



Radicson Technology

PGU-II



PGU Auto Tracking System

Performance

Include advanced software, novel ARM processor and Real Time Operating System (RTOS) which provides quick response and process.

Fast Installation

Easy and fast installation due to the automatic recognition of microphones codes.

Easy to Use

Doing all settings through keys designed on the device, no PCs needed.

App Control

Android and Windows application for controlling PGU, MICs CU, Camera and mixers.

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Contents

Introduction	3
Hardware Specification	4
Port Pinout	5
Working Modes	6
Auto Mode	6
Manual Mode	6
Setting Mode	6
Function of keys (in Setting Mode)	7
Menu Items	8
“Serial Port” Submenu Items	8
“LAN Port” Submenu Items	8
LAN1 Configuration	9
Select Video Switcher	9
Select MIC CU Model	10
Read MICs Number	10



Contents

Number of MICs Saved	10
Select Numbers of MIC	10
Select Camera Model & Connection Type	11
Camera Configuration	11
Camera Position Setting	12
Assign Camera Position (Preset/Position) to Microphone Number	13
LCD Backlight Setting	13
Reset Factory Setting	13
About Device	13



Introduction

The Device is actually an Auto track device equipped with built-in video switcher with many different input and output ports for connecting to different equipment of conferences halls.

Different work modes, easy installation with no need to computer and other side facility's only by buttons designed on the device as well as using software control the device in case of preferences, automatic recognition of microphone code and controlling every kind of cameras, mixers and switchers are the distinctive features of the device.





Hardware Specification

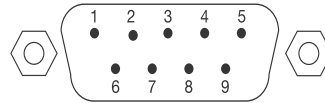


- USB Port for upgrading the firmware
- LAN1 for connecting to microphone CU with Ethernet port
- LAN2 for connecting to mixer, switcher or software
- COM 0 (RS-232) for connecting to microphone CU with serial port
- COM 1-4 (RS-232/422/485) for connecting to camera & switcher with serial
- Four SDI video inputs
- One SDI video output
- Power Input (220V-AC)



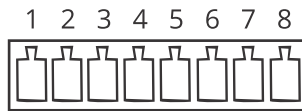
Port Pinout

- COM 0 (RS-232) for connecting to microphone CU with serial port



COM 0 (RS-232)	
1	—
2	RX
3	TX
4	—
5	GND
6	—
7	—
8	—
9	—

- COM 1 - 4 (RS-232/422/485) for connecting to camera & switcher with serial port



COM 1 - 4 (RS-232/422/485)		
RS-232	1	TX
	2	RX
	3	GND
RS-422 & RS-485	4	TX+
	5	TX-
	6	RX+ A+
	7	RX- B-
	8	GND

- Connection between device & camera

	PGU	Sony	Other
1	TX		
2	RX		
3	GND		
4	TX+	RX-	RX+
5	TX-	RX+	RX-
6	RX+	TX-	TX+
7	RX-	TX+	TX-
8	GND	GND	GND



Working Modes

1) Auto Mode

This mode is in fact the normal mode and when the PGU is turned on, it is in this mode (Both LED indicators are green) which PGU automatically takes the active MIC code from the CU and then sends the introduced commands to the defined devices.

2) Manual Mode

This mode is used when the operator tends to manually control the connected devices. (Both LED indicators are red).

In this mode, the PGU takes the MIC codes from the CU but does not send anything to output ports. To run this mode, press + and - at the same time when the device is on Auto mode.

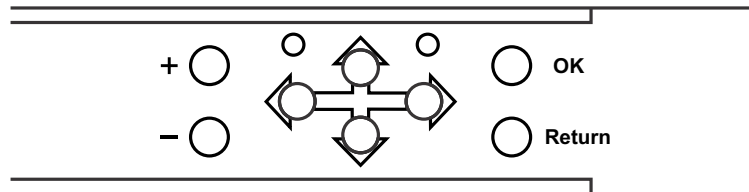
3) Setting Mode

The main settings are applied in this mode (both LED indicators are red). The setting is done step by step and to activate, press RIGHT and LEFT keys at the same time when the PGU is turning on before the complete loading.

In the front panel, there are 8 keys used to do the settings. Each key in submenus has a different function and is explained in the following section.



Function of keys in Setting Mode



Key	Function
"OK" Button	Enters the submenu of each section, the configuration is applied & return to this main menu by pressing this key.
"Return" Button	Restarts the PGU in the main menu; also returns to the main menu without saving in the case of being in the.
"UP" & "Down"	Move the submenus and their items.
"Right" & "Left"	Change the pointer position among submenu items.
"+" & "-" Button	Change the parameters within the submenu.



Menu Items

“Serial Port” Submenu Items

Item	Description
Serial Port Setting	Each port parameter is customizable
COM1 BaudRate PR ST RS232 9600 N 1	Communication Protocol Type: RS-232 / RS-422 / RS-485 BaudRate: 300 / 600 / 1200 / 2400 / 4800 / 9600 / 14400 19200 / 38400 / 56000 / 57600 / 115200 Parity (PR): N (None) / E (Even) / O (Odd) / S (Space) / M (Mark) Stop Bit (ST): 1 / 2

“LAN Port” Submenu Items

Item	Description
LAN1 IP Setting LAN2 IP Setting	PGU has two Ethernet ports. It should be considered that LAN1 is for connecting to MIC CU and LAN2 for connecting to mixer, video switcher or software.



