PLANAR

User Manual

Planar UltraRes P Series Serial Commands

URP492 | URP492-ERO-T
URP552 | URP552-ERO-T
URP652 | URP652-ERO-T
URP752 | URP752-ERO-T
URP862 | URP862-ERO-T
URP982 | URP982-ERO-T

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RoHS Compliance Statement

The Planar UltraRes P Series is fully RoHS Compliant.

Part Number: 020-1449-00A

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Serial Command Communication

Serial commands are not necessary for operation but are a convenient way to control Planar® UltraRes P™ Series displays from a computer at a distance. Most things you can do with the remote, you can do with serial commands. Plus, you can send inquiries to the displays and find out the current settings and values. RS232 connections are made with standard straight-through cables.

Note: Serial commands can be sent to the display over the RS232 port or over the network.

1. Applicable Models

This serial commands user manual applies to the following Planar UltraRes P Series models:

- URP492
- URP492-ERO-T
- URP552
- URP552-ERO-T
- URP652
- URP652-ERO-T
- URP752
- URP752-ERO-T
- URP862
- URP862-ERO-T
- URP982
- URP982-ERO-T

Serial commands and RS232 user manuals for other products can be found at www.planar.com/support/.

2. RS232 Port Setup

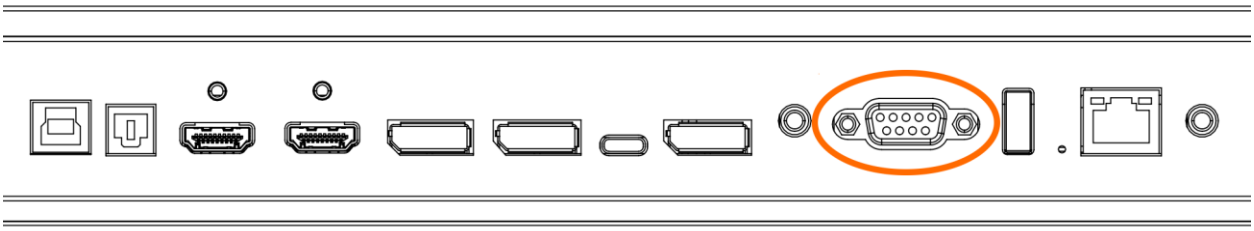
The use of the RS232 port requires the display's **Power Down Mode** to be in **Networked Standby** or **Fast Startup**. See the "Power Down Mode" section of the *Planar UltraRes P Series User Manual*.

The RS232 connection must use the following settings:

- 19200 baud rate
- 8 data bits
- 1 stop bit
- No parity bit
- No HW (RTS/CTS) or SW (XON/XOFF) flow control

3. Connecting the RS232 Cable

The Female DB9 connector is wired as a Straight Through serial connection.



Pin #	Signal
1	NC
2	Tx
3	Rx
4	NC
5	GND
6	NC
7	NC

4. Serial Command Protocol

4.1 Command Structure

`[OPCODE](MODIFIERS)[OPERATOR][OPERANDS][TERM]`

- OPCODE is the command code (e.g. “GAIN”). This can be written either using the named command code (see the “Command Code” column in the table) or the numeric command code (see the “Numeric Command Code” column in the table).
- MODIFIERS are modifier values [e.g. “(ZONE.1, ALL)”]. There are zero or more modifiers for each command. The modifiers can be written either with their named value or their numeric value (see "Examples" on page 7). See the “Modifiers” column in the table.
- OPERATOR is the action to be performed. See the “Operators” column in the table.
    - ‘=’ writes the setting value.
    - ‘?’ reads the setting value in name form (see "Examples" on page 7).
    - ‘#’ reads the setting value in numeric form (see "Examples" on page 7).
    - ‘+’ increments the setting value.
    - ‘-‘ decrements the setting value.
    - ‘:’ indicates that the message is a response to one of the following operators: =?#+-
    - ‘!ERR’ indicates that the message is a failure response. An error code will be listed after the “ERR”, with a space before it. Error codes are as follows:
        - ERR 1: Invalid syntax
        - ERR 2: [Reserved for future use]
        - ERR 3: Command not recognized
        - ERR 4: Invalid modifier
        - ERR 5: Invalid operands
        - ERR 6: Invalid operator
    - ‘@ACK’ indicates that the message is an acknowledgment (ACK) to a command that has no operator.
    - ‘^NAK’ indicates that the message is a negative acknowledgment (NAK) to a command. This indicates that the command was received but cannot be processed at this time.
    - [No operator] denotes an action. In this case, there’s no operator and no operand.
- OPERAND indicates the data to be sent with the message. In some cases, there can be multiple operands. See the “Operands” column in the table.
    - Enumerated operands can be written either with their named value or their numeric value (see "Examples" on page 7).
    - String operands are written with quotation marks at the beginning and end. Example: “this is a string operand”. Special characters, [CR], [LF], “ and \ can be included in a string by escaping them with the \ character (see "Examples" on page 7).
    - Integer (or signed integer / unsigned integer) are always numeric values.
    - Fixed point operands are numeric values with fractional parts. They use decimal point notation.
    - Note that enumerated and integer values can be written either in decimal or hexadecimal. For example, a decimal value of ‘50’ can be written in hexadecimal as ‘0x32’.

• TERM is the termination character for the command. This can either be the ASCII carriage return character (0x0D), the ASCII line feed character (0x0A) or a semicolon. The response will use the same termination character.

4.2 Protocol Encoding

• All parts of the command structure are case insensitive (e.g. “BRIGHTNESS”, “brightness” and BrIgHtNeSs” are all the same). Responses will always be in capital letters.

• Excessive white space is allowed (e.g. “BRIGHTNESS=50”, “BRIGHTNESS = 50” and “BRIGHTNESS = 50” are all the same).

• Modifiers and operands can be separated by commas, spaces or both (e.g. “GAIN=100,100,100”, “GAIN=100 100 100” and “GAIN=100, 100, 100” are all the same). Responses will always separate with one space between modifiers and operands).

4.3 Examples

Note: [CR] is the ASCII carriage return character (0x0D).

Command	Response	Notes
brightness = 100 [CR]	BRIGHTNESS:100 [CR]	Sets the Brightness value to 100
brightness = 100;	BRIGHTNESS:100;	Also sets the Brightness value to 100, but uses the ‘;’ termination character instead of [CR]. The response uses the same termination character.
200=100 [CR]	200:100 [CR]	“200” is the numeric command code for “BRIGHTNESS”
brightness+ [CR]	BRIGHTNESS:101 [CR]	Increments the current Brightness value
brightness- [CR]	BRIGHTNESS:100 [CR]	Decrements the current Brightness value
gain = 101 102 103 [CR]	GAIN:101 102 103 [CR]	Example command with multiple operators (sets Red Gain to 101, Green Gain to 102 and Blue Gain to 103, on the current zone)
gain(current red)+	GAIN(CURRENT RED):102	Increments the Red Gain on the current zone
gain(zone.1, all) = 104,105,106	GAIN(ZONE.1 ALL):104 105 106	Example command with multiple modifiers, multiple operators and different separators between the modifiers and operators (sets Red Gain to 104, Green Gain to 105 and Blue Gain to 106, on Zone 1)

Command	Response	Notes
ipv4.address(static)=”10.15.0.220” [CR]	IPV4.ADDRESS(STATIC)=”10.15.0.220” [CR]	Example command with a string operator
reset(user) [CR]	RESET(USER)@ACK [CR]	Example action command (no operator or operand)
reset(user) [CR]	RESET(USER)^NAK [CR]	Example action command that cannot be processed at this time
aspect? [CR]	ASPECT:AUTO [CR]	The name for the Aspect Ratio setting value is returned
aspect# [CR]	ASPECT:0 [CR]	The number for the Aspect Ratio setting value is returned
aspect=fill [CR]	ASPECT:FILL [CR]	Sets the Aspect Ratio to Fill
aspect=3 [CR]	ASPECT:3 [CR]	Also sets the Aspect Ratio to Fill
brightness @@ [CR]	BRIGHTNESS!ERR 1 [CR]	Example of an invalid syntax (“@@” isn’t a valid operator)
fake.command = 1 [CR]	FAKE.COMMAND:ERR 3 [CR]	Example of an invalid opcode (“FAKE.COMMAND” doesn’t exist)
brightness(zone.999) = 100 [CR]	BRIGHTNESS(ZONE.999)!ERR 4 [CR]	Example of an invalid modifier (“ZONE.999” isn’t a valid modifier for “BRIGHTNESS”)
brightness=”new value” [CR]	BRIGHTNESS!ERR 5 [CR]	Example of an invalid operand (the Brightness command doesn’t accept a string operand)
model.id = 1 [CR]	MODEL.ID!ERR 6 [CR]	Example of an invalid operator (cannot write to this command)
display.name = “Name containing \” and \\”	DISPLAY.NAME:”Name containing \” and \\”	The name will appear on the remote monitor as Name containing “ and \

5. Serial Command Codes

Notes:

