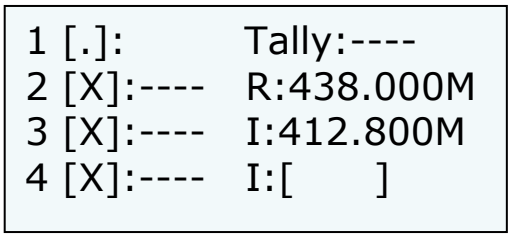


Figure 1:CC-IDU Main screen

3.1.2 Main Menu

3.1.2.1 RCP Unit

Line nº	Function
1	**RCP Type** (eligible parameter)**:** In this option the RCP type can be configured. To select the desired RCP, press Left and Right arrows. The available options are: • Sony • Panasonic • Com232 • Com422

Table 3.1: RCP Unit menu options

3.1.2.2 Radio

Line nº	Function
1	**Frequency** (eligible parameter)**:** In this option the transmission frequency of the camera control can be configured. To select the desired frequency, press OK, and edit the desired value.
2	**RF Power** (eligible parameter)**:** In this option the transmission output power of the camera control can be configured. To select the desired power, press Left-Right keys, and set the desired value. The available options are: • 100 mW • 500mW • 1000mW

Table 3.2: Radio menu options

3.1.2.3 Unit

Line nº	Function
1	**Unit voltage** (Reading parameter)**:** In this option the voltage of the unit is shown.
2	**Device Temperature** (Reading parameter)**:** In this option the temperature of the unit is shown.
3	**Maximum Temperature** (Editable parameter)**:** In this option the maximum operation temperature can be configured.
4	**FW Revision** (Reading parameter)**:** In this option the Firmware revision is shown.
5	**Serial Number** (Reading parameter)**:** In this option the Serial number is shown.
6	**OLED Bright** (Editable parameter)**:** In this option the brightness of the OLED screen can be configured.

Table 3.4: Unit menu options

3.1.2.4 Alarms

In this field, the alarms of the unit are shown, if any.

3.2 CC-ODU Menus

3.2.1 Main screen

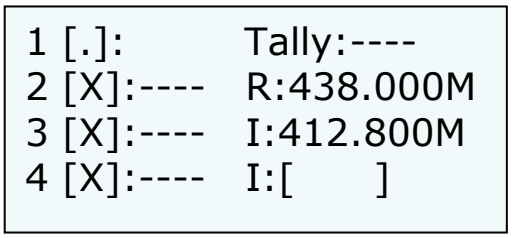


Figure 2:CC-ODU Main screen

3.2.2 Main Menu

3.2.2.1 Radio

Line nº	Function
1	**Frequency** (eligible parameter)**:** In this option the transmission frequency of the camera control can be configured. To select the desired frequency, press OK, and edit the desired value.
2	**RF Power** (eligible parameter)**:** In this option the transmission output power of the camera control can be configured. To select the desired power, press Left-Right keys, and set the desired value. The available options are: • 100 mW • 500mW • 1000mW

Table 3.5: Radio menu options

3.2.2.2 Unit

Line nº	Function
1	**Unit voltage** (Reading parameter)**:** In this option the voltage of the unit is shown.
2	**Device Temperature** (Reading parameter)**:** In this option the temperature of the unit is shown.
3	**Maximum Temperature** (Editable parameter)**:** In this option the maximum operation temperature can be configured.
4	**FW Revision** (Reading parameter)**:** In this option the Firmware revision is shown.
5	**Serial Number** (Reading parameter)**:** In this option the Serial number is shown.
6	**OLED Bright** (Editable parameter)**:** In this option the brightness of the OLED screen can be configured.

Table 3.7: Unit menu options

3.2.2.3 Alarms

In this field, the alarms of the unit are shown, if any.

3.3 CC-CAMERA Menus

3.3.1 Main screen

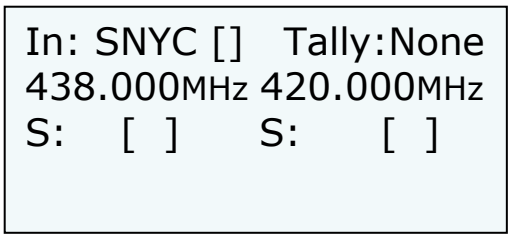


Figure 3:CC-CAMERA Main screen

3.3.2 Main Menu

3.3.2.1 Camera

Line nº	Function
1	**HARD** (eligible parameter)**:** In this option the camera type can be configured. To select the desired camera, press Left and Right arrows. The available options are: • Sony • Panasonic • Grass Valley • Com232 • Com422
2	**Number** (eligible parameter)**:** In this option the number of this camera can be configured.

