plura

User Guide

PBM-Ember+/TSL and PMT-200

Control protocols for Plura series

SFP-25G
SFP-25G-H
SFP-10G
PBM-4K
PBM-4K-H
SFP-H
SFP-H-7
PBM-3G
PRM-3G
LCM-3G

sales@plurainc.com

1. OVERVIEW ---------- 3

2. GENERAL FEATURES ---------- 3

3. WORKFLOW DIAGRAM ---------- 3

- *Ember+/TSL capable monitors with Ember+ board built-in ----------3*
- *Using PMT-200 PoE Ember+ TSL control tool – Legacy Plura Monitors ----------3*
- *Ethernet enabled monitors without PBM-Ember+ option ---------- 4*

4. TALLYMAN SETTINGS ---------- 4

1) NETWORK SETTINGS ---------- 4
2) TALLYMAN SETUP ---------- 4
   - *Tallyman inputs setup ----------5*
   - *Sending UMD commands using Tallyman ----------5*

5. MONITOR SETTINGS ---------- 6

1) IP ADDRESS SETTING ---------- 6
2) MONITOR PROTOCOL SETTING ---------- 6
   - *Using Ember+ board built-in ---------- 6*
   - *Using PMT-200 – Legacy Plura Monitors ---------- 6*

6. HEX CODES ---------- 7

1) 3G SERIES ----------7
2) 4K SERIES ----------7
3) TALLY HEX CODES ----------7
4) COMMAND REQUIREMENTS ---------- 8
   - *Sending "Channel1" text and RED Tally to SDI 1 command ---------- 8*
   - *Sending "SDI 2" text and Idle Tally to SDI 2 command ---------- 8*

7. CONTROL PROTOCOLS SUPPORT CROSS REFERENCE TABLE ---------- 9

1. *OVERVIEW*

This guide will highlight and illustrate the different control protocols that Plura monitors can support. In addition, we will demonstrate how to setup and integrate TSL UMD V5 Tallyman system with Plura monitors.

2. *GENERAL FEATURES*

Based on Plura monitor series, Plura supports multiple protocols as listed below and as illustrated in cross reference table in section 7 in this guide.

- PSC: Plura system controller protocol – Please refer to Plura PSC 400/500 manual on Plura site
- TSL V4 using RS-232 / Serial control
- TSL V5 using IP / Ethernet control
- Ember+ Control Protocol

3. *WORKFLOW DIAGRAM*

There are two ways to integrate and setup Ember+ / TSL V5 UMD with Plura monitors, for demonstration purposes we are using Tallyman UMD system S/W emulator to show how to program and send the necessary commands to Plura monitors.

- **Ember+/TSL capable monitors <u>with</u> Ember+ board built-in**

- **Using PMT-200 PoE Ember+ TSL control tool – <u>Legacy Plura Monitors</u>**

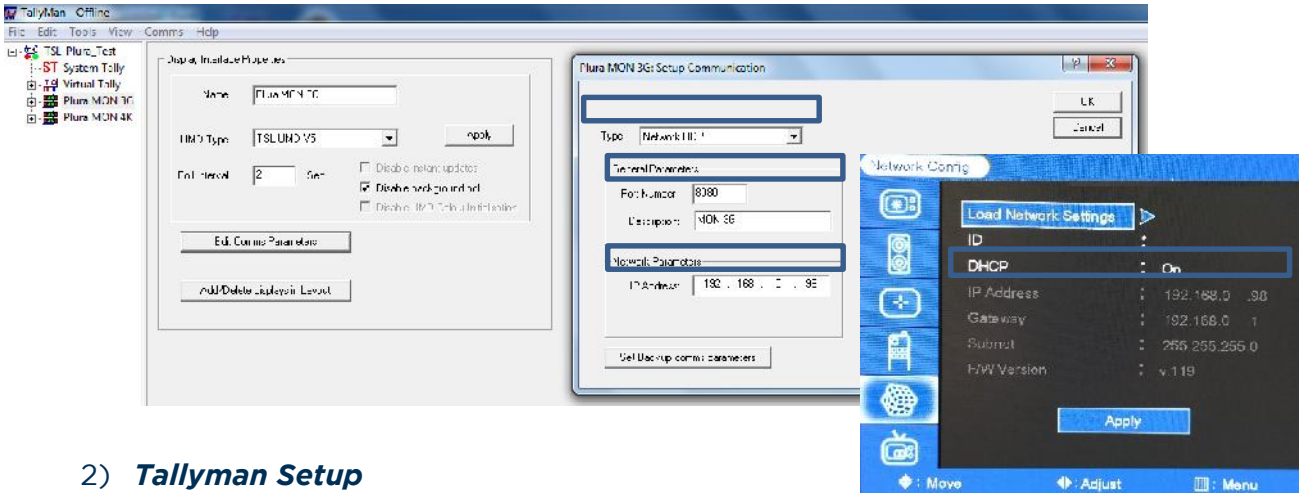
- **Ethernet enabled monitors <u>without</u> PBM-Ember+ option**