- The examples are written with the command first and the response in italics. Example:
    - Command: ASPECT(ZONE.1)=AUTO
    - Response: *ASPECT(ZONE.1):AUTO*
- In many instances, a modifier may be omitted and the display will replace it with a default value. For example, the default modifier for the ASPECT command is CURRENT, so the following two commands are identical:
    - ASPECT(CURRENT)=AUTO
    - ASPECT=AUTO
- '!' in the Operators column indicates that the command accepts the execute operator, which uses no operator symbol. The '!' symbol is not included in the command.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Allow Pop Up Messages	OSD.ALLOW. POPUP	1300	=?+-		0 = NO 1 = YES	No	OSD.ALLOW.POPUP=YES *OSD.ALLOW.POPUP:YES*	See Main -> Advanced Settings -> Menus and Messages -> Allow Pop Up Messages.
Aspect Ratio	ASPECT	500	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0 = AUTO 1 = 16X9 2 = 4X3 3 = FILL 4 = NATIVE 5 = LETTERBOX	No	[For Zone 1] ASPECT(ZONE.1)=AUTO *ASPECT(ZONE.1):AUTO* [For the current zone] ASPECT=16X9 *ASPECT:16X9*	See Main -> Image Adjust -> Aspect Ratio.
Audio Input	AUDIO.INPUT	1003	?		Source: 1 = HDMI.1 2 = HDMI.2 5 = DP 13 = DP.2 15 = USBC	No	AUDIO.INPUT? *AUDIO.INPUT:HDMI.1*	Returns the input source in the zone currently playing audio, as chosen by Audio Select.
Audio Select	AUDIO.ZONE	1007	=?+-		Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4	No	AUDIO.ZONE=ZONE.1 *AUDIO.ZONE:ZONE.1*	See Main -> Audio -> Audio Select.
Audio Settings	AUDIO. SETTINGS	1009	=?		Op 1: Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 Ops 2-8: Unsigned Integers	No	[For Zone 3, Volume=51, Treble=52, Bass=53, Balance=54, Mute Off, Internal Speakers On] AUDIO.SETTINGS=2 51 52 53 54 0 1 *AUDIO.SETTINGS:2 51 52 53 54 0 1*	Values are set/returned in the order AUDIO.ZONE, AUDIO.VOLUME, AUDIO.TREBLE, AUDIO.BASS, AUDIO.BALANCE, AUDIO.MUTE, AUDIO.SPEAKERS