Table 3.8: Camera menu options

3.3.2.2 Radio

Line nº	Function
1	**Frequency** (eligible parameter)**:** In this option the transmission frequency of the camera control can be configured. To select the desired frequency, press OK, and edit the desired value.

2	**RF Power** (eligible parameter)**:** In this option the transmission output power of the camera control can be configured. To select the desired power, press Left-Right keys, and set the desired value. The available options are: • 100 mW • 500mW • 1000mW

Table 3.9: Radio menu options

3.3.2.3 Unit

Line nº	Function
1	**Unit voltage** (Reading parameter)**:** In this option the voltage of the unit is shown.
2	**Device Temperature** (Reading parameter)**:** In this option the temperature of the unit is shown.
3	**Maximum Temperature** (Editable parameter)**:** In this option the maximum operation temperature can be configured.
4	**FW Revision** (Reading parameter)**:** In this option the Firmware revision is shown.
5	**Serial Number** (Reading parameter)**:** In this option the Serial number is shown.
6	**OLED Bright** (Editable parameter)**:** In this option the brightness of the OLED screen can be configured.

Table 3.11: Unit menu options

3.3.2.4 Alarms

In this field, the alarms of the unit are shown, if any.

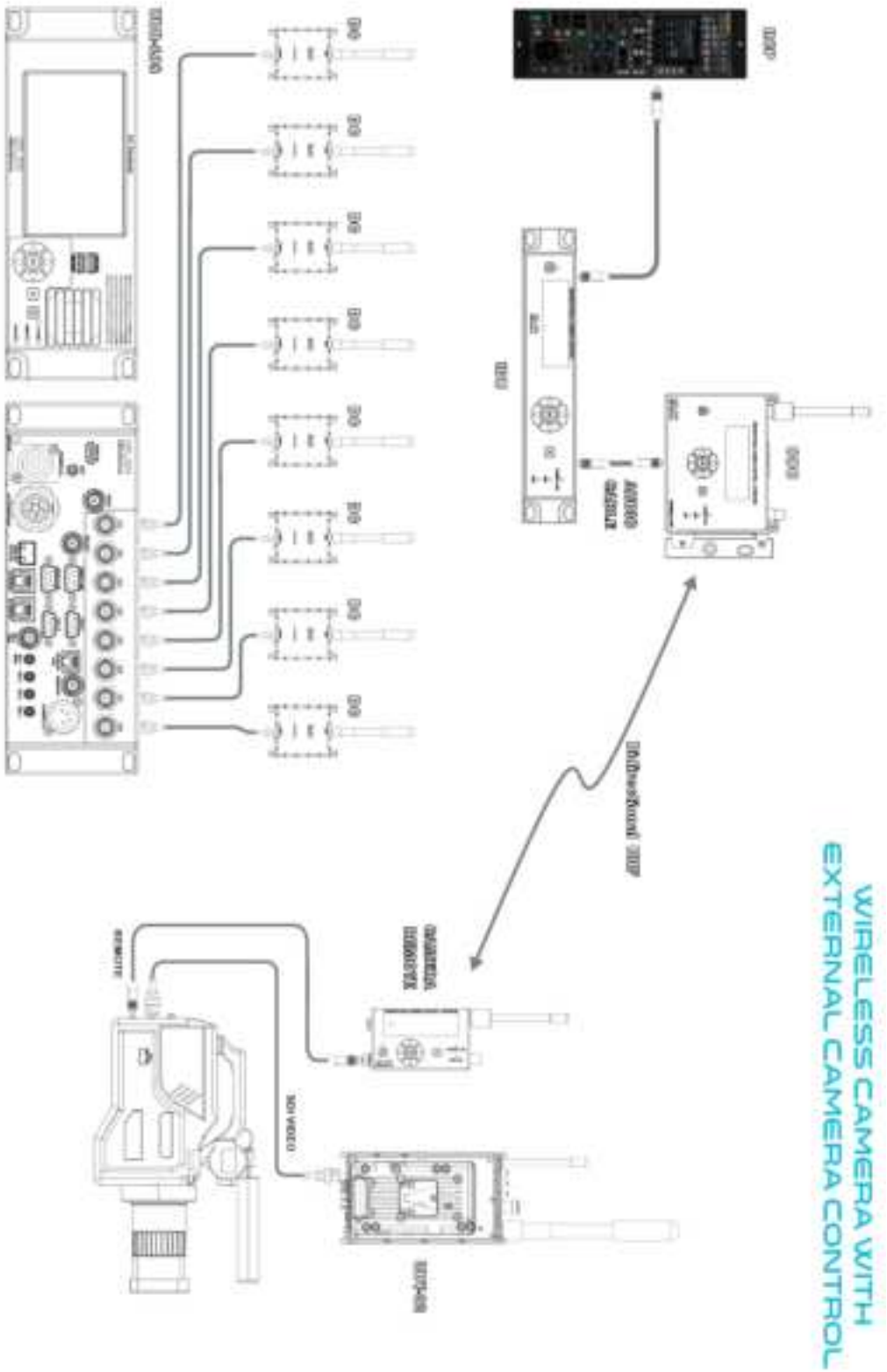
Chapter 4: Equipment Installation

4.1 Introduction

This chapter provides important information for the installation of the wireless camera system.

Figure 4:Wireless Camera System configuration

4.2 Installation diagram



4.3 Connectors

4.3.1 CC-IDU

Figure 5: CC-IDU rear panel

4.3.1.1 Power D.C. connection

Power D.C. connection technical features

Item	Features
Connector Label	Power D.C. 9-36 V
Connector Type	XLR-4 male

Table 4.1: Power D.C. connection technical features

Power D.C. connector Pin Out

Pin	Label
1	Ground
2	Not Connected
3	Not Connected
4	+V. DC 9-36V.

Table 4.2: Power D.C. connector Pin-Out

4.3.1.2 Data+ PoE Ethernet connection

Data+ PoE Ethernet connection technical features

Item	Features
Connector Label	Data PoE Ethernet
Connector Type	RJ 45