LAN1 Configuration

Item	Description
LAN1 IP Address 192.168.001.121	LAN1 IP Address / Subnet Mask / Default Gateway
LAN1 Local Port 0108	LAN1 Local Port The Open port to remote control the PGU
LAN1 Work Mode TCP Client	LAN1 Work Mode (depends on remote device) TCP Server / TCP Client / UDP Server / UDP Client
LAN1 Remote IP 192.168.001.200	LAN1 Remote IP The IP of the side device to remote from PGU
LAN1 Remote Port 8234	LAN1 Remote Port The Port of the side device to remote from PGU

Select Video Switcher

Item	Description
Select Video Switch < Blackmagic Atem >	Select switchers or mixers model connected to PGU. In case of using cameras with SD resolution, the built-in switcher could be used.

In case of using mixers controlled by Ethernet make sure to connect to LAN2 which has already been configured in network setting section.

In case of using mixers controlled by serial port, make sure to connect to COM4 and which has already been configured in serial setting section.



“MIC” Submenus

Item	Description
Select MIC Model	Select the MIC CU model using right and left keys.
Read Microphone Num	The MICs code is automatically recognized & saved as simple as MIC Numbering.
Change The Mic Num? Yes No	Number of MICS already saved in the memory are shown; to change, press OK, select YES and then press OK. (If no MICS were saved, number of MICs is not displayed)
Select The Number Of Microphones: 40	Changing the numbers of microphones (For example 40), press + to choose the number of microphones and then press OK. When the numbers of MICs are set, turn on and off (after each turning on, wait for two second) the MICs according to the hall plan considering the number displayed in the PGU LCD.



Selecting Camera Model and Connection Type

- Camera Configuration

In this step, select camera model by pressing right or left keys and save it by pressing OK, then choose the connection type.

```
Select Camera Model
< Sony EVI-D70 >
```

In the default setting, the control cable of the 1st camera is connected to COM1 and its video to the switcher's 1st channel, the control cable of the 2nd camera is connected to COM2 and its video to the switcher's 2nd channel, and the rest is in the same order; it could be changed in need.

```
Sony EVI-D70
CAM:1 PORT:COM1 SW:1
```

```
Cam:1 Port:Com1 Channel:1
Cam:2 Port:Com2 Channel:2
Cam:3 Port:Com3 Channel:3
Cam:4 Port:Com4 Channel:4
```

In Case cameras are connected in Daisy Chain, it should be specified in this section. Imagine we have 6 Cameras, three of them are on COM1 (be careful that the internal switcher has 4 channels and to do so you must use external switcher or supply a PGU with more inputs by ordering).

```
Cam:1 Port:Com1 Channel:1
Cam:2 Port:Com1 Channel:2
Cam:3 Port:Com1 Channel:3
Cam:4 Port:Com2 Channel:4
Cam:5 Port:Com2 Channel:5
Cam:6 Port:Com2 Channel:6
```

In this condition, it is only needed to choose COM1 for the first three cameras and COM2 for the second three cameras, then press OK key. A full instruction is shown in the following figures.

```
Camera:1 Chain Number:1
Camera:2 Chain Number:2
Camera:3 Chain Number:3
Camera:4 Chain Number:1
Camera:5 Chain Number:2
Camera:6 Chain Number:3
```

Then, camera speed should be chosen among three levels of low, medium and high by LEFT or RIGHT keys and to save, press OK; the chosen speed is used only in call preset/position and plays no role in the setting.



- Camera Position Setting

Camera preset / position movement & saving are done through combined keys.

- * Preset saving is the camera position saved in camera (for instance Panasonic)
- * Position saving is the camera position saved in PGU (for instance Sony)

To adjust the camera position, use RIGHT, LEFT, UP or DOWN keys (the right indicator LED is blinking in green) and to zoom or wide, use + or - (the left indicator LED is blinking in green).

```
Camera Joystick
CAM:1 POS:1 Speed:4
```

For other functions, use combined keys as explained in the following.

Key	Function	Description
OK + Right	Save Position	To saving camera position, press and hold "OK" & "Right" buttons (if the function is applied correctly, the right LED blinks in green for 3 seconds, witnessing more time, it indicates the saving is not applied correctly).
OK + Left	Call Position	To call saved position, press and hold "OK" & "Left" buttons (if the function is applied correctly, the left LED blinks in green for 3 seconds).
OK + Plus OK + Minus	Change Position Number	For change the number of position, press & hold "OK" and "+" or "-" buttons in the same time.
OK + Up OK + Down	Change Camera Number	For change the number of camera, press and hold "OK" and "Up" or "Down" buttons in the same time.
OK + Return	Change Speed	In position setting, camera speed between 1 to 8 is changed by press "OK" and "Return" keys alternatively.

These steps should be done to save each position and at the end, it gets back to the menu by pressing RETURN key.

Take it into consideration that the max number of positions is 64 for each camera.



- Assign Camera Position (preset /position) to Microphone Number

Item	Description
Assign CAM for MIC	It is clarified that which camera moves to which situation according to microphone number.
Select CAM for MIC MIC:0 CAM:1 POS:50	preset allocated to MIC0 is when all the microphones are turned off; it could be either saved presets or a new preset like a long shot of the hall.
Select CAM for MIC MIC:1 CAM:2 POS: 1	For instance (1): MIC1 position analogous to microphone 1 is on camera 2 number 1
Select CAM for MIC MIC:2 CAM:4 POS: 2	For instance (2): MIC2 position analogous to microphone 2 is on camera 4 number 2
	Assign the rest in the same order.

Other Menu Items

Item	Description
LCD Backlight Set	In this section, you can adjust the LCD Backlight.
Reset Factory Set	all previous configurations deleted & all parameters return to the default setting, it needs about a minute.
About Device	The total information of PGU such as hardware, serial, software version & supported MIC CU.