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Auto Power On	AUTO.ON	1407	=?+-		0 = OFF 1 = ON 2 = PREVIOUS. STATE	Yes	AUTO.ON=ON *AUTO.ON:ON*	See Main -> Advanced Settings -> Power -> Auto Power On.
Auto Scan Sources	SOURCE.SCAN	105	=?+-		0 = OFF 1 = ON 2 = FAILOVER	No	SOURCE.SCAN=ON *SOURCE.SCAN:ON*	See Main -> Inputs and Views -> Auto Scan Sources.
Backlight Intensity	BACKLIGHT. INTENSITY	1400	=?+-		1-100	No	BACKLIGHT.INTENSITY=75 *BACKLIGHT.INTENSITY:75*	See Main -> Advanced Settings -> Panel Brightness -> Intensity
Balance	AUDIO.BALANCE	1000	=?+-		0-100	No	AUDIO.BALANCE=50 *AUDIO.BALANCE:50*	See Main -> Audio -> Balance.
Bass	AUDIO.BASS	1001	=?+-		0-100	No	AUDIO.BASS=50 *AUDIO.BASS:50*	See Main -> Audio -> Bass.
Blank Screen Color	BLANK.COLOR	1306	=?+-		0 = RED 1 = GREEN 2 = BLUE 3 = CYAN 4 = MAGENTA 5 = YELLOW 6 = WHITE 7 = BLACK	No	BLANK.COLOR=BLUE *BLANK.COLOR:BLUE*	See Main -> Advanced Settings -> Menus and Messages -> Blank Screen Color.
Brightness	BRIGHTNESS	200	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0-100	No	[For Zone 1] BRIGHTNESS(ZONE.1)=50 *BRIGHTNESS(ZONE.1):50* [For the current zone] BRIGHTNESS=55 *BRIGHTNESS:55*	See Main -> Image Adjust -> Brightness.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Color	COLOR	202	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0-100	No	[For Zone 1] COLOR(ZONE.1)=50 *COLOR(ZONE.1):50* [For the current zone] COLOR=55 *COLOR:55*	See Main -> Image Adjust -> Color.
Color Space	COLORSPACE	207	=?+-	Mod 1: Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT Mod 2: Value Type 0 = SETTING 1 = ACTUAL	0 = REC601 1 = REC709 2 = RGB 3 = RGB.VIDEO 4 = AUTO	No	[Setting Color Space for Zone 1] COLORSPACE(ZONE.1, SETTING)=REC709 *COLORSPACE(ZONE.1 SETTING):REC709* [Setting Color Space for the current zone] COLORSPACE(CURRENT, SETTING)=AUTO *COLORSPACE(CURRENT SETTING):AUTO* [Reading the actual Color Space for the current zone] COLORSPACE(CURRENT, ACTUAL)? *COLORSPACE(CURRENT ACTUAL):RGB*	"Setting" is the value that the color space is set to. See Main -> Image Adjust -> Color Space. "Actual" is the currently applied color space (cannot return AUTO). See Main -> Information -> Image Information -> Color Space.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Color Sub-sampling	COLOR. SUBSAMPLING	301	?	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 255 = CURRENT	String	No	[For Zone 1] COLOR.SUBSAMPLING(ZONE.1)? *COLOR.SUBSAMPLING(ZONE.1):"4:4:4"* [For the current zone] COLOR.SUBSAMPLING? *COLOR.SUBSAMPLING:"4:2:0"*	See Main -> Information -> Image Information -> Color Subsampling.
Color Tem-perature	COLOR. TEMPERATURE	208	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT	0 = 3200K 1 = 5500K 2 = 6500K 3 = 7500K 4 = 9300K 5 = NATIVE	No	[For Zone 1] COLOR.TEMPERATURE(ZONE.1)=6500K *COLOR.TEMPERATURE(ZONE.1):6500K* [For the current zone] COLOR.TEMPERATURE=NATIVE *COLOR.TEMPERATURE=NATIVE*	See Main -> Image Adjust -> Color Temperature.
Contrast	CONTRAST	201	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0-100	No	[For Zone 1] CONTRAST(ZONE.1)=50 *CONTRAST(ZONE.1):50* [For the current zone] CONTRAST=55 *CONTRAST:55*	See Main -> Image Adjust -> Contrast.
Current Zone	CURRENT. ZONE	100	=?+-		Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4	No	CURRENT.ZONE=ZONE.1 *CURRENT.ZONE:ZONE.1*	See Main -> Image Adjust -> Current Zone.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Current Zone Layout	CURRENT. ZONE.LAYOUT	108	?		0 = S.1 1 = P.UL.1 2 = P.UL.2 3 = P.UR.1 4 = P.UR.2 5 = P.LL.1 6 = P.LL.2 7 = P.LR.1 8 = P.LR.2 9 = D.L.1 10 = D.L.2 28 = Q.1 29 = Q.2 30 = Q.3 31 = Q.4	No	CURRENT.ZONE.LAYOUT? *CURRENT.ZONE.LAYOUT:Q.1*	See separate table on page 33 for operands.
Default Gateway	IPV4.GATEWAY	1206	=?	0 = STATIC [None = Current (for reads only] [None = STATIC (for writes only]	String	Yes	[Read the current default gateway value] IPV4.GATEWAY? *IPV4.GATEWAY:"10.15.0.1"* [Write the default gateway for static IP] IPV4.GATEWAY(STATIC)="192.168.12.1" *IPV4.GATEWAY(STATIC):"192.168.12.1"*	See Main -> Advanced Settings -> Network -> Default Gateway.
DHCP	NETWORK.DHCP	1207	=?		0 = OFF 1 = ON	Yes	NETWORK.DHCP=ON *NETWORK.DHCP:ON*	See Main -> Advanced Settings -> Network -> DHCP.
Display Name	DISPLAY.NAME	2404	=?		String	Yes	DISPLAY.NAME="Conference Room 1" *DISPLAY.NAME:"Conference Room 1"*	Sets the name shown on the title of the Remote Monitoring Software Pages.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Display Power	DISPLAY. POWER	1408	=?+-		0 = OFF 1 = ON	Yes	DISPLAY.POWER=ON *DISPLAY.POWER:ON*	See the IR remote control keys ON and OFF.
DisplayPort 1 Type	DP.TYPE	1904	=?+-		1 = 1.2 2 = 1.4 3 = 2.0	No	DP.TYPE=1.2 *DP.TYPE:1.2*	See Main -> Advanced Settings -> System Settings -> DisplayPort Type.
DisplayPort 2 Type	DP2.TYPE	1905	=?+-		1 = 1.2 2 = 1.4 3 = 2.0	No	DP2.TYPE=1.2 *DP2.TYPE:1.2*	See Main -> Advanced Settings -> System Settings -> DisplayPort Type.
DNS Server 1	NETWORK.DNS1	1212	=?	0 = STATIC [None = Current (for reads only] [None = STATIC (for writes only]	String	Yes	[Read the current DNS server 1 value] NETWORK.DNS1? *NETWORK.DNS1:"172.16.0.140"* [Write the DNS server 1 for static IP] NETWORK.DNS1(STATIC)="8.8.8.8" *NETWORK.DNS1(STATIC):"8.8.8.8"*	See Main -> Advanced Settings -> Network -> DNS Server.
DNS Server 2	NETWORK.DNS2	1213	=?	0 = STATIC [None = Current (for reads only] [None = STATIC (for writes only]	String	Yes	[Read the current DNS server 2 value] NETWORK.DNS2? *NETWORK.DNS2:"172.16.0.191"* [Write the DNS server 2 for static IP] NETWORK.DNS2(STATIC)="8.8.4.4" *NETWORK.DNS2(STATIC):"8.8.4.4"*	Selects a secondary DNS server.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
EDID Timing	EDID.TIMING	400	=?+-!	Mod 1: Input 1 = HDMI.1 2 = HDMI.2 5 = DP 13 = DP.2 15 = USBC Mod 2: Param 0 = UPDATE 12 = FACTORY 13 = TYPE	Signed Integer -3 = 4K60 -2 = 4K30 -1 = 1080P	No	[Read the EDID type for HDMI 1] EDID.TIMING(HDMI.1, TYPE)? *EDID.TIMING(HDMI.1 TYPE):4K60* [Update the HDMI 2 EDID] EDID.TIMING(HDMI.2, UPDATE) *EDID.TIMING(HDMI.2 UPDATE)@ACK*	See Main -> Advanced Settings -> EDID. UPDATE modifier is the only one that supports the action operator.
EDID Zone	EDID.SELECTED CONNECTOR	401	=?+-		1 = HDMI.1 2 = HDMI.2 5 = DP 13 = DP.2 15 = USBC	No	EDID.SELECTEDCONNECTOR= HDMI.1 *EDID.SELECTEDCONNECTOR: HDMI.1*	See Main -> Advanced Settings -> EDID -> Selected Connector.
Enable Internal Speakers	AUDIO. SPEAKERS	1004	=?+-		0 = OFF 1 = ON	No	AUDIO.SPEAKERS=ON *AUDIO.SPEAKERS:ON*	See Main -> Audio -> Enable Internal Speakers.
Enable Status LED	LED.ENABLE	1902	=?		0 = DISABLE 1 = ENABLE	Yes	LED.ENABLE=ENABLE *LED.ENABLE:ENABLE*	See Main -> Advanced Settings -> System Settings -> Enable Status LED.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Factory Reset	RESET	2400	!	0 = USER 1 = FACTORY1		No	RESET(USER) *RESET(USER)@ACK*	USER is the same as Main -> Advanced Settings -> System Settings -> Factory Reset. FACTORY1 resets everything that USER resets plus EDID customizations, network settings and presets. **Note:** A power cycle is required to complete the reset process.
Firmware Update	FIRMWARE. UPDATE	2200	!			No	FIRMWARE.UPDATE *FIRMWARE.UPDATE@ACK*	See Main -> Advanced Settings -> System Settings -> Firmware Update.
Gain	GAIN	209	=?+-	Mod 1: Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT] Mod 2: Color 0 = RED 1 = GREEN 2 = BLUE 255 = ALL [None = ALL]	For RED, GREEN and BLUE modifiers, one operand: 0-200 For ALL operand, three operands: Red Gain: 0-200 Green Gain: 0-200 Blue Gain: 0-200	No	[For red gain on Zone 1] GAIN(ZONE.1, RED)=100 *GAIN(ZONE.1 RED):100* [For all three gains on the current zone: Red Gain = 101, Green Gain = 102, Blue Gain = 103] GAIN=101 102 103 *GAIN=101 102 103*	See Main -> Image Adjust -> Red/Green/Blue Gain. ALL modifier adjusts all three gains at the same time. The first modifier can only be missing if both modifiers are missing.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Gamma	GAMMA	1504	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	6 = 1.8 8 = 1.9 10 = 2.0 12 = 2.1 14 = 2.2 16 = 2.3 18 = 2.4 20 = 2.5 22 = 2.6 24 = 2.7 26 = 2.8 28= 2.9	No	[For Zone 1] GAMMA(ZONE.1)=2.2 GAMMA*(ZONE.1):2.2* [For the current zone] GAMMA=2.5 *GAMMA:2.5*	See Main -> Image Adjust -> Gamma.
HDMI® CEC	CEC.ENABLE	2407	=?+-		0 = DISABLE 1 = ENABLE	No	CEC.ENABLE=DISABLE *CEC.ENABLE:DISABLE*	Used to enable or disable support for HDMI CEC commands.
HDMI CEC Standby	CEC.STANDBY	5018	=?		0 = OFF 1 = ON	No	CEC.STANDBY=OFF *CEC.STANDBY:OFF*	See Main -> Advanced Settings -> CEC Standby.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Image Information	SIGNAL.INFO	300	?	Mod 1: Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 255 = CURRENT [None = CURRENT] Mod 2: Parameter 0 = HACTIVE 1 = VACTIVE 2 = PCLK 3 = HTOTAL 4 = VTOTAL 5 = VREFRESH 6 = HREFRESH 7 = INTERLACE 8 = VFIELDRATE 9 = VREFRESH.X.100 10 = COLORDEPTH 11 = TMDS [None = ALL]	Unsigned Integer	No	SIGNAL.INFO(CURRENT, HACTIVE)? *SIGNAL.INFO(CURRENT, HACTIVE):1920*	See Main -> Information -> Image Information.
IP Address	IPV4.ADDRESS	1204	=?	0 = STATIC [None = Current (for reads only] [None = STATIC (for writes only]	String	Yes	[Read the current IP address value] NETWORK.DNS1? *NETWORK.DNS1:"10.15.0.60"* [Write the DNS server 1 for static IP] NETWORK.DNS1(STATIC)="192.168.12.12" *NETWORK.DNS1(STATIC):"192.168.12.12"*	See Main -> Advanced Settings -> Network -> IP Address.
IR Code	IR.CODE	1210	=?+-		0-65535	Yes	IR.CODE=12345 *IR.CODE:12345*	See Menu -> Advanced Settings -> System Settings -> IR Remote ID Code.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
IR Remote Lock	IR.LOCK	1202	=?		0 = DISABLE 1 = ENABLE	Yes	IR.LOCK=ENABLE *IR.LOCK:ENABLE*	See Menu -> Advanced Settings -> System Settings -> IR Remote Lock.
Key	KEY	1200	=		[See separate table]	Yes	[To send the MENU key] KEY=MENU *KEY:MENU*	See separate table on page 34 for key codes.
Keypad Lock	KEY.LOCK	1201	=?		0 = DISABLE 1 = ENABLE	Yes	KEY.LOCK=ENABLE *KEY.LOCK:ENABLE*	See Menu -> Advanced Settings -> System Settings -> Keypad Lock.
LAN Lock	LAN.LOCK	5023	=?		0 = DISABLE 1 = ENABLE	No	LAN.LOCK=ENABLE *LAN.LOCK:ENABLE*	See Menu -> Advanced Settings -> System Settings -> Security -> LAN Lock.
Language	LANGUAGE	5020	=?		0 = ENGLISH 1 = FRENCH 2 = GERMAN 3 = SPANISH 4 = ITALIAN 5 = CHINESE. SIMPLIFIED 6 = CHINESE. TRADITIONAL 7 = PORTUGUESE 8 = JAPANESE	No	LANGUAGE=ENGLISH *LANGUAGE:ENGLISH*	See Main -> Advanced Settings -> Menus and Messages -> Language.
Layout	LAYOUT	103	=?+-		0 = SINGLE 1 = PIP.UL 2 = PIP.UR 3 = PIP.LL 4 = PIP.LR 5 = DUAL.L 12 = QUAD	No	[To change the PIP position to top left and immediately apply the Multi-Source View and layout] LAYOUT=PIP.UL *LAYOUT:PIP.UL*	See Main -> Inputs and Views -> Multi-Source View. See Main -> Inputs and Views -> Multi-Source View -> Advanced Layouts.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
MAC Address	NETWORK.MAC	1203	?		String	Yes	NETWORK.MAC? *NETWORK.MAC:"12:34:56:AB:CD:EF"*	See Main -> Advanced Settings -> Network -> MAC Address.
Menu Position	OSD.POSITION	1301	=?+-		0 = CENTER 1 = UPPER.LEFT 2 = UPPER.RIGHT 3 = LOWER.LEFT 4 = LOWER.RIGHT	No	OSD.POSITION=CENTER *OSD.POSITION:CENTER*	See Main -> Advanced Settings -> Menus and Messages -> Menu Position.
Model ID	MODEL.ID	2306	?		String	No	MODEL.ID? *MODEL.ID="URP552"*	See Main -> Information -> System Information -> Model.
Model Series	MODEL.SERIES	2316	?		String	No	MODEL.SERIES? *MODEL.SERIES:"UltraRes P"*	Always returns "UltraRes P" for this product. Other products using this protocol will have a different response for this command.
Multi-Source View	MULTI.VIEW	102	=?+-		0 = SINGLE 1 = DUAL 3 = QUAD 4 = PIP	No	MULTI.VIEW=QUAD *MULTI.VIEW:QUAD*	See Main -> Inputs and Views -> Multi-Source View.
Mute	AUDIO.MUTE	1002	=?+-		0 = OFF 1 = ON	No	AUDIO.MUTE=ON *AUDIO.MUTE:ON*	See Main -> Audio -> Mute.
Network Commands	COMMAND.ENABLE	1232	=?+-	NETWORK	0 = OFF 1 = ON	No	COMMAND.ENABLE(NETWORK)=OFF	Used to enable or disable the Network command ports.
Network Ping	NETWORK.PING	1211	=		String	Yes	NETWORK.PING="www.google.com" *NETWORK.PING:"SUCCESS"*	Attempts to ping the selected network address. Response string will either be “SUCCESS” or “FAILED”.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Next Source	SOURCE.NEXT	104	!	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 254 = ALL 255 = CURRENT		No	[For Zone 1] SOURCE.NEXT(ZONE.1) *SOURCE.NEXT(ZONE.1)@ACK* [For the current zone] SOURCE.NEXT *SOURCE.NEXT@ACK*	See IR remote control keys ZONE 1/2/3/4.
Notification Event	NOTIFICATION.EMAIL	1222	=?	Event 0 = POWER.STATE.CHANGED 3 = SOURCE.LOST 4 = SOURCE.SELECTED	Op 1: Enable 0 = DISABLE 1 = ENABLE Op 2: Recipients List String Op 3: User Message String	Yes	NOTIFICATION.EMAIL(SOURCE.DETECTED)=ENABLE, "test@planar.com", "Your custom message here" *NOTIFICATION.EMAIL(SOURCE.DETECTED):ENABLE "test@planar.com" "Your custom message here"*	See Remote Monitoring Software -> SMTP -> Email Alert Setup.
NTP Server	NETWORK.NTPSERVER	1214	=?		String	Yes	NETWORK.NTPSERVER="pool.ntp.org" *NETWORK.NTPSERVER:"pool.ntp.org"*	Selects the NTP server to be used with the Use Network Time setting. Default = "0.pool.ntp.org".