Table 4.3: Data+ PoE Ethernet connection technical features

4.3.1.3 Data connection

Data connection technical features

Item	Features
Connector Label	Data SFP
Connector Type	SFP module

Table 4.4: Data connection technical features

4.3.1.4 Data RS485 connection

Data RS485 connection technical features

Item	Features
Connector Label	Data RS485
Connector Type	XLR-3 female

Table 4.5: Data RS485 connection technical features

Data RS485 connector Pin Out

Pin	Label
1	Ground
2	Positive
3	Negative

Table 4.6: Data RS485 connector Pin-Out

4.3.1.5 RCP+ PoE Ethernet connection

RCP+ PoE Ethernet connection technical features

Item	Features
Connector Label	RCP+ PoE Ethernet
Connector Type	RJ 45

Table 4.7: RCP+ PoE Ethernet connection technical features

4.3.1.6 Remote connection

Remote Ethernet connection technical features	
Item	**Features**
Connector Label	Remote Ethernet
Connector Type	RJ 45

Table 4.8: Remote Ethernet connection technical features

4.3.1.7 Tally RED connection

Tally RED connection technical features	
Item	**Features**
Connector Label	Tally RED
Connector Type	DB-9 male

Table 4.9: Tally RED connection technical features

Tally RED connector Pin Out	
Pin	**Label**
1	TALLY GREEN 1
2	TALLY GREEN 2
3	TALLY GREEN 3
4	TALLY GREEN 4
5	TALLY RED 1
6	TALLY RED 2
7	TALLY RED 3
8	TALLY RED 4
9	GND TALLY

Table 4.10: Tally RED connector Pin-Out

4.3.1.8 RCP 1/2/3/4 connection

RCP 1/2/3/4 connection technical features

Item	Features
Connector Label	RCP 1 (2, 3 or 4)
Connector Type	Hirose 8 pin (Sony)

Table 4.11: RCP 1/2/3/4 connection technical features

RCP 1/2/3/4 connector Pin Out

Pin	Label
1	TX (+)
2	TX (-)
3	RX (+)
4	RX (-)
5	GROUND
6	+12V. DC OUTPUT
7	GROUND
8	Not Connected

Table 4.12: RCP 1/2/3/4 connector Pin-Out

4.3.2 CC-ODU

Figure 6: CC-ODU rear panel

4.3.2.1 Power D.C. connection

Power D.C. connection technical features

Item	Features
Connector Label	Power D.C. 9-36 V
Connector Type	XLR-4 male

Table 4.13: Power D.C. connection technical features

Power D.C. connector Pin Out

Pin	Label
1	GROUND
2	Not Connected
3	Not Connected
4	+V. DC 9-36V.