4. *TALLYMAN SETTINGS*

1) *Network Settings*

As shown in the below images

1- Network Type set to “Network UDP”
2- Port setting set to
   a. “8080” when using with Plura monitor CONTROL LAN 2* or CONTROL LAN 1** with PBM-Ember+ and PMT- 200.
   b. “8900” when using with Plura monitor CONTROL LAN 1 without PBM-Ember+ or PMT-200 option.
3- IP address should match the Plura monitor IP address

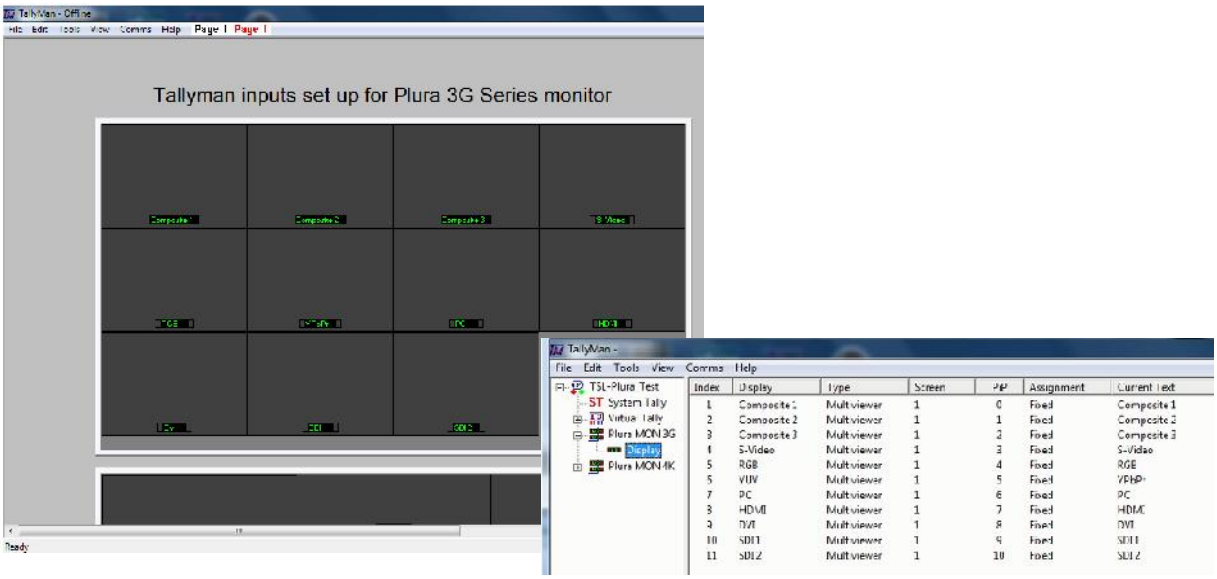


2) *Tallyman Setup*

Plura monitors has multiple inputs and each input can be designated to receive separate UMD & tally. Therefore, Tallyman input mapping should act as multiviewer shown below. Example below is conducted on PBM-3G series.