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Offset	OFFSET	210	=?+-	Mod 1: Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT] Mod 2: Color 0 = RED 1 = GREEN 2 = BLUE 255 = ALL [None = ALL]	For RED, GREEN and BLUE modifiers, one operand: 0-100 For ALL operand, three operands: Red Offset: 0-100 Green Offset: 0-100 Blue Offset: 0-100	No	[For red offset on Zone 1] OFFSET(ZONE.1, RED)=50 *OFFSET(ZONE.1 RED):50* [For all three offsets on the current zone: Red Gain = 51, Green Gain = 52, Blue Gain = 53] OFFSET=51 52 53 *OFFSET=51 52 53*	See Main -> Image Adjust -> Red/Green/Blue Offset. ALL modifier adjusts all three offsets at the same time. The first modifier can only be missing if both modifiers are missing.
OSD Close	OSD.CLOSE	1310	!			No	OSD.CLOSE *OSD.CLOSE@ACK*	Forces any menus or message boxes that are currently on screen to close.
OSD Rotation	ORIENTATION	1302	=?+-		0 = LANDSCAPE 1 = PORTRAIT	No	ORIENTATION=LANDSCAPE *ORIENTATION:LANDSCAPE*	See Main -> Advanced Settings -> Menus and Messages -> OSD Rotation.
OSD Status	OSD.STATUS	1308	?		0 = DISABLE 1 = ENABLE	No	OSD.STATUS? *OSD.STATUS=ENABLE*	Indicates whether the OSD (menu, message box or confirmation dialog) is currently being shown on the display.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
OSD Timeout	OSD.TIMEOUT	1304	=?+-		0 = OFF 10 = 10.SECONDS 30 = 30.SECONDS 60 = 60.SECONDS 120 = 120.SECONDS 240 = 240.SECONDS	No	OSD.TIMEOUT=60.SECONDS *OSD.TIMEOUT:60.SECONDS*	See Main -> Advanced Settings -> Menus and Messages -> OSD Timeout. Numeric value is in seconds and can be used to program any delay value.
OSD Transpar-ency	OSD.TRANSPARENCY	1303	=?+-		0-100	No	OSD.TRANSPARENCY=3 *OSD.TRANSPARENCY:3*	See Main -> Advanced Settings -> Menus and Messages -> OSD Transparency.
Overscan	OVERSCAN	501	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0-20	No	[For Zone 1] OVERSCAN(ZONE.1)=0 *OVERSCAN(ZONE.1):0* [For the current zone] OVERSCAN=5 *OVERSCAN:5*	See Main -> Image Adjust -> Overscan.
PIP Size	PIP.SIZE	107	=?+-		0 = SMALL 1 = MEDIUM 2 = LARGE	No	PIP.SIZE=MEDIUM *PIP.SIZE:MEDIUM*	See Main -> Inputs and Views -> Multi-Source View -> Advanced Layouts -> PIP Size.
PIP Swap	PIP.SWAP	106	!			No	PIP.SWAP *PIP.SWAP@ACK*	See IR remote control key PIP SWAP.
Pixel Orbit	PIXEL.ORBIT	1906	=?+-		0 = OFF 1 = ON	No	PIXEL.ORBIT=ON *PIXEL.ORBIT:ON*	See Main -> Advanced Settings -> System Settings -> Pixel Orbit.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Power Down Mode	POWER.DOWN. MODE	1422	=?+-		0 = Standby.Mode 1 = Networked. Standby.Mode 2 = Fast.Startup	No	POWER.DOWN.MODE?	Used to set the Power Down Mode setting in the Power submenu.
Power Saving Delay	POWER.SAVE. DELAY	1406	=?+-		60 = 1.MINUTE 300 = 5.MINUTES 900 = 15.MINUTES 1800 = 30.MINUTES 3600 = 60.MINUTES	Yes	POWER.SAVE.DELAY=5.MINUTES *POWER.SAVE.DELAY:5.MINUTES*	See Main -> Advanced Settings -> Power -> Power Saving Delay.
Power Saving Mode	POWER.SAVE. MODE	1405	=?+-		0 = Disable 1 = Power.Down 2 = Wake.On.Signal	No	POWER.SAVE.MODE=Power.Down Or POWER.SAVE.MODE=1	See Main -> Advanced Settings -> Power -> Power Saving Mode.
Preset Count	PRESET.COUNT	2006	?		Unsigned Integer	Yes	PRESET.COUNT? *PRESET.COUNT:6*	Displays the number of presets that are not empty.
Preset Delete	PRESET.DELETE	2000	!	1-10		Yes	[Save to Preset 4] PRESET.DELETE(4) *PRESET.DELETE(4)@ACK*	See Main -> Presets -> Delete.
Preset Full	PRESET.FULL	2004	?	1-10	0 = NO 1 = YES	Yes	PRESET.FULL(4)? *PRESET.FULL(4)=YES*	Indicates whether data has been saved in the selected preset.
Preset List	PRESET.LIST	2008	?		A list of unsigned integers	Yes	PRESET.LIST(FIRST)? *PRESET.LIST(FIRST):1 2 5 10*	See Main -> Presets -> Recall.
Preset Max	PRESET.MAX	2007	?		Unsigned Integer	Yes	PRESET.MAX? *PRESET.MAX:10*	Displays the number of the highest saved preset.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Preset Name	PRESET.NAME	2003	=?	1-10	String	Yes	[Set Preset 4 name to "Hello"] PRESET.NAME(4)="Hello" *PRESET.NAME(4):"Hello"*	Sets the name listed for the preset in the Delete, Recall and Save menus. Default = "Preset n", where 'n' is the preset number (e.g. "Preset 4")
Preset Recall	PRESET.RECALL	2001	!	1-10		No	[Save to Preset 4] PRESET.RECALL(4) *PRESET.RECALL(4)@ACK*	See Main -> Presets -> Recall.
Preset Save	PRESET.SAVE	2002	!	1-10		No	[Save to Preset 4] PRESET.SAVE(4) *PRESET.SAVE(4)@ACK*	See Main -> Presets -> Save. A maximum of 10 presets may be saved.
Reboot	SYSTEM. REBOOT	2402	!			No	SYSTEM.REBOOT *SYSTEM.REBOOT@ACK*	Forces the system to restart.
Revert Image Settings	REVERT.IMAGE. SETTINGS	215	!	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 255 = CURRENT [None = CURRENT]		No	[For Zone 1] REVERT.IMAGE.SETTINGS(ZONE.1) *REVERT.IMAGE.SETTINGS(ZONE.1)@ACK* [For the current zone] REVERT.IMAGE.SETTINGS *REVERT.IMAGE.SETTINGS@ACK*	See Main -> Image Adjust -> Revert to Defaults.
RS232 Lock	RS232.LOCK	5022	=?		0 = DISABLE 1 = ENABLE	No	RS232.LOCK=ENABLE *RS232.LOCK:ENABLE*	See Menu -> Advanced Settings -> System Settings -> Security -> RS232 Lock.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Schedule	SCHEDULE	2100	=?	Mod 1: Slot 1-10 Mod 2: Parameter 0 = FREQ 1 = MINUTE 2 = HOUR 3 = DAY 4 = ACTION 5 = DATA 6 = ENABLE [None = ALL]	Unsigned int	Yes	[Change the action for event 3 to Turn On] SCHEDULE(3, ACTION)=0 *SCHEDULE(3, ACTION):0*	See Main -> Advanced Settings -> Schedule -> Set Event 1-10. Reference the Schedule Action, Schedule Day and Schedule Frequency settings for operand values.
Schedule Action	SCHEDULE. ACTION	2102	=?	Slot 1-10	0 = TURN.ON 1 = TURN.OFF 2 = RECALL 3 = PANEL. BRIGHTNESS	Yes	[Change the action for event 3 to Turn On] SCHEDULE.ACTION(3)=TURN.ON *SCHEDULE.ACTION(3):TURN.ON*	See Main -> Advanced Settings -> Schedule -> Set Event 1-10 -> Action.
Schedule Day	SCHEDULE.DAY	2101	=?	Slot 1-10	0 = MON 1 = TUE 2 = WED 3 = THU 4 = FRI 5 = SAT 6 = SUN	Yes	[Change the day for event 3 to Monday] SCHEDULE.DAY(3)=MON *SCHEDULE.DAY(3):MON*	See Main -> Advanced Settings -> Schedule -> Set Event 1-10 -> Day.
Schedule Description	SCHEDULE. DESCRIPTION	2104	?	Slot 1-10	String	Yes	[Read the schedule description string for event 3] SCHEDULE.DESCRIPTION(3)? *SCHEDULE.DESCRIPTION(3): "Daily 08:15 Backlight 25"*	This is the string used for the schedule slots in the Main -> Advanced Settings -> Schedule menu.
Schedule Frequency	SCHEDULE. FREQUENCY	2103	=?	Slot 1-10	0 = DAILY 1 = WEEKLY 2 = WEEKDAYS 3 = WEEKENDS	Yes	[Change the frequency for event 3 to Daily] SCHEDULE.FREQUENCY(3)= DAILY *SCHEDULE.FREQUENCY(3):DAILY*	See Main -> Advanced Settings -> Schedule -> Set Event 1-10 -> Frequency.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Serial Number	SERIAL.NUMBER	2303	?		String	No	SERIAL.NUMBER? *SERIAL.NUMBER="ABCD1234"*	See Main -> Information -> System Information -> Serial Number.
Sharpness	SHARPNESS	204	=?+-		0-5	No	[SHARPNESS=5 *SHARPNESS:5*	See Main -> Image Adjust -> Sharpness.
Source Message	SOURCE. MESSAGE	111	?	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 255 = CURRENT [None = CURRENT]	String	No	[For Zone 1] SOURCE.MESSAGE(ZONE.1)? *SOURCE.MESSAGE(ZONE.1):"1920x1080i 60Hz"* [For the current zone] SOURCE.MESSAGE? *SOURCE.MESSAGE:"Searching"*	Returns a string with the input resolution and frame rate for the selected zone. If no signal is detected in that zone, the string will read “Searching” or “No Signal”.
Source Select	SOURCE. SELECT	101	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 4 = ZONE.1. SECONDARY 254 = ALL 255 = CURRENT [None = CURRENT]	Source 1 = HDMI.1 2 = HDMI.2 5 = DP 13 = DP.2 14 = NONE 15 = USBC	No	[For Zone 1] SOURCE.SELECT(ZONE.1)=HDMI.1 *SOURCE.SELECT(ZONE.1):HDMI.1* [For the current zone] SOURCE.SELECT=HDMI.2 *SOURCE.SELECT:HDMI.2*	See Main -> Inputs and Views -> Zone 1/2/3/4. See Main -> Inputs and Views -> Zone 1 Secondary. NONE is only valid for Zone 1 Secondary.
Splash Screen	SPLASH. SCREEN	1305	=?+-		0 = DISABLE 1 = ENABLE	No	SPLASH.SCREEN=ENABLE *SPLASH.SCREEN:ENABLE*	See Main -> Advanced Settings -> Menus and Messages -> Allow Splash Screen.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Subnet Mask	IPV4.NETMASK	1205	=?	0 = STATIC [None = Current (for reads only] [None = STATIC (for writes only]	String	Yes	[Read the current subnet mask value] IPV4.NETMASK? *IPV4.NETMASK:"255.255.254.0"* [Write the subnet mask for static IP] IPV4.NETMASK(STATIC)="255.255.255.0" *IPV4.NETMASK(STATIC):"255.255.255.0"*	See Main -> Advanced Settings -> Network -> Subnet Mask.
System State	SYSTEM.STATE	2310	?		0 = STANDBY 2 = ON	No	SYSTEM.STATE? *SYSTEM.STATE:STANDBY*	Indicates the current state of the system: - STANDBY: The system is in its lowest power mode. Not all functions are available. - ON: The system is on. **Note:** To check if backlight is on, see the Display Power command.
Test Email	NETWORK.SMTP.TEST	1229	!	Event 0 = POWER.STATE.CHANGED 3 = SOURCE.LOST 4 = SOURCE.SELECTED		Yes	NETWORK.SMTP.TEST(SOURCE.LOST) *NETWORK.SMTP.TEST(SOURCE.LOST)@ACK*	See Remote Monitoring Software -> SMTP -> SMTP Setup -> Test Email.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Test Pattern	PATTERN	1307	!	Pattern 0 = NONE 1 = BLACK 2 = WHITE 3 = GRAY 4 = RED 5 = GREEN 6 = BLUE 7 = CYAN 8 = MAGENTA 9 = YELLOW		No	PATTERN(GRAYBAR) *PATTERN(GRAYBAR)@ACK*	See Main -> Advanced Settings -> Test Pattern.
Time	TIME	1100	=?	0 = YEAR 1 = MONTH 2 = DATE 3 = HOUR 4 = MINUTE [None = ALL]	Unsigned int	Yes	[Set the month to March] TIME(MONTH)=3 *TIME(MONTH):3*	See Main -> Advanced Settings -> Schedule -> Set Date and Time.
Time - Day	TIME.DAY	1101	?		0 = MON 1 = TUE 2 = WED 3 = THU 4 = FRI 5 = SAT 6 = SUN	Yes	TIME.DAY? *TIME.DAY:TUE*	See Main -> Advanced Settings -> Schedule -> Set Date and Time -> Day.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
Time - Month	TIME.MONTH	1102	=?		1 = JANUARY 2 = FEBRUARY 3 = MARCH 4 = APRIL 5 = MAY 6 = JUNE 7 = JULY 8 = AUGUST 9 = SEPTEMBER 10 = OCTOBER 11 = NOVEMBER 12 = DECEMBER	Yes	TIME.MONTH=MARCH *TIME.MONTH:MARCH*	See Main -> Advanced Settings -> Schedule -> Set Date and Time -> Month.
Time - String	TIME.STRING	1103	?		String	Yes	TIME.STRING? *TIME.STRING:"2015-09-01 13:21"*	See Main -> Advanced Settings -> Schedule -> Date / Time.
Time Zone	TIMEZONE	1208	=?+-		[See separate table]	Yes	TIMEZONE=UTCM0800.PACIFIC.TIME.US.CANADA *TIMEZONE:UTCM0800.PACIFIC.TIME.US.CANADA*	See Main -> Advanced Settings -> Schedule -> Set Date and Time -> Time Zone. See table on page 36 for valid values.
Tint	TINT	203	=?+-	Zone 0 = ZONE.1 1 = ZONE.2 2 = ZONE.3 3 = ZONE.4 253 = ALL.INPUT 254 = ALL 254 = ALL.ZONE 255 = CURRENT [None = CURRENT]	0-100	No	[For Zone 1] TINT(ZONE.1)=50 *TINT(ZONE.1):50* [For the current zone] TINT=55 *TINT:55*	See Main -> Image Adjust -> Tint.
Treble	AUDIO.TREBLE	1005	=?+-		0-100	No	AUDIO.TREBLE=50 *AUDIO.TREBLE:50*	See Main -> Audio -> Treble.