Table 4.14: Power D.C. connector Pin-Out

4.3.2.2 Data PoE Ethernet connection

Data PoE Ethernet connection technical features

Item	Features
Connector Label	Data PoE Ethernet
Connector Type	RJ 45

Table 4.15: Data PoE Ethernet connection technical features

4.3.2.3 Data SFP connection

Data SFP connection technical features

Item	Features
Connector Label	Data SFP
Connector Type	SFP module

Table 4.16: Data SFP connection technical features

4.3.2.4 Data RS485 connection

Data RS485 connection technical features

Item	Features
Connector Label	Data RS485
Connector Type	XLR-3 male

Table 4.17: Data RS485 connection technical features

Data RS485 connector Pin Out

Pin	Label
1	GROUND
2	POSITIVE
3	NEGATIVE

Table 4.18: Data RS485 connector Pin-Out

4.3.2.5 Remote Antenna Connector

Remote Antenna Connector technical features

Item	Features
Connector Label	Remote
Connector Type	SMA Female

Table 4.21:Remote antenna connection technical features

4.3.3 CC-CAMERA

Figure 7: CC-CAMERA rear panel

4.3.3.1 Remote Serial connection

Remote Serial connection technical features

Item	Features
Connector Label	Remote Serial
Connector Type	Hirosi 8 pin

Table 4.23: Remote Serial connection technical features

Remote Serial connector Pin Out

Pin	Label
1	TX(+)
2	TX (-)
3	RX (+)
4	RX (-)
5	GROUND
6	+12V. DC INPUT
7	GROUND
8	Not Connected

Table 4.24: Remote Serial connector Pin-Out

4.3.3.2 Remote IP connection

Remote IP connection technical features

Item	Features
Connector Label	Remote IP
Connector Type	RJ 45

Table 4.25: Remote connection technical features

4.3.3.3 Tally connection

Tally connection technical features	
Item	**Features**
Connector Label	Tally
Connector Type	Lemo 7 pin

Table 4.26: Tally connection technical features

Tally connector Pin Out	
Pin	**Label**
1	GROUND
5	+3,3V. For Tally Led
6	TALLY GREEN
7	TALLY RED

Table 4.27: Tally connector Pin-Out

Following is an example of the external Tally circuit that has to be connecter to Lemo 7 pins connector to get Tally RED and GREEN led signal.

