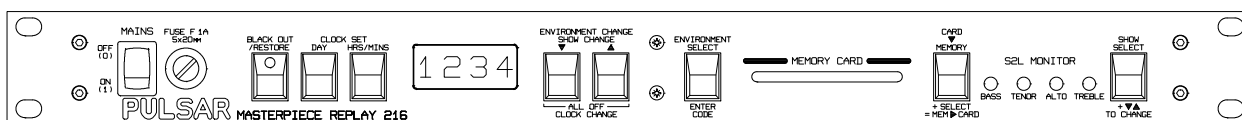


MASTERPIECE REPLAY 216



SPECIFICATION

27216 - Masterpiece Replay 216

1U x 19" Rack Mounting Format

Your **PULSAR Replay 216** is capable of controlling up to 512 DMX slots (channels) of lighting or effects. It will faithfully reproduce any "shows" that have been programmed on a **Pulsar Masterpiece 48, 108 or 216** controller and transferred to the **Replay 216** via a memory card. A **Masterpiece Screen Driver** and **Monitor** may be connected to the **Replay 216** to display a bar graph of the **PMX** channel levels and give details of the contents of the pre-programmed Environments and Environment Chases.

FRONT PANEL

MAINS ON/OFF SWITCH - Switches the mains On or Off! The contents of the **Replay Unit's Memory** is maintained by a rechargeable battery so it will start up in the same state as it was at switch off except that all chases start from step one. At switch on the **Software Version** is shown in the display - e.g. No.2.2, followed by the current Show No. from 1-8 e.g. "Sho.1". Software upgrades will be available free of charge from time to time so please keep in touch.

FUSE - please see "Fuses and Precautions" overleaf.

BLACKOUT / RESTORE - When **Blackout** is selected, the switch LED is lit and the channel outputs go to zero. This switch toggles between **Blackout** and **Restore**.

THE 4 DIGIT DISPLAY - This shows words and numbers keeping you informed of various events and functions, e.g. Memory Card battery voltage or which Environment or Environment Chase is selected - either from the front panel, the Remote Control Socket or by MIDI.

CLOCK SET - It is hoped to implement this function in a future software upgrade. It is intended that a new type of Environment Chase will be provided whose steps are controlled by **Clock Time**. Pressing the **Day** or the **Hrs/Mins** button will display the clock. To adjust the clock it will be necessary to hold one of these buttons down and use the **Clock Change Up** or **Down** buttons to advance or retard the clock.

ENVIRONMENT CHANGE - The **▲ UP**, **▼ DOWN** and **SELECT** keys allow you to select **Environments** and **Environment Chases (E/EC)** from the front panel. When you press **Up** or **Down** the display EITHER shows the last E/EC selected if something else was in the display OR steps up or down to the next accessible E/EC. The **Up** and **Down** keys are **repeat keys** and may be held down to scan round the accessible E/ECs quickly. Having reached the desired E/EC, press **Select**. The display shimmers until you press **Select**. If you do not press **Select** within 10 seconds, the display will drop back to the previously selected E/EC and become steady again. While the **Select** key is pressed the display shows **On / Off / Flash** depending upon the state of the **Keyboard Action** chosen when the program was made - Latch/Flash/Swap/Solo (AB crossfade mode is not appropriate). When the **Select** key is released, the display shows the E/EC just selected or changed.

FRONT PANEL cont.

ENVIRONMENT SELECT - pressed without first pressing the **Up** or **Down** keys EITHER shows the last E/EC selected if something else was in the display OR will toggle the last selected E/EC if the Keyboard Action is in Latch OR will Flash the last selected E/EC if the Keyboard Action is in Flash. Other uses - see **Up** and **Down** section and **Memory to Card** section.

SHOW SELECT - pressed on its own displays the current Show No. from 1-8 e.g. "Sho.1".

SHOW CHANGE - While pressing the **SHOW SELECT** key use the **▲ UP** and **▼ DOWN** keys to choose the next show. When Show Select is released the Replay 216 changes to the selected show.