Setting	Command Code	Numeric Command	Operators	Modifiers	Operands	Available in Standby	Example	Notes
USB-A Lock	USBA.LOCK	5024	=?		0 = DISABLE 1 = ENABLE	No	USBA.LOCK=ENABLE *USBA.LOCK:ENABLE*	See Menu -> Advanced Settings -> System Settings -> Security -> USB-A Lock.
Use Network Time	NETWORK.NTP	1209	=?		0 = OFF 1 = ON	Yes	NETWORK.NTP=ON *NETWORK.NTP:ON*	See Main -> Advanced Settings -> Schedule -> Set Date and Time -> Use Network Time.
Version Info	BUILD.INFO	2302	?	4 = VERSION.VP 10 = VERSION.SUBMCU 11 = VERSION.NETUART [None = VERSION.VP]	String	Yes	BUILD.INFO? *BUILD.INFO:"1.13""*	See Main -> Information -> System Information.
Volume	AUDIO.VOLUME	1006	=?+-		0-100	No	AUDIO.VOLUME=50 *AUDIO.VOLUME:50*	See Main -> Audio -> Volume.

5.1 Current Zone Layout

Value	Name	Layout	Advanced Layout	Current Zone
0	S.1	Single View	N/A	Zone 1
1	P.UL.1	PIP	Upper Left	Zone 1
2	P.UL.2	PIP	Upper Left	Zone 2
3	P.UR.1	PIP	Upper Right	Zone 1
4	P.UR.2	PIP	Upper Right	Zone 2
5	P.LL.1	PIP	Lower Left	Zone 1
6	P.LL.2	PIP	Lower Left	Zone 2
7	P.LR.1	PIP	Lower Right	Zone 1
8	P.LR.2	PIP	Lower Right	Zone 2
9	D.L.1	Dual View	Left / Right	Zone 1
10	D.L.2	Dual View	Left / Right	Zone 2
28	Q.1	Quad View	N/A	Zone 1
29	Q.2	Quad View	N/A	Zone 2
30	Q.3	Quad View	N/A	Zone 3
31	Q.4	Quad View	N/A	Zone 4