* SFP-25G, SFP-25G-H, SFP-10G, PBM-4K, PBM-4K-H
**PBM-3G, LCM-3G, PRM-3G, SFP-H, SFP-H-7

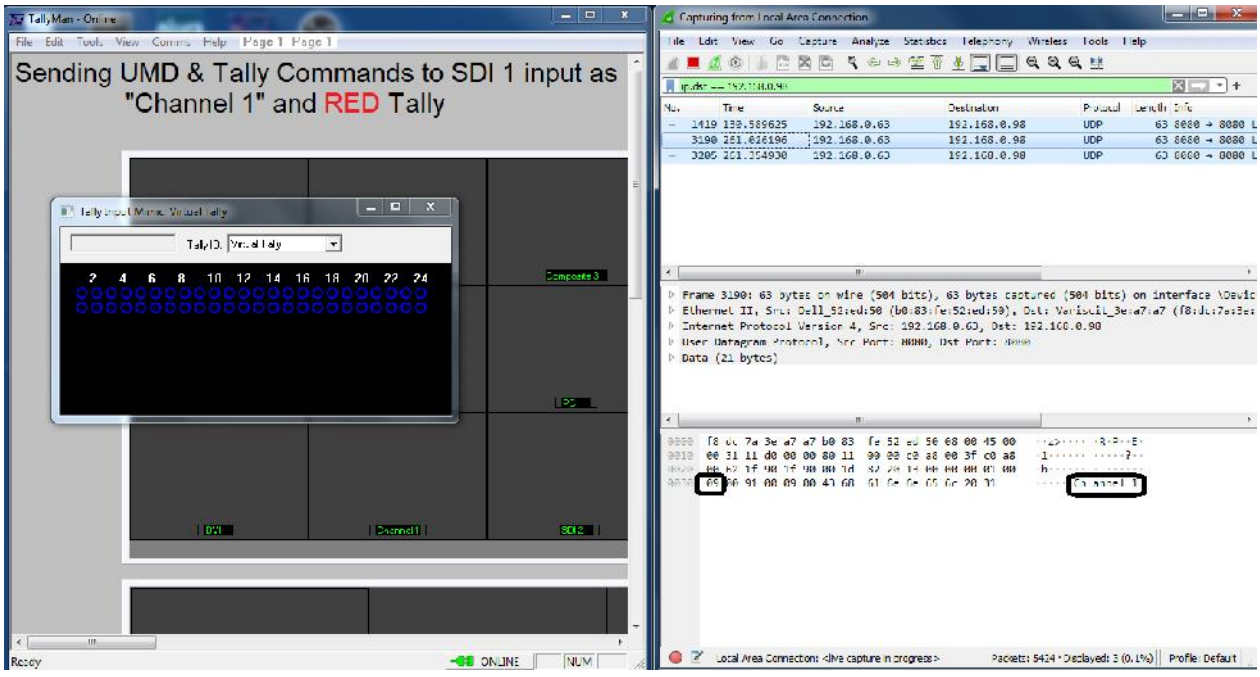
- **Tallyman inputs setup**



Composite 1 in tallyman is PIP ID “0” and it will put out a hex code of 00, Composite 2 is PIP ID 1 and will put out a hex code of 01 all the way through SDI 2 with a PIP of 10 and a hex code of 0a. More hex codes is explained in Hex Codes section

- **Sending UMD commands using Tallyman**

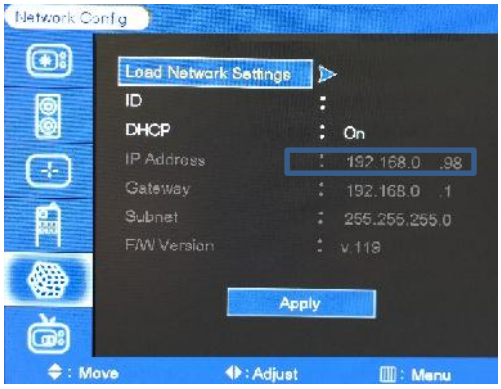
Below are an example when sending UMD text “channel 1” to SDI 1 and using tally mimic when we send Tally Red to SDI 1. More details is provided in section 6.