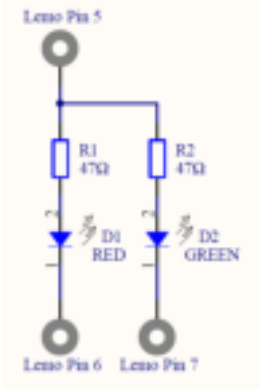


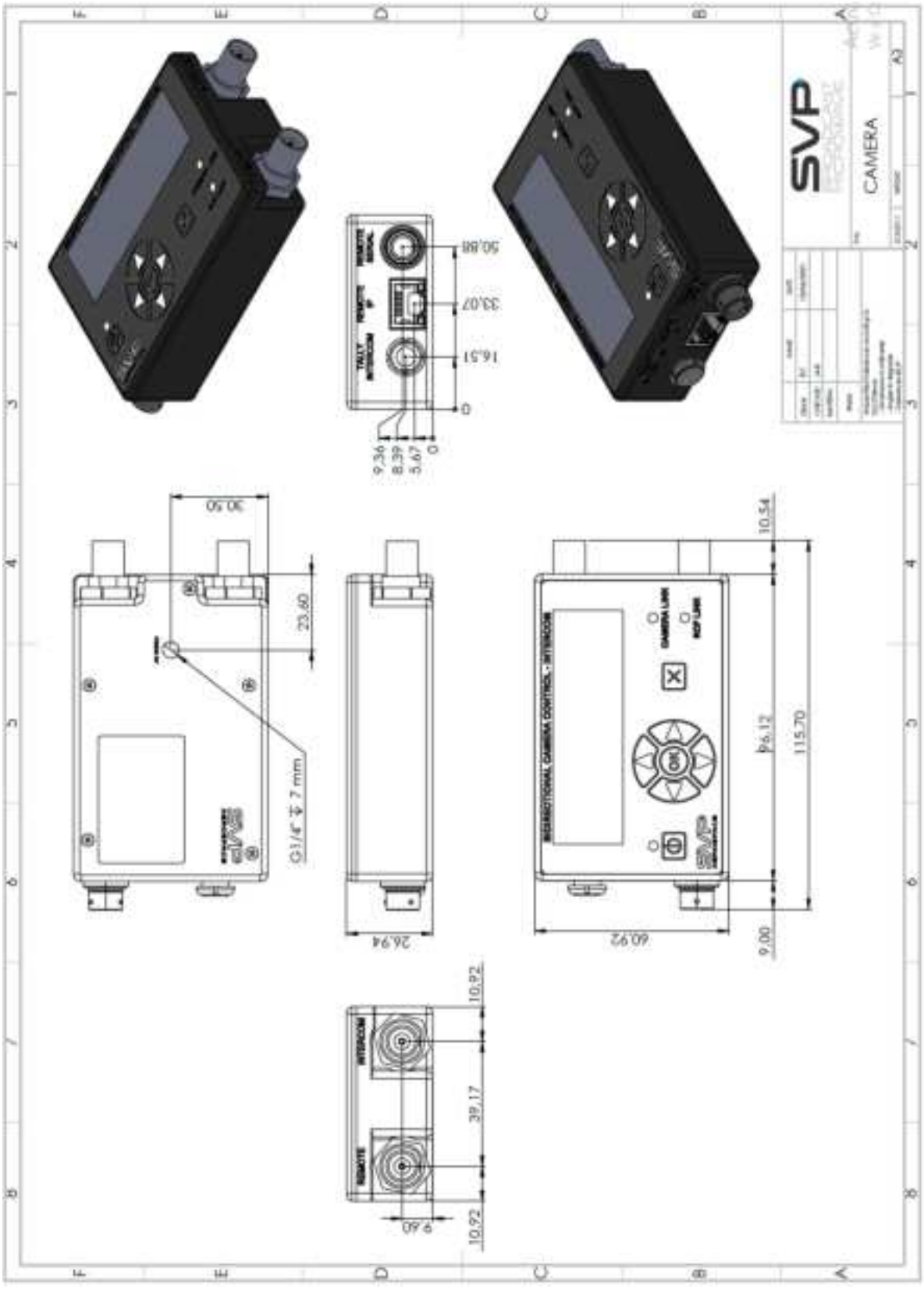
Figure 8: Tally circuit

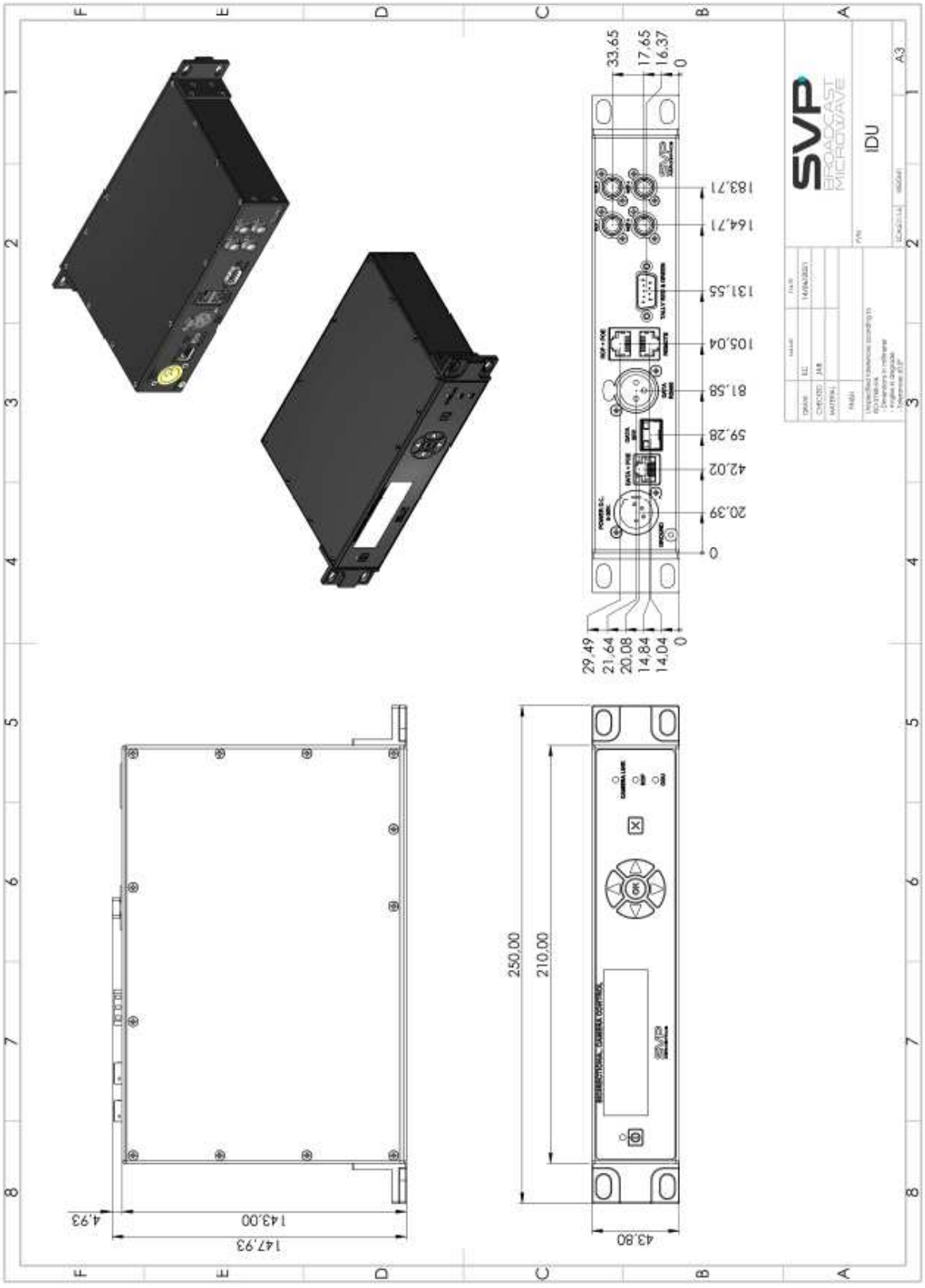
4.3.3.4 Remote Antenna Connector

Remote Antenna Connector technical features	
Item	**Features**
Connector Label	Remote
Connector Type	SMA Female