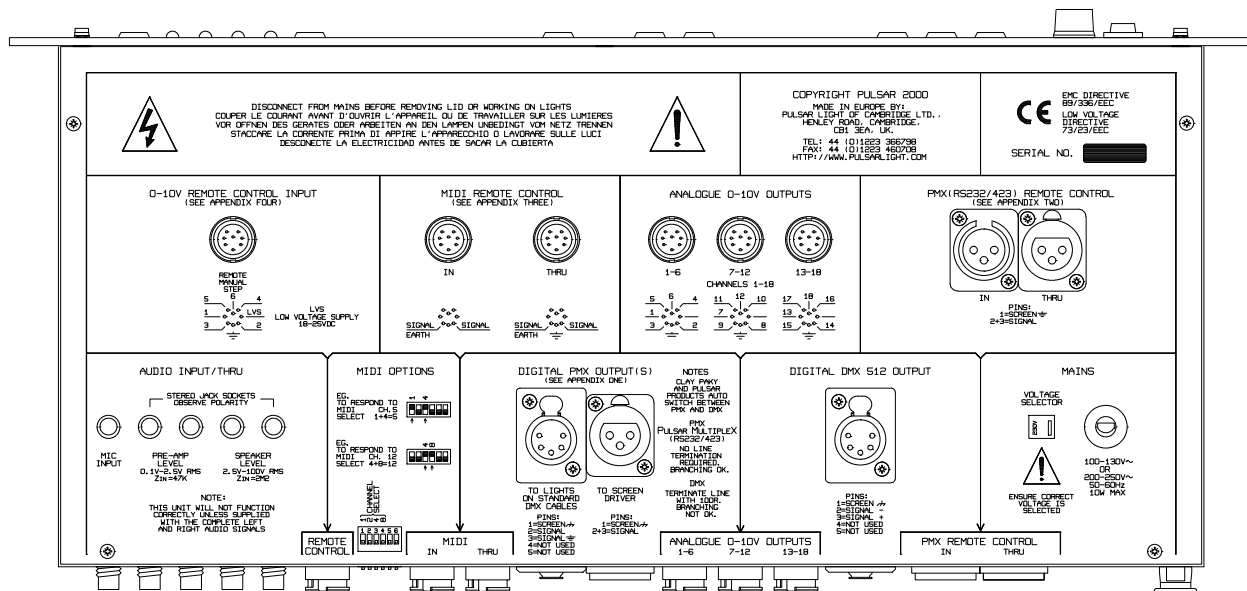
RELEASE ALL / ALL OFF (for trouble shooting) - is achieved by pressing the **Up** and **Down** keys together. After keeping them pressed for 2 seconds the **Release All Sliders** function is performed and the number released is shown. This number would normally be 0 unless the memory has been corrupted. After a further 1 second the **All Off** function is performed, switching everything off and giving you a clean slate from which to select your chosen E/EC. **Note:** If a slider was deliberately engaged to control a Channel, Scene, Chase or other level, and **Set User Access Levels** had been used to lock this slider away, **Release All** will not disengage it.

MEMORY CARD SLOT - The **Memory Card** contains all the information needed by the **Replay 216** to reproduce a lightshow programmed on a **Masterpiece 48, 108 or 216**. When a Card is correctly inserted, the **4 digit display** will indicate the **Card's battery voltage**. **Battery Life** is about 5 years. The **Replay 216's** internal memory is maintained by a rechargeable battery which automatically charges when the **Replay Unit** is in use. Keep your Memory Card in a secure place as a backup.

CARD TO MEMORY - Insert your **Memory Card**. Press the **Card to Memory** key. The display indicates which Memory Card Source Show (9-16) will be transferred to the Current Show (1-8). E.g. "Sho.9 to Sho.1". To change the Source Show use **Show Change** as described above. The Source Show may even be another Internal Show (1-8). This provides a "copy Show to Show" function. When you have selected the required Source Show, press the **Enter Code** key to start the transfer, or press **Card to Memory** again to cancel. To load into a different Destination Show (1-8) you must first make this the Current Show - see Show Change above.