5.2 Key

Value	Name	Equivalent Remote Control Button	Description
0	UP	UP	Navigate up
1	DOWN	DOWN	Navigate down
2	MENU	MENU	Opens the menu
3	SOURCE	[None]	Toggles the source on the current zone
5	VOLUME.PLUS	VOL +	Volume increase
6	VOLUME.MINUS	VOL -	Volume decrease
9	EXIT	[None]	Exits the menu
12	LEFT	LEFT	Navigate left
13	ENTER	ENTER	Selects the current menu item
14	PREV	PREV	Returns to the previous menu
15	RIGHT	RIGHT	Navigate right
17	KEY.1	1	Number button 1
18	KEY.2	2	Number button 2
19	KEY.3	3	Number button 3
20	KEY.4	4	Number button 4
21	KEY.5	5	Number button 5
22	KEY.6	6	Number button 6
23	KEY.7	7	Number button 7
24	KEY.8	8	Number button 8
25	KEY.9	9	Number button 9
26	MUTE	MUTE	Audio mute
32	KEY.0	0	Number button 0
254	USBC	USB-C	Selects the USB-C input for the current zone
255	DISPLAY.PORT2	DP2	Selects the DP2 input for the current zone
256	STDBY.TOGGLE	⏻	Toggles the power on and off
257	STDBY.ENTER	OFF	Power off
258	STDBY.EXIT	ON	Power on
259	MENU.PREV	[None]	Returns to the previous menu
260	TOP	TOP	Selects the top line in the current menu
261	PRESETS	PRESETS	Opens the Presets Menu
262	PRESET1	PRESET 1	Applies Preset 1
263	PRESET2	PRESET 2	Applies Preset 2

Value	Name	Equivalent Remote Control Button	Description
264	PRESET3	PRESET 3	Applies Preset 3
265	PRESET4	PRESET 4	Applies Preset 4
266	ZONE1	ZONE 1	Selects Zone 1 and displays Source Status
267	ZONE2	ZONE 2	Selects Zone 2 and displays Source Status
268	ZONE3	ZONE 3	Selects Zone 3 and displays Source Status
269	ZONE4	ZONE 4	Selects Zone 4 and displays Source Status
270	PIP.MODE	PIP MODE	Toggles between Multi-Source View layouts
271	PIP.SWAP	PIP SWAP	Toggles sources when multi source view is enabled
272	HDMI1	HDMI 1	Selects the HDMI 1 input for current zone
273	HDMI2	HDMI 2	Selects the HDMI 2 input for current zone
274	HDMI3	HDMI 3	Not used
275	HDMI4	HDMI 4	Not used
276	DISPLAY.PORT	DP	Selects the DP1 input for current zone
277	DVI	DP2 or DVI	Selects the DP2 input for current zone
278	VGA	VGA	Selects the USB-C input for current zone
279	OPS	OPS	Not used
280	WALL	VIDEO WALL	Not used
281	COLOR	COLOR	Not used
282	MISC	MISC	Opens the Image Information Menu
283	ARROW.LEFT	◄	Not used
284	ARROW.RIGHT	►	Not used
285	STAR.STAR	**	Not used

5.3 Timezone

Value	Name	Description
1	UTCM1100.MIDWAY.ISLAND	(UTC-11:00) Midway Island
2	UTCM1000.HAWAII	(UTC-10:00) Hawaii
3	UTCM0900.ALASKA	(UTC-09:00) Alaska
4	UTCM0800.PACIFIC.TIME	(UTC-08:00) Pacific Time (US and Canada)
5	UTCM0800.TIJUANA	(UTC-08:00) Tijuana
6	UTCM0700.ARIZONA	(UTC-07:00) Arizona
7	UTCM0700.CHIHUAHUA	(UTC-07:00) Chihuahua, La Paz, Mazatlan
8	UTCM0700.MOUNTAIN.TIME	(UTC-07:00) Mountain Time (US and Canada)
9	UTCM0600.CENTRAL.AMERICA	(UTC-06:00) Central America
10	UTCM0600.CENTRAL.TIME	(UTC-06:00) Central Time (US and Canada)
11	UTCM0600.MEXICO.CITY	(UTC-06:00) Guadalajara, Mexico City, Monterrey
12	UTCM0600.SASKATCHEWAN	(UTC-06:00) Saskatchewan
13	UTCM0500.BOGOTA	(UTC-05:00) Bogota, Lima, Quito
14	UTCM0500.EASTERN.TIME	(UTC-05:00) Eastern Time (US and Canada)
15	UTCM0400.VENEZUELA	(UTC-04:00) Venezuela
16	UTCM0400.ATLANTIC.TIME.BARBADOS	(UTC-04:00) Barbados
17	UTCM0400.ATLANTIC.TIME.CANADA	(UTC-04:00) Atlantic Time (Canada)
18	UTCM0400.MANAUS	(UTC-04:00) Manaus
19	UTCM0400.SANTIAGO	(UTC-04:00) Santiago
20	UTCM0330.NEWFOUNDLAND	(UTC-03:30) Newfoundland
21	UTCM0300.BRASILIA	(UTC-03:00) Brasilia
22	UTCM0300.BUENOS.AIRES	(UTC-03:00) Buenos Aires
23	UTCM0300.GREENLAND	(UTC-03:00) Greenland
24	UTCM0300.MONTEVIDEO	(UTC-03:00) Montevideo
25	UTCM0200.MID.ATLANTIC	(UTC-02:00.MID) Atlantic
26	UTCM0100.AZORES	(UTC-01:00) Azores
27	UTCM0100.CAPE.VERDE.ISLANDS	(UTC-01:00) Cape Verde Islands

Value	Name	Description
28	UTCP0000.CASABLANCA	(UTC-00:00) Casablanca
29	UTCP0000.LONDON.DUBLIN	(UTC-00:00) London, Dublin
30	UTCP0100.AMSTERDAM.BERLIN	(UTC+01:00) Amsterdam, Berlin
31	UTCP0100.BELGRADE	(UTC+01:00) Belgrade
32	UTCP0100.BRUSSELS	(UTC+01:00) Brussels
33	UTCP0100.SARAJEVO	(UTC+01:00) Sarajevo
34	UTCP0100.WINDHOEK	(UTC+01:00) Windhoek
35	UTCP0100.W.AFRICA.TIME	(UTC+01:00.W.AFRICA) Time
36	UTCP0200.AMMAN.JORDAN	(UTC+02:00) Amman, Jordan
37	UTCP0200.ATHENS.ISTANBUL	(UTC+02:00) Athens, Istanbul
38	UTCP0200.BEIRUT.LEBANON	(UTC+02:00) Beirut, Lebanon
39	UTCP0200.CAIRO	(UTC+02:00) Cairo
40	UTCP0200.HELSINKI	(UTC+02:00) Helsinki
41	UTCP0200.JERUSALEM	(UTC+02:00) Jerusalem
42	UTCP0200.HARARE	(UTC+02:00) Harare
43	UTCP0300.MINSK	(UTC+03:00) Minsk
44	UTCP0300.BAGHDAD	(UTC+03:00) Baghdad
45	UTCP0300.MOSCOW	(UTC+03:00) Moscow
46	UTCP0300.KUWAIT	(UTC+03:00) Kuwait
47	UTCP0300.NAIROBI	(UTC+03:00) Nairobi
48	UTCP0330.TEHRAN	(UTC+03:30) Tehran
49	UTCP0400.BAKU	(UTC+04:00) Baku
50	UTCP0400.TBILISI	(UTC+04:00) Tbilisi
51	UTCP0400.YEREVAN	(UTC+04:00) Yerevan
52	UTCP0400.DUBAI	(UTC+04:00) Dubai
53	UTCP0430.KABUL	(UTC+04:30) Kabul
54	UTCP0500.ISLAMABAD.KARACHI	(UTC+05:00) Islamabad, Karachi
55	UTCP0500.URALSK	(UTC+05:00) Uralsk

Value	Name	Description
56	UTCP0500.YEKATERINBURG	(UTC+05:00) Yekaterinburg
57	UTCP0530.KOLKATA	(UTC+05:30) Kolkata
58	UTCP0530.SRI.LANKA	(UTC+05:30) Sri Lanka
59	UTCP0545.KATHMANDU	(UTC+05:45) Kathmandu
60	UTCP0600.ASTANA	(UTC+06:00) Astana
61	UTCP0630.YANGON	(UTC+06:30) Yangon
62	UTCP0700.KRASNOYARSK	(UTC+07:00) Krasnoyarsk
63	UTCP0700.BANGKOK	(UTC+07:00) Bangkok
64	UTCP0700.JAKARTA	(UTC+07:00) Jakarta
65	UTCP0800.BEIJING	(UTC+08:00) Beijing
66	UTCP0800.HONG.KONG	(UTC+08:00) Hong Kong
67	UTCP0800.IRKUTSK	(UTC+08:00) Irkutsk
68	UTCP0800.KUALA.LUMPUR	(UTC+08:00) Kuala Lumpur
69	UTCP0800.PERTH	(UTC+08:00) Perth
70	UTCP0800.TAIPEI	(UTC+08:00) Taipei
71	UTCP0900.SEOUL	(UTC+09:00) Seoul
72	UTCP0900.TOKYO.OSAKA	(UTC+09:00) Tokyo, Osaka
73	UTCP0900.YAKUTSK	(UTC+09:00) Yakutsk
74	UTCP0930.ADELAIDE	(UTC+09:30) Adelaide
75	UTCP0930.DARWIN	(UTC+09:30) Darwin
76	UTCP1000.BRISBANE	(UTC+10:00) Brisbane
77	UTCP1000.HOBART	(UTC+10:00) Hobart
78	UTCP1000.SYDNEY.CANBERRA	(UTC+10:00) Sydney, Canberra
79	UTCP1000.VLADIVOSTOK	(UTC+10:00) Vladivostok
80	UTCP1000.GUAM	(UTC+10:00) Guam
81	UTCP1100.MAGADAN	(UTC+11:00) Magadan
82	UTCP1200.MARSHALL.ISLANDS	(UTC+12:00) Marshall Islands
83	UTCP1200.AUCKLAND	(UTC+12:00) Auckland

Value	Name	Description
84	UTCP1200.FIJI	(UTC+12:00) Fiji
85	UTCP1300.TONGA	(UTC+13:00) Tonga

6. Sending Serial Commands Over a Network Connection

The LAN connector accepts the same serial command set as RS232. It is convenient for IP control applications and can be used with a TCP terminal program such as Tera Term.