5. *MONITOR SETTINGS*

1) *IP Address Setting*

As shown in the below image, IP address under tallyman communication setting should match the IP of the monitor you are controlling



2) *Monitor Protocol Setting*

- **Using Ember+ board built-in**

Ember+/ TSL protocol is already set to TSL V5 as shown below

- **Using PMT-200 – Legacy Plura Monitors**

Select the correct TSL protocol setting based on if you are connected via Serial or Ethernet. When using PMT-200 you should select Plura PSC / PMT-200 shown below.

6. *HEX CODES*

Based on the Plura model number and inputs availability as shown below, each input has separate UMD & Tally control, i.e. has its own UMD PIP ID & Hex code which will be sent from Tallyman.

The tables below illustrate the hex codes associated with each input based on the 3G or 4K series.

1) *3G Series*

3G Series		
Input	Tally Man PIP	HEX Code
Composite 1	0	00
Composite 2	1	01
Composite 3	2	02
S-Video	3	03
RGB	4	04
Y.Pb.Pr	5	05
PC	6	06
HDMI	7	07
DVI	8	08
SDI1	9	09
SDI2	10	0a

2) *4K Series*

4K Models		
Input	Tally Man PIP	HEX Code
HDMI	0	00
SDI 1	1	01
SDI 2	2	02
SFP	3	03
Quad	4	04
2SI	5	05

3) *Tally Hex Codes*

In addition, the Plura monitors support three different Tally light, which means each of the below light status will have its own bit value.

RED
GREEN
YELLOW

The below table shows the hex code needed for the tally for ***ALL*** Plura monitors

Tally	HEX Code
Idle / OFF	80
RED	91
GREEN	a2
YELLOW	b3

4) *Command requirements*

The command which is been generated from tallyman to the monitor needs to consist of three parameters PIP ID (Input) code + Tally code + UMD Text code

See below two examples

- **Sending "Channel1" text and RED Tally to SDI 1 command**

Input SDI1	TallyMan PIP ID	Tally	UMD Text
	09	RED	Channel 1
HEX Command	09 00	09 00	09 00 43 68 61 6e 6e 65 6c 20 31

- **Sending "SDI 2" text and Idle Tally to SDI 2 command**

Input SDI2	TallyMan PIP ID	Tally	UMD Text
	10	Idle	SDI 2
HEX Command	0a 00	80 00	05 00 53 44 49 20 32

7. *Control Protocols support cross reference table*

Plura Supported Series			SFP-25G, SFP-25G-H, SFP-10G PBM-4K, PBM-4K-H				SFP-H & SFP-H-7				PRM-3G				PBM-3G				LCM-3G				Legacy Models			
Protocols			P	E+	T5	T4	P	E+	T5	T4	P	E+	T5	T4	P	E+	T5	T4	P	E+	T5	T4	P	E+	T5	T4
Control Ports	Serial Port		S			S	S			S*	S			S*	S			S*	S			S*	S			
	Control LAN1		S		S		S**		S		S**		S		S**		S		S		S					
	LAN 1 OPTION	PBM-Ember+						O	O			O	O			O	O									
	Control LAN2			S	S																					
PMT-200 External H/W Option																			O	O	O			O	O	

Key Code	
S	Standard Feature
O	Ember+ & TSLV5 are standard with PBM-Ember+ Built-In card or PMT-200 options
S*	TSL V4 option is deactivated when option PBM-Ember+ or PMT-200 is utilized
S**	PSC will be deactivated when option PBM-Ember+ is installed
P	Plura System Controller Protocol
E+	Ember+ Control Protocol
T5	TSL Tallyman V5.0 IP based Protocol
T4	TSL Tallyman V4.0 Serial based Protocol
	N/A

Contact Us

plura®

Corporate Offices:
Plura Broadcast, Inc.
Ph: +1-602-944-1044
Sales@plurainc.com

Plura Europe GmbH
Ph: +49-6725-918006-70
Sales@plurainc.com

Plura MEA
Ph: +971-50-715-9625
Sales@plurainc.com

Plura Asia
Ph: +82-10-6688-8826
Sales@plurainc.com