MEMORY TO CARD - It would be normal to work from your security backup memory card rather than the contents of the **Replay Unit's Memory**, however, should you need to do Memory to Card, proceed as follows: Insert your Card, then, **while keeping the Card to Memory button pressed**, press **Select** to change to **Memory to Card**. The display indicates the Current Show (1-8) will be transferred to Card Show (9-16). E.g. "Sho.1 to Sho.9". To change the Destination Show use **Show Change** as described above. The Destination Show may even be another Internal Show (1-8). This provides a "copy Show to Show" function. When you have selected the required Destination Show, press the **Enter Code** key to start the transfer, or press **Card to Memory** again to cancel. To load from a different Source Show (1-8) you must first make this the Current Show - see Show Change above.

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SOUND-TO-LIGHT MONITOR LEDS - These LEDs monitor the 4 Sound-to-Light bands. Pulsar's top of the range **Modulator** Sound-to-Light circuits are built into every member of the **Masterpiece** family. The **Masterpieces** have 3 zones of 4 bands - 2 modulating zones and 1 digital zone, each patchable at any level over the 48/108/216 channels. The Sound-to-Light circuits are fully automatic with a master Automatic Volume Control (AVC) to adjust for overall changes in the music volume and one AVC circuit for each band to adjust for changes in the balance between, for example, the bass and the treble. Optimum Sound-to-Light performance is thus ensured at all times.

PROGRAMMING TIP 1 - Rather than stepping through all 48 Environments and 6 Environment Chases, the **Up** and **Down** keys only stop on the accessible Keyboard keys and Keyboards. So, for example, if you only have 2 ECs and 6 E's programmed on Keyboard E3, use **Set User Access Levels** to disable E1 and E2 Keyboards and unused E3 Keyboard keys.

PROGRAMMING TIP 2 - Swap 3 is an ideal Keyboard Action to use with the **Replay Unit**. Keys 1-5 of a 6 way, Swap 3 Keyboard can contain effects to swap between while key 6 can be a blackout E/EC. The 3 Keyboards may be configured as up to 9 Swap 3 Keyboards.

BACK PANEL - CONNECTIONS

MAINS SUPPLY - 100-130 or 200-250 VAC, 50-60 Hz, 6 Watts. We recommend the use of a Residual Current Circuit Breaker.

VOLTAGE SELECTOR - Ensure the correct voltage range - 115V / 230V, is selected before switching on!

MAINS CABLE - the mains cable should be fitted with a suitably approved and rated plug. Note: in some countries it is a requirement that such a plug be fitted by a qualified electrician.

CABLE COLOURS

- Green/Yellow = Earth / Ground
- Brown = Live / Phase / Hot
- Blue = Neutral

WARNING - THIS APPLIANCE MUST BE EARTHED

AUDIO INPUT SOCKETS - The **Replay Unit** is fitted with standard 1/4" Jack sockets for audio connection. One mono microphone input socket is provided, two stereo line level (0.1V - 2.5V RMS) sockets (in / thru) and two speaker level (2.5V -

100V RMS) sockets (in / thru). Please note, when feeding a signal from a stereo system, both left and right audio signals must be supplied for the **Replay Unit** to produce faithful Sound-to-Light.

0-10V REMOTE CONTROL - An 8 pin DIN socket is provided for input from a Remote Controller - e.g. a **Masterpiece Outstation** or a **Master Masterpiece**. Please see **Appendix Four** for full details.

MIDI REMOTE CONTROL IN / THRU - 2 DIN sockets are provided for remote control by a standard MIDI signal. Please see **Appendix Three** for full details.

PMX REMOTE CONTROL IN / THRU - A 3 pin XLR plug and socket are provided for remote control from a computer by RS232, using our PMX protocol. Please see **Appendix Two** for full details.