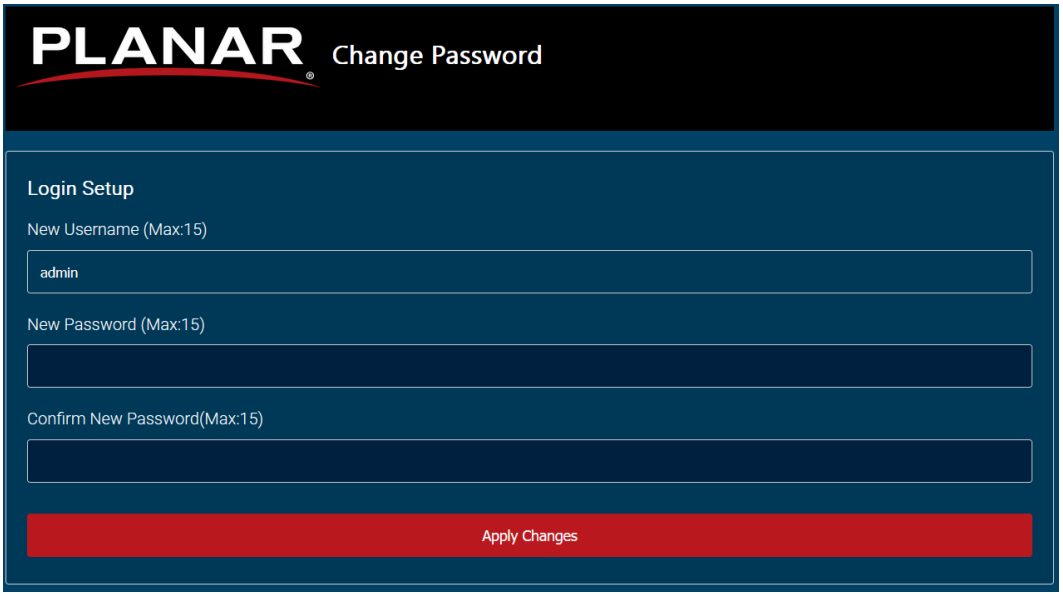
6.1 Enable Your Control Connection Over the Network

IP Control to send serial commands over TCP or SSH are disabled by default and require access to the Remote Monitoring Software to enable them. Only one of these ports can be enabled at a time.

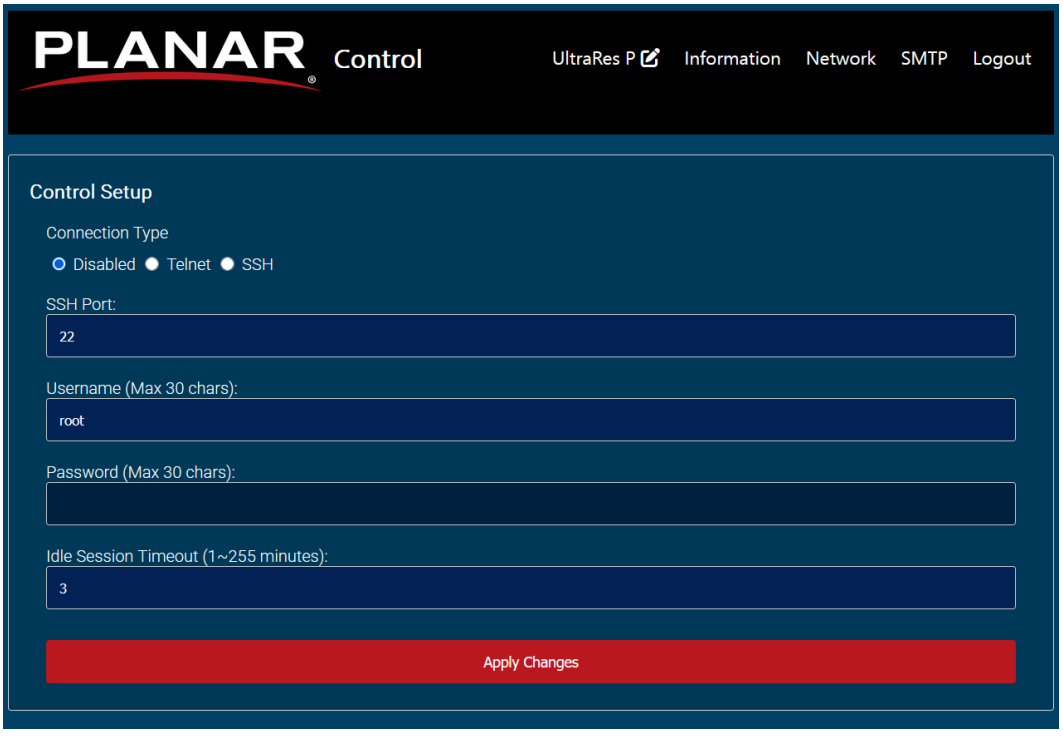
When connecting to the Remote Monitoring Software for the first time, the default login credentials will be:

- Username = **admin**
- Password = **serial number**

After logging in with the default credentials, the Remote Monitoring Software will ask for a new password to be set. This new password will also apply to the default credentials for the SSH connection.



After setting the new password and logging in again, navigate to the Controls page where the telnet port or SSH port can be enabled. Any changes made to this page will not apply until **Apply Changes** has been clicked on.

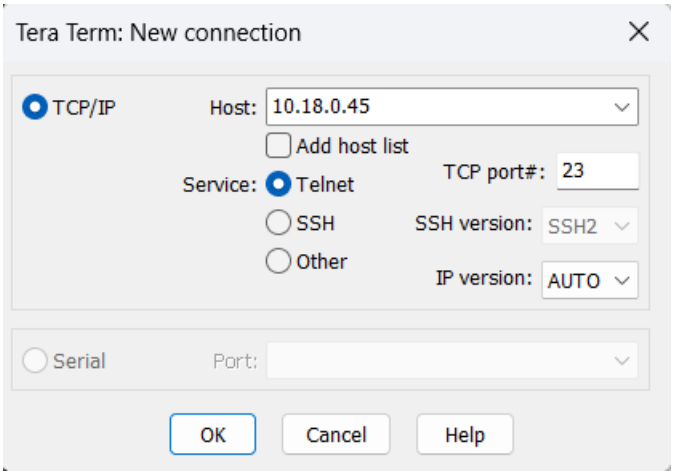


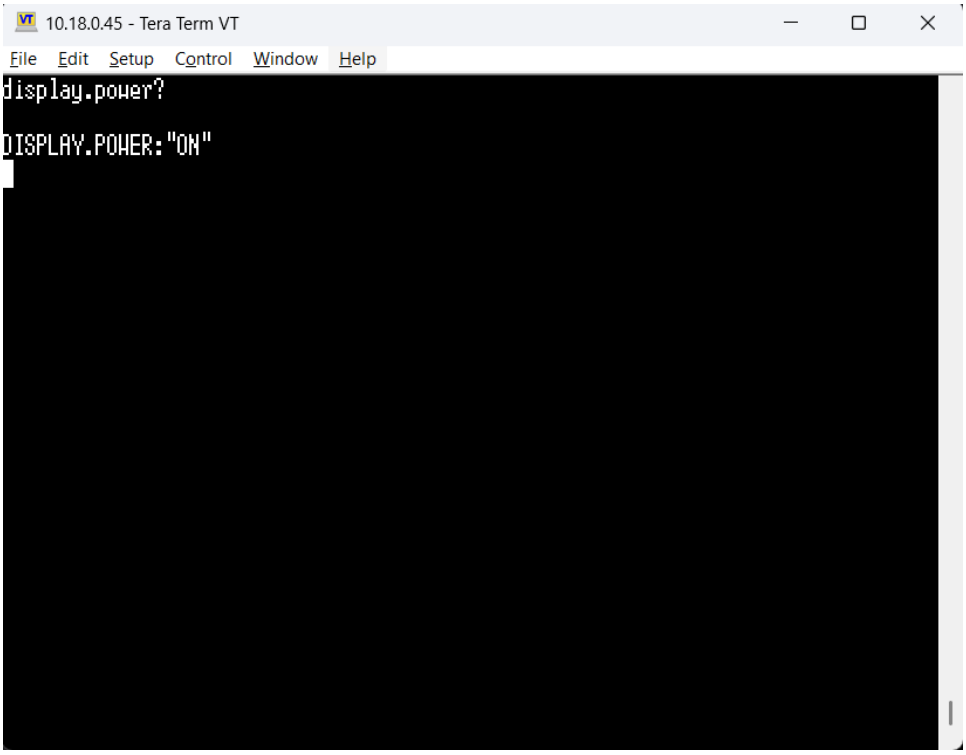
6.2 Sending Serial Commands Over a TCP Connection

To send serial commands to the display over a TCP connection, the Telnet control type needs to be enabled in the Remote Monitoring Software, which will open up port 23.

Notice the following in the TCP example below using Tera Term:

- The IP address is 10.18.0.45
- Port 23 is selected
- Service is set to Telnet





6.3 Sending Serial Commands Over an SSH Connection

To send serial commands to the display over an SSH connection, the SSH control type needs to be enabled in the Remote Monitoring Software, which will open up port 22.

