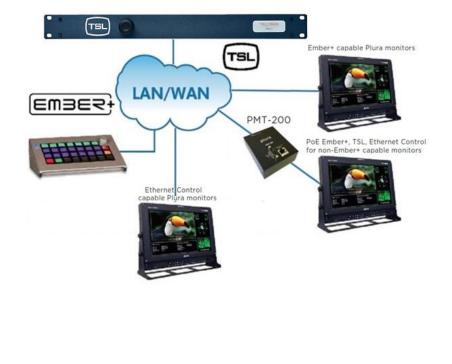
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User Guide



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 SFP-H-7 PBM-3G PRM-3G LCM-3G





1.	OVERVIEW	3
2.	GENERAL FEATURES	3
3.	WORKFLOW DIAGRAM	3
	 Ember+/TSL capable monitors with Ember+ board built-in Using PMT-200 PoE Ember+ TSL control tool - Legacy Plura Monitors Ethernet enabled monitors without PBM-Ember+ option 	-3
4.	TALLYMAN SETTINGS	4
1) 2)		4 5
5.	MONITOR SETTINGS	6
1) 2)		6 6
6.	HEX CODES	7
1) 2] 3] 4	 4K Series Tally Hex Codes 	-7 -7 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 with Ember+ board built-in

Using PMT-200 PoE Ember+ TSL control tool - Legacy Plura Monitors



• 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

TSL Plure_Test	– Display Interlate Mopeltes		Plura MON 3G: Setup Communication		(۲ <mark>سکتس</mark> ۲	
- 관 Virtual Tally - 翻 Plura MON 16 - 翻 Plura MON 4K	totnervat ∠ be=	Picable restant späctes Disable restant späctes Disable restant späctes Disable rite 1 Table anti-facelier	Type Network III: 1 T Tenteral Developer For the uncorn 8080 Upsteppont MON 36 Morealt, Palametals 178-rdnam 182 - 188 - C - 95			On
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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



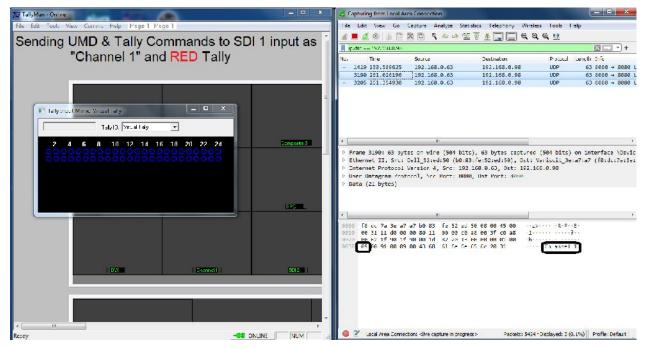
• Tallyman inputs setup

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Tallyman ir	nputs set up for	Plura 3G Serie	s monitor							
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jiresauti Lisvaal		- K - 1	TallyMan - File Edit Tools View □	Index	Display Composite1 Composite2 Composite3	Multviewer Multviewer Multviewer	1 1 1	C 1 2	Foed Foed Foed	Composite Composite Composite
			TalyMan - File Edit Tools View II- ♀ TSL-Plura Test ST System Fally II- ♀ Plura Test Plura MCN3G II- Plura Display	Index L 2	Display Composite 1 Composite 2 Composite 3 S-Video	Multviewer Multviewer Multviewer Multviewer	1 1 1 1	0 1 2 3	Fixed Fixed Fixed	Composite Composite Composite S-Vidao
			TallyMan - File Edit Tools View □	Index L 2 3	Display Composite 1 Composite 2 Composite 3 S-Video RGB	Multviewer Multviewer Multviewer Multviewer Multviewer	1 1 1 1 1	0 1 2 3 4	Fixed Fixed Fixed Fixed	Composite Composite Composite S-Vidao RGE
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Level.			TalyMan - File Edit Tools View II- ♀ TSL-Plura Test ST System Fally II- ♀ Plura Test Plura MCN3G II- Plura Display	L 2 3 1 5 5 7	Usplay Composite 1 Composite 2 Composite 3 S-Video RGB VUV PC	Multviewer Multviewer Multviewer Multviewer Multviewer Multviewer Multviewer	1 1 1 1 1 1 1	0 1 2 3 4 5 6	Foel Foel Foel Foel Foel Foel Foel	Composite Composite Composite S-Vidao RGE VPbD+ PC
			TalyMan - File Edit Tools View II- ♀ TSL-Plura Test ST System Fally II- ♀ Plura Test Plura MCN3G II- Plura Display	Index L 2 3 4 5 5 5 7 3	Display Composite: Composite 2 Composite 3 S-Video RGB VUV PC HDVII	Mult viewer Mult viewer Mult viewer Mult viewer Mult viewer Mult viewer Mult viewer	1 1 1 1 1 1 1	0 1 2 4 5 6 7	Foed Foed Foed Foed Foed Foed Foed	Composite Composite Composite S-Vidao RGE VPbP+ PC HDMI

Composite 1 in tallyman is PIP ID "O" and it will put out a hex code of OO, Composite 2 is PIP ID 1 and will put out a hex code of O1 all the way through SDI 2 with a PIP of 10 and a hex code of Oa. 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

D Load Network	Settings D		
DHCP		On	
IP Address		192.168.0	
Gateway	:	192.168.0	
Subnet		255.255.25	5.0
FW Versian			
	Apply		

2) Monitor Protocol Setting

• Using Ember+ board built-in

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

	Information	
0	Control	
ŏ	Soreen Saver	CAN IN A REAL
	Screen Control	
<u>.</u>	Fan Control	A State of the second second
	Network Config	
	×786 Mode	: Auto
	-IDMI Output	E OF
649	Protocol Setting	: EMBERNTSL

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.

	Information	
പ	Control	
<u>Š</u>	Screen Control	
th I	Network Config1	
	Network Config2	►
	Fan Control	•
***	SetiD	PLURA PSC / PMT-200
119°	Protocol Setting	T3L 4.0
ă:)		

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										
251	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 <u>ALL</u> 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	09 00	09	09 00 43 68 61 6e 6e 65 6c 20
Command	09 00	00	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 S			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				
Protoc	Protocols		Р	E+	T5	T4	Р	E+	T5	T4	Р	E+	T5	T4	Ρ	E+	T5	T4	Ρ	E+	T5	T4	Ρ	E+	T5	T4
	Serial Por	t	S			S	S			S*	S			S*	S			S*	S			S*	S			
	Control L	AN1	S		S		S**		S		S**		S		S**		S		S		S					
Control Ports	LAN 1 OPTION	PBM- Ember+						0	0			0	0			0	0									
	Control LAN2			S	S																					
PMT-20 H/W O	00 Exteri option	nal																	0	0	0			0	0	

Key Code	
S	Standard Feature
0	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
Р	Plura System Controller Protocol
E+	Ember+ Control Protocol
T5	TSL Tallyman V5.0 IP based Protocol
Τ4	TSL Tallyman V4.0 Serial based Protocol
	N/A

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