DIGITAL PMX OUTPUT(S) - Two XLR sockets are provided for the **PMX (Pulsar MultipleX)** digital outputs. Use the 3 pin socket (RS232) for short distances - e.g. to a **Masterpiece Screen Driver**, and the 5 pin socket (RS423) for any distance. All 216 channels are transmitted. Products capable of receiving **PMX** include **Clay Paky Intelligent Spotlights**, **Pulsar Datapaks**, **Pulsar Universal Interfaces** (to convert **PMX** to 0-10V analogue), etc. As well as Channel Levels, the **PMX** data stream contains the key press information required to drive a **Masterpiece Screen Driver**. Please see **Appendix One** for full details of the **PMX** protocol. The pin connections of the XLR sockets are:

3 PIN SOCKET

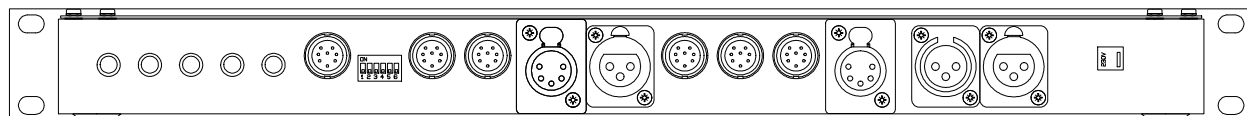
- Pin 1 = Screen - Chassis Earth
- Pin 2 & 3 = Signal

5 PIN SOCKET

- Pin 1 = Screen - Chassis Earth
- Pin 2 = Signal
- Pin 3 = Signal earth
- Pins 4&5 = not used

MASTERPIECE SCREEN DRIVER SETUP - the **Screen Driver** does not know whether your **Replay Unit's** program was made on a **Masterpiece 48, 108 or 216**. Therefore please use the **DIL switches** on the back of the **Screen Driver** to select Masterpiece 48, 108 or 216 screen formats.

ANALOGUE 0-10V OUTPUTS - The first 18 of the 216 channels are available here as 0-10V analogue signals. There are 3 DIN sockets, 6 channels each. The pin connections are: **Pin 1** - Not Used, **2** - Earth, **3-8** - Channels 1-6, 7-12 & 13-18, as printed on the **Replay Unit** lid. The outputs are via isolating diodes so they may feed the same equipment as other controllers - the highest taking priority.



MASTERPIECE REPLAY 216 cont.

DIGITAL DMX 512 OUTPUT - 512 DMX slots or 216 PMX channels are transmitted. If the patch is off (patch on/off information is transferred with card data), the 216 PMX channel levels are transmitted as DMX slots. If the patch is on, then 512 DMX slots are transmitted using the PMX to DMX patch map information transferred with the card. DMX slots are transmitted in a serial digital format complying with the DMX512 and DMX512/1990 standards.

The pin connections are:

- Pin 1 = \equiv Screen - Chassis Earth
- Pin 2 = Signal -
- Pin 3 = Signal +
- Pins 4&5 = not used

Please use twin core screened cable and ensure that the end of the DMX line is terminated with a resistor of 100-120 ohms between Signal + and Signal -. A DMX line must not be split or branched without the use of a purpose built splitter unit. A **PMX (Pulsar MultipleX)** line does not need terminating and can be branched or split.

FUSES AND PRECAUTIONS

MAINS FUSE - The Mains Fuse is mounted on the front panel of the Replay Unit. The fuse is a F 1A L 5x20mm Glass fuse. Do NOT use any other type of fuse. Failure indicates an internal fault and servicing by a qualified engineer will be required.

INSTALLATION AND VENTILATION - The Replay Unit consumes very little power, therefore ventilation around the unit is not required, and several units may be stacked together.

OTHER INFORMATION



MAINS CABLE REPLACEMENT - This modification should only be carried out by suitably skilled and competent persons.

Important - the earth wire must be longer than the live and neutral wires so that the earth will always be the last wire to come off if the cable is pulled from the unit. Ensure the outer sheath covering the live and neutral wires is within 15mm of the live and neutral tags on the PCB.

AUDIO INPUTS - These are not earthed directly within the unit but through a resistor, this eliminates earth loops and hence hum and interference on your sound equipment.