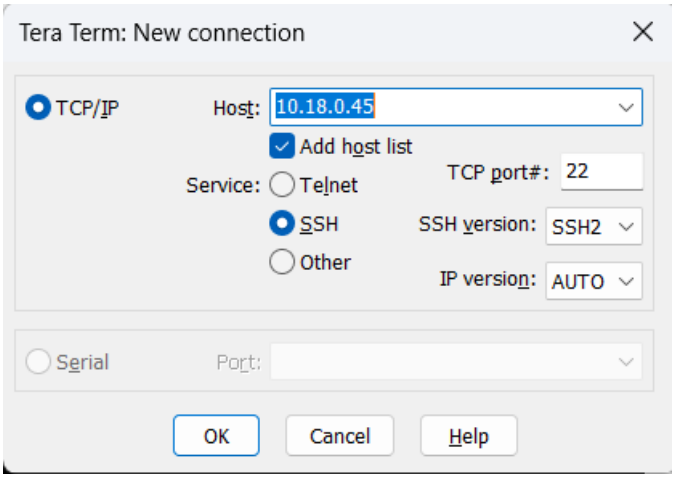
The default username and password are the following:

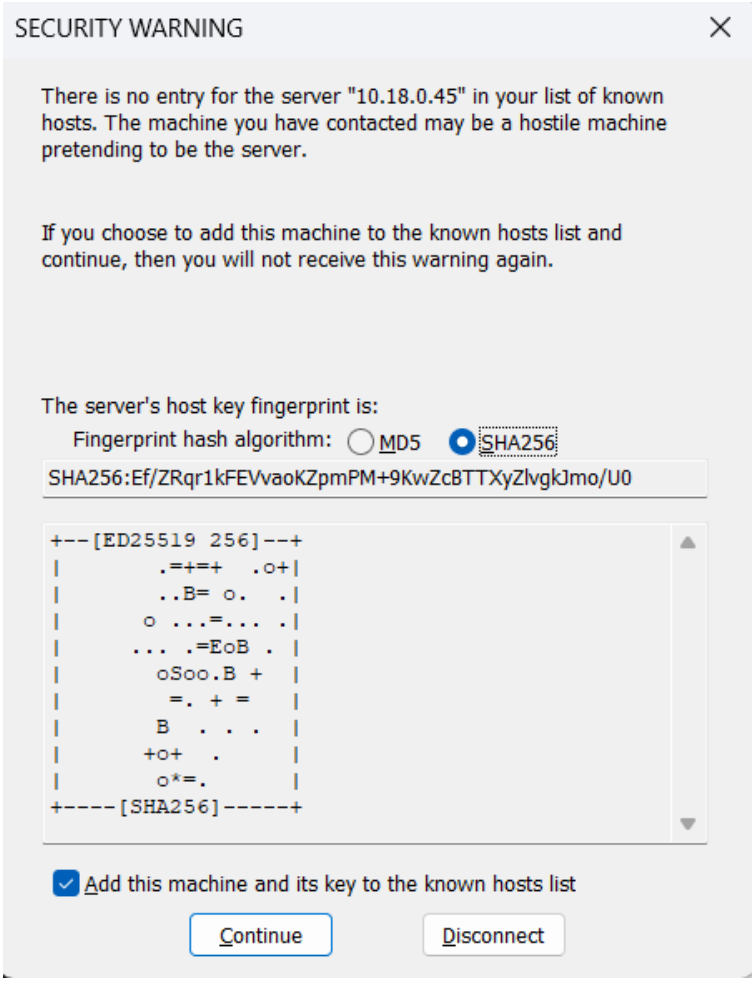
- Username: **root**
- Password: your new password entered in the Change Password page

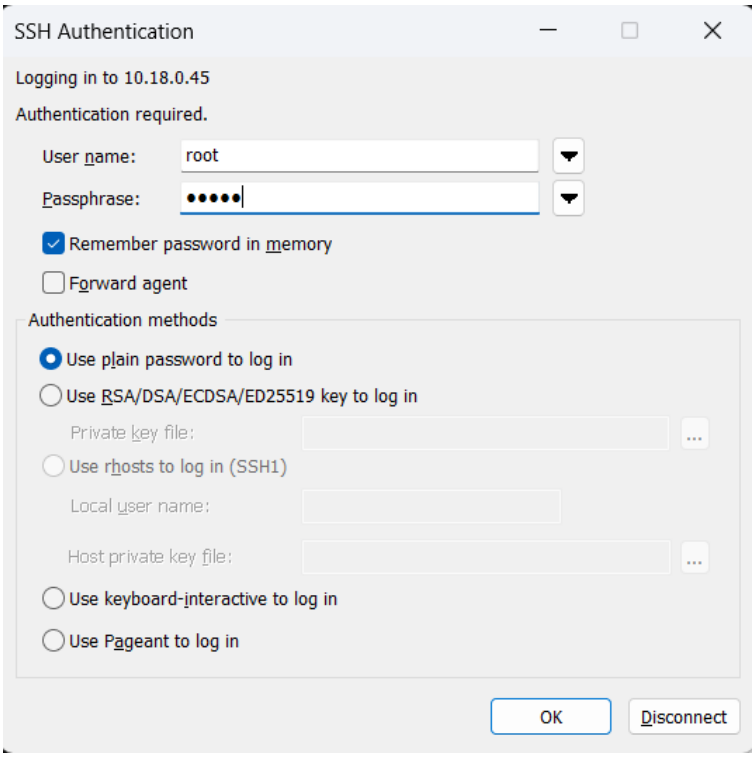
Notice the following in the SSH example below using Tera Term:

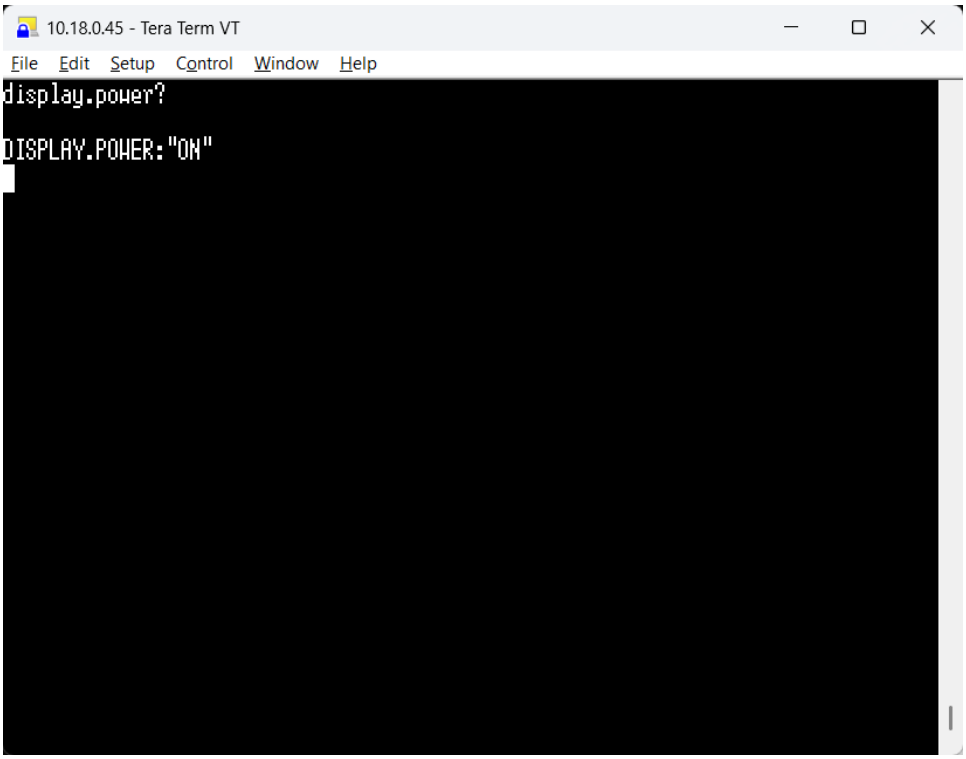
- IP address is 10.18.0.45
- Port 22 is selected
- Service is set to “SSH”
- SSH version is set to “SSH2”

If you entered the credentials correctly, you should be able to start sending commands and getting responses from the display.




SECURITY WARNING
There is no entry for the server "10.18.0.45" in your list of known hosts. The machine you have contacted may be a hostile machine pretending to be the server.
If you choose to add this machine to the known hosts list and continue, then you will not receive this warning again.
The server's host key fingerprint is:
Fingerprint hash algorithm: MD5 SHA256
SHA256:Ef/ZRqr1kFEVvaoKZpmPM+9KwZcBTTXyZlvgkJmo/U0
+--[ED25519 256]--+
| .=+=+ .o+|
| ..B= o. .|
| o ...=... .|
| ... .=EoB . |
| oSoo.B + |
| =. + = |
| B . . . |
| +o+ . |
| o*=. |
+----[SHA256]-----+
Add this machine and its key to the known hosts list
Continue
Disconnect


SSH Authentication
Logging in to 10.18.0.45
Authentication required.
User name: root
Passphrase:
Remember password in memory
Forward agent
Authentication methods
Use plain password to log in
Use RSA/DSA/ECDSA/ED25519 key to log in
Private key file:
Use rhosts to log in (SSH1)
Local user name:
Host private key file:
Use keyboard-interactive to log in
Use Pageant to log in
OK
Disconnect


10.18.0.45 - Tera Term VT
File Edit Setup Control Window Help
display.power?
DISPLAY.POWER:"ON"