Table 4.28: Remote antenna connection technical features

Chapter 5: Mechanical Dimensions

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17,65
16,37
0
183,71
164,71
131,55
105,04
81,58
59,28
42,02
20,39
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29,49
21,64
20,08
14,84
14,04
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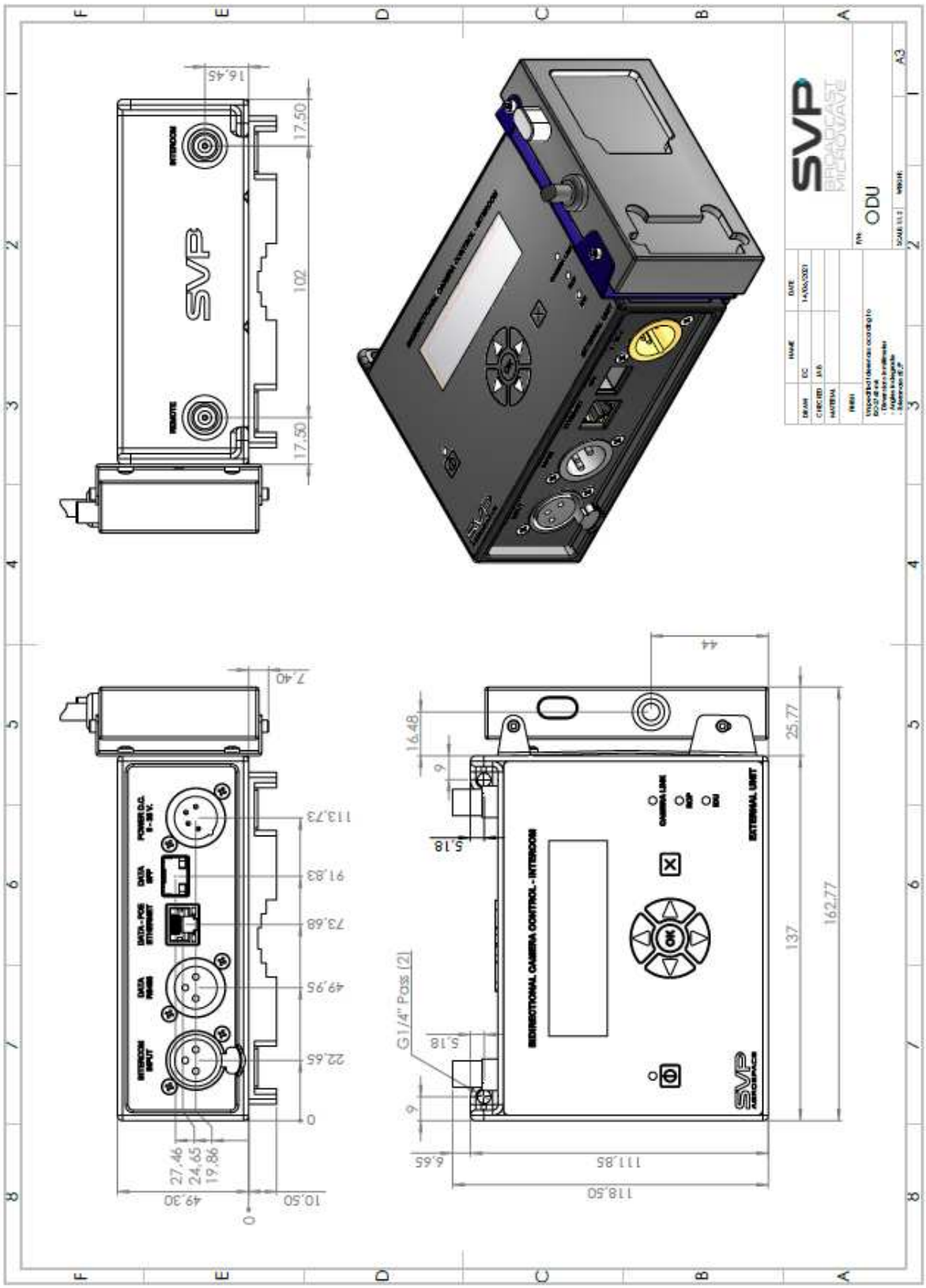
250,00
210,00
43,80
4,93
143,00
147,93


ODU
A3
16.45
17.50
102
17.50
7.40
113.73
91.83
73.68
49.95
22.65
0
27.46
24.65
19.86
49.30
10.50
44
16.48
25.77
9
5.18
137
162.77
G1/4" Pass (2)
6.65
111.85
118.50

Glossary

ASI	Asynchronous Serial Interface
BNC	Bayonet Neill-Concelman
BR	BitRate
DC	Direct current
GPS	Global Positioning System
HD	High Definition
IP	Internet Protocol
LED	Light-Emitting Diode
LD	Low Delay
MPEG	Moving Picture Experts Group
PAL	PAL
PID	Packet Identification
PPT	Push to Talk
SD	Standard Delay
SDI	Serial Digital Interface

TS	Transport Stream
UDP	User Datagram Protocol

Notes

Final note

SVP Broadcast Microwave S.L. is constantly striving to improve all of its products.

Therefore, we ask you to understand that modifications may occur in designs, equipment and technology. Consequently, no responsibility can be derived from the information, illustrations or descriptions contained in this manual.

The texts, illustrations and instructions in the manual are based on the existing situation when the manual is published.

SVP Broadcast Microwave reserves the right to make changes to this manual and to the equipment without prior notice.

C/ Zubiaurre 7 bajo
48215 Iurreta
Vizcaya – Spain

Tel: (+34) 94620 3722

info@svpaerospace.com
www.svpaerospace.com