PORTABLE APPLIANCE TESTING - The **Replay Unit** may be safely Earth Bond and Insulation (500V) tested.

STANDARDS - The **Replay Unit** complies with the following International and National Standards:

Electrical Safety - IEC65, EN60065, BS415

EMC - EN50081-1, EN55022, EN50082-1

Rack Mounting - IEC297

Index of Protection - IP30

CE Marking Directive 93/68/EEC - The **Replay Unit** meets both the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC.

GUARANTEE - 12 Months from the original date of purchase. The guarantee is limited to parts and labour. The guarantee is void if the unit is misused, repairs are performed by unauthorised persons, or the incorrect fuse has been used. In the unlikely event of a fault occurring, do not use without repair. Return the unit, with a description of the fault, to your supplier or direct to Pulsar for immediate attention.

COMPATIBLE PRODUCTS

The following products have been designed to work with and complement the **Pulsar Replay Unit**. Please contact us to receive further details of these superb products!

Masterpiece, Spares and Extras

Product No.	Controller/Accessory
23000	Masterpiece 48 Control Desk.
24000	Masterpiece 108 Control Desk.
20216	Masterpiece 216 Control Desk.
23900	Masterpiece Screen Driver.
24301.1	Masterpiece Monitor for screen Driver.
22202	Masterpiece RAM Card.
24001SP	Latest Masterpiece 108 Upgrade software.
24007SP	Latest Masterpiece 216 Upgrade software.
24008SP	Latest Replay 216 Upgrade software.
29805ST	6 Way Masterpiece Outstation Status.
29800AA	12 Way Masterpiece Outstation Basic.
29800ST	12 Way Masterpiece Outstation Status.

Digital Reception

Product No.	Datapak
29900.3/29901.3	12 Ch Dimming/Switching Datapaks 5/10A
29902.3/29903.3	18 Ch Dimming/Switching Datapaks 5/10A
29950 /29951	12 Ch Switching Datapaks 5/10A
29952 /29953	18 Ch Switching Datapaks 5/10A
29904.3	9 Ch Dimming/Switching Datapak 20A

Digital Reception

Product No.	Interface
27770	6 Ch PMX/DMX 0-10V Interface
27300/27350	18 36/18 Ch Universal Interface
27400	18 Channel Switching Interface

Analogue Control

Product No.	Dimmer/Switching Packs
27700/30/50	3 Channel Minipaks.
27740/60	4 Channel Minipaks.
29209	SW6000 1U 1Ph Switch Pack 6x IEC
25802AA	6 x 5A 2U 1Ph Switch Pack H/W
25902AA	6 x 5A 2U 1Ph Dimmer Pack H/W
25452AA	8 x 5A 2U 1Ph Dimmer Pack H/W
25802ST/702ST	6 x 5/10A2U 1-3Ph Switch Pack H/W
25902ST/802ST	6 x 5/10A2U 1-3Ph Dimmer Pack H/W
21112-9ST	6 x 10A 4U 1-3Ph Dimmer Packs with skts
28806	6 Ch.PMX/DMX to 0-10V Kit for Rackpaks

Strobe Lighting

Product No.	Strobe.
21300	Super/Maxi Strobe.
20700.1/.2	Jumbo Strobe / Jumbo Strobe 100-130V.
28600	Monster Strobe.
27800	Demon Strobe.

Lanterns

Clay Paky Intelligent Spotlights.
The comprehensive range of Pulsar stage, rock and effects lanterns, and PAR36 and PAR46 Pinspots.

19" Racks and Accessories

4U, 8U and 12U Rack Cabinets & Doors.
Blanking & Vent Panels are also available.

DIMENSIONS AND WEIGHTS

Code	Unit	Width	Height	Depth	Weight
		mm.	mm.	mm.	kgs.
27216	Masterpiece Replay 216	483.0	43.6	206.0	3.8
	Console Cut Out	450.0	40.0	265.0	-
	Fixing Holes	465.6	31.8	-	-

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